



3900 Series Digital Radio Test Set

TETRA Programming Manual

1002-4401-3P1
Issue-6

3900 Series

Digital Radio Test Set

TETRA Remote Programming Manual

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Aeroflex

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Preface

About this Manual

This manual identifies Remote Commands for the 3900 Series TETRA Options. The remote commands identified in this manual are only valid when the corresponding TETRA System Option is installed in the Test Set.

Refer to the 3900 Series Remote Programming Manual for additional information about 3900 Remote Commands. Refer to the 3900 Series Operation Manual for information pertaining to Test Set operation.

Nomenclature Statement

The 3901 and 3902 Digital Radio Test Set is the official nomenclature for the test sets currently included in the 3900 Digital Radio Test Set Series. In this manual, 3900, unit or Test Set, refers to the 3901 and 3902 Digital Radio Test Sets unless otherwise indicated.

Intended Audience

This manual is intended for personnel who have read the 3900 Series Operation Manual and who are familiar with the use of remote command language.

Test Set Requirements

Refer to the 3900 Series Operations Manual for information on the following:

- Safety Precautions
- Power Requirements
- Platform Performance Data Specifications
- Repacking / Shipping Test Set

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Chapter 1

TETRA Channel Plans Values, Ranges and Defaults

Introduction

This chapter lists the 3900 TETRA Channel Plans Values, Ranges and Default settings. Tiles are listed as they appear in the Channel Plan drop-down menu. Tile content is listed alphabetically under Tile headings.

Command	Values or Ranges	Defaults
Config - Channel Plan - Edit Plan		
Channel Block 1		
Channel Spacing	5 to 500 kHz, -5 to -500 kHz	
Duplex Offset	-100 to +100 MHz	
Enable	Excluded Included	
Highest Channel	0 to 4095	
Lowest Channel	0 to 4095	
Lowest Ch Downlink Freq	100 kHz to 2.7 GHz	
Channel Block 2		
Channel Spacing	5 to 500 kHz, -5 to -500 kHz	
Duplex Offset	-100 to +100 MHz	
Enable	Excluded Included	
Highest Channel	0 to 4095	
Lowest Channel	0 to 4095	
Lowest Ch Downlink Freq	100 kHz to 2.7 GHz	
Sys Info		
Duplex Spacing	0, 1, 2, 3, 4, 5, 6, 7 (interpretation depends on Freq. Band)	
Frequency Band	0 (undefined) 1 (100 MHz) to 9 (900 MHz) 10 to 15 (undefined)	
Offset	0 (0 kHz) 1 (+6.25 kHz) 2 (-6.25 kHz) 3 (+12.5 kHz)	
Reverse Operation	0 (Normal) 1 (Reverse)	
Config - Channel Plan - New Plan		
Based On	Any Channel Plan except No Plan	
Channel Plan Title	Text, 20 char max	
New Values	Initialized from 'Based On' Plan For values see Edit Plan	

TETRA Channel Plans Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Default - Channel Plan - No Plan		
Initial Values		
Downlink Frequency (Gen Freq in MS modes, Ana Freq in BS modes)		390.000000 MHz
Duplex Spacing		10.000000 MHz
Duplex Spacing Lock		Locked
Uplink Frequency (Ana Freq in MS modes, Gen Freq in BS modes)		380.000000 MHz
Sys Info		
Duplex Spacing		0 (Reserved)
Frequency Band		0 (10.0 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 380-400 +12.5		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		3999
Included / Excluded		Included
Lowest Channel		3600
Lowest Ch Downlink Freq		390.012500 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		3600
Traffic Channel		3700
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		3 (300 MHz)
Offset		3 (12.5 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 380-400 ZERO		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		4000
Included / Excluded		Included
Lowest Channel		3600
Lowest Ch Downlink Freq		390.000000 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		3600
Traffic Channel		3700
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		3 (300 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)

TETRA Channel Plans Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Default - Channel Plan - TETRA 410-430 +12.5		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		1199
Included / Excluded		Included
Lowest Channel		800
Lowest Ch Downlink Freq		420.012500 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		800
Traffic Channel		900
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		4 (400 MHz)
Offset		3 (12.5 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 410-430 -6.25		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		1200
Included / Excluded		Included
Lowest Channel		801
Lowest Ch Downlink Freq		420.018750 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		801
Traffic Channel		901
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		4 (400 MHz)
Offset		2 (-6.25 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 410-430 ZERO		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		1200
Included / Excluded		Included
Lowest Channel		800
Lowest Ch Downlink Freq		420.000000 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		800
Traffic Channel		900
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		4 (400 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)

TETRA Channel Plans Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Default - Channel Plan - TETRA 450-470 +12.5		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		2799
Included / Excluded		Included
Lowest Channel		2400
Lowest Ch Downlink Freq		460.012500 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		2400
Traffic Channel		2500
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		4 (400 MHz)
Offset		3 (+12.5 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 450-470 ZERO		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		10 MHz
Highest Channel		2800
Included / Excluded		Included
Lowest Channel		2400
Lowest Ch Downlink Freq		460.000000 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		2400
Traffic Channel		2500
Sys Info		
Duplex Spacing		0 (10 MHz)
Frequency Band		4 (400 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 805-870 +12.5		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		45 MHz
Highest Channel		2799
Included / Excluded		Included
Lowest Channel		2000
Lowest Ch Downlink Freq		850.012500 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		2040
Traffic Channel		2140
Sys Info		
Duplex Spacing		1 (45 MHz)
Frequency Band		8 (800 MHz)
Offset		3 (+12.5 kHz)
Reverse Operation		0 (Normal)

TETRA Channel Plans Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Default - Channel Plan - TETRA 805-870 ZERO		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		45 MHz
Highest Channel		2800
Included / Excluded		Included
Lowest Channel		2000
Lowest Ch Downlink Freq		850.000000 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		2040
Traffic Channel		2140
Sys Info		
Duplex Spacing		1 (45 MHz)
Frequency Band		8 (800 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 870-921 +12.5		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		45 MHz
Highest Channel		839
Included / Excluded		Included
Lowest Channel		600
Lowest Ch Downlink Freq		915.012500 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		600
Traffic Channel		700
Sys Info		
Duplex Spacing		1 (45 MHz)
Frequency Band		9 (900 MHz)
Offset		3 (+12.5 kHz)
Reverse Operation		0 (Normal)
Default - Channel Plan - TETRA 870-921 ZERO		
Channel Block 1		
Channel Spacing		25 kHz
Duplex Offset		45 MHz
Highest Channel		840
Included / Excluded		Included
Lowest Channel		600
Lowest Ch Downlink Freq		915.000000 MHz
Channel Block 2		
Included / Excluded		Excluded
Initial Values		
Control Channel		600
Traffic Channel		700
Sys Info		
Duplex Spacing		1 (45 MHz)
Frequency Band		9 (900 MHz)
Offset		0 (0 kHz)
Reverse Operation		0 (Normal)

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Chapter 2

TETRA BS Values, Ranges and Defaults

Introduction

This chapter describes TETRA BS values, ranges and defaults settings. Parameter values are arranged alphabetically by Tile name.

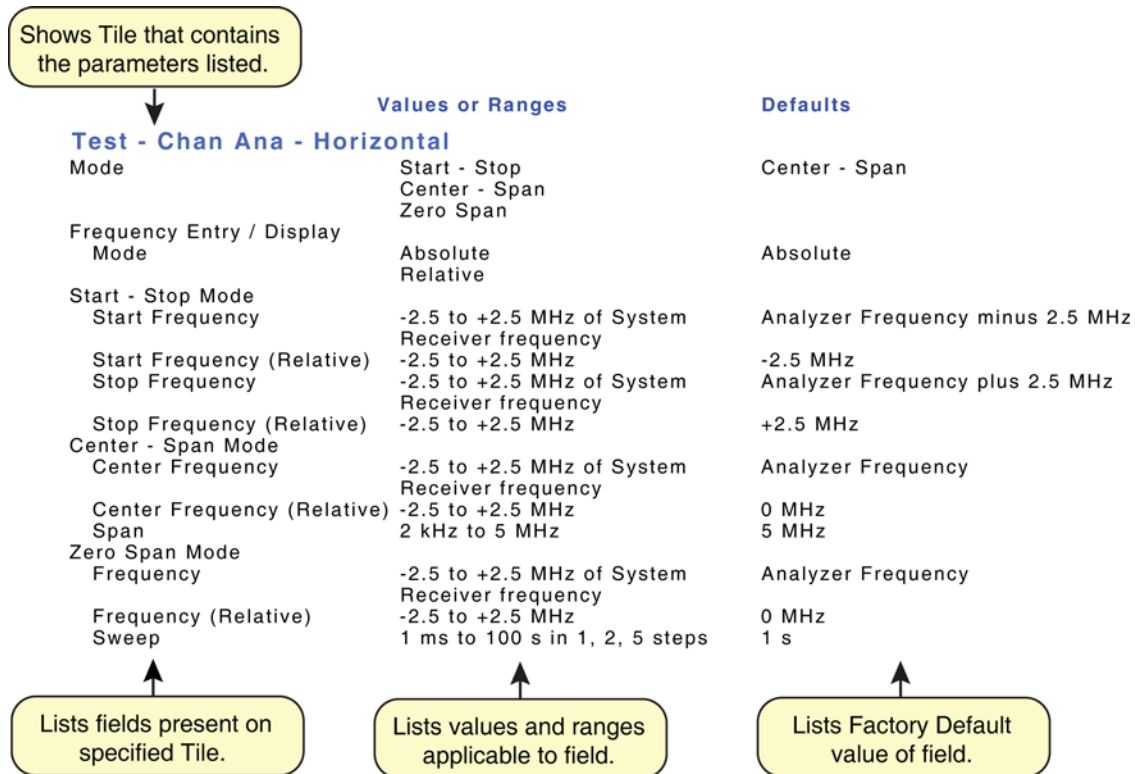


Fig. 2-1 Default Commands Illustrated Extract

NOTE

Upper range value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency Range option (390XOPT058) installed. The upper range value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - BS Parameters		
Power Class	1 (46 dBm / 40 W) 2 (44 dBm / 25 W) 3 (42 dBm / 15 W) 4 (40 dBm / 10 W) 5 (38 dBm / 6.3 W) 6 (36 dBm / 4.0 W) 7 (34 dBm / 2.5 W) 8 (32 dBm / 1.6 W) 9 (30 dBm / 1.0 W) 10 (28 dBm / 600 mW)	1 (46 dBm / 40 W)
Config - Channel Plan		
Channel Plan	No Plan TETRA 380-400 +12.5 TETRA 380-400 ZERO TETRA 410-430 +12.5 TETRA 410-430 -6.25 TETRA 410-430 ZERO TETRA 450-470 +12.5 TETRA 450-470 ZERO TETRA 805-870 +12.5 TETRA 805-870 ZERO TETRA 870-921 +12.5 TETRA 870-921 ZERO User defined plans See Channel Plans section for specific plan values.	TETRA 380-400 +12.5
Config - Offsets		
RF Analyzer		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
Config - System ID		
Update	Auto Manual	Auto
Mobile Country Code	0 to 999	1 (Test)
Mobile Network Code	0 to 16383	1
Base Station Color Code	0 to 63	1

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Tx Measurements Limits				
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2		
		Default	Normal	Extreme
Burst Power				
Upper Limit Value	-9.9 to 9.9 dB	+2 dB	+2 dB	+3 dB
Lower Limit Value	-9.9 to 9.9 dB	-2 dB	-2 dB	-4 dB
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Vector Peak				
Limit Value	0.1 to 99.9%	30%	30%	30%
Enable	Disabled Enabled	Enabled	Enabled	Enabled
Vector RMS				
Limit Value	0.1 to 99.9%	10%	10%	10%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Residual Carrier				
Limit Value	0.1 to 99.9%	5%	5%	5%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Frequency Error				
Limit Value	0.0001 to 9.9999 ppm	0.2 ppm	0.2 ppm	0.2 ppm
Enable	Disabled Enabled	Enabled	Enabled	Disabled

NOTE

The above values can be independently set for the allowed Burst Types.

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 60 kHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 60 kHz	
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Frequency Display Mode	Absolute Relative	Absolute
Position		
Start - Stop Mode		
Start Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency minus 2.5 MHz
Start Frequency (Relative)	-2.5 to +2.5 MHz	-2.5 MHz
Stop Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency plus 2.5 MHz
Stop Frequency (Relative)	-2.5 to +2.5 MHz	+2.5 MHz
Center - Span Mode		
Center Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Center Frequency		
Absolute	-2.5 to +2.5 MHz	150 MHz
Relative	-2.5 to +2.5 MHz	0 MHz
Span	2 kHz to 5 MHz	2 MHz
Zero Span Mode		
Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Frequency (Relative)	-2.5 to +2.5 MHz	0 MHz
Sweep	1 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop frequencies	Left Hand Edge / Start frequency
Mkr2 Position	Between Start and Stop frequencies	Right Hand Edge / Stop frequency
Zero Span Mode		
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Ref Level (no Pre-amp)	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer (cont)		
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span
Trace Settings		
Averages	1 to 250	10
Enable	Off On	Off
Peak Hold Enable	Off On	Off
Trigger Mode	Single Repeat	Repeat
Test - Data Display		
Capture Bursts	1 to 5000	200
Capture - Start/Stop		Stopped
Test - Mod Acc - Constellation		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Magnitude Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Phase Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Degrees / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5 degrees/div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Mod Acc - Rotated Vector		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Trajectory		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurements	Test - Tx Measurements
Test - Mod Acc - Vector Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - RF Settings		
With Channel Plan		
Channel	0 to 4095 Actual limit set by current Channel Plan	3600 - Set by Default (TETRA 380-400 +12.5)
With No Channel Plan		
BS Tx (Ana) Freq	100 kHz to 2.7 GHz	390 MHz - Set by 'No Plan'
Expected Power Level		
Pre-Amp OFF	T/R: -40 to +55 dBm ANT: -80 to 0 dBm both in 5 dB steps	40 dBm
Pre-Amp ON	T/R: -50 to +45 dBm ANT: -100 to -20 dBm both in 5 dB steps	40 dBm
AGC	Off On	On
Analyzer Offset Enable	Config - Offsets	Config - Offsets
RF In Port	T/R ANT	T/R
Pre-Amp	On Off	Off

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Scope		
Coupling Trace A / B	AC DC GND	AC
Filter	No Reject Noise Reject HF Reject	No Reject
Markers		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Position 1	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position 2	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position	-8.00 to +8.00 divisions	0.00/div
Time / div	1 us to 1 s in 1, 2, 5 steps	1 ms
Trace A & B		
Accumulate	Off On	Off
Coupling	AC DC GND	AC
Source	OFF Channel 1 Channel 2 Audio Audio Filtered	Off
Trigger Settings		
Edge	Rising Falling	Rising
Level	+/- 8 times vertical /div setting	0.0 mV
Source	Trace A Trace B Ext	Trace A
Sweep Mode	Single Repeat	Repeat
Trigger Mode	Auto Normal	Auto
Vertical /div	2 mV to 20 V in 1, 2, 5 steps	1 V

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 kHz, 6 MHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW		
VBW Enable	Auto Manual	Auto
Frequency Ranges		
Start - Stop Mode		
Start	100 kHz to 2.7 GHz	Analyzer Frequency minus 5 MHz
Stop	100 kHz to 2.7 GHz	Analyzer Frequency plus 5 MHz
Center - Span Mode		
Center Freq	100 kHz to 2.7 GHz	Analyzer Frequency
Span	2 kHz to 2.7 GHz	2 MHz
Zero Span Mode		
Frequency	100 kHz to 2.7 GHz	Analyzer Frequency
Sweep	50 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop Freq	Left Hand Edge / Start Freq
Mkr2 Position	Between Start and Stop Freq	Right Hand Edge / Stop Freq
Zero Span Mode		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Measurement Mode	Single Repeat	Repeat
Ref Level	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span

TETRA BS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer (cont)		
Trace		
Averages	1 to 250	10
Enable	Off	Off
	On	
Mode	Normal	Normal
	Reference	
Peak Hold Enable	Off	Off
	On	
Tracking Generator		
Enable	Off	Off
	On	
Test - Tx Measurements		
Burst Types	TS1+2	TS1+2
	TS1	
	TS2	
	Sync	
	PRBS	
Burst Power		
Over xxx Bursts	1 to 250	20
Units	dBm	dBm
	Watts	
Minimize Select	Average	Average
	Maximum	
	Minimum	
Vector Peak		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Vector RMS		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Frequency Error		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Residual Carrier		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Measurement Mode	Single	Repeat
	Repeat	
	This affects ALL Tx Measurements, wherever displayed, for the selected burst type.	

NOTE

Over xxx Bursts and Measurement Mode values can be independently set for the allowed Burst Type.

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Chapter 3

TETRA BS T1 Values, Ranges and Defaults

Introduction

This chapter describes TETRA BS T1 values, ranges and defaults settings. Parameter values are arranged alphabetically by Tile name.

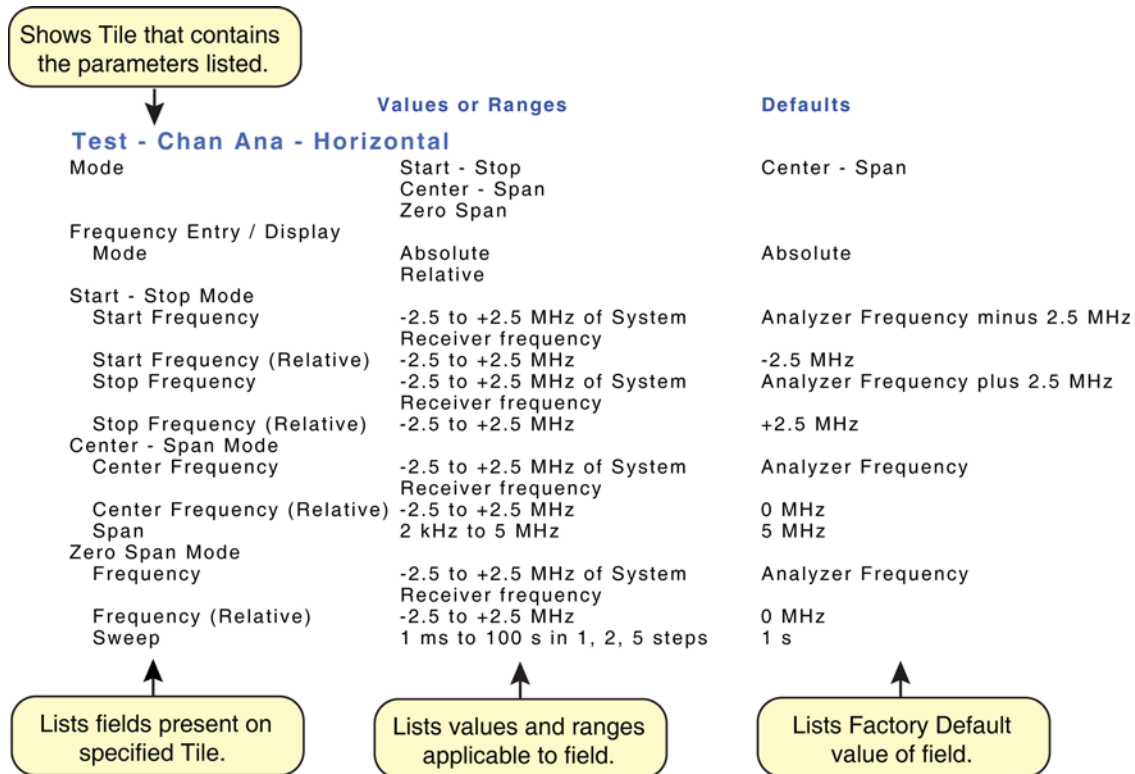


Fig. 3-1 Default Commands Illustrated Extract

NOTE

Upper range value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency Range option (390XOPT058) installed. The upper range value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - BS Parameters		
Power Class	1 (46 dBm / 40 W) 2 (44 dBm / 25 W) 3 (42 dBm / 15 W) 4 (40 dBm / 10 W) 5 (38 dBm / 6.3 W) 6 (36 dBm / 4.0 W) 7 (34 dBm / 2.5 W) 8 (32 dBm / 1.6 W) 9 (30 dBm / 1.0 W) 10 (28 dBm / 600 mW)	1 (46 dBm / 40 W)
Receiver Class	A, B	A
Config - Channel Plan		
Channel Plan	No Plan TETRA 380-400 +12.5 TETRA 380-400 ZERO TETRA 410-430 +12.5 TETRA 410-430 -6.25 TETRA 410-430 ZERO TETRA 450-470 +12.5 TETRA 450-470 ZERO TETRA 805-870 +12.5 TETRA 805-870 ZERO TETRA 870-921 +12.5 TETRA 870-921 ZERO User defined plans See Channel Plans section for specific plan values.	TETRA 380-400 +12.5
Config - Offsets		
RF Generator		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
RF Analyzer		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Rx Measurements Limits		Default	Static	Dynamic
TCH/2.4 BER				
Rx Class A	0.00001 to 99.999999%	0.244%	0.244%	1.456%
Rx Class B	0.00001 to 99.999999%	0.0122%	0.0122%	0.392%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/7.2 BER				
Rx Class A	0.00001 to 99.999999%	3.66%	3.66%	4.48%
Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
SCH/F BER				
Rx Class A	0.00001 to 99.999999%	4.026%	4.026%	4.48%
Rx Class B	0.00001 to 99.999999%	0.366%	0.366%	2.24%
Enable	Disabled	Disabled	Disabled	Disabled
	Enabled			
SCH/F MER				
Rx Class A	0.00001 to 99.999999%	12.2%	12.2%	12.32%
Rx Class B	0.00001 to 99.999999%	12.2%	12.2%	8.96%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
SCH/F PUEM				
Rx Class A	0.00001 to 99.999999%	0.035%	0.035%	0.035%
Rx Class B	0.00001 to 99.999999%	0.035%	0.035%	0.035%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
STCH BER				
Rx Class A	0.00001 to 99.999999%	4.026%	4.026%	4.48%
Rx Class B	0.00001 to 99.999999%	0.366%	0.366%	2.24%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
STCH MER				
Rx Class A	0.00001 to 99.999999%	9.76%	9.76%	12.32%
Rx Class B	0.00001 to 99.999999%	6.1%	6.1%	8.96%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
STCH PUEM				
Rx Class A	0.00001 to 99.999999%	0.035%	0.035%	0.035%
Rx Class B	0.00001 to 99.999999%	0.035%	0.035%	0.035%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
Config - System ID & Sync				
Update	Auto	Auto		
	Manual			
Mobile Country Code	0 to 999	1 (Test)		
Mobile Network Code	0 to 16383	1		
Base Station Color Code	0 to 63	1		
(Sync) Mode	Auto	Auto		
	Pulse			
Auto Sync Path Offset	+9999.99 to -9999.99 (symbols)	0.0 symbol		
Sync Pulse Offset	0.000000 to 1.020000 (sec)	0.0 seconds		
Sync Pulse Edge	Rising	Rising		
	Falling			

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Tx Measurements Limits				
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1+2		
		Default	Normal	Extreme
Burst Power				
Power Level - Upper	-9.9 to 9.9 dB	+2 dB	+2 dB	+3 dB
Power Level - Lower	-9.9 to 9.9 dB	-2 dB	-2 dB	-4 dB
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Vector Peak				
Limit Value	0.1 to 99.9%	30%	30%	30%
Enable	Disabled Enabled	Enabled	Enabled	Enabled
Vector RMS				
Limit Value	0.1 to 99.9%	10%	10%	10%
Enable	Disabled Enabled	Enabled	Enabled	Enabled
Residual Carrier				
Limit Value	0.1 to 99.9%	5%	5%	5%
Enable	Disabled Enabled	Enabled	Enabled	Enabled
Frequency Error				
Limit Value	0.0001 to 9.9999 ppm	0.2 ppm	0.2 ppm	0.2 ppm
Enable	Disabled Enabled	Enabled	Enabled	Enabled

NOTE

The above values can be independently set for the allowed Burst Types.

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 60 kHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 60 kHz	
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Frequency Display Mode	Absolute Relative	Absolute
Position		
Start - Stop Mode		
Start Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency minus 2.5 MHz
Start Frequency (Relative)	-2.5 to +2.5 MHz	-2.5 MHz
Stop Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency plus 2.5 MHz
Stop Frequency (Relative)	-2.5 to +2.5 MHz	+2.5 MHz
Center - Span Mode		
Center Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Center Frequency		
Absolute	-2.5 to +2.5 MHz	150 MHz
Relative	-2.5 to +2.5 MHz	0 MHz
Span	2 kHz to 5 MHz	2 MHz
Zero Span Mode		
Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Frequency (Relative)	-2.5 to +2.5 MHz	0 MHz
Sweep	1 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop frequencies	Left Hand Edge / Start frequency
Mkr2 Position	Between Start and Stop frequencies	Right Hand Edge / Stop frequency
Zero Span Mode		
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Ref Level (no Pre-amp)	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer (cont)		
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span
Trace Settings		
Averages	1 to 250	10
Enable	Off On	Off
Peak Hold Enable	Off On	Off
Trigger Mode	Single Repeat	Repeat
Test - Control		
With Channel Plan Channel	0 to 4095	3600 - Set by Default (TETRA 380-400 +12.5)
With No Channel Plan		
BS Rx (Gen) Freq	100 kHz to 2.7 GHz	380 MHz - Set by 'No Plan'
BS Tx (Ana) Freq	100 kHz to 2.7 GHz	390 MHz - Set by 'No Plan'
Duplex Spacing	-999 to +999 MHz	10.000000 MHz
Duplex Spacing Lock	Unlocked Locked	Locked
RF Gen Level	T/R: -130 to -40 dBm GEN: -130 to 0 dBm	-75 dBm
Modulator	Off On	On
Expected Power Level		
Pre-Amp OFF	T/R: -40 to +55 dBm ANT: -80 to 0 dBm both in 5 dB steps	40 dBm
Pre-Amp ON	T/R: -50 to +45 dBm ANT: -100 to -20 dBm both in 5 dB steps	40 dBm
AGC	Off On	On
RF Gen T1 Type	Detected 7 - TCH/7.2 8 - SCH/F 9 - STCH 10 - TCH/2.4 18 Frame PRBS Framed PRBS Unframed PRBS	7 - TCH/7.2
Expected T1 Type	Loopback 7 - TCH/7.2 Loopback 8 - SCH/F Loopback 9 - STCH Loopback 10 - TCH/2.4 Loopback TCH/7.2 PRBS 18 Frame PRBS Framed PRBS Unframed PRBS	TCH/7.2 PRBS

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Control (cont)		
RF Gen Enable	Off On	On
RF Gen Offset Enable	Off On	Off
Analyzer Offset Enable	Off On	Off
Pre-Amp	On Off	Off
RF Out Port	GEN T/R	T/R
RF In Port	T/R ANT	T/R
Test - Data Display		
Capture Bursts	1 to 5000	200
Capture - Start/Stop		Stopped
Test - Mod Acc - Constellation		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Magnitude Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Phase Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Degrees / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5 degrees /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Mod Acc - Rotated Vector		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Trajectory		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Vector Error		
Burst Types	TS1+2 TS1 TS2 Sync PRBS	TS1
Marker1 - Position	0 to 255	0
Marker2 - Position	0 to 255	255
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Rx Measurements		
18 Frame PRBS - BER - Samples	1,000 to 10,000,000	170,000
Framed PRBS - BER - Samples	1,000 to 10,000,000	170,000
Unframed PRBS - BER - Samples	1,000 to 10,000,000	170,000
TCH/7.2 PRBS - BER - Samples	1,000 to 10,000,000	170,000
TCH/7.2 - BER - Samples	1,000 to 10,000,000	170,000
TCH/2.4 - BER - Samples	1,000 to 3,500,000	160,000
SCH/F - BER - Samples	1,000 to 6,000,000	170,000
SCH/F - MER - Samples	10 to 1,000,000	6,600
SCH/F - PUEM - Samples	10 to 1,000,000	31,200
STCH - BER - Samples	1,000 to 3,000,000	170,000
STCH - MER - Samples	10 to 1,000,000	6,600
STCH - PUEM - Samples	10 to 1,000,000	31,200
Measurement Mode	Single Repeat	Repeat

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Scope		
Coupling Trace A / B	AC DC GND	AC
Filter	No Reject Noise Reject HF Reject	No Reject
Markers		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Position 1	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position 2	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position	-8.00 to +8.00 divisions	0.00/div
Time / div	1 us to 1 s in 1, 2, 5 steps	1 ms
Trace A & B		
Accumulate	Off On	Off
Coupling	AC DC GND	AC
Source	OFF Channel 1 Channel 2 Audio1 Audio Filtered	Off
Trigger Settings		
Edge	Rising Falling	Rising
Level	+/- 8 times vertical /div setting	0.0 mV
Source	Trace A Trace B Ext	Trace A
Sweep Mode	Single Repeat	Repeat
Trigger Mode	Auto Normal	Auto
Vertical /div	2 mV to 20 V in 1, 2, 5 steps	1 V

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 kHz, 6 MHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW		
VBW Enable	Auto Manual	Auto
Frequency Ranges		
Start - Stop Mode		
Start	100 kHz to 2.7 GHz	Analyzer Frequency minus 5 MHz
Stop	100 kHz to 2.7 GHz	Analyzer Frequency plus 5 MHz
Center - Span Mode		
Center Freq	100 kHz to 2.7 GHz	Analyzer Frequency
Span	2 kHz to 2.7 GHz	2 MHz
Zero Span Mode		
Frequency	100 kHz to 2.7 GHz	Analyzer Frequency
Sweep	50 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop Freq	Left Hand Edge / Start Freq
Mkr2 Position	Between Start and Stop Freq	Right Hand Edge / Stop Freq
Zero Span Mode		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Measurement Mode	Single Repeat	Repeat
Ref Level	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span

TETRA BS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer (cont)		
Trace		
Averages	1 to 250	10
Enable	Off	Off
	On	
Mode	Normal	Normal
	Reference	
Peak Hold Enable	Off	Off
	On	
Tracking Generator		
Enable	Off	Off
	On	
Test - Tx Measurements		
Burst Power		
Burst Types	TS1+2	TS1+2
	TS1	
	TS2	
	Sync	
	PRBS	
Over xxx Bursts	1 to 250	20
Units	dBm	dBm
	Watts	
Minimize Select	Average	Average
	Maximum	
	Minimum	
Vector Peak		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Vector RMS		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Frequency Error		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Residual Carrier		
Over xxx Bursts	1 to 250	20
Minimize Select	Average	Maximum
	Maximum	
Measurement Mode	Single	Repeat
	Repeat	
	This affects ALL Tx Measurements, wherever displayed, for the selected burst type.	

NOTE

Over xxx Bursts and Measurement Mode values can be independently set for the allowed Burst Type.

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Chapter 4

TETRA MS Values, Ranges and Defaults

Introduction

This chapter describes TETRA MS values, ranges and defaults settings. Parameter values are arranged alphabetically by Tile name.

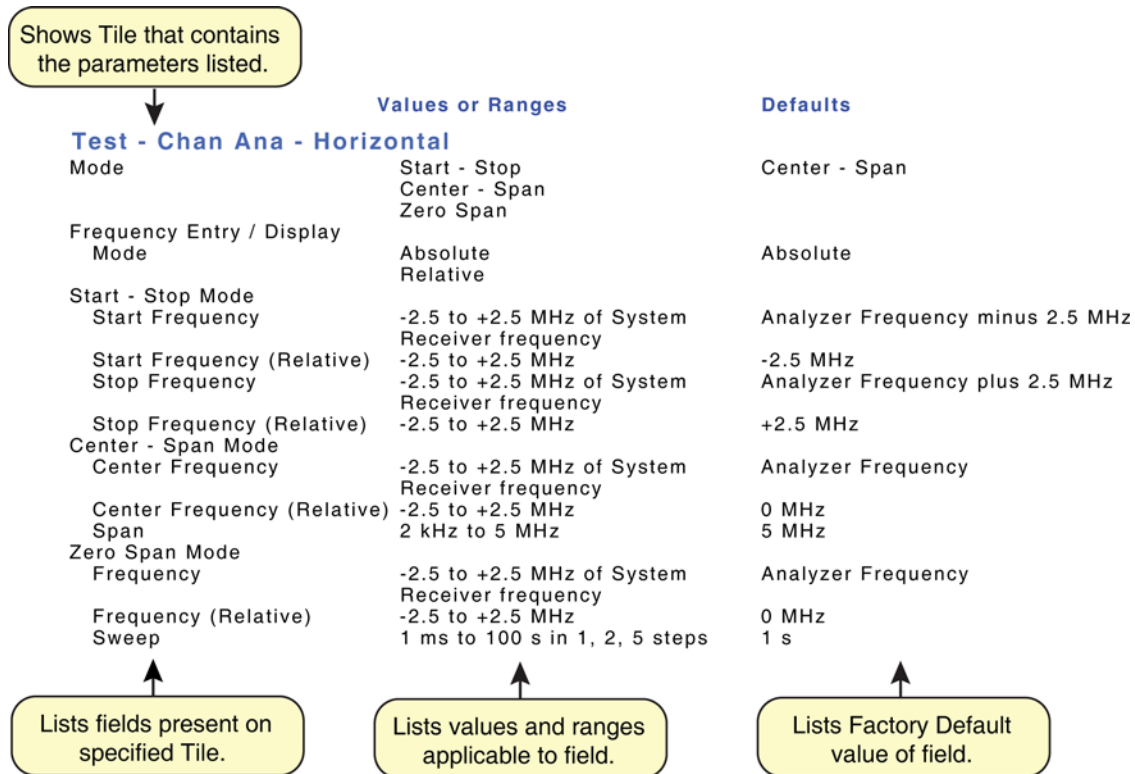


Fig. 4-1 Default Commands Illustrated Extract

NOTE

Upper range value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency Range option (390XOPT058) installed. The upper range value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Base Services		
Power On Registration	Not Required Required	Required
Power Off De-Registration	Not Required Required	Required
Priority Cell	No Yes	Yes
Minimum Mode Service	Never Used May Be Used	Never Used
Migration	Not Supported Supported	Supported
System Wide Services	Not Supported Normal Mode	Normal Mode
TETRA Voice Service	Not Supported Supported	Supported
Circuit Mode Data Service	Not Supported Supported	Not Supported
(Reserved)	Not Available Available	Not Available
TETRA Packet Data Service	Not Available Available	Not Available
Air Interface Encryption	Not Available Available	Not Available
Advanced Link	Not Supported Supported	Not Supported
Config - Call Timers & Trunking		
Trunking Type	Message Transmission Quasi-Transmission	Message
Simplex Traffic Channel Type	DL and UL TCH TCH and FACCH	TCH and FACCH
Test Set Transmit Mode	None Timed Continuous	Timed
Test Set Quiet Time	0 to 30 sec	2 sec
Test Set Transmit Time	1 to 30 sec	2 sec
Quasi Tx Trunking Hang Timer	1 to 30 sec	5 sec
Group Call Hang Timer	1 to 30 sec	15 sec
Test Set Answer Mode	Manual Auto	Auto
Test Set Auto Answer Time	0 to 30 sec	2 sec
Test Set Call Abort Mode	Manual Auto	Auto
Test Set Auto Call Abort Time	1 to 300 sec	65 sec
Talkback Buffer Time	1 to 30 sec	2 sec

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Call Types		
Group Call		
Group/Individual	Fixed value	Group
Simplex/Duplex	Fixed value	Simplex
Signaling Type	Fixed value	Direct
Priority	00 (Not Defined) 01 (Level 1 - Lowest) to 11 (Level 11 - Highest) 12 (Pre-emptive 1) to 15 (Pre-emptive 4 - Emergency)	00 (Not Defined)
Calling Party SSI	0 to 16777215	742200 (Test Set)
ESN	Fixed value	Not Included
Private Call		
Group/Individual	Fixed value	Individual
Simplex/Duplex	Simplex Duplex	Simplex
Signaling Type	Direct Set-Up Hook Signaling	Hook Signaling
Priority	00 (Not Defined) 01 (Level 1 - Lowest) to 11 (Level 11 - Highest) 12 (Pre-emptive 1) to 15 (Pre-emptive 4 - Emergency)	00 (Not Defined)
Calling Party SSI	0 to 16777215	742200 (Test Set)
ESN	Fixed value	Not Included
Phone Call		
Group/Individual	Fixed value	Individual
Simplex/Duplex	Fixed value	Duplex
Signaling Type	Fixed value	Hook
Priority	00 (Not Defined) 01 (Level 1 - Lowest) to 11 (Level 11 - Highest) 12 (Pre-emptive 1) to 15 (Pre-emptive 4 - Emergency)	00 (Not Defined)
Calling Party SSI	Fixed value	16777184 (PSTN Gateway)
Calling Party ESN	Up to 24 digits	01438742200
Included	Not Included	Included
Emergency Call		
Group/Individual	Individual Group	Individual
Simplex/Duplex	Simplex Duplex	Simplex
Signaling Type	Direct Set-Up Hook Signaling	Direct Set-Up
Priority	Fixed value	15 (Emergency)
Calling Party SSI	0 to 16777215	742200 (Test Set)
ESN	Fixed value	Not Included

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Call Types (cont)		
User Defined Call	Individual	Individual
Group/Individual	Group	
Simplex/Duplex	Simplex	Duplex
	Duplex	
Signaling Type	Direct Set-Up	Hook Signaling
	Hook Signaling	
Priority	00 (Not Defined)	00 (Not Defined)
	01 (Level 1 - Lowest) to 11	
	(Level 11 - Highest)	
	12 (Pre-emptive 1) to 15	
	(Pre-emptive 4 - Emergency)	
Calling Party SSI	0 to 16777215	16777186 (PABX Gateway)
Calling Party ESN	Up to 24 digits	742200 (Test Set)
ESN	Not Included	Included
	Included	
Config - Channel Plan		
Channel Plan	No Plan	TETRA 380-400 +12.5
	TETRA 380-400 +12.5	
	TETRA 380-400 ZERO	
	TETRA 410-430 +12.5	
	TETRA 410-430 -6.25	
	TETRA 410-430 ZERO	
	TETRA 450-470 +12.5	
	TETRA 450-470 ZERO	
	TETRA 805-870 +12.5	
	TETRA 805-870 ZERO	
	TETRA 870-921 +12.5	
	TETRA 870-921 ZERO	
	User defined plans	
	See Channel Plans section for	
	specific plan values.	

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Messages		
Status Message		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Message (decimal)	0 to 65535	65279 (FEFF Hex Callback Request)
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included
SDS Type 1, 2 & 3		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Type 1 (hex)	0 to FFFF	5431 Hex ("T1")
Type 2 (hex)	0 to FFFFFFFF	54595032 Hex ("TYP2")
Type 3 (hex)	0 to FFFFFFFFFFFFFFFF	54595045 33534453 ("TYPE3SDS")
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included
SDS Type 4 - SDS-TL Text		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Report Type	None Received Consumed Received and Consumed	Received
Report Size	Short Standard	Standard
Text Coding	7 Bit (GSM) ISO 1 Latin 1 (8 Bit)	ISO 1 Latin 1 (8 Bit)
Time Stamp	Not Included Included	Included
Message	120 char max	"This SDS type 4 SDS-TL text message was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	"A medium length SDS-TL 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	"A short SDS-TL message"
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Messages (cont)		
SDS Type 4 - Simple Text		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Text Coding	7 Bit (GSM) ISO 1 Latin 1 (8 Bit)	ISO 1 Latin 1 (8 Bit)
Message	120 char max	"This SDS type 4 simple text message was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	"A medium length simple 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	"A short simple message"
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included
SDS Type 4 - HEX Message		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Message	120 bytes / 240 hex digits max	82020101 Hex followed by "This SDS type 4 message in hex, was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	82020101 Hex followed by "A medium length 67 hex character message sent from the Test Set"
Initialize to Short	Fixed Value	82020101 Hex followed by "A short hex message"
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included
SDS Type 4 - Other SDS-TL		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Protocol Identifier (decimal)	130 to 254	130 Decimal (82 Hex / Text)
Report Type	None Received Consumed Received and Consumed	Received
Report Size	Short Standard	Standard
Message	120 bytes / 240 hex digits max	01 Hex followed by "This SDS type 4 other message in hex was sent by the Test Set and is one hundred and twenty characters long ending here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	01 Hex followed by "A medium length SDS4 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	01 Hex followed by "A short SDS4 message"
Calling Party ESN	Up to 24 digits Included Not Included	01438742200 Not Included

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Mobile Parameters		
SSI Usage	Use Fixed Use Reported	Use Reported
SSI (Fixed)	0 to 16777215	1
GSSI Usage	Use Fixed Use Reported	Use Reported
GSSI (Fixed)	0 to 16777215	1
Energy Economy Mode Usage	Use Fixed Use Reported	Use Reported
Energy Economy Mode (Fixed)	0 to 7	0
Power Class Usage	Use Fixed Use Reported	Use Reported
Power Class (Fixed)	1 (45 dBm / 30 W) 1L (42.5 dBm / 20 W) 2 (40 dBm / 10 W) 2L (37.5 dBm / 5 W) 3 (35 dBm / 3 W) 3L (32.5 dBm / 2 W) 4 (30 dBm / 1 W) 4L (27.5 dBm / 500 mW)	4 (30 dBm / 1 W)
Receiver Class Usage	Use Fixed Use Reported	Use Reported
Receiver Class (Fixed)	A, B, E	A

NOTE

Energy Economy Mode commands are only available when the Energy Economy Mode Option (390XOPT114) is installed in Test Set.

Config - Neighbor Cell Info

Broadcast	Not Supported Supported	Not Supported
Broadcast Interval	4 to 30 sec	10 sec
Neighbor Cell Channel	0 to 4095	0
Neighbor Cell Location Area	0 to 16383	1
Neighbor Cell Identifier	1 to 31	1
Slow Re-Select Threshold Above	0 to 30 dB in 2 dB steps	24 dB
Fast Re-Select Threshold	0 to 30 dB in 2 dB steps	18 dB
Slow Re-Select Hysteresis	0 to 30 dB in 2 dB steps	6 dB
Fast Re-Select Hysteresis	0 to 30 dB in 2 dB steps	6 dB

Config - Offsets

RF Generator		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
RF Analyzer		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
Timing Measurement		
Offset Value	-999.99 to 999.99 symbols	0.00 symbols
Offset Enable	Off On	Off

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Rx Measurements Limits				
		Default	Static	Dynamic
BER Class 0				
Rx Class A	0.00001 to 99.999999%	4.27%	4.27%	4.256%
Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
Rx Class E	0.00001 to 99.999999%	4.27%	4.27%	11.536%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
BER Class 1				
Rx Class A	0.00001 to 99.999999%	0.23%	0.23%	1.904%
Rx Class B	0.00001 to 99.999999%	0.23%	0.23%	1.792%
Rx Class E	0.00001 to 99.999999%	0.23%	0.23%	10.528%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
BER Class 2				
Rx Class A	0.00001 to 99.999999%	0.23%	0.23%	1.904%
Rx Class B	0.00001 to 99.999999%	0.23%	0.23%	1.792%
Rx Class E	0.00001 to 99.999999%	0.23%	0.23%	10.528%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
RBER Class 0				
Rx Class A	0.00001 to 99.999999%	4.27%	4.27%	4.256%
Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
Rx Class E	0.00001 to 99.999999%	4.27%	4.27%	11.536%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
RBER Class 1				
Rx Class A	0.00001 to 99.999999%	0.23%	0.23%	1.904%
Rx Class B	0.00001 to 99.999999%	0.23%	0.23%	1.792%
Rx Class E	0.00001 to 99.999999%	0.23%	0.23%	10.528%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
MER				
Rx Class A	0.00001 to 99.999999%	0.045%	0.045%	2.912%
Rx Class B	0.00001 to 99.999999%	0.045%	0.045%	2.464%
Rx Class E	0.00001 to 99.999999%	0.045%	0.045%	16.016%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Config - System ID & Access Parameters				
Mobile Country Code	0 to 999	1 (Test)		
Mobile Network Code	0 to 16383	1		
Base Station Color Code	0 to 63	1		
Location Area code	0 to 16383	1		
Min Rx Level For Access	-125 to -50 dBm in 5 dB steps	-125 dBm		
Max Tx Level	15 to 45 dBm in 5 dB steps	30 dBm		
Access Parameter	-53 to -25 dBm in 2 dB steps	-45 dBm		

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Tx Measurements Limits				
Burst Types	Normal Control	Normal		
		Default	Normal	Extreme
Power Profile				
Low dBc Leading/Trailing	0 to -99.9 dBc	-70 dBc	-70 dBc	-70 dBc
Low dBm Leading/Trailing	0 to -99.9 dBm	-36 dBm	-36 dBm	-36 dBm
High dBc Leading	-9.9 to 9.9 dBc	+6 dBc	+6 dBc	+6 dBc
High dBc Trailing	-9.9 to 9.9 dBc	+3 dBc	+3 dBc	+3 dBc
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Burst Power				
Highest Power				
Level - Upper	-9.9 to 9.9 dB	+2 dB	+2 dB	+3 dB
Highest Power				
Level - Lower	-9.9 to 9.9 dB	-2 dB	-2 dB	-4 dB
Other Power				
Level Steps - Upper	-9.9 to 9.9 dB	+2.5 dB	+2.5 dB	+4 dB
Other Power				
Level Steps - Lower	-9.9 to 9.9 dB	-2.5 dB	-2.5 dB	-4 dB
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Vector Peak				
Limit Value	0.1 to 99.9%	30%	30%	30%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Vector RMS				
Limit Value	0.1 to 99.9%	10%	10%	10%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Residual Carrier				
Limit Value	0.1 to 99.9%	5%	5%	5%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Frequency Error				
Limit Value	0.1 to 1500.0 Hz	100 Hz	100 Hz	100 Hz
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Burst Timing				
Limit Value	0.01 to 9.99 symbols	0.25 sym	0.25 sym	0.25 sym
Enable	Disabled Enabled	Enabled	Enabled	Disabled

NOTE

The above values can be independently set for the allowed Burst Types.

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 60 kHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 60 kHz	
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Frequency Display Mode	Absolute Relative	Absolute
Position		
Start - Stop Mode		
Start Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency minus 2.5 MHz
Start Frequency (Relative)	-2.5 to +2.5 MHz	-2.5 MHz
Stop Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency plus 2.5 MHz
Stop Frequency (Relative)	-2.5 to +2.5 MHz	+2.5 MHz
Center - Span Mode		
Center Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Center Frequency		
Absolute	-2.5 to +2.5 MHz	150 MHz
Relative	-2.5 to +2.5 MHz	0 MHz
Span	2 kHz to 5 MHz	2 MHz
Zero Span Mode		
Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Frequency (Relative)	-2.5 to +2.5 MHz	0 MHz
Sweep	1 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop frequencies	Left Hand Edge / Start frequency
Mkr2 Position	Between Start and Stop frequencies	Right Hand Edge / Stop frequency
Zero Span Mode		
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Ref Level (no Pre-amp)	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer (cont)		
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span
Trace Settings		
Averages	1 to 250	10
Enable	Off On	Off
Peak Hold Enable	Off On	Off
Trigger Mode	Single Repeat	Repeat
Test - Data Display		
Capture Bursts	1 to 5000	200
Capture - Start/Stop		Stopped
Test - Mod Acc - Constellation		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Magnitude Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Phase Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Degrees / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Mod Acc - Rotated Vector		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Trajectory		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Vector Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Operations / Status		
Conversation Type	TalkBack Silence TestTone	Talkback
Loopback Type	BER RBER	BER
Test - Power - Profile Full		
Burst Types	Normal Control	Normal
Marker1 - Position	-35 to 265 (Normal) -24 to 127 (Control)	0
Marker2 - Position	-35 to 265 (Normal) -24 to 127 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Top Ref	-70.0 to 20.0 dBc	10 dBc
dB / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	20 dB /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Power - Profile Ramps		
Burst Types	Normal Control	Normal
Marker1 - Position	-20 to 5 / 226 to 251 (Normal) -20 to 5 / 98 to 123 (Control)	0
Marker2 - Position	-20 to 5 / 226 to 251 (Normal) -20 to 5 / 98 to 123 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Top Ref	-70.0 to 20.0 dBc	10 dBc
dB / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	20 dB /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Protocol - History		
Clear Mode	Manual Auto	Auto
Show Timing As	Absolute Relative	Absolute
Test - Protocol - Groups		
View As	Decimal Hex	Decimal

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - RF Settings		
With Channel Plan		
Control Channel	0 to 4095 Actual limit set by current Channel Plan	3600 - Set by Default (TETRA 380-400 +12.5)
Traffic Channel	0 to 4095 Actual limit set by current Channel Plan	3700 - Set by Default (TETRA 380-400 +12.5)
Traffic Channel Timeslot	1, 2, 3, 4	3
With No Channel Plan		
MS Rx (RF Gen) Freq	100 kHz to 2.7 GHz	390 MHz - Set by 'No Plan'
MS Tx (Analyzer) Freq	100 kHz to 2.7 GHz	380 MHz - Set by 'No Plan'
Duplex Spacing	-999 to +999 MHz	10.000000 MHz
Duplex Spacing Lock	Unlocked Locked	Locked
RF Gen Level	T/R: -130 to -40 dBm GEN: -130 to 0 dBm	-75 dBm
RF Gen Enable	Off On	On
RF Gen Offset Enable	Config - Offsets	Config - Offsets
RF Out Port	GEN T/R	T/R
Modulator	Off On	On
Mobile Power (Exp. / Open Button) (Not in call)	Expected Open Loop	Expected
Mobile Power (Open / Closed Button) (In Call)	Open Loop Closed Loop	Open Loop
Pre-Amp	On Off	Off
Mobile Power Level (Not In Call - Expected) Pre-Amp OFF	T/R: -40 to +55 dBm ANT: -80 to 0 dBm both in 5 dB steps	40 dBm
Pre-Amp ON	T/R: -50 to +45 dBm ANT: -100 to -20 dBm both in 5 dB steps	40 dBm
Automatic Gain Control	Off On	On
Analyzer Offset Enable	Config - Offsets	Config - Offsets
RF In Port	T/R ANT	T/R

NOTE

RF Gen Level and Mobile Power Level ranges shown are with zero offset.

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Rx Measurements (BER)		
BER - Class 0 - Samples	1,000 to 10,000,000	15,000
BER - Class 1 - Samples	1,000 to 10,000,000	15,000
BER - Class 2 - Samples	1,000 to 10,000,000	15,000
Measurement Mode	Single Repeat	Repeat
Test - Rx Measurements (RBER)		
RBER - Class 0 - Samples	1,000 to 10,000,000	15,000
RBER - Class 1 - Samples	1,000 to 10,000,000	15,000
MER - Samples	10 to 1,000,000	300
Measurement Mode	Single Repeat	Repeat
Test - Scope		
Coupling Trace A / B	AC DC GND	AC
Filter	No Reject Noise Reject HF Reject	No Reject
Markers		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Position 1	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position 2	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position	-8.00 to +8.00 divisions	0.00/div
Time / div	1 us to 1 s in 1, 2, 5 steps	1 ms
Trace A & B		
Accumulate	Off On	Off
Coupling	AC DC GND	AC
Source	OFF Channel 1 Channel 2 Audio Audio Filtered	Off
Trigger Settings		
Edge	Rising Falling	Rising
Level	+/- 8 times vertical /div setting	0.0 mV
Source	Trace A Trace B Ext	Trace A
Sweep Mode	Single Repeat	Repeat
Trigger Mode	Auto Normal	Auto
Vertical /div	2 mV to 20 V in 1, 2, 5 steps	1 V

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 kHz, 6 MHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW		
VBW Enable	Auto Manual	Auto
Frequency Ranges		
Start - Stop Mode		
Start	100 kHz to 2.7 GHz	Analyzer Frequency minus 5 MHz
Stop	100 kHz to 2.7 GHz	Analyzer Frequency plus 5 MHz
Center - Span Mode		
Center Freq	100 kHz to 2.7 GHz	Analyzer Frequency
Span	2 kHz to 2.7 GHz	2 MHz
Zero Span Mode		
Frequency	100 kHz to 2.7 GHz	Analyzer Frequency
Sweep	50 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop Freq	Left Hand Edge / Start Freq
Mkr2 Position	Between Start and Stop Freq	Right Hand Edge / Stop Freq
Zero Span Mode		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Measurement Mode	Single Repeat	Repeat
Ref Level	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span

TETRA MS Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer (cont)		
Trace		
Averages	1 to 250	10
Enable	Off	Off
	On	
Mode	Normal	Normal
	Reference	
Peak Hold Enable	Off	Off
	On	
Tracking Generator		
Enable	Off	Off
	On	
Test - Tx Measurements		
Burst Types	Normal	Normal
	Control	
Burst Power		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Units	dBm	dBm
	Watts	
Minimize Select	Average	Average
	Maximum	
	Minimum	
Burst Timing		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Vector Peak		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Vector RMS		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Frequency Error		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Residual Carrier		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Measurement Mode	Single	Repeat
	Repeat	
	This affects ALL Tx Measurements, wherever displayed, for the selected burst type.	

NOTE

Over xxx Bursts and Measurement Mode values can be independently set for the allowed Burst Type.

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Chapter 5

TETRA MS T1 Values, Ranges and Defaults

Introduction

This chapter describes TETRA MS T1 values, ranges and defaults settings. Parameter values are arranged alphabetically by Tile name.

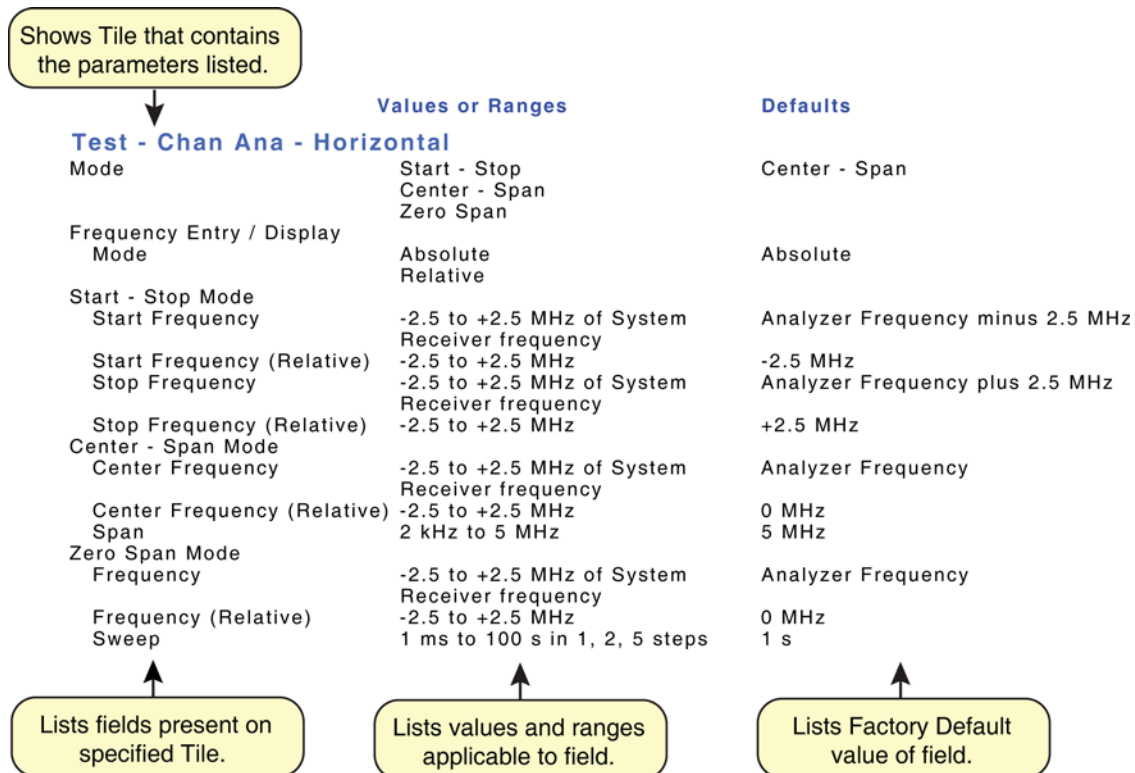


Fig. 5-1 Default Commands Illustrated Extract

NOTE

Upper range value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency Range option (390XOPT058) installed. The upper range value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Channel Plan		
Channel Plan	No Plan TETRA 380-400 +12.5 TETRA 380-400 ZERO TETRA 410-430 +12.5 TETRA 410-430 -6.25 TETRA 410-430 ZERO TETRA 450-470 +12.5 TETRA 450-470 ZERO TETRA 805-870 +12.5 TETRA 805-870 ZERO TETRA 870-921 +12.5 TETRA 870-921 ZERO User defined plans See Channel Plans section for specific plan values.	TETRA 380-400 +12.5
Config - Mobile Parameters		
Power Class	1 (45 dBm / 30 W) 1L (42.5 dBm / 20 W) 2 (40 dBm / 10 W) 2L (37.5 dBm / 5 W) 3 (35 dBm / 3 W) 3L (32.5 dBm / 2 W) 4 (30 dBm / 1 W) 4L (27.5 dBm / 500 mW)	4 (30 dBm / 1 W)
Receiver Class	A, B, E	A
Config - Offsets		
RF Generator		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
RF Analyzer		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
Timing Measurement		
Offset Value	-999.99 to 999.99 symbols	0.00 symbols
Offset Enable	Off On	Off

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Rx Measurements Limits		Default	Static	Dynamic
TCH/2.4 BER				
Rx Class A	0.00001 to 99.999999%	0.0122%	0.0122%	1.232%
Rx Class B	0.00001 to 99.999999%	0.0122%	0.0122%	0.392%
Rx Class E	0.00001 to 99.999999%	0.0122%	0.0122%	0.9184%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/4.8 BER				
Rx Class A	0.00001 to 99.999999%	0.366%	0.366%	4.48%
Rx Class B	0.00001 to 99.999999%	0.366%	0.366%	2.24%
Rx Class E	0.00001 to 99.999999%	0.366%	0.366%	7.168%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/7.2 BER				
Rx Class A	0.00001 to 99.999999%	4.27%	4.27%	4.48%
Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
Rx Class E	0.00001 to 99.999999%	4.27%	4.27%	5.04%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/S Class 0				
BER - Rx Class A	0.00001 to 99.999999%	4.27%	4.27%	4.256%
BER - Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
BER - Rx Class E	0.00001 to 99.999999%	4.27%	4.27%	11.536%
BER - Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/S Class 1				
BER - Rx Class A	0.00001 to 99.999999%	0.23%	0.23%	1.904%
BER - Rx Class B	0.00001 to 99.999999%	0.23%	0.23%	1.792%
BER - Rx Class E	0.00001 to 99.999999%	0.23%	0.23%	10.528%
BER - Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
TCH/S Class 2				
BER - Rx Class A	0.00001 to 99.999999%	0.23%	0.23%	1.904%
BER - Rx Class B	0.00001 to 99.999999%	0.23%	0.23%	1.792%
BER - Rx Class E	0.00001 to 99.999999%	0.23%	0.23%	10.528%
BER - Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
MER - Rx Class A	0.00001 to 99.999999%	0.045%	0.045%	2.9%
MER - Rx Class B	0.00001 to 99.999999%	0.045%	0.045%	2.5%
MER - Rx Class E	0.00001 to 99.999999%	0.045%	0.045%	7.6%
MER - Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
PUEM - Rx Class A	0.00001 to 99.999999%	0.028%	0.028%	0.028%
PUEM - Rx Class B	0.00001 to 99.999999%	0.028%	0.028%	0.028%
PUEM - Rx Class E	0.00001 to 99.999999%	0.028%	0.028%	0.028%
PUEM - Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
AACH BER				
Rx Class A	0.00001 to 99.999999%	4.27%	4.27%	4.48%
Rx Class B	0.00001 to 99.999999%	4.88%	4.88%	2.464%
Rx Class E	0.00001 to 99.999999%	4.27%	4.27%	5.04%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
AACH MER				
Rx Class A	0.00001 to 99.999999%	34.16%	34.16%	19.04%
Rx Class B	0.00001 to 99.999999%	46.36%	46.36%	12.32%
Rx Class E	0.00001 to 99.999999%	34.16%	34.16%	17.92%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Rx Measurements Limits (cont)				
		Default	Static	Dynamic
AACH PUEM				
Rx Class A	0.00001 to 99.99999%	0.065%	0.065%	0.065%
Rx Class B	0.00001 to 99.99999%	0.065%	0.065%	0.065%
Rx Class E	0.00001 to 99.99999%	0.065%	0.065%	0.065%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
SCH/F BER				
Rx Class A	0.00001 to 99.99999%	0.366%	0.366%	4.48%
Rx Class B	0.00001 to 99.99999%	0.366%	0.366%	2.24%
Rx Class E	0.00001 to 99.99999%	0.366%	0.366%	7.168%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
SCH/F MER				
Rx Class A	0.00001 to 99.99999%	5.49%	5.49%	12.32%
Rx Class B	0.00001 to 99.99999%	10.98%	10.98%	8.96%
Rx Class E	0.00001 to 99.99999%	5.49%	5.49%	24.64%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
SCH/F PUEM				
Rx Class A	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class B	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class E	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
SCH/HD BER				
Rx Class A	0.00001 to 99.99999%	0.366%	0.366%	4.48%
Rx Class B	0.00001 to 99.99999%	0.366%	0.366%	2.24%
Rx Class E	0.00001 to 99.99999%	0.366%	0.366%	7.168%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
SCH/HD MER				
Rx Class A	0.00001 to 99.99999%	3.05%	3.05%	12.32%
Rx Class B	0.00001 to 99.99999%	6.1%	6.1%	8.96%
Rx Class E	0.00001 to 99.99999%	3.05%	3.05%	23.52%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
SCH/HD PUEM				
Rx Class A	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class B	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class E	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
BSCH BER				
Rx Class A	0.00001 to 99.99999%	0.366%	0.366%	4.48%
Rx Class B	0.00001 to 99.99999%	0.366%	0.366%	2.24%
Rx Class E	0.00001 to 99.99999%	0.366%	0.366%	7.168%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			
BSCH MER				
Rx Class A	0.00001 to 99.99999%	3.66%	3.66%	12.32%
Rx Class B	0.00001 to 99.99999%	3.66%	3.66%	8.96%
Rx Class E	0.00001 to 99.99999%	3.66%	3.66%	24.64%
Enabled	Disabled	Enabled	Enabled	Disabled
	Enabled			
BSCH PUEM				
Rx Class A	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class B	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Rx Class E	0.00001 to 99.99999%	0.035%	0.035%	0.035%
Enabled	Disabled	Disabled	Disabled	Disabled
	Enabled			

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - System ID & Access Parameters				
Mobile Country Code	0 to 999	1 (Test)		
Mobile Network Code	0 to 16383	1		
Base Station Color Code	0 to 63	1		
Min Rx Level For Access	-125 to -50 dBm in 5 dB steps	-125 dBm		
Max Tx Level	15 to 45 dBm in 5 dB steps	30 dBm		
Access Parameter	-23 to -53 dBm in 2 dB steps	-45 dBm		
Config - Tx Measurements Limits				
Burst Types	Normal Control	Normal		
		Default	Normal	Extreme
Power Profile				
Low dBc Leading/Trailing	0 to -99.9 dBc	-70 dBc	-70 dBc	-70 dBc
Low dBm Leading/Trailing	0 to -99.9 dBm	-36 dBm	-36 dBm	-36 dBm
High dBc Leading	-9.9 to +9.9 dBc	+6 dBc	+6 dBc	+6 dBc
High dBc Trailing	-9.9 to +9.9 dBc	+3 dBc	+3 dBc	+3 dBc
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Burst Power				
Highest Power				
Level - Upper	-9.9 to +9.9 dB	+2 dB	+2 dB	+3 dB
Highest Power				
Level - Lower	-9.9 to +9.9 dB	-2 dB	-2 dB	-4 dB
Other Power Level				
Steps - Upper	-9.9 to +9.9 dB	+2.5 dB	+2.5 dB	+4 dB
Other Power Level				
Steps - Lower	-9.9 to +9.9 dB	-2.5 dB	-2.5 dB	-4 dB
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Vector Peak				
Limit Value	0.1 to 99.9%	30%	30%	30%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Vector RMS				
Limit Value	0.1 to 99.9%	10%	10%	10%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Residual Carrier				
Limit Value	0.1 to 99.9%	5%		5% 5%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Frequency Error				
Limit Value	0.1 to 1500.0 Hz	100 Hz	100 Hz	100 Hz
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Burst Timing				
Limit Value	0.01 to 9.99 symbols	0.25 sym	0.25 sym	0.25 sym
Enable	Disabled Enabled	Enabled	Enabled	Disabled

NOTE

The above values can be independently set for the allowed Burst Types.

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 60 kHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 60 kHz	
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Frequency Display Mode	Absolute Relative	Absolute
Position		
Start - Stop Mode		
Start Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency minus 2.5 MHz
Start Frequency (Relative)	-2.5 to +2.5 MHz	-2.5 MHz
Stop Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency plus 2.5 MHz
Stop Frequency (Relative)	-2.5 to +2.5 MHz	+2.5 MHz
Center - Span Mode		
Center Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Center Frequency		
Absolute	-2.5 to +2.5 MHz	150 MHz
Relative	-2.5 to +2.5 MHz	0 MHz
Span	2 kHz to 5 MHz	2 MHz
Zero Span Mode		
Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Frequency (Relative)	-2.5 to +2.5 MHz	0 MHz
Sweep	1 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop frequencies	Left Hand Edge / Start frequency
Mkr2 Position	Between Start and Stop frequencies	Right Hand Edge / Stop frequency
Zero Span Mode		
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Ref Level (no Pre-amp)	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer (cont)		
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span
Trace Settings		
Averages	1 to 250	10
Enable	Off On	Off
Peak Hold Enable	Off On	Off
Trigger Mode	Single Repeat	Repeat
Test - Control		
With Channel Plan		
Channel Number	0 to 4095 Actual limit set by current Channel Plan	3600 - Set by Default (TETRA 380-400 +12.5)
With No Channel Plan		
Mobile Rx Freq.	100 kHz to 2.7 GHz	390 MHz - Set by 'No Plan'
Mobile Tx Freq.	100 kHz to 2.7 GHz	380 MHz - Set by 'No Plan'
Duplex Spacing	-999 to +999 MHz	10.000000 MHz
Duplex Spacing Lock	Unlocked Locked	Locked
RF Gen Level (No Offset)	T/R: -130 to -40 dBm GEN: -130 to 0 dBm	-100 dBm
Mobile Power (Exp. / Open Expected)	Expected Open Loop	Open Loop
Mobile Power Level (Expected -No Offset) Pre-Amp OFF	T/R: -40 to +55 dBm ANT: -80 to 0 dBm both in 5 dB steps	40 dBm
Pre-Amp ON	T/R: -50 to +45 dBm ANT: -100 to -20 dBm both in 5 dB steps	40 dBm
Automatic Gain Control	Off On	On
Max Tx Level	Config - Sys ID & Acc Params	Config - Sys ID & Acc Params
Mobile Tx Control	Tx Off (Rx) Tx Normal Tx Control	Tx Off (Rx)
Modulator	Off On	On
Loopback	Off On	Off
T1 Type	1-TCH/7.2 2-SCH/F 3-BSCH 4-TCH/2.4 15-TCH/4.8 17-TCH/S	1-TCH/7.2
Pre-Amp	On Off	Off

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Control (cont)		
RF Gen Enable	Off On	On
RF Gen Offset Enable	Off On	Off
Analyzer Offset Enable	Off On	Off
RF Out Port	GEN T/R	T/R
RF In Port	T/R ANT	T/R
Test - Data Display		
Capture Bursts	1 to 5000	200
Capture - Start/Stop		Stopped
Test - Mod Acc - Constellation		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Magnitude Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Phase Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Degrees / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5 degrees /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Rotated Vector		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Mod Acc - Trajectory		
Burst Types	Normal Control	Normal
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Vector Error		
Burst Types	Normal Control	Normal
Marker1 - Position	0 to 231 (Normal) 0 to 103 (Control)	0
Marker2 - Position	0 to 231 (Normal) 0 to 103 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurements	Test - Tx Measurements
Test - Power - Profile Full		
Burst Types	Normal Control	Normal
Marker1 - Position	-35 to 265 (Normal) 24 to 127 (Control)	0
Marker2 - Position	-35 to 265 (Normal) -24 to 127 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Top Ref	-70.0 to 20.0 dBc	10 dBc
dB / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	20 dB /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Power - Profile Ramps		
Burst Types	Normal Control	Normal
Marker1 - Position	-20 to 5, 226 to 251 (Normal) -20 to 5, 98 to 123 (Control)	0
Marker2 - Position	-20 to 5, 226 to 251 (Normal) -20 to 5 / 98 to 123 (Control)	231 (Normal), 103 (Control)
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Top Ref	-70.0 to 20.0 dBc	10 dBc
dB / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	20 dB /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Rx Measurements		
TCH/7.2 - BER - Samples	1,000 to 10,000,000	170,000
SCH/F		
BER - Samples	1,000 to 6,000,000	170,000
MER - Samples	10 to 1,000,000	6,600
PUEM - Samples	10 to 1,000,000	31,200
AACH		
BER - Samples	1,000 to 350,000	170,000
MER - Samples	10 to 1,000,000	6,600
PUEM - Samples	10 to 1,000,000	31,200
SCH/HD		
BER - Samples	1,000 to 3,000,000	170,000
MER - Samples	10 to 1,000,000	4,800
PUEM - Samples	10 to 1,000,000	31,200
BSCH		
BER - Samples	1,000 to 1,500,000	170,000
MER - Samples	10 to 1,000,000	4,800
PUEM - Samples	10 to 1,000,000	31,200
TCH/2.4 - BER - Samples	1,000 to 3,500,000	1,290,000
TCH/S		
Class 0 - BER - Samples	1,000 to 10,000,000	30,000
Class 1 - BER - Samples	1,000 to 10,000,000	30,000
Class 2 - BER - Samples	1,000 to 10,000,000	30,000
Class 2 - MER - Samples	10 to 1,000,000	30,000
Class 2 - PUEM - Samples	10 to 1,000,000	30,000
TCH/4.8 - BER - Samples	1,000 to 6,000,000	1,290,000
Measurement Mode	Single Repeat	Repeat

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Scope		
Coupling Trace A / B	AC DC GND	AC
Filter	No Reject Noise Reject HF Reject	No Reject
Markers		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Position 1	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position 2	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position	-8.00 to +8.00 divisions	0.00/div
Time / div	1 us to 1 s in 1, 2, 5 steps	1 ms
Trace A & B		
Accumulate	Off On	Off
Coupling	AC DC GND	AC
Source	OFF Channel 1 Channel 2 Audio Audio Filtered	Off
Trigger Settings		
Edge	Rising Falling	Rising
Level	+/- 8 times vertical /div setting	0.0 mV
Source	Trace A Trace B Ext	Trace A
Sweep Mode	Single Repeat	Repeat
Trigger Mode	Auto Normal	Auto
Vertical /div	2 mV to 20 V in 1, 2, 5 steps	1 V

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 kHz, 6 MHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW		
VBW Enable	Auto Manual	Auto
Frequency Ranges		
Start - Stop Mode		
Start	100 kHz to 2.7 GHz	Analyzer Frequency minus 5 MHz
Stop	100 kHz to 2.7 GHz	Analyzer Frequency plus 5 MHz
Center - Span Mode		
Center Freq	100 kHz to 2.7 GHz	Analyzer Frequency
Span	2 kHz to 2.7 GHz	2 MHz
Zero Span Mode		
Frequency	100 kHz to 2.7 GHz	Analyzer Frequency
Sweep	50 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop Freq	Left Hand Edge / Start Freq
Mkr2 Position	Between Start and Stop Freq	Right Hand Edge / Stop Freq
Zero Span Mode		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Measurement Mode	Single Repeat	Repeat
Ref Level	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span

TETRA MS T1 Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer (cont)		
Trace		
Averages	1 to 250	10
Enable	Off	Off
	On	
Mode	Normal	Normal
	Reference	
Peak Hold Enable	Off	Off
	On	
Tracking Generator		
Enable	Off	Off
	On	
Test - Tx Measurements		
Burst Types	Normal	Normal
	Control	
Burst Power		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Units	dBm	dBm
	Watts	
Minimize Select	Average	Average
	Maximum	
	Minimum	
Burst Timing		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Vector Peak		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Vector RMS		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Frequency Error		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Residual Carrier		
Over xxx Bursts	1 to 250	20 (Normal), 1 (Control)
Minimize Select	Average	Maximum
	Maximum	
Measurement Mode	Single	Repeat
	Repeat	
	This affects ALL Tx Measurements, wherever displayed, for the selected burst type.	

NOTE

Over xxx Bursts and Measurement Mode values can be independently set for the allowed Burst Type

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Chapter 6

TETRA DM Values, Ranges and Defaults

Introduction

This chapter describes TETRA DM values, ranges and defaults settings. Parameter values are arranged alphabetically by Tile name.

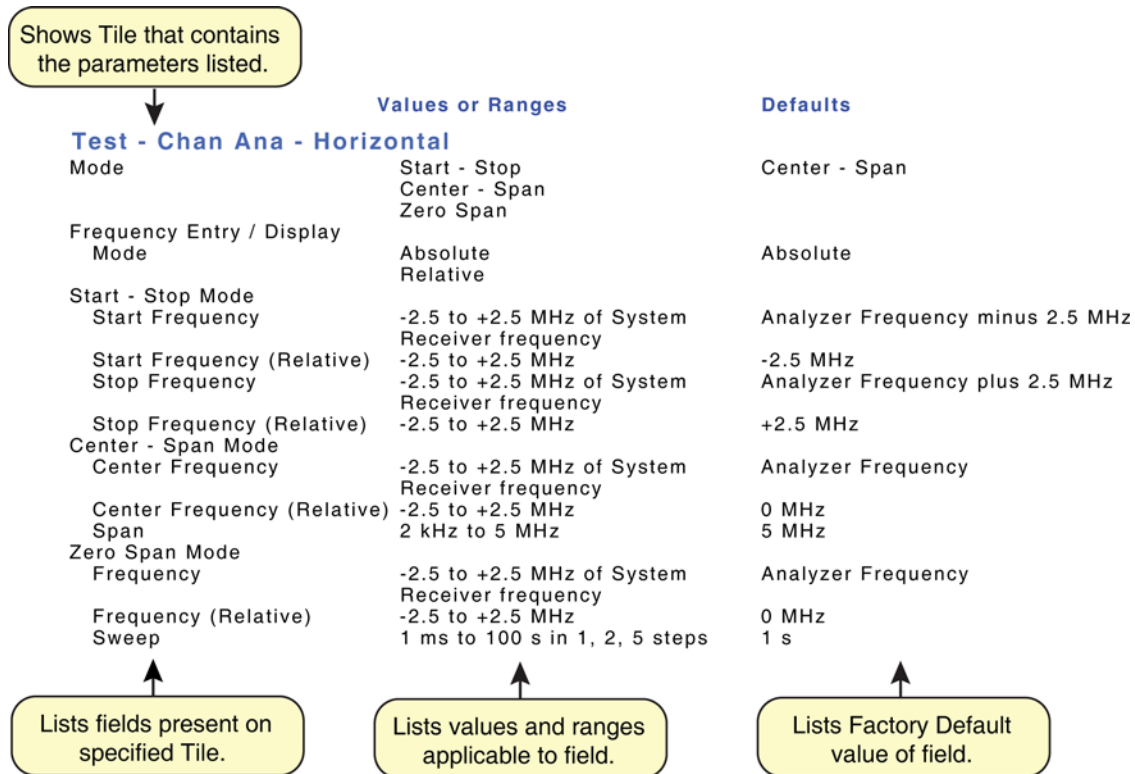


Fig. 6-1 Default Commands Illustrated Extract

NOTE

Upper range value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency Range option (390XOPT058) installed. The upper range value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Call Timers		
Test Set Transmit Mode	None Timed Continuous	Timed
Test Set Quiet Time	0 to 30 s	2 s
Test Set Transmit Time	1 to 30 s	2 s
Test Set Reservation Time	0 to 378	90 frames (= 5.100 s)
Talkback Buffer Time	1 to 30 s	2 s
Config - Call Types		
Group Call		
Group/Individual	Fixed Value	Group
Presence	Fixed Value	Not Checked
Priority	0 (Normal) 1 (High) 2 (Pre-emptive) 3 (Emergency)	0 (Normal)
Calling Party SSI	0 to 16777215	742200
Calling Party TPNI	Not Included Included Fixed Value	Not Included
Network		
Private Call		
Group/Individual	Fixed Value	Individual
Presence	Checked Not Checked	Checked
Priority	0 (Normal) 1 (High) 2 (Pre-emptive) 3 (Emergency)	0 (Normal)
Calling Party SSI	0 to 16777215	742200
Calling Party TPNI	Not Included Included Fixed Value	Not Included
Network		
Emergency Call		
Group/Individual	Individual Group	Group
Presence	Checked Not Checked	Not Checked (fixed if group)
Priority	Fixed value	3 (Emergency)
Calling Party SSI	0 to 16777215	742200
Calling Party TPNI	Not Included Included Fixed Value	Not Included
Network		
Open Group Call		
Group/Individual	Fixed Value	Group
Presence	Fixed Value	Not Checked
Priority	0 (Normal) 1 (High) 2 (Pre-emptive) 3 (Emergency)	0 (Normal)
Calling Party SSI	0 to 16777215	742200
Calling Party TPNI	Not Included Included Mobile MCC-MNC Open Channel	Not Included
Network		Mobile MCC-MNC

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Channel Plan		
Channel Plan	No Plan TETRA 380-400 +12.5 TETRA 380-400 ZERO TETRA 410-430 +12.5 TETRA 410-430 -6.25 TETRA 410-430 ZERO TETRA 450-470 +12.5 TETRA 450-470 ZERO TETRA 805-870 +12.5 TETRA 805-870 ZERO TETRA 870-921 +12.5 TETRA 870-921 ZERO Then user defined plans. See Channel Plans section for specific plan values.	TETRA 380-400 +12.5
Config - Messages		
Status Message		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200
Priority	0 = Normal 1 = High 2 = Pre-emptive 3 = Emergency	0 = Normal
Message (decimal)	0 to 65535	65279 (FEFF Hex Callback Request)
SDS Type 1, 2 & 3		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200
Priority	0 = Normal 1 = High 2 = Pre-emptive 3 = Emergency	0 = Normal
Type 1 (hex)	0 to FFFF	5431 Hex ("T1")
Type 2 (hex)	0 to FFFFFFFF	54595032 Hex ("TYP2")
Type 3 (hex)	0 to FFFFFFFFFFFFFFFF	54595045 33534453 ("TYPE3SDS")
SDS Type 4 - SDS-TL Text		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200
Priority	0 = Normal 1 = High 2 = Pre-Emptive 3 = Emergency	0 (Normal)
Report Type	None Received Consumed Received and Consumed	Received
Report Size	Short Standard	Standard
Text Coding	7 Bit (GSM) ISO 1 Latin 1 (8 Bit)	ISO 1 Latin 1 (8 Bit)
Error Protection	Not Requested Requested	Requested

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Messages (cont)		
SDS Type 4 - SDS-TL Text (cont)		
Message	120 char max	"This SDS type 4 SDS-TL text message was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	"A medium length SDS-TL 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	"A short SDS-TL message"
SDS Type 4 - Simple Text		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Priority	0 = Normal 1 = High 2 = Pre-Emptive 3 = Emergency	0 (Normal)
Text Coding	7 Bit (GSM) ISO 1 Latin 1 (8 Bit)	ISO 1 Latin 1 (8 Bit)
Message	120 char max	"This SDS type 4 simple text message was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	"A medium length simple 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	"A short simple message"
SDS Type 4 - HEX Message		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Priority	0 = Normal 1 = High 2 = Pre-Emptive 3 = Emergency	0 (Normal)
Message	120 bytes / 240 hex digits max	82020101 Hex followed by hex encoding of "This SDS type 4 message in hex, was sent by the Test Set and is one hundred and twenty characters long and ends here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	82020101 Hex followed by hex encoding of "A medium length 67 hex character message sent from the Test Set"
Initialize to Short	Fixed Value	82020101 Hex followed by hex encoding of "A short hex message"

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Messages (cont)		
SDS Type 4 - Other SDS-TL		
Group/Individual	Individual Group	Individual
Calling Party SSI (decimal)	0 to 16777215	742200 (Test Set)
Protocol Identifier (decimal)	0 to 255	130 Decimal (82 Hex / Text)
Priority	0 = Normal 1 = High 2 = Pre-Emptive 3 = Emergency	0 (Normal)
Report Type	None Received Consumed Received and Consumed	Received
Report Size	Short Standard	Standard
Error Protection	Not Requested Requested	Requested
Message	120 bytes / 240 hex digits max	01 Hex followed by hex encoding of "This SDS type 4 other message in hex was sent by the Test Set and is one hundred and twenty characters long ending here"
Initialize to Long	Fixed Value	Same as default
Initialize to Medium	Fixed Value	01 Hex followed by hex encoding of "A medium length SDS4 66 character message sent from the Test Set"
Initialize to Short	Fixed Value	01 Hex followed by hex encoding of "A short SDS4 message"
Config - Mobile Parameters		
MNI Usage	Use Fixed Use Reported	Use Reported
MNI - MCC (Fixed)	0 to 999	1
MNI - MNC (Fixed)	0 to 16383	1
SSI Usage	Use Fixed Use Reported	Use Reported
SSI (Fixed)	0 to 16777215	1
GSSI Usage	Use Fixed Use Reported	Use Reported
GSSI (Fixed)	0 to 16777215	1
Power Class Usage	Use Fixed Use Reported	Use Reported
Power Class (Fixed)	1/1L (45 dBm / 42.5 dBm) 2/2L (40 dBm / 37.5 dBm) 3/3L (35 dBm / 32.5 dBm) 4/4L (30 dBm / 27.5 dBm) 5/5L (25 dBm / 22.5 dBm)	4/4L (30 dBm / 27.5 dBm)

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Config - Offsets		
RF Generator		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
RF Analyzer		
Offset Level	-40.0 to 40.0 dB	0.0 dB
Offset Enable	Off On	Off
Timing Measurement		
Offset Value	-999.99 to 999.99 symbols	0.00 symbols
Offset Enable	Off On	Off
Config - Test Set Parameters		
Test Set SSI	0 to 16777215	742200 (Test Set)
Test Set MNI Usage	Use Fixed Use Mobile	Use Mobile
Fixed Mobile Country Code	0 to 999	1
Fixed Mobile Network Code	0 to 16383	1
Test Set Power Class	1/1L (45 dBm / 42.5 dBm) 2/2L (40 dBm / 37.5 dBm) 3/3L (35 dBm / 32.5 dBm) 4/4L (30 dBm / 27.5 dBm) 5/5L (25 dBm / 22.5 dBm)	4/4L (30 dBm / 27.5 dBm)
Mobile Power Control	Allowed Not Allowed	Not Allowed

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults		
Config - Tx Measurements Limits				
Burst Types	Master Normal Sync Initial Slave	Master		
		Default	Normal	Extreme
Power Profile				
Low dBc Leading/Trailing	0 to -99.9 dBc	-70 dBc	-70 dBc	-70 dBc
Low dBm Leading/Trailing	0 to -99.9 dBm	-36 dBm	-36 dBm	-36 dBm
High dBc Leading	-9.9 to 9.9 dBc	+6 dBc	+6 dBc	+6 dBc
High dBc Trailing	-9.9 to 9.9 dBc	+3 dBc	+3 dBc	+3 dBc
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Burst Power				
Upper	-9.9 to 9.9 dB	+2 dB	+2 dB	+3 dB
Lower	-9.9 to 9.9 dB	-2 dB	-2 dB	-4 dB
Enable	All Disabled All Enabled	Enabled	Enabled	Enabled
Vector Peak				
Limit Value	0.1 to 99.9%	30%	30%	30%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Vector RMS				
Limit Value	0.1 to 99.9%	10%	10%	10%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Residual Carrier				
Limit Value	0.1 to 99.9%	5%	5%	5%
Enable	Disabled Enabled	Enabled	Enabled	Disabled
Frequency Error				
Limit Value (Slave bursts)	0.1 to 1500.0 Hz	100 Hz	100 Hz	100 Hz
Enable (Slave bursts)	Disabled Enabled	Enabled	Enabled	Disabled
Limit Value (Not Slave burst)	0.1 to 1500.0 Hz	1 kHz	1 kHz	1 kHz
Enable (Not Slave burst)	Disabled Enabled	Enabled	Enabled	Enabled
Burst Timing (Slave bursts only)				
Limit Value	0.01 to 9.99 symbols	0.25 sym	0.25 sym	0.25 sym
Enable	Disabled Enabled	Enabled	Enabled	Disabled

NOTE

The above values can be independently set for the allowed Burst Types.

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 60 kHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 60 kHz	
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, None	
VBW Mode	Auto Manual	Auto
Frequency Display Mode	Absolute Relative	Absolute
Position		
Start - Stop Mode		
Start Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency minus 2.5 MHz
Start Frequency (Relative)	-2.5 to +2.5 MHz	-2.5 MHz
Stop Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency plus 2.5 MHz
Stop Frequency (Relative)	-2.5 to +2.5 MHz	+2.5 MHz
Center - Span Mode		
Center Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Center Frequency		
Absolute	-2.5 to +2.5 MHz	150 MHz
Relative	-2.5 to +2.5 MHz	0 MHz
Span	2 kHz to 5 MHz	2 MHz
Zero Span Mode		
Frequency	-2.5 to +2.5 MHz of System Receiver frequency	Analyzer Frequency
Frequency (Relative)	-2.5 to +2.5 MHz	0 MHz
Sweep	1 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop frequencies	Left Hand Edge / Start frequency
Mkr2 Position	Between Start and Stop frequencies	Right Hand Edge / Stop frequency
Zero Span Mode		
Enable	Enable' Enable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Ref Level (no Pre-amp)	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Channel Analyzer (cont)		
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span
Trace Settings		
Averages	1 to 250	10
Enable	Off On	Off
Peak Hold Enable	Off On	Off
Trigger Mode	Single Repeat	Repeat
Test - Data Display		
Capture Bursts	1 to 5000	200
Capture - Start/Stop		Stopped
Test - Mod Acc - Constellation		
Burst Types	Master Normal Sync Initial Slave	Master
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Magnitude Error		
Burst Types	Master Normal Sync Initial Slave	Master
Marker1 - Position	0 to 235	0
Marker2 - Position	0 to 235	235
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	10% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Phase Error		
Burst Types	Master Normal Sync Initial Slave	Master
Marker1 - Position	0 to 235	0
Marker2 - Position	0 to 235	235
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Degrees / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5 degrees /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Mod Acc - Rotated Vector		
Burst Types	Master Normal Sync Initial Slave	Master
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Mod Acc - Trajectory		
Burst Types	Master Normal Sync Initial Slave	Master
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurements	Test - Tx Measurements
Test - Mod Acc - Vector Error		
Burst Types	Master Normal Sync Initial Slave	Master
Marker1 - Position	0 to 235	0
Marker2 - Position	0 to 235	235
Markers	Coupled Uncoupled	Uncoupled
Measurements Settings	Test - Tx Measurement	Test - Tx Measurement
% / div	20, 10, 5, 2, 1, 0.5, 0.2, 0.1	5% /div
Accumulate Display	On Off	Off
Measurement Mode	Test - Tx Measurement	Test - Tx Measurement
Test - Operations / Status		
Conversation Type	TalkBack Silence TestTone	Talkback
Test - Protocol - History		
Clear Mode	Manual Auto	Auto
Show Timing As	Absolute Relative	Absolute

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - RF Settings		
With Channel Plan		
Channel	0 to 4095	3600 - Set by Default (TETRA 380-400 +12.5)
Downlink / Uplink	Downlink Uplink	1 - Uplink
With No Channel Plan		
Gen / Ana Frequency	100 kHz to 2.7 GHz	380 MHz - Set by 'No Plan'
RF Generator Level	T/R: -130 to -40 dBm GEN: -130 to 0 dBm	-75 dBm
Modulator	Off On	On
Expected Power Level		
Pre-Amp OFF	T/R: -40 to +55 dBm ANT: -80 to 0 dBm both in 5 dB steps	40 dBm
Pre-Amp ON	T/R: -50 to +45 dBm ANT: -100 to -20 dBm both in 5 dB steps	40 dBm
AGC	Off On	On
RF Gen Enable	Off On	On
RF Gen Offset Enable	Off On	Off
Analyzer Offset Enable	Off On	Off
Pre-Amp	On Off	Off
RF Out Port	GEN T/R	T/R
RF In Port	T/R ANT	T/R

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Scope		
Coupling Trace A / B	AC DC GND	AC
Filter	No Reject Noise Reject HF Reject	No Reject
Markers		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Position 1	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position 2	0 to RHS of screen as defined by time/div and lock mode	0 ms
Position	-8.00 to +8.00 divisions	0.00/div
Time / div	1 us to 1 s in 1, 2, 5 steps	1 ms
Trace A & B		
Accumulate	Off On	Off
Coupling	AC DC GND	AC
Source	OFF Channel 1 Channel 2 Audio Audio Filtered	Off
Trigger Settings		
Edge	Rising Falling	Rising
Level	+/- 8 times vertical /div setting	0.0 mV
Source	Trace A Trace B Ext	Trace A
Sweep Mode	Single Repeat	Repeat
Trigger Mode	Auto Normal	Auto
Vertical /div	2 mV to 20 V in 1, 2, 5 steps	1 V

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer		
Coupling		
Start - Stop & Center - Span		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 kHz, 6 MHz	
RBW Mode	Auto Manual	Auto
VBW	300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW Mode	Auto Manual	Auto
Sweep Time	200 ms to 100 s in 1, 2, 5 steps	
Sweep Time Mode	Auto Manual	Auto
Zero Span Mode		
RBW	300 Hz, 3 kHz, 30 kHz, 60 kHz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, None	
VBW		
VBW Enable	Auto Manual	Auto
Frequency Ranges		
Start - Stop Mode		
Start	100 kHz to 2.7 GHz	Analyzer Frequency minus 5 MHz
Stop	100 kHz to 2.7 GHz	Analyzer Frequency plus 5 MHz
Center - Span Mode		
Center Freq	100 kHz to 2.7 GHz	Analyzer Frequency
Span	2 kHz to 2.7 GHz	2 MHz
Zero Span Mode		
Frequency	100 kHz to 2.7 GHz	Analyzer Frequency
Sweep	50 ms to 100 s in 1, 2, 5 steps	100 ms
Markers		
Start - Stop & Center - Span	Modes	
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between Start and Stop Freq	Left Hand Edge / Start Freq
Mkr2 Position	Between Start and Stop Freq	Right Hand Edge / Stop Freq
Zero Span Mode		
Enable	Enable Disable	Disable
Mode	Unlocked Locked	Unlocked
Mkr1 Position	Between 0 and Sweep value	100 ms
Mkr2 Position	Between 0 and Sweep value	100 ms
Measurement Mode	Single Repeat	Repeat
Ref Level	T/R: -60 to +60 dBm ANT: -100 to +10 dBm when no offset set	-20 dBm
RF In (Source)	T/R ANT	T/R
Scaling (dB /div)	1, 2, 5, 10	10 dB /div
Span Mode	Start - Stop Center - Span Zero Span	Center - Span

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Spectrum Analyzer (cont)		
Trace		
Averages	1 to 250	10
Enable	Off	Off
	On	
Mode	Normal	Normal
	Reference	
Peak Hold Enable	Off	Off
	On	
Tracking Generator		
Enable	Off	Off
	On	
Test - Tx Measurements		
Burst Types	Master	Master
	Normal	
	Sync	
	Initial	
	Slave	
Burst Power		
Over xxx Bursts	1 to 250	20 (Master, Normal, Sync)
		1 (Slave)
		8 (Initial)
Units	dBm	dBm
	Watts	
Minimize Select	Average	Average
	Maximum	
	Minimum	
Burst Timing (Slave bursts only)		
Over xxx Bursts	1 to 250	20 (Master, Normal, Sync)
		1 (Slave)
		8 (Initial)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	
Vector Peak		
Over xxx Bursts	1 to 250	20 (Master, Normal, Sync)
		1 (Slave)
		8 (Initial)
Minimize Select	Average	Maximum
	Maximum	
Vector RMS		
Over xxx Bursts	1 to 250	20 (Master, Normal, Sync)
		1 (Slave)
		8 (Initial)
Minimize Select	Average	Maximum
	Maximum	
Frequency Error		
Over xxx Bursts	1 to 250	20 (Master, Normal, Sync)
		1 (Slave)
		8 (Initial)
Minimize Select	Average	Worst Case
	Maximum	
	Minimum	
	Worst Case	

TETRA DM Values, Ranges and Defaults

Command	Values or Ranges	Defaults
Test - Tx Measurements (cont)		
Residual Carrier Over xxx Bursts	1 to 250	20 (Master, Normal, Sync) 1 (Slave) 8 (Initial)
Minimize Select	Average Maximum	Maximum
Measurement Mode	Single Repeat Affects ALL Tx Measurements, wherever displayed, for the selected burst type.	Repeat

NOTE

Over xxx Bursts and Measurement Mode values can be independently set for the allowed Burst Type.

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Chapter 7

TETRA BS Quick Reference Guide

Introduction

This chapter is the Quick Reference Guide for TETRA BS remote commands. The commands in each of these listings are arranged alphabetically within the hierarchy. Refer to the TETRA BS Detailed Remote Commands Chapter for complete command parameters.

The figure below describes the Remote Command Quick Reference Guide format.

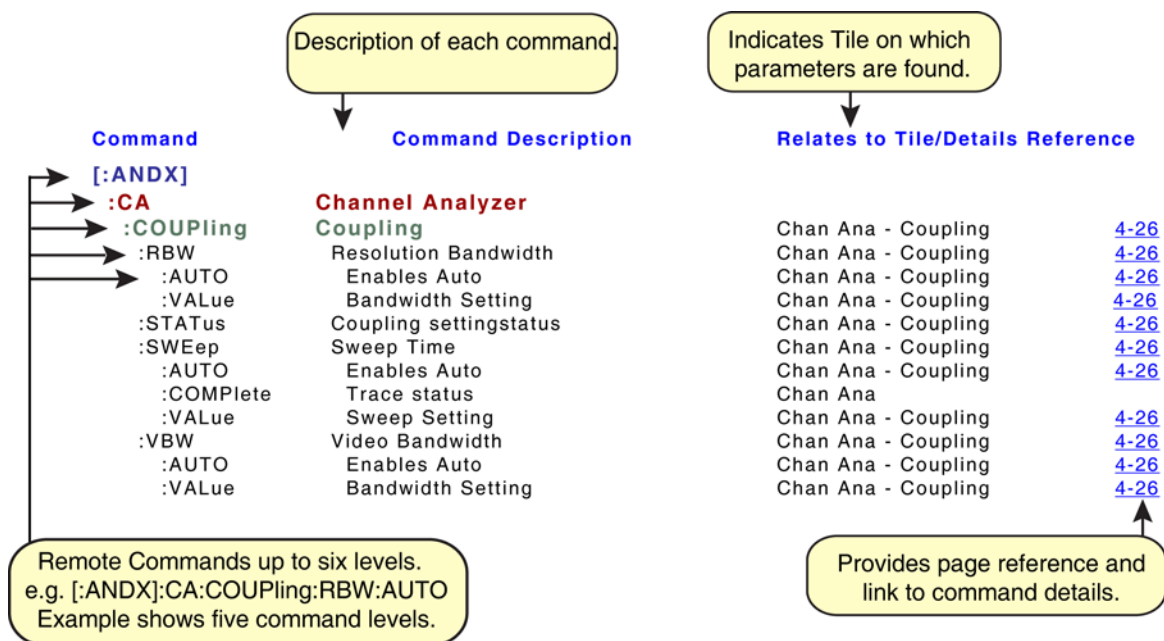


Fig. 7-1 Quick Reference Guide Illustrated Extract

NOTE

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description	Relates to Tile/Details Reference
[:TBS]		
:ABORt	Abort	
:CA	Stops Channel Analyzer Sweeps	
:SA	Stops Spectrum Analyzer Sweeps	
:TXMeas	Stops Tx Measurements	
:PRBS	For PRBS / No TS Bursts	Tx Measurements 12-20
:SYNC	For Sync Bursts	Tx Measurements 12-20
:TS1	For Normal TS1 Bursts	Tx Measurements 12-20
:TS2	For Normal TS2 Bursts	Tx Measurements 12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements 12-20
:CA	Channel Analyzer	
:COUPling	Coupling	
:RBW	Resolution Bandwidth	Channel Analyzer 12-6
:AUTO	Enables Auto	Channel Analyzer 12-6
:VALue	Bandwidth Setting	Channel Analyzer 12-6
:STATUs?	Returns coupling setting status	Channel Analyzer 12-6
:SWEep	Sweep Time	Channel Analyzer 12-6
:AUTO	Enables Auto	Channel Analyzer 12-6
:COMPlEtE?	Returns Trace status	
:VALue	Sweep Setting	Channel Analyzer 12-6
:VBW	Video Bandwidth	Channel Analyzer 12-6
:AUTO	Enables Auto	Channel Analyzer 12-6
:VALue	Bandwidth Setting	Channel Analyzer 12-6
:HORizontal	Horizontal	
:FREquency	Start-Stop/Center-Span Frequencies	Channel Analyzer 12-6
:CENTer	Center Frequency	Channel Analyzer 12-6
:RELative	Relative to Analyzer	Channel Analyzer 12-6
:SPAN	Span Frequency	Channel Analyzer 12-6
:START	Start Frequency	Channel Analyzer 12-6
:RELative	Relative to Analyzer	Channel Analyzer 12-6
:STOP	Stop Frequency	Channel Analyzer 12-6
:RELative	Relative to Analyzer	Channel Analyzer 12-6
:MODE	Locked / Unlocked	Channel Analyzer 12-6
:SPAN	Sets Span	Channel Analyzer 12-6
:FULL	To Full Span	Channel Analyzer 12-6
:ZERO	Zero Span Values	Channel Analyzer 12-6
:CENTer	Center Frequency	Channel Analyzer 12-6
:RELative	Relative to Analyzer	Channel Analyzer 12-6
:SWEep	Sweep Time	Channel Analyzer 12-6
:MARKer	Markers	
:DELTA?	Marker Delta	
:LEVEl?	Returns Level between Mkr1 and Mkr2 level values	Channel Analyzer 12-6
:POSition?	Returns distance between markers	Channel Analyzer 12-6
:MKRn	Marker where n = Marker 1 or 2	Channel Analyzer 12-6
:ENABLe	Enables Marker	Channel Analyzer 12-6
:LEFT	Moves Marker left to next peak	Channel Analyzer 12-6
:LEVEl?	Returns Level at Marker position	Channel Analyzer 12-6
:MINimum	Moves Marker to minimum point	Channel Analyzer 12-6
:PEAK	Moves Marker to peak point	Channel Analyzer 12-6
:POSition	Marker Position	Channel Analyzer 12-6
:RIGHT	Moves Marker right to next peak	Channel Analyzer 12-6
:SCF	Sets Center Freq. to Marker Position	Channel Analyzer 12-6
:SREF	Sets Ref Level to Marker Position Level	Channel Analyzer 12-6

Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:CA	Channel Analyzer (cont)		
:MARKer	Markers (cont)		
:MODE	Locked / Unlocked	Channel Analyzer	12-6
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Channel Analyzer	12-6
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Channel Analyzer	12-6
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Channel Analyzer	12-6
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Channel Analyzer	12-6
:SSS	Markers set Start - Stop Span	Channel Analyzer	12-6
:SVERTical	Markers set (Nearest) Vertical Range	Channel Analyzer	12-6
:TRACe	Trace		
:AVG?	Returns average Trace data	Channel Analyzer	12-6
:AVERage	Averages	Channel Analyzer	12-6
:CURRent?	Returns count of Averages Progress	Channel Analyzer	12-6
:ENABLE	Enables Average readings	Channel Analyzer	12-6
:VALue	Required number of Averages	Channel Analyzer	12-6
:LIVE?	Returns Live Trace	Channel Analyzer	12-6
:MAXimum	Enables Maximum Hold	Channel Analyzer	12-6
:PEAK?	Returns Peak Trace	Channel Analyzer	12-6
:PKAV?	Returns Peak Average Trace	Channel Analyzer	12-6
:TRIGger	Trigger		
:MODE	Gate Mode	Channel Analyzer	12-6
:VERTical	Vertical		
:LEVel	Level (Top of Screen)	Channel Analyzer	12-6
:VDIV	Vertical / div	Channel Analyzer	12-6
:CALibrate	Calibration		
:USER	User Calibration		
:RUN	Start User Calibration	UTILS - Operational Status Tile	
:SETPoint	Sets Temperature Change Threshold	UTILS - Operational Status Tile	
:STATus?	Returns Calibration status	UTILS - Operational Status Tile	
:UNCAL?	Returned data indicates if Calibration is needed	UTILS - Operational Status Tile	
:CONFigure	Configure		
:BSIDentity	Base Station Identity		
:BCC	Base Station Color Code	System ID Config Tile	12-3
:MCC	Mobile Country Code	System ID Config Tile	12-3
:MNC	Mobile Network Code	System ID Config Tile	12-3
:UPDate	Update Mode	System ID Config Tile	12-3
:BSParameter	Base Station Parameters		
:PCLass	Power Class	BS Parameters Config Tile	12-2
:CHPLan	Channel Plan		
:DELete	Deletes specified Channel Plan	Channel Plan Config Tile	12-2
:INFO?	Returns Information about current channel plan	Channel Plan Config Tile	12-2
:LOAD	Load named plan as current plan	Channel Plan Config Tile	12-2
:NEW	Create new channel plan	Channel Plan Config Tile	12-2

Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:CONFigure	Configure (cont)		
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	12-20
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:POWer	Tx Power	Tx Measurements Tile	12-20
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:RCARrier	Residual Carrier	Tx Measurements Tile	12-20
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:VPEak	Vector Peak	Tx Measurements Tile	12-20
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:VRMS	Vector RMS	Tx Measurements Tile	12-20
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:OFFSet	Offsets		
:ANALyzer	RF Analyzer	Offsets Config Tile	12-3
:ENABle	Enables Offset	Offsets Config Tile	12-3
:VALue	The Offset	Offsets Config Tile	12-3
:POWer	Tx Power		
:SAMPlE	Sample Count	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20

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Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:FETCh	Fetch		
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:MERRor	Magnitude Error	Mod Acc - Mag Error Tile	12-10
:PRBS	For PRBS / No TS Bursts	Mod Acc - Mag Error Tile	12-10
:SYNC	For Sync Bursts	Mod Acc - Mag Error Tile	12-10
:TS1	For Normal TS1 Bursts	Mod Acc - Mag Error Tile	12-10
:TS2	For Normal TS2 Bursts	Mod Acc - Mag Error Tile	12-10
:TS12	For Normal TS1 or TS2 Bursts	Mod Acc - Mag Error Tile	12-10
:PERRor	Phase Error	Mod Acc - Phase Error Tile	12-11
:PRBS	For PRBS / No TS Bursts	Mod Acc - Phase Error Tile	12-11
:SYNC	For Sync Bursts	Mod Acc - Phase Error Tile	12-11
:TS1	For Normal TS1 Bursts	Mod Acc - Phase Error Tile	12-11
:TS2	For Normal TS2 Bursts	Mod Acc - Phase Error Tile	12-11
:TS12	For Normal TS1 or TS2 Bursts	Mod Acc - Phase Error Tile	12-11
:RCARrier	Residual Carrier	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:VERRor	Vector Error	Mod Acc - Vector Error Tile	12-12
:PRBS	For PRBS / No TS Bursts	Mod Acc - Vector Error Tile	12-12
:SYNC	For Sync Bursts	Mod Acc - Vector Error Tile	12-12
:TS1	For Normal TS1 Bursts	Mod Acc - Vector Error Tile	12-12
:TS2	For Normal TS2 Bursts	Mod Acc - Vector Error Tile	12-12
:TS12	For Normal TS1 or TS2 Bursts	Mod Acc - Vector Error Tile	12-12
:VPEak	Vector Peak	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:VRMS	Vector RMS	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:RF	RF		
:ALARM	Returns overload status	Active Tile	
:GEN	Returns Generator overload status	Active Tile	
:REC	Returns Receiver overload status	Active Tile	
:Power	Tx Power		
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Burst	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20

Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:INITiate	Initiate		
:CONTinuous	Continuous (Repeat)		
:CA	Channel Analyzer Sweep	Channel Analyzer	12-6
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	12-16
:SCOpe	Scope Measurements	Scope	12-14
:TXMeas	Tx Measurements	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:IMMediate	Immediate (Single)		
:CA	Channel Analyzer Sweep	Channel Analyzer	12-6
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	12-16
:SCOpe	Scope Measurements	Scope	12-14
:TXMeas	Tx Measurements	Tx Measurements Tile	12-20
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	12-20
:SYNC	For Sync Bursts	Tx Measurements Tile	12-20
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	12-20
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	12-20
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	12-20
:LIMits	Limits		
:TXMeas	Tx Measurements		
:FERRor	Frequency Error	Tx Meas Limits Config Tile	12-4
:ENABle	Enables Limit	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VALue	Limit value	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:INITialize	Initializes set Limit	Tx Meas Limits Config Tile	12-4
:PRBS	The PRBS / No TS Limits Set	Tx Meas Limits Config Tile	12-4
:SYNC	The Sync Burst Limits Set	Tx Meas Limits Config Tile	12-4
:TS1	The Normal TS1 Limits Set	Tx Meas Limits Config Tile	12-4
:TS2	The Normal TS2 Limits Set	Tx Meas Limits Config Tile	12-4
:TS12	The Normal TS1 or TS2 Limits Set	Tx Meas Limits Config Tile	12-4
:POWER	Burst Power	Tx Meas Limits Config Tile	12-4
:ENABle	Enables Limit	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VALue	Limit value	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4

Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:LIMITs	Limits (cont)		
:TXMeas	Tx Measurements (cont)		
:RCARrier	Residual Carrier	Tx Meas Limits Config Tile	12-4
:ENABLE	Enables Limit	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VALue	Limit value	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VPEak	Vector Peak	Tx Meas Limits Config Tile	12-4
:ENABLE	Enables Limit	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VALue	Limit value	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VRMS	Vector RMS	Tx Meas Limits Config Tile	12-4
:ENABLE	Enables Limit	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:VALue	Limit value	Tx Meas Limits Config Tile	12-4
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile	12-4
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	12-4
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile	12-4
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile	12-4
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile	12-4
:PROTOCOL	Protocol		
:BSIDentity?	Returns Base Station Identity	System ID Config Tile	12-3
:RF	RF Settings		
:ANALyzer	Analyzer		
:AGC	Automatic Gain Control	RF Settings Tile	12-13
:FREquency	Frequency	RF Settings Tile	12-13
:LEVel	Expected Power Level	RF Settings Tile	12-13
:PORT	Port (RF In)	RF Settings Tile	12-13
:RECeiver	Receiver	RF Settings Tile	12-13
:AMP	Receiver Pre-AMP	RF Settings Tile	12-13
:CHANnel	Channel		

Command	Command Description	Relates to Tile/Details Reference
[:TBS]		
:SA	Spectrum Analyzer	
:COUPling	Coupling	
:RBW	Resolution Bandwidth	Spectrum Analyzer 12-16
:AUTO	Enables Auto	Spectrum Analyzer 12-16
:VALue	Bandwidth Setting	Spectrum Analyzer 12-16
:STATus?	Returns coupling setting status	Spectrum Analyzer 12-16
:SWEep	Sweep Time	Spectrum Analyzer 12-16
:AUTO	Enables Auto	Spectrum Analyzer 12-16
:COMPLet?	Returns Trace status	Spectrum Analyzer 12-16
:VALue	Sweep Value	Spectrum Analyzer 12-16
:VBW	Video Bandwidth	Spectrum Analyzer 12-16
:AUTO	Enables Auto	Spectrum Analyzer 12-16
:VALue	Bandwidth Setting	Spectrum Analyzer 12-16
:HORizontal	Horizontal	
:FREQUENCY	Start-Stop/Center-Span Frequencies	Spectrum Analyzer 12-16
:CENTer	Center Frequency	Spectrum Analyzer 12-16
:SPAN	Span Frequency	Spectrum Analyzer 12-16
:STARt	Start Frequency	Spectrum Analyzer 12-16
:STOP	Stop Frequency	Spectrum Analyzer 12-16
:MODE	Mode	Spectrum Analyzer 12-16
:SPAN	Sets Span	Spectrum Analyzer 12-16
:FULL	To Full Span	Spectrum Analyzer 12-16
:ZERO	Zero Span Values	Spectrum Analyzer 12-16
:SWEep	Sweep Time	Spectrum Analyzer 12-16
:MARKer	Markers	
:DELTA	Marker Delta	Spectrum Analyzer 12-16
:LEVEl?	Returns difference between Mkr1 and Mkr2 level values)	Spectrum Analyzer 12-16
:POSition?	Returns distance between markers	Spectrum Analyzer 12-16
:MKRn	Marker where n = Marker 1 or 2	Spectrum Analyzer 12-16
:ENABle	Enables Marker	Spectrum Analyzer 12-16
:LEFT	Moves Marker left to next peak	Spectrum Analyzer 12-16
:LEVEl?	Returns Level at Marker position	Spectrum Analyzer 12-16
:MINimum	Moves Marker to minimum point	Spectrum Analyzer 12-16
:PEAK	Moves Marker to peak point	Spectrum Analyzer 12-16
:POSition	Marker Position	Spectrum Analyzer 12-16
:RIGHT	Moves Marker right to next peak	Spectrum Analyzer 12-16
:SCF	Sets Center Freq. to Marker Position	Spectrum Analyzer 12-16
:SREF	Sets Ref Level to Marker Position level	Spectrum Analyzer 12-16
:MODE	Locked / Unlocked	Spectrum Analyzer 12-16
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Spectrum Analyzer 12-16
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Spectrum Analyzer 12-16
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Spectrum Analyzer 12-16
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Spectrum Analyzer 12-16
:SSS	Markers set Start - Stop Span	Spectrum Analyzer 12-16
:SVERTical	Markers set (Nearest) Vertical Range	Spectrum Analyzer 12-16
:MODE	Mode	

Command	Command Description	Relates to Tile/Details Reference	
[:TBS]			
:SA	Spectrum Analyzer (cont)		
:TRACe	Trace		
:AVERage	Averages	Spectrum Analyzer	12-16
:CURRent?	REturns count of Averages Progress	Spectrum Analyzer	12-16
:ENABle	Enables Average readings	Spectrum Analyzer	12-16
:VALue	Trace average	Spectrum Analyzer	12-16
:LIVE?	Returns Live trace data	Spectrum Analyzer	12-16
:MAXimum	Enables Maximum Hold	Spectrum Analyzer	12-16
:PEAK?	Returns Peak Trace data	Spectrum Analyzer	12-16
:PKAV?	Returns Peak Average Trace data	Spectrum Analyzer	12-16
:TRKGen	Tracking Generator		
:ENABle	Enables Tracking Generator	Spectrum Analyzer	12-16
:TRIGger	Trigger		
:MODE	Gate Mode	Spectrum Analyzer	12-16
:VERTical	Vertical		
:LEVel	Level (Top of Screen)	Spectrum Analyzer	12-16
:VDIV	Vertical / div	Spectrum Analyzer	12-16
:SCOPE	Oscilloscope		
:ATRace	Trace A		
:COUPling	Coupling	Scope	12-14
:MKR1	Value at Specified Marker Position	Scope	12-14
:MKR2	Value at Specified Marker Position	Scope	12-14
:SOURce	Trace Source	Scope	12-14
:VDIV	Vertical /div	Scope	12-14
:VOLT	In Volts	Scope	12-14
:BTRace	Trace B		
:COUPling	Coupling	Scope	12-14
:MKR1	Value at Specified Marker Position	Scope	12-14
:MKR2	Value at Specified Marker Position	Scope	12-14
:SOURce	Trace Source	Scope	12-14
:VDIV	Vertical /div	Scope	12-14
:VOLT	In Volts	Scope	12-14
:HDIV	Horizontal /div	Scope	12-14
:MKR	Locked / Unlocked	Scope	12-14
:MKR<i>n</i>	Marker where <i>n</i> = Marker 1 or 2	Scope	12-14
:ENABle	Enables Marker	Scope	12-14
:TRIGger	Trigger		
:EDGE	Edge	Scope	12-14
:FILTer	Trigger Filter	Scope	12-14
:LEVel	Level	Scope	12-14
:MODE	Mode	Scope	12-14
:SOURce	Source	Scope	12-14
:SYSTem	System		
:STORE “filename”	Saves file to Test Set’s internal database.		
:RECAIl “filename”	Recalls file from Test Set’s internal database.		

Command	Command Description	Relates to Tile/Details Reference
[:TBS]		
:USBTOSERial USB to Serial Port		
:OPEN	Opens selected port	
:CLOSE	Closes opened port	
:BAUDrate	Sets Baud Rate at which data is transmitted	
:READ?	Reads string data	
:WRITE	Write sends string data	
:QUERY?	Query reads and writes string as send parameter	
:RESet	Send 1 to reset communications	
:CHARsize	Sets Character Size	
:PARity	Sets Parity	
:HWFlowcontrol	Hardware flow control	
:SWFlowcontrol	Software flow control	
:TIMEout	Sets Timeout Setting in μ s	
:TERMchar	Sets Termination Character decimal value	

Chapter 8

TETRA BS T1 Quick Reference Guide

Introduction

This chapter is the Quick Reference Guide for TETRA BS T1 remote commands. The commands in each of these listings are arranged alphabetically within the hierarchy. Refer to the TETRA BS T1 Detailed Remote Commands Chapter for complete command parameters.

The figure below describes the Remote Command Quick Reference Guide format.

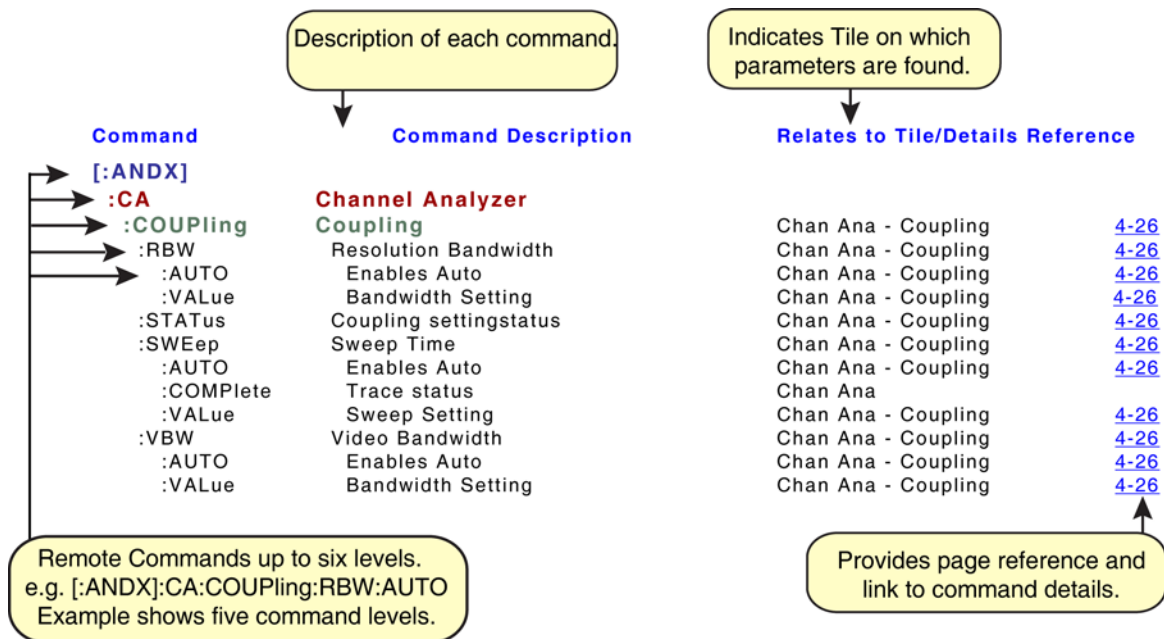


Fig. 8-1 Quick Reference Guide Illustrated Extract

NOTE

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description	Relates to Tile/Details Reference
[:TBST]		
:ABORt	Abort	
:CA	Stops Channel Analyzer Sweeps	
:RXMeas	Stops Rx Measurements	
:SA	Stops Spectrum Analyzer Sweeps	
:TXMeas	Stops Tx Measurements	
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile 13-28
:SYNC	For Sync Bursts	Tx Measurements Tile 13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile 13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile 13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile 13-28
:CA	Channel Analyzer	
:COUPling	Coupling	
:RBW	Resolution Bandwidth	Channel Analyzer 13-8
:AUTO	Enables Auto	Channel Analyzer 13-8
:VALue	Bandwidth Setting	Channel Analyzer 13-8
:STATus?	Returns coupling setting status	Channel Analyzer 13-8
:SWEep	Sweep Time	Channel Analyzer 13-8
:AUTO	Enables Auto	Channel Analyzer 13-8
:COMPlete?	Returns Trace status	Channel Analyzer 13-8
:VALue	Sweep Setting	Channel Analyzer 13-8
:VBW	Video Bandwidth	Channel Analyzer 13-8
:AUTO	Enables Auto	Channel Analyzer 13-8
:VALue	Bandwidth Setting	Channel Analyzer 13-8
:HORizontal	Horizontal	
:FREquency	Start-Stop/Center-Span Frequencies	Channel Analyzer 13-8
:CENTer	Center Frequency	Channel Analyzer 13-8
:RELative	Relative to Analyzer	Channel Analyzer 13-8
:SPAN	Span Frequency	Channel Analyzer 13-8
:STARt	Start Frequency	Channel Analyzer 13-8
:RELative	Relative to Analyzer	Channel Analyzer 13-8
:STOP	Stop Frequency	Channel Analyzer 13-8
:RELative	Relative to Analyzer	Channel Analyzer 13-8
:MODE	Locked / Unlocked	Channel Analyzer 13-8
:SPAN	Sets Span	Channel Analyzer 13-8
:FULL	To Full Span	Channel Analyzer 13-8
:ZERO	Zero Span Values	Channel Analyzer 13-8
:CENTer	Center Frequency	Channel Analyzer 13-8
:RELative	Relative to Analyzer	Channel Analyzer 13-8
:SWEep	Sweep Time	Channel Analyzer 13-8
:MARKer	Markers	
:DELTA?	Marker Delta	
:LEVel?	Returns Level between Mkr1 and Mkr2 level values	Channel Analyzer 13-8
:POSition?	Returns distance between markers	Channel Analyzer 13-8
:MKRn	Marker where n = Marker 1 or 2	Channel Analyzer 13-8
:ENABle	Enables Marker	Channel Analyzer 13-8
:LEFT	Moves Marker left to next peak	Channel Analyzer 13-8
:LEVel?	Returns Level at Marker position	Channel Analyzer 13-8
:MINimum	Moves Marker to minimum point	Channel Analyzer 13-8
:PEAK	Moves Marker to peak point	Channel Analyzer 13-8
:POSition	Marker Position	Channel Analyzer 13-8
:RIGHT	Moves Marker right to next peak	Channel Analyzer 13-8
:SCF	Sets Center Freq. to Marker Position	Channel Analyzer 13-8
:SREF	Sets Ref Level to Marker Position Level	Channel Analyzer 13-8

Command	Command Description	Relates to Tile/Details Reference
[:TBST]		
:CA	Channel Analyzer (cont)	
:MARKer	Markers (cont)	
:MODE	Locked / Unlocked	Channel Analyzer 13-8
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Channel Analyzer 13-8
:PLive?	Returns average of Live readings between Mkr1 and Mkr2 data	Channel Analyzer 13-8
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Channel Analyzer 13-8
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Channel Analyzer 13-8
:SSS	Markers set Start - Stop Span	Channel Analyzer 13-8
:SVERTical	Markers set (Nearest) Vertical Range	Channel Analyzer 13-8
:TRACe	Trace	
:AVG?	Returns average Trace data	Channel Analyzer 13-8
:AVERage	Averages	Channel Analyzer 13-8
:CURRENT?	Returns count of Averages Progress	Channel Analyzer 13-8
:ENABLE	Enables Average readings	Channel Analyzer 13-8
:VALue	Required number of Averages	Channel Analyzer 13-8
:LIVE?	Returns Live Trace	Channel Analyzer 13-8
:MAXimum	Enables Maximum Hold	Channel Analyzer 13-8
:PEAK?	Returns Peak Trace	Channel Analyzer 13-8
:PKAV?	Returns Peak Average Trace	Channel Analyzer 13-8
:TRIGger	Trigger	
:MODE	Gate Mode	Channel Analyzer 13-8
:VERTical	Vertical	
:LEVel	Level (Top of Screen)	Channel Analyzer 13-8
:VDIV	Vertical / div	Channel Analyzer 13-8
:CALibrate	Calibration	
:USER	User Calibration	
:RUN	Start User Calibration	UTILS - Operational Status Tile
:SETPoint	Sets Temperature Change Threshold	UTILS - Operational Status Tile
:STATus?	Returns Calibration status	UTILS - Operational Status Tile
:UNCAL?	Returned data indicates if Calibration is needed	UTILS - Operational Status Tile
:CONFigure	Configure	
:BSIDentity	Base Station Identity	
:BCC	Base Station Color Code	Sys ID & Sync Config Tile 13-5
:MCC	Mobile Country Code	Sys ID & Sync Config Tile 13-5
:MNC	Mobile Network Code	Sys ID & Sync Config Tile 13-5
:UPDate	Update Mode	Sys ID & Sync Config Tile 13-5
:BSParameter	Base Station Parameters	
:PCLass	Power Class	BS Parameters Config Tile 13-2
:RCLass	Receiver Class	BS Parameters Config Tile 13-2
:CHPLan	Channel Plan	
:DELete	Deletes specified Channel Plan	Channel Plan Config Tile 13-2
:INFO?	Returns information about current channel plan	Channel Plan Config Tile 13-2
:LOAD	Load named plan as current plan	Channel Plan Config Tile 13-2
:NEW	Create new channel plan	Channel Plan Config Tile 13-2

Command	Command Description	Relates to Tile/Details Reference	
[:TBST]			
:CONFigure	Configure (cont)		
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	13-28
:SAMPlE	Sample Count	Tx Measurements Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:RCARrier	Residual Carrier	Tx Measurements Tile	13-28
:SAMPlE	Sample Count	Tx Measurements Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:VPEak	Vector Peak	Tx Measurements Tile	13-28
:SAMPlE	Sample Count	Tx Measurements Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:VRMS	Vector RMS	Tx Measurements Tile	13-28
:SAMPlE	Sample Count	Tx Measurements Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:OFFSet	Offsets		
:ANALyzer	RF Analyzer	Offsets Config Tile	13-3
:ENABle	Enables Offset	Offsets Config Tile	13-3
:VALue	Offset Value	Offsets Config Tile	13-3
:GENerator	RF Generator	Offsets Config Tile	13-3
:ENABle	Enables Offset	Offsets Config Tile	13-3
:VALue	Offset Value	Offsets Config Tile	13-3
:POWer	Tx Power		
:SAMPlE	Sample Count	Tx Measurements Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28

Command	Command Description	Relates to Tile/Details Reference	
[:TBST]			
:CONFigure	Configure (cont)		
:RXMeas	Rx Measurements		
:SAMPLE	Samples	Rx Measurements Tile	13-17
:PRBS7	TCH/7.2 PRBS	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:PRBS18	18 Frame PRBS	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:PRBSF	Framed PRBS	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:PRBSU	Unframed PRBS	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:SCHF	SCH/F	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:MER	MER	Rx Measurements Tile	13-17
:PUEM	PUEM	Rx Measurements Tile	13-17
:STCH	STCH	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:MER	MER	Rx Measurements Tile	13-17
:PUEM	PUEM	Rx Measurements Tile	13-17
:TCH2	TCH/2.4	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:TCH7	TCH/7.2	Rx Measurements Tile	13-17
:BER	BER	Rx Measurements Tile	13-17
:SYNC	Base Station Sync		
:AUTO	Auto Mode	Sys ID & Config Tile	13-5
:OFFSet	Auto Sync Path Offset	Sys ID & Config Tile	13-5
:MODE	(Sync) Mode	Sys ID & Config Tile	13-5
:PULSe	Pulse Mode	Sys ID & Config Tile	13-5
:EDGE	Sync Pulse Edge	Sys ID & Config Tile	13-5
:OFFSet	Sync Pulse Offset	Sys ID & Config Tile	13-5

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Command	Command Description	Relates to Tile/Details Reference	
[:TBST]			
:FETCh	Fetch		
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	13-28
:PRBS?	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC?	For Sync Bursts	Tx Measurements Tile	13-28
:TS1?	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2?	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12?	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:MERRor	Magnitude Error at a Symbol	Mod Acc - Mag Error Tile	13-14
:PRBS?	For PRBS / No TS Bursts	Mod Acc - Mag Error Tile	13-14
:SYNC?	For Sync Bursts	Mod Acc - Mag Error Tile	13-14
:TS1?	For Normal TS1 Bursts	Mod Acc - Mag Error Tile	13-14
:TS2?	For Normal TS2 Bursts	Mod Acc - Mag Error Tile	13-14
:TS12?	For Normal TS1 or TS2 Bursts	Mod Acc - Mag Error Tile	13-14
:PERRor	Phase Error at a Symbol	Mod Acc - Phase Error Tile	13-15
:PRBS?	For PRBS / No TS Bursts	Mod Acc - Phase Error Tile	13-15
:SYNC?	For Sync Bursts	Mod Acc - Phase Error Tile	13-15
:TS1?	For Normal TS1 Bursts	Mod Acc - Phase Error Tile	13-15
:TS2?	For Normal TS2 Bursts	Mod Acc - Phase Error Tile	13-15
:TS12?	For Normal TS1 or TS2 Bursts	Mod Acc - Phase Error Tile	13-15
:RCARrier	Residual Carrier	Tx Measurements Tile	13-28
:PRBS?	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC?	For Sync Bursts	Tx Measurements Tile	13-28
:TS1?	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2?	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12?	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:VERRor	Vector Error at a Symbol	Mod Acc - Vector Error Tile	13-16
:PRBS?	For PRBS / No TS Bursts	Mod Acc - Vector Error Tile	13-16
:SYNC?	For Sync Bursts	Mod Acc - Vector Error Tile	13-16
:TS1?	For Normal TS1 Bursts	Mod Acc - Vector Error Tile	13-16
:TS2?	For Normal TS2 Bursts	Mod Acc - Vector Error Tile	13-16
:TS12?	For Normal TS1 or TS2 Bursts	Mod Acc - Vector Error Tile	13-16
:VPEak	Vector Peak	Tx Measurements Tile	13-28
:PRBS?	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC?	For Sync Bursts	Tx Measurements Tile	13-28
:TS1?	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2?	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12?	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:VRMS	Tx Vector RMS	Tx Measurements Tile	13-28
:PRBS?	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC?	For Sync Bursts	Tx Measurements Tile	13-28
:TS1?	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2?	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12?	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:POWer	Tx Power		
:PRBS?	For PRBS / No TS Bursts	Tx Measurements Tile	13-28
:SYNC?	For Sync Bursts	Tx Measurements Tile	13-28
:TS1?	For Normal TS1 Bursts	Tx Measurements Tile	13-28
:TS2?	For Normal TS2 Bursts	Tx Measurements Tile	13-28
:TS12?	For Normal TS1 or TS2 Bursts	Tx Measurements Tile	13-28
:RF	RF		
:ALARM	Returns overload status	Active Tile	
:GEN	Returns Generator overload status	Active Tile	
:REC	Returns Receiver overload status	Active Tile	

Command	Command Description	Relates to Tile/Details Reference		
[:TBST]				
:FETCh	Fetch (cont)			
:RXMeas	Rx Measurements			
:PRBS7	TCH/7.2 PRBS	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:PRBS18	18 Frame PRBS	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:PRBSF	Framed PRBS	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:PRBSU	Unframed PRBS	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:SCHF	SCH/F	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:MER?	MER	Rx Measurements	Tile	13-17
:PUEM?	PUEM	Rx Measurements	Tile	13-17
:STCH	STCH	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:MER?	MER	Rx Measurements	Tile	13-17
:PUEM?	PUEM	Rx Measurements	Tile	13-17
:TCH2	TCH/2.4	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:TCH7	TCH/7.2	Rx Measurements	Tile	13-17
:BER?	BER	Rx Measurements	Tile	13-17
:TYPE	T1 Type	Rx Measurements	Tile	13-17
:INITiate	Initiate			
:CONTinuous	Continuous (Repeat)			
:CA	Channel Analyzer Sweep	Channel Analyzer		13-8
:RXMeas	Rx Measurements	Rx Measurements		13-17
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer		13-24
:SCOpe	Scope Measurements	Scope		13-22
:TXMeas	Tx Measurements	Tx Measurements	Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements	Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements	Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements	Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements	Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements	Tile	13-28
:IMMediate	Immediate (Single)			
:CA	Channel Analyzer Sweep	Channel Analyzer		13-8
:RXMeas	Rx Measurements	Rx Measurements		13-17
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer		13-24
:SCOpe	Scope Measurements	Scope		13-22
:TXMeas	Tx Measurements	Tx Measurements	Tile	13-28
:PRBS	For PRBS / No TS Bursts	Tx Measurements	Tile	13-28
:SYNC	For Sync Bursts	Tx Measurements	Tile	13-28
:TS1	For Normal TS1 Bursts	Tx Measurements	Tile	13-28
:TS2	For Normal TS2 Bursts	Tx Measurements	Tile	13-28
:TS12	For Normal TS1 or TS2 Bursts	Tx Measurements	Tile	13-28

Command	Command Description	Relates to Tile/Details Reference			
[:TBST]					
:LiMits					
Limits					
:RXMeas	Rx Measurements				
:INITialize	Initializes set Limits	Rx Meas Limits Config Tile			13-3
:SCHF	SCH/F	Rx Meas Limits Config Tile			13-3
:BER	BER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:MER	MER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:PUEM	PUEM	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:STCH	STCH	Rx Meas Limits Config Tile			13-3
:BER	BER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:MER	MER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:PUEM	PUEM	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:TCH2	TCH/2.4	Rx Meas Limits Config Tile			13-3
:BER	BER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:TCH7	TCH/7.2, 18				
	Frame / Framed / Unframed PRBS	Rx Meas Limits Config Tile			13-3
:BER	BER	Rx Meas Limits Config Tile			13-3
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile			13-3
:VALue	Limit Value	Rx Meas Limits Config Tile			13-3
:TXMeas	Tx Measurements				
:FERRor	Frequency Error	Tx Meas Limits Config Tile			13-6
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile			13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile			13-6
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile			13-6
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile			13-6
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile			13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile			13-6
:VALue	Limit Value	Tx Meas Limits Config Tile			13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile			13-6
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile			13-6
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile			13-6
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile			13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile			13-6
:INITialize	Initializes measurement	Tx Meas Limits Config Tile			13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas Limits Config Tile			13-6
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile			13-6
:TS1	For Normal TS1 Bursts	Tx Meas Limits Config Tile			13-6
:TS2	For Normal TS2 Bursts	Tx Meas Limits Config Tile			13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas Limits Config Tile			13-6

Command	Command Description	Relates to Tile/Details Reference			
[:TBST]					
:LIMits	Limits (cont)				
:TXMeas	Tx Measurements (cont)				
:POWER	Burst Power	Tx Meas	Limits	Config Tile	13-6
:ENABLE	Enables Set Limits	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VALue	Limit Value	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:RCARrier	Residual Carrier	Tx Meas	Limits	Config Tile	13-6
:ENABLE	Enables Set Limits	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VALue	Limit Value	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VPEak	Vector Peak	Tx Meas	Limits	Config Tile	13-6
:ENABLE	Enables Set Limits	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VALue	Limit Value	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VRMS	Vector RMS	Tx Meas	Limits	Config Tile	13-6
:ENABLE	Enables Set Limits	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:VALue	Limit Value	Tx Meas	Limits	Config Tile	13-6
:PRBS	For PRBS / No TS Bursts	Tx Meas	Limits	Config Tile	13-6
:SYNC	For Sync Bursts	Tx Meas	Limits	Config Tile	13-6
:TS1	For Normal TS1 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS2	For Normal TS2 Bursts	Tx Meas	Limits	Config Tile	13-6
:TS12	For Normal TS1 or TS2 Bursts	Tx Meas	Limits	Config Tile	13-6

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Command	Command Description	Relates to Tile/Details Reference	
[:TBST]			
:PROTOCOL	Protocol		
:BSIDentity?	Returns Base Station Identity	Control Tile	13-12
:TYPE	T1 Type		
:DETEcted?	Returns Detected T1 Type	Control Tile	13-12
:EXPEcted	Expected T1 Type	Control Tile	13-12
:GENerator	RF Gen T1 Type	Control Tile	13-12
:GSYNc?	Returns RF Generator Sync	Control Tile	13-12
:RF	RF Settings		
:ANALyzer	Analyzer		
:AGC	Automatic Gain Control	Control Tile	13-12
:FREQuency	Frequency	Control Tile	13-12
:LEVEl	Expected Power Level	Control Tile	13-12
:PORT	Port (RF In)	Control Tile	13-12
:RECEiver	Receiver	Control Tile	13-12
:AMP	Receiver Pre-AMP	Control Tile	13-12
:CHANnel	Channels	Control Tile	13-12
:DUPLex	Duplex		
:LOCK	Locked / Unlocked	Control Tile	13-12
:SPACing	Spacing	Control Tile	13-12
:GENerator	Generator		
:FREQuency	Frequency	Control Tile	13-12
:LEVEl	Level	Control Tile	13-12
:MODulator	Modulator	Control Tile	13-12
:PORT	Port (RF Out)	Control Tile	13-12
:STATe	Enables RF Generator	Control Tile	13-12
:SA	Spectrum Analyzer		
:COUPLing	Coupling		
:RBW	Resolution Bandwidth	Spectrum Analyzer	13-24
:AUTO	Enables Auto	Spectrum Analyzer	13-24
:VALue	Bandwidth Setting	Spectrum Analyzer	13-24
:STATus?	Returns Coupling setting status	Spectrum Analyzer	13-24
:SWEep	Sweep Time	Spectrum Analyzer	13-24
:AUTO	Enables Auto	Spectrum Analyzer	13-24
:COMPLete?	Returns Trace status	Spectrum Analyzer	13-24
:VALue	Sweep Value	Spectrum Analyzer	13-24
:VBW	Video Bandwidth	Spectrum Analyzer	13-24
:AUTO	Enables Auto	Spectrum Analyzer	13-24
:VALue	Bandwidth Setting	Spectrum Analyzer	13-24
:HORizontal	Horizontal		
:FREQuency	Start-Stop/Center-Span Frequencies	Spectrum Analyzer	13-24
:CENTer	Center Frequency	Spectrum Analyzer	13-24
:SPAN	Span Frequency	Spectrum Analyzer	13-24
:START	Start Frequency	Spectrum Analyzer	13-24
:STOP	Stop Frequency	Spectrum Analyzer	13-24
:MODE	Mode	Spectrum Analyzer	13-24
:SPAN	Sets Span	Spectrum Analyzer	13-24
:FULL	To Full Span	Spectrum Analyzer	13-24
:ZERO	Zero Span Values	Spectrum Analyzer	13-24
:SWEep	Sweep Time	Spectrum Analyzer	13-24

Command	Command Description	Relates to Tile/Details Reference
[:TBST]		
:SA	Spectrum Analyzer (cont)	
:MARKer	Markers	
:DELTA	Marker Delta	Spectrum Analyzer 13-24
:LEVel?	Returns Level between Mkr1 and Mkr2 level values)	Spectrum Analyzer 13-24
:POSition?	Returns distance between markers	Spectrum Analyzer 13-24
:MKRn	Marker where n = Marker 1 or 2	Spectrum Analyzer 13-24
:ENABle	Enables Marker	Spectrum Analyzer 13-24
:LEFT	Moves Marker left to next peak	Spectrum Analyzer 13-24
:LEVel?	Returns Level at Marker position	Spectrum Analyzer 13-24
:MINimum	Moves Marker to minimum point	Spectrum Analyzer 13-24
:PEAK	Moves Marker to peak point	Spectrum Analyzer 13-24
:POSition	Marker Position	Spectrum Analyzer 13-24
:RIGHT	Moves Marker right to next peak	Spectrum Analyzer 13-24
:SCF	Sets Center Freq. to Marker Position	Spectrum Analyzer 13-24
:SREF	Sets Ref Level to Marker Position level	Spectrum Analyzer 13-24
:MODE	Locked / Unlocked	Spectrum Analyzer 13-24
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Spectrum Analyzer 13-24
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Spectrum Analyzer 13-24
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Spectrum Analyzer 13-24
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Spectrum Analyzer 13-24
:SSS	Markers set Start - Stop Span	Spectrum Analyzer 13-24
:SVERTical	Markers set (Nearest) Vertical Range	Spectrum Analyzer 13-24
:MODE	Mode	
:TRACe	Trace	
:AVERage	Averages	Spectrum Analyzer 13-24
:CURRent?	Returns count of Averages Progress	Spectrum Analyzer 13-24
:ENABle	Enables Average readings	Spectrum Analyzer 13-24
:VALue	Trace average	Spectrum Analyzer 13-24
:LIVE?	Returns Live trace data	Spectrum Analyzer 13-24
:MAXimum	Enables Maximum Hold	Spectrum Analyzer 13-24
:PEAK?	Returns Peak Trace data	Spectrum Analyzer 13-24
:PKAV?	Returns Peak Average Trace data	Spectrum Analyzer 13-24
:TRKGen	Tracking Generator	
:ENABle	Enables Tracking Generator	Spectrum Analyzer 13-24
:TRIGger	Trigger	
:MODE	Gate Mode	Spectrum Analyzer 13-24
:VERTical	Vertical	
:LEVel	Level (Top of Screen)	Spectrum Analyzer 13-24
:VDIV	Vertical / div	Spectrum Analyzer 13-24

Command	Command Description	Relates to Tile/Details Reference
[:TBST]		
:SCOPE	Oscilloscope	
:ATRace	Trace A	
:COUPling	Coupling	Scope 13-22
:MKR1	Value at Specified Marker Position	Scope 13-22
:MKR2	Value at Specified Marker Position	Scope 13-22
:SOURce	Trace Source	Scope 13-22
:VDIV	Vertical /div	Scope 13-22
:VOLT	In Volts	Scope 13-22
:BTRace	Trace B	
:COUPling	Coupling	Scope 13-22
:MKR1	Value at Specified Marker Position	Scope 13-22
:MKR2	Value at Specified Marker Position	Scope 13-22
:SOURce	Trace Source	Scope 13-22
:VDIV	Vertical /div	Scope 13-22
:VOLT	In Volts	Scope 13-22
:HDiv	Horizontal /div	Scope 13-22
:MKR	Locked / Unlocked	Scope 13-22
:MKRn	Marker where <i>n</i> = Marker 1 or 2	Scope 13-22
:ENABle	Enables Marker	Scope 13-22
:TRIGger	Trigger	
:EDGE	Edge	Scope 13-22
:FILTer	Trigger Filter	Scope 13-22
:LEVel	Level	Scope 13-22
:MODE	Mode	Scope 13-22
:SOURce	Source	Scope 13-22
:SYSTEM	System	
:STORe “filename”	Saves file to Test Set’s internal database.	
:RECAIl “filename”	Recalls file from Test Set’s internal database.	
:USBTOSERial	USB to Serial Port	
:OPEN	Opens selected port	
:CLOSe	Closes opened port	
:BAUDRate	Sets Baud Rate at which data is transmitted	
:READ?	Reads string data	
:WRITe	Write sends string data	
:QUERy?	Query reads and writes string as send parameter	
:RESet	Send 1 to reset communications	
:CHARsize	Sets Character Size	
:PARity	Sets Parity	
:HWFLowcontrol	Hardware flow control	
:SWFLowcontrol	Software flow control	
:TIMEout	Sets Timeout Setting in μ s	
:TERMchar	Sets Termination Character decimal value	

Chapter 9

TETRA MS Quick Reference Guide

Introduction

This chapter is the Quick Reference Guide for TETRA MS remote commands. The commands in each of these listings are arranged alphabetically within the hierarchy. Refer to the TETRA MS Detailed Remote Commands Chapter for complete command parameters.

The figure below describes the Remote Command Quick Reference Guide format.

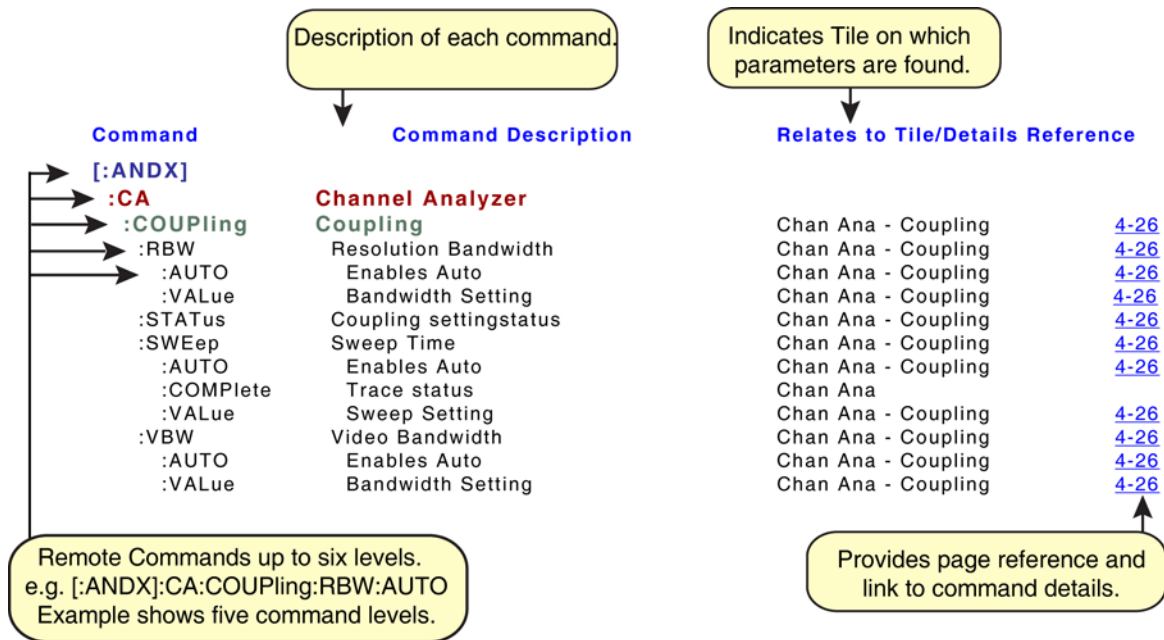


Fig. 9-1 Quick Reference Guide Illustrated Extract

NOTE

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Energy Economy Mode commands (:EEMode) are only available when the Energy Economy Mode Option (390XOPT114) is installed in Test Set.

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:ABORt	Abort		
:CA	Stops Channel Analyzer Sweeps		
:RXMeas	Stops Rx Measurements		
:SA	Stops Spectrum Analyzer Sweeps		
:TXMeas	Stops Tx Measurements		
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMAl	For Normal Bursts	Tx Measurements Tile	14-42
:CA	Channel Analyzer		
:COUPLing	Coupling		
:RBW	Resolution Bandwidth	Channel Analyzer	14-16
:AUTO	Enables Auto	Channel Analyzer	14-16
:VALue	Bandwidth Setting	Channel Analyzer	14-16
:STATus?	Returns Coupling setting status	Channel Analyzer	14-16
:SWEep	Sweep Time	Channel Analyzer	14-16
:AUTO	Enables Auto	Channel Analyzer	14-16
:COMPLet?	Returns Trace status	Channel Analyzer	14-16
:VALue	Sweep Setting	Channel Analyzer	14-16
:VBW	Video Bandwidth	Channel Analyzer	14-16
:AUTO	Enables Auto	Channel Analyzer	14-16
:VALue	Bandwidth Setting	Channel Analyzer	14-16
:HORizontal	Horizontal		
:FREQuency	Start-Stop/Center-Span Frequencies	Channel Analyzer	14-16
:CENTer	Center Frequency	Channel Analyzer	14-16
:RELative	Relative to Analyzer	Channel Analyzer	14-16
:SPAN	Span Frequency	Channel Analyzer	14-16
:START	Start Frequency	Channel Analyzer	14-16
:RELative	Relative to Analyzer	Channel Analyzer	14-16
:STOP	Stop Frequency	Channel Analyzer	14-16
:RELative	Relative to Analyzer	Channel Analyzer	14-16
:MODE	Locked / Unlocked	Channel Analyzer	14-16
:SPAN	Sets Span	Channel Analyzer	14-16
:FULL	To Full Span	Channel Analyzer	14-16
:ZERO	Zero Span Values	Channel Analyzer	14-16
:CENTer	Center Frequency	Channel Analyzer	14-16
:RELative	Relative to Analyzer	Channel Analyzer	14-16
:SWEep	Sweep Time	Channel Analyzer	14-16
:MARKer	Markers		
:DELTA	Marker Delta	Channel Analyzer	14-16
:LEVel?	Returns Level between Mkr1 and Mkr2 level values	Channel Analyzer	14-16
:POSition?	Returns distance between markers	Channel Analyzer	14-16
:MKR <i>n</i>	Marker where <i>n</i> = Marker 1 or 2	Channel Analyzer	14-16
:ENABle	Enables Marker	Channel Analyzer	14-16
:LEFT	Moves Marker left to next peak	Channel Analyzer	14-16
:LEVel?	Returns Level at Marker position	Channel Analyzer	14-16
:MINimum	Moves Marker to minimum point	Channel Analyzer	14-16
:PEAK	Moves Marker to peak point	Channel Analyzer	14-16
:POSition	Marker Position	Channel Analyzer	14-16
:RIGHT	Moves Marker right to next peak	Channel Analyzer	14-16
:SCF	Sets Center Freq. to Marker Position	Channel Analyzer	14-16
:SREF	Sets Ref Level to Marker Position Level	Channel Analyzer	14-16

Command	Command Description	Relates to Tile/Details	Reference
[:TMS]			
:CA	Channel Analyzer (cont)		
:MARKer	Markers (cont)		
:MODE	Locked / Unlocked	Channel Analyzer	14-16
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Channel Analyzer	14-16
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Channel Analyzer	14-16
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Channel Analyzer	14-16
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Channel Analyzer	14-16
:SSS	Markers set Start - Stop Span	Channel Analyzer	14-16
:SVERTICAL	Markers set (Nearest) Vertical Range	Channel Analyzer	14-16
:TRACe	Trace		
:AVG?	Returns Average Trace data	Channel Analyzer	14-16
:AVERAge	Averages	Channel Analyzer	14-16
:CURRent?	Returns count of Averages Progress	Channel Analyzer	14-16
:ENABLE	Enables Average readings	Channel Analyzer	14-16
:VALue	Required number of Averages	Channel Analyzer	14-16
:LIVE?	Returns Live Trace	Channel Analyzer	14-16
:MAXimum	Enables Maximum Hold	Channel Analyzer	14-16
:PEAK?	Returns Peak Trace	Channel Analyzer	14-16
:PKAV?	Returns Peak Average Trace	Channel Analyzer	14-16
:TRIGger	Trigger		
:MODE	Gate Mode	Channel Analyzer	14-16
:VERTical	Vertical		
:LEVel	Level (Top of Screen)	Channel Analyzer	14-16
:VDIV	Vertical / div	Channel Analyzer	14-16
:CALibrate	Calibration		
:USER	User Calibration		
:RUN	Start User Calibration	UTILS - Operational Status Tile	
:SETPoint	Sets Temperature Change Threshold	UTILS - Operational Status Tile	
:STATus?	Returns Calibration status	UTILS - Operational Status Tile	
:UNCAL?	Returned data indicates if Calibration is needed	UTILS - Operational Status Tile	

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:CONFigure	Configure		
:ACCEss	Access Parameters		
:APARameter	Access Parameter	Sys ID & Acc Par Config Tile	14-14
:MAXTx	Max Tx Level	Sys ID & Acc Par Config Tile	14-14
:MINRx	Min Rx Level For Access	Sys ID & Acc Par Config Tile	14-14
:BSERvice	Base Services		
:ALINK	Advanced Link	Base Services Config Tile	14-2
:CMDaTa	Circuit Mode Data Service	Base Services Config Tile	14-2
:DEFault	Set Defaults	Base Services Config Tile	14-2
:DREG	Power Off De-Registration	Base Services Config Tile	14-2
:ENCRYption	Air Interface Encryption	Base Services Config Tile	14-2
:MIGRation	Migration	Base Services Config Tile	14-2
:MMODE	Minimum Mode Service	Base Services Config Tile	14-2
:PCELI	Priority Cell	Base Services Config Tile	14-2
:PDATa	TETRA Packet Data Service	Base Services Config Tile	14-2
:REGistration	Power On Registration	Base Services Config Tile	14-2
:REServed	(Reserved)	Base Services Config Tile	14-2
:SWIDE	System Wide Services	Base Services Config Tile	14-2
:VOICe	TETRA Voice Service	Base Services Config Tile	14-2
:BSIDentity	Base Station Identity		
:BCC	Base Station Color Code	Sys ID & Acc Par Config Tile	14-14
:LA	Location Area code	Sys ID & Acc Par Config Tile	14-14
:MCC	Mobile Country Code	Sys ID & Acc Par Config Tile	14-14
:MNC	Mobile Network Code	Sys ID & Acc Par Config Tile	14-14
:BTIMing	Tx BurstTiming		
:SAMPle	Sample Count	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:CHPLan	Channel Plan		
:DELete	Deletes specified Channel Plan	Channel Plan Config Tile	14-3
:INFO	Information about current Channel Plan	Channel Plan Config Tile	14-3
:LOAD	Load named plan as current plan	Channel Plan Config Tile	14-3
:NEW	Create new channel plan	Channel Plan Config Tile	14-3
:CTIMers	Call Timers		
:HANG	Group Call Hang Timer	Call Timers & Trunking Config	14-4
:MODE	Test Set Transmit Mode	Call Timers & Trunking Config	14-4
:QUASi	Quasi Tx Trunking Hang Timer	Call Timers & Trunking Config	14-4
:QUIEt	Test Set Quiet Time	Call Timers & Trunking Config	14-4
:TALKback	Talkback Call Time Buffer	Call Timers & Trunking Config	14-4
:TSABort	Test Set Call Abort	Call Timers & Trunking Config	14-4
:MODE	Test Set Call Abort Mode	Call Timers & Trunking Config	14-4
:TIME	Test Set Auto Call Abort Time	Call Timers & Trunking Config	14-4
:TSANswer	Test Set Answer	Call Timers & Trunking Config	14-4
:MODE	Test Set Answer Mode	Call Timers & Trunking Config	14-4
:TIME	Test Set Auto Answer Time	Call Timers & Trunking Config	14-4
:TSTRansmit	Test Set Transmit Time	Call Timers & Trunking Config	14-4

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:CONFigure	Configure (cont)		
:CTYPe	Call Types		
:EMERgency	Emergency Call	Call Types Tile	14-5
:GI	Group / Individual	Call Types Tile	14-5
:SD	Simplex / Duplex	Call Types Tile	14-5
:SSI	Calling Party SSI	Call Types Tile	14-5
:STYPe	Signaling Type	Call Types Tile	14-5
:GROUp	Group Call	Call Types Tile	14-5
:PRlarity	Priority	Call Types Tile	14-5
:SSI	Calling Party SSI	Call Types Tile	14-5
:PHONE	Phone Call	Call Types Tile	14-5
:ESN	Calling Party ESN	Call Types Tile	14-5
:INCLude	Include / Exclude	Call Types Tile	14-5
:NUMBer	The Number	Call Types Tile	14-5
:PRlarity	Priority	Call Types Tile	14-5
:PRIVate	Private Call	Call Types Tile	14-5
:PRlarity	Priority	Call Types Tile	14-5
:SD	Simplex / Duplex	Call Types Tile	14-5
:SSI	Calling Party SSI	Call Types Tile	14-5
:STYPe	Signaling Type	Call Types Tile	14-5
:USER	User Defined Call	Call Types Tile	14-5
:ESN	Calling Party ESN	Call Types Tile	14-5
:INCLude	Include / Exclude	Call Types Tile	14-5
:NUMBer	The Number	Call Types Tile	14-5
:GI	Group / Individual	Call Types Tile	14-5
:PRlarity	Priority	Call Types Tile	14-5
:SD	Simplex / Duplex	Call Types Tile	14-5
:SSI	Calling Party SSI	Call Types Tile	14-5
:STYPe	Signaling Type	Call Types Tile	14-5
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	14-42
:SAMPlE	Over xxx Bursts	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:RCARrier	Residual Carrier	Tx Measurements Tile	14-42
:SAMPlE	Over xxx Bursts	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:VPEak	Vector Peak	Tx Measurements Tile	14-42
:SAMPlE	Over xxx Bursts	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:VRMS	Vector RMS	Tx Measurements Tile	14-42
:SAMPlE	Over xxx Bursts	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42

Command	Command Description	Relates to Tile/Details Reference		
[:TMS]				
:CONFigure	Configure (cont)			
:MESSAge	Messages			
:HEX	SDS Type 4 - HEX	Messages	Config Tile	14-6
:DATA	The Message	Messages	Config Tile	14-6
:ESN	Calling Party ESN	Messages	Config Tile	14-6
:INCLude	Include / Not Included	Messages	Config Tile	14-6
:NUMBer	The Number	Messages	Config Tile	14-6
:GI	Group / Individual	Messages	Config Tile	14-6
:INITialize	Initialize to selected length message	Messages	Config Tile	14-6
:SSI	Calling Party SSI	Messages	Config Tile	14-6
:OTHER	SDS Type 4 - Other SDS-TL	Messages	Config Tile	14-6
:DATA	The Message	Messages	Config Tile	14-6
:ESN	Calling Party ESN	Messages	Config Tile	14-6
:INCLude	Include / Not Included	Messages	Config Tile	14-6
:NUMBer	The Number	Messages	Config Tile	14-6
:GI	Group / Individual	Messages	Config Tile	14-6
:INITialize	Initialize to selected length message	Messages	Config Tile	14-6
:PIDentifier	Protocol Identifier	Messages	Config Tile	14-6
:RSIZe	Report Size	Messages	Config Tile	14-6
:RTYPe	Report Type	Messages	Config Tile	14-6
:SSI	Calling Party SSI	Messages	Config Tile	14-6
:SDS123	SDS Type 1, 2 & 3	Messages	Config Tile	14-6
:DATA1	Type 1 Data	Messages	Config Tile	14-6
:DATA2	Type 2 Data	Messages	Config Tile	14-6
:DATA3	Type 3 Data	Messages	Config Tile	14-6
:ESN	Calling Party ESN	Messages	Config Tile	14-6
:INCLude	Include / Not Included	Messages	Config Tile	14-6
:NUMBer	The Number	Messages	Config Tile	14-6
:GI	Group / Individual	Messages	Config Tile	14-6
:SSI	Calling Party SSI	Messages	Config Tile	14-6
:SIMPlE	SDS Type 4 - Simple Text	Messages	Config Tile	14-6
:DATA	The Message	Messages	Config Tile	14-6
:ESN	Calling Party ESN	Messages	Config Tile	14-6
:INCLude	Include / Not Included	Messages	Config Tile	14-6
:NUMBer	The Number	Messages	Config Tile	14-6
:GI	Group / Individual	Messages	Config Tile	14-6
:INITialize	Initialize to selected length message	Messages	Config Tile	14-6
:SSI	Calling Party SSI	Messages	Config Tile	14-6
:TCODing	Text Coding	Messages	Config Tile	14-6
:STATus	Calibration status	Messages	Config Tile	14-6
:DATA	The Message	Messages	Config Tile	14-6
:ESN	Calling Party ESN	Messages	Config Tile	14-6
:INCLude	Include / Not Included	Messages	Config Tile	14-6
:NUMBer	The Number	Messages	Config Tile	14-6
:GI	Group / Individual	Messages	Config Tile	14-6
:SSI	Calling Party SSI	Messages	Config Tile	14-6

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:CONFigure	Configure (cont)		
:MESSAge	Messages (cont)		
:TLText	SDS Type 4 - SDS-TL Text	Messages Config Tile	14-6
:DATA	The Message	Messages Config Tile	14-6
:ESN	Calling Party ESN	Messages Config Tile	14-6
:INCLude	Include / Not Included	Messages Config Tile	14-6
:NUMBer	The Number	Messages Config Tile	14-6
:GI	Group / Individual	Messages Config Tile	14-6
:INITialize	Initialize to selected length message	Messages Config Tile	14-6
:RSIZe	Report Size	Messages Config Tile	14-6
:RTYPE	Report Type	Messages Config Tile	14-6
:SSI	Calling Party SSI	Messages Config Tile	14-6
:TCODing	Text Coding	Messages Config Tile	14-6
:TSTamp	Time Stamp	Messages Config Tile	14-6
:MPARAmeter	Mobile Parameters		
:EEMode	Energy Economy Mode	Mobile Param Config Tile	14-10
:FIXed	Fixed Value	Mobile Param Config Tile	14-10
:REPorted	Reported Value	Mobile Param Config Tile	14-10
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	14-10
:GSSI	GSSI	Mobile Param Config Tile	14-10
:FIXed	Fixed Value	Mobile Param Config Tile	14-10
:REPorted	Reported Value	Mobile Param Config Tile	14-10
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	14-10
:PCLass	Power Class	Mobile Param Config Tile	14-10
:FIXed	Fixed Value	Mobile Param Config Tile	14-10
:REPorted	Reported Value	Mobile Param Config Tile	14-10
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	14-10
:RCLass	Receiver Class	Mobile Param Config Tile	14-10
:FIXed	Fixed Value	Mobile Param Config Tile	14-10
:REPorted	Reported Value	Mobile Param Config Tile	14-10
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	14-10
:SSI	SSI	Mobile Param Config Tile	14-10
:FIXed	Fixed Value	Mobile Param Config Tile	14-10
:REPorted	Reported Value	Mobile Param Config Tile	14-10
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	14-10
:NCELI	Neighbor Cell		
:BCASt	Broadcast Support	Neighbor Cell Config Tile	14-12
:BINTerval	Broadcast Interval	Neighbor Cell Config Tile	14-12
:CHANnel	Channel	Neighbor Cell Config Tile	14-12
:IDENtifier	Identifier	Neighbor Cell Config Tile	14-12
:LA	Location Area	Neighbor Cell Config Tile	14-12
:RESelect	Re-Select Parameters	Neighbor Cell Config Tile	14-12
:FHYSteresis	Fast Re-Select Hysteresis	Neighbor Cell Config Tile	14-12
:FTHReshold	Fast Re-Select Threshold	Neighbor Cell Config Tile	14-12
:SHYSteresis	Slow Re-Select Hysteresis	Neighbor Cell Config Tile	14-12
:STHReshold	Slow Re-Select Threshold Above Fast	Neighbor Cell Config Tile	14-12
:OFFSet	Offsets		
:ANALyzer	RF Analyzer	Offsets Config Tile	14-12
:ENABle	Enables Offset	Offsets Config Tile	14-12
:VALue	Offset Value	Offsets Config Tile	14-12
:GENerator	RF Generator	Offsets Config Tile	14-12
:ENABle	Enables Offset	Offsets Config Tile	14-12
:VALue	Offset Value	Offsets Config Tile	14-12
:TIMing	Timing	Offsets Config Tile	14-12
:ENABle	Enables Offset	Offsets Config Tile	14-12
:VALue	Offset Value	Offsets Config Tile	14-12

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:CONFigure	Configure (cont)		
:POWer	Tx Power		
:SAMPlE	Sample Count	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:RXMeas	Rx Measurements		
:SAMPlE	Samples	Rx Measurements Tile	14-34
:BER0	BER Class 0	Rx Measurements Tile	14-34
:BER1	BER Class 1	Rx Measurements Tile	14-34
:BER2	BER Class 2	Rx Measurements Tile	14-34
:MER	MER	Rx Measurements Tile	14-34
:RBER0	RBER Class 0	Rx Measurements Tile	14-34
:RBER1	RBER Class 1	Rx Measurements Tile	14-34
:TRUNKing	Call Timers		
:MODE	Test Set Transmit Mode	Call Timers & Trkng Config	14-4
:STCType	Simplex Traffic Channel Type	Call Timers & Trkng Config	14-4
:FETCh	Fetch		
:BTIMing	Tx Burst Timing		
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:MERRor	Magnitude Error at a Symbol	Mod Acc - Mag Error Tile	14-20
:CONTRol?	For Control Bursts	Mod Acc - Mag Error Tile	14-20
:NORMal?	For Control Bursts	Mod Acc - Mag Error Tile	14-20
:RANGe?	Symbol Range	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:PERRor	Phase Error at a Symbol	Mod Acc - Phase Error	14-21
:CONTRol?	For Control Bursts	Mod Acc - Phase Error	14-21
:NORMal?	For Normal Bursts	Mod Acc - Phase Error	14-21
:RANGe?	Symbol Range	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:RCARrier	Residual Carrier	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:VERRor	Vector Error at a Symbol	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:RANGe?	Symbol Range	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:VPEak	Vector Peak	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42
:VRMS	Tx Vector RMS	Tx Measurements Tile	14-42
:CONTRol?	For Control Bursts	Tx Measurements Tile	14-42
:NORMal?	For Normal Bursts	Tx Measurements Tile	14-42

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:FETCh	Fetch (cont)		
:PFRame	Tx Power		
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	14-26
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	14-26
:SYMBol?	Profile at a Symbol	Power - Profile Frame Tile	14-26
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	14-26
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	14-26
:RANGe?	Symbol Range	Power - Profile Frame Tile	14-26
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	14-26
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	14-26
:POWER	Tx Power		
:CONTRol?	For Control Bursts	Power - Profile Full Tile	14-25
:NORMal?	For Normal Bursts	Power - Profile Full Tile	14-25
:SYMBol?	Profile at a Symbol	Power - Profile Full Tile	14-25
:CONTRol?	For Control Bursts	Power - Profile Full Tile	14-25
:NORMal?	For Normal Bursts	Power - Profile Full Tile	14-25
:RANGe?	Symbol Range	Power - Profile Full Tile	14-25
:CONTRol?	For Control Bursts	Power - Profile Full Tile	14-25
:NORMal?	For Normal Bursts	Power - Profile Full Tile	14-25
:RF	RF		
:ALARM	Returns overload status	Active Tile	
:GEN	Returns Generator overload status	Active Tile	
:REC	Returns Receiver overload status	Active Tile	
:RXMeas	Rx Measurements		
:BER0	BER Class 0	Rx Measurements Tile	14-34
:BER1	BER Class 1	Rx Measurements Tile	14-34
:BER2	BER Class 2	Rx Measurements Tile	14-34
:MER	MER	Rx Measurements Tile	14-34
:RBER0	RBER Class 0	Rx Measurements Tile	14-34
:RBER1	RBER Class 1	Rx Measurements Tile	14-34
:INITiate	Initiate		
:CONTInuous	Continuous (Repeat)		
:CA	Channel Analyzer Sweep	Channel Analyzer	14-16
:RXMeas	Rx Measurements	Rx Measurements	14-34
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	14-38
:SCOPe	Scope Measurements	Scope	14-36
:TXMeas	Tx Measurements	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42
:IMMEDIATE	Immediate (Single)		
:CA	Channel Analyzer Sweep	Channel Analyzer	14-16
:RXMeas	Rx Measurements	Rx Measurements	14-34
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	14-38
:SCOPe	Scope Measurements	Scope	14-36
:TXMeas	Tx Measurements	Tx Measurements Tile	14-42
:CONTRol	For Control Bursts	Tx Measurements Tile	14-42
:NORMal	For Normal Bursts	Tx Measurements Tile	14-42

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:LIMits	Limits		
:RXMeas	Rx Measurements		
:BER0	BER Class 0	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	Limit Value	Rx Meas Limits Config Tile	14-13
:BER1	BER Class 1	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	The Limits	Rx Meas Limits Config Tile	14-13
:BER2	BER Class 2	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	The Limits	Rx Meas Limits Config Tile	14-13
:INITialize	Initialize The Limits Set	Rx Meas Limits Config Tile	14-13
:MER	MER	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	The Limits	Rx Meas Limits Config Tile	14-13
:RBER0	RBER Class 0	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	The Limits	Rx Meas Limits Config Tile	14-13
:RBER1	RBER Class 1	Rx Meas Limits Config Tile	14-13
:ENABle	Enables Set Limits	Rx Meas Limits Config Tile	14-13
:VALue	The Limits	Rx Meas Limits Config Tile	14-13
:TXMeas	Tx Measurements		
:BTIMing	Burst Timing	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:FERRor	Frequency Error	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:INITialize	Initialize	Tx Meas Limits Config Tile	14-14
:CONTRol	The Control Burst Limits Set	Tx Meas Limits Config Tile	14-14
:NORMal	The Normal Burst Limits Set	Tx Meas Limits Config Tile	14-14
:POWER	Burst Power	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:PROFile	Power Profile	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:LiMits	Limits (cont)		
:TXMeas	Tx Measurements (cont)		
:RCARrier	Residual Carrier	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VPEak	Vector Peak	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VRMS	Vector RMS	Tx Meas Limits Config Tile	14-14
:ENABle	Enables Set Limits	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:VALue	Limit Value	Tx Meas Limits Config Tile	14-14
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	14-14
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	14-14
:PROTOCOL	Protocol		
:ACTIon	Actions		
:ANSWER	Answer Call	Operations / Status Tile	14-23
:CALL	Place	Operations / Status Tile	14-23
:ABORT	Abort Placing This Call	Operations / Status Tile	14-23
:EMERgency	Emergency Call	Operations / Status Tile	14-23
:GROUp	Group Call	Operations / Status Tile	14-23
:PHONE	Phone Call	Operations / Status Tile	14-23
:PRIVate	Private Call	Operations / Status Tile	14-23
:USER	User Defined Call	Operations / Status Tile	14-23
:CDOWn	Cleardown	Operations / Status Tile	14-23
:CREG	Commanded Registration	Operations / Status Tile	14-23
:EEMode	Energy Economy Mode	Operations / Status Tile	14-23
:LOOPback	Loopback Type	Operations / Status Tile	14-23
:MESSAge	Send	Operations / Status Tile	14-23
:HEX	Type 4 SDS HEX Message	Operations / Status Tile	14-23
:SDSTL	SDS -TL	Operations / Status Tile	14-23
:OTHER	Other Message	Operations / Status Tile	14-23
:TLText	Text Message	Operations / Status Tile	14-23
:SIMPLe	Simple	Operations / Status Tile	14-23
:TLText	Text Message	Operations / Status Tile	14-23
:STATus	Status Message	Operations / Status Tile	14-23
:STYP1	SDS Type 1 Message	Operations / Status Tile	14-23
:STYP2	SDS Type 2 Message	Operations / Status Tile	14-23
:STYP3	SDS Type 3 Message	Operations / Status Tile	14-23
:REJect	Reject	Operations / Status Tile	14-23
:RESet	Reset to MCCH	Operations / Status Tile	14-23
:TCHS	Speech Traffic Channel Contents	Operations / Status Tile	14-23
:TMConfirm	Test Mode Confirm	Operations / Status Tile	14-23
:TSTCease	Test Set Transmit Cease	Operations / Status Tile	14-23
:TSTX	Test Set Transmit	Operations / Status Tile	14-23
:CINFo?	Returns Current Call Information		
:CMARK?	Mobile Class Mark		

Command	Command Description	Relates to Tile/Details Reference	
[:TMS]			
:PROTOCOL	Protocol (cont)		
:DTMF?	Returns DTMF Digits Received		
:GROUP	Groups		
:COUNT?	Returns Count of groups	Protocol Groups Tile	14-27
:INFO?	Returns Requested Group Info	Protocol Groups Tile	14-27
:SELECTED?	Returns Selected Group Info	Protocol Groups Tile	14-27
:MESSAGE	Message		
:EVENT?	Returns latest event Status Message		
:SDS?	Returns SDS Message	Protocol - SDS Message	14-29
:STATUS?	Returns Status Message	Protocol - Status Message	14-31
:MODE?	Returns Current Protocol Mode/State		
:RINFO?	Returns Registration Info		
:RF	RF Settings		
:ANALYZER	Analyzer		
:AGC	Automatic Gain Control	RF Settings Tile	14-33
:FREQUENCY	Frequency	RF Settings Tile	14-33
:LEVEL	Level	RF Settings Tile	14-33
:CMODE	Control Mode	RF Settings Tile	14-33
:EVALUE	Expected Power	RF Settings Tile	14-33
:RVALUE	Relative (Level) Value	RF Settings Tile	14-33
:PORT	Port (RF In)	RF Settings Tile	14-33
:RECEIVER	Receiver	RF Settings Tile	14-33
:AMP	Receiver Pre-Amp	RF Settings Tile	14-33
:CHANNEL	Channels		
:CONTROL	Control	RF Settings Tile	14-33
:TRAFFIC	Traffic	RF Settings Tile	14-33
:NUMBER	The Channel Number	RF Settings Tile	14-33
:TSLOT	Time Slot	RF Settings Tile	14-33
:DUPLEX	Duplex		
:LOCK	Locked / Unlocked	RF Settings Tile	14-33
:SPACING	Spacing	RF Settings Tile	14-33
:GENERATOR	Generator		
:FREQUENCY	Frequency	RF Settings Tile	14-33
:LEVEL	Level	RF Settings Tile	14-33
:MODULATOR	Modulator	RF Settings Tile	14-33
:PORT	Port (RF Out)	RF Settings Tile	14-33
:STATE	Enable RF Gen	RF Settings Tile	14-33
:SA	Spectrum Analyzer		
:COUPLING	Coupling		
:RBW	Resolution Bandwidth	Spectrum Analyzer	14-38
:AUTO	Enables Auto	Spectrum Analyzer	14-38
:VALUE	Bandwidth Setting	Spectrum Analyzer	14-38
:STATUS?	Returns Coupling setting status	Spectrum Analyzer	14-38
:SWEEP	Sweep Time	Spectrum Analyzer	14-38
:AUTO	Enables Auto	Spectrum Analyzer	14-38
:COMPLETE?	Returns Trace status	Spectrum Analyzer	14-38
:VALUE	Sweep Value	Spectrum Analyzer	14-38
:VBW	Video Bandwidth	Spectrum Analyzer	14-38
:AUTO	Enables Auto	Spectrum Analyzer	14-38
:VALUE	Bandwidth Setting	Spectrum Analyzer	14-38

Command	Command Description	Relates to Tile/Details Reference
[:TMS]		
:SA	Spectrum Analyzer (cont)	
:HORizontal	Horizontal	
:FREquency	Start-Stop/Center-Span Frequencies	Spectrum Analyzer 14-38
:CENTer	Center Frequency	Spectrum Analyzer 14-38
:SPAN	Span Frequency	Spectrum Analyzer 14-38
:START	Start Frequency	Spectrum Analyzer 14-38
:STOP	Stop Frequency	Spectrum Analyzer 14-38
:MODE	Mode	Spectrum Analyzer 14-38
:SPAN	Sets Span	Spectrum Analyzer 14-38
:FULL	To Full Span	Spectrum Analyzer 14-38
:ZERO	Zero Span Values	Spectrum Analyzer 14-38
:SWEep	Sweep Time	Spectrum Analyzer 14-38
:MARKer	Markers	
:DELTA	Marker Delta	
:LEVel?	Returns Level between Mkr1 and Mkr2 level values	Spectrum Analyzer 14-38
:POSition?	Returns distance between markers	Spectrum Analyzer 14-38
:MKRn	Marker where n = Marker 1 or 2	Spectrum Analyzer 14-38
:ENABle	Enables Marker	Spectrum Analyzer 14-38
:LEFT	Moves Marker left to next peak	Spectrum Analyzer 14-38
:LEVel?	Returns Level at Marker position	Spectrum Analyzer 14-38
:MINimum	Moves Marker to minimum point	Spectrum Analyzer 14-38
:PEAK	Moves Marker to peak point	Spectrum Analyzer 14-38
:POSition	Marker Position	Spectrum Analyzer 14-38
:RIGHT	Moves Marker right to next peak	Spectrum Analyzer 14-38
:SCF	Sets Center Freq. to Marker Position	Spectrum Analyzer 14-38
:SREF	Sets Ref Level to Marker Position level	Spectrum Analyzer 14-38
:MODE	Locked / Unlocked	Spectrum Analyzer 14-38
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Spectrum Analyzer 14-38
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Spectrum Analyzer 14-38
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Spectrum Analyzer 14-38
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Spectrum Analyzer 14-38
:SSS	Markers set Start - Stop Span	Spectrum Analyzer 14-38
:SVERTical	Markers set (Nearest) Vertical Range	Spectrum Analyzer 14-38
:MODE	Mode	
:TRACe	Trace	
:AVERage	Averages	Spectrum Analyzer 14-38
:CURRent?	Returns count of Averages Progress	Spectrum Analyzer 14-38
:ENABle	Enables Average readings	Spectrum Analyzer 14-38
:VALue	Trace average	Spectrum Analyzer 14-38
:LIVE?	Returns Live trace data	Spectrum Analyzer 14-38
:MAXimum	Enables Maximum Hold	Spectrum Analyzer 14-38
:PEAK?	Returns Peak Trace data	Spectrum Analyzer 14-38
:PKAV?	Returns Peak Average Trace data	Spectrum Analyzer 14-38
:TRKGen	Tracking Generator	
:ENABle	Enables Tracking Generator	Spectrum Analyzer 14-38
:TRIGger	Trigger	
:MODE	Gate Mode	Spectrum Analyzer 14-38
:VERTical	Vertical	
:LEVel	Level (Top of Screen)	Spectrum Analyzer 14-38
:VDIV	Vertical / div	Spectrum Analyzer 14-38

Command	Command Description	Relates to Tile/Details Reference
[:TMS]		
:SCOPE	Oscilloscope	
ATRace	Trace A	
:COUPling	Coupling	Scope 14-36
:MKR1	Value at Specified Marker Position	Scope 14-36
:MKR2	Value at Specified Marker Position	Scope 14-36
:SOURce	Trace Source	Scope 14-36
:VDIV	Vertical /div	Scope 14-36
:VOLT	In Volts	Scope 14-36
BTRace	Trace B	
:COUPling	Coupling	Scope 14-36
:MKR1	Value at Specified Marker Position	Scope 14-36
:MKR2	Value at Specified Marker Position	Scope 14-36
:SOURce	Trace Source	Scope 14-36
:VDIV	Vertical /div	Scope 14-36
:VOLT	In Volts	Scope 14-36
:HDIV	Horizontal /div	Scope 14-36
:MKR	Locked / Unlocked	Scope 14-36
:MKRn	Marker where n = Marker 1 or 2	Scope 14-36
:ENABLE	Enables Marker	Scope 14-36
:TRIGger	Trigger	
:EDGE	Trigger Edge	Scope 14-36
:FILTer	Trigger Filter	Scope 14-36
:LEVel	Trigger Level	Scope 14-36
:MODE	Trigger Mode	Scope 14-36
:SOURce	Trigger Source	Scope 14-36
:SYSTEM	System	
:STORE "filename"	Saves file to Test Set's internal database.	
:RECALL "filename"	Recalls file from Test Set's internal database.	
:USBTOSERIAL	USB to Serial Port	
:OPEN	Opens selected port	
:CLOSE	Closes opened port	
:BAUDrate	Sets Baud Rate at which data is transmitted	
:READ?	Reads string data	
:WRITE	Write sends string data	
:QUERY?	Query reads and writes string as send parameter	
:RESet	Send 1 to reset communications	
:CHARsize	Sets Character Size	
:PARity	Sets Parity	
:HWFlowcontrol	Hardware flow control	
:SWFlowcontrol	Software flow control	
:TIMEout	Sets Timeout Setting in μ s	
:TERMchar	Sets Termination Character decimal value	

Chapter 10

TETRA MS T1 Quick Reference Guide

Introduction

This chapter is the Quick Reference Guide for TETRA MS T1 remote commands. The commands in each of these listings are arranged alphabetically within the hierarchy. Refer to the TETRA MS T1 Detailed Remote Commands Chapter for complete command parameters.

The figure below describes the Remote Command Quick Reference Guide format.

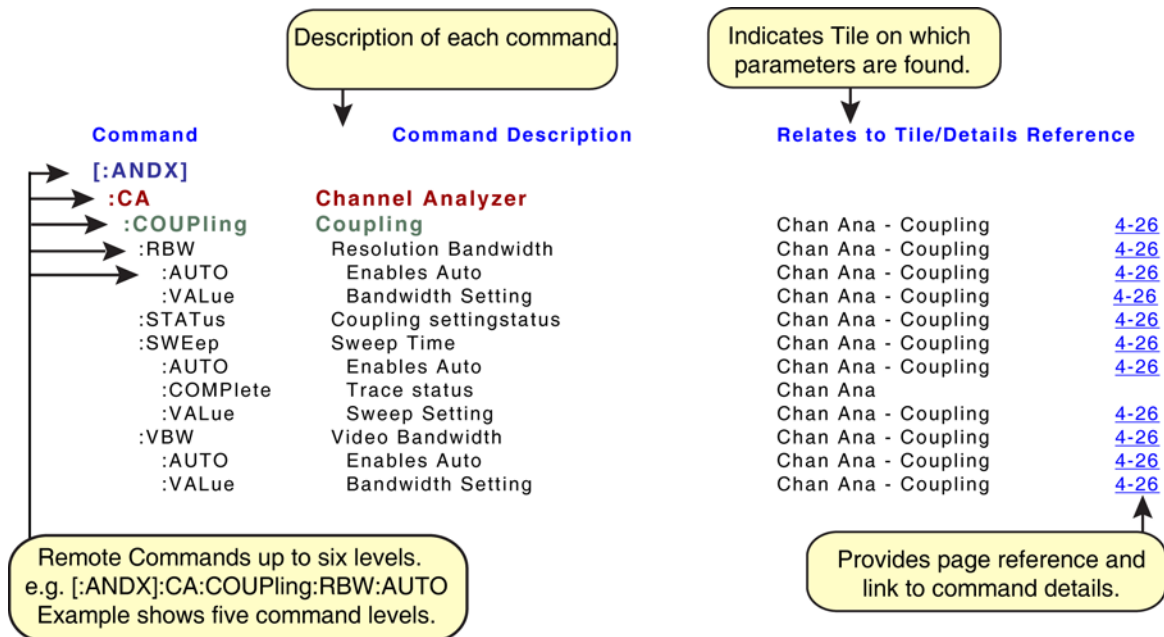


Fig. 10-1 Quick Reference Guide Illustrated Extract

NOTE

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description	Relates to Tile/Details Reference
[:TMST]		
:ABORt	Abort	
:CA	Stops Channel Analyzer Sweeps	
:RXMeas	Stops Rx Measurements	
:SA	Stops Spectrum Analyzer Sweeps	
:TXMeas	Stops Tx Measurements	Tx Measurements Tile 15-32
:CONTRol	For Control Bursts	Tx Measurements Tile 15-32
:NORMAl	For Normal Bursts	Tx Measurements Tile 15-32
:CA	Channel Analyzer	
:COUPLing	Coupling	
:RBW	Resolution Bandwidth	Channel Analyzer 15-9
:AUTO	Enables Auto	Channel Analyzer 15-9
:VALue	Bandwidth Setting	Channel Analyzer 15-9
:STATus?	Returns Coupling setting status	Channel Analyzer 15-9
:SWEep	Sweep Time	Channel Analyzer 15-9
:AUTO	Enables Auto	Channel Analyzer 15-9
:COMPLete?	Returns Trace status	Channel Analyzer 15-9
:VALue	Sweep Setting	Channel Analyzer 15-9
:VBW	Video Bandwidth	Channel Analyzer 15-9
:AUTO	Enables Auto	Channel Analyzer 15-9
:VALue	Bandwidth Setting	Channel Analyzer 15-9
:HORIZontal	Horizontal	
:FREQuency	Start-Stop/Center-Span Frequencies	Channel Analyzer 15-9
:CENTer	Center Frequency	Channel Analyzer 15-9
:RELative	Relative to Analyzer	Channel Analyzer 15-9
:SPAN	Span Frequency	Channel Analyzer 15-9
:STARt	Start Frequency	Channel Analyzer 15-9
:RELative	Relative to Analyzer	Channel Analyzer 15-9
:STOP	Stop Frequency	Channel Analyzer 15-9
:RELative	Relative to Analyzer	Channel Analyzer 15-9
:MODE	Locked / Unlocked	Channel Analyzer 15-9
:SPAN	Sets Span	Channel Analyzer 15-9
:FULL	To Full Span	Channel Analyzer 15-9
:ZERO	Zero Span Values	Channel Analyzer 15-9
:CENTer	Center Frequency	Channel Analyzer 15-9
:RELative	Relative to Analyzer	Channel Analyzer 15-9
:SWEep	Sweep Time	Channel Analyzer 15-9
:MARKer	Markers	
:DELTA	Marker Delta	Channel Analyzer 15-9
:LEVEl?	Returns Level between Mkr1 and Mkr2 level values	Channel Analyzer 15-9
:POSition?	Returns distance between markers	Channel Analyzer 15-9
:MKRn	Marker where n = Marker 1 or 2	Channel Analyzer 15-9
:ENABle	Enables Marker	Channel Analyzer 15-9
:LEFT	Moves Marker left to next peak	Channel Analyzer 15-9
:LEVEl?	Returns Level at Marker position	Channel Analyzer 15-9
:MINimum	Moves Marker to minimum point	Channel Analyzer 15-9
:PEAK	Moves Marker to peak point	Channel Analyzer 15-9
:POSition	Marker Position	Channel Analyzer 15-9
:RIGHT	Moves Marker right to next peak	Channel Analyzer 15-9
:SCF	Sets Center Freq. to Marker Position	Channel Analyzer 15-9
:SREF	Sets Ref Level to Marker Position Level	Channel Analyzer 15-9

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:CA	Channel Analyzer (cont)		
:MARKer	Markers (cont)		
:MODE	Locked / Unlocked	Channel Analyzer	15-9
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Channel Analyzer	15-9
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Channel Analyzer	15-9
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Channel Analyzer	15-9
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Channel Analyzer	15-9
:SSS	Markers set Start - Stop Span	Channel Analyzer	15-9
:SVERTical	Markers set (Nearest) Vertical Range	Channel Analyzer	15-9
:TRACe	Trace		
:AVG?	Returns Average Trace data	Channel Analyzer	15-9
:AVERage	Averages	Channel Analyzer	15-9
:CURREnt?	Returns count of Averages Progress	Channel Analyzer	15-9
:ENABle	Enables Average readings	Channel Analyzer	15-9
:VALue	Required number of Averages	Channel Analyzer	15-9
:LIVE?	Returns Live Trace	Channel Analyzer	15-9
:MAXimum	Enables Maximum Hold	Channel Analyzer	15-9
:PEAK?	Returns Peak Trace	Channel Analyzer	15-9
:PKAV?	Returns Peak Average Trace	Channel Analyzer	15-9
:TRIGger	Trigger		
:MODE	Gate Mode	Channel Analyzer	15-9
:VERTical	Vertical		
:LEVel	Level (Top of Screen)	Channel Analyzer	15-9
:VDIV	Vertical / div	Channel Analyzer	15-9
:CALibrate	Calibration		
:USER	User Calibration		
:RUN	Start User Calibration	UTILS Operational Status Tile	
:SETPoint	Sets Temperature Change Threshold	UTILS Operational Status Tile	
:STATus?	Returns Calibration status	UTILS Operational Status Tile	
:UNCAL?	Returned data indicates if Calibration is needed	UTILS Operational Status Tile	

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:CONFigure	Configure		
:ACcESS	Access Parameters		
:APARAmeter	Access Parameter	Sys ID & Acc Par Config Tile	15-7
:MAXTx	Max Tx Level	Sys ID & Acc Par Config Tile	15-7
:MINRx	Min Rx Level For Access	Sys ID & Acc Par Config Tile	15-7
:BSIDentity	Base Station Identity		
:BCC	Base Station Color Code	Sys ID & Acc Par Config Tile	15-7
:MCC	Mobile Country Code	Sys ID & Acc Par Config Tile	15-7
:MNC	Mobile Network Code	Sys ID & Acc Par Config Tile	15-7
:BTIMing	Tx BurstTiming		
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:CHPLan	Channel Plan		
:DELete	Deletes specified Channel Plan	Channel Plan Config Tile	15-2
:INFO	Information about current Channel Plan	Channel Plan Config Tile	15-2
:LOAD	Loads named plan as current Plan	Channel Plan Config Tile	15-2
:NEW	Create new channel plan	Channel Plan Config Tile	15-2
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	15-32
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:RCARrier	Residual Carrier	Tx Measurements Tile	15-32
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:VPEak	Vector Peak	Tx Measurements Tile	15-32
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:VRMS	Vector RMS	Tx Measurements Tile	15-32
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:MPARAmeter	Mobile Parameters		
:PCLass	Power Class	Mobile Param Config Tile	15-3
:RCLass	Receiver Class	Mobile Param Config Tile	15-3
:OFFSet	Offsets		
:ANALyzer	RF Analyzer	Offsets Config Tile	15-3
:ENABle	Enables Offset	Offsets Config Tile	15-3
:VALue	Offset Value	Offsets Config Tile	15-3
:GENERator	RF Generator	Offsets Config Tile	15-3
:ENABle	Enables Offset	Offsets Config Tile	15-3
:VALue	Offset Value	Offsets Config Tile	15-3
:TIMing	Timing	Offsets Config Tile	15-3
:ENABle	Enables Offset	Offsets Config Tile	15-3
:VALue	Offset Value	Offsets Config Tile	15-3
:POWER	Tx Power		
:SAMPlE	Sample Count	Tx Measurements Tile	15-32
:CONTRol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:CONFigure	Configure (cont)		
:RXMeas	Rx Measurements		
:SAMPlE	Samples	Rx Measurements Tile	15-19
:AACH	AACH	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:MER	MER	Rx Measurements Tile	15-19
:PUEM	PUEM	Rx Measurements Tile	15-19
:BSCH	BSCH	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:MER	MER	Rx Measurements Tile	15-19
:PUEM	PUEM	Rx Measurements Tile	15-19
:SCHF	SCH/F	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:MER	MER	Rx Measurements Tile	15-19
:PUEM	PUEM	Rx Measurements Tile	15-19
:SCHHD	SCH/HD	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:MER	MER	Rx Measurements Tile	15-19
:PUEM	PUEM	Rx Measurements Tile	15-19
:TCH2	TCH/2.4	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:TCH4	TCH/4.8	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:TCH7	TCH/7.2	Rx Measurements Tile	15-19
:BER	BER	Rx Measurements Tile	15-19
:TCHS	TCH/S	Rx Measurements Tile	15-19
:BER0	BER Class 0	Rx Measurements Tile	15-19
:BER1	BER Class 1	Rx Measurements Tile	15-19
:BER2	BER Class 2	Rx Measurements Tile	15-19
:MER	MER	Rx Measurements Tile	15-19
:PUEM	PUEM	Rx Measurements Tile	15-19

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:FETCh Fetch			
:BTIMing	Returns Tx Burst Timing		
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Returns Frequency Error	Tx Measurements Tile	15-32
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:MERRor	Returns Magnitude Error at a Symbol	Mod Acc - Mag Error Tile	15-14
:CONTRol?	For Control Bursts	Mod Acc - Mag Error Tile	15-14
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	15-14
:RANGe	Returns Symbol Range	Mod Acc - Mag Error Tile	15-14
:CONTRol?	For Control Bursts	Mod Acc - Mag Error Tile	15-14
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	15-14
:PERRor	Returns Phase Error at a Symbol	Mod Acc - Phase Error Tile	15-15
:CONTRol?	For Control Bursts	Mod Acc - Phase Error Tile	15-15
:NORMal?	For Normal Bursts	Mod Acc - Phase Error Tile	15-15
:RANGe	Returns Symbol Range	Mod Acc - Phase Error Tile	15-15
:CONTRol?	For Control Bursts	Mod Acc - Phase Error Tile	15-15
:NORMal?	For Normal Bursts	Mod Acc - Phase Error Tile	15-15
:RCARrier	Returns Residual Carrier	Tx Measurements Tile	15-32
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:VERRor	Vector Error at a Symbol	Mod Acc - Vector Error Tile	15-16
:CONTRol?	For Control Bursts	Mod Acc - Vector Error Tile	15-16
:NORMal?	For Normal Bursts	Mod Acc - Vector Error Tile	15-16
:RANGe	Returns Symbol Range	Mod Acc - Vector Error Tile	15-16
:CONTRol?	For Control Bursts	Mod Acc - Vector Error Tile	15-16
:NORMal?	For Normal Bursts	Mod Acc - Vector Error Tile	15-16
:VPEak	Returns Vector Peak	Tx Measurements Tile	15-32
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:VRMS	Returns Tx Vector RMS	Tx Measurements Tile	15-32
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:PFRame	Returns Tx Power		
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	15-17
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	15-17
:SYMBol	Returns Profile at a Symbol	Power - Profile Frame Tile	15-17
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	15-17
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	15-17
:RANGe	Returns Symbol Range	Power - Profile Frame Tile	15-17
:CONTRol?	For Control Bursts	Power - Profile Frame Tile	15-17
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	15-17
:POWER	Returns Tx Power		
:CONTRol?	For Control Bursts	Tx Measurements Tile	15-32
:NORMal?	For Normal Bursts	Tx Measurements Tile	15-32
:SYMBol	Returns Profile at a Symbol	Power - Profile Full Tile	15-18
:CONTRol?	For Control Bursts	Power - Profile Full Tile	15-18
:NORMal?	For Normal Bursts	Power - Profile Full Tile	15-18
:RANGe	Returns Symbol Range	Power - Profile Full Tile	15-18
:CONTRol?	For Control Bursts	Power - Profile Full Tile	15-18
:NORMal?	For Normal Bursts	Power - Profile Full Tile	15-18

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:FETCh	Fetch (cont)		
:RF	RF		
:ALARM	Returns overload status	Active Tile	
:GEN	Returns Generator overload status	Active Tile	
:REC	Returns Receiver overload status	Active Tile	
:RXMeas	Rx Measurements		
:AACH	Returns AACH	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:MER?	MER	Rx Measurements Tile	15-19
:PUEM?	PUEM	Rx Measurements Tile	15-19
:BSCH	Returns BSCH	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:MER?	MER	Rx Measurements Tile	15-19
:PUEM?	PUEM	Rx Measurements Tile	15-19
:SCHF	Returns SCH/F	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:MER?	MER	Rx Measurements Tile	15-19
:PUEM?	PUEM	Rx Measurements Tile	15-19
:SCHHD	Returns SCH/HD	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:MER?	MER	Rx Measurements Tile	15-19
:PUEM?	PUEM	Rx Measurements Tile	15-19
:TCH2	Returns TCH/2.4	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:TCH4	Returns TCH/4.8	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:TCH7	Returns TCH/7.2	Rx Measurements Tile	15-19
:BER?	BER	Rx Measurements Tile	15-19
:TCHS	Returns TCH/S	Rx Measurements Tile	15-19
:BER0?	BER Class 0	Rx Measurements Tile	15-19
:BER1?	BER Class 1	Rx Measurements Tile	15-19
:BER2?	BER Class 2	Rx Measurements Tile	15-19
:MER?	MER	Rx Measurements Tile	15-19
:PUEM?	PUEM	Rx Measurements Tile	15-19
:INITiate	Initiate		
:CONTinuous	Continuous (Repeat)		
:CA	Channel Analyzer Sweep	Channel Analyzer	15-9
:RXMeas	Rx Measurements	Rx Measurements	15-19
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	15-28
:SCOpe	Scope Measurements	Scope	15-26
:TXMeas	Tx Measurements	Tx Measurements Tile	15-32
:CONTrol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32
:IMMediate	Immediate (Single)		
:CA	Channel Analyzer Sweep	Channel Analyzer	15-9
:RXMeas	Rx Measurements	Rx Measurements	15-19
:SA	Spectrum Analyzer Sweep	Spectrum Analyzer	15-28
:SCOpe	Scope Measurements	Scope	15-26
:TXMeas	Tx Measurements	Tx Measurements Tile	15-32
:CONTrol	For Control Bursts	Tx Measurements Tile	15-32
:NORMal	For Normal Bursts	Tx Measurements Tile	15-32

Command	Command Description	Relates to Tile/Details Reference			
[:TMST]					
:LIMits	Limits				
:RXMeas	Rx Measurements				
:AACH	AACH	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:MER	MER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:PUEM	PUEM	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:BSCH	BSCH	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:MER	MER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:PUEM	PUEM	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:INITialize	Initializes set Limits	Rx Meas	Limits	Config	Tile 15-4
:SCHF	SCH/F	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:MER	MER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:PUEM	PUEM	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:SCHHD	SCH/HD	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:MER	MER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:PUEM	PUEM	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:TCH2	TCH/2.4	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:TCH4	TCH/4.8	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4
:TCH7	TCH/7.2	Rx Meas	Limits	Config	Tile 15-4
:BER	BER	Rx Meas	Limits	Config	Tile 15-4
:ENABLE	Enables set Limit	Rx Meas	Limits	Config	Tile 15-4
:VALue	Limit Value	Rx Meas	Limits	Config	Tile 15-4

Command	Command Description	Relates to Tile/Details Reference				
[:TMST]						
:LIMITs						
:RXMeas						
:TCHS						
:BER0	TCH/S	Rx Meas	Limits	Config	Tile	15-4
:ENABLE	BER Class 0	Rx Meas	Limits	Config	Tile	15-4
:VALue	Enables set Limit	Rx Meas	Limits	Config	Tile	15-4
:BER1	Limit Value	Rx Meas	Limits	Config	Tile	15-4
:ENABLE	BER Class 1	Rx Meas	Limits	Config	Tile	15-4
:VALue	Enables set Limit	Rx Meas	Limits	Config	Tile	15-4
:BER2	Limit Value	Rx Meas	Limits	Config	Tile	15-4
:ENABLE	BER Class 2	Rx Meas	Limits	Config	Tile	15-4
:VALue	Enables set Limit	Rx Meas	Limits	Config	Tile	15-4
:MER	Limit Value	Rx Meas	Limits	Config	Tile	15-4
:ENABLE	MER	Rx Meas	Limits	Config	Tile	15-4
:VALue	Enables set Limit	Rx Meas	Limits	Config	Tile	15-4
:PUeM	Limit Value	Rx Meas	Limits	Config	Tile	15-4
:ENABLE	PUeM	Rx Meas	Limits	Config	Tile	15-4
:VALue	Enables set Limit	Rx Meas	Limits	Config	Tile	15-4
	Limit Value	Rx Meas	Limits	Config	Tile	15-4
:TXMeas						
:BTIMing						
:ENABLE	Burst Timing	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	Enables set Limit	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:VALue	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	Limit Value	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:FERRor	Frequency Error	Tx Meas	Limits	Config	Tile	15-7
:ENABLE	Enables set Limit	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:VALue	Limit Value	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:INITialize	Initialize	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	The Control Burst Limits Set	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	The Normal Burst Limits Set	Tx Meas	Limits	Config	Tile	15-7
:POWER	Burst Power	Tx Meas	Limits	Config	Tile	15-7
:ENABLE	Enables set Limit	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:VALue	Limit Value	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:PROFile	Power Profile	Tx Meas	Limits	Config	Tile	15-7
:ENABLE	Enables set Limit	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7
:VALue	Limit value	Tx Meas	Limits	Config	Tile	15-7
:CONTRol	For Control Bursts	Tx Meas	Limits	Config	Tile	15-7
:NORMAl	For Normal Bursts	Tx Meas	Limits	Config	Tile	15-7

Command	Command Description	Relates to Tile/Details Reference	
[:TMST]			
:LIMits	Limits (cont)		
:TXMeas	Tx Measurements		
:RCARrier	Residual Carrier	Tx Meas Limits Config Tile	15-7
:ENABle	Enables set Limit	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:VALue	Limit Value	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:VPEak	Vector Peak	Tx Meas Limits Config Tile	15-7
:ENABle	Enables set Limit	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:VALue	Limit Value	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:VRMS	Vector RMS	Tx Meas Limits Config Tile	15-7
:ENABle	Enables set Limit	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:VALue	Limit Value	Tx Meas Limits Config Tile	15-7
:CONTRol	For Control Bursts	Tx Meas Limits Config Tile	15-7
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	15-7
:PROTOCOL	Protocol		
:LOOPback	Loopback		
:MTXC	Mobile Tx Control		
:TTYPE	T1 Type		
:RF	RF Settings		
:ANALyzer	Analyzer		
:AGC	Automatic Gain Control	Control Tile	15-13
:FREQUENCY	Frequency	Control Tile	15-13
:LEVel	Level	Control Tile	15-13
:CMODE	Control Mode	Control Tile	15-13
:EVALue	Expected Power Level	Control Tile	15-13
:PORT	Port (RF In)	Control Tile	15-13
:RECeiver	Receiver	Control Tile	15-13
:AMP	Receiver Pre-Amp	Control Tile	15-13
:CHANnel	Channels		
:DUPLex	Duplex		
:LOCK	Locked / Unlocked	Control Tile	15-13
:SPACing	Spacing	Control Tile	15-13
:GENerator	Generator		
:FREQUENCY	Frequency	Control Tile	15-13
:LEVel	Level	Control Tile	15-13
:MODulator	Modulator	Control Tile	15-13
:PORT	Port (RF Out)	Control Tile	15-13
:STATe	Enables RF Generator	Control Tile	15-13
:TIMing	Timing		
:DELay	Delay Timing One Symbol	Control Tile	15-13

Command	Command Description	Relates to Tile/Details Reference
[:TMST]		
:SA	Spectrum Analyzer	
:COUPling	Coupling	
:RBW	Resolution Bandwidth	Spectrum Analyzer 15-28
:AUTO	Enables Auto	Spectrum Analyzer 15-28
:VALue	Bandwidth Setting	Spectrum Analyzer 15-28
:STATus?	Returns Coupling setting status	Spectrum Analyzer 15-28
:SWEep	Sweep Time	Spectrum Analyzer 15-28
:AUTO	Enables Auto	Spectrum Analyzer 15-28
:COMPlete?	Returns Trace status	Spectrum Analyzer 15-28
:VALue	Sweep Value	Spectrum Analyzer 15-28
:VBW	Video Bandwidth	Spectrum Analyzer 15-28
:AUTO	Enables Auto	Spectrum Analyzer 15-28
:VALue	Bandwidth Setting	Spectrum Analyzer 15-28
:HORizontal	Horizontal	
:FREQuency	Start-Stop/Center-Span Frequencies	Spectrum Analyzer 15-28
:CENTer	Center Frequency	Spectrum Analyzer 15-28
:SPAN	Span Frequency	Spectrum Analyzer 15-28
:START	Start Frequency	Spectrum Analyzer 15-28
:STOP	Stop Frequency	Spectrum Analyzer 15-28
:MODE	Mode	Spectrum Analyzer 15-28
:SPAN	Sets Span	Spectrum Analyzer 15-28
:FULL	To Full Span	Spectrum Analyzer 15-28
:ZERO	Zero Span Values	Spectrum Analyzer 15-28
:SWEep	Sweep Time	Spectrum Analyzer 15-28
:MARKer	Markers	
:DELTA	Marker Delta	Spectrum Analyzer 15-28
:LEVel	Level (Between Mkr1 and Mkr2 (dBm) level values)	Spectrum Analyzer 15-28
:POSition	Distance (Between Mkr1 and Mkr2)	Spectrum Analyzer 15-28
:MKRn	Marker where n = Marker 1 or 2	Spectrum Analyzer 15-28
:ENABle	Enables Marker	Spectrum Analyzer 15-28
:LEFT	Moves Marker left to next peak	Spectrum Analyzer 15-28
:LEVel?	Returns Level at Marker position	Spectrum Analyzer 15-28
:MINimum	Moves Marker to minimum point	Spectrum Analyzer 15-28
:PEAK	Moves Marker to peak point	Spectrum Analyzer 15-28
:POSition	Marker Position	Spectrum Analyzer 15-28
:RIGHT	Moves Marker right to next peak	Spectrum Analyzer 15-28
:SCF	Sets Center Freq. to Marker Position	Spectrum Analyzer 15-28
:SREF	Sets Ref Level to Marker Position level	Spectrum Analyzer 15-28
:MODE	Locked / Unlocked	Spectrum Analyzer 15-28
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Spectrum Analyzer 15-28
:PLive?	Returns average of Live readings between Mkr1 and Mkr2 data	Spectrum Analyzer 15-28
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Spectrum Analyzer 15-28
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Spectrum Analyzer 15-28
:SSS	Markers set Start - Stop Span	Spectrum Analyzer 15-28
:SVERTical	Markers set (Nearest) Vertical Range	Spectrum Analyzer 15-28
:MODE	Mode	

Command	Command Description	Relates to Tile/Details Reference
[:TMST]		
:SA	Spectrum Analyzer (cont	
:TRACe	Trace	
:AVERage	Averages	Spectrum Analyzer 15-28
:CURRent?	Returns count of Averages Progress	Spectrum Analyzer 15-28
:ENABle	Enables Average readings	Spectrum Analyzer 15-28
:VALue	Trace average	Spectrum Analyzer 15-28
:LIVE?	Returns Live trace data	Spectrum Analyzer 15-28
:MAXimum	Enables Maximum Hold	Spectrum Analyzer 15-28
:PEAK?	Returns Peak Trace data	Spectrum Analyzer 15-28
:PKAV?	Returns Peak Average Trace data	Spectrum Analyzer 15-28
:TRKGen	Tracking Generator	
:ENABle	Enables Tracking Generator	Spectrum Analyzer 15-28
:TRIGger	Trigger	
:MODE	Gate Mode	Spectrum Analyzer 15-28
:VERTical	Vertical	
:LEVel	Level (Top of Screen)	Spectrum Analyzer 15-28
:VDIV	Vertical / div	Spectrum Analyzer 15-28
:SCOPE	Oscilloscope	
:ATRace	Trace A	
:COUPling	Coupling	Scope 15-26
:MKR1	Value at Specified Marker Position	Scope 15-26
:MKR2	Value at Specified Marker Position	Scope 15-26
:SOURce	Trace Source	Scope 15-26
:VDIV	Vertical /div	Scope 15-26
:VOLT	In Volts	Scope 15-26
:BTRace	Trace B	
:COUPling	Coupling	Scope 15-26
:MKR1	Value at Specified Marker Position	Scope 15-26
:MKR2	Value at Specified Marker Position	Scope 15-26
:SOURce	Trace Source	Scope 15-26
:VDIV	Vertical /div	Scope 15-26
:VOLT	In Volts	Scope 15-26
:HDIV	Horizontal /div	
:MKR	Locked / Unlocked	Scope 15-26
:MKRn	Marker where n = Marker 1 or 2	Scope 15-26
:ENABle	Enables Marker	Scope 15-26
:TRIGger	Trigger	Scope 15-26
:EDGE	Trigger Edge	Scope 15-26
:FILTer	Trigger Filter	Scope 15-26
:LEVel	Trigger Level	Scope 15-26
:MODE	Trigger Mode	Scope 15-26
:SOURce	Trigger Source	Scope 15-26
:SYSTem	System	
:STORE “filename”	Saves file to Test Set’s internal database.	
:RECAIl “filename”	Recalls file from Test Set’s internal database.	

Command	Command Description	Relates to Tile/Details Reference
[:TMST]		
:USBTOSERial USB to Serial Port		
:OPEN	Opens selected port	
:CLOSE	Closes opened port	
:BAUDRate	Sets Baud Rate at which data is transmitted	
:READ?	Reads string data	
:WRITE	Write sends string data	
:QUERY?	Query reads and writes string as send parameter	
:RESet	Send 1 to reset communications	
:CHARsize	Sets Character Size	
:PARity	Sets Parity	
:HWFlowcontrol	Hardware flow control	
:SWFlowcontrol	Software flow control	
:TIMEout	Sets Timeout Setting in μ s	
:TERMchar	Sets Termination Character decimal value	

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Chapter 11

TETRA DM Quick Reference Guide

Introduction

This chapter is the Quick Reference Guide for TETRA DM remote commands. The commands in each of these listings are arranged alphabetically within the hierarchy. Refer to the TETRA DS Detailed Remote Commands Chapter for complete command parameters. TETRA DM remote commands are only valid when the TETRA DM option is installed in the Test Set.

The figure below describes the Remote Command Quick Reference Guide format.

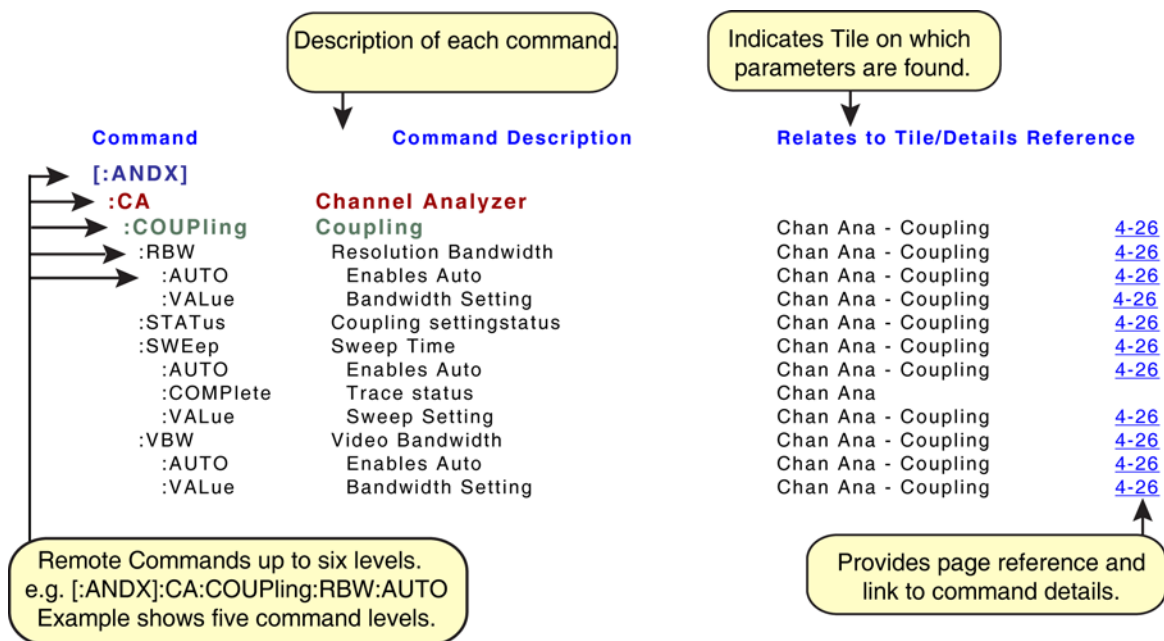


Fig. 11-1 Quick Reference Guide Illustrated Extract

NOTE

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:ABORt	Abort		
:CA	Stops Channel Analyzer Sweeps		
:SA	Stops Spectrum Analyzer Sweeps		
:TXMeas	Stops Tx Measurements		
:INITial	For Initial Bursts	Tx Measurements	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements	16-36
:NORMal	For Normal Bursts	Tx Measurements	16-36
:SLAVe	For Slave Bursts	Tx Measurements	16-36
:SYNC	For Sync Bursts	Tx Measurements	16-36
:CA	Channel Analyzer		
:COUPling	Coupling		
:RBW	Resolution Bandwidth	Channel Analyzer	16-13
:AUTO	Enables Auto	Channel Analyzer	16-13
:VALue	Bandwidth Setting	Channel Analyzer	16-13
:STATus?	Returns Coupling setting status	Channel Analyzer	16-13
:SWEep	Sweep Time	Channel Analyzer	16-13
:AUTO	Enables Auto	Channel Analyzer	16-13
:COMPlete?	Returns Trace status	Channel Analyzer	16-13
:VALue	Sweep Setting	Channel Analyzer	16-13
:VBW	Video Bandwidth	Channel Analyzer	16-13
:AUTO	Enables Auto	Channel Analyzer	16-13
:VALue	Bandwidth Setting	Channel Analyzer	16-13
:HORizontal	Horizontal		
:FREQuency	Start-Stop / Center-Span Frequencies	Channel Analyzer	16-13
:CENTer	Center Frequency	Channel Analyzer	16-13
:RELative	Relative to Analyzer	Channel Analyzer	16-13
:SPAN	Span Frequency	Channel Analyzer	16-13
:STARt	Start Frequency	Channel Analyzer	16-13
:RELative	Relative to Analyzer	Channel Analyzer	16-13
:STOP	Stop Frequency	Channel Analyzer	16-13
:RELative	Relative to Analyzer	Channel Analyzer	16-13
:MODE	Locked / Unlocked	Channel Analyzer	16-13
:SPAN	Sets Span	Channel Analyzer	16-13
:FULL	To Full Span	Channel Analyzer	16-13
:ZERO	Zero Span Values	Channel Analyzer	16-13
:CENTer	Center Frequency	Channel Analyzer	16-13
:RELative	Relative to Analyzer	Channel Analyzer	16-13
:SWEep	Sweep Time	Channel Analyzer	16-13

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:CA Channel Analyzer (cont)			
:MARKer	Markers	Channel Analyzer	16-13
:DELTA	Marker Delta	Channel Analyzer	16-13
:LEVel?	Returns Level between Mkr1 and Mkr2 level values	Channel Analyzer	16-13
:POSition?	Returns distance between markers	Channel Analyzer	16-13
:MKRn	Marker where n = Marker 1 or 2	Channel Analyzer	16-13
:ENABle	Enables Marker	Channel Analyzer	16-13
:LEFT	Moves Marker left to next peak	Channel Analyzer	16-13
:LEVel?	Returns Level at Marker position	Channel Analyzer	16-13
:MINimum	Moves Marker to minimum point	Channel Analyzer	16-13
:PEAK	Moves Marker to peak point	Channel Analyzer	16-13
:POSition	Marker Position	Channel Analyzer	16-13
:RIGHT	Moves Marker right to next peak	Channel Analyzer	16-13
:SCF	Sets Center Freq. to Marker Position	Channel Analyzer	16-13
:SREF	Sets Ref Level to Marker Position Level	Channel Analyzer	16-13
:MODE	Locked / Unlocked	Channel Analyzer	16-13
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Channel Analyzer	16-13
:PLIVe?	Returns average of Live readings between Mkr1 and Mkr2 data	Channel Analyzer	16-13
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Channel Analyzer	16-13
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Channel Analyzer	16-13
:SSS	Markers set Start - Stop Span	Channel Analyzer	16-13
:SVERTical	Markers set (Nearest) Vertical Range	Channel Analyzer	16-13
:TRACe	Trace		
:AVG?	Returns Average Trace data	Channel Analyzer	16-13
:AVERAge	Averages	Channel Analyzer	16-13
:CURRent?	Returns count of Averages Progress	Channel Analyzer	16-13
:ENABle	Enables Average readings	Channel Analyzer	16-13
:VALue	Required number of Averages	Channel Analyzer	16-13
:LIVE?	Returns Live Trace	Channel Analyzer	16-13
:MAXimum	Enables Maximum Hold	Channel Analyzer	16-13
:PEAK?	Returns Peak Trace	Channel Analyzer	16-13
:PKAV?	Returns Peak Average Trace	Channel Analyzer	16-13
:TRIGger	Trigger		
:MODE	Gate Mode	Channel Analyzer	16-13
:VERTical	Vertical		
:LEVel	Level (Top of Screen)	Channel Analyzer	16-13
:VDIV	Vertical / div	Channel Analyzer	16-13
:CALibrate Calibration			
:USER	User Calibration		
:RUN	Start User Calibration	UTILS Operational Status Tile	
:SETPoint	Sets Temperature Change Threshold	UTILS Operational Status Tile	
:STATus?	Returns Calibration status	UTILS Operational Status Tile	
:UNCAL?	Returned data indicates if Calibration is needed	UTILS Operational Status Tile	

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:CONFigure	Configure		
:BTIMing	Burst Timing		
:SAMPlE	Over xxx bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:CHPLan	Channel Plan		
:DELeTe	Deletes specified Channel Plan	Channel Plan Config	16-4
:INFO?	Information about current Channel Plan	Channel Plan Config	16-4
:LOAD	Load named plan as current plan	Channel Plan Config	16-4
:NEW	Create new Channel Plan	Channel Plan Config	16-4
:CTIMers	Call Timers		
:MODE	Test Set Transmit Mode	Call Timers Config Tile	16-2
:QUIEt	Test Set Quiet Time	Call Timers Config Tile	16-2
:TALKback	Test Set Transmit Time	Call Timers Config Tile	16-2
:TSRT	Test Set Reservation Time	Call Timers Config Tile	16-2
:TSTRansmit	Test Set Transmit Time	Call Timers Config Tile	16-2
:CTYPe	Call Types		
:EMERgency	Emergency Call	Call Timers Config Tile	16-2
:GI	Group / Individual	Call Timers Config Tile	16-2
:PRESEnce	Presence Check	Call Timers Config Tile	16-2
:SSI	Calling Party SSI	Call Timers Config Tile	16-2
:TPNI	Calling Party TPNI	Call Timers Config Tile	16-2
:GROUp	Group Call	Call Timers Config Tile	16-2
:PRlarity	Priority	Call Timers Config Tile	16-2
:SSI	Calling Party SSI	Call Timers Config Tile	16-2
:TPNI	Calling Party TPNI	Call Timers Config Tile	16-2
:OGRP	Open Group Call	Call Timers Config Tile	16-2
:NETWork	Network	Call Timers Config Tile	16-2
:PRlarity	Priority	Call Timers Config Tile	16-2
:SSI	Calling Party SSI	Call Timers Config Tile	16-2
:TPNI	Calling Party TPNI	Call Timers Config Tile	16-2
:PRIVate	Private Call	Call Timers Config Tile	16-2
:PRESEnce	Presence Check	Call Timers Config Tile	16-2
:PRlarity	Priority	Call Timers Config Tile	16-2
:SSI	Calling Party SSI	Call Timers Config Tile	16-2
:TPNI	Calling Party TPNI	Call Timers Config Tile	16-2

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:CONFigure	Configure (cont)		
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Frequency Error	Tx Measurements Tile	16-36
:SAMPlE	Sample Count	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:RCARrier	Residual Carrier	Tx Measurements Tile	16-36
:SAMPlE	Sample Count	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:VPEak	Vector Peak	Tx Measurements Tile	16-36
:SAMPlE	Sample Count	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:VRMS	Vector RMS	Tx Measurements Tile	16-36
:SAMPlE	Sample Count	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:MESSage	Messages		
:SDS123	SDS Type 1, 2 & 3	Messages Config Tile	16-5
:DATA1	Type 1 Data	Messages Config Tile	16-5
:DATA2	Type 2 Data	Messages Config Tile	16-5
:DATA3	Type 3 Data	Messages Config Tile	16-5
:GI	Group / Individual	Messages Config Tile	16-5
:PRlarity	Priority	Messages Config Tile	16-5
:SSI	Calling Party SSI	Messages Config Tile	16-5
:STATus	Status	Messages Config Tile	16-5
:DATA	The Message	Messages Config Tile	16-5
:GI	Group / Individual	Messages Config Tile	16-5
:PRlarity	Priority	Messages Config Tile	16-5
:SSI	Calling Party SSI	Messages Config Tile	16-5

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:CONFigure	Configure (cont)		
:MPARAmeter	Mobile Parameters		
:GSSI	GSSI	Mobile Param Config Tile	16-7
:FIXed	Fixed Value	Mobile Param Config Tile	16-7
:REPorted	Reported Value	Mobile Param Config Tile	16-7
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	16-7
:MNI	Mobile Network Identity	Mobile Param Config Tile	16-7
:MCC	Fixed Value	Mobile Param Config Tile	16-7
:REPorted	Reported Value	Mobile Param Config Tile	16-7
:MNC	Fixed Value	Mobile Param Config Tile	16-7
:REPorted	Reported Value	Mobile Param Config Tile	16-7
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	16-7
:PCLass	Power Class	Mobile Param Config Tile	16-7
:FIXed	Fixed Value	Mobile Param Config Tile	16-7
:REPorted	Reported Value	Mobile Param Config Tile	16-7
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	16-7
:SSI	SSI	Mobile Param Config Tile	16-7
:FIXed	Fixed Value	Mobile Param Config Tile	16-7
:REPorted	Reported Value	Mobile Param Config Tile	16-7
:USAGe	Use Fixed or Reported Value	Mobile Param Config Tile	16-7
:OFFSet	Offsets		
:ANALyzer	RF Analyzer	Offsets Config Tile	16-9
:ENABle	Enables Offset	Offsets Config Tile	16-9
:VALue	Offset Value	Offsets Config Tile	16-9
:GENerator	RF Generator	Offsets Config Tile	16-9
:ENABle	Enables Offset	Offsets Config Tile	16-9
:VALue	Offset Value	Offsets Config Tile	16-9
:TIMing	Timing	Offsets Config Tile	16-9
:ENABle	Enables Offset	Offsets Config Tile	16-9
:VALue	Offset Value	Offsets Config Tile	16-9
:POWER	Tx Power		
:SAMPlE	Sample Count	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVE	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:TSPArAmeters	Test Set Parameters		
:MNI	Mobile Network Identity	Test Set Param Config Tile	16-9
:MCC	Mobile Country Code	Test Set Param Config Tile	16-9
:MNC	Mobile Network Code	Test Set Param Config Tile	16-9
:USAGe	Use Fixed or Mobile's MNI Value	Test Set Param Config Tile	16-9
:POWER	Power Parameters	Test Set Param Config Tile	16-9
:CONTRol	Mobile Power Control	Test Set Param Config Tile	16-9
:PCLass	Power Class	Test Set Param Config Tile	16-9
:SSI	SSI	Test Set Param Config Tile	16-9

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Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:FETCh	Fetch		
:BTIMing	Returns Burst Timing		
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:MACCuracy	Tx Modulation Accuracy		
:FERRor	Returns Frequency Error	Tx Measurements Tile	16-36
:INITial?	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer?	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal?	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC?	For Sync Bursts	Tx Measurements Tile	16-36
:MERRor	Returns Mag Error at a Symbol	Mod Acc - Mag Error Tile	16-17
:INITial?	For Initial Bursts	Mod Acc - Mag Error Tile	16-17
:MASTer?	For Master (Normal+Sync) Bursts	Mod Acc - Mag Error Tile	16-17
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	16-17
:RANGe	Returns Symbol Range	Mod Acc - Mag Error Tile	16-17
:INITial?	For Initial Bursts	Mod Acc - Mag Error Tile	16-17
:MASTer?	For Master Bursts	Mod Acc - Mag Error Tile	16-17
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	16-17
:SLAVe?	For Slave Bursts	Mod Acc - Mag Error Tile	16-17
:SYNC?	For Sync Bursts	Mod Acc - Mag Error Tile	16-17
:SLAVe?	For Slave Bursts	Mod Acc - Mag Error Tile	16-17
:SYNC?	For Sync Bursts	Mod Acc - Mag Error Tile	16-17
:PERRor	Returns Phase Error at a Symbol	Mod Acc - Mag Error Tile	16-17
:INITial?	For Initial Bursts	Mod Acc - Mag Error Tile	16-17
:MASTer?	For Master (Normal+Sync) Bursts	Mod Acc - Mag Error Tile	16-17
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	16-17
:RANGe	Returns Symbol Range	Mod Acc - Mag Error Tile	16-17
:INITial?	For Initial Bursts	Mod Acc - Mag Error Tile	16-17
:MASTer?	For Master Bursts	Mod Acc - Mag Error Tile	16-17
:NORMal?	For Normal Bursts	Mod Acc - Mag Error Tile	16-17
:SLAVe?	For Slave Bursts	Mod Acc - Mag Error Tile	16-17
:SYNC?	For Sync Bursts	Mod Acc - Mag Error Tile	16-17
:SLAVe?	For Slave Bursts	Mod Acc - Mag Error Tile	16-17
:SYNC?	For Sync Bursts	Mod Acc - Mag Error Tile	16-17
:RCARrier	Returns Residual Carrier	Tx Measurements Tile	16-36
:INITial?	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer?	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal?	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC?	For Sync Bursts	Tx Measurements Tile	16-36
:VERRor	Returns Vector Error at a Symbol	Mod Acc - Vector Error Tile	16-19
:INITial?	For Initial Bursts	Mod Acc - Vector Error Tile	16-19
:MASTer?	For Master (Normal+Sync) Bursts	Mod Acc - Vector Error Tile	16-19
:NORMal?	For Normal Bursts	Mod Acc - Vector Error Tile	16-19
:RANGe	Returns Symbol Range	Mod Acc - Vector Error Tile	16-19
:INITial?	For Initial Bursts	Mod Acc - Vector Error Tile	16-19
:MASTer?	For Master Bursts	Mod Acc - Vector Error Tile	16-19
:NORMal?	For Normal Bursts	Mod Acc - Vector Error Tile	16-19
:SLAVe?	For Slave Bursts	Mod Acc - Vector Error Tile	16-19
:SYNC?	For Sync Bursts	Mod Acc - Vector Error Tile	16-19
:SLAVe?	For Slave Bursts	Mod Acc - Vector Error Tile	16-19
:SYNC?	For Sync Bursts	Mod Acc - Vector Error Tile	16-19

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:FETCh	Fetch (cont)		
:MACCuracy	Tx Modulation Accuracy (cont)		
:VPEak	Returns Vector Peak	Tx Measurements Tile	16-36
:INITial?	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer?	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal?	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC?	For Sync Bursts	Tx Measurements Tile	16-36
:VRMS	Returns Tx Vector RMS	Tx Measurements Tile	16-36
:INITial?	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer?	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal?	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC?	For Sync Bursts	Tx Measurements Tile	16-36
:PFRame	Returns Tx Power		
:MASTer?	For Master (Normal+Sync) Bursts	Power - Profile Frame Tile	16-23
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	16-23
:SLAVe?	For Slave Bursts	Power - Profile Frame Tile	16-23
:SYMBol	Returns Profile at a Symbol	Power - Profile Frame Tile	16-23
:MASTer?	For Master Bursts	Power - Profile Frame Tile	16-23
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	16-23
:RANGe	Returns Symbol Range	Power - Profile Frame Tile	16-23
:MASTer?	For Master Bursts	Power - Profile Frame Tile	16-23
:NORMal?	For Normal Bursts	Power - Profile Frame Tile	16-23
:SLAVe?	For Slave Bursts	Power - Profile Frame Tile	16-23
:SYNC?	For Sync Bursts	Power - Profile Frame Tile	16-23
:SLAVe?	For Slave Bursts	Power - Profile Frame Tile	16-23
:SYNC?	For Sync Bursts	Power - Profile Frame Tile	16-23
:PINitial?	Returns Profile Initial		
:SAMPle	Over xxx number or bursts	Power - Profile Initial Tile	16-24
:SYMBol?	Profile Initial at a Symbol	Power - Profile Initial Tile	16-24
:RANGe?	Returns Symbol range	Power - Profile Initial Tile	16-24
:POWER	Returns Tx Power		
:INITial?	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer?	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal?	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe?	For Slave Bursts	Tx Measurements Tile	16-36
:SYMBol	Returns Profile at a Symbol	Power - Profile Full Tile	16-22
:INITial?	For Initial Bursts	Power - Profile Full Tile	16-22
:MASTer?	For Master Bursts	Power - Profile Full Tile	16-22
:NORMal?	For Normal Bursts	Power - Profile Full Tile	16-22
:RANGe	Returns Symbol Range	Power - Profile Full Tile	16-22
:INITial?	For Initial Bursts	Power - Profile Full Tile	16-22
:MASTer?	For Master Bursts	Power - Profile Full Tile	16-22
:NORMal?	For Normal Bursts	Power - Profile Full Tile	16-22
:SLAVe?	For Slave Bursts	Power - Profile Full Tile	16-22
:SYNC?	For Sync Bursts	Power - Profile Full Tile	16-22
:SLAVe?	For Slave Bursts	Power - Profile Full Tile	16-22
:SYNC?	For Sync Bursts	Power - Profile Full Tile	16-22
:SYNC?	For Sync Bursts	Tx Measurements Tile	16-36
:RF	RF		
:ALARM	Returns overload status	Active Tile	
:GEN	Returns Generator overload status	Active Tile	
:REC	Returns Receiver overload status	Active Tile	

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:INITiate	Initiate		
:CONTinuous	Continuous (Repeat)		
:CA	Channel Analyzer Sweep	Channel Analyzer	16-13
:SA	Spectrum Analyzer Sweep	Spec Ana - Trigger	16-32
:SCOpe	Scope Measurements	Scope	16-30
:TXMeas	Tx Measurements	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:IMMEDIATE	Immediate (Single)		
:CA	Channel Analyzer Sweep	Channel Analyzer	16-13
:SA	Spectrum Analyzer Sweep	Spec Ana - Trigger	16-32
:SCOpe	Scope Measurements	Scope	16-30
:TXMeas	Tx Measurements	Tx Measurements Tile	16-36
:INITial	For Initial Bursts	Tx Measurements Tile	16-36
:MASTer	For Master (Normal+Sync) Bursts	Tx Measurements Tile	16-36
:NORMal	For Normal Bursts	Tx Measurements Tile	16-36
:SLAVe	For Slave Bursts	Tx Measurements Tile	16-36
:SYNC	For Sync Bursts	Tx Measurements Tile	16-36
:LIMits	Limits		
:TXMeas	Tx Measurements		
:BTIMing	Burst Timing	Tx Meas Limits Config Tile	16-10
:ENABle	Enables Set Limit	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:VALue	Limit Value	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:FERRor	Frequency Error	Tx Meas Limits Config Tile	16-10
:ENABle	Enables Set Limit	Tx Meas Limits Config Tile	16-10
:INITial	For Initial Bursts	Tx Meas Limits Config Tile	16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas Limits Config Tile	16-10
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	16-10
:VALue	Limit Value	Tx Meas Limits Config Tile	16-10
:INITial	For Initial Bursts	Tx Meas Limits Config Tile	16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas Limits Config Tile	16-10
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	16-10
:INITialize	Initializes Set Limit	Tx Meas Limits Config Tile	16-10
:INITial	The Initial Burst Limits Set	Tx Meas Limits Config Tile	16-10
:MASTer	The Master (Normal+Sync) Burst	Tx Meas Limits Config Tile	16-10
:NORMal	The Normal Burst Limits Set	Tx Meas Limits Config Tile	16-10
:SLAVe	The Slave Burst Limits Set	Tx Meas Limits Config Tile	16-10
:SYNC	The Sync Burst Limits Set	Tx Meas Limits Config Tile	16-10

Command	Command Description	Relates to Tile/Details Reference			
[:TDM]					
:LIMits	Limits (cont)				
:TXMeas	Tx Measurements (cont)				
:POWER	Burst Power	Tx Meas	Limits	Config	Tile 16-10
:ENABLE	Enables Set Limit	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:VALue	Limit Value	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:PROFile	Power Profile	Tx Meas	Limits	Config	Tile 16-10
:ENABLE	Enables Set Limit	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:VALue	Limit Value	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:RCARrier	Residual Carrier	Tx Meas	Limits	Config	Tile 16-10
:ENABLE	Enables Set Limit	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:VALue	Limit Value	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:VPEak	Vector Peak	Tx Meas	Limits	Config	Tile 16-10
:ENABLE	Enables Set Limit	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10
:VALue	Limit Value	Tx Meas	Limits	Config	Tile 16-10
:INITial	For Initial Bursts	Tx Meas	Limits	Config	Tile 16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas	Limits	Config	Tile 16-10
:NORMal	For Normal Bursts	Tx Meas	Limits	Config	Tile 16-10
:SLAVe	For Slave Bursts	Tx Meas	Limits	Config	Tile 16-10
:SYNC	For Sync Bursts	Tx Meas	Limits	Config	Tile 16-10

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:LiMits	Limits (cont)		
:TXMeas	Tx Measurements (cont)		
:VRMS	Vector RMS	Tx Meas Limits Config Tile	16-10
:ENABle	Enables Set Limit	Tx Meas Limits Config Tile	16-10
:INITial	For Initial Bursts	Tx Meas Limits Config Tile	16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas Limits Config Tile	16-10
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	16-10
:VALue	Limit Value	Tx Meas Limits Config Tile	16-10
:INITial	For Initial Bursts	Tx Meas Limits Config Tile	16-10
:MASTer	For Master (Normal+Sync) Bursts	Tx Meas Limits Config Tile	16-10
:NORMal	For Normal Bursts	Tx Meas Limits Config Tile	16-10
:SLAVe	For Slave Bursts	Tx Meas Limits Config Tile	16-10
:SYNC	For Sync Bursts	Tx Meas Limits Config Tile	16-10
:PROTOcol	Protocol		
:ACTion	Actions		
:CALL	Place	Operations / Status Tile	16-20
:EMERgency	Emergency Call	Operations / Status Tile	16-20
:GROup	Group Call	Operations / Status Tile	16-20
:OGRP	Open Group Call	Operations / Status Tile	16-20
:PRIVate	Private Call	Operations / Status Tile	16-20
:CDOWn	Cleardown	Operations / Status Tile	16-20
:MESSAge	Send	Operations / Status Tile	16-20
:HEX	Type 4 SDS HEX Message	Operations / Status Tile	16-20
:SDSTL	SDS -TL	Operations / Status Tile	16-20
:OTHer	Other Message	Operations / Status Tile	16-20
:TLText	Text Message	Operations / Status Tile	16-20
:SIMPlE	Simple	Operations / Status Tile	16-20
:TLText	Text Message	Operations / Status Tile	16-20
:STATus	Status Message	Operations / Status Tile	16-20
:STYP1	SDS Type 1 Message	Operations / Status Tile	16-20
:STYP2	SDS Type 2 Message	Operations / Status Tile	16-20
:STYP3	SDS Type 3 Message	Operations / Status Tile	16-20
:RESet	Reset to QUIET	Operations / Status Tile	16-20
:TCHS	Speech Traffic Channel Contents	Operations / Status Tile	16-20
:TSTCease	Test Set Transmit Cease	Operations / Status Tile	16-20
:TSTX	Test Set Transmit	Operations / Status Tile	16-20
:CDOWn?	Returns Reservation Countdown		
:CINFo?	Returns Call Information		
:GROup?	Returns Group (GTSI) Information		
:MESSAge	Message		
:EVENT?	Returns latest event Status Message		
:SDS?	Returns Short Data Service	Protocol - SDS Message	16-26
:STATus?	Returns Last Status Message Received	Protocol - Status Message	16-25
:MINFo?	Returns Mobile Info		
:MODE?	Returns Current Protocol Mode / State		

Command	Command Description	Relates to Tile/Details Reference	
[:TDM]			
:RF RF Settings			
:ANALyzer Analyzer			
:AGC	Automatic Gain Control	RF Settings Tile	16-29
:LEVel	Expected Power Level	RF Settings Tile	16-29
:PORT	Port (RF In)	RF Settings Tile	16-29
:RECeiver	Receiver	RF Settings Tile	16-29
:AMP	Receiver Pre-Amp	RF Settings Tile	16-29
:CHANnel Channels			
:UPLink	Uplink	RF Settings Tile	16-29
[:NUMBer]	Channels	RF Settings Tile	16-29
:FREQuency Frequency			
:GENerator Generator			
:LEVel	Level	RF Settings Tile	16-29
:MODulator	Modulator	RF Settings Tile	16-29
:PORT	Port (RF Out)	RF Settings Tile	16-29
:STATe	Enable RF Gen	RF Settings Tile	16-29
:SA Spectrum Analyzer			
:COUPLing Coupling			
:RBW	Resolution Bandwidth	Spectrum Analyzer	16-32
:AUTO	Enables Auto	Spectrum Analyzer	16-32
:VALue	Bandwidth Setting	Spectrum Analyzer	16-32
:STATus?	Returns Coupling setting status	Spectrum Analyzer	16-32
:SWEep	Sweep Time	Spectrum Analyzer	16-32
:AUTO	Enables Auto	Spectrum Analyzer	16-32
:COMPLete?	Returns Trace status	Spectrum Analyzer	16-32
:VALue	Sweep Value	Spectrum Analyzer	16-32
:VBW	Video Bandwidth	Spectrum Analyzer	16-32
:AUTO	Enables Auto	Spectrum Analyzer	16-32
:VALue	Bandwidth Setting	Spectrum Analyzer	16-32
:HORizontal Horizontal			
:FREQuency	Start-Stop / Center-Span Frequencies	Spectrum Analyzer	16-32
:CENTer	Center Frequency	Spectrum Analyzer	16-32
:SPAN	Span Frequency	Spectrum Analyzer	16-32
:START	Start Frequency	Spectrum Analyzer	16-32
:STOP	Stop Frequency	Spectrum Analyzer	16-32
:MODE	Mode	Spectrum Analyzer	16-32
:SPAN	Sets Span	Spectrum Analyzer	16-32
:FULL	To Full Span	Spectrum Analyzer	16-32
:ZERO	Zero Span Values	Spectrum Analyzer	16-32
:SWEep	Sweep Time	Spectrum Analyzer	16-32

Command	Command Description	Relates to Tile/Details Reference
[:TDM]		
:SA	Spectrum Analyzer (cont)	
:MARKer	Markers	
:DELTA	Marker Delta	Spectrum Analyzer 16-32
:LEVel?	Returns Level between Mkr1 and Mkr2 level values	Spectrum Analyzer 16-32
:POSition?	Distance (Between Mkr1 and Mkr2)	Spectrum Analyzer 16-32
:MKRn	Marker where n = Marker 1 or 2	Spectrum Analyzer 16-32
:ENABle	Enables Marker	Spectrum Analyzer 16-32
:LEFT	Moves Marker left to next peak	Spectrum Analyzer 16-32
:LEVel?	Returns Level at Marker position	Spectrum Analyzer 16-32
:MINimum	Moves Marker to minimum point	Spectrum Analyzer 16-32
:PEAK	Moves Marker to peak point	Spectrum Analyzer 16-32
:POSition	Marker Position	Spectrum Analyzer 16-32
:RIGHT	Moves Marker right to next peak	Spectrum Analyzer 16-32
:SCF	Sets Center Freq. to Marker Position	Spectrum Analyzer 16-32
:SREF	Sets Ref Level to Marker Position level	Spectrum Analyzer 16-32
:MODE	Locked / Unlocked	Spectrum Analyzer 16-32
:PAVG?	Returns average of readings between Mkr1 and Mkr2 data	Spectrum Analyzer 16-32
:PLIVE?	Returns average of Live readings between Mkr1 and Mkr2 data	Spectrum Analyzer 16-32
:PPEAK?	Returns average of Peak readings between Mkr1 and Mkr2 data	Spectrum Analyzer 16-32
:PPKAV?	Returns average of Peak average readings between Mkr1 and Mkr2 data	Spectrum Analyzer 16-32
:SSS	Markers set Start - Stop Span	Spectrum Analyzer 16-32
:SVERTical	Markers set (Nearest) Vertical Range	Spectrum Analyzer 16-32
:MODE	Mode	
:TRACe	Trace	
:AVERage	Averages	Spectrum Analyzer 16-32
:CURRent?	Returns count of Averages Progress	Spectrum Analyzer 16-32
:ENABle	Enables Average readings	Spectrum Analyzer 16-32
:VALue	Trace average	Spectrum Analyzer 16-32
:LIVE?	Returns Live trace data	Spectrum Analyzer 16-32
:MAXimum	Enables Maximum Hold	Spectrum Analyzer 16-32
:PEAK?	Returns Peak Trace data	Spectrum Analyzer 16-32
:PKAV?	Returns Peak Average Trace data	Spectrum Analyzer 16-32
:TRKGen	Tracking Generator	
:ENABle	Enables Tracking Generator	Spectrum Analyzer 16-32
:TRIGger	Trigger	
:MODE	Gate Mode	Spectrum Analyzer 16-32
:VERTical	Vertical	
:LEVel	Level (Top of Screen)	Spectrum Analyzer 16-32
:VDIV	Vertical / div	Spectrum Analyzer 16-32

Command	Command Description	Relates to Tile/Details Reference
[:TDM]		
:SCOPE	Oscilloscope	
ATRace	Trace A	
:COUPling	Coupling	Scope 16-30
:MKR1	Value at Specified Marker Position	Scope 16-30
:MKR2	Value at Specified Marker Position	Scope 16-30
:SOURce	Trace Source	Scope 16-30
:VDIV	Vertical /div	Scope 16-30
:VOLT	In Volts	Scope 16-30
:BTRace	Trace B	
:COUPling	Coupling	Scope 16-30
:MKR1	Value at Specified Marker Position	Scope 16-30
:MKR2	Value at Specified Marker Position	Scope 16-30
:SOURce	Trace Source	Scope 16-30
:VDIV	Vertical /div	Scope 16-30
:VOLT	In Volts	Scope 16-30
:HDIV	Horizontal /div	Scope 16-30
:MKR	Locked / Unlocked	Scope 16-30
:MKRn	Marker where n = Marker 1 or 2	Scope 16-30
:ENABLE	Enables Marker	Scope 16-30
:TRIGger	Trigger	
:EDGE	Trigger Edge	Scope 16-30
:FILTer	Trigger Filter	Scope 16-30
:LEVel	Trigger Level	Scope 16-30
:MODE	Trigger Mode	Scope 16-30
:SOURce	Trigger Source	Scope 16-30
:SYSTEM	System	
:STORE "filename"	Saves file to Test Set's internal database.	
:RECALL "filename"	Recalls file from Test Set's internal database.	
:USBTOSERIAL	USB to Serial Port	
:OPEN	Opens selected port	
:CLOSE	Closes opened port	
:BAUDrate	Sets Baud Rate at which data is transmitted	
:READ?	Reads string data	
:WRITE	Write sends string data	
:QUERY?	Query reads and writes string as send parameter	
:RESet	Send 1 to reset communications	
:CHARsize	Sets Character Size	
:PARity	Sets Parity	
:HWFlowcontrol	Hardware flow control	
:SWFlowcontrol	Software flow control	
:TIMEout	Sets Timeout Setting in μ s	
:TERMchar	Sets Termination Character decimal value	

Chapter 12

TETRA BS Detailed Remote Commands

Introduction

This chapter describes the Detailed Remote Commands for TETRA BS. The commands are arranged alphabetically under Tile or Screen headings.

The figure below describes the Detailed Remote Commands format.

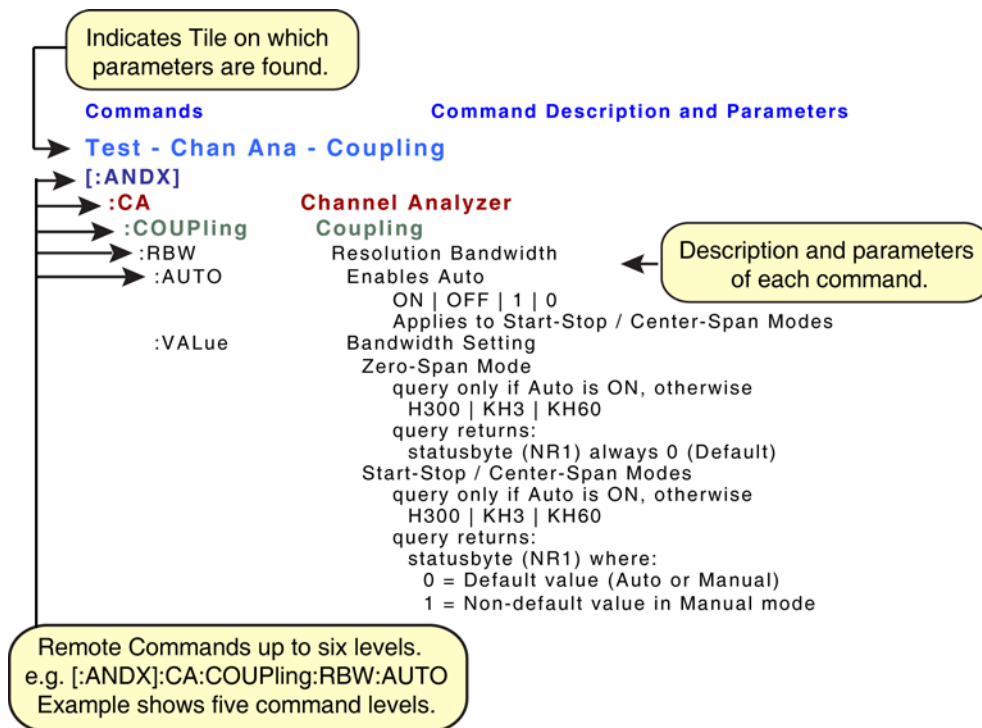


Fig. 12-1 Detailed Remote Commands Illustrated Extract

NOTE

Upper range: value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency range: option (390XOPT058) installed. The upper range: value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command **Command Description and Parameters**
Config - BS Parameters

[:TBS]

:CONFigure **Configure****:BSParameter** **Base Station Parameters**

:PCLass Power Class

PC1 | PC2 | PC3 | PC4 | PC5 | PC6 | PC7 | PC8 | PC9 | PC10

Config - Channel Plan

[:TBS]

:CONFigure **Configure****:CHPLan** **Channel Plan**:DELeTe Deletes specified channel plan
no query, not applicable to built-in channel plans
plan_name (ascii-string):INFO? Information about current channel plan
query returns:
plan_name (ascii-string),
frequency band (NR1) 0 to 15,
offset (NR1) 0 to 3,
duplex spacing (NR1) 0 to 7,
reverse operation (NR1) 0 or 1,
block 1 data:
lowest channel (NR1) 0 to 4095,
highest channel (NR1) 0 to 4095,
low chan DL freq (NR1) in Hz,
duplex offset (NR1) in Hz,
channel spacing (NR1) in H)
block 2 data:
included (INCL | EXCL),
lowest channel (NR1) 0 to 4095,
highest channel (NR1) 0 to 4095,
low chan DL freq (NR1) in Hz,
duplex offset (NR1) in Hz,
channel spacing (NR1) in Hz):LOAD Load named plan as current plan
plan_name (ascii-string)
no query:NEW Create new channel plan
no query
plan_name (ascii-string, 20 char max),
frequency band (0 to 15),
offset (0 to 3),
duplex spacing (0 to 7),
reverse operation (0 or 1),
block 1 data:
lowest channel (0 to 4095),
highest channel (0 to 4095),
low chan DL freq (100 kHz to 2.7 GHz),
duplex offset (-100 to 100 MHz),
channel spacing (5 to 500 kHz, -5 to -500 kHz)
block 2 data:
included (INCL | EXCL),
lowest channel (0 to 4095),
highest channel (0 to 4095),
low chan DL freq (100 kHz to 2.7 GHz),
duplex offset (-100 to 100 MHz),
channel spacing (5 to 500 kHz, -5 to -500 kHz)

Command	Command Description and Parameters
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Config - Offsets

[:TBS]

:CONFigure	Configure
:OFFSet	Offsets
:ANALyzer	RF Analyzer
:ENABle	Enables Offset
	OFF ON 0 1
:VALue	Offset value
	range: -40.0 to 40.0
	query returns: dB (NR2) -40.0 to 40.0)

Config - System ID

[:TBS]

:CONFigure	Configure
:BSIDentity	Base Station Identity
:BCC	Base Station Color Code
	range: 0 to 63
	query returns: (NR1) 0 to 63
:MCC	Mobile Country Code
	range: 0 to 999
	query returns: (NR1) 0 to 999
:MNC	Mobile Network Code
	range: 0 to 16383
	query returns: (NR1) 0 to 16383
:UPDate	Update Mode
	AUTO MANual

Command **Command Description and Parameters**
Config - Tx Measurements Limits

[:TBS]

:LIMits**Limits****:TXMeas****Tx Measurements**

:FERRor	Frequency Error
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit Value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.0001 to 9.9999
	query returns: ppm (NR1) 0.0001 to 9.9999)
:INITialize	Initializes set Limit
:PRBS	The PRBS / No TS Limits Set
:SYNC	The Sync Burst Limits Set
:TS1	The Normal TS1 Limits Set
:TS12	The Normal TS1 or TS2 Limits Set
:TS2	The Normal TS2 Limits Set
	NORMAl EXTReMe
	no query
:POWer	Burst Power
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit Value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	Upper, query returns: Upper dB (NR2),
	Lower (both -9.9 to 9.9), query returns: Lower dB (NR2)

Command **Command Description and Parameters**
Config - Tx Measurements Limits (cont)

[:TBS]

:LIMits**Limits (cont)****:TXMeas****Tx Measurements (cont)**

:RCARrier	Residual Carrier
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit Value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) 0.1 to 99.9
:VPEak	Vector Peak
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit Value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) 0.1 to 99.9
:VRMS	Vector RMS
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit Value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) 0.1 to 99.9

Command	Command Description and Parameters
Test - Channel Analyzer	
[:TBS]	
:ABORt	Abort
:CA	Stops Channel Analyzer Sweeps no query, no parameters
:CA	Channel Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUTO	Enables Auto Coupling mode in Start-Stop / Center-Span Modes ON OFF 1 0
:VALue	Bandwidth Setting Zero-Span Mode query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) always 0 (Default) Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPLete?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	Sweep Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TBS]

:CA Channel Analyzer (cont)**:COUPLing Coupling (cont)**

:VBW Video Bandwidth
:AUTO Enables Auto
 ON | OFF | 1 | 0
 Applies to Current Mode
:VALue Bandwidth Setting
 Applies to Current Mode
 query only if Auto is ON, otherwise
 H300 | KH1 | KH3 | KH10 | KH30 | NONE
 query returns:
 statusbyte (NR1) where:
 0 = Default value (Auto or Manual)
 1 = Non-default value in Manual mode

:HORizontal Horizontal

:FREQuency Frequency Values (Start-Stop, Center-Span)
:CENTer Center Frequency
 <NRf>[Hz] | kHz | MHz | GHz
 range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency
 query returns: Hz (NR2) within specified range
:RELative Relative to Analyzer
 <NRf>[Hz] | kHz | MHz
 range: -2.5 to +2.5 MHz
 query returns: Hz (NR2) within specified range
:SPAN Span Frequency
 <NRf>[Hz] | kHz | MHz
 range: 2 kHz to 5 MHz
 query returns: Hz (NR2) within specified range
:START Start Frequency
 <NRf>[Hz] | kHz | MHz | GHz
 range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency
 query returns: Hz (NR2) within specified range
:RELative Relative to Analyzer
 <NRf>[Hz] | kHz | MHz
 range: -2.5 to +2.5 MHz
 query returns: Hz (NR2) within specified range
:STOP Stop Frequency
 <NRf>[Hz] | kHz | MHz | GHz
 range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency
 query returns: Hz (NR2) within specified range
:RELative Relative to Analyzer
 <NRf>[Hz] | kHz | MHz
 range: -2.5 to +2.5 MHz
 query returns: Hz (NR2) within specified range
:MODE Mode
 SS | CS | ZS
 Start-Stop | Center-Span | Zero Span
:SPAN Sets Span
:FULL To Full Span
 Applies to Start-Stop / Center-Span Modes
 no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TBS]

:CA Channel Analyzer (cont)**:HORizontal Horizontal (cont)****:ZERO** Zero Span Values**:CENTer** Center Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency)

query returns: Hz (NR2) within specified range

:RELative Relative to Analyzer

<NRf>[Hz] | kHz | MHz

range: -2.5 to +2.5 MHz

query returns: Hz (NR2) within specified range

:SWEep Sweep Time

<NRf>[ms] | s

range: 1 ms to 100 s

query returns: ms (NR1) in 1, 2, 5 steps within specified range

:MARKer Markers**:DELTA?** Delta Level**:LEVEL?** Level (Between Mkr1 and Mkr2 (dB) level values)

query returns:

statusbyte (NR1) where:

1 = Unlocked

2 = Locked

dB (NR2) Difference value

:POSition? Distance (Between Mkr1 and Mkr2)

query returns:

Stop-Start / Center-Span Modes

Hz (NR1) Difference

Zero-Span Mode

ms (NR2) Difference

:MKRn Marker where *n* = Marker 1 or 2**:ENABLe** Enables Marker

ON | OFF | 1 | 0

:LEFT Moves Marker left to next peak

no query, no parameters

:LEVEL? Level at Marker position

query returns:

statusbyte (NR1) always 2 (Locked)

dBm (NR2)

:MINimum Moves Marker to minimum point

Zero-Span Mode only

no query, no parameters

:PEAK Moves Marker to peak point

no query, no parameters

:POSition Position

Stop-Start / Center-Span Modes

<NRf> [Hz] | kHz | MHz | GHz (Between Start and Stop frequencies)

query returns: Hz (NR1) Actual frequency position

Zero-Span Mode

<NRf> [ms] | s (Between 0 and Sweep value)

query returns: ms (NR2) Actual time position

:RIGHT Moves Marker right to next peak

no query, no parameters

:SCF Sets Center Freq. to Marker Position

Applies to Start-Stop / Center-Zero Modes

no query, no parameters

:SREF Sets Ref Level to Marker Position Level

no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TBS]

:CA Channel Analyzer (cont)**:MARKer****Markers (cont)**

:MODE Locked / Unlocked
 UNLOCKed | LOCKed

:PAVG? Returns current Average reading between Mkr1 and Mkr2
 query only, no parameters

:PLIVE? Returns current Live reading between Mkr1 and Mkr2
 query only, no parameters

:PPEAK? Returns current Peak reading between Mkr1 and Mkr2
 query only, no parameters

:PPKAV? Returns current average of Peak average between Mkr1 and Mkr2
 query only, no parameters

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTICAL Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:TRACE**Trace**

:AVG? Returns Average trace data
 query only, no parameters

:AVERAGE Averages

:CURRENT? Count of Averages Progress
 query returns: (NR1) 0 to 200 (0 if averaging OFF)

:ENABLE Enables Trace
 ON | OFF | 1 | 0

:VALUE Required number of Averages
 <NRf>
 range: 1 to 200
 query returns: (NR1) within specified range

:LIVE? Live Trace
 Returns current Live trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Peak Hold Trace
 Returns Peak hold trace data
 query only, no parameters

:PKAV? Peak Average
 Returns average Peak hold data
 query only, no parameters

:TRIGGER**Trigger**

:MODE Gate Mode
 FRUN

:VERTical**Vertical**

:LEVEL Level (Top of Screen)
 dBm (<NRf> - (no Offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TBS]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:CA	Channel Analyzer Sweep
	ON OFF 1 0
:IMMediate	Immediate (Single)
:CA	Channel Analyzer Sweep
	no query, no parameters

Test - Mod Acc - Magnitude Error

[:TBS]

:FETCh	Fetch
:MACCuracy	Tx Modulation Accuracy
:MERRor	Magnitude Error at a Symbol
:PRBS?	For PRBS / No TS Bursts
:SYNC?	For Sync Bursts
:TS1?	For Normal TS1 Bursts
:TS12?	For Normal TS1 or TS2 Bursts
:TS2?	For Normal TS2 Bursts
	query returns:
	parameter: symbol (0 to 255)
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	magnitude % (NR2) -100.00 to 100.00
:RANGe	Symbol range:
:PRBS?	For PRBS / No TS Bursts
:SYNC?	For Sync Bursts
:TS1?	For Normal TS1 Bursts
:TS12?	For Normal TS1 or TS2 Bursts
:TS2?	For Normal TS2 Bursts
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	min symbol,
	max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters****Test - Mod Acc - Phase Error**

[:TBS]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:PERRor

Phase Error at a Symbol

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

parameter: symbol (0 to 255)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2) -80.00 to 80.00

:RANGe

Symbol range:

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters****Test - Mod Acc - Vector Error**

[:TBS]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:VERRor

Vector Error at a Symbol

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

parameter: symbol (0 to 255)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2) 0.00 to 100.00

:RANGe

Symbol range:

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
Test - RF Settings	
[:TBS]	
:RF	RF Settings
:ANALyzer	Analyzer
:AGC	Automatic Gain Control OFF ON 0 1
:FREQuency	Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:LEVel	Expected Power Level (Pre-Amp OFF) range: T/R: -40 to +55 dBm ANT: -80 to 0 dBm query returns: dBm (NR2) in 5 dB steps within specified range
:PORT	Port (RF In) TR ANT
:RECeiver	Receiver
:AMP	Receiver Pre-Amp OFF ON 0 1
:CHANnel	Channel range: 0 to 4095 query returns: NR1 within specified range Limits set by current Channel Plan

Command	Command Description and Parameters
Test - Scope	
[:TBS]	
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SCOPE	Scope Measurements ON OFF 1 0
:IMMediate	Immediate (Single) measurement trace
:SCOPE	Scope Measurements no parameters, no query
:SCOPE	Oscilloscope
:ATRace	Trace A
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where n = Marker 1 or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: ATrace time data
:YTRace?	Returns trace vertical data query returns: ATrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Scope (cont)	
[:TBS]	
:SCOPE	Oscilloscope (cont)
:BTRace	Trace B
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where $n = 1$ or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value - in mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: BTrace time data
:YTRace?	Returns trace vertical data query returns: BTrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range
:HDIV	Horizontal /div <NRf> [ms] us s range: 1 us to 1 s query returns: us (NR1) in 1, 2, 5 steps within specified range
:MKR	Locked / Unlocked UNLOCKed LOCKed
:MKRn	Marker where $n = \text{Marker 1 or 2}$
:ENABle	Enables Marker ON OFF 1 0
:TRIGger	Trigger
:EDGE	Edge RISE FALL
:FILTer	Trigger Filter 0 1 2 query returns: statusbyte (NR1) where: 0 = No Reject 1 = Noise Reject 2 = HF Reject
:LEVeL	Level <NRf>[mV] V (up to ± 8 times the vertical/div setting) query returns: mV (NR1) up to ± 8 times the setting
:MODE	Sets Trigger Mode AUTO NORMAl
:SOURce	Sets Trigger Source ATRace BTRace EXT

Command	Command Description and Parameters
Test - Spectrum Analyzer	
[:TBS]	
:ABORt	Abort
:SA	Spectrum Analyzer Sweeps no query, no parameters
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SA	Spectrum Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:SA	Spectrum Analyzer Sweep no query, no parameters
:SA	Spectrum Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Centre-Span Modes
:VALue	Bandwidth Setting Zero-Span Modes H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEEp	Sweep Time
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPlEte?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	The Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TBS]	
:SA	Spectrum Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto Applies to Current Mode ON OFF 1 0
:VALue	Bandwidth Setting query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 H100 KH300 MH1 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz GHz range: 2 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:MODE	Sets Span Mode SS CS ZS Start-Stop Center-Span Zero Span)
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no parameters. no query
:ZERO	Zero Span Values
:SWEep	Sweep Time Applies to Zero - Span Mode <NRf> [ms] s range: 50 ms to 100 s query returns: ms (NR1) in 1, 2, 5, steps within specified range

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TBS]

:SA Spectrum Analyzer (cont)**:MARKer Markers**

:DELTA	Marker Delta
:LEVEL?	Level (Between Mkr1 and Mkr2 (dBm) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked
:POSITION?	dBm (NR2) Difference value Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKRn	Marker where n = Marker 1 or 2
:ENABLE	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVEL?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSITION	Marker Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start / Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: Hz (NR1) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position level no query, no parameters
:MODE	Locked / Unlocked UNLOCKed LOCKed
:PAVG?	Returns current Average reading between Mkr1 and Mkr2 query only, no parameters
:PLIVE?	Returns current Live reading between Mkr1 and Mkr2 query only, no parameters
:PPEAK?	Returns current Peak reading between Mkr1 and Mkr2 query only, no parameters
:PPKAV?	Returns current average of Peak average between Mkr1 and Mkr2 query only, no parameters

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TBS]

:SA	Spectrum Analyzer (cont)
:MARKer	Markers (cont)
:SSS	Markers set Start - Stop Span Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SVERTical	Markers set (Nearest) Vertical range: Applies to Zero-Span Mode only no query, no parameters
:MODE	Sweep Mode CHANnel FULL
:TRACe	Trace
:AVG?	Average Trace query returns: Average trace data
:AVERage	Averages
:CURRent?	query returns: Count of Averages Progress query returns: statusbyte (NR1) 0 to 200, 0 if averaging OFF
:ENABle	Enables Trace ON OFF 1 0
:VALue	Required Number of Averages range: <NRf> 1 to 200 query returns: (NR1) within specified range
:LIVE?	Returns Live Trace data query only, no parameters
:MAXimum	Enables Maximum Hold ON OFF 1 0 When on, returned marker data is max hold Data
:PEAK?	Returns Peak Hold Trace data query only, no parameters
:PKAV?	Returns Peak Average data query only, no parameters
:SETReference	Sets Generator reference trace to trace that is active when command is issued ON OFF 1 0
:TRKGen	Tracking Generator
:ENABle	Enables Tracking Generator ON OFF 1 0
:TRIGger	Trigger
:MODE	Gate Mode FRUN
:VERTical	Vertical
:LEVel	Level (Top of Screen) range: dBm (<NRf> - (no offset set) T/R: -60 to +60 dBm ANT: -100 to +10 dBm query returns: dBm (NR2) within specified ranges
:VDIV	Vertical / div 1 2 5 10

Command	Command Description and Parameters
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Test - Status

[**:TBS**]

:PROTocol Protocol

:BSIDentity? Base Station Identity

query returns:
statusbyte (NR1) where:
0 = MCC, MNC, BCC and LA Valid
1 = MCC, MNC and DCC Invalid; LA Valid
2 = LA Invalid; MCC, MNC and BCC Valid
3 = MCC, MNC, BCC and LA Invalid
MCC (NR1) 0 to 999,
MNC (NR1) 0 to 16383,
BCC (NR1) 0 to 63,
LA (NR1) 0 to 16383

Test - Tx Measurements

[**:TBS**]

:ABORt Abort

:TXMeas Tx Measurements

:PRBS For PRBS / No TS Bursts
no parameters, no query
:SYNC For Sync Bursts
no parameters, no query
:TS1 For Normal TS1 Bursts
no parameters, no query
:TS12 For Normal TS1 or TS2 Bursts
no parameters, no query
:TS2 For Normal TS2 Bursts
no parameters, no query

:CONFigure Configure

:MACCuracy Tx Modulation Accuracy

:FERRor Frequency Error
:SAMPlE Sample Count
:PRBS For PRBS / No TS Bursts
:SYNC For Sync Bursts
:TS1 For Normal TS1 Bursts
:TS12 For Normal TS1 or TS2 Bursts
:TS2 For Normal TS2 Bursts
range: 1 to 250
query returns: NR1 within specified range
:RCARrier Residual Carrier
:SAMPlE Sample Count
:PRBS For PRBS / No TS Bursts
:SYNC For Sync Bursts
:TS1 For Normal TS1 Bursts
:TS12 For Normal TS1 or TS2 Bursts
:TS2 For Normal TS2 Bursts
range: 1 to 250
query returns: NR1 within specified range

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TBS]

:CONFigure **Configure (cont)****:MACCuracy** **Tx Modulation Accuracy (cont)**

:VPEak Vector Peak
 :SAMPLE Sample Count
 :PRBS For PRBS / No TS Bursts
 :SYNC For Sync Bursts
 :TS1 For Normal TS1 Bursts
 :TS12 For Normal TS1 or TS2 Bursts
 :TS2 For Normal TS2 Bursts
 range: 1 to 250
 query returns: NR1 within specified range

:VRMS Vector RMS
 :SAMPLE Sample Count
 :PRBS For PRBS / No TS Bursts
 :SYNC For Sync Bursts
 :TS1 For Normal TS1 Bursts
 :TS12 For Normal TS1 or TS2 Bursts
 :TS2 For Normal TS2 Bursts
 range: 1 to 250
 query returns: NR1 within specified range

:POWer **Tx Power**

:SAMPLE Sample Count
 :PRBS For PRBS / No TS Bursts
 :SYNC For Sync Bursts
 :TS1 For Normal TS1 Bursts
 :TS12 For Normal TS1 or TS2 Bursts
 :TS2 For Normal TS2 Bursts
 range: 1 to 250
 query returns: NR1 within specified range

Command	Command Description and Parameters
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Test - Tx Measurements (cont)

[:TBS]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:FERRor

Frequency Error

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg Hz (NR1),

max Hz (NR1),

min Hz (NR1),

wc Hz (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:RCARrier

Residual Carrier

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TBS]

:FETCh Fetch (cont)**:MACCuracy Tx Modulation Accuracy (cont)**

:VPEak Vector Peak
 :PRBS? For PRBS / No TS Bursts
 :SYNC? For Sync Bursts
 :TS1? For Normal TS1 Bursts
 :TS12? For Normal TS1 or TS2 Bursts
 :TS2? For Normal TS2 Bursts

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 2 = Settling
 4 = Inaccurate
 6 = Settling and Inaccurate
 7 = Invalid, settling and inaccurate
 failbyte (NR1) where:
 0 = All limit checks passed
 1 = Average failed limit
 2 = Maximum value failed limit
 samplecount (NR1),
 avg % (NR1),
 max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:VRMS Tx Vector RMS
 :PRBS? For PRBS / No TS Bursts
 :SYNC? For Sync Bursts
 :TS1? For Normal TS1 Bursts
 :TS12? For Normal TS1 or TS2 Bursts
 :TS2? For Normal TS2 Bursts

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 2 = Settling
 4 = Inaccurate
 6 = Settling and Inaccurate
 7 = Invalid, settling and inaccurate
 failbyte (NR1) where:
 0 = All limit checks passed
 1 = Average failed limit
 2 = Maximum value failed limit
 samplecount (NR1),
 avg % (NR1),
 max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TBS]

:FETCh**Fetch (cont)****:POWer****Tx Power**

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1)where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

samplecount (NR1),

avg dBm (NR1),

max dBm (NR1),

min dBm (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:INITiate**Initiate****:CONTInuous****Continuous (Repeat)**

:TXMeas

Tx Measurements

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts

ON | OFF | 1 | 0

:IMMEDIATE**Immediate (Single)**

:TXMeas

Tx Measurements

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts

no parameters, no query

Command	Command Description and Parameters
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Universal Commands

The following commands are valid in all 3900 operating Systems.

Overload Alarm - Active Tile

:FETCh	Fetch
:RF	RF
:ALARM	Returns overload status
:GEN	Returns Generator overload status NORMAL OVERLOADED
:REC	Returns Receiver overload status NORMAL OVERLOADED

Utils - Calibration

:CALibrate	Calibration
:USER	User Calibration
:RUN	Start User Calibration no query, no parameters
:SETPoint	Sets Temperature Change Threshold range: 0.1 to 10.00 dB query returns: (NR2) within specified range
:STATus?	Returns Calibration status query returns: statusbyte (NR1) where: 2 to 25 = calibration is running, 0 = calibration passed, negative value = calibration failed
:UNCAL?	Returned data indicates Calibration state query returns: statusbyte (NR1) where: 0 = calibration not required 1 = calibration required

Utils - Save/Recall

:SYSTem	System
:STORe "filename"	Saves file to Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. no query
:RECAIl "filename"	Recalls file from Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. Do not include forward slash (/) at beginning of directory name. no query

Command	Command Description and Parameters
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Utils - USB to Serial

:USBTOSERial **USB to Serial Port**

:OPEN **Open**

Opens selected port
range: 0 to 15
query returns: (NR1) within specified range

:CLOSe **Close**

Closes opened port
range: 0 to 15
query returns: (NR1) within specified range

:BAUDRate **Sets Baud Rate at which data is transmitted**

B300 | B1200 | B2400 | B4800 | B9600 | B19200 | B38400 | B57600 |
B115200 | B230400

:READ? **Reads string data**

query only, no parameters

:WRITe **Write sends string data**

no query, no parameters

:QUERy? **Query reads and writes string as send parameter**

query only, no parameters

NOTE

Use :USBTOSERial:TIMEout command to set the time between write and read from RS232 when executing :USBTOSERial:QUERy? "send string" command.

:RESet **Send 1 to reset communications**

no query, no parameters

:CHARsize **Sets Character Size**

CS7 | CS8

:PARity **Sets Parity**

NONE | EVEN | ODD | SPACE

:HWFLowcontrol

Hardware Flow Control

OFF | ON | 0 | 1

:SWFLowcontrol

Software Flow Control

OFF | ON | 0 | 1

:TIMEout **Sets Timeout Setting in μ s**

:TERMchar **Sets Termination Character decimal value**

Chapter 13

TETRA BS T1 Detailed Remote Commands

Introduction

This chapter describes the Detailed Remote Commands for TETRA BS T1. Commands are arranged alphabetically under Tile or Screen headings.

The figure below describes the Detailed Remote Commands format.

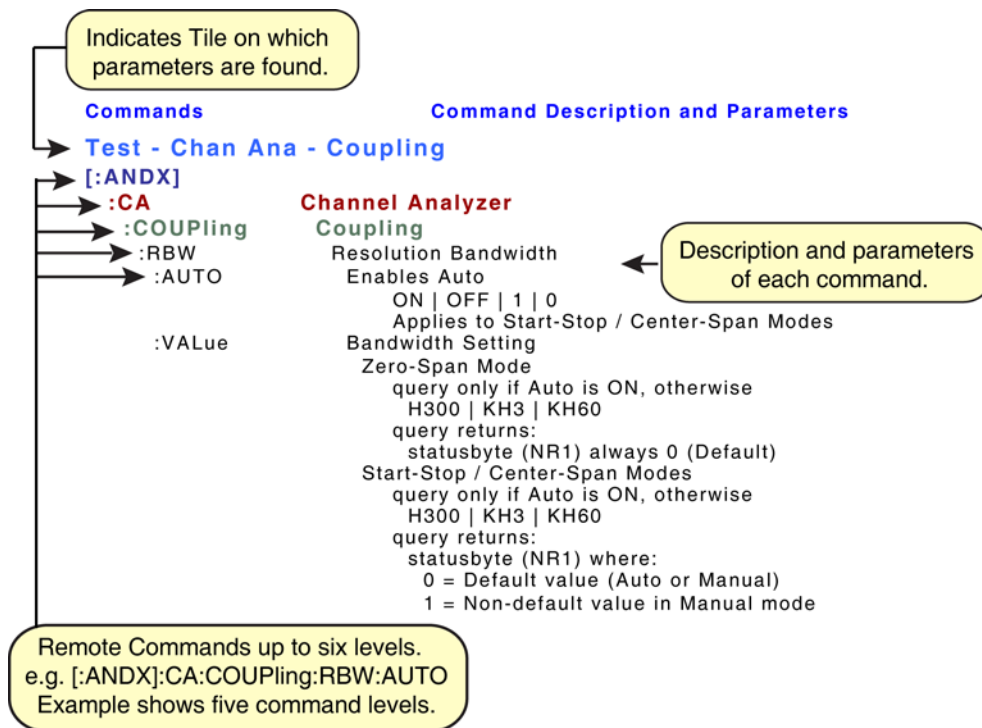


Fig. 13-1 Detailed Remote Commands Illustrated Extract

NOTE

Upper range: value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency range: option (390XOPT058) installed. The upper range: value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command **Command Description and Parameters**
Config - BS Parameters

[:TBST]

:CONFigure **Configure****:BSParameter** **Base Station Parameters**

:PCLass Power Class

PC1 | PC2 | PC3 | PC4 | PC5 | PC6 | PC7 | PC8 | PC9 | PC10

:RCLass Receiver Class

A | B

Config - Channel Plan

[:TBST]

:CONFigure **Configure****:CHPLan** **Channel Plan**

:DELe Deletes specified channel plan

no query, not applicable to built-in channel plans

plan_name (ascii-string)

:INFO? Information about current channel plan

query returns:

plan_name (ascii-string),

frequency band (NR1) 0 to 15,

offset (NR1) 0 to 3,

duplex spacing (NR1) 0 to 7,

reverse operation (NR1) 0 or 1,

block 1 data:

lowest channel (NR1) 0 to 4095,

highest channel (NR1) 0 to 4095,

low chan DL freq (NR1) in Hz,

duplex offset (NR1) in Hz,

channel spacing (NR1) in Hz

block 2 data:

included (INCL | EXCL),

lowest channel (NR1) 0 to 4095,

highest channel (NR1) 0 to 4095,

low chan DL freq (NR1) in Hz,

duplex offset (NR1) in Hz,

channel spacing (NR1) in Hz

:LOAD Load named plan as current plan

plan_name (ascii-string)

no query

:NEW Create new channel plan

plan_name (ascii-string, 20 char max),

no query

frequency band (0 to 15),

offset (0 to 3),

duplex spacing (0 to 7),

reverse operation (0 or 1),

block 1 data:

lowest channel (0 to 4095),

highest channel (0 to 4095),

low chan DL freq (100 kHz to 2.7 GHz),

duplex offset (-100 to 100 MHz),

channel spacing (5 to 500 kHz, -5 to -500 kHz)

block 2 data:

included (INCL | EXCL),

lowest channel (0 to 4095),

highest channel (0 to 4095),

low chan DL freq (100 kHz to 2.7 GHz),

duplex offset (-100 to 100 MHz),

channel spacing (5 to 500 kHz, -5 to -500 kHz)

Command	Command Description and Parameters
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Config - Offsets

[:TBST]

:CONFigure	Configure
:OFFSet	Offsets
:ANALyzer	RF Analyzer
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to +40.0 query returns: dB (NR2) within specified range
:GENerator	RF Generator
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to +40.0 query returns: dB (NR2) within specified range

Config - Rx Measurements Limits

[:TBST]

:LIMits	Limits
:RXMeas	Rx Measurements
:INITialize	Initializes set Limit STATic DYNamic no query
:SCHF	SCH/F
:BER	BER
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B range: both 0.00001% to 99.99999% query returns: A%, B% (each NR2)
:MER	MER
:ENABle	Enable set Limit ON OFF 1 0
:VALue	Limit value A, B range: both 0.00001% to 99.99999% query returns: A%, B% (each NR2)
:PUEM	PUEM
:ENABle	Enable set Limit ON OFF 1 0
:VALue	Limit value A, B range: both 0.00001% to 99.99999% query returns: A%, B% (each NR2)

Command **Command Description and Parameters**
Config - Rx Measurements Limits (cont)

[:TBST]

:LIMits**Limits (cont)****:RXMeas****Rx Measurements (cont)**

:STCH

STCH

:BER

BER

:ENABle

Enable set Limit

ON | OFF | 1 | 0

:VALue

Limit value

A, B

range: both 0.00001% to 99.99999%

query returns: A%, B% (each NR2)

:MER

MER

:ENABle

Enable set Limit

ON | OFF | 1 | 0

:VALue

Limit value

A, B

range: both 0.00001% to 99.99999%

query returns: A%, B% (each NR2)

:PUEM

PUEM

:ENABle

Enable set Limit

ON | OFF | 1 | 0

:VALue

Limit value

A, B

range: both 0.00001% to 99.99999%

query returns: A%, B% (each NR2)

:TCH2

TCH/2.4

:BER

BER

:ENABle

Enable set Limit

ON | OFF | 1 | 0

:VALue

Limit value

A, B

range: both 0.00001% to 99.99999%

query returns: A%, B% (each NR2)

:TCH7

TCH/7.2, 18Frame / Framed / Unframed PRBS

:BER

BER

:ENABle

Enable set Limit

ON | OFF | 1 | 0

:VALue

Limit value

A, B

range: both 0.00001% to 99.99999%

query returns: A%, B% (each NR2)

Command	Command Description and Parameters
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Config - System ID & Sync	
---------------------------	--

[:TBST]	
---------	--

:CONFigure	
------------	--

Configure	
-----------	--

:BSIDentity	
-------------	--

Base Station Identity	
-----------------------	--

:BCC	
------	--

Base Station Color Code	
-------------------------	--

range: 0 to 63	
----------------	--

query returns: (NR1) within specified range	
---	--

:MCC	
------	--

Mobile Country Code	
---------------------	--

range: 0 to 999	
-----------------	--

query returns: (NR1) within specified range	
---	--

:MNC	
------	--

Mobile Network Code	
---------------------	--

range: 0 to 16383	
-------------------	--

query returns: (NR1) within specified range	
---	--

:UPDate	
---------	--

Update Mode	
-------------	--

AUTO MANual	
---------------	--

:SYNC	
-------	--

Base Station Sync	
-------------------	--

:AUTO	
-------	--

Auto Mode	
-----------	--

:OFFSet	
---------	--

Auto Sync Path Offset	
-----------------------	--

range: -9999.99 to +9999.99	
-----------------------------	--

query returns: symbols (NR2) within specified range	
---	--

:MODE	
-------	--

(Sync) Mode	
-------------	--

AUTO PULSe	
--------------	--

:PULSe	
--------	--

Pulse Mode	
------------	--

:EDGE	
-------	--

Sync Pulse Edge	
-----------------	--

RISing FALLing	
------------------	--

:OFFSet	
---------	--

Sync Pulse Offset	
-------------------	--

range: 0 to 1.020000	
----------------------	--

query returns: seconds (NR2) within specified range	
---	--

Command **Command Description and Parameters**
Config - Tx Measurements Limits

[:TBST]

:LIMits**Limits****:TXMeas****Tx Measurements**

:FERRor	Frequency Error
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.0001 to 9.9999
	query returns: ppm (NR1) within specified range
:INITialize	Initializes set Limit
:PRBS	The PRBS / No TS Burst Limits Set
:SYNC	The Sync Burst Limits Set
:TS1	The Normal TS1 Burst Limits Set
:TS12	The Normal TS1 or TS2 Burst Limits Set
:TS2	The Normal TS2 Burst Limits Set
	NORMAl EXTReMe
	no query
:POWer	Burst Power
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	Upper, query returns: Upper dB (NR2),
	Lower (both -9.9 to 9.9), query returns: Lower dB (NR2)

Command **Command Description and Parameters**
Config - Tx Measurements Limits (cont)

[:TBST]

:LIMits**Limits (cont)****:TXMeas****Tx Measurements (cont)**

:RCARrier	Residual Carrier
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) within specified range
:VPEak	Vector Peak
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) within specified range
:VRMS	Vector RMS
:ENABle	Enables set Limit
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:VALue	Limit value
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	range: 0.1 to 99.9
	query returns: % (NR2) within specified range

Command	Command Description and Parameters
Test - Channel Analyzer	
[:TBST]	
:ABORt	Abort
:CA	Stops Channel Analyzer Sweeps no query, no parameters
:CA	Channel Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUtO	Enables Auto Coupling mode in Start-Stop / Center-Span Modes ON OFF 1 0
:VALue	Bandwidth Setting Zero-Span Mode query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) always 0 (Default) Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPLetE?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	Sweep Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Channel Analyzer (cont)	
[:TBST]	
:CA	Channel Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Current Mode
:VALue	Bandwidth Setting Applies to Current Mode query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency) query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz range: 2 kHz to 5 MHz query returns: Hz (NR2) within specified range
:STARt	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency) query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency) query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:MODE	Mode SS CS ZS Start-Stop Center-Span Zero Span
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no query, no parameters

Command	Command Description and Parameters
Test - Channel Analyzer (cont)	
[:TBST]	
:CA	Channel Analyzer (cont)
:HORizontal	Horizontal (cont)
:ZERO	Zero Span Values
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency) query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:SWEep	Sweep Time <NRf>[ms] s range: 1 ms to 100 s query returns: ms (NR1) in 1, 2, 5 steps within specified range
:MARKer	Markers
:DELTA?	Delta Level
:LEVEl?	Level (Between Mkr1 and Mkr2 (dB) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked dB (NR2) Difference value
:POSition?	Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKRn	Marker where <i>n</i> = Marker 1 or 2
:ENABle	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVEl?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSition	Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start and Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: ms (NR2) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position Level no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TBST]

:CA **Channel Analyzer (cont)****:MARKer** **Markers (cont)**

:MODE Locked / Unlocked
 UNLOCKed | LOCKed

:PAVG? Returns current Average reading between Mkr1 and Mkr2
 query only, no parameters

:PLIVE? Returns current Live reading between Mkr1 and Mkr2
 query only, no parameters

:PPEAK? Returns current Peak reading between Mkr1 and Mkr2
 query only, no parameters

:PPKAV? Returns current average of Peak average between Mkr1 and Mkr2
 query only, no parameters

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTical Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:TRACe **Trace**

:AVG? Returns Average trace data
 query only, no parameters

:AVERage Averages

:CURRent? Count of Averages Progress
 query returns: (NR1) 0 to 200 (0 if averaging OFF)

:ENABle Enables Trace
 ON | OFF | 1 | 0

:VALue Required number of Averages
 <NRf>
 range: 1 to 200
 query returns: (NR1) within specified range

:LIVE? Live Trace
 Returns current Live trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Peak Hold Trace
 Returns Peak hold trace data
 query only, no parameters

:PKAV? Peak Average
 Returns average Peak hold data
 query only, no parameters

:TRIGger **Trigger**

:MODE Gate Mode
 FRUN

:VERTical **Vertical**

:LEVel Level (Top of Screen)
 dBm (<NRf> - (no Offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command	Command Description and Parameters
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Test - Channel Analyzer (cont)

[:TBST]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:CA	Channel Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:CA	Channel Analyzer Sweep no query, no parameters

Test - Control

[:TBST]

:PROTOCOL	Protocol
:BSIDentity?	Base Station Identity query returns: statusbyte (NR1) where: 0 = Valid Base Station identity 1 = Invalid Base Station Identity MCC (NR1) 0 to 999, MNC (NR1) 0 to 16383, BCC (NR1) 0 to 63,
:TYPE	T1 Type
:DETECTED?	Detected T1 Type query returns: statusbyte (NR1) where: 0 = Valid and can generated 1 = Invalid (i.e., type has not been detected) 2 = Value is valid but can not be generated type (NR1) 0 to 31 when valid)
:EXPECTED	Expected T1 Type LOOPback TCH7L SCHF STCH TCH2 TCH7P PRBS18 PRBSF PRBSUF query returns: statusbyte (NR1) where: 0 = Can synchronize generator 1 = Can not synchronize generator
:GENERATOR	RF Gen T1 Type DETECTED TCH7 SCHF STCH TCH2 PRBS18 PRBSF PRBSUF query returns: statusbyte (NR1) where: 0 = Can synchronize generator 1 = Can not synchronize generator
:GSYNc?	RF Generator Sync query returns: statusbyte (NR1) 0 = Valid 1 = Invalid SYNC NSYN if valid, otherwise INVALID

Command **Command Description and Parameters**
Test - Control (cont)

[:TBST]

:RF**RF Settings****:ANALyzer****Analyzer**

:AGC

Automatic Gain Control

OFF | ON | 0 | 1

:FREQuency

Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz

query returns: Hz (NR1) within specified range

:LEVel

Expected Power Level (Pre-Amp OFF)

range:

T/R: -40 to +55 dBm

ANT: -80 to 0 dBm

query returns: dBm (NR1) in 5 dB steps within specified range

:PORT

Port (RF In)

TR | ANT

:RECeiver

Receiver

:AMP

Pre-AMP

OFF | ON | 0 | 1

:CHANnel**Channels**

range: 0 to 4095

query returns: (NR1) within specified range

:DUPLex**Duplex**

:LOCK

Locked / Unlocked

UNLOCKed | LOCKed

:SPACing

Spacing

<NRf>[Hz] | kHz | MHz | GHz

range: -999 to +999 MHz

query returns: Hz (NR1) within specified range

:GENerator**Generator**

:FREQuency

Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz

query returns: Hz (NR1) within specified range

:LEVel

Level

range:

T/R: -130 to -40 dBm

GEN: -130 to 0 dBm

query returns: dBm(NR2) within specified range

:MODulator

Modulator

OFF | ON | 0 | 1

:PORT

Port (RF Out)

TR | GEN

:STATe

Enable RF Gen

OFF | ON | 0 | 1

Command **Command Description and Parameters****Test - Mod Acc - Magnitude Error**

[:TBST]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:MERRor

Magnitude Error at a Symbol

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

parameter: symbol (0 to 255)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

magnitude % (NR2: -100.00 to 100.00)

:RANGe

Symbol range:

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Mod Acc - Phase Error

[:TBST]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:PERRor

Phase Error at a Symbol

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

parameter: symbol (0 to 255)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2: -80.00 to 80.00)

:RANGe

Symbol range:

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters****Test - Mod Acc - Vector Error**

[:TBST]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:VERRor

Vector Error at a Symbol

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

parameter: symbol (0 to 255)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2) 0.00 to 100.00

:RANGe

Symbol range:

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
Test - Rx Measurements	
[:TBST]	
:ABORt	Abort
:RXMeas	Rx Measurements
	no parameters, no query
:CONFigure	Configure
:RXMeas	Rx Measurements
:SAMPle	Samples
:PRBS7	TCH/7.2 PRBS
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:PRBS18	18 Frame PRBS
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:PRBSF	Framed PRBS
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:PRBSU	Unframed PRBS
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:SCHF	SCH/F
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:MER	MER
:PUEM	PUEM
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:STCH	STCH
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range
:MER	MER
:PUEM	PUEM
	range: 10 to 1,000,000
	query returns: (NR1) within specified range
:TCH2	TCH/2.4
:BER	BER
	range: 1,000 to 3,500,000
	query returns: (NR1) within specified range
:TCH7	TCH/7.2
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) within specified range

Command	Command Description and Parameters
---------	------------------------------------

Test - Rx Measurements (cont)

[:TBST]

:FETCh

Fetch

:RXMeas

Rx Measurements

:PRBS18

18 Frame PRBS

:BER?

BER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B),
 BER % (NR2) 0.00 to 100.00,
 ErrorBits (NR1),
 TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:PRBS7

TCH/7.2 PRBS

:BER?

BER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B),
 BER % (NR2) 0.00 to 100.00,
 ErrorBits (NR1),
 TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:PRBSF

Framed PRBS

:BER?

BER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B),
 BER % (NR2) 0.00 to 100.00,
 ErrorBits (NR1),
 TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Rx Measurements (cont)

[:TBST]

:FETCh

Fetch (cont)

:RXMeas

Rx Measurements (cont)

:PRBSU

Unframed PRBS

:BER?

BER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

:SCHF

SCH/F

:BER?

BER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

:MER?

MER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

MER % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

:PUEM?

PUEM

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

PUEM % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Rx Measurements (cont)

[:TBST]

:FETCh

Fetch (cont)

:RXMeas

Rx Measurements (cont)

:STCH

STCH

:BER?

BER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

:MER?

MER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

MER % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

:PUEM?

PUEM

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

PUEM % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Rx Measurements (cont)

[:TBST]

:FETCh**Fetch (cont)****:RXMeas****Rx Measurements (cont)**

:TCH2

TCH/2.4

:BER?

BER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:TCH7

TCH/7.2

:BER?

BER

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:TYPE?

T1 Type

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

T1 Type (TYP7 | TYP8 | TYP9 | TYP10 | PRBS7 | PRBS18 | PRBSF | PRBSU)

:INITiate**Initiate****:CONTinuous****Continuous (Repeat)**

:RXMeas

Rx Measurements

ON | OFF | 1 | 0

:IMMediate**Immediate (Single)**

:RXMeas

Rx Measurements

no parameters, no query

Command	Command Description and Parameters
Test - Scope	
[:TBST]	
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SCOpe	Scope Measurements ON OFF 1 0
:IMMediate	Immediate (Single) measurement trace
:SCOpe	Scope Measurements no parameters, no query
:SCOpe	Oscilloscope
:ATrace	Trace A
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where $n = 1$ or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: ATrace time data
:YTRace?	Returns trace vertical data query returns: ATrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Scope (cont)	
[:TBST]	
:SCOPE	Oscilloscope (cont)
:BTRace	Trace B
:COUPling	Coupling AC DC GND
:MKR <i>n</i> ?	Returns reading at user defined marker position where <i>n</i> = 1 or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value - in mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: BTrace time data
:YTRace?	Returns trace vertical data query returns: BTrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range
:HDIV	Horizontal /div <NRf> [ms] us s range: 1 us to 1 s query returns: us (NR1) in 1, 2, 5 steps within specified range
:MKR	Locked / Unlocked UNLOCKed LOCKed
:MKR<i>n</i>	Marker where <i>n</i> = Marker 1 or 2
:ENABle	Enables Marker ON OFF 1 0
:TRIGger	Trigger
:EDGE	Edge RISE FALL
:FILTer	Trigger Filter 0 1 2 query returns: statusbyte (NR1) where: 0 = No Reject 1 = Noise Reject 2 = HF Reject
:LEVel	Level <NRf>[mV] V (up to ± 8 times the vertical/div setting) query returns: mV (NR1) up to ± 8 times the setting
:MODE	Sets Trigger Mode AUTO NORMal
:SOURce	Sets Trigger Source ATRace BTRace EXT

Command	Command Description and Parameters
Test - Spectrum Analyzer	
[:TBST]	
:ABORt	Abort
:SA	Spectrum Analyzer Sweeps no query, no parameters
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SA	Spectrum Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:SA	Spectrum Analyzer Sweep no query, no parameters
:SA	Spectrum Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Centre-Span Modes
:VALue	Bandwidth Setting Zero-Span Modes H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPlete?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	The Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TBST]	
:SA	Spectrum Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto Applies to Current Mode ON OFF 1 0
:VALue	Bandwidth Setting query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 H100 KH300 MH1 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz GHz range: 2 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:MODE	Sets Span Mode SS CS ZS Start-Stop Center-Span Zero Span)
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no parameters. no query
:ZERO	Zero Span Values
:SWEep	Sweep Time Applies to Zero - Span Mode <NRf> [ms] s range: 50 ms to 100 s query returns: ms (NR1) in 1, 2, 5, steps within specified range

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TBST]

:SA Spectrum Analyzer (cont)**:MARKer****Markers**

:DELTA	Marker Delta
:LEVEL?	Level (Between Mkr1 and Mkr2 (dBm) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked dBm (NR2) Difference value
:POSITION?	Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKRn	Marker where n = Marker 1 or 2
:ENABLE	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVEL?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSITION	Marker Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start / Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: Hz (NR1) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position level no query, no parameters
:MODE	Locked / Unlocked UNLOCKed LOCKed
:PAVG?	Returns current Average reading between Mkr1 and Mkr2 query only, no parameters
:PLIVE?	Returns current Live reading between Mkr1 and Mkr2 query only, no parameters
:PPEAK?	Returns current Peak reading between Mkr1 and Mkr2 query only, no parameters
:PPKAV?	Returns current average of Peak average between Mkr1 and Mkr2 query only, no parameters

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TBST]

:SA Spectrum Analyzer (cont)**:MARKer Markers (cont)**

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTical Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:MODE Sweep Mode
 CHANnel | FULL

:TRACe Trace

:AVG? Average Trace
 query returns: Average trace data

:AVERage Averages
 :CURRent? Returns Count of Averages Progress
 query only, no parameters
 query returns: statusbyte (NR1) 0 to 200, 0 if averaging OFF

:ENABle Enables Trace
 ON | OFF | 1 | 0

:VALue Required Number of Averages
 range: <NRf> 1 to 200
 query returns: (NR1) within specified range

:LIVE? Returns Live Trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Returns Peak Hold Trace data
 query only, no parameters

:PKAV? Returns Peak Average data
 query only, no parameters

:SETReference Sets Generator reference trace to trace that is active when command is issued
 ON | OFF | 1 | 0

:TRKGen Tracking Generator

:ENABle Enables Tracking Generator
 ON | OFF | 1 | 0

:TRIGger Trigger

:MODE Gate Mode
 FRUN

:VERTical Vertical

:LEVel Level (Top of Screen)
 dBm (<NRf> - (no offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements	
-------------------------------	--

[:TBST]

:ABORt**Abort****:TXMeas****Tx Measurements**

:PRBS

For PRBS / No TS Bursts
no parameters, no query

:SYNC

For Sync Bursts
no parameters, no query

:TS1

For Normal TS1 Bursts
no parameters, no query

:TS12

For Normal TS1 or TS2 Bursts
no parameters, no query

:TS2

For Normal TS2 Bursts
no parameters, no query**:CONFigure****Configure****:MACCuracy****Tx Modulation Accuracy**

:FERRor

Frequency Error

:SAMPlE

Sample Count

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts
range: 1 to 250
query returns: (NR1) within specified range

:RCARrier

Residual Carrier

:SAMPlE

Sample Count

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts
range: 1 to 250
query returns: (NR1) within specified range

:VPEak

Vector Peak

:SAMPlE

Sample Count

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts
range: 1 to 250
query returns: (NR1) within specified range

:VRMS

Vector RMS

:SAMPlE

Sample Count

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts
range: 1 to 250
query returns: (NR1) within specified range

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TBST]

:CONFigure**Configure (cont)****:POWer****Tx Power**

:SAMPlE

Sample Count

:PRBS

For PRBS / No TS Bursts

:SYNC

For Sync Bursts

:TS1

For Normal TS1 Bursts

:TS12

For Normal TS1 or TS2 Bursts

:TS2

For Normal TS2 Bursts

range: 1 to 250

query returns: (NR1) within specified range

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:FERRor

Frequency Error

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg Hz (NR1),

max Hz (NR1),

min Hz (NR1),

wc Hz (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TBST]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:RCARrier

Residual Carrier

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:VPEak

Vector Peak

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TBST]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:VRMS

Tx Vector RMS

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:POWer**Tx Power**

:PRBS?

For PRBS / No TS Bursts

:SYNC?

For Sync Bursts

:TS1?

For Normal TS1 Bursts

:TS12?

For Normal TS1 or TS2 Bursts

:TS2?

For Normal TS2 Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

samplecount (NR1),

avg dBm (NR1),

max dBm (NR1),

min dBm (NR1)

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TBST]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:TXMeas	Tx Measurements
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	ON OFF 1 0
:IMMediate	Immediate (Single)
:TXMeas	Tx Measurements
:PRBS	For PRBS / No TS Bursts
:SYNC	For Sync Bursts
:TS1	For Normal TS1 Bursts
:TS12	For Normal TS1 or TS2 Bursts
:TS2	For Normal TS2 Bursts
	no parameters, no query

Command	Command Description and Parameters
---------	------------------------------------

Universal Commands

The following commands are valid in all 3900 operating Systems.

Overload Alarm - Active Tile

:FETCh	Fetch
:RF	RF
:ALARM	Returns overload status
:GEN	Returns Generator overload status NORMAL OVERLOADED
:REC	Returns Receiver overload status NORMAL OVERLOADED

Utils - Calibration

:CALibrate	Calibration
:USER	User Calibration
:RUN	Start User Calibration no query, no parameters
:SETPoint	Sets Temperature Change Threshold range: 0.1 to 10.00 dB query returns: (NR2) within specified range
:STATus?	Returns Calibration status query returns: statusbyte (NR1) where: 2 to 25 = calibration is running, 0 = calibration passed, negative value = calibration failed
:UNCAL?	Returned data indicates Calibration state query returns: statusbyte (NR1) where: 0 = calibration not required 1 = calibration required

Utils - Save/Recall

:SYSTem	System
:STORe "filename"	Saves file to Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. no query
:RECAIl "filename"	Recalls file from Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. Do not include forward slash (/) at beginning of directory name. no query

Command	Command Description and Parameters
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Utils - USB to Serial

:USBTOSERial **USB to Serial Port****:OPEN** **Open**

Opens selected port
range: 0 to 15
query returns: (NR1) within specified range

:CLOSe **Close**

Closes opened port
range: 0 to 15
query returns: (NR1) within specified range

:BAUDrate **Sets Baud Rate at which data is transmitted**

B300 | B1200 | B2400 | B4800 | B9600 | B19200 | B38400 | B57600 |
B115200 | B230400

:READ? **Reads string data**

query only, no parameters

:WRITe **Write sends string data**

no query, no parameters

:QUERy? **Query reads and writes string as send parameter**

query only, no parameters

NOTE

Use :USBTOSERial:TIMEout command to set the time between write and read from RS232 when executing :USBTOSERial:QUERy? "send string" command.

:RESet **Send 1 to reset communications**

no query, no parameters

:CHARsize **Sets Character Size**

CS7 | CS8

:PARity **Sets Parity**

NONE | EVEN | ODD | SPACE

:HWFLowcontrol**Hardware Flow Control**

OFF | ON | 0 | 1

:SWFLowcontrol**Software Flow Control**

OFF | ON | 0 | 1

:TIMEout **Sets Timeout Setting in μ s****:TERMchar** **Sets Termination Character decimal value**

Chapter 14

TETRA MS Detailed Remote Commands

Introduction

This chapter describes the TETRA MS Detailed Remote Commands. Commands are arranged alphabetically under Tile or Screen headings.

The figure below describes the Detailed Remote Commands format.

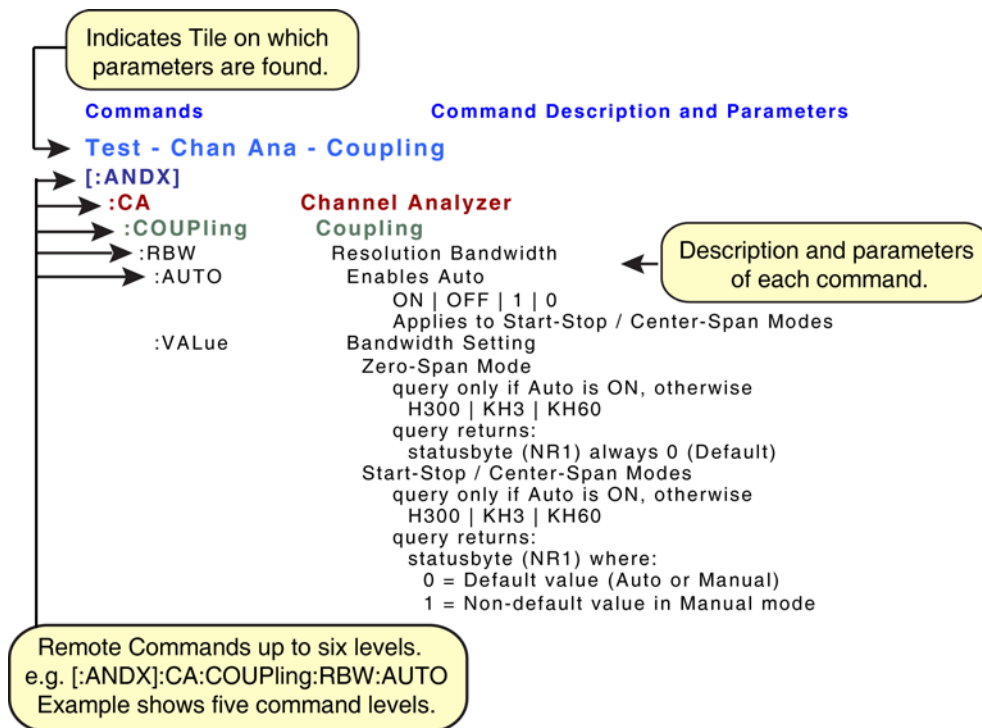


Fig. 14-1 Detailed Remote Commands Illustrated Extract

NOTE

Upper range: value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency range: option (390XOPT058) installed. The upper range: value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Energy Economy Mode commands (:EEMode) are only available when the Energy Economy Mode Option (390XOPT114) is installed in Test Set. Energy Economy Mode commands (:EEMode) are only available when the Energy Economy Mode Option (390XOPT114) is installed in Test Set.

Command	Command Description and Parameters
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Config - Base Services	
------------------------	--

[:TMS]	
--------	--

:CONFigure	Configure
:BSERvice	Base Services
:ALINK	Advanced Link NSUPported SUPPorted
:CMData	Circuit Mode Data Service NSUPported SUPPorted
:DEFault	Set Defaults no query, no parameters
:DREG	Power Off De-Registration NREQuired REQuired
:ENCRyption	Air Interface Encryption NAVailable AVAilable
:MIGRation	Migration NSUPported SUPPorted
:MMode	Minimum Mode Service NUSed MBUSed
:PCELI	Priority Cell NO YES
:PDATa	TETRA Packet Data Service NAVailable AVAilable
:REGistration	Power On Registration NREQuired REQuired
:REServed	(Reserved) NAVailable AVAilable
:SWIDe	System Wide Services NSUPported NORMal
:VOICe	TETRA Voice Service NSUPported SUPPorted

Command	Command Description and Parameters
Config - Channel Plan	
[:TMS]	
:CONFigure	Configure
:CHPLan	Channel Plan
:DELeTe	Deletes specified channel plan no query, not applicable to built-in channel plans plan_name (ascii-string)
:INFO	Information about current channel plan query returns: plan_name (ascii-string), frequency band query returns: (NR1) 0 to 15, offset query returns: (NR1) 0 to 3, duplex spacing query returns: (NR1) 0 to 7, reverse operation (NR1) 0 or 1, block 1 data: lowest channel query returns: (NR1) 0 to 4095, highest channel query returns: (NR1) 0 to 4095, low chan DL freq (NR1) in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz block 2 data: included (INCL EXCL), lowest channel query returns: (NR1) 0 to 4095, highest channel query returns: (NR1) 0 to 4095, low chan DL freq (NR1) in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz
:LOAD	Load named plan as current plan no query plan_name (ascii-string)
:NEW	Create new channel plan no query plan_name (ascii-string, 20 char max, frequency band (0 to 15), offset (0 to 3), duplex spacing (0 to 7), reverse operation (0 or 1), block 1 data: lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz) block 2 data: included (INCL EXCL), lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz)

Command **Command Description and Parameters**
Config - Call Timers & Trunking

[:TMS]

:CONFigure**Configure****:CTIMers****Call Timers**

:HANG

Group Call Hang Timer

range: 1 to 30

query returns: seconds (NR1) within specified range

:MODE

Test Set Transmit Mode

NONE | TIMed | CONTinuous

:QUASi

Quasi Tx Trunking Hang Timer

range: 1 to 30

query returns: seconds (NR1) within specified range

:QUIEt

Test Set Quiet Time

range: 0 to 30

query returns: seconds (NR1) within specified range

:TALKback

Test Set Transmit Time

range: 1 to 30

query returns: seconds (NR1) within specified range

:TSABort

Test Set Call Abort

:MODE

Test Set Call Abort Mode

MANual | AUTO

:TIME

Test Set Auto Call Abort Time

range: 1 to 300

query returns: seconds (NR1) within specified range

:TSANswer

Test Set Answer

:MODE

Test Set Answer Mode

MANual | AUTO

:TIME

Test Set Auto Answer Time

range: 0 to 30

query returns: seconds (NR1) within specified range

:TSTRansmit

Test Set Transmit Time

range: 1 to 30

query returns: seconds (NR1) within specified range

:TRUNKing**Trunking**

:MODE

Test Set Transmit Mode

MESSAge | TRANsmission | QUASi

:STCType

Simplex Traffic Channel Type

DLULtch | FACCh

Command	Command Description and Parameters
Config - Call Types	
[:TMS]	
:CONFigure	Configure
:CTYPE	Call Types
:EMERgency	Emergency Call
:GI	Group / Individual INDividual GROUp
:SD	Simplex / Duplex SIMPLex DUPLex
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:STYPE	Signaling Type DIRect HOOK
:GROUp	Group Call
:PRiority	Priority range: 0 to 15 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:PHONE	Phone Call
:ESN	Calling Party ESN
:INCLude	Include / Exclude NINCLuded INCLuded
:NUMBer	The Number phone-number-string (24 char max)
:PRiority	Priority range: 0 to 15 query returns: (NR1) within specified range
:PRIVate	Private Call
:PRiority	Priority range: 0 to 15 query returns: (NR1) within specified range
:SD	Simplex / Duplex SIMPLex DUPLex
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:STYPE	Signaling Type DIRect HOOK

Command **Command Description and Parameters**
Config - Call Types (cont)

[:TMS]

:CONFigure	Configure (cont)
:CTYPe	Call Types (cont)
:USER	User Defined Call
:ESN	Calling Party ESN
:INCLude	Include / Exclude NINCLuded INCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:PRlarity	Priority range: 0 to 15 query returns: (NR1) within specified range
:SD	Simplex / Duplex SIMPLex DUPLex
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:STYPe	Signaling Type DIRect HOOK

Config - Messages

[:TMS]

:CONFigure	Configure
:MESSage	Messages
:HEX	SDS Type 4 - HEX
:DATA	The Message hex-string, 120 char pairs max query returns: hex-string, 120 char pairs max
:ESN	Calling Party ESN
:INCLude	Include / Not Included INCLuded NINCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:INITialize	Initialize to selected length message LONG MEDium SHORt no query
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range

Command	Command Description and Parameters
Config - Messages (cont)	
[:TMS]	
:CONFigure	Configure (cont)
:MESSAge	Messages (cont)
:OTHer	SDS Type 4 - Other SDS-TL
:DATA	The Message hex-string, 120 char pairs max query returns: hex-string, 120 char pairs max
:ESN	Calling Party ESN
:INCLude	Include / Not Included INCLuded NINCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:INITialize	Initialize to selected length message LONG MEDium SHORT no query
:PIDentifier	Protocol Identifier range: 130 to 254 query returns: (NR1) within specified range
:RSIZe	Report Size SHORT STANDard
:RTYPE	Report Type NONE RECeived CONSumed BOTH
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:SDS123	SDS Type 1, 2 & 3
:DATA1	Type 1 Data hex-string, 2 char pairs max query returns: hex-string, 2 char pairs max
:DATA2	Type 2 Data hex-string, 4 char pairs max query returns: hex-string, 4 char pairs max
:DATA3	Type 3 Data hex-string, 8 char pairs max query returns: hex-string, 8 char pairs max
:ESN	Calling Party ESN
:INCLude	Include / Not Included INCLuded NINCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range

Command	Command Description and Parameters
Config - Messages (cont)	
[:TMS]	
:CONFigure	Configure (cont)
:MESSAge	Messages (cont)
:SIMPlE	SDS Type 4 - Simple Text
:DATA	The Message ascii-string, 120 char max
:ESN	Calling Party ESN
:INCLude	Include / Not Included INCLuded NINCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:INITialize	Initialize to selected length message LONG MEDium SHORT no query
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TCODing	Text Coding GSM7 ISO1
:STATus	Status
:DATA	The Message range: 0 to 65535 query returns: (NR1) within specified range
:ESN	Calling Party ESN
:INCLude	Include / Not Included INCLuded NINCLuded
:NUMBer	The Number phone-number-string (24 char max)
:GI	Group / Individual INDividual GROUp
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range

Command	Command Description and Parameters
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Config - Messages (cont)	
--------------------------	--

[:TMS]	
---------	--

:CONFigure	Configure (cont)
------------	------------------

:MESSage	Messages (cont)
----------	-----------------

:TLText	SDS Type 4 - SDS-TL Text
---------	--------------------------

:DATA	The Message
-------	-------------

	ascii-string, 120 char max
--	----------------------------

:ESN	Calling Party ESN
------	-------------------

:INCLude	Include / Not Included
----------	------------------------

	INCLuded NINCLuded
--	----------------------

:NUMBer	The Number
---------	------------

	phone-number-string (24 char max)
--	-----------------------------------

:GI	Group / Individual
-----	--------------------

	INDividual GROup
--	--------------------

:INITialize	Initialize to selected length message
-------------	---------------------------------------

	LONG MEDium SHORT
--	-----------------------

	no query
--	----------

:RSIZe	Report Size
--------	-------------

	SHORT STANDard
--	------------------

:RTYPE	Report Type
--------	-------------

	NONE RECeived CONSumed BOTH
--	-----------------------------------

:SSI	Calling Party SSI
------	-------------------

	range: 0 to 16777215
--	----------------------

	query returns: (NR1) within specified range
--	---

:TCODing	Text Coding
----------	-------------

	GSM7 ISO1
--	-------------

:TSTamp	Time Stamp
---------	------------

	NINCLuded INCLuded
--	----------------------

Command **Command Description and Parameters**
Config - Mobile Parameters

[:TMS]

:CONFigure**Configure****:MPARameter****Mobile Parameters**

:EEMode

Energy Economy Mode

:FIXed

Fixed Value

0 | 1 | 2 | 3 | 4 | 5 | 6 | 7

query returns:

statusbyte (NR1) where:

0 = Stay Alive

1 to 7 = Mode

:REPorted

Reported Value

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

energy economy mode (query returns: (NR1) 0 to 7)

where valid energy economy modes are:

0 = Stay Alive

1 to 7 = Energy Economy Mode

Empty = Invalid

:USAGe

Use Fixed or Reported Value

FIXed | REPorted

:GSSI

GSSI

:FIXed

Fixed Value

range: 0 to 16777215

query returns: (NR1) within specified range

:REPorted

Reported Value

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

query returns: gssi (NR1) within specified range

:USAGe

Use Fixed or Reported Value

FIXed | REPorted

:PCLass

Power Class

:FIXed

Fixed Value

PC1 | PC1L | PC2 | PC2L | PC3 | PC3L | PC4 | PC4L

:REPorted

Reported Value

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

power class (ascii-string)

where valid power classes are:

PC1 | PC1L | PC2 | PC2L | PC3 | PC3L | PC4 | PC4L

Empty = Invalid

:USAGe

Use Fixed or Reported Value

FIXed | REPorted

Command	Command Description and Parameters
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Command	Command Description and Parameters
Config - Mobile Parameters (cont)	
[:TMS]	
:CONFigure	Configure (cont)
:MPARAmeter	Mobile Parameters (cont)
:RCLass	Receiver Class
:FIXed	Fixed Value A B E
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid receiver class (ascii-string) where valid receiver classes are: A B E Empty = Invalid
:USAGe	Use Fixed or Reported Value FIXed REPorted
:SSI	SSI
:FIXed	Fixed Value range: 0 to 16777215 query returns: (NR1) within specified range
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid query returns: SSI (NR1) within specified range
:USAGe	Use Fixed or Reported Value FIXed REPorted

Command **Command Description and Parameters**
Config - Neighbor Cell Info

[:TMS]

:CONFigure	Configure
:NCELI	Neighbor Cell
:BCASt	Broadcast Support NSUPported SUPPorted
:BINTerval	Broadcast Interval range: 4 to 30 query returns: seconds (NR1) within specified range
:CHANnel	Channel range: 0 to 4095 query returns: (NR1) within specified range
:IDENtifier	Identifier range: 1 to 31 query returns: (NR1) within specified range
:LA	Location Area range: 0 to 16383 query returns: (NR1) within specified range
:RESelect	Re-Select Parameters
:FHYSteresis	Fast Re-Select Hysteresis range: 0 to 30 query returns: dB (NR1) in 2 dB steps within specified range
:FTHReshold	Fast Re-Select Threshold range: 0 to 30 query returns: dB (NR1) in 2 dB steps within specified range
:SHYSteresis	Slow Re-Select Hysteresis range: 0 to 30 query returns: dB (NR1) in 2 dB steps within specified range
:STHReshold	Slow Re-Select Threshold Above Fast range: 0 to 30 query returns: dB (NR1) in 2 dB steps within specified range

Config - Offsets

[:TMS]

:CONFigure	Configure
:OFFSet	Offsets
:ANALyzer	RF Analyzer
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 query returns: dB (NR2) within specified range
:GENerator	RF Generator
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 query returns: dB (NR2) within specified range
:TIMing	Timing
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -999.99 to 999.99 query returns: symbols (NR2) within specified range

Command **Command Description and Parameters**
Config - Rx Measurements Limits

[:TMS]

:LIMITs	Limits
:RXMeas	Rx Measurements
:BER0	BER Class 0
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)
:BER1	BER Class 1
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)
:BER2	BER Class 2
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)
:INITialize	Initializes set Limits STATic DYNamic no query
:MER	MER
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)
:RBER0	RBER Class 0
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)
:RBER1	RBER Class 1
:ENABle	Enables set Limit ON OFF 1 0
:VALue	Limit value A, B, E range: all 0.00001% to 99.99999% query returns: A, B, E (each NR2)

Command **Command Description and Parameters**
Config - System ID & Access Parameters

[:TMS]

:CONFigure	Configure
:ACcEss	Access Parameters
:APARameter	Access Parameter range: -53 to -23 query returns: dBm (NR1) in 2 dB steps within specified range
:MAXTx	Max Tx Level range: 15 to 45 query returns: dBm (NR1) in 5 dB steps within specified range
:MINRx	Min Rx Level For Access range: -125 to -50 query returns: dBm (NR1) in 5 dB steps within specified range
:BSIDentity	Base Station Identity
:BCC	Base Station Color Code range: 0 to 63 query returns: (NR1) within specified range
:LA	Location Area code range: 0 to 16383 query returns: (NR1) within specified range
:MCC	Mobile Country Code range: 0 to 999 query returns: (NR1) within specified range
:MNC	Mobile Network Code range: 0 to 16383 query returns: (NR1) within specified range

Config - Tx Measurements Limits

[:TMS]

:LIMits	Limits
:TXMeas	Tx Measurements
:BTIMing	Burst Timing
:ENABle	Enables set Limit
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts ON OFF 1 0
:VALue	Limit value
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 0.01 to 9.99 query returns: symbols (NR2) within specified range
:FERRor	Frequency Error
:ENABle	Enables set Limit
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts ON OFF 1 0
:VALue	Limit value
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 0.1 to 1500.0 query returns: Hz (NR1) within specified range
:INITialize	Initializes set Limit
:CONTRol	The Control Burst Limits Set
:NORMal	The Normal Burst Limits Set NORMal EXTReMe no query

Command **Command Description and Parameters**
Config - Tx Measurements Limits (cont)

[:TMS]

:LIMits**Limits (cont)****:TXMeas****Tx Measurements (cont)**

:POWer

Burst Power

:ENABle

Enables set Limit

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

Highest Upper, query returns: Highest Upper dB (NR2),

Highest Lower, query returns: Highest Lower dB (NR2),

Other Upper, query returns: Other Upper dB (NR2),

Other Lower (all -9.9 to 9.9), query returns: Other Lower dB (NR2)

:PROFile

Power Profile

:ENABle

Enables set Limit

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

Low dBc, query returns: Low dBc (NR2),

Low dBm (both 0 to -99.9), query returns: Low dBm (NR2),

High dBc Lead, query returns: High dBc Lead (NR2),

High dBc Trail (both -9.9 to 9.9), query returns: High dBc Trail (NR2)

:RCARrier

Residual Carrier

:ENABle

Enables set Limit

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

:VPEak

Vector Peak

:ENABle

Enables set Limit

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

:VRMS

Vector RMS

:ENABle

Enables set Limit

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTRol

For Control Bursts

:NORMal

For Normal Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

Command	Command Description and Parameters
Test - Channel Analyzer	
[:TMS]	
:ABORt	Abort
:CA	Stops Channel Analyzer Sweeps no query, no parameters
:CA	Channel Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUtO	Enables Auto Coupling mode in Start-Stop / Center-Span Modes ON OFF 1 0
:VALue	Bandwidth Setting Zero-Span Mode query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) always 0 (Default) Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPLetE?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	Sweep Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Channel Analyzer (cont)	
[:TMS]	
:CA	Channel Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Current Mode
:VALue	Bandwidth Setting Applies to Current Mode query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz range: 2 kHz to 5 MHz query returns: Hz (NR2) within specified range
:STARt	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:MODE	Mode SS CS ZS Start-Stop Center-Span Zero Span
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMS]

:CA Channel Analyzer (cont)**:HORizontal Horizontal (cont)****:ZERO** Zero Span Values**:CENTer** Center Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency

query returns: Hz (NR2) within specified range

:RELative Relative to Analyzer

<NRf>[Hz] | kHz | MHz

range: -2.5 to +2.5 MHz

query returns: Hz (NR2) within specified range

:SWEep Sweep Time

<NRf>[ms] | s

range: 1 ms to 100 s

query returns: ms (NR1) in 1, 2, 5 steps within specified range

:MARKer Markers**:DELTA?** Delta Level**:LEVEL?** Level (Between Mkr1 and Mkr2 (dB) level values)

query returns:

statusbyte (NR1) where:

1 = Unlocked

2 = Locked

dB (NR2) Difference value

:POSition? Distance (Between Mkr1 and Mkr2)

query returns:

Stop-Start / Center-Span Modes

Hz (NR1) Difference

Zero-Span Mode

ms (NR2) Difference

:MKRn Marker where *n* = Marker 1 or 2**:ENABle** Enables Marker

ON | OFF | 1 | 0

:LEFT Moves Marker left to next peak

no query, no parameters

:LEVEL? Level at Marker position

query returns:

statusbyte (NR1) always 2 (Locked)

dBm (NR2)

:MINimum Moves Marker to minimum point

Zero-Span Mode only

no query, no parameters

:PEAK Moves Marker to peak point

no query, no parameters

:POSition Position

Stop-Start / Center-Span Modes

<NRf> [Hz] | kHz | MHz | GHz (Between Start and Stop frequencies)

query returns: Hz (NR1) Actual frequency position

Zero-Span Mode

<NRf> [ms] | s (Between 0 and Sweep value)

query returns: ms (NR2) Actual time position

:RIGHT Moves Marker right to next peak

no query, no parameters

:SCF Sets Center Freq. to Marker Position

Applies to Start-Stop / Center-Zero Modes

no query, no parameters

:SREF Sets Ref Level to Marker Position Level

no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMS]

:CA **Channel Analyzer (cont)****:MARKer** **Markers (cont)**

:MODE Locked / Unlocked
 UNLOCKed | LOCKed

:PAVG? Returns current Average reading between Mkr1 and Mkr2
 query only, no parameters

:PLIVE? Returns current Live reading between Mkr1 and Mkr2
 query only, no parameters

:PPEAK? Returns current Peak reading between Mkr1 and Mkr2
 query only, no parameters

:PPKAV? Returns current average of Peak average between Mkr1 and Mkr2
 query only, no parameters

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTical Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:TRACe **Trace**

:AVG? Returns Average trace data
 query only, no parameters

:AVERage Averages

:CURRent? Count of Averages Progress
 query returns: (NR1) 0 to 200 (0 if averaging OFF)

:ENABle Enables Trace
 ON | OFF | 1 | 0

:VALue Required number of Averages
 <NRf>
 range: 1 to 200
 query returns: (NR1) within specified range

:LIVE? Live Trace
 Returns current Live trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Peak Hold Trace
 Returns Peak hold trace data
 query only, no parameters

:PKAV? Peak Average
 Returns average Peak hold data
 query only, no parameters

:TRIGger **Trigger**

:MODE Gate Mode
 FRUN

:VERTical **Vertical**

:LEVel Level (Top of Screen)
 dBm (<NRf> - (no Offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMS]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:CA	Channel Analyzer Sweep
	ON OFF 1 0
:IMMediate	Immediate (Single)
:CA	Channel Analyzer Sweep
	no query, no parameters

Test - Mod Acc - Magnitude Error

[:TMS]

:FETCh	Fetch
:MACCuracy	Tx Modulation Accuracy
:MERRor	Magnitude Error at a Symbol
:CONTrol?	For Control Bursts
	query returns:
	parameter: symbol (0 to 103)
:NORMal?	For Control Bursts
	query returns:
	parameter: symbol (0 to 231)
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	magnitude % (NR2: -100.00 to 100.00)
:RANGe	Symbol range:
:CONTrol?	For Control Bursts
:NORMal?	For Normal Bursts
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	min symbol,
	max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Mod Acc - Phase Error

[:TMS]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:PERRor

Phase Error at a Symbol

:CONTrol?

For Control Bursts

query returns:

parameter: symbol (0 to 103)

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 231)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2: -80.00 to 80.00)

:RANGe

Symbol range:

:CONTrol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Mod Acc - Vector Error

[:TMS]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:VERRor

Vector Error at a Symbol

:CONTrol?

For Control Bursts

query returns:

parameter: symbol (0 to 103)

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 231)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2: 0.00 to 100.00)

:RANGe

Symbol range:

:CONTrol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Operations / Status

[:TMS]

:PROTocol	Protocol
:ACTion	Actions
:ANSWer	Answer Call no query, no parameters
:CALL	Place
:ABORT	Abort Placing This Call
:EMERgency	Emergency Call
:GROUp	Group Call
:PHONE	Phone Call
:PRIVate	Private Call
:USER	User Defined Call no query, no parameters
:CDOWN	Cleardown
:CREG	Commanded Registration no query, no parameters
:EEMode	Sets Energy Economy Mode 0 = Stay Alive 1 to 7 = mode no query
:LOOPback	Loopback Type BER RBER END no query
:MESSage	Send
:HEX	Type 4 SDS HEX Message no parameters no query
:SDSTL	SDS -TL
:OTHer	Other Message
:TLText	Text Message no query, no parameters
:SIMPlE	Simple
:TLText	Text Message no query, no parameters
:STATus	Status Message
:STYP1	SDS Type 1 Message
:STYP2	SDS Type 2 Message
:STYP3	SDS Type 3 Message no query, no parameters
:REJect	Reject
:RESet	Reset to MCCH no query, no parameters
:TCHS	Speech Traffic Channel Contents TALK SIlence TONE
:TMConfirm	Test Mode Confirm
:TSTCease	Test Set Transmit Cease
:TSTX	Test Set Transmit no query, no parameters

Command	Command Description and Parameters
---------	------------------------------------

Test - Operations / Status (cont)

[:TMS]

:PROTOCOL

Protocol (cont)

:CINFO

Current Call Information

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

source (ascii-string),

addressing (ascii-string),

duplexing (ascii-string),

signaling (ascii-string),

priority (query returns: (NR1) 0 to 15),

SSI (query returns: (NR1) 0 to 16777215),

address extension (ascii-string),

ESN (phone-number-string),

where valid source texts are:

MOBILE ORIGINATED

MOBILE TERMINATED

where valid addressing texts are:

INDIVIDUAL

GROUP

GROUP ACK

BROADCAST

where valid duplexing texts are:

SIMPLEX

DUPLEX

where valid signaling texts are:

HOOK

DIRECT

where valid address extension is of the form:

ddd/ddddd

d = decimal character

where valid ESN is:

numbers & # * + only, no spaces, 24 char max and invalid items are returned as empty strings

:DTMF

DTMF Digits Received

query returns:

previous dtmf characters",

"current dtmf character"

where characters are:

0 - 9, *, #, A - D

:MODE

Current Protocol Mode / State

query returns:

Mode/state (ascii-string) where Mode/state texts are:

MCCH

CALLING MOBILE

MOBILE ALERTING

TEST SET ALERTING

IN CALL (TEST TONE)

IN CALL (TALKBACK)

IN CALL (SILENCE)

CLEARING DOWN

MCCC (CALL ACTIVE)

FACCH (CALL ACTIVE)

Command	Command Description and Parameters
---------	------------------------------------

Test - Operations / Status (cont)

[:TMS]

:PROTOCOL

Protocol (cont)

:RINFO

Registration Info

query returns:
statusbyte (NR1)
rclass/pclass/tei/itsi),
ITSI (ascii-string),
TEI (ascii-string),
power class (ascii-string),
receiver class (ascii-string)
where valid ITSI is of the form:
ddddddd
or ddd/ddddd/dddddddd
d = decimal character
where valid TEI is of the form:
hhhhh/hh/hhhhh/h
h = hex character
where valid power classes are:
PC1 | PC1L | PC2 | PC2L | PC3 | PC3L | PC4 | PC4L
where valid receiver classes are:
A, B or E and invalid items are returned as empty strings

Test - Power - Profile Full

[:TMS]

:FETCH

Fetch

:POWER

Burst Power

:SYMBOL
:CONTROL?

Profile at a Symbol
For Control Bursts
query returns:
parameter: symbol (-24 to 127)

:NORMAL?

For Normal Bursts
query returns:
parameter: symbol (-35 to 265)
statusbyte (NR1) where:
0 = Valid
1 = Invalid
2 = Settling
4 = Inaccurate
6 = Settling and Inaccurate
7 = Invalid, settling and inaccurate
samplecount (NR1),
power dBc (NR2)

NOTE

:RANGE
:CONTROL?
:NORMAL?

Statusbyte may return more than one condition as a bitmask.
Symbol range:
For Control Bursts
For Normal Bursts
query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
min symbol,
max symbol

Command	Command Description and Parameters
---------	------------------------------------

Test - Power - Profile Frame

[:TMS]

:FETCh

Fetch

:PFRame

Tx Power

:CONTRol?

For Control Bursts

:NORMAl?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

avg dBm (NR2)

:SYMBol

Profile at a Symbol

:CONTRol?

For Control Bursts

:NORMAl?

For Normal Bursts

query returns:

parameter: symbol (-27 to 1038)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBc (NR2)

:RANGe

Symbol range:

:CONTRol?

For Control Bursts

:NORMAl?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Protocol - Groups	
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[:TMS]	
--------	--

:PROTocol	Protocol
-----------	----------

:GROup	Groups
--------	--------

:COUNt?	Count of groups query returns: (NR1)
---------	---

:INFO?	Requested Group Info query returns: parameter: 1 to 'count' statusbyte (NR1) where: 0 = Valid 1 = Invalid query returns: GSSI (NR1) 0 to 16777215, Usage (query returns: (NR1) 0 to 8
--------	--

:SELected?	Selected Group Info query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid query returns: GSSI (NR1) 0 to 16777215
------------	---

Command **Command Description and Parameters**
Test - Protocol - Mobile Classmark

[:TMS]

:PROTocol**Protocol****:CMARK****Mobile Class Mark**

query returns:

validity where:

0 = valid

1 = invalid

data01 (Freq. Simplex/Duplex),

data02 (Multislot),

data03 (Carrier),

data04 (Voice),

data05 (E-E Encrypt),

data06 (Circuit Data),

data07 (Packet Data),

data08 (Fast Switching),

data09 (DCK Air Encrypt),

data10 (CLCH Needed),

data11 (Concurrent CM),

data12 (Advanced Link),

data13 (Minimum Mode),

data14 (Carrier Sig Chan),

data15 (Authentication),

data16 (SCK Air Encrypt),

data17 (V+D Air Std + Sec. Std)

where:

data01: 0 | 1 (Simplex Only | Duplex)

data02: 0 | 1 (Single | Multislot)

data03: 0 | 1 (Not Supported | Supported)

data04: 0 | 1 Not Supported | Supported)

data05: 0 | 1 (Not Supported | Supported)

data06: 0 | 1 (Not Supported | Supported)

data07: 0 | 1 (Not Supported | Supported)

data08: 0 | 1 (Not Supported | Supported)

data09: 0 | 1 (Not Supported | Supported)

data10: 0 | 1 (Not Needed | Needed)

data11: 0 | 1 (Not Supported | Supported)

data12: 0 | 1 (Not Supported | Supported)

data13: 0 | 1 (Not Supported | Supported)

data14: 0 | 1 (Not Supported | Supported)

data15: 0 | 1 (Not Supported | Supported)

data16: 0 | 1 (Not Supported | Supported)

data17: 0 | 1 | 2 (ED1+N/A | ED1+ED2 | ED2+ED2)

Command	Command Description and Parameters
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Test - Protocol - SDS Messages (PopUp)
--

[:TMS]

:PROTOCOL

Protocol

:MESSAGe

Message

:SDS

Last SDS Message Received

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

message_number (query returns: (NR1) 0 to 255),

message type (ascii-string),

encoding (ascii-string),

called ID_type (ascii-string),

called ID number (ascii-string),

ESN (phone-number-string, 1 to 24 chars or "-" if N/A),

service (ascii-string),

report_type (ascii-string),

the message (ascii-string)

where valid message type texts are:

TYPE 1

TYPE 2

TYPE 3

TYPE 4 (SIMPLE OTAR)

TYPE 4 (SIMPLE TEXT)

TYPE 4 (SIMPLE GPS)

TYPE 4 (SIMPLE WAP)

TYPE 4 (SIMPLE WCMP)

TYPE 4 (SIMPLE M-DMO)

TYPE 4 (SIMPLE PIN AUTH)

TYPE 4 (SDS TL TEXT)

TYPE 4 (SDS TL GPS)

TYPE 4 (SDS TL WAP)

TYPE 4 (SDS TL WCMP)

TYPE 4 (SDS TL M DMO)

TYPE 4 (USER DEFINED)

TYPE 4 (UNKNOWN xxx) where xxx is decimal message type

where valid encoding texts are:

If message type is Type 4 (SDS TL TEXT) or (Simple TEXT):

7 BIT (GSM)

ISO 1 LATIN 1 (8 BIT)

ISO 2 LATIN 2 (8 BIT)

ISO 3 LATIN 3 (8 BIT)

ISO 4 LATIN 4 (8 BIT)

ISO 5 CYRILLIC (8 BIT)

ISO 6 ARABIC (8 BIT)

ISO 7 GREEK (8 BIT)

ISO 8 HEBREW (8 BIT)

ISO 9 LATIN 5 (8 BIT)

ISO 10 LATIN 6 (8 BIT)

ISO 13 LATIN 7 (8 BIT)

ISO 14 LATIN 8 (8 BIT)

ISO 15 LATIN 0 (8 BIT)

PC 437 USA (8 BIT)

PC 737 GREEK II (8 BIT)

PC 850 LATIN I (8 BIT)

PC 852 LATIN II (8 BIT)

PC 855 CYRILLIC I (8 BIT)

PC 857 TURKISH (8 BIT)

Command	Command Description and Parameters
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Test - Protocol - SDS Messages (PopUp) (cont)

[:TMS]

:PROTOCOL
:MESSAGE
 :SDS

Protocol (cont)**Message (cont)**

Last SDS Message Received (cont)

where valid encoding texts are:

If message type is Type 4 (SDS TL TEXT) or (Simple TEXT) (cont):

PC 860 PORTUGUESE (8 BIT)

PC 861 ICELANDIC (8 BIT)

PC 863 CANADIAN (8 BIT)

PC 865 NORDIC (8 BIT)

PC 866 RUSSIAN (8 BIT)

PC 869 GREEK (8 BIT)

16 BIT (ISO UCS2)

or

UNKNOWN (xxx) where xxx is decimal coding scheme

If "message type" is Type 4 (SDS TL GPS) -

NMEA 0183

RTCM SC-104

TETRA LOCATOR (TLP)

or

UNKNOWN (xxx) where xxx is decimal coding scheme

where called ID type / called ID number pairs are:

SNA & xxx

SSI & xxxxxxxx

or TSI & xxx/xxxxx/xxxxxxxxx

where xxx... are decimal characters

where valid service texts are:

INDIVIDUAL

GROUP

where valid report type texts are:

NONE

RECEIVED

CONSUMED

RECEIVED AND CONSUMED

where the message is:

If message type is Type 1 - xxxx

If message type is Type 2 - xxxxxxxx

If message type is Type 3 - xxxxxxxxxxxxxxxx

If message type is Type 4 SDS-TL Text or Simple

Text, 7 or 8 bit encoded -aaaaaaaaaaaaaaaa.

Otherwise, xxxxxxxxxxxxxxxx... where xxx... are hexadecimal characters

and aaa... are ascii characters and invalid items are returned as empty strings.

Command	Command Description and Parameters
Test - Protocol - Status Messages (PopUp)	
[:TMS]	
:PROTocol	Protocol
:MESSAge	Message
:EVENT?	<p>Returns latest event Status Message</p> <p>query returns (ascii-string):</p> <p>“MCCH reset complete“</p> <p>“Registered (ITSI Attach)“</p> <p>“Registered (Roaming Update)“</p> <p>“Registering (Migrating Update)“</p> <p>“Registered (Periodic Update)“</p> <p>“Registered (Disabled MS)“</p> <p>“Registered (Call Restore Roaming)“</p> <p>“Registered (Call Restore Migrating)“</p> <p>“Registered (Commanded)“</p> <p>“Registered (Test Mode)“</p> <p>“Registration failed“</p> <p>“Registered (Migrating Update)“</p> <p>“De-Registered“</p> <p>“MS has roamed to new cell“</p> <p>“MS roaming to known cell (type2)“</p> <p>“MS roaming away (type3)“</p> <p>“Status Message from MS received“</p> <p>“SDS Acknowledge from MS received“</p> <p>“SDS Std Report from MS received“</p> <p>“SDS Short Report from MS received“</p> <p>“SDS Message from MS received“</p> <p>“SDS Std Received Report sent to MS“</p> <p>“SDS Std Consumed Report sent to MS“</p> <p>“SDS-TL ACK sent to MS“</p> <p>“Status/SDS sent to MS“</p> <p>“Status/SDS send to MS failed“</p> <p>“Status/SDS sent to group“</p> <p>“Call to mobile accepted“</p> <p>“Call to mobile answered“</p> <p>“Group Call established“</p> <p>“Call from mobile established“</p> <p>“Call restored“</p> <p>“Call rejected by testset“</p> <p>“Transmission Failed“</p> <p>“Cleardown by testset (Call Hang Timer)“</p> <p>“Call Setup timeout“</p> <p>“Call automatically answered“</p> <p>“Call automatically aborted“</p> <p>“Call Setup failed“</p> <p>“Released, cause unknown“</p> <p>“Released, user requested disconnect“</p> <p>“Released, called party busy“</p> <p>“Released, invalid call identifier“</p> <p>“Released, call rejected“</p> <p>“Released, expiry of MS timer“</p> <p>“Released, expiry of TS timer“</p> <p>“Released, SwMI requested disconnect“</p> <p>“Released, ACK'd service incomplete“</p> <p>“Requested service not available on MS“</p> <p>“Unsupported disconnect cause“</p> <p>“Test Mode set failure“</p> <p>“Test Mode supported failure“</p> <p>“Loopback set failure“</p> <p>“Loopback call failure“</p> <p>“Failed to end loopback“</p>

Command **Command Description and Parameters**
Test - Protocol - Status Messages (PopUp) (cont)

[:TMS]

:PROTOCOL

Protocol (cont)

:MESSAGE

Message (cont)

:EVENT? (cont)

query returns (ascii-string): (cont)

"DTMF tone start"

"DTMF tone end"

"U Energy Economy response"

"Energy Economy change failed"

"Rejected Energy Economy request"

"U Dual Watch request"

"U Terminating Dual Watch request"

"U Dual Watch Mode response"

"DW request rejected, stay alive"

"Starting Direct Mode Operation"

"U Frequency Bands info"

"U Scanning on"

"U Scanning off"

"U MMST Gate start req(refused)"

"U MMST Gate start list req(refused)"

"U MMST Gate continue req(refused)"

"U MMST Gate stop req(refused)"

"U MMST Gate add list req(refused)"

"U MMST Gate remove list req(refused)"

"U MMST Gate replace list req(refused)"

"U MMST Gate remove list accept(refused)"

"U MMST Gate change reg accept(refused)"

"U MMST Gate stop accept(refused)"

"U MMST Gate reserved code(refused)"

"MS sent unsupported MM-Status"

"Roaming Update"

"Migrating Update"

"Periodic Update"

"ITSI Attached"

"Roaming Update"

"Demand update"

"Disabled MS"

"Commanded"

:STATUS

Last Status Message Received

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

called ID_type (ascii-string),

called ID number (ascii-string),

ESN (phone-number-string, 1 to 24 chars or "" if N/A),

the message in hex (hex-string: 0 to FFFF),

the message in decimal (query returns: (NR1) 0 to 65535)

where called ID type / called ID number pairs are:

SNA & xxx

SSI & xxxxxxxx

or TSI & xxx/xxxxx/xxxxxxx where xxx... are decimal characters

Command **Command Description and Parameters**
Test - RF Settings

[:TMS]

:RF**RF Settings****:ANALyzer****Analyzer**

:AGC

Automatic Gain Control

OFF | ON | 0 | 1

:FREQuency

Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz

query returns: Hz (NR1) within specified range

:LEVel

Level

:CMODE

Control Mode

EXPEcted | OPEN | CLOSEd

:EVALue

Expected Power

range:

T/R: -40 to +55 dBm

ANT: -80 to 0 dBm

query returns: dBm (NR2) in 5 dB steps within specified range

Only if CMode is EXPEcted & Not For current CMode In Call.

:RVALue

Relative (Level) Value

-30 to +30 in 5 dB steps

When CMode is CLOSEd

no query

:PORT

Port (RF In)

TR | ANT

:RECEiver

Receiver

:AMP

Receiver Pre-Amp

OFF | ON | 0 | 1

:CHANnel**Channels**

:CONTRol

Control

range: 0 to 4095

query returns: (NR1) within specified range

Limits set by current Channel Plan

:TRAFFic

Traffic

:NUMBer

The Channel Number

range: 0 to 4095

query returns: (NR1) within specified range

Limits set by current Channel Plan

:TSLot

Time Slot

range: 1 to 4

query returns: (NR1) within specified range

:DUPLex**Duplex**

:LOCK

Locked / Unlocked

UNLOCKed | LOCKed

:SPACing

Spacing

<NRf>[Hz] | kHz | MHz | GHz

range: -999 to +999 MHz

query returns: Hz (NR1) within specified range

Command	Command Description and Parameters
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Test - RF Settings (cont)

[:TMS]

:RF

RF Settings (cont)

:GENerator

Generator

:FREQuency

Frequency

<NRf>[Hz] kHz MHz GHz

range: 100 kHz to 2.7 GHz

query returns: Hz (NR1) within specified range
--

:LEVel

Level

range:

T/R: -130 to -40 dBm

GEN: -130 to 0 dBm

query returns: dBm (NR2) within specified range

:MODulator

Modulator

OFF ON 0 1

:PORT

Port (RF Out)

GEN TR

:STATe

Enable RF Gen

OFF ON 0 1

Test - Rx Measurements

[:TMS]

:ABORT

Abort

:RXMeas

Rx Measurements

no query, no parameters

:INITiate

Initiate

:CONTinuous

Continuous (Repeat)

:RXMeas

Rx Measurements

OFF ON 0 1

:IMMediate

Immediate (Single)

:RXMeas

Rx Measurements

no query, no parameters

Command **Command Description and Parameters**
Test - Rx Measurements (BER)

[:TMS]

:CONFigure**Configure****:RXMeas****Rx Measurements**

:SAMPle

Samples

:BER0

BER Class 0

:BER1

BER Class 1

:BER2

BER Class 2

range: 1,000 to 10,000,000

query returns: (NR1) within specified range

:FETCh**Fetch****:RXMeas****Rx Measurements**

:BER0

BER Class 0

:BER1

BER Class 1

:BER2

BER Class 2

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B | E),

BER % (NR2) 0.00 to 100.00,

ErrorBits (NR1),

TotalBits (NR1)

Test - Rx Measurements (RBER)

[:TMS]

:CONFigure**Configure****:RXMeas****Rx Measurements**

:SAMPle

Samples

:MER

MER

range: 10 to 1,000,000

query returns: (NR1) within specified range

:RBER0

RBER Class 0

:RBER1

RBER Class 1

range: 1,000 to 10,000,000

query returns: (NR1) within specified range

:FETCh**Fetch****:RXMeas****Rx Measurements**

:MER

MER

:RBER0

RBER Class 0

:RBER1

RBER Class 1

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B | E),

RBER % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

Command	Command Description and Parameters
Test - Scope	
[:TMS]	
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SCOPE	Scope Measurements ON OFF 1 0
:IMMediate	Immediate (Single) measurement trace
:SCOPE	Scope Measurements no query, no parameters
:SCOPE	Oscilloscope
:ATrace	Trace A
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where $n = 1$ or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: ATrace time data
:YTRace?	Returns trace vertical data query returns: ATrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Scope (cont)	
[:TMS]	
:SCOPE	Oscilloscope (cont)
:BTRace	Trace B
:COUPling	Coupling AC DC GND
:MKR <i>n</i> ?	Returns reading at user defined marker position where <i>n</i> = 1 or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value - in mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: BTrace time data
:YTRace?	Returns trace vertical data query returns: BTrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range
:HDIV	Horizontal /div <NRf> [ms] us s range: 1 us to 1 s query returns: us (NR1) in 1, 2, 5 steps within specified range
:MKR	Locked / Unlocked UNLOCKed LOCKed
:MKR<i>n</i>	Marker where <i>n</i> = Marker 1 or 2
:ENABle	Enables Marker ON OFF 1 0
:TRIGger	Trigger
:EDGE	Edge RISE FALL
:FILTer	Trigger Filter 0 1 2 query returns: statusbyte (NR1) where: 0 = No Reject 1 = Noise Reject 2 = HF Reject
:LEVel	Level <NRf>[mV] V (up to ± 8 times the vertical/div setting) query returns: mV (NR1) up to ± 8 times the setting
:MODE	Sets Trigger Mode AUTO NORMal
:SOURce	Sets Trigger Source ATRace BTRace EXT

Command	Command Description and Parameters
Test - Spectrum Analyzer	
[:TMS]	
:ABORt	Abort
:SA	Spectrum Analyzer Sweeps no query, no parameters
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SA	Spectrum Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:SA	Spectrum Analyzer Sweep no query, no parameters
:SA	Spectrum Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Centre-Span Modes
:VALue	Bandwidth Setting Zero-Span Modes H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATUs?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEEp	Sweep Time
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPlEte?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	The Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TMS]	
:SA	Spectrum Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto Applies to Current Mode ON OFF 1 0
:VALue	Bandwidth Setting query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 H100 KH300 MH1 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz GHz range: 2 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:MODE	Sets Span Mode SS CS ZS Start-Stop Center-Span Zero Span)
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no parameters. no query
:ZERO	Zero Span Values
:SWEep	Sweep Time Applies to Zero - Span Mode <NRf> [ms] s range: 1 ms to 100 s query returns: ms (NR1) in 1, 2, 5, steps within specified range

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TMS]

:SA Spectrum Analyzer (cont)**:MARKer****Markers**

:DELTA	Marker Delta
:LEVEL?	Level (Between Mkr1 and Mkr2 (dBm) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked dBm (NR2) Difference value
:POSITION?	Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKR n	Marker where n = Marker 1 or 2
:ENABLE	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVEL?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSITION	Marker Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start / Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: Hz (NR1) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position level no query, no parameters
:MODE	Locked / Unlocked UNLOCKed LOCKed
:PAVG?	Returns current Average reading between Mkr1 and Mkr2 query only, no parameters
:PLIVE?	Returns current Live reading between Mkr1 and Mkr2 query only, no parameters
:PPEAK?	Returns current Peak reading between Mkr1 and Mkr2 query only, no parameters
:PPKAV?	Returns current average of Peak average between Mkr1 and Mkr2 query only, no parameters

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TMS]

:SA Spectrum Analyzer (cont)**:MARKer Markers (cont)**

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTical Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:MODE Sweep Mode
CHANnel | FULL**:TRACe Trace**

:AVG? Average Trace
 query returns: Average trace data

:AVERage Averages
 :CURRent? query returns: Count of Averages Progress
 statusbyte (NR1) 0 to 200, 0 if averaging OFF

 :ENABle Enables Trace
 ON | OFF | 1 | 0

 :VALue Required Number of Averages
 range: <NRf> 1 to 200
 query returns: (NR1) within specified range

:LIVE? Returns Live Trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Returns Peak Hold Trace data
 query only, no parameters

:PKAV? Returns Peak Average data
 query only, no parameters

:SETReference Sets Generator reference trace to trace that is active when command is issued
 ON | OFF | 1 | 0

:TRKGen Tracking Generator
 :ENABle Enables Tracking Generator
 ON | OFF | 1 | 0

:TRIGger Trigger
 :MODE Gate Mode
 FRUN

:VERTical Vertical
 :LEVel Level (Top of Screen)
 range: dBm (<NRf> - (no offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command	Command Description and Parameters
Test - Tx Measurements	
[:TMS]	
:ABORt	Abort
:TXMeas	Tx Measurements
:CONTRol	For Control Bursts no query, no parameters
:NORMal	For Normal Bursts no query, no parameters
:CONFigure	Configure
:BTIMing	Tx BurstTiming
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range
:MACCuracy	Tx Modulation Accuracy
:FERRor	Frequency Error
:SAMPle	Over xxx Bursts
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range
:RCARrier	Residual Carrier
:SAMPle	Over xxx Bursts
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range
:VPEak	Vector Peak
:SAMPle	Over xxx Bursts
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range
:VRMS	Vector RMS
:SAMPle	Over xxx Bursts
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range
:POWer	Tx Power
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 1 to 250 query returns: (NR1) within specified range

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TMS]

:FETCh

Fetch

:BTIMing

Tx Burst Timing

:CONTRol?

For Control Bursts

:NORMAl?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg sym (NR2),

max sym (NR2),

min sym (NR2),

wc sym (NR2)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:MACCuracy

Tx Modulation Accuracy

:FERRor

Frequency Error

:CONTRol?

For Control Bursts

:NORMAl?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg Hz (NR1),

max Hz (NR1),

min Hz (NR1),

wc Hz (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TMS]

:FETCH**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:RCARrier

Residual Carrier

:CONTrol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:VPEak

Vector Peak

:CONTrol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
----------------	---

Test - Tx Measurements (cont)

[:TMS]

:FETCh

Fetch (cont)

:MACCuracy

Tx Modulation Accuracy (cont)

:VRMS

Tx Vector RMS

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:POWer

Tx Power

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

65536 = Profile failed

samplecount (NR1),

avg dBm (NR1),

max dBm (NR1),

min dBm (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Test - Tx Measurements (cont)

[:TMS]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:TXMeas	Tx Measurements
:CONTrol	For Control Bursts
:NORMal	For Normal Bursts
	ON OFF 1 0
:IMMEDIATE	Immediate (Single)
:TXMeas	Tx Measurements
:CONTrol	For Control Bursts
:NORMal	For Normal Bursts
	no query, no parameters

Universal Commands

The following commands are valid in all 3900 operating Systems.

Overload Alarm - Active Tile

:FETCh	Fetch
:RF	RF
:ALARM	Returns overload status
:GEN	Returns Generator overload status
	NORMAL OVERLOADED
:REC	Returns Receiver overload status
	NORMAL OVERLOADED

Utils - Calibration

:CALibrate	Calibration
:USER	User Calibration
:RUN	Start User Calibration
	no query, no parameters
:SETPoint	Sets Temperature Change Threshold
	range: 0.1 to 10.00 dB
	query returns: (NR2) within specified range
:STATus?	Returns Calibration status
	query returns:
	statusbyte (NR1) where:
	2 to 25 = calibration is running,
	0 = calibration passed,
	negative value = calibration failed
:UNCAL?	Returned data indicates Calibration state
	query returns:
	statusbyte (NR1) where:
	0 = calibration not required
	1 = calibration required

Command	Command Description and Parameters
----------------	---

Utils - Save/Recall

:SYSTem System

:STORe “filename”

Saves file to Test Set's internal database.
Beginning and ending quotation marks are required.
Do not include file extension in filename.
Do not include spaces in filename.
no query

:RECAI “filename”

Recalls file from Test Set's internal database.
Beginning and ending quotation marks are required.
Do not include file extension in filename.
Do not include spaces in filename.
Do not include forward slash (/) at beginning of directory name.
no query

Utils - USB to Serial

:USBTOSERial USB to Serial Port

:OPEN Open

Opens selected port
range: 0 to 15
query returns: (NR1) within specified range

:CLOSe Close

Closes opened port
range: 0 to 15
query returns: (NR1) within specified range

:BAUDRate Sets Baud Rate at which data is transmitted

B300 | B1200 | B2400 | B4800 | B9600 | B19200 | B38400 | B57600 |
B115200 | B230400

:READ? Reads string data

query only, no parameters

:WRITe Write sends string data

no query, no parameters

:QUERy? Query reads and writes string as send parameter

query only, no parameters

NOTE

Use :USBTOSERial:TIMEout command to set the time between write and read from RS232 when executing :USBTOSERial:QUERy? “send string” command.

:RESet Send 1 to reset communications

no query, no parameters

:CHARsize Sets Character Size

CS7 | CS8

:PARItY Sets Parity

NONE | EVEN | ODD | SPACE

:HWFLowcontrol

Hardware Flow Control

OFF | ON | 0 | 1

:SWFLowcontrol

Software Flow Control

OFF | ON | 0 | 1

:TIMEout Sets Timeout Setting in µs

:TERMchar Sets Termination Character decimal value

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Chapter 15

TETRA MS T1 Detailed Remote Commands

Introduction

This chapter describes the TETRA MS T1 Detailed Remote Commands. The Detailed Remote Command listings include the parameter inputs and the possible responses. Commands are arranged alphabetically under Tile or Screen headings.

The figure below describes the Detailed Remote Commands format.

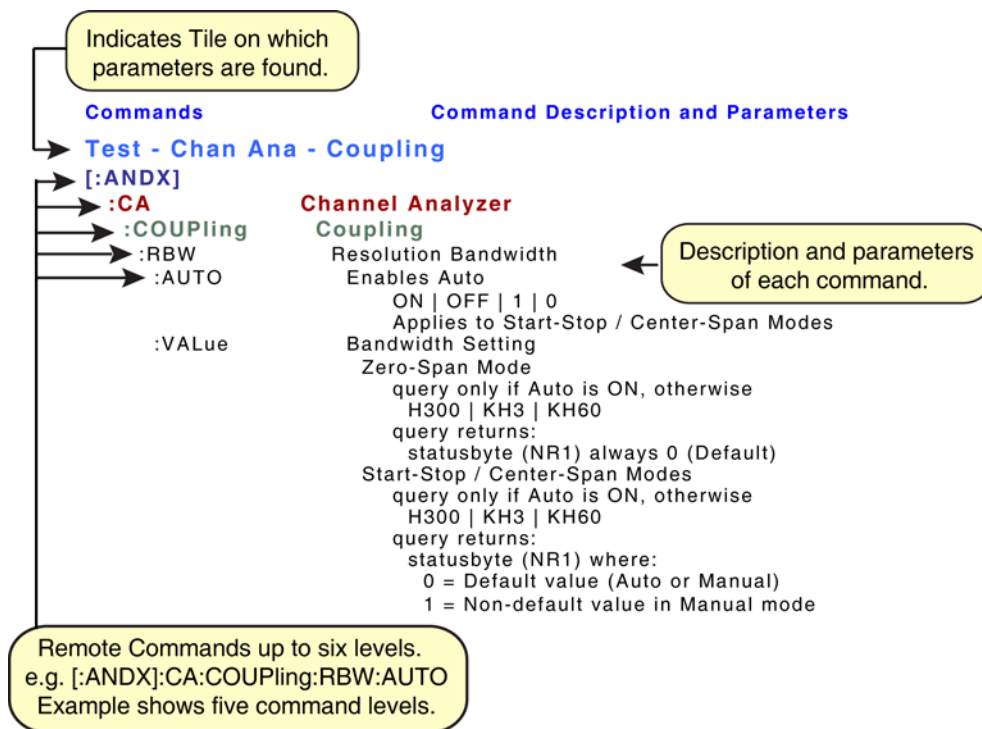


Fig. 15-1 Detailed Remote Commands Illustrated Extract

NOTE

Upper range: value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency range: option (390XOPT058) installed. The upper range: value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description and Parameters
Config - Channel Plan	
[:TMST]	
:CONFigure	Configure
:CHPLan	Channel Plan
:DELeTe	Deletes specified channel plan no query plan_name (ascii-string)
:INFO?	Information about current channel plan query returns: plan_name (ascii-string), frequency band (NR1) 0 to 15, offset (NR1) 0 to 3, duplex spacing (NR1) 0 to 7, reverse operation (NR1) 0 or 1, block 1 data: lowest channel (NR1) 0 to 4095, highest channel (NR1) 0 to 4095, low chan DL freq (NR1) in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz block 2 data: included (INCL EXCL), lowest channel (NR1) 0 to 4095, highest channel (NR1) 0 to 4095, low chan DL freq (NR1) in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz
:LOAD	Load named plan as current plan plan_name (ascii-string) no query
:NEW	Create new channel plan query returns: plan_name (ascii-string, 20 char max), frequency band (0 to 15), offset (0 to 3), duplex spacing (0 to 7), reverse operation (0 or 1), block 1 data: lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz) block 2 data: included (INCL EXCL), lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz)

Command	Command Description and Parameters
---------	------------------------------------

Config - Mobile Parameters

[:TMST]

:CONFigure	Configure
:MPARameter	Mobile Parameters
:PCLass	Power Class PC1 PC1L PC2 PC2L PC3 PC3L PC4 PC4L
:RCLass	Receiver Class A B E

Config - Offsets

[:TMST]

:CONFigure	Configure
:OFFSet	Offsets
:ANALyzer	RF Analyzer
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 query returns: dB (NR2) within specified range
:GENerator	RF Generator
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 query returns: dB (NR2) within specified range
:TIMing	Timing
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -999.99 to 999.99 query returns: symbols (NR2) within specified range

Command **Command Description and Parameters**
Config - Rx Measurements Limits

[:TMST]

:LIMits**Limits****:RXMeas****Rx Measurements**

:AACH

AACH

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:MER

MER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:PUEM

PUEM

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:BSCH

BSCH

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:MER

MER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:PUEM

PUEM

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:INITialize

Initializes set Limits

STATic | DYNamic

no query

Command **Command Description and Parameters**
Config - Rx Measurements Limits (cont)

[:TMST]

:LIMits**Limits (cont)****:RXMeas****Rx Measurements (cont)**

:SCHF

SCH/F

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:MER

MER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:PUEM

PUEM

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:SCHHD

SCH/HD

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:MER

MER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:PUEM

PUEM

:ENABle

Enable

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:TCH2

TCH/2.4

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

Command **Command Description and Parameters**
Config - Rx Measurements Limits (cont)

[:TMST]

:LIMits**Limits (cont)****:RXMeas****Rx Measurements (cont)**

:TCH4

TCH/4.8

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:TCH7

TCH/7.2

:BER

BER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:TCHS

TCH/S

:BER0

BER Class 0

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:BER1

BER Class 1

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:BER2

BER Class 2

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:MER

MER

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

:PUEM

PUEM

:ENABle

Enables set Limit

ON | OFF | 1 | 0

:VALue

Limit values

A, B, E

range: all 0.00001% to 99.99999%

query returns: A%, B%, E% (each NR2)

Command **Command Description and Parameters**
Config - System ID & Access Parameters

[:TMST]

:CONFigure	Configure
:ACCEss	Access Parameters
:APARameter	Access Parameter range: -53 to -23 query returns: dBm (NR1) in 2 dB steps within specified range
:MAXTx	Max Tx Level range: 15 to 45 query returns: dBm (NR1) in 5 dB steps within specified range
:MINRx	Min Rx Level For Access range: -125 to -50 query returns: dBm (NR1) in 5 dB steps within specified range
:BSIDentity	Base Station Identity
:BCC	Base Station Color Code BCC) range: 0 to 63 query returns: (NR1) within specified range
:MCC	Mobile Country Code (MCC) range: 0 to 999 query returns: (NR1) within specified range
:MNC	Mobile Network Code (MNC) range: 0 to 16383 query returns: (NR1) within specified range

Config - Tx Measurements Limits

[:TMST]

:LIMits	Limits
:TXMeas	Tx Measurements
:BTIMing	Burst Timing
:ENABle	Enables set Limit
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts ON OFF 1 0
:VALue	Limit value
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 0.01 to 9.99 query returns: symbols (NR2) within specified range
:FERRor	Frequency Error
:ENABle	Enables set Limit
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts ON OFF 1 0
:VALue	Limit value
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts range: 0.0 to 1500.0 query returns: Hz (NR1) within specified range
:INITialize	Initializes set Limit
:CONTRol	The Control Burst Limits Set
:NORMal	The Normal Burst Limits Set NORMal EXTReMe no query

Command **Command Description and Parameters**
Config - Tx Measurements Limits (cont)

[:TMST]

:LIMits**Limits (cont)****:TXMeas****Tx Measurements (cont)**

:POWer

Burst Power

:ENABle

Enables set Limit

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit values

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

Highest Upper, query returns: Highest Upper dB (NR2),

Highest Lower, query returns: Highest Lower dB (NR2),

Other Upper, query returns: Other Upper dB (NR2),

Other Lower (all -9.9 to 9.9) query returns: Other Lower dB (NR2)

:PROFile

Power Profile

:ENABle

Enables set Limit

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit values

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

Low dBc, query returns: Low dBc (NR2),

Low dBm (both 0 to -99.9), query returns: Low dBm (NR2),

High dBc Lead, query returns: High dBc Lead (NR2),

High dBc Trail (both -9.9 to 9.9) query returns: High dBc Trail (NR2)

:RCARrier

Residual Carrier

:ENABle

Enables set Limit

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

0.1 to 99.9%

query returns: (NR2) 0.1 to 99.9

:VPEak

Vector Peak

:ENABle

Enables set Limit

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

0.1 to 99.9%

query returns: (NR2) 0.1 to 99.9

:VRMS

Vector RMS

:ENABle

Enables set Limit

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:CONTrol

For Control Bursts

:NORMal

For Normal Bursts

0.1 to 99.9%

query returns: (NR2) 0.1 to 99.9

Command	Command Description and Parameters
Test - Channel Analyzer	
[:TMST]	
:ABORt	Abort
:CA	Stops Channel Analyzer Sweeps no query, no parameters
:CA	Channel Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUTO	Enables Auto Coupling mode in Start-Stop / Center-Span Modes ON OFF 1 0
:VALue	Bandwidth Setting Zero-Span Mode query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) always 0 (Default) Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPLet?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	Sweep Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: (200 ms to 100 s) query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Channel Analyzer (cont)	
[:TMST]	
:CA	Channel Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Current Mode
:VALue	Bandwidth Setting Applies to Current Mode query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz range: 2 kHz to 5 MHz query returns: Hz (NR2) within specified range
:STARt	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:MODE	Mode SS CS ZS Start-Stop Center-Span Zero Span
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMST]

:CA Channel Analyzer (cont)**:HORizontal Horizontal (cont)****:ZERO** Zero Span Values**:CENTer** Center Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency

query returns: Hz (NR2) within specified range

:RELative Relative to Analyzer

<NRf>[Hz] | kHz | MHz

range: -2.5 to +2.5 MHz

query returns: Hz (NR2) within specified range

:SWEep Sweep Time

<NRf>[ms] | s

range: 1 ms to 100)

query returns: ms (NR1) in 1, 2, 5 steps within specified range

:MARKer Markers**:DELTA?** Delta Level**:LEVEL?** Level (Between Mkr1 and Mkr2 (dB) level values)

query returns:

statusbyte (NR1) where:

1 = Unlocked

2 = Locked

dB (NR2) Difference value

:POSition? Distance (Between Mkr1 and Mkr2)

query returns:

Stop-Start / Center-Span Modes

Hz (NR1) Difference

Zero-Span Mode

ms (NR2) Difference

:MKRn Marker where *n* = Marker 1 or 2**:ENABle** Enables Marker

ON | OFF | 1 | 0

:LEFT Moves Marker left to next peak

no query, no parameters

:LEVEL? Level at Marker position

query returns:

statusbyte (NR1) always 2 (Locked)

dBm (NR2)

:MINimum Moves Marker to minimum point

Zero-Span Mode only

no query, no parameters

:PEAK Moves Marker to peak point

no query, no parameters

:POSition Position

Stop-Start / Center-Span Modes

<NRf> [Hz] | kHz | MHz | GHz (Between Start and Stop frequencies)

query returns: Hz (NR1) Actual frequency position

Zero-Span Mode

<NRf> [ms] | s (Between 0 and Sweep value)

query returns: ms (NR2) Actual time position

:RIGHT Moves Marker right to next peak

no query, no parameters

:SCF Sets Center Freq. to Marker Position

Applies to Start-Stop / Center-Zero Modes

no query, no parameters

:SREF Sets Ref Level to Marker Position Level

no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMST]

:CA **Channel Analyzer (cont)****:MARKer** **Markers (cont)**

:MODE Locked / Unlocked
 UNLOCKed | LOCKed

:PAVG? Returns current Average reading between Mkr1 and Mkr2
 query only, no parameters

:PLIVE? Returns current Live reading between Mkr1 and Mkr2
 query only, no parameters

:PPEAK? Returns current Peak reading between Mkr1 and Mkr2
 query only, no parameters

:PPKAV? Returns current average of Peak average between Mkr1 and Mkr2
 query only, no parameters

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTICAL Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:TRACe **Trace**

:AVG? Returns Average trace data
 query only, no parameters

:AVERage Averages

:CURRENT? Count of Averages Progress
 query returns: (NR1) 0 to 200 (0 if averaging OFF)

:ENABLE Enables Trace
 ON | OFF | 1 | 0

:VALUE Required number of Averages
 <NRf>
 range: 1 to 200
 query returns: (NR1) within specified range

:LIVE? Live Trace
 Returns current Live trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Peak Hold Trace
 Returns Peak hold trace data
 query only, no parameters

:PKAV? Peak Average
 Returns average Peak hold data
 query only, no parameters

:TRIGger **Trigger**

:MODE Gate Mode
 FRUN

:VERTical **Vertical**

:LEVEL Level (Top of Screen)
 dBm (<NRf> - (no Offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TMST]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:CA	Channel Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:CA	Channel Analyzer Sweep no query, no parameters

Test - Control

[:TMST]

:PROTocol	Protocol
:LOOPback	Loopback
	OFF ON 0 1
:MTXC	Mobile Tx Control
	OFF NORMAl CONTrol
:TTYPe	T1 Type
	TCH7 SCHF BSCH TCH2 TCHS TCH4
:RF	RF Settings
:ANALyzer	Analyzer
:AGC	Automatic Gain Control OFF ON 0 1
:FREQuency	Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) 100 kHz to 2.7 GHz
:LEVel	Level
:CMODE	Control Mode EXPeCted OPEN
:EVALue	Expected Power Level (Pre-Amp OFF) range: T/R: -40 to +55 dBm ANT: -80 to 0 dBm Only if CMode is EXPeCted query returns: dBm (NR1) -80 to +55 dBm) in 5 dB steps for current CMode
:PORT	Port (RF In) TR ANT
:RECeiver	Receiver
:AMP	Receiver Pre-Amp OFF ON 0 1
:CHANnel	Channel
	range: 0 to 4095 query returns: (NR1) 0 to 4095
:DUPLex	Duplex
:LOCK	Locked / Unlocked UNLOCKed LOCKed
:SPACing	Spacing <NRf>[Hz] kHz MHz GHz range: -999 to +999 MHz query returns: Hz (NR1) -999 to +999 MHz

Command **Command Description and Parameters**
Test - Control (cont)

[:TMST]

:RF**RF Settings (cont)****:GENerator****Generator**

:FREQuency

Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz

query returns: Hz (NR1) 100 kHz to 2.7 GHz

:LEVel

Level

range:

T/R: -130 to -40 dBm

GEN: -130 to 0 dBm

query returns: dBm (NR2) within specified ranges

:MODulator

Modulator

OFF | ON | 0 | 1

:PORT

Port (RF Out)

TR | GEN

:STATe

Enable RF Gen

OFF | ON | 0 | 1

:TIMing**Timing**

:DELay

Delays Timing One Symbol

no parameters, no query

Test - Mod Acc - Magnitude Error

[:TMST]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:MERRor

Magnitude Error at a Symbol

:CONTrol?

For Control Bursts

query returns:

parameter: symbol (0 to 103)

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 231)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

magnitude % (NR2) -100.00 to 100.00

:RANGe

Symbol range:

:CONTrol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

More than one condition may be returned as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Mod Acc - Phase Error

[:TMST]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:PERRor

Phase Error at a Symbol

:CONTRol?

For Control Bursts

query returns:

parameter: symbol (0 to 103)

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 231)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2) -80.00 to 80.00

:RANGe

Symbol range:

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

More than one condition may be returned as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Mod Acc - Vector Error

[:TMST]

:FETCh

Fetch

:MACCuracy

Tx Modulation Accuracy

:VERRor

Vector Error at a Symbol

:CONTRol?

For Control Bursts

query returns:

parameter: symbol (0 to 103)

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 231)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2) 0.00 to 100.00

:RANGe

Symbol range:

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

NOTE

More than one condition may be returned as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Power - Profile Frame

[:TMST]

:FETCh**Fetch****:PFRame****Tx Power**

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

avg dBm (NR2)

:SYMBol

Profile at a Symbol

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (-27 to 1038)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBc (NR2)

:RANGe

Symbol range:

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

min symbol,

max symbol

NOTE

More than one condition may be returned as a bitmask.

Command	Command Description and Parameters
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Test - Power - Profile Full	
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[:TMST]	
---------	--

:FETCh	Fetch
--------	-------

:POWer	Burst Power
--------	-------------

:SYMBol	Profile at a Symbol
---------	---------------------

:CONTrol?	For Control Bursts
-----------	--------------------

query returns:

parameter: symbol (-24 to 127)

:NORMal?	For Normal Bursts
----------	-------------------

query returns:

parameter: symbol (-35 to 265)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBc (NR2)

:RANGe	Symbol range:
--------	---------------

:CONTrol?	For Control Bursts
-----------	--------------------

:NORMal?	For Normal Bursts
----------	-------------------

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

min symbol,

max symbol

NOTE

More than one condition may be returned as a bitmask.

Command	Command Description and Parameters
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Command	Command Description and Parameters
Test - Rx Measurements	
[:TMST]	
:ABORt	Abort
:RXMeas	Rx Measurements
	no parameters, no query
:CONFigure	Configure
:RXMeas	Rx Measurements
:SAMPlE	Samples
:AACH	AACH
:BER	BER
	range: 1,000 to 350,000
	query returns: (NR1) 1,000 to 350,000
:MER	MER
:PUEM	PUEM
	range: 10 to 1,000,000
	query returns: (NR1) 10 to 1,000,000
:BSCH	BSCH
:BER	BER
	range: 1,000 to 1,500,000
	query returns: (NR1) 1,000 to 1,500,000
:MER	MER
:PUEM	PUEM
	range: 10 to 1,000,000
	query returns: (NR1) 10 to 1,000,000
:SCHF	SCH/F
:BER	BER
	range: 1,000 to 6,000,000
	query returns: (NR1) 1,000 to 6,000,000
:MER	MER
:PUEM	PUEM
	range: 10 to 1,000,000
	query returns: (NR1) 10 to 1,000,000
:SCHHD	SCH/HD
:BER	BER
	range: 1,000 to 3,000,000
	query returns: (NR1) 1,000 to 3,000,000
:MER	MER
:PUEM	PUEM
	range: 10 to 1,000,000
	query returns: (NR1) 10 to 1,000,000
:TCH2	TCH/2.4
:BER	BER
	range: 1,000 to 3,500,000
	query returns: (NR1) 1,000 to 3,500,000
:TCH4	TCH/4.8
:BER	BER
	range: 1,000 to 6,000,000
	query returns: (NR1) 1,000 to 6,000,000
:TCH7	TCH/7.2
:BER	BER
	range: 1,000 to 10,000,000
	query returns: (NR1) 1,000 to 10,000,000

Command	Command Description and Parameters
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Test - Rx Measurements (cont)	
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[:TMST]	
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:CONFigure	Configure (cont)
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:RXMeas	Rx Measurements (cont)
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:TCHS	TCH/S
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:BER0	BER Class 0
-------	-------------

:BER1	BER Class 1
-------	-------------

:BER2	BER Class 2
-------	-------------

:MER	MER
------	-----

:PUEM	PUEM
-------	------

range: 10 to 1,000,000

query returns: (NR1) 10 to 1,000,000

:FETCh	Fetch
--------	-------

:RXMeas	Rx Measurements
---------	-----------------

:AACH	AACH
-------	------

:BER?	BER
-------	-----

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B | E),

BER % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

:MER?	MER
-------	-----

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B | E),

MER % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

Command	Command Description and Parameters
----------------	---

Test - Rx Measurements (cont)

[:TMST]

:FETCh

Fetch (cont)

:RXMeas

Rx Measurements (cont)

:AACH

AACH (cont)

:PUEM?

PUEM

query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
failbyte (NR1) where:
0 = Passed
1 = Failed
Rx Class (A | B | E),
PUEM % (NR2) 0.00 to 100.00
ErrorBits (NR1),
TotalBits (NR1)

:BSCH

BSCH

:BER?

BER

query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
failbyte (NR1) where:
0 = Passed
1 = Failed
Rx Class (A | B | E),
BER % (NR2) 0.00 to 100.00
ErrorBits (NR1),
TotalBits (NR1)

:MER?

MER

query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
failbyte (NR1) where:
0 = Passed
1 = Failed
Rx Class (A | B | E),
MER % (NR2) 0.00 to 100.00
ErrorBits (NR1),
TotalBits (NR1)

:PUEM?

PUEM

query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
failbyte (NR1) where:
0 = Passed
1 = Failed
Rx Class (A | B | E),
PUEM % (NR2) 0.00 to 100.00
ErrorBits (NR1),
TotalBits (NR1)

Command	Command Description and Parameters
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Command	Command Description and Parameters
Test - Rx Measurements (cont)	
[:TMST]	
:FETCh	Fetch (cont)
:RXMeas	Rx Measurements (cont)
:SCHF	SCH/F
:BER?	BER
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1)where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	BER % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)
:MER?	MER
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1)where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	MER % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)
:PUEM?	PUEM
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1)where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	PUEM % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)

Command	Command Description and Parameters
---------	------------------------------------

Command	Command Description and Parameters
Test - Rx Measurements (cont)	
[:TMST]	
:FETCh	Fetch (cont)
:RXMeas	Rx Measurements (cont)
:SCHHD	SCH/HD
:BER?	BER
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1) where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	BER % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)
:MER?	MER
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1) where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	MER % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)
:PUEM?	PUEM
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1) where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	PUEM % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)
:TCH2	TCH/2.4
:BER?	BER
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	failbyte (NR1) where:
	0 = Passed
	1 = Failed
	Rx Class (A B E),
	BER % (NR2) 0.00 to 100.00
	ErrorBits (NR1),
	TotalBits (NR1)

Command	Command Description and Parameters
---------	------------------------------------

Test - Rx Measurements (cont)

[:TMST]

:FETCh

Fetch (cont)

:RXMeas

Rx Measurements (cont)

:TCH4

TCH/4.8

:BER?

BER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B | E),
 BER % (NR2) 0.00 to 100.00
 ErrorBits (NR1),
 TotalBits (NR1)

:TCH7

TCH/7.2

:BER?

BER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B | E),
 BER % (NR2) 0.00 to 100.00
 ErrorBits (NR1),
 TotalBits (NR1)

:TCHS

TCH/S

:BER0?

BER Class 0

:BER1?

BER Class 1

:BER2?

BER Class 2

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B | E),
 BER % (NR2) 0.00 to 100.00
 ErrorBits (NR1),
 TotalBits (NR1)

:MER?

MER

query returns:
 statusbyte (NR1) where:
 0 = Valid
 1 = Invalid
 failbyte (NR1) where:
 0 = Passed
 1 = Failed
 Rx Class (A | B | E),
 MER % (NR2) 0.00 to 100.00
 ErrorBits (NR1),
 TotalBits (NR1)

Command	Command Description and Parameters
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Test - Rx Measurements (cont)	
-------------------------------	--

[:TMST]	
---------	--

:FETCh	Fetch (cont)
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:RXMeas	Rx Measurements (cont)
---------	------------------------

:TCHS	TCH/S (cont)
-------	--------------

:PUEM?	PUEM
--------	------

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

failbyte (NR1) where:

0 = Passed

1 = Failed

Rx Class (A | B | E),

PUEM % (NR2) 0.00 to 100.00

ErrorBits (NR1),

TotalBits (NR1)

:INITiate	Initiate
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:CONTinuous	Continuous (Repeat)
-------------	---------------------

:RXMeas	Rx Measurements
---------	-----------------

ON | OFF | 1 | 0

:IMMediate	Immediate (Single)
------------	--------------------

:RXMeas	Rx Measurements
---------	-----------------

no parameters, no query

Command	Command Description and Parameters
Test - Scope	
[:TMST]	
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SCOpe	Scope Measurements ON OFF 1 0
:IMMediate	Immediate (Single) measurement trace
:SCOpe	Scope Measurements no parameters, no query
:SCOpe	Oscilloscope
:ATrace	Trace A
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where n = Marker 1 or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: ATrace time data
:YTRace?	Returns trace vertical data query returns: ATrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Scope (cont)	
[:TMST]	
:SCOPE	Oscilloscope (cont)
:BTRace	Trace B
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where $n = 1$ or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value - in mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: BTrace time data
:YTRace?	Returns trace vertical data query returns: BTrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range
:HDIV	Horizontal /div <NRf> [ms] us s range: 1 us to 1 s query returns: us (NR1) in 1, 2, 5 steps within specified range
:MKR	Locked / Unlocked UNLOCKed LOCKed
:MKRn	Marker where $n = \text{Marker 1 or 2}$
:ENABle	Enables Marker ON OFF 1 0
:TRIGger	Trigger
:EDGE	Edge RISE FALL
:FILTer	Trigger Filter 0 1 2 query returns: statusbyte (NR1) where: 0 = No Reject 1 = Noise Reject 2 = HF Reject
:LEVel	Level <NRf>[mV] V (up to ± 8 times the vertical/div setting) query returns: mV (NR1) up to ± 8 times the setting
:MODE	Sets Trigger Mode AUTO NORMal
:SOURce	Sets Trigger Source ATRace BTRace EXT

Command	Command Description and Parameters
Test - Spectrum Analyzer	
[:TMST]	
:ABORt	Abort
:SA	Spectrum Analyzer Sweeps no query, no parameters
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SA	Spectrum Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:SA	Spectrum Analyzer Sweep no query, no parameters
:SA	Spectrum Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Centre-Span Modes
:VALue	Bandwidth Setting Zero-Span Modes H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPlete?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	The Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TMST]	
:SA	Spectrum Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto Applies to Current Mode ON OFF 1 0
:VALue	Bandwidth Setting query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 H100 KH300 MH1 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz GHz range: 2 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:MODE	Sets Span Mode SS CS ZS Start-Stop Center-Span Zero Span)
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no parameters. no query
:ZERO	Zero Span Values
:SWEep	Sweep Time Applies to Zero - Span Mode <NRf> [ms] s range: 50 ms to 100 s query returns: ms (NR1) in 1, 2, 5, steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TMST]	
:SA	Spectrum Analyzer (cont)
:MARKer	Markers
:DELTA	Marker Delta
:LEVel?	Level (Between Mkr1 and Mkr2 (dBm) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked dBm (NR2) Difference value
:POSition?	Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKRn	Marker where <i>n</i> = Marker 1 or 2
:ENABle	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVel?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSition	Marker Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start / Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: Hz (NR1) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position level no query, no parameters
:MODE	Locked / Unlocked UNLOCKed LOCKed
:PAVG?	Returns current Average reading between Mkr1 and Mkr2 query only, no parameters
:PLIVE?	Returns current Live reading between Mkr1 and Mkr2 query only, no parameters
:PPEAK?	Returns current Peak reading between Mkr1 and Mkr2 query only, no parameters
:PPKAV?	Returns current average of Peak average between Mkr1 and Mkr2 query only, no parameters

Command **Command Description and Parameters**
Test - Spectrum Analyzer (cont)

[:TMST]

:SA	Spectrum Analyzer (cont)
:MARKer	Markers (cont)
:SSS	Markers set Start - Stop Span Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SVERTical	Markers set (Nearest) Vertical range: Applies to Zero-Span Mode only no query, no parameters
:MODE	Sweep Mode
	CHANnel FULL
:TRACe	Trace
:AVG?	Average Trace query returns: Average trace data
:AVERage	Averages
:CURRent?	Returns Count of Averages Progress statusbyte (NR1) 0 to 200, 0 if averaging OFF
:ENABle	Enables Trace ON OFF 1 0
:VALue	Required Number of Averages range: <NRf> 1 to 200 query returns: (NR1) within specified range
:LIVE?	Return: Live Trace data query only, no parameters
:MAXimum	Enables Maximum Hold ON OFF 1 0 When on, returned marker data is max hold Data
:PEAK?	Returns Peak Hold Trace data query only, no parameters
:PKAV?	Returns Peak Average data query only, no parameters
:SETReference	Sets Generator reference trace to trace that is active when command is issued ON OFF 1 0
:TRKGen	Tracking Generator
:ENABle	Enables Tracking Generator ON OFF 1 0
:TRIGger	Trigger
:MODE	Gate Mode FRUN
:VERTical	Vertical
:LEVel	Level (Top of Screen) range: dBm (<NRf> - (no offset set) T/R: -60 to +60 dBm ANT: -100 to +10 dBm query returns: dBm (NR2) within specified ranges
:VDIV	Vertical / div 1 2 5 10

Command **Command Description and Parameters**
Test - Tx Measurements

[:TMST]

:ABORt	Abort
:TXMeas	Tx Measurements
:CONTRol	For Control Bursts no parameters, no query
:NORMal	For Normal Bursts no parameters, no query
:CONFigure	Configure
:BTIMing	Tx BurstTiming
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250
:MACCuracy	Tx Modulation Accuracy
:FERRor	Frequency Error
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250
:RCARRier	Residual Carrier
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250
:VPEak	Vector Peak
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250
:VRMS	Vector RMS
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250
:POWER	Tx Power
:SAMPle	Sample Count
:CONTRol	For Control Bursts
:NORMal	For Normal Bursts 1 to 250 query returns: (NR1) 1 to 250

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TMST]

:FETCh**BTIMing**

:CONTRol?

:NORMal?

Fetch**Tx Burst Timing**

For Control Bursts

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg sym (NR2),

max sym (NR2),

min sym (NR2),

wc sym (NR2)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:MACCuracy

:FERRor

:CONTRol?

:NORMal?

Tx Modulation Accuracy

Frequency Error

For Control Bursts

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg Hz (NR1),

max Hz (NR1),

min Hz (NR1),

wc Hz (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
---------	------------------------------------

Test - Tx Measurements (cont)

[:TMST]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:RCARrier

Residual Carrier

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1)where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:VPEak

Vector Peak

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1)where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
----------------	---

Test - Tx Measurements (cont)

[:TMST]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:VRMS

Tx Vector RMS

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:POWer**Tx Power**

:CONTRol?

For Control Bursts

:NORMal?

For Normal Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

65536 = Profile failed

samplecount (NR1),

avg dBm (NR1),

max dBm (NR1),

min dBm (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TMST]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:TXMeas	Tx Measurements
:CONTrol	For Control Bursts
:NORMal	For Normal Bursts
	ON OFF 1 0
:IMMediate	Immediate (Single)
:TXMeas	Tx Measurements
:CONTrol	For Control Bursts
:NORMal	For Normal Bursts
	no parameters, no query

Universal Commands

The following commands are valid in all 3900 operating Systems.

Overload Alarm - Active Tile

:FETCh	Fetch
:RF	RF
:ALARM	Returns overload status
:GEN	Returns Generator overload status
	NORMAL OVERLOADED
:REC	Returns Receiver overload status
	NORMAL OVERLOADED

Utils - Calibration

:CALibrate	Calibration
:USER	User Calibration
:RUN	Start User Calibration
	no query, no parameters
:SETPoint	Sets Temperature Change Threshold
	range: 0.1 to 10.00 dB
	query returns: (NR2) within specified range
:STATus?	Returns Calibration status
	query returns:
	statusbyte (NR1) where:
	2 to 25 = calibration is running,
	0 = calibration passed,
	negative value = calibration failed
:UNCAL?	Returned data indicates Calibration state
	query returns:
	statusbyte (NR1) where:
	0 = calibration not required
	1 = calibration required

Command	Command Description and Parameters
---------	------------------------------------

Utils - Save/Recall

:SYSTem System

:STORe "filename"

Saves file to Test Set's internal database.
Beginning and ending quotation marks are required.
Do not include file extension in filename.
Do not include spaces in filename.
no query

:RECAI "filename"

Recalls file from Test Set's internal database.
Beginning and ending quotation marks are required.
Do not include file extension in filename.
Do not include spaces in filename.
Do not include forward slash (/) at beginning of directory name.
no query

Utils - USB to Serial

:USBTOSERial USB to Serial Port

:OPEN Open

Opens selected port
range: 0 to 15
query returns: (NR1) within specified range

:CLOSe Close

Closes opened port
range: 0 to 15
query returns: (NR1) within specified range

:BAUDRate Sets Baud Rate at which data is transmitted

B300 | B1200 | B2400 | B4800 | B9600 | B19200 | B38400 | B57600 |
B115200 | B230400

:READ? Reads string data

query only, no parameters

:WRITe Write sends string data

no query, no parameters

:QUERy? Query reads and writes string as send parameter

query only, no parameters

NOTE

Use :USBTOSERial:TIMEout command to set the time between write and read from RS232 when executing :USBTOSERial:QUERy? "send string" command.

:RESet Send 1 to reset communications

no query, no parameters

:CHARsize Sets Character Size

CS7 | CS8

:PARIty Sets Parity

NONE | EVEN | ODD | SPACE

:HWFLowcontrol

Hardware Flow Control

OFF | ON | 0 | 1

:SWFLowcontrol

Software Flow Control

OFF | ON | 0 | 1

:TIMEout Sets Timeout Setting in μ s

:TERMchar Sets Termination Character decimal value

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Chapter 16

TETRA DM Detailed Remote Commands

Introduction

This chapter describes the Detailed Remote Commands for TETRA DM. The commands are arranged alphabetically under Tile or Screen headings. TETRA DM remote commands are only valid when the TETRA DM option is installed in the Test Set.

The figure below describes the Detailed Remote Commands format.

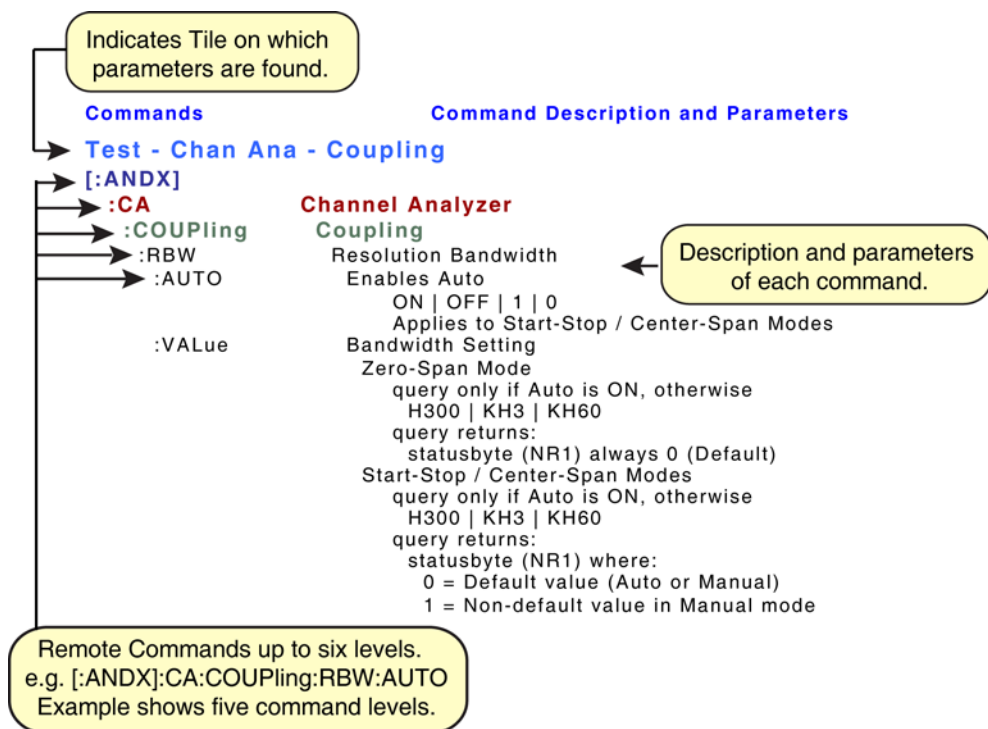


Fig. 16-1 Detailed Remote Commands Illustrated Extract

NOTE

Upper range: value of 2.7 GHz applies to the 3902 and 3920 with 2.7 GHz Frequency range: option (390XOPT058) installed. The upper range: value for the 3901 and standard 3920 is 1.05 GHz.

Tracking Generator (:TRKGen) commands are only valid when Tracking Generator Option (390XOPT061) is installed in Test Set.

Command	Command Description and Parameters
---------	------------------------------------

Config - Call Timers

[:TDM]

:CONFigure

Configure

:CTIMers

Call Timers

:MODE

Test Set Transmit Mode
NONE TIMed CONTinuous

:QUIEt

Test Set Quiet Time
range: 0 to 30
query returns: seconds (NR1) within specified range

:TALKback

Test Set Transmit Time
range: 1 to 30
query returns: seconds (NR1) within specified range

:TSRT

Test Set Reservation Time
range: 0 to 378
query returns: frames (NR1) in 6 frame steps within specified range

:TSTRansmit

Test Set Transmit Time
range: 1 to 30
query returns: seconds (NR1) within specified range

Command	Command Description and Parameters
Config - Call Types	
[TDM]	
:CONFigure	Configure
:CTYPe	Call Types
:EMERgency	Emergency Call
:GI	Group / Individual INDividual GROUp
:PRESeNce	Presence Check CHECKed NCHecked
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TPNI	Calling Party TPNI NINCluded INCLuded
:GROUp	Group Call
:PRIOriTy	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TPNI	Calling Party TPNI NINCluded INCLuded
:OGRP	Open Group Call
:NETWork	Network MOBile OPEN
:PRIOriTy	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TPNI	Calling Party TPNI NINCluded INCLuded
:PRIVate	Private Call
:PRESeNce	Presence Check CHECKed NCHecked
:PRIOriTy	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TPNI	Calling Party TPNI NINCluded INCLuded

Command	Command Description and Parameters
Config - Channel Plan	
[:TDM]	
:CONFigure	Configure
:CHPLan	Channel Plan
:DELeTe	Deletes specified channel plan no query, not applicable to built-in channel plans plan_name (ascii-string)
:INFO?	Information about current channel plan query returns: plan_name (ascii-string), frequency band (NR1) 0 to 15, offset (NR1) 0 to 3, duplex spacing (NR1) 0 to 7, reverse operation (NR1) 0 or 1, block 1 data: lowest channel (NR1) 0 to 4095, highest channel (NR1) 0 to 4095, low chan DL freq (NR1 in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz block 2 data: included (INCL EXCL), lowest channel (NR1) 0 to 4095), highest channel (NR1) 0 to 4095), low chan DL freq (NR1) in Hz, duplex offset (NR1) in Hz, channel spacing (NR1) in Hz
:LOAD	Load named plan as current plan no query plan_name (ascii-string)
:NEW	Create new channel plan no query plan_name (ascii-string, 20 char max), frequency band (0 to 15), offset (0 to 3), duplex spacing (0 to 7), reverse operation (0 or 1), block 1 data: lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz) block 2 data: included (INCL EXCL), lowest channel (0 to 4095), highest channel (0 to 4095), low chan DL freq (100 kHz to 2.7 GHz), duplex offset (-100 to 100 MHz), channel spacing (5 to 500 kHz, -5 to -500 kHz)

Command	Command Description and Parameters
Config - Messages	
[:TDM]	
:CONFigure	Configure
:MESSage	Messages
:HEX	SDS Type 4 - HEX
:DATA	The Message hex-string, 120 char. pairs max query returns: hex-string, 120 char. pairs max
:GI	Group / Individual INDividual GROup
:INITialize	Initialize to selected length message LONG MEDium SHORT no query
:PRiority	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:OTHer	SDS Type 4 - Other SDS-TL
:DATA	The Message hex-string, 120 char. pairs max query returns: hex-string, 120 char. pairs max
:EPRotectiOn	Error Protection NREQuseted REQuested
:GI	Group / Individual INDividual GROup
:INITialize	Initialize to selected length message LONG MEDium SHORT no query
:PIDentifier	Protocol Identifier range: 0 to 255 query returns: (NR1) within specified range
:PRiority	Priority range: 0 to 3 query returns: (NR1) within specified range
:RSIZe	Report Size SHORT STANDard
:RTYPE	Report Type NONE RECEived CONSumed
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range

Command	Command Description and Parameters
----------------	---

Config - Messages (cont)

[:TDM]

:CONFigure	Configure (cont)
:MESSage	Messages (cont)
:SDS123	SDS Type 1, 2 & 3
:DATA1	Type 1 Data hex-string, 2 char. pairs max query returns: hex-string, 2 char. pairs max
:DATA2	Type 2 Data hex-string, 4 char. pairs max query returns: hex-string, 4 char. pairs max
:DATA3	Type 3 Data hex-string, 8 char. pairs max query returns: hex-string, 8 char. pairs max
:GI	Group / Individual INDividual GROup
:PRlority	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:SIMPlE	SDS Type 4 - Simple Text
:DATA	The Message ascii-string, 120 char max query returns: ascii-string, 120 char max
:GI	Group / Individual INDividual GROup
:INITialize	Initialize to selected length message LONG MEDium SHORT no query
:PRlority	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TCODing	Text Coding GSM7 ISO1
:STATus	Status
:DATA	The Message range: 0 to 65535 query returns: (NR1) within specified range
:GI	Group / Individual INDividual GROup
:PRlority	Priority range: 0 to 3 query returns: (NR1) within specified range
:SSI	Calling Party Short Subscriber Identity range: 0 to 16777215 query returns: (NR1) within specified range

Command **Command Description and Parameters**
Config - Messages (cont)

[:TDM]

:CONFigure	Configure (cont)
:MESSage	Messages (cont)
:TLText	SDS Type 4 - SDS-TL Text
:DATA	The Message ascii-string, 120 char max query returns: ascii-string, 120 char max
:EPRotectioN	Error Protection NREQuseted REQuested
:GI	Group / Individual INDividual GROup
:INITialize	Initialize to selected length message LONG MEDium SHORt no query
:PRiority	Priority range: 0 to 3 query returns: (NR1) within specified range
:RSIZe	Report Size SHORt STANDard
:RTYPE	Report Type NONE RECEived CONSumed
:SSI	Calling Party SSI range: 0 to 16777215 query returns: (NR1) within specified range
:TCODing	Text Coding GSM7 ISO1

Config - Mobile Parameters

[:TDM]

:CONFigure	Configure
:MPARAmeter	Mobile Parameters
:GSSI	Group Short Subscriber Identity I
:FIXed	Fixed Value range: 0 to 16777215 query returns: (NR1) within specified range
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid gssi (NR1) 0 to 16777215
:USAGe	Use Fixed or Reported Value FIXed REPorted

Command **Command Description and Parameters**

Config - Mobile Parameters

[:TDM]

:CONFigure Configure (cont)

:MPARameter Mobile Parameters (cont)

:MNI	Mobile Network Identity
:MCC	Fixed Value range: 0 to 999 query returns: (NR1) within specified range
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = invalid MCC (NR1) 0 to 999
:MNC	Fixed Value range: 0 to 16383 query returns: (NR1) within specified range
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid MCC (NR1) 0 to 16383
:USAGe	Use Fixed or Reported Value FIXed REPorted
:PCLass	Power Class
:FIXed	Fixed Value PC1 PC2 PC3 PC4 PC5
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid power class (ascii-string) where: valid power classes are: PC0 PC1 PC2 PC3 PC4 PC5 PC6 PC7 (Empty if invalid)
:USAGe	Use Fixed or Reported Value FIXed REPorted
:SSI	Short Subscriber Identity
:FIXed	Fixed Value range: 0 to 16777215 query returns: (NR1) within specified range
:REPorted?	Reported Value query returns: statusbyte (NR1) where: 0 = Valid 1 = invalid SSI (NR1) 0 to 16777215
:USAGe	Use Fixed or Reported Value FIXed REPorted

Command	Command Description and Parameters
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Config - Offsets

[:TDM]

:CONFigure	Configure
:OFFSet	Offsets
:ANALyzer	RF Analyzer
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 dB query returns: (NR2) within specified range
:GENerator	RF Generator
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -40.0 to 40.0 dB query returns: (NR2) within specified range
:TIMing	Timing
:ENABle	Enables Offset OFF ON 0 1
:VALue	Offset value range: -999.99 to 999.99 symbols query returns: (NR2) within specified range

Config - Test Set Parameters

[:TDM]

:CONFigure	Configure
:TSParameters	Test Set Parameters
:MNI	Mobile Network Identity
:MCC	Mobile Country Code range: 0 to 999 query returns: (NR1) within specified range
:MNC	Mobile Network Code range: 0 to 16383 query returns: (NR1) within specified range
:USAGe	Use Fixed or Mobile's MNI Value FIXed MOBile
:POWER	Power Parameters
:CONTrol	Mobile Power Control ALLow NALLow
:PCLass	Power Class PC1 PC2 PC3 PC4 PC5
:SSI	Short Subscriber Identity range: 0 to 16777215 query returns: (NR1) within specified range

Command **Command Description and Parameters**
Config - Tx Measurements Limits

[:TDM]

:LIMits**Limits****:TXMeas****Tx Measurements**

:BTIMing	Burst Timing
:ENABle	Enables set Limit
:SLAVe	For Slave Bursts
	ON OFF 1 0
:VALue	The Limit
:SLAVe	For Slave Bursts
	range: 0.01 to 9.99 symbols
	query returns: (NR2) within specified range
:FERRor	Frequency Error
:ENABle	Enables set Limit
:INITial	For Initial Bursts
:MASTer	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts
	ON OFF 1 0
:VALue	The Limit
:INITial	For Initial Bursts
:MASTer	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts
	range: 0.1 to 1500.0 Hz
	query returns: (NR1) within specified range
:INITialize	Initializes set Limit
:INITial	The Initial Burst Limits Set
:MASTer	The Master (Normal+Sync) Burst Limits Set
:NORMal	The Normal Burst Limits Set
:SLAVe	The Slave Burst Limits Set
:SYNC	The Sync Burst Limits Set
	NORMal EXTReMe
	no query
:POWER	Burst Power
:ENABle	Enables set Limit
:INITial	For Initial Bursts
:MASTer	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts
	ON OFF 1 0
:VALue	Limit value
:INITial	For Initial Bursts
:MASTer	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts
	Upper, query returns: Upper dB (NR2),
	Lower, query returns: Lower dB (NR2)
	(both -9.9 to 9.9)

Command **Command Description and Parameters**

Config - Tx Measurements Limits (cont)

[:TDM]

:LIMits

Limits (cont)

:TXMeas

Tx Measurements (cont)

:PROFile

Power Profile

:ENABle

Enables set Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

ON | OFF | 1 | 0

:VALue

Limit value

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

Low dBc, query returns: Low dBc (NR2),

Low dBm, query returns: Low dBm (NR2), (both 0 to -99.9)

High dBc Lead, query returns: High dBc Lead (NR2),

High dBc Trail, query returns: High dBc Trail (NR2) (both -9.9 to 9.9)

:RCARrier

Residual Carrier

:ENABle

Enables set Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

ON | OFF | 1 | 01 | 0

:VALue

The Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

:VPEak

Vector Peak

:ENABle

Enables set Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

ON | OFF | 1 | 0

:VALue

The Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVE

For Slave Bursts

:SYNC

For Sync Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

Command	Command Description and Parameters
---------	------------------------------------

Config - Tx Measurements Limits (cont)
--

[:TDM]

:LIMits

Limits (cont)

:TXMeas

Tx Measurements (cont)

:VRMS

Vector RMS

:ENABle

Enables set Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVe

For Slave Bursts

:SYNC

For Sync Bursts

ON OFF 1 0

:VALue

The Limit

:INITial

For Initial Bursts

:MASTer

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVe

For Slave Bursts

:SYNC

For Sync Bursts

range: 0.1 to 99.9%

query returns: (NR2) within specified range

Command	Command Description and Parameters
Test - Channel Analyzer	
[:TDM]	
:ABORt	Abort
:CA	Stops Channel Analyzer Sweeps no query, no parameters
:CA	Channel Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUTO	Enables Auto Coupling mode in Start-Stop / Center-Span Modes ON OFF 1 0
:VALue	Bandwidth Setting Zero-Span Mode query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) always 0 (Default) Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEep	Sweep Time
:AUTO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPLete?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	Sweep Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Channel Analyzer (cont)	
[:TDM]	
:CA	Channel Analyzer (cont)
:COUPLing	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto ON OFF 1 0 Applies to Current Mode
:VALue	Bandwidth Setting Applies to Current Mode query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz range: 2 kHz to 5 MHz query returns: Hz (NR2) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency query returns: Hz (NR2) within specified range
:RELative	Relative to Analyzer <NRf>[Hz] kHz MHz range: -2.5 to +2.5 MHz query returns: Hz (NR2) within specified range
:MODE	Mode SS CS ZS Start-Stop Center-Span Zero Span
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no query, no parameters

Command **Command Description and Parameters**
Test - Channel Analyzer (cont)

[:TDM]

:CA Channel Analyzer (cont)**:HORizontal Horizontal (cont)****:ZERO** Zero Span Values**:CENTer** Center Frequency

<NRf>[Hz] | kHz | MHz | GHz

range: 100 kHz to 2.7 GHz, within 2.5 MHz of System Receiver Frequency

query returns: Hz (NR2) within specified range

:RELative Relative to Analyzer

<NRf>[Hz] | kHz | MHz

range: -2.5 to +2.5 MHz

query returns: Hz (NR2) within specified range

:SWEep Sweep Time

<NRf>[ms] | s

range: 1 ms to 100 s

query returns: ms (NR1) in 1, 2, 5 steps within specified range

:MARKer Markers**:DELTA?** Delta Level**:LEVEL?** Level (Between Mkr1 and Mkr2 (dB) level values)

query returns:

statusbyte (NR1) where:

1 = Unlocked

2 = Locked

dB (NR2) Difference value

:POSition? Distance (Between Mkr1 and Mkr2)

query returns:

Stop-Start / Center-Span Modes

Hz (NR1) Difference

Zero-Span Mode

ms (NR2) Difference

:MKRn Marker where *n* = Marker 1 or 2**:ENABLe** Enables Marker

ON | OFF | 1 | 0

:LEFT Moves Marker left to next peak

no query, no parameters

:LEVEL? Level at Marker position

query returns:

statusbyte (NR1) always 2 (Locked)

dBm (NR2)

:MINimum Moves Marker to minimum point

Zero-Span Mode only

no query, no parameters

:PEAK Moves Marker to peak point

no query, no parameters

:POSition Position

Stop-Start / Center-Span Modes

<NRf> [Hz] | kHz | MHz | GHz (Between Start and Stop frequencies)

query returns: Hz (NR1) Actual frequency position

Zero-Span Mode

<NRf> [ms] | s (Between 0 and Sweep value)

query returns: ms (NR2) Actual time position

:RIGHT Moves Marker right to next peak

no query, no parameters

:SCF Sets Center Freq. to Marker Position

Applies to Start-Stop / Center-Zero Modes

no query, no parameters

:SREF Sets Ref Level to Marker Position Level

no query, no parameters

Command **Command Description and Parameters**

Test - Channel Analyzer (cont)

[:TDM]

:CA Channel Analyzer (cont)

:MARKer Markers (cont)

:MODE Locked / Unlocked
 UNLOCKed | LOCKed

:PAVG? Returns current Average reading between Mkr1 and Mkr2
 query only, no parameters

:PLIVE? Returns current Live reading between Mkr1 and Mkr2
 query only, no parameters

:PPEAK? Returns current Peak reading between Mkr1 and Mkr2
 query only, no parameters

:PPKAV? Returns current average of Peak average between Mkr1 and Mkr2
 query only, no parameters

:SSS Markers set Start - Stop Span
 Applies to Start-Stop / Center-Zero Modes
 no query, no parameters

:SVERTICAL Markers set (Nearest) Vertical range:
 Applies to Zero-Span Mode only
 no query, no parameters

:TRACE Trace

:AVG? Returns Average trace data
 query only, no parameters

:AVERAGE Averages

 :CURRENT? Count of Averages Progress
 query returns: (NR1) 0 to 200 (0 if averaging OFF)

 :ENABLE Enables Trace
 ON | OFF | 1 | 0

 :VALUE Required number of Averages
 <NRf>
 range: 1 to 200
 query returns: (NR1) within specified range

:LIVE? Returns current Live trace data
 query only, no parameters

:MAXimum Enables Maximum Hold
 ON | OFF | 1 | 0
 When on, returned marker data is max hold Data

:PEAK? Returns Peak hold trace data
 query only, no parameters

:PKAV? Returns average Peak hold data
 query only, no parameters

:TRIGGER Trigger

:MODE Gate Mode
 FRUN

:VERTical Vertical

:LEVEL Level (Top of Screen)
 range: dBm (<NRf> - (no Offset set)
 T/R: -60 to +60 dBm
 ANT: -100 to +10 dBm
 query returns: dBm (NR2) within specified ranges

:VDIV Vertical / div
 1 | 2 | 5 | 10

Command **Command Description and Parameters**

Test - Channel Analyzer (cont)

[:TDM]

:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:CA	Channel Analyzer Sweep
	ON OFF 1 0
:IMMediate	Immediate (Single)
:CA	Channel Analyzer Sweep
	no query, no parameters

Test - Mod Acc - Magnitude Error

[:TDM]

:FETCh	Fetch
:MACCuracy	Tx Modulation Accuracy
:MERRor	Magnitude Error at a Symbol
:INITial?	For Initial Bursts
:MASTer?	For Master (Normal+Sync) Bursts
:NORMal?	For Normal Bursts
	query returns:
	parameter: symbol (0 to 235)
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	magnitude % (NR2) -100.00 to 100.00
:RANGe	Symbol range:
:INITial?	For Inital Bursts
:MASTer?	For Master Bursts
:NORMal?	For Normal Bursts
:SLAVe?	For Slave Bursts
:SYNC?	For Sync Bursts
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	min symbol,
	max symbol
:SLAVe?	For Slave Bursts
:SYNC?	For Sync Bursts
	query returns:
	parameter: symbol (0 to 235)
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	magnitude % (NR2) -100.00 to 100.00

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Mod Acc - Phase Error

[:TDM]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:PERRor

Phase Error at a Symbol

:INITial?

For Initial Bursts

:MASTer?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 235)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2) -80.00 to 80.00

:RANGe

Symbol range:

:INITial?

For Initial Bursts

:MASTer?

For Master Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

parameter: symbol (0 to 235)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

phase deg (NR2) -80.00 to 80.00

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Mod Acc - Vector Error

[:TDM]

:FETCh**Fetch****:MACCuracy****Tx Modulation Accuracy**

:VERRor

Vector Error at a Symbol

:INITial?

For Initial Bursts

:MASTer?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (0 to 235)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2) 0.00 to 100.00

:RANGe

Symbol range:

:INITial?

For Initial Bursts

:MASTer?

For Master Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

parameter: symbol (0 to 235)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

vector % (NR2) 0.00 to 100.00

NOTE

Statusbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**

Test - Operations / Status

[:TDM]

:PROTOCOL	Protocol
:ACTION	Actions
:CALL	Place
:EMERGENCY	Emergency Call
:GROUP	Group Call
:OGRP	Open Group Call
:PRIVATE	Private Call
	no parameters, no query
:CDOWN	Cleardown
	no parameters, no query
:MESSAGE	Send
:STATUS	Status Message
	no parameters, no query
:STYP1	SDS Type 1 Message
:STYP2	SDS Type 2 Message
:STYP3	SDS Type 3 Message
	no parameters, no query
:RESET	Reset to QUIET
	no parameters, no query
:TCHS	Speech Traffic Channel Contents
	TALK SILENCE TONE
:TSTCEASE	Test Set Transmit Cease
:TSTX	Test Set Transmit
	no parameters, no query
:CDOWN?	Reservation Countdown
	query returns:
	frames (NR1) 0 (not in reservation Mode) or 6 to 378
:CINFO?	Current Call Information
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	source (ascii-string),
	addressing (ascii-string),
	encryption (ascii-string),
	priority (NR1) 0 to 3,
	SSI (NR1) 0 to 16777215),
	address extension (ascii-string)
	where valid source texts are:
	MOBILE ORIGINATED
	MOBILE TERMINATED
	where valid addressing texts are:
	INDIVIDUAL
	INDIVIDUAL PRESENCE
	GROUP
	where valid encryption texts are:
	CLEARMODE
	ENCRYPTED
	where valid address extension is of the form:
	ddd/ddddd or OPEN CHANNEL
	d = decimal character
	empty = Invalid

Command	Command Description and Parameters
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Command	Command Description and Parameters
Test - Operations / Status (cont)	
[:TDM]	
:PROTOCOL	Protocol (cont)
:GROUP?	Group (GTSI) Information
	query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid SSI (NR1) 0 to 16777215), address extension (ascii-string) where valid address extension is of the form: ddd/dddd or OPEN CHANNEL d = decimal character
:MINFo?	Mobile Info
	query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid true SSI (NR1) 0 to 16777215), true address extension (ascii-string), pseudo SSI (NR1) 0 to 16777215), pseudo address extension (ascii-string), power class (ascii-string), power control (ascii-string), encryption class (ascii-string) where valid address extension format is: ddd/dddd d = decimal character where valid (reported) power classes are: PC0 PC1 PC2 PC3 PC4 PC5 PC6 where valid power control texts are: ALLOWED NOT ALLOWED where valid Encryption Class texts are: DM-1 DM-2A DM-2B DM-2C empty = Invalid
:MODE?	Current Protocol Mode / State
	query returns: Mode/state (ascii-string) where Mode/state texts are: QUIET CHANNEL MOBILE OCCUPATION TEST SET OCCUPATION (TEST TONE) TEST SET OCCUPATION (TALKBACK) TEST SET OCCUPATION (SILENCE) MOBILE RESERVATION TEST SET RESERVATION

Command	Command Description and Parameters
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Test - Power - Profile Full

[:TDM]

:FETCh**Fetch****:POWer****Burst Power**

:SYMBol
:MASTer?
:NORMal?

Profile at a Symbol
For Master Bursts
For Normal Bursts
query returns:
parameter: symbol (-35 to 265)
statusbyte (NR1) where:
0 = Valid
1 = Invalid
2 = Settling
4 = Inaccurate
6 = Settling and Inaccurate
7 = Invalid, settling and inaccurate
samplecount (NR1),
power dBc (NR2)

:RANGe
:MASTer?
:NORMal?
:SLAVe?
:SYNC?

Symbol range:
For Master Bursts
For Normal Bursts
For Slave Bursts
For Sync Bursts
query returns:
statusbyte (NR1) where:
0 = Valid
1 = Invalid
min symbol,
max symbol
For Slave Bursts
For Sync Bursts
query returns:
parameter: symbol (-35 to 265)
statusbyte (NR1) where:
0 = Valid
1 = Invalid
2 = Settling
4 = Inaccurate
6 = Settling and Inaccurate
7 = Invalid, settling and inaccurate
samplecount (NR1),
power dBc (NR2)

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
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Test - Power - Profile Frame

[:TDM]

:FETCh

Fetch

:PFRame

Profile Frame

:MASTer?

For Master Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYMBol?

Profile at a Symbol

:MASTer?

For Master Bursts

:NORMal?

For Normal Bursts

query returns:

parameter: symbol (-27 to 1038)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBc (NR2)

:RANGe?

Symbol range:

:MASTer?

For Master Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

min symbol,

max symbol

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

parameter: symbol (-27 to 1038)

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBc (NR2)

:SYNC?

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

samplecount (NR1),

power dBm (NR2)

NOTE

Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
Test - Power - Profile Initial	
[:TDM]	
:FETCh	Fetch
:PINitial?	Profile Initial
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	failbyte (NR1) where:
	0 = All limit checks passed
	65536 = Profile failed
	samplecount (NR1),
	avg dBm (NR1)
:SAMPlE	Over xxx number or bursts
	1 to 250
	query returns: (NR1) 1 to 250
:SYMBol?	Profile Initial at a Symbol
	parameter: symbol (-35 to <MAX SYMBOL range:>)
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	2 = Settling
	4 = Inaccurate
	6 = Settling and Inaccurate
	7 = Invalid, settling and inaccurate
	samplecount (NR1),
	power dBc (NR2)
:SYMBol?	Profile Initial at a Symbol
:RANGe?	Symbol range:
	query returns:
	statusbyte (NR1) where:
	0 = Valid
	1 = Invalid
	min symbol,
	max symbol
<div style="border: 1px solid black; padding: 2px; display: inline-block;">NOTE</div>	
	Statusbyte may return more than one condition as a bitmask.

Command	Command Description and Parameters
Test - Protocol - Status Message (PopUp)	
[:TDM]	
:PROTocol	Protocol
:MESSAge	Message
:EVENT?	<p>Returns latest event Status Message</p> <p>query returns (ascii-string):</p> <ul style="list-style-type: none"> "Quiet Channel reset complete" "Received Status message from MS" "Received SDS type 1 from MS" "Received SDS type 2 from MS" "Received SDS type 3 from MS" "Received SDS type 4 from MS" "Received SDS-TL message from MS" "Confirm SDS-TL report sent to MS" "SDS-TL stan'd recvd report sent to MS" "SDS-TL short recvd report sent to MS" "SDS-TL not sent by TS, SDS busy" "SDS-TL report received from MS" "SDS-TL timed out waiting for report" "SDS-TL timed out waiting for ack" "SDS-TL report ack sent to MS" "SDS-TL rec'd other delivery status" "SDS-TL rec'd sht received rep't fm MS" "SDS-TL rec'd sht consumed rep't fm MS" "SDS-TL received unexpected msg number" "SDS-TL received - failed error check" "Received SDS ACK OK from MS" "Received SDS ACK (problem) from MS" "Channel Busy Reported from Layer 2" "Call setup timeout" "Released, cause unknown" "Released, called rejected" "Released, call lost" "Released, voice data setup failed" "Released, unsupported disconnect cause" "MT Group call established" "MT presence checked" "Released, MS requested disconnect" "Test Set requested disconnect" "Test Set has left the call" "Timer expired" "Tx ceased, cause unknown" "Tx ceased, user initiated" "Tx ceased, gateway not supported!" "Tx ceased, unsupported cause" "Tx ceased, timer expired" "Tx ceased, pre-empted" "Tx ceased, Test Set tx pre-empted" "MT call setup complete" "MO call setup complete" "MO call setup with presence check" "MO presence check, DM-CONNECT sent" "MS Reservation ended" "TS Reservation ended" "MS rejected pre-emption"

Command	Command Description and Parameters
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Test - Protocol - Status Message (PopUp) (cont)

[:TDM]

:PROTOCOL

Protocol (cont)

:MESSAGE

Message (cont)

:STATUS?

Last Status Message Received

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

called ID_type (ascii-string),

called ID number (ascii-string),

the message in hex

(hex-string: 0 to FFFF),

the message in decimal

(NR1) 0 to 65535)

where called ID type / called ID number pairs

SNA & xxx

SSI & xxxxxxxx

or TSI & xxx/xxxxx/xxxxxxx

where xxx... are decimal chars.

Test - Protocol - SDS Message (PopUp)

[:TDM]

:PROTOCOL

Protocol

:MESSAGE

Message

:SDS?

Last SDS Message Received

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

message_number (NR1) 0 to 255),

message type (ascii-string),

encoding (ascii-string),

called ID_type (ascii-string),

called ID number (ascii-string),

service (ascii-string),

report_type (ascii-string),

the message (ascii-string)

where valid message type texts are:

TYPE 1

TYPE 2

TYPE 3

TYPE 4 (SIMPLE OTAR)

TYPE 4 (SIMPLE TEXT)

TYPE 4 (SIMPLE GPS)

TYPE 4 (SIMPLE WAP)

TYPE 4 (SIMPLE WCMP)

TYPE 4 (SIMPLE M-DMO)

TYPE 4 (SIMPLE PIN AUTH)

TYPE 4 (SDS TL TEXT)

TYPE 4 (SDS TL GPS)

TYPE 4 (SDS TL WAP)

TYPE 4 (SDS TL WCMP)

TYPE 4 (SDS TL M DMO)

TYPE 4 (USER DEFINED)

TYPE 4 (UNKNOWN xxx)

Command	Command Description and Parameters
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Test - Protocol - SDS Message (PopUp) (cont)

[:TDM]

:PROTOCOL

Protocol (cont)

:MESSAGE

Message (cont)

:SDS?

Last SDS Message Received (cont)

where xxx is decimal message type

where valid encoding texts are:

If message type is Type 4 (SDS TL TEXT) or (Simple TEXT) -
7 BIT (GSM)

ISO 1 LATIN 1 (8 BIT)

ISO 2 LATIN 2 (8 BIT)

ISO 3 LATIN 3 (8 BIT)

ISO 4 LATIN 4 (8 BIT)

ISO 5 CYRILLIC (8 BIT)

ISO 6 ARABIC (8 BIT)

ISO 7 GREEK (8 BIT)

ISO 8 HEBREW (8 BIT)

ISO 9 LATIN 5 (8 BIT)

ISO 10 LATIN 6 (8 BIT)

ISO 13 LATIN 7 (8 BIT)

ISO 14 LATIN 8 (8 BIT)

ISO 15 LATIN 0 (8 BIT)

PC 437 USA (8 BIT)

where valid encoding texts are:

PC 737 GREEK II (8 BIT)

PC 850 LATIN I (8 BIT)

PC 852 LATIN II (8 BIT)

PC 855 CYRILLIC I (8 BIT)

PC 857 TURKISH (8 BIT)

PC 860 PORTUGUESE (8 BIT)

PC 861 ICELANDIC (8 BIT)

PC 863 CANADIAN (8 BIT)

PC 865 NORDIC (8 BIT)

PC 866 RUSSIAN (8 BIT)

PC 869 GREEK (8 BIT)

16 BIT (ISO UCS2)

or UNKNOWN (xxx) where xxx is decimal coding scheme

Command	Command Description and Parameters
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Test - Protocol - SDS Message (PopUp) (cont)

[:TDM]

:PROTOCOL
:MESSAGE
:SDS?

Protocol (cont)
Message (cont)

Last SDS Message Received (cont)

If "message type" is Type 4 (SDS TL GPS):

NMEA 0183

RTCM SC-104

TETRA LOCATOR (TLP)

or

UNKNOWN (xxx)

where xxx is decimal coding scheme

where called ID type / called ID number pairs

SNA & xxx

SSI & xxxxxxxx

or TSI & xxx/xxxxx/xxxxxxx

where xxx are decimal characters

where valid service texts are:

INDIVIDUAL

GROUP

where the message is:

Type 1 - xxxx

Type 2 - xxxxxxxx

Type 3 - xxxxxxxxxxxxxxxx

Type 4 SDS-TL Text or Simple Text, 7 or 8 bit encoded -

aaaaaaaaaaaaaaaa..., otherwise xxxxxxxxxxxxxxxx, where xxx...

are hexadecimal characters and aaa. are ascii characters and invalid

items are returned as empty

Command **Command Description and Parameters**
Test - RF Settings

[:TDM]

:RF **RF Settings****:ANALyzer** **Analyzer**:AGC Automatic Gain Control
OFF | ON | 0 | 1:LEVel Expected Power Level (Pre-Amp OFF)
T/R: -40 to +55 dBm
ANT: -80 to 0 dBm
query returns: dBm ((NR1) in 5 dB steps within specified range):PORT Port (RF In)
TR | ANT

:RECeiver Receiver

:AMP Receiver Pre-Amp
OFF | ON | 0 | 1**:CHANnel** **Channels**:UPLink Uplink
0 | 1[:NUMBer] Channels
0 to 4095
query returns: (NR1) 0 to 4095**:FREQuency** **Frequency**<NRf>[Hz] | kHz | MHz | GHz
(100 kHz to 2.7 GHz)
query returns: Hz (NR1) 100 kHz to 2.7 GHz)**:GENerator** **Generator**:LEVel Level
T/R: -130 to -40 dBm
GEN: -130 to 0 dBm
query returns: dBm (NR2) within specified range:MODulator Modulator
OFF | ON | 0 | 1:PORT Port (RF Out)
TR | GEN:STATe Enables RF Gen
OFF | ON | 0 | 1

Command	Command Description and Parameters
Test - Scope	
[:TDM]	
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SCOPE	Scope Measurements ON OFF 1 0
:IMMediate	Immediate (Single) measurement trace
:SCOPE	Scope Measurements no parameters, no query
:SCOPE	Oscilloscope
:ATrace	Trace A
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where $n = 1$ or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: ATrace time data
:YTRace?	Returns trace vertical data query returns: ATrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD DEMod FDEMod
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Scope (cont)	
[:TDM]	
:SCOPE	Oscilloscope (cont)
:BTRace	Trace B
:COUPling	Coupling AC DC GND
:MKRn?	Returns reading at user defined marker position where <i>n</i> = Marker 1 or 2 query returns: parameter: time_position (NRf - 0 to RHS of screen) returns: statusbyte (NR1) always 0 (Valid) value - in mV % Hz (NR2)
:XTRace?	Returns trace time data query returns: BTrace time data
:YTRace?	Returns trace vertical data query returns: BTrace vertical data
:SOURce	Source OFF CH1 CH2 AUD FAUD DEMod FDEMod
:VDIV	Vertical /div
:VOLT	In Volts <NRf> [mV] V range: 2 mV to 220 V query returns: mV (NR2) in 1, 2, 5 steps within specified range
:HDIV	Horizontal /div <NRf> [ms] us s range: 1 us to 1 s query returns: us (NR1) in 1, 2, 5 steps within specified range
:MKR	Locked / Unlocked UNLOCKed LOCKed
:MKRn	Marker where <i>n</i> = Marker 1 or 2
:ENABle	Enables Marker ON OFF 1 0
:TRIGger	Trigger
:EDGE	Edge RISE FALL
:FILTer	Trigger Filter 0 1 2 query returns: statusbyte (NR1) where: 0 = No Reject 1 = Noise Reject 2 = HF Reject
:LEVel	Level <NRf>[mV] V (up to ± 8 times the vertical/div setting) query returns: mV (NR1) up to ± 8 times the setting
:MODE	Sets Trigger Mode AUTO NORMal
:SOURce	Sets Trigger Source ATRace BTRace EXT

Command	Command Description and Parameters
Test - Spectrum Analyzer	
[:TDM]	
:ABORt	Abort
:SA	Spectrum Analyzer Sweeps no query, no parameters
:INITiate	Initiate
:CONTinuous	Continuous (Repeat)
:SA	Spectrum Analyzer Sweep ON OFF 1 0
:IMMediate	Immediate (Single)
:SA	Spectrum Analyzer Sweep no query, no parameters
:SA	Spectrum Analyzer
:COUPling	Coupling
:RBW	Resolution Bandwidth
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Centre-Span Modes
:VALue	Bandwidth Setting Zero-Span Modes H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode Start-Stop / Center-Span Modes query only if Auto is ON, otherwise H300 KH3 KH30 KH60 KH300 MH60 query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:STATus?	Coupling setting status query returns: statusbyte (NR1) where: 0 = Valid 1 = Invalid 2 = Uncalibrated configuration
:SWEEp	Sweep Time
:AUtO	Enables Auto ON OFF 1 0 Applies to Start-Stop / Center-Span Modes
:COMPlEte?	Returns trace status query returns: statusbyte (NR1) where: 0 = Trace Incomplete 1 = Trace Complete
:VALue	The Value Applies to Start-Stop / Center-Span Modes query only if Auto is ON, otherwise <NRf>[ms] s range: 200 ms to 100 s query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode ms (NR1) in 1, 2, 5 steps within specified range

Command	Command Description and Parameters
Test - Spectrum Analyzer (cont)	
[:TDM]	
:SA	Spectrum Analyzer (cont)
:COUPling	Coupling (cont)
:VBW	Video Bandwidth
:AUTO	Enables Auto Applies to Current Mode ON OFF 1 0
:VALue	Bandwidth Setting query only if Auto is ON, otherwise H300 KH1 KH3 KH10 KH30 H100 KH300 MH1 NONE query returns: statusbyte (NR1) where: 0 = Default value (Auto or Manual) 1 = Non-default value in Manual mode
:HORizontal	Horizontal
:FREQuency	Frequency Values (Start-Stop, Center-Span)
:CENTer	Center Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:SPAN	Span Frequency <NRf>[Hz] kHz MHz GHz range: 2 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:START	Start Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:STOP	Stop Frequency <NRf>[Hz] kHz MHz GHz range: 100 kHz to 2.7 GHz query returns: Hz (NR1) within specified range
:MODE	Sets Span Mode SS CS ZS Start-Stop Center-Span Zero Span)
:SPAN	Sets Span
:FULL	To Full Span Applies to Start-Stop / Center-Span Modes no parameters. no query
:ZERO	Zero Span Values
:SWEep	Sweep Time Applies to Zero - Span Mode <NRf> [ms] s range: 50 ms to 100 s query returns: ms (NR1) in 1, 2, 5, steps within specified range

Command **Command Description and Parameters**

Test - Spectrum Analyzer (cont)

[:TDM]

:SA Spectrum Analyzer (cont)

:MARKer

Markers

:DELTA	Marker Delta
:LEVEL?	Level (Between Mkr1 and Mkr2 (dBm) level values) query returns: statusbyte (NR1) where: 1 = Unlocked 2 = Locked dBm (NR2) Difference value
:POSITION?	Distance (Between Mkr1 and Mkr2) query returns: Stop-Start / Center-Span Modes Hz (NR1) Difference Zero-Span Mode ms (NR2) Difference
:MKRn	Marker where n = Marker 1 or 2
:ENABLE	Enables Marker ON OFF 1 0
:LEFT	Moves Marker left to next peak no query, no parameters
:LEVEL?	Level at Marker position query returns: statusbyte (NR1) always 2 (Locked) dBm (NR2)
:MINimum	Moves Marker to minimum point Zero-Span Mode only no query, no parameters
:PEAK	Moves Marker to peak point no query, no parameters
:POSITION	Marker Position Stop-Start / Center-Span Modes <NRf> [Hz] kHz MHz GHz (Between Start / Stop frequencies) query returns: Hz (NR1) Actual frequency position Zero-Span Mode <NRf> [ms] s (Between 0 and Sweep value) query returns: Hz (NR1) Actual time position
:RIGHT	Moves Marker right to next peak no query, no parameters
:SCF	Sets Center Freq. to Marker Position Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SREF	Sets Ref Level to Marker Position level no query, no parameters
:MODE	Locked / Unlocked UNLOCKed LOCKed
:PAVG?	Returns current Average reading between Mkr1 and Mkr2 query only, no parameters
:PLIVE?	Returns current Live reading between Mkr1 and Mkr2 query only, no parameters
:PPEAK?	Returns current Peak reading between Mkr1 and Mkr2 query only, no parameters
:PPKAV?	Returns current average of Peak average between Mkr1 and Mkr2 query only, no parameters

Command **Command Description and Parameters**

Test - Spectrum Analyzer (cont)

[:TDM]

:SA	Spectrum Analyzer (cont)
:MARKer	Markers (cont)
:SSS	Markers set Start - Stop Span Applies to Start-Stop / Center-Zero Modes no query, no parameters
:SVERTical	Markers set (Nearest) Vertical range: Applies to Zero-Span Mode only no query, no parameters
:MODE	Sweep Mode CHANnel FULL
:TRACe	Trace
:AVG?	Returns Average trace data
:AVERage	Averages
:CURRent?	Returns Count of Averages Progress statusbyte (NR1) 0 to 200, 0 if averaging OFF
:ENABle	Enables Trace ON OFF 1 0
:VALue	Required Number of Averages range: <NRf> 1 to 200 query returns: (NR1) within specified range
:LIVE?	Returns Live Trace data query only, no parameters
:MAXimum	Enables Maximum Hold ON OFF 1 0 When on, returned marker data is max hold Data
:PEAK?	Returns Peak Hold Trace data query only, no parameters
:PKAV?	Returns Peak Average data query only, no parameters
:SETReference	Sets Generator reference trace to trace that is active when command is issued ON OFF 1 0
:TRKGen	Tracking Generator
:ENABle	Enables Tracking Generator ON OFF 1 0
:TRIGger	Trigger
:MODE	Gate Mode FRUN
:VERTical	Vertical
:LEVel	Level (Top of Screen) range: dBm (<NRf> - (no offset set) T/R: -60 to +60 dBm ANT: -100 to +10 dBm query returns: dBm (NR2) within specified ranges
:VDIV	Vertical / div 1 2 5 10

Command	Command Description and Parameters
Test - Tx Measurements	
[:TDM]	
:ABORt	Abort
:TXMeas	Tx Measurements
:INITial	For Initial Bursts no parameters, no query
:MASter	For Master (Normal+Sync) Bursts no parameters, no query
:NORMal	For Normal Bursts no parameters, no query
:SLAVe	For Slave Bursts no parameters, no query
:SYNC	For Sync Bursts no parameters, no query
:CONFigure	Configure
:BTIMing	Burst Timing
:SAMPlE	Over xxx Bursts
:SLAVe	For Slave Bursts range: 1 to 250 query returns: (NR1) within specified range
:MACCuracy	Tx Modulation Accuracy
:FERRor	Frequency Error
:SAMPlE	Sample Count
:INITial	For Initial Bursts
:MASter	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts range: 1 to 250 query returns: (NR1) within specified range
:RCARrier	Residual Carrier
:SAMPlE	Sample Count
:INITial	For Initial Bursts
:MASter	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts
:VPEak	Vector Peak
:SAMPlE	Sample Count
:INITial	For Initial Bursts
:MASter	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts range: 1 to 250 query returns: (NR1) within specified range
:VRMS	Vector Root Mean Square
:SAMPlE	Sample Count
:INITial	For Initial Bursts
:MASter	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts range: 1 to 250 query returns: (NR1) within specified range

Command	Command Description and Parameters
----------------	---

Test - Tx Measurements (cont)

[:TDM]

:CONFigure**Configure (cont)****:POWer****Tx Power**

:SAMPlE	Sample Count
:INITial	For Initial Bursts
:MASTer	For Master (Normal+Sync) Bursts
:NORMal	For Normal Bursts
:SLAVe	For Slave Bursts
:SYNC	For Sync Bursts

range: 1 to 250

query returns: (NR1) within specified range

:FETCh**Fetch****:BTIMing****Returns Burst Timing**

:SLAVe?	For Slave Bursts
---------	------------------

query returns:

statusbyte (NR1) where:

- 0 = Valid
- 1 = Invalid
- 2 = Settling
- 4 = Inaccurate
- 6 = Settling and Inaccurate
- 7 = Invalid, settling and inaccurate

failbyte (NR1) where:

- 0 = All limit checks passed
- 1 = Average failed limit
- 2 = Maximum value failed limit
- 4 = Minimum value failed limit
- 8 = Worst case value failed limit

samplecount (NR1),
 avg sym (NR2),
 max sym (NR2),
 min sym (NR2),
 wc sym (NR2)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TDM]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy**

:FERRor

Returns Frequency Error

:INITial?

For Initial Bursts

:MASTER?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

:SLAVE?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

8 = Worst case value failed limit

samplecount (NR1),

avg Hz (NR1),

max Hz (NR1),

min Hz (NR1),

wc sym (NR1)

:RCARrier

Returns Residual Carrier

:INITial?

For Initial Bursts

:MASTER?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

:SLAVE?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TDM]

:FETCh**Fetch (cont)****:MACCuracy****Tx Modulation Accuracy (cont)**

:VPEak

Returns Vector Peak

:INITial?

For Initial Bursts

:MASTer?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

:VRMS

Returns Tx Vector RMS

:INITial?

For Initial Bursts

:MASTer?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

samplecount (NR1),

avg % (NR1),

max % (NR1),

min % (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

Command **Command Description and Parameters**
Test - Tx Measurements (cont)

[:TDM]

:FETCh**Fetch (cont)****:POWer****Returns Tx Power**

:INITial?

For Initial Bursts

:MASter?

For Master (Normal+Sync) Bursts

:NORMal?

For Normal Bursts

:SLAVe?

For Slave Bursts

:SYNC?

For Sync Bursts

query returns:

statusbyte (NR1) where:

0 = Valid

1 = Invalid

2 = Settling

4 = Inaccurate

6 = Settling and Inaccurate

7 = Invalid, settling and inaccurate

failbyte (NR1) where:

0 = All limit checks passed

1 = Average failed limit

2 = Maximum value failed limit

4 = Minimum value failed limit

65536 = Profile failed

samplecount (NR1),

avg dBm (NR1),

max dBm (NR1),

min dBm (NR1)

NOTE

Statusbyte and failbyte may return more than one condition as a bitmask.

:INITiate**Initiate****:CONTinuous****Continuous (Repeat)**

:TXMeas

Tx Measurements

:INITial

For Initial Bursts

:MASter

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVe

For Slave Bursts

:SYNC

For Sync Bursts

ON | OFF | 1 | 0

:IMMediate**Immediate (Single)**

:TXMeas

Tx Measurements

:INITial

For Initial Bursts

:MASter

For Master (Normal+Sync) Bursts

:NORMal

For Normal Bursts

:SLAVe

For Slave Bursts

:SYNC

For Sync Bursts

no parameters, no query

Command	Command Description and Parameters
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Universal Commands

The following commands are valid in all 3900 operating Systems.

Overload Alarm - Active Tile

:FETCh	Fetch
:RF	RF
:ALARM	Returns overload status
:GEN	Returns Generator overload status NORMAL OVERLOADED
:REC	Returns Receiver overload status NORMAL OVERLOADED

Utils - Calibration

:CALibrate	Calibration
:USER	User Calibration
:RUN	Start User Calibration no query, no parameters
:SETPoint	Sets Temperature Change Threshold range: 0.1 to 10.00 dB query returns: (NR2) within specified range
:STATus?	Returns Calibration status query returns: statusbyte (NR1) where: 2 to 25 = calibration is running, 0 = calibration passed, negative value = calibration failed
:UNCAL?	Returned data indicates Calibration state query returns: statusbyte (NR1) where: 0 = calibration not required 1 = calibration required

Utils - Save/Recall

:SYSTem	System
:STORe "filename"	Saves file to Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. no query
:RECAIl "filename"	Recalls file from Test Set's internal database. Beginning and ending quotation marks are required. Do not include file extension in filename. Do not include spaces in filename. Do not include forward slash (/) at beginning of directory name. no query

Utils - USB to Serial**:USBTOSERial USB to Serial Port****:OPEN Open**

Opens selected port
range: 0 to 15
query returns: (NR1) within specified range

:CLOSe Close

Closes opened port
range: 0 to 15
query returns: (NR1) within specified range

:BAUDrate Sets Baud Rate at which data is transmitted

B300 | B1200 | B2400 | B4800 | B9600 | B19200 | B38400 | B57600 |
B115200 | B230400

:READ? Reads string data

query only, no parameters

:WRITe Write sends string data

no query, no parameters

:QUERy? Query reads and writes string as send parameter

query only, no parameters

NOTE

Use :USBTOSERial:TIMEout command to set the time between write and read from RS232 when executing :USBTOSERial:QUERy? "send string" command.

:RESet Send 1 to reset communications

no query, no parameters

:CHARsize Sets Character Size

CS7 | CS8

:PARity Sets Parity

NONE | EVEN | ODD | SPACE

:HWFLowcontrol**Hardware Flow Control**

OFF | ON | 0 | 1

:SWFLowcontrol**Software Flow Control**

OFF | ON | 0 | 1

:TIMEout Sets Timeout Setting in μ s**:TERMchar Sets Termination Character decimal value**

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As we are always seeking to improve our products, the information in this document gives only a general indication of the product capacity, performance and suitability, none of which shall form part of any contract. We reserve the right to make design changes without notice.

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The Aeroflex logo features a stylized 'A' icon composed of two overlapping curved lines, followed by the word 'AEROFLEX' in a bold, sans-serif, uppercase font.

Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven, customer-focused.



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