Agilent PXT Wireless Communications Test Set (E6621A)

Programmer's Reference

Agilent Technologies

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This product has been designed and tested in accordance with accepted industry standards, and has been supplied in a safe condition. The documentation contains information and warnings that must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

Manual Part Number

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CAUTION

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Electrical Rating

Input Voltage Range: 100 to 240 VAC, automatic selection

Input Frequency Range: 50/60Hz

Input Current Rating:

5A @ 240 VAC (maximum)

7A @ 100 VAC (maximum)

Mains supply voltage fluctuates up to +/- 10% of the nominal voltage.

Transient over-voltages are typically present on the mains supply.

This instrument has an auto-ranging line voltage input, ensure the supply voltage is within the specified range.

Where to Find the Latest Information

Agilent will periodically update product documentation. For the latest information about this wireless test set, including software upgrades, operating and application information, and product and accessory information, see the following URL: http://www.agilent.com/find/pxt

Is your product software up-to-date?

Agilent will periodically release software updates to fix known defects and incorporate product enhancements. To search for software updates for your product, go to the Agilent Technical Support website at

http://www.agilent.com/find/softwaremanager

IMPORTANT	An active N6050AS software and technical support contract (STSC) is required to access the software manager website (displayed above), together with the login credentials registered by you or your company for activation. See the section on licensing in the ***Agilent PXT Wireless Communications Test Set Getting Started Guide*** for instructions to activate your STSC.

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Table of Contents

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1 Using GPIB or the Applications Programming Interface (API).

Remote control of the PXT is accomplished by GPIB and via command strings based on the SCPI (Standard Commands for Programmable Instruments) syntax rules. This document lists all SCPI commands and examples of each command, using the minimum required characters. Although GPIB is the preferred method of programming remotely, below are descriptions of the structure of each request and response command defined for the instrument, when using the API.

NOTE	Using the GPIB interface does not require the API. You can go directly to the Command List.

Downloading and installing the API

The application programming interface for the PXT is provided via a Windows DLL designed for PCs running the Windows XP or Windows 7 operating system. It can be downloaded from www.agilent.com/find/softwaremanager by users with a current Software and Technical Support Contract (STSC). The API download package contains the DLL, header file and library file. Please read the software release notes for the latest product information.

API Commands

The version of the E6621A Remote API DLL can be obtained by:
■ char* **E6621_LibVersion()**
return value : string with library version information

The connection between E6621 Remote API and E6621 system is established by:
■ int **E6621_Connect**(const char* host, const char* port, int *conn_id)
inputs : IP address(string) of the host (E6621 system) and the port number(string), output parameter "conn_id" will contain the connection ID returned and it should be used in all subsequent commands for the valid connection.
return value: error code (E6621_Error) See API Error Codes (E6621_Error) on page 4 for a list of possible error codes returned.

The connection between E6621A Remote API and E6621A system is closed by either:
■int **E6621_Close**(int conn_id);
inputs : Connection ID
return : error code (E6621_Error)

■ int **E6621_Close_All()**
inputs : None
return : error code (E6621_Error)

The Serial Number about E6621A system is obtained by:
■int **E6621_GetSerialNumber**(int conn_id, char *serial, int size)
inputs : connection ID and size of Serial Number buffer
outputs parameter: Serial Number (string)
return : error code (E6621_Error)

The programming commands are formatted as a string and transmitted to the connected E6621A system by:
■int **E6621_Write**(int conn_id, const char* msg);
inputs : Connection ID and Message to be written
return : error code (E6621_Error)

The programming command response strings from the connected E6621A system can be obtained by:
■int **E6621_Read**(int conn_id, char* msg, int size)
inputs : Connection ID and Read Buffer size
outputs : Storage location of Read Buffer
return : Read size or error code (E6621_Error)

Timeout for reading strings from the connected E6621A system can be set by: (unit: sec.)
■int **E6621_SetTimeout**(int nid, long timeout);
inputs : Connection ID and Timeout value
return : error code (E6621_Error)

Timeout for reading strings from the connected E6621A system can be queried by: (unit: sec.)
■int **E6621_GetTimeout**(int nid, long* timeout);
inputs : Connection ID
outputs : Timeout value
return : error code (E6621_Error)

Remote terminal can select specific Network Device to connect E6621A system by setting local IP address.
■int **E6621_SetLocalAddr**(const char* addr)
inputs : IP address of local Network Device that communicates with the E6621A system
return : error code (E6621_Error)

Retrieve current local IP address by:
■char* **E6621_GetLocalAddr**();
return : IP address of Network Device used to connect with E6621A system

For Command Syntax and more details see E6621A_API.h

Command structure

The rules and conventions of the SCPI command structure are available at http://www.ivifoundation.org/scpi/default.aspx . They are designed to provide programming commands that are independent of device and programming language for specified functions in programmable test instrumentation. In the table of Remote Commands on page 5, the row below each command provides examples. This "short" command form does not always follow those rules outlined by the IVI Foundation. It is best to copy the command from the table and modify it as needed for your specific application.

Requests

Setting Command

Command Name							Space	(Parameter)			End
(:)	Depth 1	:	Depth 2	:	Depth 3	...	" "	(Value)	(Space)	(Unit)	\r\n

Query Command

Command Name							Query	End
(:)	Depth 1	:	Depth 2	:	Depth 3	...	?	\r\n

Responses

Reponses to request commands can be one of two formats: response with state message (pass or fail) or response with value.

Request Command (…)	State Message ("pass" or "fail")	End (\r\n)

Request Command (…)	Value (…)	End (\r\n)

API Error Codes (E6621_Error)

The table below shows the E6621_Error codes with return values and descriptions.

E6621_Error	Value	Description
E6621_ALREADY_CLOSED	2	"Connection ID" already closed.
E6621_ALREADY_CONNECTED	1	Address is already open.
E6621_OK	0	No Error.
E6621_ERROR	-1	Cannot connect to server or Operator with invalid "Connection ID".
E6621_NOT_CONNECTED	-2	Operator with closed "Connection ID".
E6621_SMALL_BUFFER	-3	Insufficient buffer size to read.
E6621_LOCAL_BIND_FAILED	-4	Local bind failed.

Parameters

The table below shows type and unit of values used in this document (parameters are case-sensitive).

Type	Valid Unit	Description	Example
<real>	(dBm)	real number	10 dBm, –10.00 dBm
<integer>	-	integer number	10, –10
<time>	ns, us, ms, s	time (millisecond, second)	10 ms, 1 s
<ampl>	dBm	absolute Amplitude value	10 dBm, 0 dBm
<rel_ampl>	dB	relative Amplitude value	10 dB, –10 dB
<freq>	Hz	frequency value	10 Hz, 10 kHz, 10 MHz, 10 GHz
<bandwidth>	Hz	frequency's bandwidth value	10 Hz, 10 kHz, 10 MHz, 10 GHz
<per>	%	Percentage	100 %, 100%
<string>	-	Long string or special letters	"string_12 ()"
<table>	-	A number of values	"10.11,11.12,12.14"

2 Command List

The following table lists the PXT commands. Instrument functionality depends on the PXT options selected. Commands that attempt to access features that are not available return an error.

NOTE	Example commands are provided in blue text below each "long" form command and consist of the minimum characters required to issue the command to the instrument. These "short" command forms do not always follow those rules outlined by the IVI Foundation. It is best to copy the command from the table below and modify it as needed for your specific application.

Basic SCPI commands

Command	Preset	Range	Unit	Description/Notes
*CLS				Clears the Error Queue
*VER?				– Returns FW version of the instrument – *IDN? is the preferred way to obtain this information.
*MODEL?				– Returns model number of the instrument – *IDN? is the preferred way to obtain this information.
*IDN?				Identification Query
*OPC?				Operation Complete Query
*OPT?				Application Option and License Information
SHUTDown				Shuts down the PXT instrument
SHUTD				
REBOot				Reboots the PXT instrument
REBO				

Command	Preset	Range	Unit	Description/Notes
STATus:PRESet				Resets all parameter values to their respective default value
STAT:PRES				
SYSTem:COMMunicate:LAN:EXTernal:SYNChronize				Force Synchronize SIB8.
SYST:COMM:LAN:EXT:SYNC				
SYSTem:ERRor?				See System Error Return Values for possible return values.
SYST:ERR?				
SYSTem:VERSion?				– System Version Query – *IDN? is the preferred way to obtain this information.
SYST:VERS?				

Mode Specific Commands – SA Mode

Command	Preset	Range	Unit	Description/Notes
SIGNal:MODE[?]	BSE	SA | BSE		Change the operation mode to SA or BSE.
SIGN:MODE BSE SIGN:MODE?				

Amplitude

Command	Preset	Range	Unit	Description/Notes
AMPLitude:ALL[?]	–57	–120 dBm to +10 dBm	dBm	Amplitude
AMPL:ALL –10dBm AMPL:ALL?				
AMPLitude:RF1[?]	–57	–120 dBm to +10 dBm	dBm	RF1 Amplitude
AMPL:RF1 –20dBm AMPL:RF1?				

Command	Preset	Range	Unit	Description/Notes
AMPLitude:RF2[?]	–57	–120 dBm to +10 dBm	dBm	RF2 Amplitude
AMPL:RF2 –20dBm AMPL:RF2?				
AMPLitude:POWer:OFFSet:RF1[?]	0	–100 dB to +100 dB	dB	RF1 Output Power Offset
AMPL:POW:OFFS:RF1 –20dB AMPL:POW:OFFS:RF1?				
AMPLitude:POWer:OFFSet:RF2[?]	0	–100 dB to +100 dB	dB	RF2 Output Power Offset
AMPL:POW:OFFS:RF2 –20dB AMPL:POW:OFFS:RF2?				
ATTenuation:REFerence:LEVel:ALL[?]		–120 dBm to +50 dBm	dBm	Ref Level
ATT:REF:LEV:ALL –20dBm ATT:REF:LEV:ALL?				
AMPLitude:AWGN:CHANnelmode	NORMal	MIMO | NORMal		AWGN MIMO Channel Mode
AMPL:AWGN:CHAN MIMO AMPL:AWGN:CHAN?				
AMPLitude:AWGN:STATe	OFF	ON | OFF		Sets AWGN state
AMPL:AWGN:STAT ON AMPL:AWGN:STAT?				
AMPLitude:AWGN:RF1		–10 to 30	dB	Set AWGN Signal to noise ratio RF1. Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF1 –10 AMPL:AWGN:RF1?				
AMPLitude:AWGN:RF2		–10 to 30	dB	Set AWGN Signal to noise ratio RF2. Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF2 –10 AMPL:AWGN:RF2?				

Command	Preset	Range	Unit	Description/Notes
AMPLitude:AWGN:RF1:NOC?			dBm/15kHz	Noise Amplitude (RF1) – 10 $\log_{10}$(Number Resource Elements in Bandwidth). Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF1:NOC?				
AMPLitude:AWGN:RF2:NOC?			dBm/15kHz	Noise Amplitude (RF2) – 10 $\log_{10}$(Number Resource Elements in Bandwidth). Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF2:NOC?				
AMPLitude:AWGN: RF1:NAMPlitude?			dBm	RF1 Amplitude – Signal to Noise Ratio (RF1). Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF1:NAMPlitude?				
AMPLitude:AWGN: RF2:NAMPlitude?			dBm	RF2 Amplitude – Signal to Noise Ratio (RF2). Requires parameter AMPLitude:AWGN:STATe set to ON
AMPL:AWGN:RF2:NAMPlitude?				
AMPLitude:RF1:RSTP?			dBm	RF1 amplitude expressed as an RSTP power level
AMPL:RF1:RSTP?				
AMPLitude:RF2:RSTP?			dBm	RF2 amplitude expressed as an RSTP power level
AMPL:RF2:RSTP?				

Command	Preset	Range	Unit	Description/Notes
ATTenuation:REFerence:LEVel:RF1[?]	0	–120 dBm to +50 dBm	dBm	RF1 Ref Level
ATT:REF:LEV:RF1 –10dBm ATT:REF:LEV:RF1?				
ATTenuation:REFerence:LEVel:RF2[?]	0	–120 dBm to +50 dBm	dBm	RF2 Ref Level
ATT:REF:LEV:RF2 –10dBm ATT:REF:LEV:RF2?				
ATTenuation:ALL[?]	48	0 to 78 dB	dB	Attenuation
ATT:ALL 10dB ATT:ALL?				
ATTenuation:ALL:MODE[?]	AUTO	AUTO | MANUal		Attenuation Mode
ATT:ALL:MODE AUTO ATT:ALL:MODE?				
ATTenuation:RF1[?]	48	0 to 78 dB	dB	RF1 Attenuation
ATT:RF1 10 dB ATT:RF1?				
ATTenuation:RF1:MODE[?]	AUTO	AUTO | MANUal		RF1 Attenuation Mode
ATT:RF1:MODE AUTO ATT:RF1:MODE?				
ATTenuation:RF2[?]	48	0 to 78 dB	dB	RF2 Attenuation
ATT:RF2 10 dB ATT:RF2?				
ATTenuation:RF2:MODE[?]	AUTO	AUTO | MANUal		RF2 Attenuation Mode
ATT:RF2:MODE AUTO ATT:RF2:MODE?				
ATTenuation:PDIVision[?]	10	1 dB to 20 dB	dB	Scale/Div
ATT:PDIV 10 dB ATT:PDIV?				
ATTenuation:INPUt:POWer:OFFSet:RF1[?]	0	–100 dB to +100 dB	dB	RF1 Input Power Offset
ATT:INPU:POW:OFFS:RF1 10 dB ATT:INPU:POW:OFFS:RF1?				

Command	Preset	Range	Unit	Description/Notes
ATTenuation:OVF?	0	0 | 1		– Return value of 1 Indicates that the input signal is in overflow. This can occur because your device's power is above the maximum input level for the measurement, or because your device's power is too far above the expected power. – Return value of 0 indicates that the input signal is not in overflow.
ATT:OVF ?				
ATTenuation:INPUt:POWer:OFFSet:RF2[?]	0	–100 dB to +100 dB	dB	RF2 Input Power Offset
ATT:INPU:POW:OFFS:RF2 40 dB ATT:INPU:POW:OFFS:RF2?				

Frequency

Command	Preset	Range	Unit	Description/Notes
FREQuency:CENTer[?]	1.950 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Center Frequency is the same for UL and DL TDD only
FREQ:CENT 3 GHz FREQ:CENT?				
FREQuency:CENTer:UL[?]	1.950 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Center(UL) Frequency FDD only
FREQ:CENT:UL 2.535 GHz FREQ:CENT:UL?				

Command	Preset	Range	Unit	Description/Notes
FREQuency:CENTer:DL[?]	2.140 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Center(DL) Frequency FDD only
FREQ:CENT:DL 2.655 GHz FREQ:CENT:DL?				
FREQuency:SMEThod	EARFcn	EARFcn | FREQ		
FREQ:SMET FREQ FREQ: SMET FREQ?				
FREQuency:BAND	FDD : 1, TDD: 33	FDD: 1 - 32 TDD: 33 - 63		
FREQ:BAND 7 FREQ:BAND?				

Command	Preset	Range	Unit	Description/Notes
FREQuency:EARFcn:UL	Band 1: 18300 Band 2: 18900 Band 3: 19575 Band 4: 20175 Band 5: 20525 Band 6: 835 Band 7: 21100 Band 8: 21625 Band 9: 21975 Band 10: 22450 Band 11: 22850 Band 12: 23095 Band 13: 23230 Band 14: 23330 Band 15: 18300 Band 16: 18300 Band 17: 23790 Band 18: 23925 Band 19: 24075 Band 20: 24300 Band 21: 24525 Band 22:18300 Band 23: 25600 Band 24: 25870 Band 25: 26365 Band 26 to 32: 18300	Band 1: 18025 to 18575 Band 2: 18607 to 19193 Band 3: 19207 to 19943 Band 4: 19957 to 20393 Band 5: 20407 to 20643 Band 6: 2675 to 2725 Band 7: 20775 to 21425 Band 8: 21457 to 21793 Band 9: 21825 to 22125 Band 10: 22175 to 22725 Band 11: 22775 to 22925 Band 12: 23017 to 23173 Band 13: 23205 to 23255 Band 14: 23305 to 23355 Band 15: 18025 to 18575 Band 16: 18025 to 18575 Band 17: 23755 to 23825 Band 18: 23875 to 23975 Band 19: 24025 to 24125 Band 20: 24175 to 24425 Band 21: 24475 to 24575 Band 22: 18025 to 18575 Band 23: 25525 to 25675 Band 24: 25750 to 25989 Band 25: 26065 to 26665 Band 26 to 32: 18025 to 18575		FDD only
FREQ:EARF:UL 23780 FREQ:EARF:UL?				

Command	Preset	Range	Unit	Description/Notes
FREQuency:EARFcn:DL	Band 1: 300 Band 2: 900 Band 3: 1575 Band 4: 2175 Band 5: 2525 Band 6: 880 Band 7: 3100 Band 8: 3625 Band 9: 3975 Band 10: 4450 Band 11: 4850 Band 12: 5095 Band 13: 5230 Band 14: 5330 Band 15: 300 Band 16: 300 Band 17: 5790 Band 18: 5925 Band 19: 6075 Band 20: 6300 Band 21: 6525 Band 22: 300 Band 23: 7600 Band 24: 7870 Band 25: 8365 Band 26 to 32: 300	Band 1: 25 to 575 Band 2: 607 to 1193 Band 3: 1207 to 1943 Band 4: 1957 to 2393 Band 5: 2407 to 2643 Band 6: 2675 – 2725 Band 7: 2775 to 3425 Band 8:3457 to 3793 Band 9: 3825 to 4125 Band 10: 4175 to 4725 Band 11: 4775 to 4925 Band 12: 5017 to 5173 Band 13: 5205 to 5255 Band 14: 5305 to 5355 Band 15: 25 to 575 Band 16: 25 to 575 Band 17: 5755 to 5825 Band 18: 5875 to 5975 Band 19: 6025 to 6125 Band 20: 6175 to 6425 Band 21: 6475 to 6575 Band 22: 18025 to 575 Band 23: 7525 - 7675 Band 24: 7750 - 7989 Band 25: 8065 - 8665 Band 26-32: 25 - 575		FDD only
FREQ:EARF:DL 5825 FREQ:EARF:DL?				

Command	Preset	Range	Unit	Description/Notes
FREQuency:EARFcn	Band 33 : 36100 Band 34 : 36275 Band 35 : 36650 Band 36 : 37250 Band 37 : 37650 Band 38 : 38000 Band 39 : 38450 Band 40 : 39150 Band 41 : 40620 Band 42 : 42590 Band 43 : 44590 Band 44 - 63: 36100	Band 33 : 36025 to 36175 Band 34 : 36225 to 36325 Band 35 : 36357 to 36943 Band 36 : 36957 to 37543 Band 37 : 37575 to 37725 Band 38 : 37775 to 38225 Band 39 : 38275 to 38625 Band 40 : 38675 to 39625 Band 41 : 39675 to 41565 Band 42 : 41615 to 43565 Band 43 : 43615 to 45565 Band 44 - 63: 36025 to 36175		TDD only
FREQ:EARF 37 FREQ:EARF?				

Sweep

Command	Preset	Range	Unit	Description/Notes
SWEep:TIME[?]	12000 (LTE) 10000 (SA)	100 to 60000 (or SWEep:STARt)	us	Sweep Time
SWE:TIME 20000 SWE:TIME?				
SWEep:STARt[?]	0	-60000 to 60000	us	Sweep Start
SWE:STARt 10000 SWE:STAR?				

Trigger

Command	Preset	Range	Unit	Description/Notes
TRIGger:SOURce[?]	INTernal	FREERun | EXTernal | INTernal		Free Run
TRIG:SOUR INT TRIG:SOUR?				
TRIGger:EXTernal:SLOPe[?]	POSitive	POSitive | NEGative		External Trigger Setup - Trigger Slope
TRIG:EXT:SLOP NEG TRIG:EXT:SLOP?				
TRIGger:EXTernal:DELay:STATe[?]	OFF	ON | OFF		External Trigger Setup - Trigger Delay State
TRIG:EXT:DEL:STAT ON TRIG:EXT:DEL:STAT?				
TRIGger:EXTernal:DELay[?]	0 us	–50 ms to 1000 ms	us, ms, s	External Trigger Setup - Trigger Delay
TRIG:EXT:DEL 500 ms TRIG:EXT:DEL?				
TRIGger:INTernal:SLOPe[?]	POSitive	POSitive | NEGative		Internal Trigger Setup - Trigger Slope
TRIG:INT:SLOP NEG TRIG:INT:SLOP?				
TRIGger:INTernal:DELay:STATe[?]	OFF	ON | OFF		Internal Trigger Setup - Trigger Delay State
TRIG:INT:DEL:STAT ON TRIG:INT:DEL:STAT?				
TRIGger:INTernal:DELay[?]	10 us	–50 ms to 1000 ms	us, ms, s	Internal Trigger Setup - Trigger Delay
TRIG:INT:DEL 500 ms TRIG:INT:DEL?				

Command	Preset	Range	Unit	Description/Notes
TRIGger:OUTput[?]	FRAme	FRAme | EVEnt		Trigger output type. **NOTE**: All Trigger Output commands require LTE PVT mode set and BSE UE POWer CONTrol PATTern RBSFCONT enabled.
TRIG:OUT EVE TRIG:OUT?				
TRIGger:OUTput:EVEnt:SLOPe[?]	POSitive	POSitive | NEGative		Trigger output event slope. Requires TRIGger:OUTput = EVEnt.
TRIG:OUT:EVE:SLOP NEG TRIG:OUT:EVE:SLOP?				
TRIGger:OUTput:EVEnt:DELay[?]	1000	-10000 us to 10000 us		Trigger output event delay. Requires TRIGger:OUTput = EVEnt.
TRIG:OUT:EVE:DEL 10000 TRIG:OUT:EVE:DEL?				
TRIGger:OUTput:EVEnt:DELay:STATe[?]	ON	ON | OFF		Trigger output event delay state. Requires TRIGger:OUTput = EVEnt.
TRIG:OUT:EVE:DEL:STAT OFF TRIG:OUT:EVE:DEL:STAT?				

Continue Mode

Command	Preset	Range	Unit	Description/Notes
CONTinue:MODE				
CONT:MODE				

Single Mode

Command	Preset	Range	Unit	Description/Notes
SINGle:MODE				
SING:MODE				

Marker

Command	Preset	Range	Unit	Description/Notes
<measurement name>:MARKer#:Y?				See "Marker Measurement Results". There are 14 available markers for LTE measurements: Channel Power, OBW, PVT, SEM, ACLR. For UL demodulation measurements, see "Flatness" section.
<measurement name>:MARK2:Y?				

RF ON/OFF

Command	Preset	Range	Unit	Description/Notes
RFOutput1:STATe[?]	ON	ON | OFF | 1 | 0		RF1 State
RFO1:STAT ON RFO1:STAT?				
RFOutput2:STATe[?]	ON	ON | OFF		RF2 State
RFO2:STAT ON RFO2:STAT?				

Modulation ON/OFF

Command	Preset	Range	Unit	Description/Notes
MODulation1:STATe[?]	ON	ON | OFF		MODulation1 State
MOD1:STAT ON MOD1:STAT?				
MODulation2:STATe[?]	ON	ON | OFF		MODulation2 State
MOD2:STAT ON MOD2:STAT?				

RF Config

Command	Preset	Range	Unit	Description/Notes
RFConfig:INPUt:MODE[?]	INTernal	INTernal | EXTernal		Input Mode
RFC:INPU:MODE INT RFC:INPU:MODE?				
RFConfig:INPUt:SOURce[?]	IF	IF | IQ		Input Source
RFC:INPU:SOUR IQ RFC:INPU:SOUR?				
RFConfig:OUTPUt:DL[?]	INTernal	INT | EXT		RF1 DL Output
RFC:OUTPU:DL INT RFC:OUTPU:DL?				
RFConfig:OUTPUt:FRONt:RF1[?]	TRX	TRX | TX		RF1 Front Output
RFC:OUTPU:FRON:RF1 TRX RFC:OUTPU:FRON:RF1?				
RFConfig:OUTPUt:FRONt:RF2[?]	TRX	TRX | TX		RF2 Front Output
RFC:OUTPU:FRON:RF2 TRX RFC:OUTPU:FRON:RF2?				

Command	Preset	Range	Unit	Description/Notes
RFConfig:RCLock:SOURce[?]	AUTO	AUTO | INTernal		Reference Source selection
RFC:RCL:SOUR INT RFC:RCL:SOUR?				
RFConfig:OUTPut:EXT:CELL:SELect[?]	Bcell	Acell | Bcell		RF Select External Cell
RFC:OUTP:EXT:CELL:SEL B RFC:OUTP:EXT:CELL:SEL?				

Call Setup

Command	Preset	Range	Unit	Description/Notes
CELLSetup:AC:RATio[?] CELLSetup:ACELI:RATio[?]	1.00	0.00 to 1.00 (%)	Double	– Acell ratio – The italicised version of this command is not recommended and is planned for deletion in future software releases.
CELLS:ACEL:RAT 0.49 CELLS:ACEL:RAT?				
CELLSetup:BC:RATio[?] CELLSetup:BCELI:RATio[?]	0.00	0.00 to 1.00 (%)	Double	– Bcell ratio – The italicised version of this command is not recommended and is planned for deletion in future software releases.
CELLS:BCEL:RAT 0.29 CELLS:BCEL:RAT?				
CELLSetup:SA:CELL:SELection[?]	Acell	Acell | Bcell		SA Cell Selection
CELLS:SA:CELL:SEL B CELLS:SA:CELL:SEL?				

SA Command

Command	Preset	Range	Unit	Description/Notes
SA:MODE[?]	SPECtrum	SPECtrum | LTE		Sets the SA sub-mode of signal analysis
SA:MODE SPEC SA:MODE?				

Spectrum Mode

Command	Preset	Range	Unit	Description/Notes
SA:SPECtrum:MODE[?]	SPECtrum	SPECtrum | CHPower | OBWidth | CCDF		Command to set the SA to spectrum analysis mode.
SA:SPEC:MODE SPEC SA:SPEC:MODE?				

Spectrum Analysis

Command	Preset	Range	Unit	Description/Notes
SPECtrum[:SPECtrum]:FREQuency:SPAN[?]	20 MHz	1 MHz to 100 MHz	Hz, kHz, MHz	Set Span - Depends on instrument maximum frequency.
SPEC:FREQ:SPAN 1MHz SPEC:FREQ:SPAN?				
SPECtrum[:SPECtrum]:FREQuency:SPAN:FULL				Full Span
SPEC:FREQ:SPAN:FULL				
SPECtrum[:SPECtrum]:FREQuency:SPAN:ZERO				Zero Span
SPEC:FREQ:SPAN:ZERO				
SPECtrum[:SPECtrum]:FREQuency:SPAN:LAST				Last Span
SPEC:FREQ:SPAN:LAST				

Command	Preset	Range	Unit	Description/Notes
SPECtrum[:SPECtrum]:BANDwidth:MODE[?]	AUTO	AUTO | MANUal		RBW Mode
SPEC:BAND:MODE AUTO SPEC:BAND:MODE?				
SPECtrum[:SPECtrum]:BANDwidth[?]	10 kHz	1 kHz to 1000 kHz	Hz, kHz	RBW Value
SPEC:BAND 50 kHz SPEC:BAND?				
SPECtrum[:SPECtrum]:AVERage[?]	OFF	OFF | ON | 0 | 1		Average state
SPEC:AVER ON SPEC:AVER?				
SPECtrum[:SPECtrum]:AVERage:NUMber[?]	1	1 to 100		Average Number
SPEC:AVER:NUM 10 SPEC:AVER:NUM?				
SPECtrum[:SPECtrum]:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
SPEC:AVER:TCON EXP SPEC:AVER:TCON?				
SPECtrum[:SPECtrum]:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
SPEC:MAXH OFF SPEC:MAXH?				
SPECtrum[:SPECtrum]:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
SPEC:MARK1:MODE NORM SPEC:MARK1:MODE?				
SPECtrum[:SPECtrum]:MARKer#:X[?]	1.95 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Marker Frequency
SPEC:MARK1:X 2.55 GHz SPEC:MARK1:X?				
SPECtrum[:SPECtrum]:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
SPEC:MARK1:Y -10 dBm SPEC:MARK1:Y?				

Command	Preset	Range	Unit	Description/Notes
SPECtrum[:SPECtrum]:MARKer:AOFF				All Marker Off
SPEC:MARK1:AOFF				
SPECtrum[:SPECtrum]:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
SPEC:MARK1:CPS? SPEC:MARK1:CPS ON				
SPECtrum[:SPECtrum]:MARKer:TABLe	OFF	OFF | ON | 0 | 1		View Marker Table
SPEC:MARK:TABL ON				
SPECtrum[:SPECtrum]:MARKer#:MAXimum				Peak Search
SPEC:MARK1:MAX				
SPECtrum[:SPECtrum]:MARKer#:MAXimum:NEXT				Next Peak
SPEC:MARK1:MAX:NEXT				
SPECtrum[:SPECtrum]:MARKer#:MAXimum:RIGHt				Next (Low) Right
SPEC:MARK1:MAX:RIGH				
SPECtrum[:SPECtrum]:MARKer#:MAXimum:LEFT				Next (Low) Left
SPEC:MARK1:MAX:LEFT				
SPECtrum[:SPECtrum]:MARKer#:PTPeak				Peak-Peak Search
SPEC:MARK1:PTP				
SPECtrum[:SPECtrum]:MARKer#:MINimum				Min Search
SPEC:MARK1:MIN				
SPECtrum[:SPECtrum]:MARKer#:CENTer				Mkr -> CF
SPEC:MARK1:CENT				
SPECtrum[:SPECtrum]:MARKer#:RLEVel				Mkr -> Ref Lvl
SPEC:MARK1:RLEV				

Channel Power

Command	Preset	Range	Unit	Description/Notes
SPECtrum:CHPower:FREQuency:SPAN[?]	20 MHz	1 MHz (or value of SPECtrum:CHPower:INTegration) to 100 MHz	Hz, kHz, MHz	Set Span - Depends on instrument maximum frequency and value of SPECtrum:CHPower:INTegration.
SPEC:CHP:FREQ:SPAN 10 MHz SPEC:CHP:FREQ:SPAN?				
SPECtrum:CHPower:FREQuency:SPAN:FULL				Full Span
SPEC:CHP:FREQ:SPAN:FULL				
SPECtrum:CHPower:FREQuency:SPAN:LAST				Last Span
SPEC:CHP:FREQ:SPAN:LAST				
SPECtrum:CHPower:BANDwidth:MODE[?]	MANUal	AUTO | MANUal		RBW Mode
SPEC:CHP:BAND:MODE AUTO SPEC:CHP:BAND:MODE?				
SPECtrum:CHPower:BANDwidth[?]	10 kHz	1 kHz to 1000 kHz	Hz, kHz	RBW Value
SPEC:CHP:BAND 100 kHz SPEC:CHP:BAND?				
SPECtrum:CHPower:AVERage[?]	OFF	OFF | ON | 0 | 1		Average state
SPEC:CHP:AVER ON SPEC:CHP:AVER?				
SPECtrum:CHPower:AVERage:NUMber[?]	1	1 to 100		Average Number
SPEC:CHP:AVER:NUM 10 SPEC:CHP:AVER:NUM?				
SPECtrum:CHPower:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
SPEC:CHP:AVER:TCON EXP SPEC:CHP:AVER:TCON?				
SPECtrum:CHPower:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
SPEC:CHP:MAXH ON SPEC:CHP:MAXH?				

Command	Preset	Range	Unit	Description/Notes
SPECtrum:CHPower:INTegration[?]	10 MHz	10 kHz to 22 MHz	Hz, kHz, MHz	Integration BW (Bandwidth)
SPEC:CHP:INT 15 MHZ SPEC:CHP:INT?				
SPECtrum:CHPower:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
SPEC:CHP:MARK2:MODE DELT SPEC:CHP:MARK2:MODE?				
SPECtrum:CHPower:MARKer#:X[?]	1.95 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Marker Frequency
SPEC:CHP:MARK2:X 2.535 GHz SPEC:CHP:MARK2:X?				
SPECtrum:CHPower:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
SPEC:CHP:MARK2:Y -80 dBm SPEC:CHP:MARK2:Y?				
SPECtrum:CHPower:MARKer:AOFF				All Marker Off
SPEC:CHP:MARK:AOFF				
SPECtrum:CHPower:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
SPEC:CHP:MARK2:CPS ON				
SPECtrum:CHPower:MARKer#:MAXimum				Peak Search
SPEC:CHP:MARK2:MAX				
SPECtrum:CHPower:MARKer#:MAXimum:NEXT				Next Peak
SPEC:CHP:MARK2:MAX:NEXT				
SPECtrum:CHPower:MARKer#:MAXimum:RIGHt				Next (Low) Right
SPEC:CHP:MARK2:MAX:RIGH				
SPECtrum:CHPower:MARKer#:MAXimum:LEFT				Next (Low) Left
SPEC:CHP:MARK2:MAX:LEFT				
SPECtrum:CHPower:MARKer#:PTPeak				Peak-Peak Search
SPEC:CHP:MARK2:PTP				

Command	Preset	Range	Unit	Description/Notes
SPECtrum:CHPower:MARKer#:MINimum				Min Search
SPEC:CHP:MARK2:MIN				
SPECtrum:CHPower:MARKer#:CENTer				Mkr -> CF
SPEC:CHP:MARK2:CENT				
SPECtrum:CHPower:MARKer#:RLEVel				Mkr -> Ref Lvl
SPEC:CHP:MARK2:RLEV				
SPECtrum:CHPower:MEASure:POWer?			dBm	Channel Power Measure / Results are returned in a dBm string.
SPEC:CHP:MEAS:POW?				

Occupied Bandwidth

Command	Preset	Range	Unit	Description/Notes
SPECtrum:OBWidth:FREQuency:SPAN[?]	20MHz	1 MHz to 100 MHz	Hz, kHz, MHz	Set Span - Depends on instrument maximum frequency.
SPEC:OBW:FREQ:SPAN 20 MHz SPEC:OBW:FREQ:SPAN?				
SPECtrum:OBWidth:FREQuency:SPAN:FULL				Full Span
SPEC:OBW:FREQ:SPAN:FULL				
SPECtrum:OBWidth:FREQuency:SPAN:LAST				Last Span
SPEC:OBW:FREQ:SPAN:LAST				
SPECtrum:OBWidth:BANDwidth:MODE[?]	MANUal	AUTO | MANUal		RBW Mode
SPEC:OBW:BAND:MODE AUTO SPEC:OBW:BAND:MODE?				
SPECtrum:OBWidth:BANDwidth[?]	10kHz	1 kHz to 1000 kHz	Hz, kHz	RBW Value
SPEC:OBW:BAND 100 kHz SPEC:OBW:BAND?				

Command	Preset	Range	Unit	Description/Notes
SPECtrum:OBWidth:AVERage[?]	OFF	OFF | ON | 0 | 1		Average state
SPEC:OBW:AVER OFF SPEC:OBW:AVER?				
SPECtrum:OBWidth:AVERage:NUMber[?]	1	1 to 100		Average Number
SPEC:OBW:AVER:NUM 10 SPEC:OBW:AVER:NUM?				
SPECtrum:OBWidth:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
SPEC:OBW:AVER:TCON REP SPEC:OBW:AVER:TCON?				
SPECtrum:OBWidth:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
SPEC:OBW:MAXH ON SPEC:OBW:MAXH?				
SPECtrum:OBWidth:POWer[?]	99	10 % to 99.9 % in 0.1 % steps	%	OBW Power
SPEC:OBW:POW 10 SPEC:OBW:POW?				
SPECtrum:OBWidth:MARKer#:MODE[?]	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
SPEC:OBW:MARK3:MODE FIX SPEC:OBW:MARK3:MODE?				
SPECtrum:OBWidth:MARKer#:X[?]		Normal/Fixed: 0 to 10GHz Delta:-5GHz to 5GHz	Hz, kHz, MHz, GHz	Marker Frequency
SPEC:OBW:MARK3:X 2.535 GHz SPEC:OBW:MARK3:X?				
SPECtrum:OBWidth:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
SPEC:OBW:MARK3:Y –10 dBm SPEC:OBW:MARK3:Y?				
SPECtrum:OBWidth:MARKer:AOFF				All Marker Off
SPEC:OBW:MARK:AOFF				

Command	Preset	Range	Unit	Description/Notes
SPECtrum:OBWidth:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
SPEC:OBW:MARK3:CPS ON SPEC:OBW:MARK3:CPS?				
SPECtrum:OBWidth:MARKer#:MAXimum				Peak Search
SPEC:OBW:MARK3:MAX				
SPECtrum:OBWidth:MARKer#:MAXimum:NEXT				Next Peak
SPEC:OBW:MARK3:MAX:NEXT				
SPECtrum:OBWidth:MARKer#:MAXimum:RIGHt				Next (Low) Right
SPEC:OBW:MARK3:MAX:RIGH				
SPECtrum:OBWidth:MARKer#:MAXimum:LEFT				Next (Low) Left
SPEC:OBW:MARK3:MAX:LEFT				
SPECtrum:OBWidth:MARKer#:PTPeak				Peak-Peak Search
SPEC:OBW:MARK3:MAX:PTP				
SPECtrum:OBWidth:MARKer#:MINimum				Min Search
SPEC:OBW:MARK3:MIN				
SPECtrum:OBWidth:MARKer#:CENTer				Mkr -> CF
SPEC:OBW:MARK3:CENT				
SPECtrum:OBWidth:MARKer#:RLEVel				Mkr -> Ref Lvl
SPEC:OBW:MARK3:RLEV				
SPECtrum:OBWidth:MEASure?				OBW Power Measure/Results are returned in MHz as a string.
SPEC:OBW:MEAS?				

CCDF (Complementary Cumulative Distribution Function)

Command	Preset	Range	Unit	Description/Notes
PSTatistic:COUNt[?]	10	0 to 1000		Count (Command will be ignored if units are sent.). Settable range depends on Cycles.
PST:COUN 500 PST:COUN?				
PSTatistic:SWEep:CYCLes[?]	No Preset value defined	1 to 2000000 (Measure Interval dependent)		Measure Cycle
PST:SWE:CYCL 2000 PST:SWE:CYCL?				
PSTatistic:SWEep:TIME[?]	1000 us	10 us to 2 ms in 1 us steps	us, ms	Measure Interval
PST:SWE:TIME 2000 us PST:SWE:TIME?				
SPECtrum:CCDF:MEASure?				See "CCDF Measurement Results"
SPEC:CCDF:MEAS?				

LTE Mode

SA:LTE:MODE[?]	CHPower	CHPower | OBWidth | PVTime | SEMask | ACLR | ULCONStellation | ULPSPECtrum | ULIQRECeive | ULMAPINformation | ULERRVector | ULDECINformation | ULFLATness | ULMODSummary		Sets the LTE sub-mode of signal analysis
SA:LTE:MODE CHP SA:LTE:MODE?				
SA:LTE:AUToconfig[?]	ON	OFF | ON | 0 | 1		– To set this value, you must load a scenario file, but do not run the simulator. – When Auto Config = ON, the LTE parameters are updated/synchronised with the BSE parameters.
SA:LTE:AUT OFF SA:LTE:AUT?				

Channel Power

Command	Preset	Range	Unit	Description/Notes
LTE:CHPower:FREQuency:SPAN[?]	20 MHz	1 MHz (or value of LTE:CHPower:INTegration) to 100 MHz	Hz, kHz, MHz	Set Span - Depends on instrument maximum and frequency value of LTE:CHPower:INTegration .
LTE:CHP:FREQ:SPAN 10 MHz LTE:CHP:FREQ:SPAN?				

Command	Preset	Range	Unit	Description/Notes
LTE:CHPower:FREQuency:SPAN:FULL				Full Span
LTE:CHP:FREQ:SPAN:FULL				
LTE:CHPower:FREQuency:SPAN:LAST				Last Span
LTE:CHP:FREQ:SPAN:LAST				
LTE:CHPower:BANDwidth:MODE[?]	MANUal	AUTO | MANUal		RBW Mode
LTE:CHP:BAND:MODE AUTO LTE:CHP:BAND:MODE?				
LTE:CHPower:BANDwidth[?]	10 kHz	1 kHz to 1000 kHz	Hz, kHz	RBW Value
LTE:CHP:BAND 15 kHz LTE:CHP:BAND?				
LTE:CHPower:AVERage[?]	OFF	OFF | ON | 0 | 1		Average state
LTE:CHP:AVER ON LTE:CHP:AVER?				
LTE:CHPower:AVERage:NUMber[?]	1	1 to 100		Average Number
LTE:CHP:AVER:NUM 10 LTE:CHP:AVER:NUM?				
LTE:CHPower:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
LTE:CHP:AVER:TCON EXP LTE:CHP:AVER:TCON?				
LTE:CHPower:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
LTE:CHP:MAXH OFF LTE:CHP:MAXH?				

Command	Preset	Range	Unit	Description/Notes
LTE:CHPower:INTegration[?] LTE:CHPower:MINTerval<[0]|1|2|3|4|5|6|7|8|9>:INTegration[?]	10 MHz	10 kHz to 22 MHz	Hz, kHz, MHz	– LTE CHP Meas Interval BW. Channel BW dependent (For example: 20MHz for 20MHz System BW) – The italicised version of this command is not recommended and is planned for deletion in future software releases.
LTE:CHP:MINT5:INT 10 MHz LTE:CHP:MINT5:INT?				
LTE:CHPower:MINTerval<[0]|1|2|3|4|5|6|7|8|9>:LENGth[?]	1000 us	0 to 10 ms	us	LTE CHP Meas Interval Duration
LTE:CHP:MINT5:LENG 1100 us LTE:CHP:MINT5:LENG?				
LTE:CHPower:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
LTE:CHP:MARK4:MODE NORM LTE:CHP:MARK4:MODE?				
LTE:CHPower:MARKer#:X[?]	1.95 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Marker Frequency
LTE:CHP:MARK4:X 2.535 GHz LTE:CHP:MARK4:X?				
LTE:CHPower:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
LTE:CHP:MARK4:Y –10 dBm LTE:CHP:MARK4:Y?				
LTE:CHPower:MARKer:AOFF				All Marker Off
LTE:CHP:MARK:AOFF				

Command	Preset	Range	Unit	Description/Notes
LTE:CHPower:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
LTE:CHP:MARK4:CPS ON LTE:CHP:MARK4:CPS?				
LTE:CHPower:MARKer#:MAXimum				Peak Search
LTE:CHP:MARK4:MAX				
LTE:CHPower:MARKer#:MAXimum:NEXT				Next Peak
LTE:CHP:MARK4:MAX:NEXT				
LTE:CHPower:MARKer#:MAXimum:RIGHt				Next (Low) Right
LTE:CHP:MARK4:MAX:RIGH				
LTE:CHPower:MARKer#:MAXimum:LEFT				Next (Low) Left
LTE:CHP:MARK4:MAX:LEFT				
LTE:CHPower:MARKer#:PTPeak				Peak-Peak Search
LTE:CHP:MARK4:PTP				
LTE:CHPower:MARKer#:MINimum				Min Search
LTE:CHP:MARK4:MIN				
LTE:CHPower:MARKer#:CENTer				Mkr -> CF
LTE:CHP:MARK4:CENT				
LTE:CHPower:MARKer#:RLEVel				Mkr -> Ref Lvl
LTE:CHP:MARK4:RLEV				
LTE:CHPower:MINTerval<[0]|1|2|3|4|5|6|7|8|9>:STATe[?]	ON	ON | OFF		LTE Channel Power Measurement Interval State
LTE:CHP:MINT4:STAT OFF LTE:CHP:MINT4:STAT?				
LTE:CHPower:MINTerval<[0]|1|2|3|4|5|6|7|8|9>:STARt[?]	Subframe boundaries (0ms, 1ms, 2ms, etc.) 9000 us	0 to 10000 us	us	LTE Channel Power Measurement Interval Start Time
LTE:CHP:MINT3:STAR 3000				

Command	Preset	Range	Unit	Description/Notes
LTE:CHPower:MINTerval:DEFault				Restore LTE Channel Power Restore Measurement Interval defaults
LTE:CHP:MINT:DEF				
LTE:CHPower:MEASure:POWer?				– Channel Power Measure / Results are returned in a dBm string. – This command is not recommended and is planned for deletion in future software releases. Use LTE:CHPower:MEASure:POWer:MINTerval commands for access to the full channel power array measurements.
LTE:CHP:MEAS:POW?				
LTE:CHPower:MEASure:POWer:MINTerval<[0]|1|2|3|4|5|6|7|8|9>?		0 to 9		Channel Power Measure / Results are returned in a dBm string for the measurement interval
LTE:CHP:MEAS:POW:MINT0? LTE:CHP:MEAS:POW:MINT9?				
LTE:CHPower:MEASure:POWer:MINTerval:ALL?				Returns string of all ten Channel Power Measurement intervals in dBm. Each result interval separated by comma.
LTE:CHP:MEAS:POW:MINT:ALL?				
LTE:CHPower:DISPIAYINTerval	0	0 to 9		Displays the specified channel power index on screen.
LTE:CHP:DISPLAYINT 8				

Occupied BW

Command	Preset	Range	Unit	Description/Notes
LTE:OBWidth:FREQuency:SPAN[?]	20 MHz	1 MHz to 50 MHz	Hz, kHz, MHz	Set Span - Depends on instrument maximum frequency.
LTE:OBW:FREQ:SPAN 10 MHz LTE:OBW:FREQ:SPAN?				
LTE:OBWidth:FREQuency:SPAN:FULL				Full Span
LTE:OBW:FREQ:SPAN:FULL				
LTE:OBWidth:FREQuency:SPAN:LAST				Last Span
LTE:OBW:FREQ:SPAN:LAST				
LTE:OBWidth:BANDwidth:MODE[?]	MANUal	AUTO | MANUal		RBW Mode
LTE:OBW:BAND:MODE AUTO LTE:OBW:BAND:MODE?				
LTE:OBWidth:BANDwidth[?]	10 kHz	1 kHz to 1000 kHz	Hz, kHz, MHz	RBW Value
LTE:OBW:BAND 100 kHz LTE:OBW:BAND?				
LTE:OBWidth:AVERage[?]	OFF	OFF | ON | 0 | 1		Average state
LTE:OBW:AVER ON LTE:OBW:AVER?				
LTE:OBWidth:AVERage:NUMber[?]	0	1 to 100		Average Number
LTE:OBW:AVER:NUM 10 LTE:OBW:AVER:NUM?				
LTE:OBWidth:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
LTE:OBW:AVER:TCON EXP LTE:OBW:AVER:TCON?				

Command	Preset	Range	Unit	Description/Notes
LTE:OBWidth:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
LTE:OBW:MAXH ON LTE:OBW:MAXH?				
LTE:OBWidth:POWer[?]	99	10 % to 99% in 0.1% steps		OBW Power
LTE:OBW:POW 20 LTE:OBW:POW?				
LTE:OBWidth:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
LTE:OBW:MARK5:MODE DELT LTE:OBW:MARK5:MODE?				
LTE:OBWidth:MARKer#:X[?]	1.95 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Marker Frequency
LTE:OBW:MARK5:X 2.535 GHz LTE:OBW:MARK5:X?				
LTE:OBWidth:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
LTE:OBW:MARK5:Y –10 dBm LTE:OBW:MARK5:Y?				
LTE:OBWidth:MARKer:AOFF				All Marker Off
LTE:OBW:MARK:AOFF				
LTE:OBWidth:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continous Peak Search
LTE:OBW:MARK5:CPS ON LTE:OBW:MARK5:CPS?				
LTE:OBWidth:MARKer#:MAXimum				Peak Search
LTE:OBW:MARK5:MAX				
LTE:OBWidth:MARKer#:MAXimum:NEXT				Next Peak
LTE:OBW:MARK5:MAX:NEXT				

Command	Preset	Range	Unit	Description/Notes
LTE:OBWidth:MARKer#:MAXimum:RIGHt				Next (Low) Right
LTE:OBW:MARK5:MAX:RIGH				
LTE:OBWidth:MARKer#:MAXimum:LEFT				Next (Low) Left
LTE:OBW:MARK5:MAX:LEFT				
LTE:OBWidth:MARKer#:PTPeak				Peak-Peak Search
LTE:OBW:MARK5:PTP				
LTE:OBWidth:MARKer#:MINimum				Min Search
LTE:OBW:MARK5:MIN				
LTE:OBWidth:MARKer#:CENTer				Mkr -> CF
LTE:OBW:MARK5:CENT				
LTE:OBWidth:MARKer#:RLEVel				Mkr -> Ref Lvl
LTE:OBW:MARK5:RLEV				
LTE:OBWidth:MEASure?				OBW Measure/Results are returned in MHz as a string.
LTE:OBW:MEAS?				

Power Vs Time

Command	Preset	Range	Unit	Description/Notes
PVTime:GATE:NUMber[?]	0	0 to 10		Gate Number
PVT:GATE:NUM 10 PVT:GATE:NUM?				
PVTime:GATE:DELTa[?]	1000 us	0 us to 60 ms	us, ms	Gate Delta
PVT:GATE:DELT 1500 us PVT:GATE:DELT?				
PVTime:GATE:DELay[?]	20 us	0 us to 60 ms	us, ms	Gate Delay
PVT:GATE:DEL 10 ms PVT:GATE:DEL?				

Command	Preset	Range	Unit	Description/Notes
PVTime:GATE:LENGth[?]	960 us	1 us to 60 ms	us, ms	Gate Length
PVT:GATE:LENG 320 us PVT:GATE:LENG?				
LTE:PVTime:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
LTE:PVT:MARK5:MODE FIX LTE:PVT:MARK5:MODE?				
LTE:PVTime:MARKer#:X[?]	0	-60000 to 60000	us	Marker Frequency
LTE:PVT:MARK5:X 60000 LTE:PVT:MARK5:X?				
LTE:PVTime:MARKer#:Y[?]	0	-120 to 50		Fixed Marker Level
LTE:PVT:MARK5:Y -100 LTE:PVT:MARK5:Y?				
LTE:PVTime:MARKer:AOFF				All Marker Off
LTE:PVT:MARK:AOFF				
LTE:PVTime:MARKer#:MAXimum				Peak Search
LTE:PVT:MARK:MAX				
LTE:PVTime:MARKer#:RLEVel				Mkr -> Ref Lvl
LTE:PVT:MARK5:RLEV				
PVTime:MEASure:TABLe?				See "Power vs Time Measurement Results".
PVT:MEAS:TABL?				

Spectrum Emission Mask

Command	Preset	Range	Unit	Description/Notes
SEMask:MASK:SELect[?]	DEFault	DEFault | MASK1 | MASK2 | MASK3 | MASK4 | MASK5 | MASK6 | MASK7 | MASK8 | MASK9 | MASK10		Select Mask
SEM:MASK:SEL MASK8 SEM:MASK:SEL?				
SEMask:MEASure:INTERVal[?]	1ms	200 us to 20 ms	us, ms, s	Measure Interval
SEM:MEAS:INTERV 10 ms SEM:MEAS:INTERV?				
SEMask:FFTOverlap[?]	0	0 | 25 | 50 | 75		FFT Overlap
SEM:FFTO 50 SEM:FFTO?				
SEMask:TYPE[?]	PSD	CHP | PSD | PEAK		Edit Mask - Mask Type
SEM:TYPE CHP SEM:TYPE?				
SEMask:EDIT:SEGMENT[?]	0	0 to 8		Edit Mask – Segment. Specifies the edit segment (0-8) that the following Edit Mask commands apply to.
SEM:EDIT:SEGMENT 7 SEM:EDIT:SEGMENT?				
SEMask:EDIT:SEGMENT:STATe[?]	OFF	ON | OFF		Edit Mask - Segment State
SEM:EDIT:SEGMENT:STAT ON SEM:EDIT:SEGMENT:STAT?				

Command	Preset	Range	Unit	Description/Notes
SEMask:EDIT:START:FREQuency[?]	0	0 Hz to 35 MHz	Hz, kHz, MHz, GHz	Edit Mask - Start Frequency
SEM:EDIT:START:FREQ 25 MHz SEM:EDIT:START:FREQ?				
SEMask:EDIT:STOP:FREQuency[?]	5 Mhz	(SEMask:EDIT:START:FREQuency +1) to 35 MHz	Hz, kHz, MHz, GHz	Edit Mask - Stop Frequency
SEM:EDIT:STOP:FREQ 25 MHz SEM:EDIT:STOP:FREQ?				
SEMask:EDIT:INTEGration:BW[?]	30 kHz	10 kHz to 1 MHz	Hz, kHz, MHz, GHz	Edit Mask - Integration Bandwidth
SEM:EDIT:INTEG:BW 100 kHz SEM:EDIT:INTEG:BW?				
SEMask:EDIT:SEGMent:SIDE[?]	BOTH	NEGative | BOTH | POSitive		Edit Mask - Segment Side
SEM:EDIT:SEGM:SIDE POS SEM:EDIT:SEGM:SIDE?				
SEMask:EDIT:FAIL:SOURce[?]	ABSolute	ABSolute | RELative | AND | OR | NONe		Edir Mask - File Source
SEM:EDIT:FAIL:SOUR REL SEM:EDIT:FAIL:SOUR?				
SEMask:EDIT:ABS:START:POWer[?]		–120 dBm to 50 dBm	dBm	Edit Mask - Abs Start Power
SEM:EDIT:ABS:START:POW 10 dBm SEM:EDIT:ABS:START:POW?				

Command	Preset	Range	Unit	Description/Notes
SEMask:EDIT:ABS:STOP:POWer[?]		–120 dBm to 50 dBm	dBm	Edit Mask - Abs Stop Power
SEM:EDIT:ABS:STOP:POW 20 dBm SEM:EDIT:ABS:STOP:POW?				
SEMask:EDIT:REL:START:POWer[?]		–120 dB to 50 dB	dB	Edit Mask - Rel Start Power
SEM:EDIT:REL:START:POW 10 dB SEM:EDIT:REL:START:POW?				
SEMask:EDIT:REL:STOP:POWer[?]		–120 dB to 50 dB	dB	Edit Mask - Rel Stop Power
SEM:EDIT:REL:STOP:POW 20 dB SEM:EDIT:REL:STOP:POW?				
LTE:SEMask:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
LTE:SEM:MARK6:MODE DELT				
LTE:SEMask:MARKer#:X[?]	1.95 GHz	350 MHz to 6 GHz	Hz, kHz, MHz, GHz	Marker Frequency
LTE:SEM:MARK6:X 2.535 GHz LTE:SEM:MARK6:X?				
LTE:SEMask:MARKer#:Y[?]		–120 dBm to 50 dBm	dBm	Fixed Marker Level
LTE:SEM:MARK6:Y -101 LTE:SEM:MARK6:Y?				
LTE:SEMask:MARKer:AOFF				All Marker Off
LTE:SEM:MARK:AOFF				
LTE:SEMask:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
LTE:SEM:MARK6:CPS ON LTE:SEM:MARK6:CPS?				
LTE:SEMask:MARKer#:MAXimum				Peak Search
LTE:SEM:MARK6:MAX				

Command	Preset	Range	Unit	Description/Notes
LTE:SEMask:MARKer#:MAXimum:NEXT				Next Peak
LTE:SEM:MARK6:MAX:NEXT				
LTE:SEMask:MARKer#:MAXimum:RIGHt				Next (Low) Right
LTE:SEM:MARK6:MAX:RIGH				
LTE:SEMask:MARKer#:MAXimum:LEFT				Next (Low) Left
LTE:SEM:MARK6:MAX:LEFT				
LTE:SEMask:MARKer#:PTPeak				Peak-Peak Search
LTE:SEM:MARK6:PTP				
LTE:SEMask:MARKer#:MINimum				Min Search
LTE:SEM:MARK6:MIN				
LTE:SEMask:MARKer#:CENTer				Mkr -> CF
LTE:SEM:MARK6:CENT				
LTE:SEMask:MARKer#:RLEVel				Mkr -> Ref Lvl
LTE:SEM:MARK6:RLEV				
SEMask:SAVE				Edit Mask Save
SEM:SAVE				
LTE:SEMask:DEFault				
LTE:SEM:DEF				
SEMask:MEASure:MAIN:TABLe?				See "SEM Main Measurement Results Table".
SEM:MEAS:MAIN:TABL?				
SEMask:MEASure:DETAil:TABLe?				See "SEM Detailed Measurement Results Table".
SEM:MEAS:DETA:TABL?				

ACLR

Command	Preset	Range	Unit	Description/Notes
LTE:ACLR:AVERage[?]	OFF	OFF | ON		Average State
LTE:ACLR:AVER ON LTE:ACLR:AVER?				
LTE:ACLR:AVERage:NUMber[?]	1	1 to 100		Average Number
LTE:ACLR:AVER:NUM 10 LTE:ACLR:AVER:NUM?				
LTE:ACLR:AVERage:TCONtrol[?]	EXPonential	EXPonential | REPeat		Average Mode
LTE:ACLR:AVER:TCON REP LTE:ACLR:AVER:TCON?				
LTE:ACLR:BANDwidth:MODE[?]	MANUal	AUTO | MANUal		RBW Mode
LTE:ACLR:BAND:MODE AUTO LTE:ACLR:BAND:MODE?				
LTE:ACLR:BANDwidth[?]	10000 Hz	1 kHz to 1 MHz		RBW Value
LTE:ACLR:BAND 2 kHz LTE:ACLR:BAND?				
LTE:ACLR:MAXHold[?]	OFF	OFF | ON | 0 | 1		Max Hold
LTE:ACLR:MAXH ON LTE:ACLR:MAXH?				
LTE:ACLR:CARRier:NUMber[?]	1	1 | 2		Carrier Number
LTE:ACLR:CARR:NUM 2 LTE:ACLR:CARR:NUM?				
LTE:ACLR:CARRier:RCARrier[?]	0	0 | 1		Reference Carrier
LTE:ACLR:CARR:RCAR 1 LTE:ACLR:CARR:RCAR?				
LTE:ACLR:CARRier:SELect[?]	0	0 | 1		Select Carrier
LTE:ACLR:CARR:SEL 1 LTE:ACLR:CARR:SEL?				

Command	Preset	Range	Unit	Description/Notes
LTE:ACLR:CARRier:WIDth[?]	0 HZ	–25 MHz to 25 MHz	Hz, kHz, MHz, GHz	Carrier Spacing
LTE:ACLR:CARR:WID 1 MHz LTE:ACLR:CARR:WID?				
LTE:ACLR:CARRier:BANDWidth[?]	9 MHz	10 kHz to 50 MHz	Hz, kHz, MHz, GHz	Carrier Integration Bandwidth
LTE:ACLR:CARR:BANDW 1 MHz LTE:ACLR:CARR:BANDW?				
LTE:ACLR:OFFSet:NUMber[?]	2	1 to 5		Offset Number
LTE:ACLR:OFFS:NUM 3 LTE:ACLR:OFFS:NUM?				
LTE:ACLR:OFFSet:SELect[?]	0	0 to 4		Offset Select
LTE:ACLR:OFFS:SEL 2 LTE:ACLR:OFFS:SEL?				
LTE:ACLR:OFFSet:WIDth[?]	7.5 MHz	0 Hz to 25 MHz	Hz, kHz, MHz, GHz	Offset Spacing
LTE:ACLR:OFFS:WID 15 MHz LTE:ACLR:OFFS:WID?				
LTE:ACLR:OFFSet:BANDWidth[?]	3.84 MHz	10 kHz to 50 MHz	Hz, kHz, MHz, GHz	Offset Integration Bandwidth
LTE:ACLR:OFFS:BANDW 1 MHz LTE:ACLR:OFFS:BANDW?				
LTE:ACLR:OFFSet:FSOURce[?]	RELative	ABSolute | RELative | NONe		Offset Fail Source
LTE:ACLR:OFFS:FSOUR NON LTE:ACLR:OFFS:FSOUR?				

Command	Preset	Range	Unit	Description/Notes
LTE:ACLR:OFFSet:ALIMit[?]	0	–120 dBm to 50 dBm	dBm	Offset Abs Limit
LTE:ACLR:OFFS:ALIM 10 dBm LTE:ACLR:OFFS:ALIM?				
LTE:ACLR:OFFSet:RLIMit[?]	–33	–120 dB to 50 dB	dB	
LTE:ACLR:OFFS:RLIM 10 dB LTE:ACLR:OFFS:RLIM?				
LTE:ACLR:MARKer#:MODE	OFF	OFF | NORMal | DELTa | FIXed		Marker Mode
LTE:ACLR:MARK1:MODE FIX LTE:ACLR:MARK1:MODE?				
LTE:ACLR:MARKer#:X[?]	No preset value defined	Normal, Fixed (0-10 GHz), Delta (–5 GHz to +5 GHz)	Hz, kHz, MHz, GHz	Marker Frequency
LTE:ACLR:MARK1:X 2.16 GHz LTE:ACLR:MARK1:X?				
LTE:ACLR:MARKer#:Y[?]	No preset value defined	–120 dBm to 50 dBm	dBm	Fixed Marker Level
LTE:ACLR:MARK1:Y 10 dBm LTE:ACLR:MARK1:Y?				
LTE:ACLR:MARKer:AOFF				All Marker Off
LTE:ACLR:MARK1:AOFF				
LTE:ACLR:MARKer#:CPSearch[?]	OFF	OFF | ON | 0 | 1		Continuous Peak Search
LTE:ACLR:MARK1:CPS ON LTE:ACLR:MARK1:CPS?				
LTE:ACLR:MARKer#:MAXimum				Peak Search
LTE:ACLR:MARK1:MAX				
LTE:ACLR:MARKer#:MAXimum:NEXT				Next Peak
LTE:ACLR:MARK1:MAX:NEXT				
LTE:ACLR:MARKer#:MAXimum:RIGHt				Next (Low) Right
LTE:ACLR:MARK1:MAX:RIGH				

Command	Preset	Range	Unit	Description/Notes
LTE:ACLR:MARKer#:MAXimum:LEFT				Next (Low) Left
LTE:ACLR:MARK1:MAX:LEFT				
LTE:ACLR:MARKer#:PTPeak				Peak-Peak Search
LTE:ACLR:MARK1:PTP				
LTE:ACLR:MARKer#:MINimum				Min Search
LTE:ACLR:MARK1:MIN				
LTE:ACLR:MARKer#:CENTer				Mkr -> CF
LTE:ACLR:MARK1:CENT				
LTE:ACLR:MARKer#:RLEVel				Mkr -> Ref Lvl
LTE:ACLR:MARK1:RLEV				
LTE:ACLR:MEASure:TABLe?				See "LTE Adjacent Channel Leakage Ratio (ACLR) Measurement Results".
LTE:ACLR:MEAS:TABL?				

Constellation

Command	Preset	Range	Unit	Description/Notes
ULMODulation:CONStellation:SCALe[?]	0.5	0.1 to 2.0 in 0.1 steps		Uplink Constellation Scaling
ULMOD:CONS:SCAL .8 ULMOD:CONS:SCAL?				
ULMODulation:CONStellation:CHANnel:PUSCH:STATe[?]	ON	OFF | ON		Uplink Constellation Channel PUSCH State
ULMOD:CONS:CHAN:PUSCH:STAT OFF ULMOD:CONS:CHAN:PUSCH:STAT?				
ULMODulation:CONStellation:CHANnel:PUSCH:REF:STATe[?]	ON	OFF | ON		Uplink Constellation Channel PUSCH Ref State
ULMOD:CONS:CHAN:PUSCH:REF:STAT OFF ULMOD:CONS:CHAN:PUSCH:REF:STAT?				

Command	Preset	Range	Unit	Description/Notes
ULMODulation:CONStellation:CHANnel:PUCCH:STATe[?]	ON	OFF | ON		Uplink Constellation Channel PUCCH State
ULMOD:CONS:CHAN:PUCCH:STAT OFF ULMOD:CONS:CHAN:PUCCH:STAT?				
ULMODulation:CONStellation:CHANnel:PUCCH:REF:STATe[?]	ON	OFF | ON		Uplink Constellation Channel PUCCH Ref State
ULMOD:CONS:CHAN:PUCCH:REF:STAT OFF ULMOD:CONS:CHAN:PUCCH:REF:STAT?				
ULMODulation:CONStellation:CHANnel:SOUNDing:REF:STATe[?]	ON	OFF | ON		Uplink Constellation Sounding Reference State
ULMOD:CONS:CHAN:SOUND:REF:STAT OFF ULMOD:CONS:CHAN:SOUND:REF:STAT?				
LTE:ULmodulation:CONStellation:MEASure:TABLe?				See "LTE Uplink Modulation Constellation Measurement Results".
LTE:UL:CONS:MEAS:TABL?				
ULMODulation:CONStellation:SFRame	ALL	0|1|2|3|4|5|6|7|8|9|ALL		Uplink Constellation Selection Subframe
ULMOD:CONS:SFR 1 ULMOD:CONS:SFR?				

Power Spectrum

Command	Preset	Range	Unit	Description/Notes
ULMODulation:PSPECtrum:SYMBol[?]	2	0 to 13		Uplink Power Spectrum Symbol
ULMOD:PSPEC:SYMB 10 ULMOD:PSPEC:SYMB?				

Command	Preset	Range	Unit	Description/Notes
ULMODulation:PSPECtrum:SCARrier[?]	0	–600 to 599 (20 MHz) –300 to 299 (10 MHz) –150 to 149 (5 MHz)		
ULMOD:PSPEC:SCAR 200 ULMOD:PSPEC:SCAR?				
ULMODulation:PSPECtrum:SFRame	0	0 to 9		Uplink Power Spectrum Subframe Selection
ULMOD:PSPEC:SFR 1 ULMOD:PSPEC:SFR?				
LTE:ULmodulation:PSPECtrum:MEASure:TABLe?				See "LTE UL Modulation Power Spectrum Measurement Results".
LTE:UL:PSPEC:MEAS:TABL?				

Received IQ Data

Command	Preset	Range	Unit	Description/Notes
UL:IQRECeived:SCALe[?]	1.5	0.1 to 3.0		Uplink Received I/Q Data Scale
UL:IQREC:SCAL 2.0 UL:IQREC:SCAL?				
UL:IQRECeived:SYMBol[?]	2	0 to 13		Uplink Received I/Q Data Symbol
UL:IQREC:SYMB 4 UL:IQREC:SYMB?				
UL:IQRECeived:SCARrier[?]	–117	–600 to 599 (20 MHz) –300 to 299 (10 MHz) –150 to 149 (5 MHz)		Uplink Received I/Q Data Subcarrier
UL:IQREC:SCAR 202 UL:IQREC:SCAR?				

Command	Preset	Range	Unit	Description/Notes
ULMODulation:IQRECeived:SFRame	0	0 to 9		Uplink Received I/Q Data Subframe Selection
ULMOD:IQREC:SFR 1 ULMOD:IQREC:SFR?				
LTE:ULmodulation:IQRECeived:MEASure:TABLe?				See "LTE UL Modulation IQ Data Received Measurement Results".
LTE:UL:IQREC:MEAS:TABL?				

Error Vector

Command	Preset	Range	Unit	Description/Notes
ULMODulation:ERRVector:SCARrier[?]	0	–600 to 599 (20 MHz) –300 to 299 (10 MHz) –150 to 149 (5 MHz)		Uplink Error Vector Subcarrier
ULMOD:ERRV:SCAR 101 ULMOD:ERRV:SCAR?				
ULMODulation:ERRVector:SCARrier:SCALe[?]	1	0.1% to 10 % in 0.1% steps		Uplink Error Vector Subcarrier Scale
ULMOD:ERRV:SCAR:SCAL 2.1 ULMOD:ERRV:SCAR:SCAL?				
ULMODulation:ERRVector:SYMBol[?]	2	0 to 13		Uplink Error Vector Symbol
ULMOD:ERRV:SYMB 10 ULMOD:ERRV:SYMB?				
ULMODulation:ERRVector:SYMBol:SCALe[?]	1	0.1% to 10 % in 0.1% steps		Uplink Error Vector Symbol Scale
ULMOD:ERRV:SYMB:SCAL 2.2 ULMOD:ERRV:SYMB:SCAL?				

Command	Preset	Range	Unit	Description/Notes
ULMODulation:ERRVector:SFRame[?]	0	0 to 9		Uplink Error Vector Symbol Selection Subframe
ULMOD:ERRV:SFR 1 ULMOD:ERRV:SFR?				
LTE:ULmodulation:ERRVector:MEASure:EV:TABLe?				See "LTE UL Modulation Error Vector Measurement Results".
LTE:UL:ERRV:MEAS:EV:TABL?				

Decoding Information

Command	Preset	Range	Unit	Description/Notes
LTE:ULmodulation:DECINFOmation:MEASure:TABLe?				See "LTE UL Modulation Decoding Information Measurement Results".
LTE:UL:DECINFO:MEAS:TABL?				

Flatness

Command	Preset	Range	Unit	Description/Notes
UL:FLATness:SCARrier[?]	0	–600 to 599 (20 MHz) –300 to 299 (10 MHz) –150 to 149 (5 MHz)		Uplink Flatness Subcarrier
UL:FLAT:SCAR 299 UL:FLAT:SCAR?				
UL:FLATness:SCALe[?]	1	0.1 dB to 2.0 dB in 0.1 dB steps	dB	
UL:FLAT:SCAL 1.9 UL:FLAT:SCAL?				

Command	Preset	Range	Unit	Description/Notes
UL:FLATness:SLOT	0	0 to 19		Uplink Flatness Selection Slot
UL:FLAT:SLOT 5 UL:FLAT:SLOT?				
UL:FLATness:PWRSUB?				Retrieves the current subcarrier power in the Flatness measurement. You can select any particular subcarrier of the uplink signal and retrieve its power."
UL:FLAT:PWRSUB?				

Command	Preset	Range	Unit	Description/Notes
LTE:ULmodulation:FLATness:MEASure:FLAT:TABLe?				The command is no longer supported in software version 6.3 or greater. Use the "LTE:ULmodulation:FLATness:MEASure:EQFLat:TABLe?" command shown below. The measurement algorithm for "FLATness" was changed in order to make it compliant with 3GPP TS 36.521-1 (previously it was not compliant). This change required a new remote command, "LTE:ULmodulation:FLATness:MEASure:EQFLat:TABLe" to replace "LTE:ULmodulation:FLATness:MEASure:FLAT:TABLe". The new compliant version of the measurement does not require definition of the limits that the previous version required and therefore the relevant setting commands have been removed. As a result of this change, the following commands are no longer required to make this measurement. UL:FLATness:ABS:LIMit:OFFSet[?] UL:FLATness:ABS:LIMit:SCARrier:STATe[?] UL:FLATness:ABS:LIMit:SCARrier:STARt[?] UL:FLATness:ABS:LIMit:SCARrier:STOP[?] UL:FLATness:ABS:LIMit:OFFSet:SIDe[?] UL:FLATness:ABS:LIMit:UPPer:STATe[?] UL:FLATness:ABS:LIMit:UPPer:STARt[?] UL:FLATness:ABS:LIMit:UPPer:STOP[?] UL:FLATness:ABS:LIMit:LOWer:STATe[?] UL:FLATness:ABS:LIMit:LOWer:STARt[?] UL:FLATness:ABS:LIMit:LOWer:STOP[?] UL:FLATness:DIFF:LIMit:OFFSet[?].

Command	Preset	Range	Unit	Description/Notes
LTE:ULmodulation:FLATness:MEASure:FLAT:TABLe? (cont.)				UL:FLATness:DIFF:LIMit:SCARrier:STATe[?] UL:FLATness:DIFF:LIMit:SCARrier:STARt[?] UL:FLATness:DIFF:LIMit:SCARrier:STOP[?] UL:FLATness:DIFF:LIMit:OFFSet:SIDe[?] UL:FLATness:DIFF:LIMit:UPPer:STATe[?] UL:FLATness:DIFF:LIMit:UPPer:STARt[?] UL:FLATness:DIFF:LIMit:UPPer:STOP[?] UL:FLATness:DIFF:LIMit:LOWer:STATe[?] UL:FLATness:DIFF:LIMit:LOWer:STARt[?] UL:FLATness:DIFF:LIMit:LOWer:STOP[?] LTE:ULmodulation:FLATness:FAIL:TYPe[?] Note that the IQ-Offset results that were returned in the previous measurement are not available in the new measurement, but can be obtained from ULMODulation:SLOTs:SUMMary? or ULMODulation:OVERall:SUMMary?
LTE:UL:FLAT:MEAS:EQFL:TABL?				
LTE:ULmodulation:FLATness:MEASure:EQFLat:TABLe?				See "LTE Uplink Modulation EQ Flatness Measurement Results".
LTE:UL:FLAT:MEAS:EQFL:TABL?				
UL:MQS:SLOT	0	0 to 19		Uplink Modulation Quality Summary Selection Slot
UL:MQS:SLOT 2 UL:MQS:SLOT?				
ULMODulation:SLOTs:SUMMary?				See "Uplink Modulation Slot Summary Measurement Results".
ULMOD:SLOT:SUMM?				

Command	Preset	Range	Unit	Description/Notes
ULMODulation:OVERall:SUMMary?				See "UL Modulation Quality Overall Summary Measurement Results".
ULMOD:OVER:SUMM?				
ULMODulation:MAPINformation:XYAXis	X-Y	X-Y | Y-X		Map Information X-Y Axis.
ULMOD:MAPIN:XYAX Y-X				
ULMODulation:MAPINformation:CTABle	Show	Show | Hide		Map Information Channel Value Table
ULMOD:MAPIN:CTAB Hide				

LTE Mode Setup – Standard Profile

Command	Preset	Range	Unit	Description/Notes
LTE:RADio:STANdard:PROFile[?]	10MHz	5MHz | 10MHz | 20MHz		Profile Type
LTE:RAD:STAN:PROF 20MHz LTE:RAD:STAN:PROF?				

Uplink Configuration

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:CELL:ID[?]	ACELL / BCELL = 0	0 to 503		Cell ID
ULC:PARA:CELL:ID 101 ULC:PARA:CELL:ID?				
ULConfig:PARameters:TARGet:SFRame[?]	0	0 to 9		Target Sub frame
ULC:PAR:TARG:SFR 8 ULC:PAR:TARG:SFR?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:NRNTI[?]	0	0 to 65535		N Rnti
ULC:PARA:NRNTI 65000 ULC:PARA:NRNTI?				
ULConfig:PARAmeters:IQ:INVERse[?]	OFF	ON | OFF		IQ Inverse
ULC:PARA:IQ:INVER ON ULC:PARA:IQ:INVER?				
ULConfig:PARAmeters:MEASure:SFRame:STARt[?]	0	0 to 9		Start Sub Frame must be ≤ the Stop Sub Frame value.
ULC:PARA:MEAS:SFR:STAR 2 ULC:PARA:MEAS:SFR:STAR?				
ULConfig:PARameters:MEASure:SFRame:STOP[?]	0	0 to 9		Stop Sub Frame. must be ≥ the Start Sub Frame value.
ULC:PAR:MEAS:SFR:STOP 2 ULC:PAR:MEAS:SFR:STOP?				
ULConfig:PARAmeters:PUSCH:HOPPing:TXNB<[0]|1|2|3|4|5|6|7|8|9>[?]	0	0 to 1		PUSCH Hopping - Current_Tx_NB
ULC:PARA:PUSCH:HOPP:TXNB9 1 ULC:PARA:PUSCH:HOPP:TXNB9?				
ULConfig:PARAmeters:PUCCH:N1<[0]|1|2|3|4|5|6|7|8|9>[?]	0	5 MHz : 0 to 299 10 MHz : 0 to 599 20 MHz : 0 to 1023		n1 PUCCH-AN
ULC:PARA:PUCCH:N13 5 ULC:PARA:PUCCH:N13?				
ULConfig:PARAmeters:PUCCH:N2[?]	0	5 MHz : 0 to 299 10 MHz : 0 to 599 20 MHz : 0 to 1023		N2 PUCCH
ULC:PARA:PUCCH:N2 5 ULC:PARA:PUCCH:N2?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:PUSCH:RB:STARt[?]	0	0 to 99		PUSCH RB Offset
ULC:PARA:PUSCH:RB:STAR 50 ULC:PARA:PUSCH:RB:STAR?				
ULConfig:PARAmeters:PUSCH:RB:SIZE[?]	30	1 to 100		Number of RB PUSCH
ULC:PARA:PUSCH:RB:SIZE 50 ULC:PARA:PUSCH:RB:SIZE?				
ULConfig:PARAmeters:PUSCH:IMCS[?]	12	0 to 31		I_MCS
ULC:PARA:PUSCH:IMCS 20 ULC:PARA:PUSCH:IMCS?				
ULConfig:PARAmeters:PUSCH:CQI:OFFSet[?]	0	0 to 15		CQI Offset
ULC:PARA:PUSCH:CQI:OFFS 10 ULC:PARA:PUSCH:CQI:OFFS?				
ULConfig:PARAmeters:PUSCH:CQI:BITLength[?]	0	0 to 64		CQI Bit Length
ULC:PARA:PUSCH:CQI:BITL 32 ULC:PARA:PUSCH:CQI:BITL?				
ULConfig:PARAmeters:PUSCH:RI:OFFSet[?]	0	0 to 15		RI Offset
ULC:PARA:PUSCH:RI:OFFS 10 ULC:PARA:PUSCH:RI:OFFS?				
ULConfig:PARAmeters:PUSCH:RI:BITLength[?]	0	0 to 2		RI Bit Length
ULC:PARA:PUSCH:RI:BITL 1 ULC:PARA:PUSCH:RI:BITL?				
ULConfig:PARAmeters:PUSCH:HARQ:ACK:OFFSet[?]	0	0 to 15		PUSCH - HARQ ACK Offset
ULC:PARA:PUSCH:HARQ:ACK:OFFS 10 ULC:PARA:PUSCH:HARQ:ACK:OFFS?				
ULConfig:PARAmeters:PUSCH:HARQ:BITLength[?]	0	0 to 2		PUSCH - HARQ Bit Length
ULC:PARA:PUSCH:HARQ:BITL 1 ULC:PARA:PUSCH:HARQ:BITL?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:PUSCH:UE:CATEgory[?]	1	1 to 5		PUSCH - UE Category
ULC:PARA:PUSCH:UE:CATE 3 ULC:PARA:PUSCH:UE:CATE?				
ULConfig:PARAmeters:PUSCH:RV:INDex[?]	0	0 to 3		PUSCH - RV Index
ULC:PARA:PUSCH:RV:IND 3 ULC:PARA:PUSCH:RV:IND?				
ULConfig:PARAmeters:PUSCH:HOPPing:TYPE[?]	NOFreq	NOFreq | TYPE1 | TYPE2| NULHop		PUSCH Hopping - PUSCH Hopping Type
ULC:PARA:PUSCH:RV:IND 3 ULC:PARA:PUSCH:RV:IND?				
ULConfig:PARAmeters:PUSCH:HOPPing:NHORB[?]	0	0 to 49		PUSCH Hopping - N_HO_RB
ULC:PARA:PUSCH:HOPP:NHORB 24 ULC:PARA:PUSCH:HOPP:NHORB?				
ULConfig:PARAmeters:PUSCH:HOPPing:NSB[?]	1	1 to 4		PUSCH Hopping - N_sb
ULC:PARA:PUSCH:HOPP:NSB 4 ULC:PARA:PUSCH:HOPP:NSB?				
ULConfig:PARAmeters:PUSCH:HOPPing:TXNB[?]	0	0 to 3		PUSCH Hopping - Current_Tx_NB
ULC:PARA:PUSCH:HOPP:TXNB 3 ULC:PARA:PUSCH:HOPP:TXNB?				
ULConfig:PARAmeters:PUSCH:HOPPing:FLAG[?]	0	0 to 3		PUSCH Hopping - N_UL_Hop
ULC:PARA:PUSCH:HOPP:FLAG 3 ULC:PARA:PUSCH:HOPP:FLAG?				
ULConfig:PARAmeters:PUSCH:HOPPing:MODE[?]	INTRA	INTRA | INTER		PUSCH Hopping - Hopping Mode
ULC:PARA:PUSCH:HOPP:MODE INTRA ULC:PARA:PUSCH:HOPP:MODE?				
ULConfig:PARAmeters:REFERence:SIGNal:HOPPing:SEQuence[?]	DISAble	ENABle | DISAble		Reference Signal - Sequence Hopping
ULC:PARA:REFER:SIGN:HOPP:SEQ ENAB ULC:PARA:REFER:SIGN:HOPP:SEQ?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:REFERence:SIGNal:HOPPing:GROUp[?]	DISAble	ENABle | DISAble		Reference Signal - Group Hopping
ULC:PARA:REFER:SIGN:HOPP:GROU ENAB ULC:PARA:REFER:SIGN:HOPP:GROU?				
ULConfig:PARAmeters:REFERence:SIGNal:PUSCH:DELTAss[?]	0	0 to 29		Reference Signal - PUSCH DeltaSs
ULC:PARA:REFER:SIGN:PUSCH:DELTA 25 ULC:PARA:REFER:SIGN:PUSCH:DELTA?				
ULConfig:PARAmeters:REFERence:SIGNal:NDMRS1[?]	0	0 | 2 | 3 | 4 | 6 | 8 | 9 | 10		Reference Signal - PUSCH CS_Field By_Mac
ULC:PARA:REFER:SIGN:NDMRS1 6 ULC:PARA:REFER:SIGN:NDMRS1?				
ULConfig:PARAmeters:REFERence:SIGNal:NDMRS2[?]	0	0 | 2 | 3 | 4 | 6 | 8 | 9 | 10		Reference Signal - PUSCH CS_Field In_DCI
ULC:PARA:REFER:SIGN:NDMRS2 6 ULC:PARA:REFER:SIGN:NDMRS2?				
ULConfig:PARAmeters:PRACH:SEARch:SFRAMe[?]	1	0 to 9		PRACH Search Subframe
ULC:PARA:PRACH:SEAR:SFRAM 8 ULC:PARA:PRACH:SEAR:SFRAM?				
ULConfig:PARAmeters:PRACH:ROOT:SEQuence[?]	0	0 to 837		PRACH Root Sequence
ULC:PARA:PRACH:ROOT:SEQ 820 ULC:PARA:PRACH:ROOT:SEQ?				
ULConfig:PARAmeters:PRACH:PREAMble:FORMat[?]	0	0 to 3		PRACH Preamble Format
ULC:PARA:PRACH:PREAM:FORM 2 ULC:PARA:PRACH:PREAM:FORM?				
ULConfig:PARAmeters:PRACH:NCS:CONFig[?]	0	0 to 15		PRACH Ncs_Config
ULC:PARA:PRACH:NCS:CONF 15 ULC:PARA:PRACH:NCS:CONF?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:PRACH:HIGH:SPEED:FLAG[?]	UNRESTric	UNRESTric | RESTric		PRACH Restric Type
ULC:PARA:PRACH:HIGH:SPEED:FLAG REST ULC:PARA:PRACH:HIGH:SPEED:FLAG?				
ULConfig:PARAmeters:PRACH:FREQuency:OFFset[?]	0	0 to 94		PRACH F_RA
ULC:PARA:PRACH:FREQ:OFF 8 ULC:PARA:PRACH:FREQ:OFF?				
ULConfig:PARAmeters:PRACH:RA:PREAMble:NUMber[?]	0	0 to 64		PRACH Number Of Ra Preambles
ULC:PARA:PRACH:RA:PREAM:NUM 8 ULC:PARA:PRACH:RA:PREAM:NUM?				
ULConfig:PARAmeters:PUCCH:FORMat[?]	1	1 | 1A | 1B | 2 | 2A | 2B		PUCCH Format
ULC:PARA:PUCCH:FORM 1A ULC:PARA:PUCCH:FORM?				
ULConfig:PARAmeters:PUCCH:N1CS[?]	0	0 to 7		PUCCH N 1 cs
ULC:PARA:PUCCH:N1CS 7 ULC:PARA:PUCCH:N1CS?				
ULConfig:PARAmeters:PUCCH:N2RB[?]	0	0 to 98		PUCCH N 2 RB
ULC:PARA:PUCCH:N2RB 88 ULC:PARA:PUCCH:N2RB?				
ULConfig:PARAmeters:PUCCH:DELTa:SHIFt[?]	1	1 to 3		Delta PUCCH Shift
ULC:PARA:PUCCH:DELT:SHIF 2 ULC:PARA:PUCCH:DELT:SHIF?				
ULConfig:PARAmeters:PUCCH:N1[?]	0	0 to 2047		n 1 PUCCH
ULC:PARA:PUCCH:N1 1028 ULC:PARA:PUCCH:N1?				
ULConfig:PARAmeters:PUCCH:N2[?]	0	0 to 2047		n 2 PUCCH
ULC:PARA:PUCCH:N2 828 ULC:PARA:PUCCH:N2?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:PUCCH:CQI:LENGth[?]	1	1 to 13		PUCCH CQI Length
ULC:PARA:PUCCH:CQI:LENG 10 ULC:PARA:PUCCH:CQI:LENG?				
ULConfig:PARAmeters:SOUNd:RS:CYCLic:SHIFt:SRS[?]	1	0 to 7		Sound RS Cyclic Shift SRS
ULC:PARA:SOUN:RS:CYCL:SHIF:SRS 7 ULC:PARA:SOUN:RS:CYCL:SHIF:SRS?				
ULConfig:PARAmeters:SOUNd:RS:SRS:BAND:CONFig[?]	0	0 to 7		Sound RS SRS Band Config
ULC:PARA:SOUN:RS:SRS:BAND:CONF 7 ULC:PARA:SOUN:RS:SRS:BAND:CONF?				
ULConfig:PARAmeters:SOUNd:RS:SRS:BAND[?]	1	0 to 3		Sound RS SRS Band
ULC:PARA:SOUN:RS:SRS:BAND 2 ULC:PARA:SOUN:RS:SRS:BAND?				
ULConfig:PARAmeters:SOUNd:RS:TRANSMission:COMB[?]	1	0 to 1		Sound RS Transmission Comb
ULC:PARA:SOUN:RS:TRANSM:COMB 0 ULC:PARA:SOUN:RS:TRANSM:COMB?				
ULConfig:PARAmeters:SOUNd:RS:SRS:HOPPing:BANDwidth[?]	0	0 to 3		Sound RS SRS Hopping Bandwidth
ULC:PARA:SOUN:RS:SRS:HOPP:BAND 2 ULC:PARA:SOUN:RS:SRS:HOPP:BAND?				
ULConfig:PARAmeters:SOUNd:RS:NRRC[?]	12	0 to 23		Sound RS N_RRC
ULC:PARA:SOUN:RS:NRRC 20 ULC:PARA:SOUN:RS:NRRC?				
ULConfig:PARAmeters:SOUNd:RS:SYS:FRAMe:NUMber[?]	1	0 to 2147483647		Sound RS Sys. Frame Number
ULC:PARA:SOUN:RS:SYS:FRAM:NUM 2 ULC:PARA:SOUN:RS:SYS:FRAM:NUM?				
ULConfig:PARAmeters:SOUNd:RS:SRS:CONFig:INDex[?]	0	0 to 1023		Sound RS SRS Config Index
ULC:PARA:SOUN:RS:SRS:CONF:IND 50 ULC:PARA:SOUN:RS:SRS:CONF:IND?				

Command	Preset	Range	Unit	Description/Notes
ULConfig:PARAmeters:SOUNd:RS:SRS:APPly:FLAg[?]	OFF	ON | OFF		Sound RS SRS Applying Flag
ULC:PARA:SOUN:RS:SRS:APP:FLA ON ULC:PARA:SOUN:RS:SRS:APP:FLA?				

Mode Setup

Command	Preset	Range	Unit	Description/Notes
BSE:SIMULator RUN	STOP	RUN | STOP		Starts/Stops Simulator
BSE:SIMUL RUN				
SCENArio:LOAD		"[\subfolder name\] filename"		Enables you to load scenario files from the top-level scenario files folder or a subfolder. Note, file and folder names are not case sensitive.
SCENA:LOAD "\Band7\Scenario_5MHz_SISO_Band7_UM.LBMF" SCENA:LOAD "FDD_Combined_v6.3.LBMF"				
BSE:CONFig:NAS:PTIHandling[?]	AUTO	AUTO | MANUal		PTI Handling
BSE:CONF:NAS:PTIH MANU BSE:CONF:NAS:PTIH?				
BSE:CONFig:NAS:PDN:ADDRess1:V4[?]	0.0.0.0			IPV4 address
BSE:CONF:NAS:PDN:ADDR1:V4 196.168.1.55 BSE:CONF:NAS:PDN:ADDR1:V4?				
BSE:CONFig:NAS:MCC[?]	1	0 to 999		Mobile Country Code
BSE:CONF:NAS:MCC 400 BSE:CONF:NAS:MCC?				
BSE:CONFig:NAS:MNC[?]	1	0 to 99 0 to 999		Mobile Network Code Range is dependent upon MNCDigits
BSE:CONF:NAS:MNC 40 BSE:CONF:NAS:MNC?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:NAS:MNCDigits[?]	2	2 | 3		
BSE:CONF:NAS:MNCD 3 BSE:CONF:NAS:MNCD?				
BSE:CONFig:PHY:SYMBol:SF:NUMber[?]	1	1 | 2		Number of ServiceFlow (TDD only)
BSE:CONF:PHY:SYMB:NUM 2 BSE:CONF: PHY:SYMB:NUM?				
BSE:CONFig:PROFile[?]				
BSE:CONF:PROF 20MHz BSE:CONF:PROF?				
BSE:CONFig:RRC:ASEM[?]	1	1 to 32		
BSE:CONF:RRC:ASEM 15 BSE:CONF:RRC:ASEM?				
BSE:CONFig:RRC:TMode[?]	TM1	TM1 | TM2 | TM3 | TM4 | IMPLicit		TM1 and IMPLicit available with 1 Antenna. TM2, TM3, TM4 and IMPLicit available with 2 Antennas. See "BSE:CONFig:PHY:CELL:NCTantennas" more details.
BSE:CONF:RRC:TM TM3 BSE:CONF:RRC:TM?				
BSE:CONFig:RRC:PMState[?]	OFF	ON | OFF		Power Max State
BSE:CONF:RRC:PMS ON BSE:CONF:RRC:PMS?				
BSE:CONFig:RRC:PMAX[?]	23	-30 to 33		Power Max. Requires BSE:CONFig:RRC:PMState set to ON to set.
BSE:CONFig:RRC:PMAX 10 BSE:CONFig:RRC:PMAX?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:RRC:PZN:PUSCh[?]	–85	–126 | 24		
BSE:CONF:RRC:PZN:PUSC –40 BSE:CONF:RRC:PZN:PUSC?				
BSE:CONFig:RRC:PZUE:PUSCh[?]	0	–8 to 7		
BSE:CONF:RRC:PZUE:PUSC 4 BSE:CONF:RRC:PZUE:PUSC?				
BSE:CONFig:RRC:CDRX:LDCStart[?]	0	0 to 2559		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON
BSE:CONF:RRC:CDRX:LDCS 1000 BSE:CONF:RRC:CDRX:LDCS?				
BSE:CONFig:RRC:CDRX:STATe[?]	OFF	ON | OFF		CDRX State. Allows configuration of CDRX parameters.
BSE:CONF:RRC:CDRX:STAT ON BSE:CONF:RRC:CDRX:STAT?				
BSE:CONFig:RRC:CDRX:LDCYcle[?]	SF40	SF10 | SF20 | SF32 | SF40 | SF64 | SF80 | SF128 | SF160 | SF256 | SF320 | SF512 | SF640 | SF1024 | SF1280 | SF2048 | SF2560		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON
BSE:CONF:RRC:CDRX:LDCY SF128 BSE:CONF:RRC:CDRX:LDCY?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:RRC:CDRX:INACtivity[?]	PSF1920	PSF1 | PSF2 | PSF3 | PSF4 | PSF5 | PSF6 | PSF8 | PSF10 | PSF20 | PSF30 | PSF40 | PSF50 | PSF60 | PSF80 | PSF100 | PSF200 | PSF300 | PSF500 | PSF750 | PSF1280 | PSF1920 | PSF2560		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON
BSE:CONF:RRC:CDRX:INAC PSF200 BSE:CONF:RRC:CDRX:INAC?				
BSE:CONFig:RRC:CDRX:ONDuration[?]	PSF6	PSF1 | PSF2 | PSF3 | PSF4 | PSF5 | PSF6 | PSF8 | PSF10 | PSF20 | PSF30 | PSF40 | PSF50 | PSF60 | PSF80 | PSF100 | PSF200		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON
BSE:CONF:RRC:CDRX:OND PSF40 BSE:CONF:RRC:CDRX:OND?				
BSE:CONFig:RRC:CDRX:SDCYcle:STATe[?]	OFF	ON | OFF		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON
BSE:CONF:RRC:CDRX:SDCY:STAT ON BSE:CONF:RRC:CDRX:SDCY:STAT?				
BSE:CONFig:RRC:CDRX:SDCYcle:TIMer[?]	1	1 to 16		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON AND BSE:CONFig:RRC:CDRX:SDCYcle:STATe set to ON
BSE:CONF:RRC:CDRX:SDCY:TIM 5 BSE:CONF:RRC:CDRX:SDCY:TIM?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:RRC:CDRX:SDCYcle:VALue[?]	SF2	SF2 | SF5 | SF8 | SF10 | SF16 | SF20 | SF32 | SF40 | SF64 | SF80 | SF128 | SF160 | SF256 | SF320 | SF512 | SF640		Requires parameter BSE:CONFig:RRC:CDRX:STATe set to ON AND BSE:CONFig:RRC:CDRX:SDCYcle:STATe set to ON
BSE:CONF:RRC:CDRX:SDCY:VAL SF32 BSE:CONF:RRC:CDRX:SDCY:VAL?				
BSE:CONFig:RRC:CTIMer:LENGth[?]	5	2 to 60		
BSE:CONF:RRC:CTIM:LENG 40 BSE:CONF:RRC:CTIM:LENG?				
BSE:CONFig:RRC:CTIMer:STATus[?]	OFF	ON | OFF		Enables or disables the Cell Connection Status monitor. If enabled, the system checks Cell Connection Status every BSE:CONFig:RRC:CTIMer:LENGth seconds to ensure correct status is updated in both BSE:STATus:ACELL and BSE:STATus:BCELL.
BSE:CONF:RRC:CTIM:STAT ON BSE:CONF:RRC:CTIM:STAT?				
BSE:CONFig:RRC:IDRX:DPCycle[?]	RF32	RF32 | RF64 | RF128 | RF256		
BSE:CONF:RRC:IDRX:DPC RF64 BSE:CONF:RRC:IDRX:DPC?				
BSE:CONFig:RRC:IDRX:NB[?]	T1	T4 | T2 | T1 | T1_2 | T1_4 | T1_8 | T1_16 | T1_32		
BSE:CONF:RRC:IDRX:NB T2 BSE:CONF:RRC:IDRX:NB?				
BSE:CONFig:CRNTI[?]	12	10 to 65522		CRNTI
BSE:CONF:CRNTI 20 BSE:CONF:CRNTI?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:UE:CATEGory[?]	1	1 to 5		
BSE:CONF:UE:CATEG 4 BSE:CONF:UE:CATEG?				
BSE:EPC[?]	OFF	OFF | EMBed		
BSE:EPC EMB BSE:EPC?				
BSE:CONFig:CONTROLmode[?]	STANDALone	STANDALone | TTCN		
BSE:CONF:CONTROL TTCN BSE:CONF:CONTROL?				
BSE:FUNCtion:DL:POWer:CONTrol:PHY:PDSCh:RA?	0.0	-6 | -4.77 | -3 | -1.77 | 0.0 | 1 | 2 | 3		FDD only
BSE:FUNC:DL:POW:CONT:PHY:PDSC:RA?				
BSE:FUNCtion:DL:POWer:CONTrol:PHY:PDSCh:RB?	0.0	-10 to 10		FDD only
BSE:FUNC:DL:POW:CONT:PHY:PDSC:RB?				
BSE:FUNCtion:DL:POWer:CONTrol:PHY:OTHer:RA[?]	0	-6 | -4.77 | -3 | -1.77 | 0 | 1 | 2 | 3		FDD only
BSE:FUNC:DL:POW:CONT:PHY:OTH:RA -4.77 BSE:FUNC:DL:POW:CONT:PHY:OTH:RA?				
BSE:FUNCtion:DL:POWer:CONTrol:PHY:OTHer:RB[?]	0	-6 | -4.77 | -3 | -1.77 | 0 | 1 | 2 | 3		FDD only
BSE:FUNC:DL:POW:CONT:PHY:OTH:RB -4.77 BSE:FUNC:DL:POW:CONT:PHY:OTH:RB?				
BSE:FUNCtion:HANDOver:STARt				Initiates handover
BSE:FUNC:HANDO:STAR				
BSE:L1L2status:CLEar				
BSE:L1L2:CLE				
BSE:STATus:ACELL?	UNAV	OFF | IDLE | CON | REG | LOOP | REL | UNAV		Returns the current Acell Status
BSE:STAT:ACELL?				

Command	Preset	Range	Unit	Description/Notes
BSE:STATus:BCELL?	UNAV	OFF | IDLE | CON | REG | LOOP | REL | UNAV		Returns the current Bcell Status
BSE:STAT:BCELL?				

PHY

Command	Preset	Range	Unit	Description/Notes
BSE:CELL[:SELection]	Acell	Acell | Bcell		– Selects the desired Cell for configuration. By default this is Cell A. Some parameters have both Cell A and Cell B values associated with them (see PHY column Preset for list of ACELL/BCELL parameters). This command is used to toggle between the Cells. – To configure CELL B parameters, the Bcell must be selected first. – ACELL must be used as the default cell. – BCELL is available for handover tests. – For single cell tests ACELL should be used as primary default.
BSE:CELL B BSE:CELL? BSE:CELL:SEL A BSE:CELL:SEL?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:CELL:ID[?]	ACELL = 0 BCELL = 2	0 to 503		Cell ID
BSE:CONF:PHY:CELL:ID 4 BSE:CONF:PHY:CELL:ID?				
BSE:CONFig:PHY:CELL:NCTantennas[?]	1	1 | 2		Set or Get number of Antennas. The number of antennas dictates the Transmission mode availablility. See "BSE:CONFig:RRC:TMode" for more information. .
BSE:CONF:PHY:CELL:NCT 2 BSE:CONF:PHY:CELL:NCT?				
BSE:CONFig:PHY:PHICH:RESOUrce[?]	ACELL = 1 BCELL = 1	1/6 | 1/2 | 1 | 2		PHICH Resource
BSE:CONF:PHY:PHICH:RESOU 1/2 BSE:CONF:PHY:PHICH:RESOU?				
BSE:CONFig:PHY:SECurity:REPLay[?]	ON	OFF|ON		Security replay option.
BSE:CONF:PHY:SEC:REPL OFF BSE:CONF:PHY:SEC:REPL?				
BSE:CONFig:PHY:SYMBol:NUMber[?]	ACELL = 2 BCELL = 2	1 | 2 | 3		Number of CCH Symbol
BSE:CONF:PHY:SYMB:NUM 3 BSE:CONF:PHY:SYMB:NUM?				
BSE:CONFig:PHY:SECurity[:ON][?]	ON	ON | OFF		
BSE:CONF:PHY:SEC OFF BSE:CONF:PHY:SEC?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:SECurity:ALGOrithm[?]	DUMmy	DUMmy | MILEnage		
BSE:CONF:PHY:SEC:ALGO MILE BSE:CONF:PHY:SEC:ALGO?				
BSE:CONFig:PHY:SECurity:KOPTion[?]	OP	OP | OPC		
BSE:CONF:PHY:SEC:KOPT OPC BSE:CONF:PHY:SEC:KOPT?				
BSE:CONFig:PHY:SECurity:KVALue[?]	AGILent	AGILent | 3GPP | USER		
BSE:CONF:PHY:SEC:KVAL AGIL BSE:CONF:PHY:SEC:KVAL?				
BSE:CONFig:PHY:SECurity:KVALue:USERdefined[?]	There is no Factory Preset / Default	16 Byte Hex in string format	Hex	User K value. Value is persistent. Requires full 16 bytes being set.
BSE:CONF:PHY:SEC:KVAL:USER "0102030405060708090A0B0C0D0E0F10" BSE:CONF:PHY:SEC:KVAL:USER?				
BSE:CONFig:PHY:SECurity:OPVALue[?]	There is no Factory Preset / Default	16 Byte Hex in string format	Hex	OP value. Value is persistent. Requires full 16 bytes being set.
BSE:CONF:PHY:SEC:OPVAL "11223344556677889AABBCCDDEEFF00" BSE:CONF:PHY:SEC:OPVAL?				
BSE:CONFig:PHY:SECurity:OPCVALue[?]	There is no Factory Preset / Default	16 Byte Hex in string format	Hex	OPc value. Value is persistent. Requires full 16 bytes being set.
BSE:CONF:PHY:SEC:OPCVAL "00000000000000000000000000000000" BSE:CONF:PHY:SEC:OPCVAL?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:SECurity:AMFVALue[?]	"8000"	"0000" to "FFFF"		
BSE:CONF:PHY:SEC:AMFVAL 9C8D BSE:CONF:PHY:SEC:AMFVAL?				
BSE:CONFig:PHY:SECurity:IMSIVALue[?]	AGILent	AGILent, 3GPP, USER		IMSI value
BSE:CONF:PHY:SEC:IMSIVAL 3GPP BSE:CONF:PHY:SEC:IMSIVAL?				
BSE:CONFig:PHY:SECurity:IMSIVALue:USERdefined[?]	There is no Factory Preset / Default	"000000000000000" to "FFFFFFFFFFFFFFF"		User Defined IMSI value Value is persistent through an instrument power cycle.
BSE:CONF:PHY:SEC:IMSIVAL:USER "001010123456789" BSE:CONF:PHY:SEC:IMSIVAL:USER?				

Uplink

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:UL:GRANt:MODE[?]	ACELL / BCELL = AUTO	AUTO | FIXEDMACpadding		UL Grant - Grant Mode
BSE:CONF:PHY:UL:GRAN:MODE FIXEDMAC BSE:CONF:PHY:UL:GRAN:MODE?				
BSE:CONFig:PHY:UL:GRANt:IMCS[?]	ACELL / BCELL = 12	FDD: 0 to 23, 29 TDD: 0 to 20		UL Grant - I_MCS
BSE:CONF:PHY:UL:GRAN:IMCS 10 BSE:CONF:PHY:UL:GRAN:IMCS?				
BSE:CONFig:PHY:UL:GRANt:RB:SIZE[?]	ACELL / BCELL = 30	1 to 100		UL Grant - RB Size
BSE:CONF:PHY:UL:GRAN:RB:SIZE 30 BSE:CONF:PHY:UL:GRAN:RB:SIZE?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:UL:GRANt:RB:STARt[?]	ACELL / BCELL = 0	0 to 99		UL Grant - RB Start
BSE:CONF:PHY:UL:GRAN:RB:STAR 50 BSE:CONF:PHY:UL:GRAN:RB:STAR?				
BSE:CONFig:PHY:UL:GRANt:PRACh:IGNore[?]	ACELL / BCELL = OFF	ON | OFF		UL Grant - PRACH ignore
BSE:CONF:PHY:UL:GRAN:PRAC:IGN ON BSE:CONF:PHY:UL:GRAN:PRAC:IGN?				
BSE:CONFig:PHY:UL:GRANt:PATTern[?]	ACELL = All BCELL = All	ALL | SF2 | SF0/5 | SF1/3/5/7 | SF3/8 | All		UL Grant - UL Tx Pattern
BSE:CONF:PHY:UL:GRAN:PATT SF2 BSE:CONF:PHY:UL:GRAN:PATT?				
BSE:CONFig:PHY:UL:GRANt:AGGRegationlevel:CRNTI[?]	ACELL = 2 BCELL = 2	1 | 2 | 4 | 8		UL Grant - Aggregation CRNTI
BSE:CONF:PHY:UL:GRAN:AGGR:CRNTI 2 BSE:CONF:PHY:UL:GRAN:AGGR:CRNTI?				
BSE:CONFig:PHY:UL:RESOUrce:ALLOc:ACReports:CREP[?]	OFF	ON | OFF		
BSE:CONF:PHY:UL:RESOU:ALLO:ACR:CREP ON BSE:CONF:PHY:UL:RESOU:ALLO:ACR:CREP?				
BSE:CONFig:PHY:UL:RESOUrce:ALLOc:ACReports:FREQuency[?]	1	1 to 10		
BSE:CONF:PHY:UL:RESOU:ALLO:ACR:FREQ 3 BSE:CONF:PHY:UL:RESOU:ALLO:ACR:FREQ?				

DownLink

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:GRANt:MODE[?]	ACELL / BCELL = AUTO	AUTO | FIXEDMACpadding		DL Resource Alloc - Grant Mode
BSE:CONF:PHY:DL:RESOU:ALLO:GRAN:MODE AUTO BSE:CONF:PHY:DL:RESOU:ALLO:GRAN:MODE?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:MCS[?]	ACELL / BCELL = OFF	ON | OFF		DL - MCS Based On CQI
BSE:CONF:PHY:DL:RESOU:ALLO:MCS ON BSE:CONF:PHY:DL:RESOU:ALLO:MCS?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:IMCS[?]	ACELL = 5 BCELL = 5	0 to 28		DL Resource Alloc - I_MCS
BSE:CONF:PHY:DL:RESOU:ALLO:IMCS 22 BSE:CONF:PHY:DL:RESOU:ALLO:IMCS?				
BSE:CONFig:PHY:DL:RESOurce:ALLOc:MCS:MAPPing [?]	DEFault	DEFault | SPECific		
BSE:CONF:PHY:DL:RESO:ALLO:MCS:MAPP SPEC BSE:CONF:PHY:DL:RESO:ALLO:MCS:MAPP?				
BSE:CONFig:PHY:DL:RESOurce:ALLOc:MCS:SMAPing [?]	0, 0, 2, 4, 6, 8, 11, 13, 16, 18, 21, 23, 25, 27, 27	<0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>, <0 to 28>		Defines the MCS to be used for each CQI value if ALLOC:MCS:MAPPing is set to SPECific.
BSE:CONF:PHY:DL:RESO:ALLO:MCS:SMAP 1,2,2,2,4,6,8,10,12,16,18,20,21,22,24 BSE:CONF:PHY:DL:RESO:ALLO:MCS:SMAP?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:RB:SIZE[?]	ACELL / BCELL = 30	1 to 100		DL Resource Alloc - RB Size
BSE:CONF:PHY:DL:RESOU:ALLO:RB:SIZE 50 BSE:CONF:PHY:DL:RESOU:ALLO:RB:SIZE?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:RB:STARt[?]	ACELL / BCELL = 0	0 to 99		DL Resource Alloc - RB Start
BSE:CONF:PHY:DL:RESOU:ALLO:RB:STAR 30 BSE:CONF:PHY:DL:RESOU:ALLO:RB:STAR?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:RVSequence[?]	0,2,3,1	<0 to 3>, <0 to 3>, <0 to 3>, <0 to 3>		DL Resource Alloc - RB Start
BSE:CONF:PHY:DL:RESOU:ALLO:RVS 1,2,3,0 BSE:CONF:PHY:DL:RESOU:ALLO:RVS?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:CONTrol:SSFRame	DEFault	DEFault | NULL		TDD only
BSE:CONF:PHY:DL:RESOU:ALLO: CONT:SSFR NULL BSE:CONF:PHY:DL:RESOU:ALLO: CONT:SSFR?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:CONTrol:SFRame0[?]	DEFault	DEFault | RCT		FDD
BSE:CONF:PHY:DL:RESOU:ALLO:CONT:SFR0 RCT BSE:CONF:PHY:DL:RESOU:ALLO:CONT:SFR0?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:SUBFRM5Ctl[?] BSE:CONFig:PHY:DL:RESOUrce:ALLOc:CONTrol:SFRame5[?]	ACELL / BCELL = DEFault	DEFault | MAXTh | RCT		Determines whether subframe 5 is used for data or signaling. The italicised version of this command is not recommended and is planned for deletion in future software releases.
BSE:CONF:PHY:DL:RESOU:ALLO:CONT:SFR5 MAXT BSE:CONF:PHY:DL:RESOU:ALLO:CONT:SFR5?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:TMResource:TYPE[?]	TYPE2	TYPE0_1 | TYPE2		The previous set value "TYPE0/1" is still enabled in software version 6.3, but when queried, the value returned is "TYPE0_1". It is recommended that you use only those values shown under "Range" as future software versions may not support "TYPE0/1". FDD only.
BSE:CONF:PHY:DL:RESOU:ALLO:TMR:TYPE TYPE0_1 BSE:CONF:PHY:DL:RESOU:ALLO:TMR:TYPE?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:TYPE0:BITMap[?]	ACELL/ BCELL = 131071	5MHz: 1 to 8191 10MHz: 1 to 131071 20MHz: 1 to 33554431		DL Resource Alloc - Type#0 Bitmap (Requires TM3/TM4 profile – MIMO to be set in scenario file.)
BSE:CONF:PHY:DL:RESOU:ALLO:TYPE0:BITM 8191 BSE:CONF:PHY:DL:RESOU:ALLO:TYPE0:BITM?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:PATTern[?]	CELL / BCELL = All	ALL | SF1/6		DL Resource Alloc - DL Tx Pattern
BSE:CONF:PHY:DL:RESOU:ALLO:PATT SF1/6 BSE:CONF:PHY:DL:RESOU:ALLO:PATT?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:IMCSSFCont[?]	ACELL / BCELL = OFF	OFF | ON		DL Resource Alloc - IMCS Control
BSE:CONF:PHY:DL:RESOU:ALLO:IMCSSFC ON BSE:CONF:PHY:DL:RESOU:ALLO:IMCSSFC?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:IMCS0	ACELL / BCELL = 5	0 to 28		DL Resource Alloc - IMCS0. Requires IMCSSFCont set on
BSE:CONF:PHY:DL:RESOU:ALLO:IMCS0 10 BSE:CONF:PHY:DL:RESOU:ALLO:IMCS0?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:IMCSR[?]	ACELL / BCELL = 5	0 to 28		DL Resource Alloc – IMCSR. Requires IMCSSFCont set on
BSE:CONF:PHY:DL:RESOU:ALLO:IMCSR 15 BSE:CONF:PHY:DL:RESOU:ALLO:IMCSR?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:AGGRegationlevel:CRNTI[?]	ACELL = 2 BCELL = 2	1 | 2 | 4 | 8		DL Resource Alloc - Aggr. Level CRNTI
BSE:CONF:PHY:DL:RESOU:ALLO:AGGR:CRNTI 8 BSE:CONF:PHY:DL:RESOU:ALLO:AGGR:CRNTI?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:AGGREgationlevel:SI[?]	ACELL = 4 BCELL = 4	4 | 8		DL Resource Alloc - Aggregation Level SI
BSE:CONF:PHY:DL:RESOU:ALLO:AGGR:SI 8 BSE:CONF:PHY:DL:RESOU:ALLO:AGGR:SI?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:RSUBband	OFF	ON | OFF		
BSE:CONF:PHY:DL:RESOU:ALLO:RSUB ON BSE:CONF:PHY:DL:RESOU:ALLO:RSUB?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:RVSequence	0, 2, 3, 1	<0 to 3>, <0 to 3>, <0 to 3>, <0 to 3>		
BSE:CONF:PHY:DL:RESOU:ALLO:RVS 1 BSE:CONF:PHY:DL:RESOU:ALLO:RVS?				
BSE:CONFig:PHY:DL:RESOUrce:ALLOc:URTYpe[?]:	WIDeband	WIDeband | SUBBand		
BSE:CONF:PHY:DL:RESOU:ALLO:URTY SUBB BSE:CONF:PHY:DL:RESOU:ALLO:URTY?				

MIMO

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:MIMO:CODEBook[?]	ACELL / BCELL = 0	0 to 3		MIMO Setting – Codebook
BSE:CONF:PHY:MIMO:CODEB 2 BSE:CONF:PHY:MIMO:CODEB?				
BSE:CONFig:PHY:MIMO:CODebook:MODE[?]	MANual	AUTO | MANual		MIMO Setting - Codebook Mode
BSE:CONF:PHY:MIMO:COD:MODE AUTO BSE:CONF:PHY:MIMO:COD:MODE?				
BSE:CONFig:PHY:MIMO:CTIMcs[?]	5	0 to 28		
BSE:CONF:PHY:MIMO:CTIM 23 BSE:CONF:PHY:MIMO:CTIM?				
BSE:CONFig:PHY:MIMO:CTMindex[?]	DEFault	DEFault | SPECified		
BSE:CONF:PHY:MIMO:CTM SPEC BSE:CONF:PHY:MIMO:CTM?				

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:MIMO:NUMCodewords	ACELL = 2 BCELL = 2	1 | 2		MIMO Setting Codewords (Requires TM3/TM4 profile – MIMO to be set in scenario file.)
BSE:CONF:PHY:MIMO:NUMC 1 BSE:CONF:PHY:MIMO:NUMC?				
BSE:CONFig:PHY:MIMO:NUMLayer:MODE	MANUal	AUTO | MANUal		MIMO Setting - Layer Mode. Requires TM3/TM4 profile loaded?
BSE:CONF:PHY:MIMO:NUML:MODE AUTO BSE:CONF:PHY:MIMO:NUML:MODE?				

MAC

Command	Preset	Range	Unit	Description/Notes
BSE:CONFig:PHY:MAC:HARQMAXTrans:DL[?]	1	1 to 8		DL HARQ Max Trans
BSE:CONF:PHY:MAC:HARQMAXT:DL 8 BSE:CONF:PHY:MAC:HARQMAXT:DL?				
BSE:CONFig:PHY:MAC:HARQMAXTrans:UL[?]	1	1 to 8		UL HARQ Max Trans
BSE:CONF:PHY:MAC:HARQMAXT:UL 7 BSE:CONF:PHY:MAC:HARQMAXT:UL?				

Measure

Command	Preset	Range	Unit	Description/Notes
BSE:MAC:INFOrmation:MEASure:TABLe?				See "BSE MAC INFO Results".
BSE:MAC:INFO:MEAS:TABL? BSE:CONF:PHY:MAC:HARQMAXT:DL?				

Command	Preset	Range	Unit	Description/Notes
BSE:ER:THROUghput:MEASure:TABLe?				BLER-Throughput measure result. Shared between DTCH and IP throughput. See "BSE Error Throughput Measurement Results".
BSE:ER:THROU:MEAS:TABL?				
BSE:ER:THROUghput:MEASure:TABLe:CLEar				Resets the BSE Error Throughput Measurement Result Statistics This command clears results from both BSE:ER:THROUghput:MEASure:TABLe and BSE:ER:THROUghput:UL:MEASure:TABLe It does not clear DTCH results. To clear DTCH results use the BSE:FUNCtion:DTCH:TRANSfer[?]command to stop/start the DTCH test.
BSE:ER:THROU:MEAS:TABL:CLE				
BSE:ER:THROUghput:UL:MEASure:TABLe?				See "Base Station Emulator Error Throughput UL Measurement Results".
BSE:ER:THROU:MEAS:UL:TABL?				
BSE:L1:INFOrmation:MEASure:TABLe:ALL?				See "Base Station Emulator L1 Information Measurement Results".
BSE:L1:INFO:MEAS:TABL:ALL?				
BSE:L1:INFOrmation:MEASure:TABLe?				See "Base Station Emulator L1 Information Measurement Results".
BSE:L1:INFO:MEAS:TABL?				
BSE:L1:INFOrmation:PERiodic:MEASure:TABLe?				See "Base Station Emulator L1 Periodic Measurement Results".
BSE:L1:INFO:PER:MEAS:TABL?				

Command	Preset	Range	Unit	Description/Notes
BSE:RLC:INFOrmation:MEASure:TABLe?				See "Base Station Emulator RLC Information Measurement Results".
BSE:RLC:INFO:MEAS:TABL?				
BSE:PDCP:INFOrmation:MEASure:TABLe?				See "Base Station Emulator PDCP Information Measurement Results".
BSE:PDCP:INFO:MEAS:TABL?				
BSE:MEAS:RRC:INFOrmation:CLEar				Clears the measurement report.
BSE:MEAS:RRC:INFO:CLE?				
BSE:MEAS:RRC:INFOrmation:TABLe?				See "BSE RRC INFO Results".
BSE:MEAS:RRC:INFO:TABL?				
BSE:MEAS:RRC:UECategory?				UE Category
BSE:MEAS:RRC:UEC?				
BSE:MEAS:RRC:UECategory:CLEar				Clears the UE Category value
BSE:MEAS:RRC:UEC:CLE				
BSE:MEAS:RRC:ASRelease?				AS Release
BSE:MEAS:RRC:ASR?				
BSE:MEAS:RRC:ASRelease:CLEar				Clears the AS Release Value
BSE:MEAS:RRC:ASR:CLE				

LTE Measurement

Command	Preset	Range	Unit	Description/Notes
BSE:SIMULator[?]	STOP	RUN | STOP		Simulator
BSE:SIMUL STOP BSE:SIMUL?				

Function

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:DTCH:TRANSfer[?]	OFF	OFF | ON		DTCH Transfer Test - Only when connected
BSE:FUNC:DTCH:TRANS OFF BSE:FUNC:DTCH:TRANS?				
BSE:FUNCtion:DTCH:TRANSfer:IPV4:SETting:SOURce:ADDRess[?]	"0.0.0.0"		<IP Address>	IPv4 Setting - Source Address Do not use this command over the LAN, only via GPIB.
BSE:FUNC:DTCH:TRANS:IPV4:SET:SOUR:ADDR "192.168.1.51" BSE:FUNC:DTCH:TRANS:IPV4:SET:SOUR:ADDR?				
BSE:FUNCtion:DTCH:TRANSfer:IPV4:SETting:DESTination:ADDRess[?]	"0.0.0.0"		<IP Address>	IPv4 Setting - Dest Address Do not use this command over the LAN, only via GPIB.
BSE:FUNC:DTCH:TRANS:IPV4:SET:DEST:ADDR "192.168.1.51" BSE:FUNC:DTCH:TRANS:IPV4:SET:DEST:ADDR?				
BSE:FUNCtion:DTCH:TRANSfer:UDP:SETting:SOURce:PORT[?]	10000	0 to 65535		UDP Setting - Source Port
BSE:FUNC:DTCH:TRANS:UDP:SET:SOUR:PORT 20000 BSE:FUNC:DTCH:TRANS:UDP:SET:SOUR:PORT?				
BSE:FUNCtion:DTCH:TRANSfer:UDP:SETting:DESTination:PORT[?]	10000	0 to 65535		UDP Setting - Dest Port
BSE:FUNC:DTCH:TRANS:UDP:SET:DEST:PORT 50000 BSE:FUNC:DTCH:TRANS:UDP:SET:DEST:PORT?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:DTCH:SFRAMe:INTERval[?]	1	1 to 5		DTCH Parameter - Subframe Interval
BSE:FUNC:DTCH:SFRAM:INTER 4 BSE:FUNC:DTCH:SFRAM:INTER?				
BSE:FUNCtion:DTCH:TRANSfer:MODE[?]	AUTO	AUTO | MANUal		DTCH Parameter - Transfer Mode
BSE:FUNC:DTCH:TRANS:MODE AUTO BSE:FUNC:DTCH:TRANS:MODE?				
BSE:FUNCtion:DTCH:TRANSfer:RATE:MODE[?]	MAXimum	MAXimum | MANUal		DTCH Parameter - Transfer Rate
BSE:FUNC:DTCH:TRANS:RATE:MODE MANU BSE:FUNC:DTCH:TRANS:RATE:MODE?				
BSE:FUNCtion:DTCH:TRANSfer:RATE[?]	1	1 to 50		DTCH Parameter - Transfer Rate
BSE:FUNC:DTCH:TRANS:RATE 30 BSE:FUNC:DTCH:TRANS:RATE?				
BSE:FUNCtion:DTCH:FORMat[?]	RAW	RAW | ICMPV4 | UDPV4		DTCH Parameter - Format
BSE:FUNC:DTCH:FORM UDPV4 BSE:FUNC:DTCH:FORM?				
BSE:FUNCtion:DTCH:PAYLoad:TYPE[?]	RANDom	RANDom | INC | MANUal		DTCH Parameter - Payload Type
BSE:FUNC:DTCH:PAYL:TYPE MANU BSE:FUNC:DTCH:PAYL:TYPE?				
BSE:FUNCtion:DTCH:PAYLoad[?]	0	0 to 65535		DTCH Parameter - Payload
BSE:FUNC:DTCH:PAYL 5000 BSE:FUNC:DTCH:PAYL?				
BSE:FUNCtion:DTCH:PACKet:SIZE[?]	576	28 to 1400		DTCH Parameter - Packet Size
BSE:FUNC:DTCH:PACK:SIZE 1000 BSE:FUNC:DTCH:PACK:SIZE?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:DTCH:TOTal:PACKet[?]	10000000	1 to 2147483647		DTCH Parameter - Total Packet
BSE:FUNC:DTCH:TOT:PACK 2000000000 BSE:FUNC:DTCH:TOT:PACK?				
BSE:FUNCtion:FETCh:WCQI<[0]|1>[:MEDian]?				
BSE:FUNC:FETC:WCQI1?				
BSE:FUNCtion:FETCh:WCQI<[0]|1>:RANGe?	NaN	0 to 15		– This is a value reported by the UE. If the UE has not reported anything yet then this will be NaN. – FDD only
BSE:FUNC:FETC:WCQI:RANG?				

<table>
<tr><th>Command</th><th>Preset</th><th>Range</th><th>Unit</th><th>Description/Notes</th></tr>
<tr><td>BSE:FUNCtion:FETCh:SCQI:BAND<[1]|2|3|4|5|6|7|8|9|10|11|12|13>?</td><td>0,0,0,0</td><td></td><td></td><td>– These are the number of CQI values reported by the UE. If there are no reports yet, 0,0,0,0 will be returned. If the UE reports 100 CQIs with a value within the range of +1 to -1 from the Medium CQI, the RUI command will return 100,0,0,0.

– The number of subbands you can query is dependent upon the system bandwidth:<table><tr><th>BW</th><th># of Bands</th></tr><tr><td>5 MHz</td><td>7</td></tr><tr><td>10 MHz</td><td>9</td></tr><tr><td>20 MHz</td><td>13</td></tr></table>
– FDD only</td></tr>
<tr><td>BSE:FUNC:FETC:SCQI:BAND4?</td><td></td><td></td><td></td><td></td></tr>
</table>

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:OCNG1[?]	OFF	ON | OFF | 0 | 1		OCNG OP.1 FDD only
BSE:FUNC:OCNG1 ON BSE:FUNC:OCNG1?				
BSE:FUNCtion:OCNG12[?]	OFF	ON | OFF | 0 | 1		OCNG OP.12 FDD only
BSE:FUNC:OCNG12 ON BSE:FUNC:OCNG12?				
BSE:FUNCtion:OCNG3[?]	OFF	ON | OFF | 0 | 1		OCNG OP.3 FDD only
BSE:FUNC:OCNG3 ON BSE:FUNC:OCNG3?				
BSE:FUNCtion:OCNG:RA[?]	3	−6 | −4.77 | −3 | −1.77 | 0 | 1 | 2 | 3		OCNG RA FDD only
BSE:FUNC:OCNG:RA −3 BSE:FUNC:OCNG:RA?				
BSE:FUNCtion:OCNG:RB[?]	0	0 | 1 | 2 | 3		OCNG RB FDD only
BSE:FUNC:OCNG:RB 3 BSE:FUNC:OCNG:RB?				
BSE:FUNCtion:PAGing:MESSAge:COUNt?				Returns the number of PAGING messages available
BSE:FUNC:PAG:MESSA:COUN?				
BSE:FUNCtion:PAGing:MESSAge<[1]|2|3|4|5|6|7|8>?				Returns the name of the specified PAGING message
BSE:FUNC:PAG:MESSA1?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:PAGing:MESSAge<[1]|2|3|4|5|6|7|8>:SEND				Sends the specified PAGING message
BSE:FUNC:PAG:MESSA1:SEND				
BSE:FUNCtion:PORDer:SEND				PDCCH Order - Send
BSE:FUNC:PORD:SEND				
BSE:FUNCtion:UE:POWer:CONtrol:SEND:MESSAge				UE Power Control - Send Message
BSE:FUNC:UE:POW:CON:SEND:MESS				
BSE:FUNCtion:UE:POWer:CONtrol:DCI:FORMat[?]	0	0 | 1A | 3 | 3A		UE Power Control - DCI Format
BSE:FUNC:UE:POW:CON:DCI:FORM 1A BSE:FUNC:UE:POW:CON:DCI:FORM?				
BSE:FUNCtion:UE:POWer:CONtrol:ACCUmulated[?]	1	–1 | 0 | 1 | 3		UE Power Control - Power Adjust (Accumulated)
BSE:FUNC:UE:POW:CON:ACCU?				
BSE:FUNCtion:UE:POWer:CONtrol:ABSolute[?]	1	–4 | –1 | 1 | 4		UE Power Control - Power Adjust (Absolute)
BSE:FUNC:UE:POW:CON:ABS 1 BSE:FUNC:UE:POW:CON:ABS?				
BSE:FUNCtion:UE:POWer:CONtrol:DCI3A[?]	1	–1 | 1		UE Power Control - Power Adjust (DCI3A)
BSE:FUNC:UE:POW:CON:DCI3A 1 BSE:FUNC:UE:POW:CON:DCI3A?				
BSE:FUNCtion:UE:POWer:CONtrol:ALLUp[?]	OFF	OFF | ON | 0 | 1		UE Power Control - Power Adjust (All Up)
BSE:FUNC:UE:POW:CON:ALLU OFF BSE:FUNC:UE:POW:CON:ALLU?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:UE:POWer:CONtrol:ALLDown[?]	OFF	OFF | ON | 0 | 1		UE Power Control - Power Adjust (All Down)
BSE:FUNC:UE:POW:CON:ALLD OFF BSE:FUNC:UE:POW:CON:ALLD?				
BSE:FUNCtion:UE:POWer:CONTrol:PATTern:RBSFCONT[?]	OFF	OFF | ON | 0 | 1		UE Power Control - Pattern RBSFCONT
BSE:FUNC:UE:POW:CONT:PATT:RBSFCONT ON BSE:FUNC:UE:POW:CONT:PATT:RBSFCONT?				
BSE:FUNCtion:UE:POWer:CONTrol:PATTern:RBAlloc<[1]|2|3|4|5|6|7|8|9>[?]	1	0 to 100		UE Power Control - Pattern RB Allocation
BSE:FUNC:UE:POW:CONT:PATT:RBA8 50 BSE:FUNC:UE:POW:CONT:PATT:RBA8?				
BSE:FUNCtion:UE:POWer:CONTrol:PATTern:SEND				UE Power Control - Pattern Send
BSE:FUNC:UE:POW:CONT:PATT:SEND				
BSE:FUNCtion:UEDETach:MESSAge:COUNt?				Returns number of DETACH messages available
BSE:FUNC:UEDET:MESSA:COUN?				
BSE:FUNCtion:UEDETach:MESSAge<[1]|2|3|4|5|6|7|8>?				Returns the name of the specificed DETACH message
BSE:FUNC:UEDET:MESSA2?				
BSE:FUNCtion:UEDETach:MESSAge<[1]|2|3|4|5|6|7|8>:SEND				Sends the specified DETACH message.
BSE:FUNC:UEDET:MESSA2:SEND				
BSE:FUNCtion:CQIMedian:MAXRepsize[?]	2000	1 to 10000		FDD only
BSE:FUNC:CQIM:MAXR 2200 BSE:FUNC:CQIM:MAXR?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:CQIMedian:TYPE[?]	PERiodic	PERiodic | APERiodic		CQI Median Report Type FDD only
BSE:FUNC:CQIM:TYPE APER BSE:FUNC:CQIM:TYPE?				
BSE:FUNCtion:CUSTom:MESSAge:COUNt?				Returns number of CUSTOM messages available
BSE:FUNC:CUST:MESSA:COUN?				
BSE:FUNCtion:CUSTom:MESSAge<[1]|2|3|4|5|6|7|8>?				Returns the name of the specified CUSTOM message
BSE:FUNC:CUST:MESSA2?				
BSE:FUNCtion:CUSTom:MESSAge<[1]|2|3|4|5|6|7|8>:SEND				Sends the specified CUSTOM message
BSE:FUNC:CUST:MESSA2:SEND				
BSE:FUNCtion:HANDOver:MESSAge:COUNt?				Returns number of HANDOVER messages available FDD only
BSE:FUNC:HANDO:MESSA:COUN?				
BSE:FUNCtion:HANDOver:MESSAge<[1]|2|3|4|5|6|7|8>?				Returns the name of the specified HANDOVER message FDD only
BSE:FUNC:HANDO:MESSA2?				
BSE:FUNCtion:HANDOver:MESSAge<[1]|2|3|4|5|6|7|8>:SEND				Sends the specified HANDOVER message FDD only
BSE:FUNC:HANDO:MESSA2:SEND				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:STATistical:CONFidence[?]	OFF	ON | OFF		Statistical Throughput - Confidence Level FDD only
BSE:FUNC:STAT:CONF ON BSE:FUNC:STAT:CONF?				
BSE:FUNCtion:STATistical:CQI:FETCh:CERRor?	0, 0, 0, 0, 0.00000, 0.00000			See "Base Station Emulator CQI Statistical Throughput Results". FDD only
BSE:FUNC:STAT:CQI:FETC:CERR?				
BSE:FUNCtion:STATistical:CQI:MAXFramesize[?]	1000	1 to 10000000		FDD only
BSE:FUNC:STAT:CQI:MAXF 12000 BSE:FUNC:STAT:CQI:MAXF?				
BSE:FUNCtion:STATistical:CQI:TESTrun[?]	OFF	ON | OFF		FDD only
BSE:FUNC:STAT:CQI:TEST ON BSE:FUNC:STAT:CQI:TEST?				
BSE:FUNCtion:STATistical:CQI:THROUghput?	0.00000, 0.00000	RF1Th ,RF2Th		Throughput for RF1 and RF2 FDD only
BSE:FUNC:STAT:CQI:THROU?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:STATistical:FETCh:CERror? BSE:FUNCtion:STATistical:FETCh:CERRor?				See • "Base Station Emulator Statistical Throughput Results" for measurement results tables. The italicised version of this command is not recommended and is planned for deletion in future software releases. FDD only
BSE:FUNC:STAT:FETC:CERR?				
BSE:FUNCtion:STATistical:MAXFramesize[?]	2466	1 to 1000000		Statistical Throughput - Max Frame Size
BSE:FUNC:STAT:MAXF 5000 BSE:FUNC:STAT:MAXF?				
BSE:FUNCtion:STATistical:PMAN:MAXFramesize[?]	130752	1 to 10000000		FDD only
BSE:FUNC:STAT:PMAN:MAXF 5000 BSE:FUNC:STAT:PMAN:MAXF?				
BSE:FUNCtion:STATistical:PMAN:CONFidence[?]	OFF	ON | OFF		FDD only
BSE:FUNC:STAT:PMAN:CONF ON BSE:FUNC:STAT:PMAN:CONF?				
BSE:FUNCtion:STATistical:PMAN:FETCh:CERRor?				See "Base Station Emulator Pm-an Statistical Throughput Results." FDD only
BSE:FUNC:STAT:PMAN:FETC:CERR?				

Command	Preset	Range	Unit	Description/Notes
BSE:FUNCtion:STATistical:PMDSg:FETCh:CERRor?	0, 0, 0, 0, 0, 0.00000			See Base Station Emulator Pm-DSG Statistical Throughput Results." FDD only
BSE:FUNC:STAT:PMDS:FETC:CERR?				
BSE:FUNCtion:STATistical:PMDSg:CONFidence[?]	OFF	ON | OFF		FDD only
BSE:FUNC:STAT:PMDS:CONF ON BSE:FUNC:STAT:PMDS:CONF?				
BSE:FUNCtion:STATistical:PMDSg:MAXFramesize[?]	12913	1 to 10000000		FDD only
BSE:FUNC:STAT:PMDS:MAXF 300000 BSE:FUNC:STAT:PMDS:MAXF?				
BSE:FUNCtion:STATistical:PMDSg:TESTRun[?]	OFF	ON | OFF		FDD only
BSE:FUNC:STAT:PMDS:TESTR ON BSE:FUNC:STAT:PMDS:TESTR?				
BSE:FUNCtion:STATistical:TESTRun[?]	OFF	ON | OFF		Statistical Throughput - Test Run FDD only
BSE:FUNC:STAT:TESTR ON BSE:FUNC:STAT:TESTR?				
BSE:FUNCtion:STATistical:PMAN:TESTRun[?]	OFF	ON | OFF		Statistical Throughput - Test Run FDD only
BSE:FUNC:STAT:PMAN:TESTR ON BSE:FUNC:STAT:PMAN:TESTR?				
BSE:FUNCtion:WCMedian:CALCulate[?]	OFF	ON | OFF		
BSE:FUNC:WCM:CALC ON BSE:FUNC: WCM:CALC?				

Command	Preset	Range	Unit	Description/Notes
BSE:MEASure:VIEW[?]	MESSAge	MESSAge | L1L2Status | ERThroughput | INFOrmation | CHANnelstate		Meas Set – View
BSE:MEAS:VIEW ERT BSE:MEAS:VIEW?				

Save & Recall

Command	Preset	Range	Unit	Description/Notes
REGister:RECall[:INDex]		1 to 7		– Recalls setting to register. – Optional INDex SCPI node added in software version 6.3.
REG:REC:IND 2				
REGister:SAVe REGister:SAVE[:INDex]		1 to 7		– Saves setting to register. – Optional INDex SCPI node added in software version 6.3. – The italicised version of command is not recommended and is planned for deletion in future software releases.
REG:SAVE 6				
REGister:RECall:FILE		String		Recalls settings to the register from a file you previously created using the "REGister:SAVE:FILE" command.
REG:REC:FILE "myregisterfilename"				

Command	Preset	Range	Unit	Description/Notes
REGister:SAVE:FILE		String		Saves file of settings to the register with a filename you specify.
REG:SAVE:FILE "myregisterfilename"				

Measurement Results

CCDF (Complementary Cumulative Distribution Function) Measurement Results

Query	Result
SPECtrum:CCDF:MEASure?	Returns results separated by commas: • Current Count • Total Count • Average Power Reference (dBm) • Proportion of samples exceeding average power (%) • 10% Relative Power (dB) • 1% Relative Power (dB) • 0.1% Relative Power (dB) • 0.01% Relative Power (dB) • 0.001% Relative Power (dB) • 0.0001% Relative Power (dB) • Peak Relative Power (dB) • Peak Absolute Power (dBm)

Power vs Time Measurement Results

Query	Result
PVTime:MEASure:TABLe?	A quoted string containing a comma separated list of each enabled measurement interval. - Measured Power Table [Gate-Pwr] * n (n : number of gate) If no measurement intervals are enabled, the string 'fail' is returned.

Spectrum Emission Mask Measurement Results

Query	Result
SEM:MEASure:MAIN:TABLe?	Returns three results separated by commas: • Channel Power in dBm • Power Spectral Density in dBm/30kHz • Pass (1) / Fail (0) result of Mask Limit Check
SEMask:MEASure:DETAil:TABLe?	Returns 81 values separated by commas in a quoted string representing the contents of the results table displayed on the front panel of the PXT. There are nine groups of nine results – one for each segment of the mask. Each group contains the following results: • Start Frequency for segment in Hz • Stop Frequency for segment in Hz • Integration BW for segment in Hz • Lower Side worst case frequency point for segment in Hz • Absolute Power at Lower side worst case frequency point for segment in dBm • Delta from limit at Lower side worst case frequency point for segment in dB • Upper Side worst case frequency point for segment in Hz • Absolute Power at Upper side worst case frequency point for segment in dBm • Delta from limit at Upper side worst case frequency point for segment in dB If a segment is off, the value 0.00 will be returned for all results in that segment.

LTE Adjacent Channel Leakage Ratio (ACLR) Measurement Results

Query	Result
LTE:ACLR:MEASure:TABLe?	Returns results separated by commas. The number of results returned depends on the number of carriers and offsets selected: • Total Carrier Power (all carriers) in dBm • Number of Carrier Powers to follow • First Carrier Power in dBm • Second Carrier Power in dBm if selected • Number of Offset Pairs to follow • Results for first Offset Pair if selected – Pass (1) / Fail (0) for Lower Channel Offset – Relative Power (dBc) for Lower Channel Offset – Absolute Power (dBm) for Lower Channel Offset – Pass (1) / Fail (0) for Upper Channel Offset – Relative Power (dBc) for Upper Channel Offset – Absolute Power (dBm) for Upper Channel Offset • Results for second Offset Pair if selected • Results for third Offset Pair if selected • Results for fourth Offset Pair if selected • Results for fifth Offset Pair if selected

LTE Uplink Modulation Constellation Measurement Results

Query	Result
LTE:ULmodulation:CONStellation:MEASure:TABLe?	Returns results separated by commas: • Profile Type • Frequency Offset (Hz) • Sampling Timing Error (us) • PRACH Correlation Accuracy (%) • PRACH Start Time (us) • PRACH Logical Root Sequence Number_u • PRACH CS Number_v • PRACH Preamble ID • UL Analysis Channel Correlation Accuracy (%) • PUCCH Format • PUCCH Ref EVM (%) • PUCCH Ref CINR (dB) • PUCCH EVM (%) • PUCCH CINR (dB) • PUCCH Start Time (us) • PUSCH Ref EVM (%) • PUSCH Ref CINR (dB) • PUSCH EVM (%) • PUSCH CINR (dB) • PUSCH Start Time (us) • SRS Correlation Accuracy (%) • SRS Start Time (us) • SRS EVM (%) • SRS CINR (dB) • Not Applicable – returns '0' • Not Applicable – returns '0.00' Results which do not apply for the channel being measured appear as an empty string for the particular value.

LTE Uplink Modulation Power Spectrum Measurement Results

Query	Result
LTE:ULmodulation:PSPECtrum:MEASure:TABLe?	Returns results separated by commas: • Profile Type • Frequency Offset (Hz) • Sampling Timing Error (us) • PRACH Correlation Accuracy (%) • PRACH Start Time (us) • PRACH Logical Root Sequence Number_u • PRACH CS Number_v • PRACH Preamble ID • UL Analysis Channel Correlation Accuracy (%) • PUCCH Format • PUCCH Ref EVM (%) • PUCCH Ref CINR (dB) • PUCCH EVM (%) • PUCCH CINR (dB) • PUCCH Start Time (us) • PUSCH Ref EVM (%) • PUSCH Ref CINR (dB) • PUSCH EVM (%) • PUSCH CINR (dB) • PUSCH Start Time (us) • SRS Correlation Accuracy (%) • SRS Start Time (us) • SRS EVM (%) • SRS CINR (dB) • Symbol Index • Symbol Power (dBm) Results which do not apply for the channel being measured appear as ' an empty string for the particular value.

LTE Uplink Modulation Received IQ Data Measurement Results

Query	Result
LTE:ULmodulation:IQRECeived:MEASure:TABLe?	Returns results separated by commas: • Profile Type • Frequency Offset (Hz) • Sampling Timing Error (us) • PRACH Correlation Accuracy (%) • PRACH Start Time (us) • PRACH Logical Root Sequence Number_u • PRACH CS Number_v • PRACH Preamble ID • UL Analysis Channel Correlation Accuracy (%) • PUCCH Format • PUCCH Ref EVM (%) • PUCCH Ref CINR (dB) • PUCCH EVM (%) • PUCCH CINR (dB) • PUCCH Start Time (us) • PUSCH Ref EVM (%) • PUSCH Ref CINR (dB) • PUSCH EVM (%) • PUSCH CINR (dB) • PUSCH Start Time (us) • SRS Correlation Accuracy (%) • SRS Start Time (us) • SRS EVM (%) • SRS CINR (dB) • Symbol Index • Symbol Power (dBm) Results which do not apply for the channel being measured appear as an empty string for the particular value.

LTE Uplink Modulation Error Vector Measurement Results

Query	Result
LTE:ULmodulation:ERRVector:MEASure:EV:TABLe?	Returns results separated by commas: • Symbol Index for Resource Element EVM • Subcarrier Index for Resource Element EVM • EVM of Resource Element (%) • Symbol Index for average EVM • Average EVM for Symbol (%) A null string is returned if the subcarrier index is zero.

LTE Uplink Modulation Decoding Information Measurement Results

Query	Result
LTE:ULmodulation:DECINFOrmation:MEASure:TABLe?	Returns results separated by commas: • Profile Type • Frequency Offset (Hz) • Sampling Timing Error (us) [Reserved] • PRACH Correlation Accuracy (%) [Reserved] • PRACH Start Time (us) [Reserved] • PRACH Logical Root Sequence Number_(u) [Reserved] • PRACH CS Number (v) [Reserved] • PRACH Preamble ID [Reserved] • UL Analysis Channel Correlation Accuracy (%) • PUCCH Format • PUCCH Early Window DMRS EVM (%) • PUCCH Late Window DMRS EVM (%) • PUCCH Early Window EVM (%) • PUCCH Late Window EVM (%) • PUCCH Start Time (us) • PUCCH Early Window DMRS EVM (%) • PUCCH Late Window DMRS EVM (%) • PUCCH Early Window Data EVM (%) • PUCCH Late Window Data EVM (%) • PUCCH Start Time (us) • SRS Correlation Accuracy (%) • SRS Start Time (us) • SRS EVM (%) • SRS CINR (dB) • Symbol Index • Symbol Tx. Power (dBm) Results which do not apply for the channel being measured appear as an empty string for the particular value.

LTE Uplink Modulation EQ Flatness Measurement Results

Query	Result
LTE:ULmodulation:FLATness:MEASure:EQFLat:TABLe?	Returns results separated by commas: • RP1 start subcarrier • RP1 end subcarrier • RP1 max subcarrier • RP1 max value • RP1 min subcarrier • RP1 min value • RP2 start subcarrier • RP2 end subcarrier • RP2 max subcarrier • RP2 max value • RP2 min subcarrier • RP2 min value • Range1 max peak-to-peak • Range2 max peak-to-peak • RP12 • RP21

Uplink Modulation Slot Summary Measurement Results

Query	Result
ULMODulation:SLOTs:SUMMary?	Returns results separated by commas: • Slot index • Slot content • Freq carrier error • IQ offset • Early window EVM for PUCCH • Late window EVM for PUSCH • Early window EVM for PUSCH DMRS • Late-window-EVM-for-PUSCH-DMRS

UL Modulation Quality Overall Summary Measurement Results

Query	Result
ULMODulation:OVERall:SUMMary?	Returns results separated by commas: • Overall frequency error • Overall frequency error slot index • Overall IQ offset • Overall IQ offset-slot-index • Overall PUSCH data evm • Overall PUSCH dmrs evm • Overall PUCCH evm

Base Station Emulator MAC Information Measurement Results

Query	Result
BSE:MAC:INFOrmation:MEASure:TABLe?	Returns results separated by commas: • ShortBSR (buffer status report) • LongBSR0 • LongBSR1 • LongBSR2 • LongBSR3 • PHRIndex (power headroom) • Pmax • TxPower

Base Station Emulator Error Throughput Measurement Results

Query	Result
BSE:ER:THROUghput:MEASure:TABLe?	Returns results separated by commas: • RF1Ack (number of Acks received from UE on RF1) • RF1Nak (number of Nacks received from UE on RF1) • RF1Loss (neither Ack nor a Nack was detected when expected on RF1) • RF2Ack (number of Acks received from UE on RF2) • RF2Nak (number of Nacks received from UE on RF2) • RF2Loss (neither Ack nor a Nack was detected when expected on RF1) • TotalAck (total number of Acks received from UE) • TotalNak (total number of Naks received from UE) • TotalLoss (total loss - neither Ack nor a Nack was detected but expected) • PHR (power head room) • TotalEr (total BLER % error rate) • RF1Er (RF1 BLER % error rate) • RF2Er (RF2 BLER % error rate) • TotalTh (Current Total Throughput [Mbps]) • RF1Th (Current RF1 Throughput [Mbps]) • RF2Th (Current RF2 Throughput [Mbps]) • DlMaxTr (Maximum Throughput [Mbps]) • DlAvgTr (Average Throughput [Mbps])

Base Station Emulator Error Throughput UL Measurement Results

Query	Result
BSE:ER:THROUghput:UL:MEASure:TABLe?	Returns results separated by commas: • RF1Ack (number of Acks received from UE) • RF1Nak (number of Nacks received from UE) • RF2Ack • RF2Nak • TotalAck • TotalNak • RF1Er • RF2Er • TotalEr • RF1Th (throughput) • RF2Th • TotalTh • UlMaxTr (throughput) • UlAvgTr

Base Station Emulator L1 Information Measurement Results

Query	Result
BSE:L1:INFOrmation:MEASure:TABLe:ALL? BSE:L1:INFOrmation:MEASure:TABLe?	Returns results separated by commas: • UL MCS • UL RB Size • DL MCS • DL RB Size • DL Type0 Bitmap

Base Station Emulator L1 Periodic Measurement Results

Query	Result
BSE:L1:INFOrmation:PERiodic:MEASure:TABLe?	Returns results separated by commas: • Wideband CQI 0 • Wideband CQI 1 • Subband CQI 0 • Subband CQI 1 • PMI • RI

Base Station Emulator RLC Information Measurement Results

Query	Result
BSE:RLC:INFOrmation:MEASure:TABLe?	Returns results separated by commas: • DL SRB1 Ack Mode {AM|UM} • DL SRB1 A • DL SRB1 S • DL SRB1 Sequence Number • DL SRB2 Ack Mode {AM|UM} • DL SRB2 A • DL SRB2 S • DL SRB2 Sequence Number • DL DRB1 Ack Mode {AM|UM} • DL DRB1 A • DL DRB1 S • DL DRB1 Sequence Number • UL SRB1 Ack Mode {AM|UM} • UL SRB1 A • UL SRB1 S • UL SRB1 Sequence Number • UL SRB2 Ack Mode {AM|UM} • UL SRB2 A • UL SRB2 S • UL SRB2 Sequence Number • UL DRB1 Ack Mode {AM|UM} • UL DRB1 A • UL DRB1 S • UL DRB1 Sequence Number

Base Station Emulator PDCP Information Measurement Results

Query	Result
BSE:PDCP:INFOrmation:MEASure:TABLe?	Returns results separated by commas: • Integrity Algorithm {EIA1|EIA2|NULL} • Ciphering Algorithm {EEA0|EEA1|EEA2|NULL} • DL ROHC {On|Off} • DL Ciphering {On|Off} • DL Integrity {On|Off} • DL SRB1 Next Sequence Number • DL SRB1 Hfn • DL SRB2 Next Sequence Number • DL SRB2 Hfn • DL DRB1 Next Sequence Number • DL DRB1 Hfn • UL ROHC {On|Off} • UL Ciphering {On|Off} • UL Integrity Algorithm {On|Off} • UL SRB1 Next Sequence Number • UL SRB1 Hfn • UL SRB2 Next Sequence Number • UL SRB2 Hfn • UL DRB1 Next Sequence Number • UL DRB1 Hfn

Base Station Emulator RRC Information Measurement Results

Query	Result
BSE:MEAS:RRC:INFOrmation:MEASure:TABLe?	Returns results separated by commas: • RSRP#1 • RSRQ#1 • RSRP#2 • RSRQ#2 • RSRP#3 • RSRQ#3 • RSRP#4 • RSRQ#4

Base Station Emulator Statistical Throughput Results

Query	Result
BSE:FUNCtion:STATistical:FETCh:CERor?	Returns results separated by commas: • max frame size • total packet • rf1 ack • rf1 nack • rf1 loss • rf2 ack • rf2 nack • rf2 loss • total ack • total nack • total loss • PHR • test result • er total • rf1 er • rf2 er • total throughput • rf1 throughput • rf2 throughput

Base Station Emulator Pm-an Statistical Throughput Results

Query	Result
BSE:FUNCtion:STATistical:PMAN:FETCh:CERRor?	Returns results separated by commas: • ACK • NACK • StatDTX • Test Result • Pm-an

Base Station Emulator Pm-DSG Statistical Throughput Results

Query	Result
BSE:FUNCtion:STATistical:PMDSg:FETCh:CERRor?	Returns results separated by commas: • ACK • NACK • StatDTX • Test Result • Pm-DSG

Base Station Emulator CQI Statistical Throughput Results

Query	Result
BSE:FUNCtion:STATistical:CQI:FETCh:CERRor?	Returns results separated by commas: • RF1 ACK • RF2 ACK • RF1 NACK • RF2 NACK • RF1 StatDTX • RF2 StatDTX • StatDTX

Marker Measurement Results

Marker values are queried using the following command. This command applies to all marker modes.
The supported values of <meas_name> are SPECtrum[:SPECtrum], SPECtrum:CHPower, SPECtrum:OBWidth, LTE:CHPower, LTE:OBWidth, LTE:PVTime, LTE:SEMask and LTE:ACLR.

Query	Result
<measurement name>:MARKer#:Y?	Power value of active marker. Units are dBm for Normal or Fixed Markers. Units are dB for Delta Marker.

System Error Return Values

Error Number	Description
+0,"No error"	Ok
+145,"Operation rejected; Feature is not licensed"	You do not have the license required to execute this command.
+460,"Hardware failure; Hardware doesn't support requested operation"	The command cannot be executed in this hardware version.
+700,"LTE measurement failure"	The measurement failed. The most likely cause of the failure is that you attempted to capture a measurement in the wrong mode of operation.
-101,"Invalid character"	The parameters in the Input Command contained an invalid character.
-108,"Parameter not allowed"	More parameters were received that was expected.
-109,"Missing parameter"	Less parameters were received than was expected.
-113,"Undefined header"	The command was recognized, or the numeric index is currently out of range due to a dependent parameter.
-128,"Numeric data not allowed"	A numeric parameter was received, but a different parameter type was expected.
-148,"Character data not allowed"	A character parameter was received, but a different parameter type was expected.
-158,"String data not allowed"	A string parameter was received, but a different parameter type was expected.
-131,"Invalid Suffix"	The parameter units are incorrect (for example, you specified a MS unit for a frequency setting)
-151,"Invalid string data"	The string parameter is too long, or contains an unmatched quote.
-200,"Execution error"	There was an unspecified problem executing this command.
-220,"Parameter error"	There is an invalid parameter in the last command sent. Check the user documentation for the correct parameter values
-221,"Setting Conflict"	The command cannot be executed. You have attempted to access a setting that is disabled. For example, the PXT is in TDD mode and you have attempted to set a FDD-only parameter

Error Number	Description
-222,"Data out of range"	An invalid numeric value was received or you have sent a Character Data parameter where the value received is not within the valid set.
-256," File name not found"	The file referenced cannot be found.
-350,"Queue overflow"	There are too many entries in the SYSTem:ERRor queue. This error message has overwritten the last entry on the queue. No more error message will have been captured after this message.

3 Service and Support

Calling Agilent Technologies

Agilent Technologies has offices around the world to provide you with complete support for your products. For help, to obtain servicing information or to order replacement parts, contact the nearest Agilent Technologies office listed below. In any correspondence or telephone conversations, you will need the product number, full serial number, software revision and Software and Technical Support Contract (STSC) details.

Press the **INFO** front panel key to view the product number (E6621A), serial number, and software revision information and STSC expiry date.

Locations for Agilent Technologies

Online assistance: http://www.agilent.com/find/assist

If you do not have access to the Internet, one of these centers can direct you to your nearest representative:

If you have a current STSC for the E6621A, you can contact Agilent at the email addresses listed in "Software and Technical Support Contracts" on page 99.

Should the Declaration of Conformity be required, please contact an Agilent Sales Representative, or the closest Agilent Sales Office. Alternately, contact Agilent at: www.agilent.com.

Americas

Brazil
(11) 4197 3600

Canada
(877) 894 4414

Mexico
01800 5064 800

United States
(800) 829 4444

Asia Pacific

Australia
1 800 629 485

India
1 800 112 929

Malaysia
1 800 888 848

China
800 810 0189

Japan
0120 (421) 345

Singapore
1 800 375 8100

Hong Kong
800 938 693

Korea
080 769 0800

Taiwan
0800 047 866

Other Asian Countries:
www.agilent.com/find/contactus

Europe & Middle East

Belgium
32 (0) 2 404 93 40

Ireland
1890 924 204

Spain
34 (91) 631 3300

Denmark
45 45 80 12 15

Israel
972-3-9288-504/544

Sweden
0200-88 22 55

Finland
358 (0) 10 855 2100

Italy
39 02 92 60 8484

Switzerland
0800 80 53 53

France
0825 010 700*
*0.125 €/minute

Netherlands
31 (0) 20 547 2111

United Kingdom
44 (0) 118 927 6201

Germany
49 (0) 7031 464 6333

Other Unlisted Countries:
www.agilent.com/find/contactus

Software and Technical Support Contracts

Software and Technical Support Contracts (STSC) entitle you to software updates and feature enhancements, as well as direct access to a technical expert for technical support for a fixed period, usually one year.

The STSC gives you direct access to technical product experts to increase your productivity and minimize the software difficulties you encounter. These technical support engineers are experts on the N6070A series Signaling Conformance Test solution, the E6621A PXT test set, and its complementary software products. They have instant access to instruments and software to enable them to resolve your issues as quickly as possible. Agilent will investigate all software defects and operational problems reported through the technical support channel. Upon completion of the investigation, we will advise you on possible solutions and functional alternatives. Where possible, Agilent will provide software releases to address problems caused by defects in the firmware or software.

STSCs for the Agilent E6621A PXT

The N6050AS STSC covers the N6050A, N6051A and N6052A software applications running on the E6621A PXT wireless communications test set, plus the associated N6061A and N6062A PC software applications.

If you have a Software and Technical Support Contract, there are three methods of accessing your technical support:

- Web-based support: My Support Center
- E-mail support
- Phone support

For fastest response times, we recommend using the web-based or email access methods as these provide the most direct route to your technical support expert. All support cases may be viewed and tracked through the online support center (My Support Center), regardless of how you initially contacted technical support.

Web-based support

You can directly enter and manage your support requests online via
www.agilent.com/find/mysupportcenter.

The first time you use My Support Center you will be asked to create a profile and provide proof of entitlement. Once your profile is created, you can use the online support center to enter your support request.
Each support request will be given a unique case number which you can use to track the progress of your support case. A technical expert will contact you via phone or email (whichever you have stated as your preferred option) to resolve your issue.

English, Japanese, Korean, and Mandarin local language support is available.

E-mail support

You can also contact our technical support at the following e-mail addresses:

- wireless_test_support_americas@agilent.com
- wireless_test_support_japan@agilent.com
- wireless_test_support_europe@agilent.com
- wireless_test_support_asia@agilent.com
- wireless_test_support_korea@agilent.com

Your support request will be routed to a technical expert who will contact you via e-mail or phone (whichever you have stated as your preferred option) to help resolve your issue.

English, Japanese, Korean, and Mandarin local language support is available.

Phone support

If you prefer to speak to someone directly, you can call the Agilent customer contact centers at the numbers given on page 113 of this document.

The customer contact center will route your request to a technical support expert, who will contact you about your support request via phone or email. Local language support is available in many countries.