Product Brochure

Anritsu

MT8820B

Radio Communication Analyzer

30 MHz to 2.7 GHz

Excellent Eco Product

All in 1 Unit for Basic Tx and Rx Measurements of W-CDMA/HSPA/HSPA Evolution, GSM/GPRS/EGPRS, CDMA2000 1X/1xEV-DO Rev. A, PHS/Advanced PHS, and TD-SCDMA/HSPA Systems

Supports Multi-Communication Systems

The MT8820B Radio Communication Analyzer platform covers a frequency range of 30 MHz to 2.7 GHz.
When the dedicated optional measurement software and hardware is installed, the major Tx and Rx characteristics of W-CDMA/HSPA/HSPA Evolution, GSM/GPRS/EGPRS, CDMA2000 1X, CDMA2000 1xEV-DO Rev. A, PHS/Advanced PHS, and TD-SCDMA/HSPA terminals can be measured using a single MT8820B unit.

Advanced Digital Signal Processing and Batch Measurement

Manufacturing and inspection test times have been dramatically cut by incorporating advanced DSP and parallel measurement technologies. Furthermore, several measurement items can be selected freely for batch measurement, and the number of measurements for each measurement item can be configured separately.
The one-touch operation supports easy and quick measurement of Tx and Rx characteristics, including transmit frequency, modulation accuracy, transmit power, spectrum emission mask, adjacent channel leakage power ratio, occupied bandwidth, and BER.

Parallelphone Measurement

When the Parallelphone Measurement option is installed in the MT8820B main frame, two different mobile terminals can be connected and tested simultaneously with a single MT8820B using its second RF, AF, GPIB, and Ethernet port. This functionality significantly improves manufacturing efficiency by reducing production costs (return on investment and energy saving) and space.

Manufacturer Test Suite

Manufacturer Test Suite is the ideal solution for making RF adjustments and RF parametric tests on mobile terminal production lines. The basic configuration consists of signal generator and signal analyzer functions without call processing, supporting RF adjustments and RF parametric tests in the test mode (mobile controlled by external PC).
Installing the call processing software option supports RF parametric tests while controlling the mobile terminal at call processing. Adding the adjustment software option shortens the time required for RF adjustment by using the chipset adjustment function. Combining Manufacturer Test Suite with the Parallelphone Measurement option offers the perfect solution for production lines.

MT8820B

Radio Communication Analyzer

30 MHz to 2.7 GHz

Supports Multi-Communication Systems

All-in-one Support for Basic Tx and Rx Measurements of W-CDMA/HSPA/HSPA Evolution, GSM/GPRS/EGPRS, CDMA2000 1X/1xEV-DO Rev. A, PHS/Advanced PHS, and TD-SCDMA/HSPA Systems

W-CDMA Measurement

3GPP-compliant measurements of Tx and Rx characteristics of 3G W-CDMA terminals.

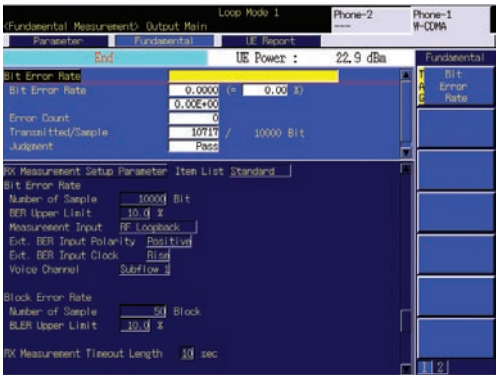
Transmitter Measurement

The transmit power, frequency error, occupied bandwidth, spectrum emission mask, adjacent channel leakage power ratio, modulation accuracy, and peak code domain error can be measured.

Transmitter Measurement

Receiver Measurement

The bit error rate can be measured using the 3GPP-specified loopback test mode.
In addition, feeding the demodulated data and clock signals from the W-CDMA terminal directly to the MT8820B supports bit error rate measurement. Both PN9 and PN15 can be set as the downlink RF signal data pattern.



BER

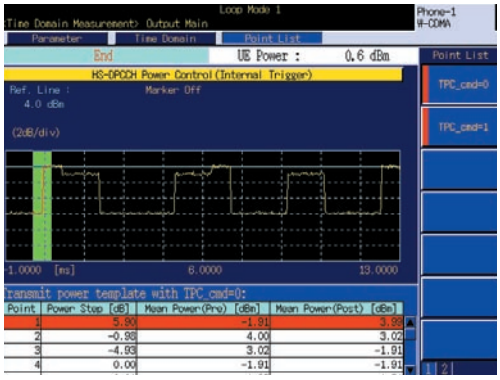
* Requires MT8820B-001, MX882000C, and MX88205xC

HSDPA Measurement

3GPP-compliant measurements of Tx and Rx characteristics of 3.5G HSDPA terminals.

Transmitter Measurement

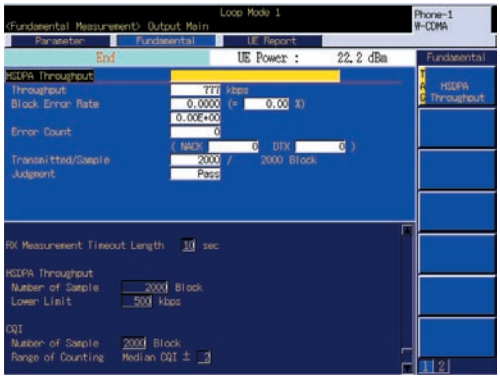
The transmit power, spectrum emission mask and adjacent channel leakage power ratio of the HS-DPCCH transmission slot are measured. At measurement in the time domain, the power step at the HS-DPCCH slot boundary, modulation, and code domain power are measured.



HS-DPCCH Measurement

Receiver Measurement

The HSDPA throughput can be measured by counting the number of ACK blocks from the HSDPA terminal.



Throughput

* Requires MT8820B-001, MX882000C, MX882000C-011, and MX882050C

Refer to the MX882000C catalog for details.

HSUPA Measurement

3GPP-compliant measurements of Tx and Rx characteristics of 3.5G HSUPA terminals.

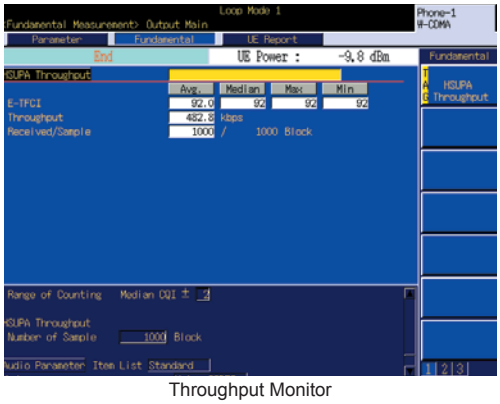
Transmitter Measurement

The transmit power, spectrum emission mask, and adjacent channel leakage power ratio at HS-DPCCH and E-DCH transmission are measured.

Transmitter Measurement

Throughput Monitor

The E-DCH throughput is calculated from the E-TFCI notification from the HSUPA terminals. In addition, the E-TFCI statistics (average, median, maximum and minimum) are displayed.



Throughput Monitor

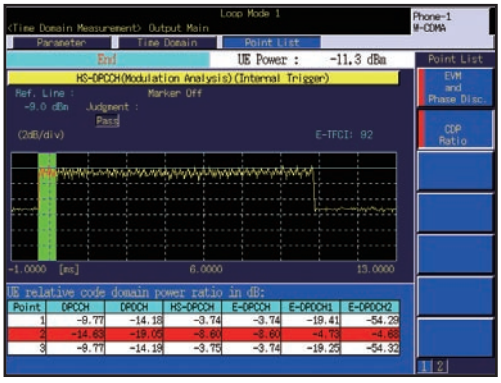
* Requires MT8820B-001, MX882000C, MX882000C-011, MX882000C-021, and MX882050C

HSPA Evolution Measurement

3GPP-compliant measurements of Tx and Rx characteristics, throughput and CQI of enhanced 3.5G HSPA Evolution terminals. FRC H-Set 8 (64QAM) and HS-DSCH Category 14 (21 Mbps class) test signals can be transmitted for HSPA Evolution throughput measurements.

Transmitter Measurement

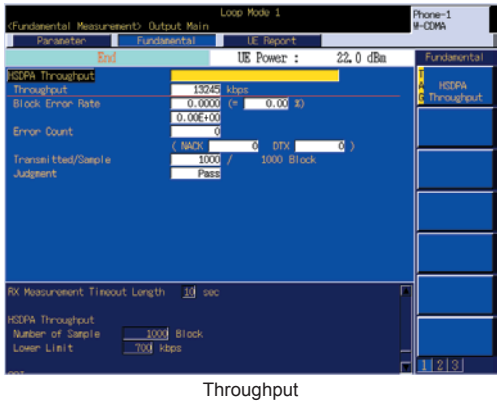
At measurement in the time domain, mobile terminal relative code domain power accuracy for HS-DPCCH and E-DCH with 16QAM are measured.



Code Domain Power

Receiver Measurement

The HSDPA throughput with 64QAM can be measured by counting the number of ACK blocks from the terminal.



Throughput

* Requires MT8820B-001, MX882000C, MX882000C-011, MX882000C-021, MX882000C-031, and MX882050C
* For terminal connectivity, contact your Anritsu sales representative.

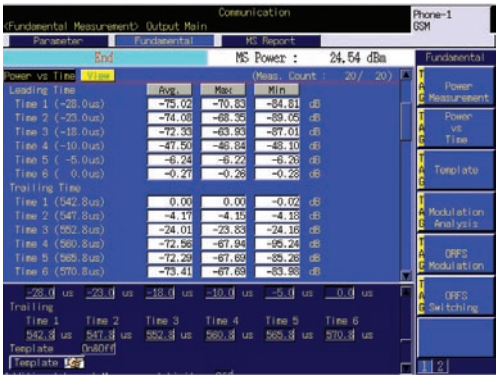
Refer to the MX882000C catalog for details.

GSM/GPRS Measurement

Measures Tx and Rx characteristics of GSM/GPRS terminals — world's most common digital mobile standard.

Transmitter Measurement

At GSM/GPRS measurement, the transmit frequency, phase error (RMS and peak), transmit power, power versus time (template mask), and output RF spectrum can be measured.



Power vs. Time (GSM)

Receiver Measurement

The uplink RF signal, which is looped back from GSM terminal, is demodulated by controlling the GSM terminal in the loopback condition to measure the frame error, bit error, and CRC error rates. And FAST BER measurement is supported.
The block error rate can be measured with the BLER and Test Mode B connection by controlling the GPRS terminal in the loopback condition.
The above receiver measurements can be performed in parallel with transmitter measurements.

BER (GSM)

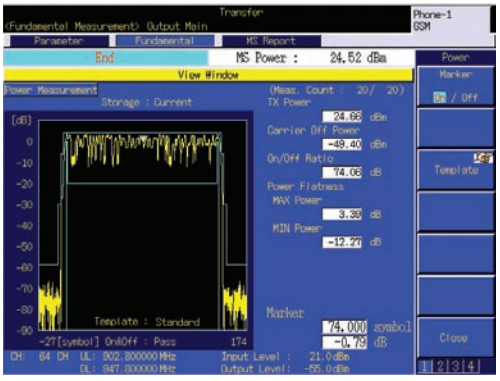
* Requires MT8820B-002 and MX882001C

EGPRS Measurement

Measures Tx and Rx characteristics of enhanced GPRS system (EGPRS) terminals.

Transmitter Measurement

At EGPRS measurement, the transmit frequency, EVM (RMS and peak), origin offset, transmit power, power versus time (template mask), and output RF spectrum can be measured.



Burst Waveform Display (8PSK)

Receiver Measurement

The uplink RF signal, which is looped back from EGPRS terminal, is demodulated by controlling the EGPRS terminal in the loopback condition to measure the block error or bit error.
The above receiver measurements can be performed in parallel with transmitter measurements.

BER (SRB Loopback)

* Requires MT8820B-002, MX882001C, and MX882000C-011

Refer to the MX882001C catalog for details.

CDMA2000 1X Measurement

3GPP2-compliant measurements of Tx and Rx characteristics of 3G CDMA2000 1X terminals.

Transmitter Measurement

The transmit power, modulation analysis, occupied bandwidth, code domain power, spurious emission, and access probe power can be measured.

Modulation Analysis

Receiver Measurement

The Frame Error Rate (FER) and Pass/Fail evaluation can be performed in SO2, SO9, SO55 and SO32 (TDSO) to display the FER, error frame count, Tx frame count, confidence level, and Pass/Fail results.

FER

* Requires MT8820B-003 and MX882002C

CDMA2000 1xEV-DO Rev. 0/Rev. A Measurement

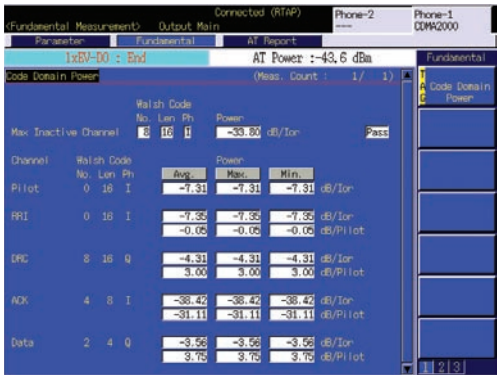
3GPP2-compliant measurements of Tx and Rx characteristics of 3.5G 1xEV-DO Rev. 0/Rev. A terminals.

• Measurement Software and Protocol Revision

Model	Protocol Revision
MX882006C	IS-856-0 (1xEV-DO Rev. 0)
MX882006C-002	IS-856-0 (1xEV-DO Rev. 0)
MX882006C-011	IS-856-A (1xEV-DO Rev. A)

Transmitter Measurement

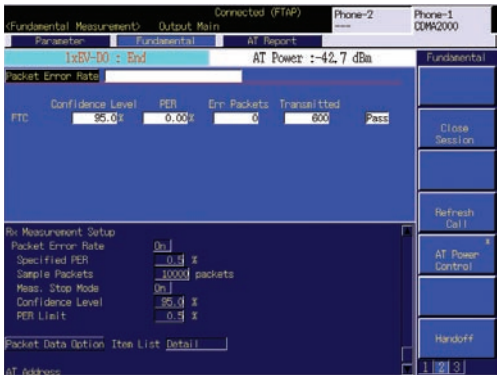
The transmit power, modulation analysis, occupied bandwidth, code domain power, spurious emission, and access probe power can be measured.



Code Domain Power

Receiver Measurement

PER (Packet Error Rate) measurement and Pass/Fail evaluation can be performed in FTAP to display the PER, error packet count, transmission packet count, confidence level, and Pass/Fail results.



PER

* Requires MT8820B-003, MT8820B-005, MX882002C, and MX882006C
* Installing the MT8820B-003, MT8820B-005, MX882002C, MX882006C, and MX882006C-011 can measure of Tx and Rx characteristics of 1xEV-DO Rev. A terminal.

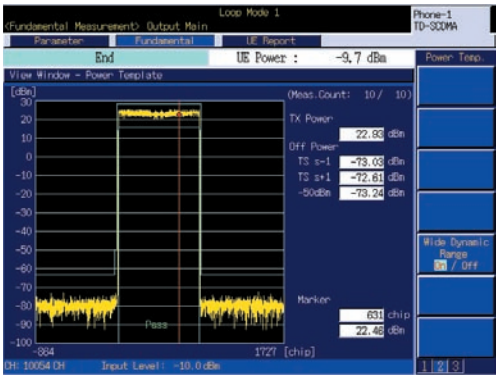
Refer to the MX882002C/MX882006C catalog for details.

TD-SCDMA Measurement

3GPP-compliant measurements of the main Tx and Rx characteristics of 3G TD-SCDMA (1.28 Mcps TDD) and 3.5G HSDPA/HSUPA mobile terminals is supported.

Transmitter and Receiver Measurement

3GPP-compliant measurement of TD-SCDMA with call-processing functions, including Tx/Rx items such as transmit power, power template, frequency error, occupied bandwidth, spectrum emission mask, adjacent channel leakage power, modulation accuracy, peak code domain error, open loop power control, closed loop power control, out-of-sync handling, BER, and BLER, is supported. In addition, one-touch setting of main Tx/Rx test items and closed loop power control offer easy configuration of automated 3GPP-compliant test systems.



Power Template

TD-SCDMA HSDPA Measurement

3GPP-compliant Throughput, and CQI measurements of TD-SCDMA HSDPA terminals are supported. The signals for Throughput measurement include RMC signals for all TD-SCDMA HS-DSCH categories as well as maximum category-15 data rates (2.8 Mbps).

TD-SCDMA HSUPA Measurement

3GPP-compliant Tx measurement and Performance test of TD-SCDMA HSUPA with call-processing are measured.
The signals for Tx measurement include HSUPA RMC category 1 to 6 (2.23 Mbps UE class) terminals can be transmitted.
And, HSUPA performance measurement is calculated the information about bit rate by detecting E-DCH TB(Transport Block size) Index include E-UCCH sent from the mobile terminal to MT8820B/MT8815B.

* Requires MT8820B-001, MT8820B-007, and MX882007C for TD-SCDMA measurements.
  Requires MT8820B-001, MT8820B-007, MX882007C, and MX882007C-011 for TD-SCDMA HSDPA measurements.
  Requires MT8820B-001, MT8820B-007, MX882007C, MX882007C-011, and MX882007C-021 for TD-SCDMA HSUPA measurements.

* For terminal connectivity, contact your Anritsu sales representative.

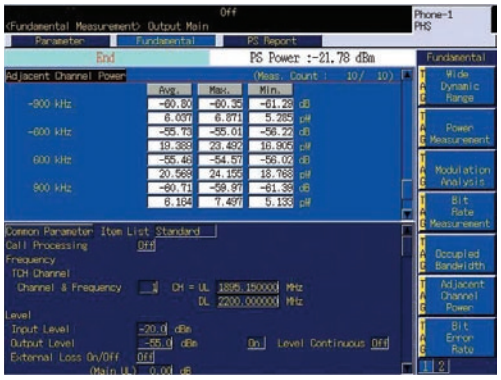
Refer to the MX882007C catalog for details.

PHS/Advanced PHS Measurement

Measures Tx and Rx characteristics of PHS terminals/Advanced PHS terminals and base stations in compliance with ARIB RCR-STD-28 edition 5.0 supporting ϖ/4DQPSK, 8PSK, and 16QAM modulation methods.

Transmitter Measurement

The transmit frequency, modulation accuracy, transmit power, transmission rate, occupied bandwidth, adjacent channel power of PHS terminals/Advanced PHS terminals and base stations are measured simultaneously.



Adjacent Channel Power

Receiver Measurement

The bit error rate can be measured on receipt of demodulation data and clocks output from a terminal/base station by controlling the terminal/base station with an external PC.
This measurement can be performed in parallel with transmitter measurements.

BER (8PSK)

* Requires MT8820B-002 and MX882005C for PHS measurements.
  Requires MT8820B-002, MX882005C, and MX882005C-011 for Advanced PHS measurements.

Refer to the MX882005C catalog for details.

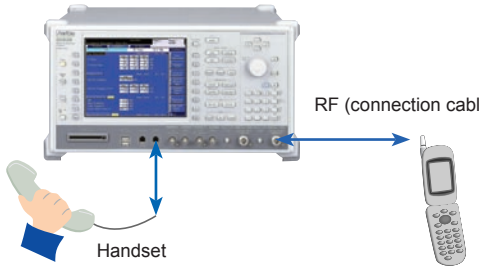
Supports All Function Tests

Real-time Voice Encoding and Decoding

Voice tests with a handset are supported by the real-time voice encoding and decoding function of the W-CDMA (GSM, CDMA2000 1X, TD-SCDMA) Measurement Software.
In addition, the call Tx and Rx audio can be measured using the audio measurement function.

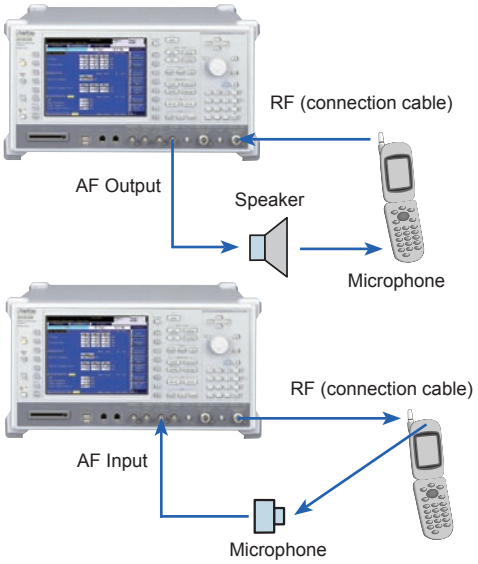
End-to-End Communications Test

This supports the end-to-end communications test between a handset connected to the RJ11 connector on the MT8820B and a mobile terminal.



Audio Transmitter and Reeiver Measurement

The tone signal from the MT8820B AF Output connector is supplied to the microphone of the mobile terminal and the audio transmitter characteristics of the mobile terminal can be measured using the MT8820B to demodulate the uplink RF signal and measure the level, frequency, and distortion of the demodulated tone signal.



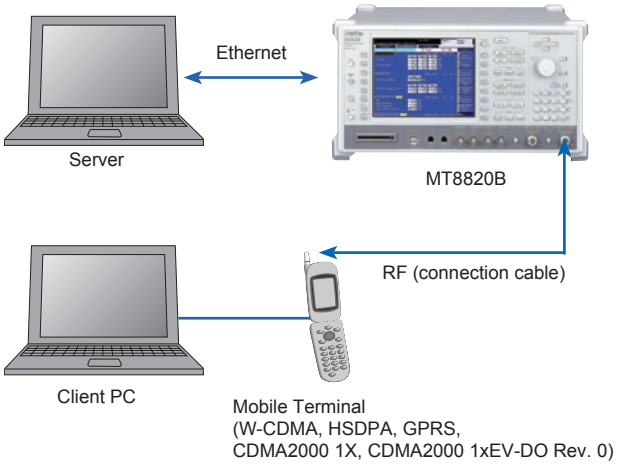
* Requires MT8820B-011, MX882000C-001, MX882001C-001, MX882002C-001 or MX882007C-001
* Audio Transmitter and Receiver Measurement supports W-CDMA, GSM, TD-SCDMA
  Audio Transmitter and Receiver Measurement does not support CDMA2000 1X

Refer to the MX882000C, MX882001C, MX882002C and MX882007C catalog for details.

Packet Communication Data Transfer Test

End-to-End Data Transfer Test

Using the External Packet Data Software option supports end-to-end data transfer between a mobile terminal (W-CDMA, HSDPA, GPRS, CDMA2000 1X, CDMA2000 1xEV-DO Rev. 0) and an application server connected to the MT8820B, or a PC client connected to the terminal, and various application tests.



Sample MT8820B connection

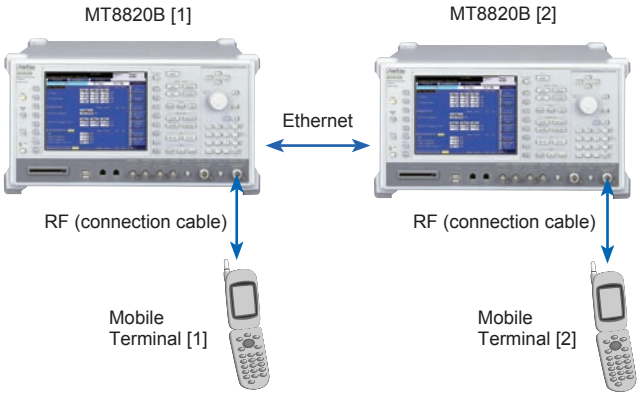
* Any of MX882001C-002, MX882002C-002, MX882006C-002, MX882050C-002, MX882050C-011, or MX882051C-002 separately required

Refer to the MX882000C, MX882001C and MX882002C/MX882006C catalog for details.

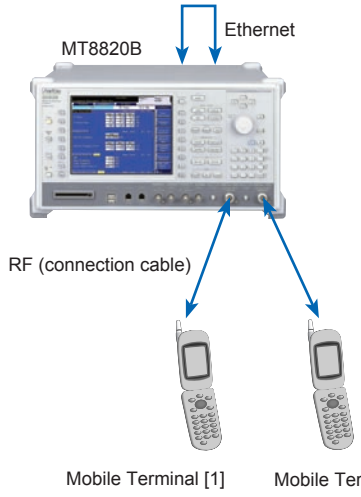
Video Phone Test

End-to-End Video Phone Test

The MT8820B supports two-ways tests between W-CDMA (TD-SCDMA) terminals with video functions via the MT8820B Ethernet port.
Two-way video phone tests require either two MT8820B units or one unit with the Parallelphone option.



Sample MT8820B connection: when MT8820B is two sets



Sample MT8820B connection: when MT8820B is one set (Parallelphone measurement correspondence)

∗ Requires MX88205xC-003 or MX882007C-003

Refer to the MX882000C and MX882007C catalog for details.

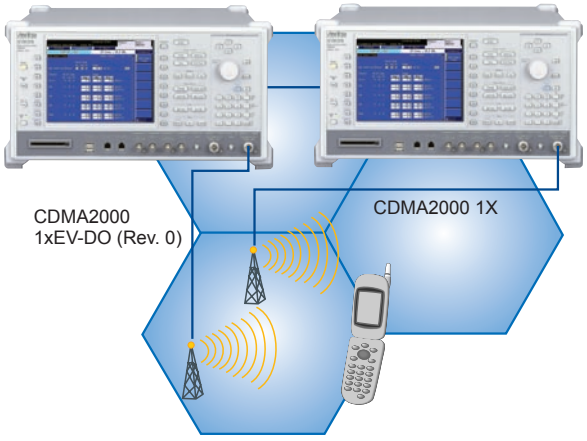
CDMA2000 1X/1xEV-DO (Rev. 0) Synchronous Function

CDMA2000 1X/1xEV-DO (Rev. 0) Hybrid Terminal Function Test

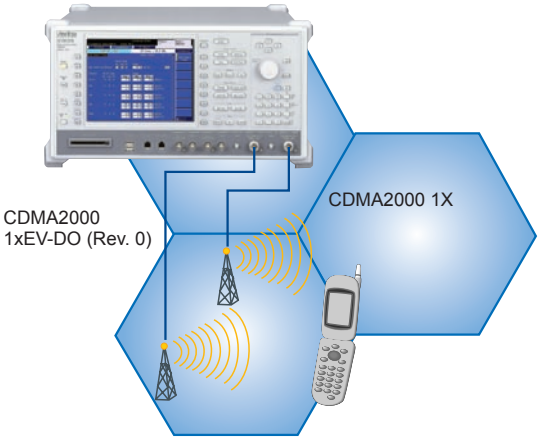
By using the MX882002C and MX882006C with two MT8820B units or one MT8820B unit with the Parallelphone measurement option, the CDMA2000 1X and 1xEV-DO (Rev. 0) forward link signals can be output with synchronized system times, supporting function tests of terminals for both CDMA2000 1X and 1xEV-DO (Rev. 0) systems∗

∗: This function cannot be used when MX882000C W-CDMA Measurement Software or MX882007C TD-SCDMA Measurement Software is loaded.
Please perform unload, when MX882000C or MX882007C is loaded.

∗: Installing the MX882006C-011 option supports the mobile terminal connection test with ETAP only.



Sample MT8820B connection: when MT8820B is two sets



Sample MT8820B connection: when MT8820B is one set (Parallelphone measurement correspondence)

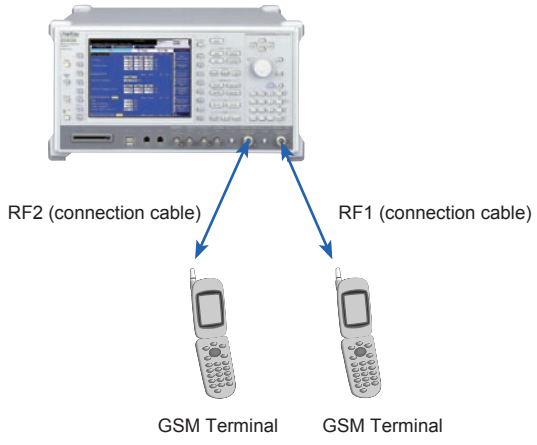
Refer to the MX882002C/MX882006C catalog for details.

Higher Productivity

High Production Efficiency and Smaller Equipment Footprint using Parallelphone Measurement

Simultaneous Measurement of Two Mobile Terminals

Installing the Parallelphone Measurement option supports simultaneous measurement of two terminals using the second RF, AF, GPIB, or Ethernet port of a single MT8820B unit.



Specifications

MX882010C Parallel Phone Measurement Software

Main2 Input/Output, Aux2 Output	Identical to Main1 Input/Output and Aux1 Output specified by the MT8820B and the measurement software installed in the MT8820B.
AF2 Input/Output	Identical to AF1 Input and Output specified by the measurement software. These are enabled only when the MT8820B-011 Audio Board is installed.

* The MT8820B-012 Parallel Phone Measurement Hardware requires the MX882010C Parallel Phone Measurement Software as well as installation of the required measurement software and two measurement hardware units.

Case of GSM Parallelphone Measurements

MT8820B	Radio Communication Analyzer	x 1
MT8820B-002	TDMA Measurement Hardware	x 2
MT8820B-012	Parallel Phone Measurement Hardware	x 1
MX882001C	GSM Measurement Software	x 1
MX882010C	Parallel Phone Measurement Software	x 1

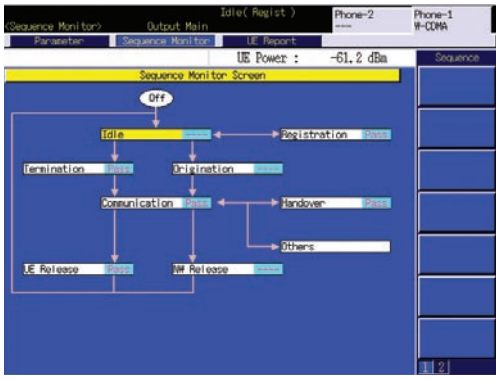
Supports Multi-System Call Processing Test

Call Processing Test

Call Processing

Connection Test

Various connection tests, such as registration, origination, termination, handover, terminal disconnect, and network disconnect, can be tested using the call processing functionality. Moreover, voice from the mobile terminal can be echoed back while calling to test simple voice communications.



Sequence Monitor (W-CDMA)

Mobile Terminal Report Monitor

The mobile terminal status can be displayed as a periodic report sent by the mobile terminal to the MT8820B. The downlink RF signal level at the mobile receiver can be checked with the Rx level reported from the mobile terminal.

Mobile Terminal Report Monitor (GSM)

Excellent Cost-Performance Solution

Perfect RF Adjustment and Test Solution for Mobile Production Lines

Manufacturer Test Suite

Basic Configuration

Call processing functions are not required for RF adjustments, and are only rarely required for RF parametric tests. Consequently, the basic configuration of Manufacturer Test Suite offers signal generator and signal analyzer functions without call processing, and is ideal for making RF adjustments and RF parametric tests in the test mode (mobile controlled by external PC).

W-CDMA

MT8820B	Radio Communication Analyzer
MT8820B-031	W-CDMA Measurement Hardware Lite
MX882030C	W-CDMA Measurement Software Lite

GSM

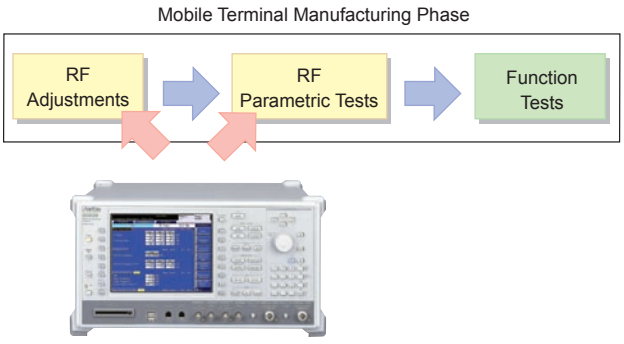
MT8820B	Radio Communication Analyzer
MT8820B-032	TDMA Measurement Hardware Lite
MX882031C	GSM Measurement Software Lite

RF Adjustment

The basic configuration with signal generator and signal analyzer functions supports RF adjustments using traditional adjustment methods. Installing the adjustment software option cuts the RF adjustment time because the chipset adjustment function is used.

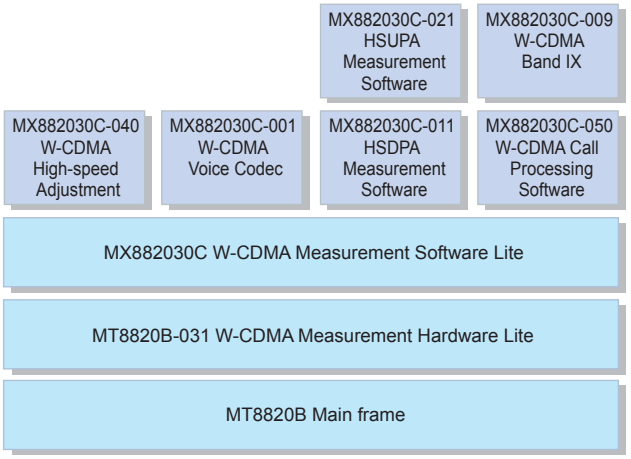
RF Parametric Test

The RF parametric tests control the mobile terminal in the test mode or with call processing. The basic configuration performs RF parametric tests in the test mode but installing the call processing software option adds support for RF parametric tests with call processing.



Target Phase of Manufacturer Test Suite

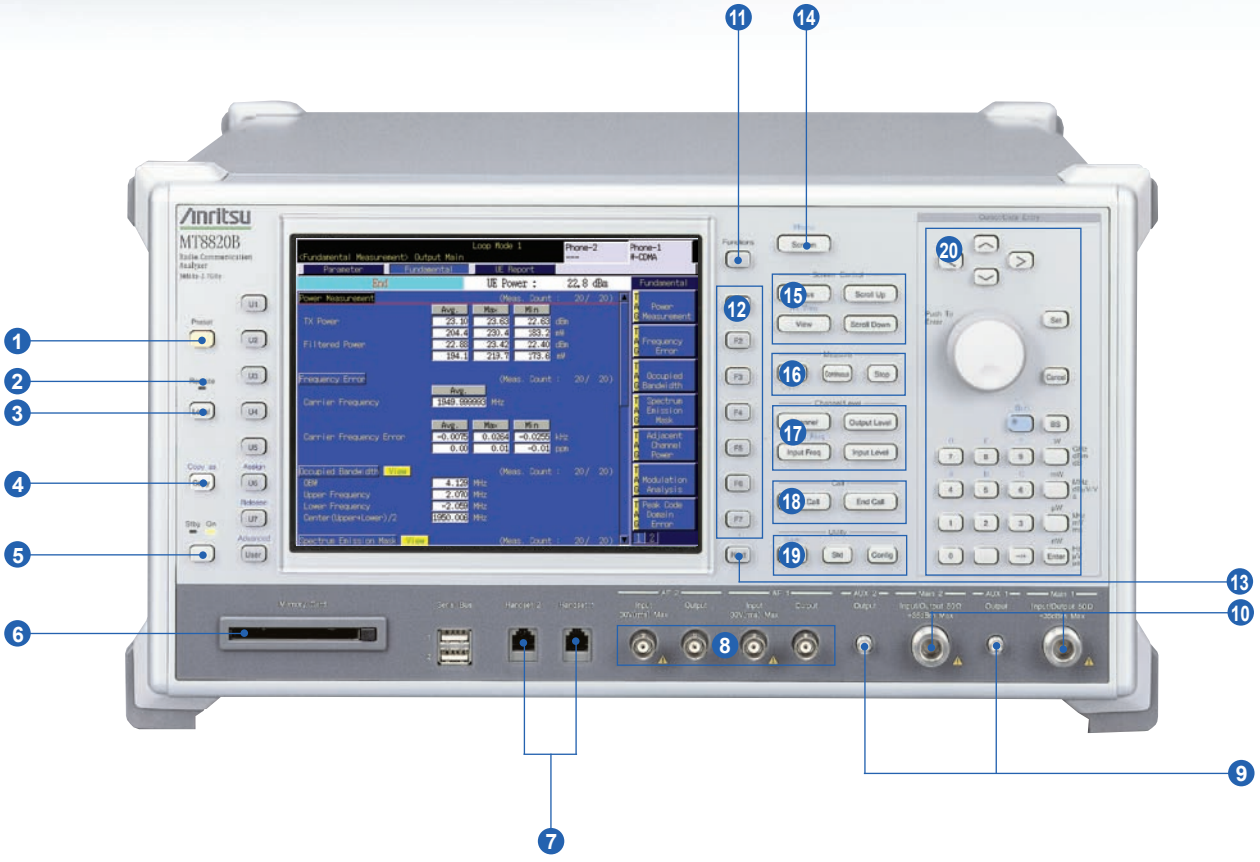
Example of Manufacturer Test Suite Options Stack (W-CDMA)



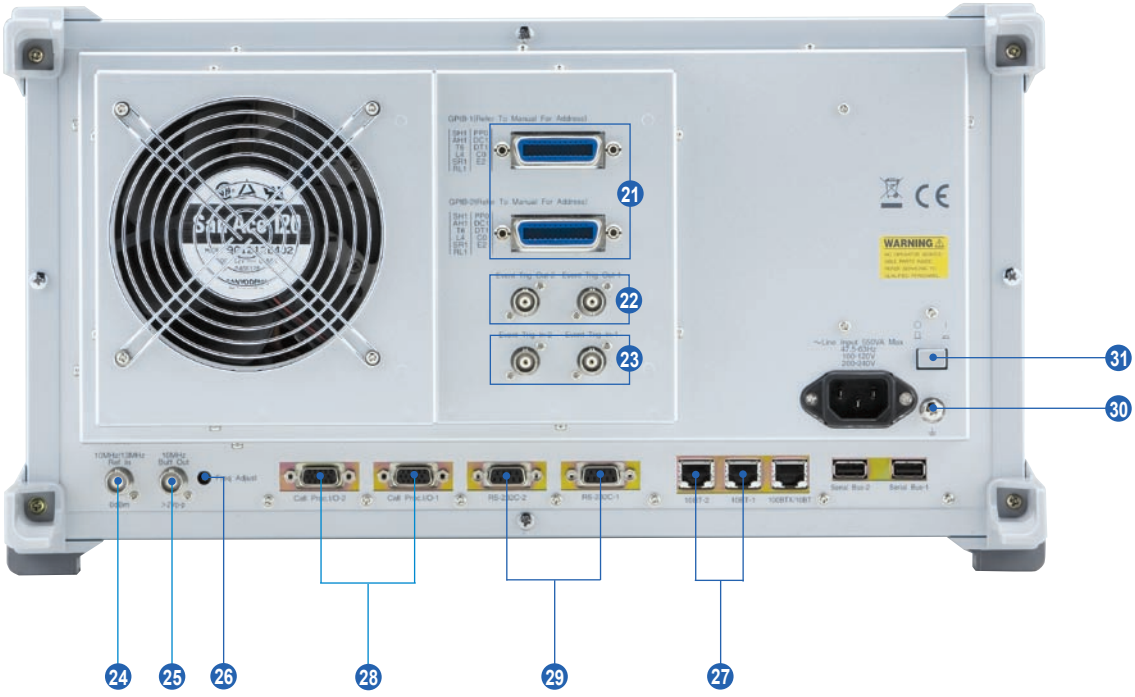
Example of Manufacturer Test Suite Options Stack

* Installing the option supports W-CDMA/HSDPA/HSUPA and GSM/GPRS/EGPRS in Manufacturer Test Suite.
* Manufacturer Test Suite does not support real-time processing functions, such as external packet data and video phone tests.
* MX882030C-001 W-CDMA Voice Codec function requires MT8820B-011.

MT8820B Panel Layout



1. **Preset Key:** Starts initializing
2. **Remote Lamp:** Lit while in remote control mode
3. **Local Key:** Switches remote control to manual control
4. **Copy Key:** Copies screen
5. **Power Switch:** Switches mode between power-on and standby
6. **Memory Card Slot:** For saving/recalling measurement parameters and update software to/from PCMCIA-compliant PC-card-type memory card (Type II)
7. **Handset Connector:** For testing end-to-end voice communication between MT8820B and mobile terminal using handset
8. **AF Input/Output Connector:** For audio measurement
9. **AUX Output Connector:** Outputs RF signal for RF testing mobile terminal (SMA connector)
10. **Main Input/Output Connector:** Outputs RF signal for RF testing mobile terminal (N-type connector)
11. **Functions:** Displays function menu on screen
12. **Function Key:** Executes function menu displayed on right of screen
13. **Page Switch Key:** Switches function menu displayed on right of screen
14. **Screen Switch Key:** Switches screen
15. **Screen Control:** Switches display window for manual operation
16. **Measure:** Starts and stops measurement
17. **Channel/Level:** Sets channel, frequency, and level
18. **Call:** Connects and disconnects call
19. **Utility:** Saves and recalls parameters, and displays configuration
20. **Cursor/Data Entry:** Moves cursor and sets parameters



21 **GPIB Connector:** For remote control of MT8820B
22 **Trigger Output Connector:** Outputs event-timing signal to external equipment (BNC connector)
23 **Trigger Input Connector:** Inputs trigger signal from external equipment to measure uplink signal from mobile equipment by synchronizing (BNC connector)
24 **Reference Signal Input Connector:** Inputs 10/13-MHz reference signal (BNC connector)
25 **Reference Signal Output Connector:** Outputs 10-MHz reference signal of MT8820B (BNC connector)
26 **Frequency Adjust:** Adjusts frequency of internal reference oscillator
27 **10BASE-T Port:** Interface for packet and W-CDMA video communication test
28 **Call Processing Input/Output Port:** Interface for BER measurement and synchronization
29 **RS-232C Port:** Interface for packet communication test
30 **Grounding Terminal:** Connected to ground potential
31 **Main Power Switch:** Switches main power on/off. The front-panel power switch enters the standby (Stby) mode when the main power is switched on.

Specifications

MT8820B Radio Communication Analyzer

General	Frequency range: 30 MHz to 2700 MHz Max. input level: +35 dBm (Main) Main I/O Impedance: 50 Ω VSWR: ≤1.2 (<1.6 GHz), ≤1.25 (1.6 GHz to 2.2 GHz), ≤1.3 (>2.2 GHz) Connector: N type AUX output Impedance: 50 Ω VSWR: ≤1.3 (at SG Output level: ≤–10 dBm) Connector: SMA type Reference oscillator Frequency: 10 MHz Level: TTL Startup characteristics: ≤±5 x 10^{-8} (at 10 min after startup referenced to frequency 24 h after startup) Aging rate: ≤±2 x 10^{-8}/day, ≤±1 x 10^{-7}/year (referenced to frequency 24 h after startup) Temperature characteristics: ≤±5 x 10^{-8} Connector: BNC type External reference input Frequency: 10 MHz or 13 MHz (±1 ppm) Level: ≥0 dBm Impedance: 50 Ω Connector: BNC type
RF Signal Generator	Frequency Frequency range: 30 MHz to 2700 MHz (setting range: 0.4 MHz to 2700 MHz) Setting resolution: 1 Hz Accuracy: Due to reference oscillator accuracy Output level Level range: –140 to –10 dBm (Main), –130 to 0 dBm (AUX) Resolution: 0.1 dB Accuracy: ±1.0 dB (–120 to –10 dBm, Main, after calibration), ±1.0 dB (–110 to 0 dBm, AUX, after calibration) Signal purity Non-harmonic spurious: ≤–50 dBc Harmonics: ≤–25 dBc Uninterrupted level variation Variable range: 0 to –30 dB Setting resolution: 0.1 dB
Others	Display Color 8.4-inch TFT LCD, 640 x 480 dots External control GPIB: Control from external host with main unit as device (excluding some functions such as power-on), No external device control Interface functions: SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0, E2
Power Supply	100 to 120 Vac/200 to 240 Vac (–15/+15%, 250 V max.), 47.5 Hz to 63 Hz, ≤550 VA (with all Options)
Dimensions and Mass	426 (W) x 221.5 (H) x 498 (D) mm (excluding projections), ≤26 kg (with all Options)
Environmental Conditions	Operating temperature and humidity: 0° to +50°C, ≤95% (no condensation) Storage temperature and humidity: –20° to +60°C, ≤95% (no condensation) EMC EN61326-1, EN61000-3-2 LVD EN61010-1

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Model/Order No.	Name	
	Main frame	
MT8820B	Radio Communication Analyzer	
	Standard accessories	
	Power Cord, 2.6 m:	1 pc
Z0956A	ANR-CFX40T256 (CF card, 256 MB):	1 pc
CA68ADP	PC Card Adapter :	1 pc
W2778AE	MT8815B/MT8820B Operation Manual (CD-ROM):	1 copy
	Options	
MT8820B-001	W-CDMA Measurement Hardware	
MT8820B-002	TDMA Measurement Hardware	
MT8820B-003	CDMA2000 Measurement Hardware	
MT8820B-004	1xEV-DO Measurement Hardware*1	
MT8820B-005	1xEV-DO Measurement Hardware*1	
MT8820B-007	TD-SCDMA Measurement Hardware	
MT8820B-011	Audio Board	
MT8820B-012	Parallel Phone Measurement Hardware	
MT8820B-031	W-CDMA Measurement Hardware Lite	
MT8820B-032	TDMA Measurement Hardware Lite	
MT8820B-043	CDMA2000 Time Offset CAL For GPS SG (requires MT8820B-003 and MX882002C)	
MT8820B-101	W-CDMA Measurement Hardware Retrofit	
MT8820B-102	TDMA Measurement Hardware Retrofit	
MT8820B-103	CDMA2000 Measurement Hardware Retrofit	
MT8820B-104	1xEV-DO Measurement Hardware Retrofit*1	
MT8820B-105	1xEV-DO Measurement Hardware Retrofit*1	
MT8820B-107	TD-SCDMA Measurement Hardware Retrofit	
MT8820B-111	Audio Board Retrofit	
MT8820B-112	Parallel Phone Measurement Hardware Retrofit	
MT8820B-131	W-CDMA Measurement Hardware Lite Retrofit	
MT8820B-132	TDMA Measurement Hardware Lite Retrofit	
MT8820B-143	CDMA2000 Time Offset CAL For GPS SG Retrofit (requires MT8820B-003 and MX882002C)	
MT8820B-177	TD-SCDMA Measurement Retrofit	
	Softwares	
MX882000C	W-CDMA Measurement Software (requires MT8820B-001 and MX88205xC)	
MX882000C-001	W-CDMA Voice Codec (requires MT8820B-011 and MX882000C)	
MX882000C-011	HSDPA Measurement Software (requires MT8820B-001, MX882000C, and MX882050C)	
MX882000C-012	HSDPA H-Set 6 Throughput Test (requires MT8820B-001, MX882000C, MX882000C-011, and MX882050C)	
MX882000C-013	HSDPA High Data Rate (requires MT8820B-001, MX882000C, MX882000C-011, and MX882050C)	
MX882000C-021	HSUPA Measurement Software (requires MT8820B-001, MX882000C, MX882000C-011, and MX882050C)	
MX882001C	GSM Measurement Software (requires MT8820B-002)	
MX882001C-001	GSM Voice Codec (requires MT8820B-011 and MX882001C)	
MX882001C-002	GSM External Packet Data (requires MX882001C)	
MX882001C-011	EGPRS Measurement Software (requires MX882001C)	
MX882001C-041	GSM High-speed Adjustment (requires MX882001C)	
MX882002C	CDMA2000 Measurement Software (requires MT8820B-003)	
MX882002C-001	CDMA2000 Voice Codec (requires MT8820B-011 and MX882002C)	
MX882002C-002	CDMA2000 External Packet Data (requires MX882002C)	
MX882003C	1xEV-DO Measurement Software (requires MT8820B-003, MT8820B-004, and MX882002C)	
MX882003C-002	1xEV-DO External Packet Data (requires MX882003C)	
MX882005C	PHS Measurement Software (requires MT8820B-002)	
MX882005C-011	Advanced PHS Measurement Software (requires MX882005C)	
MX882006C	1xEV-DO Measurement Software (requires MT8820B-003, MT8820B-005, and MX882002C)	
MX882006C-002	1xEV-DO External Packet Data (requires MX882006C)	
MX882006C-011	1xEV-DO Rev. A Measurement Software (requires MX882006C)	
MX882007C	TD-SCDMA Measurement Software (requires MT8820B-001 and MT8820B-007)	
MX882007C-001	TD-SCDMA Voice Codec (requires MT8820B-011 and MX882007C)	
MX882007C-003	TD-SCDMA Video Phone Test (requires MX882007C)	
MX882007C-011	TD-SCDMA HSDPA Measurement Software*3 (requires MT8820B-001, MT8820B-007, and MX882007C)	
MX882007C-021	TD-SCDMA HSUPA Measurement Software*3 (requires MT8820B-001, MT8820B-007, MX882007C, and MX882007C-011)	
MX882010C	Parallel Phone Measurement Software*2 [requires MT8820B-012, the two same measurement hardware (2 board/set) and one measurement software]	
MX882030C	W-CDMA Measurement Software Lite (requires MT8820B-031)	
MX882030C-001	W-CDMA Voice Codec (requires MT8820B-011 and MX882030C)	
MX882030C-008	W-CDMA Band XI*3 (requires MX882030C-050)	
MX882030C-009	W-CDMA Band IX*3 (requires MX882030C-050)	
MX882030C-011	HSDPA Measurement Software (requires MX882030C)	
MX882030C-021	HSUPA Measurement Software (requires MX882030C and MX882030C-011)	
MX882030C-040	W-CDMA High-speed Adjustment (requires MX882030C)	
MX882030C-050	W-CDMA Call Processing Software*3, *4 (requires MX882030C)	
MX882031C	GSM Measurement Software Lite (requires MT8820B-032)	
MX882031C-001	GSM Voice Codec (requires MT8820B-011 and MX882031C)	
MX882031C-011	EGPRS Measurement Software (requires MX882031C)	
MX882031C-040	EGPRS Predistortion Adjustment (requires MX882031C)	
MX882031C-041	GSM High-speed Adjustment (requires MX882031C)	
MX882031C-050	GSM Call Processing Software (requires MX882031C)	
MX882050C	W-CDMA Call Processing Software*3 (requires MX882000C)	
MX882050C-002	W-CDMA External Packet Data*3, *4 (requires MX882050C)	
MX882050C-003	W-CDMA Video Phone Test*3 (requires MX882050C)	
MX882050C-008	W-CDMA Band XI*3 (requires MX882050C)	
MX882050C-009	W-CDMA Band IX*3 (requires MX882050C)	
MX882050C-011	HSDPA External Packet Data*3 (requires MX882000C-011)	
MX882070C	W-CDMA Ciphering Software*3 (requires MX882050C)	
MX882051C	W-CDMA Call Processing Software*3 (requires MX882000C)	
MX882051C-002	W-CDMA External Packet Data*3 (requires MX882051C)	
MX882051C-003	W-CDMA Video Phone Test*3 (requires MX882051C)	
MX882071C	W-CDMA Ciphering Software*3 (requires MX882051C)	
	Warranty	
MT8820B-ES210	Extended Two Year Warranty Service	
MT8820B-ES310	Extended Three Year Warranty Service	
MT8820B-ES510	Extended Five Year Warranty Service	
	Application parts	
P0019	TEST USIM001*5	
P0035B	W-CDMA/GSM Test USIM	
A0013	Handset	
J1249	CDMA2000 Cable [D-Sub (15 pin, P-type) · D-Sub (15 pin, P-type), used in combination with J1267 (sold separately)]	
J1267	CDMA2000 Cross Cable [D-Sub (9 pin, P-type) · D-Sub (9 pin, P-type), reverse cable used in combination with J1249 (sold separately)]	
J0576B	Coaxial Cord (N-P · 5D-2W · N-P), 1 m	
J0576D	Coaxial Cord (N-P · 5D-2W · N-P), 2 m	
J0127A	Coaxial Cord (BNC-P · RG58A/U · BNC-P), 1 m	
J0127C	Coaxial Cord (BNC-P · RG58A/U · BNC-P), 0.5 m	
J0007	GPIB Cable, 1 m	
J0008	GPIB Cable, 2 m	
MN8110B	I/O Adapter (for call processing I/O)	
B0332	Joint Plate (4 pcs/set)	
B0333G	Rack Mount Kit	
B0499	Carrying Case (hard type, with protective cover and casters)	
B0499B	Carrying Case (hard type, with protective cover, without casters)	
W2776AE	MT8815B/MT8820B Operation Manual (booklet)	
W2765AE	MX882000C Operation Manual (booklet)	
W2771AE	MX882001C Operation Manual (booklet)	
W2790AE	MX882002C Operation Manual Panel Operation (booklet)	
W2791AE	MX882002C Operation Manual Remote Control (booklet)	
W2793AE	MX882003C Operation Manual Panel Operation (booklet)	
W2794AE	MX882003C Operation Manual Remote Control (booklet)	
W2769AE	MX882005C Operation Manual (booklet)	
W2930AE	MX882006C Operation Manual (booklet)	
W2931AE	MX882006C Operation Manual Remote Control (booklet)	
W2940AE	MX882007C Operation Manual (booklet)	
W2894AE	MX882030C Operation Manual (booklet)	
W2895AE	MX882031C Operation Manual (booklet)	
W2767AE	MX88205xC Operation Manual (booklet)	
W2773AE	MX88207xC Operation Manual (booklet)	

∗1: The MT8820B-004 hardware supports IS-856-0 (1xEV-DO Rev. 0) RF measurements but does not support IS-856-A (1xEV-DO Rev. A) measurements.
The MT8820B-005 hardware supports both IS-856-0 (1xEV-DO Rev. 0) and IS-856-A (1xEV-DO Rev. A) RF measurements.

∗2: The following measurement hardware supports the Parallelphone measurement option: MT8820B-001, MT8820B-002, MT8820B-003, MT8820B-004 (or MT8820B-005), MT8820B-007. All the measurement hardware can be installed simultaneously. However, the MT8820B-004 and MT8820B-005 cannot be installed simultaneously.

∗3: For terminal connectivity, contact your Anritsu sales representative.

∗4: These options preinstall the integrity protection function.

∗5: This Test USIM can be worked on only W-CDMA mode. When the connection of GSM or TD-SCDMA is necessary, P0035B can be applied.

Anritsu

Specifications are subject to change without notice.

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