

MT8820B

Radio Communication Analyzer

30 MHz ~ 2.7 GHz



All in **1** Unit for Basic Tx and Rx Measurements of W-CDMA/HSDPA, GSM/GPRS/EGPRS and CDMA2000 1X/1xEV-DO Systems

Features

Supports Multi-Communication Systems

The MT8820B 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/HSDPA, GSM/GPRS/EGPRS, CDMA2000® 1X (IS-2000), and CDMA2000 1xEV-DO 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.

CDMA2000® is a registered trademark of the Telecommunications Industry Association (TIA-USA).



W-CDMA Measurements

– W-CDMA Measurement Software and Hardware

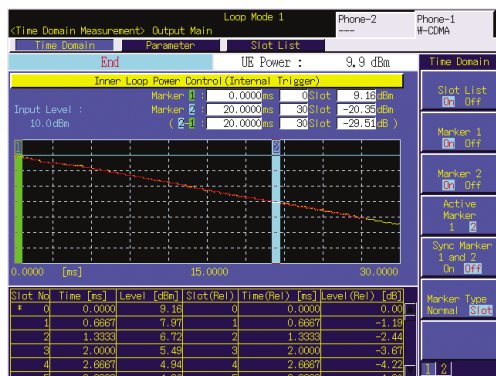
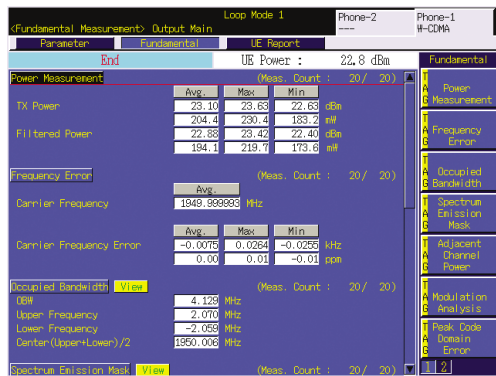
When the MT8820B-001 W-CDMA Measurement Hardware, MX88200C W-CDMA Measurement Software, and MX88205x C W-CDMA Call Processing Software are installed in the MT8820B main frame, the Tx and Rx characteristics of 3G W-CDMA terminals can be measured according to the 3GPP standard.

Transmitter Measurements

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

Any specified TPC (Transmission Power Control) bits can be sent to the W-CDMA terminal.

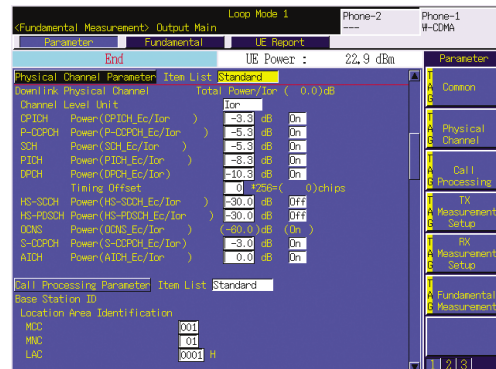
The transmit power response of the W-CDMA terminal to power control can be measured in the time domain, and the transmit power for up 1515 slots can be batch measured quickly.



Downlink RF Signal Generator Functionality

The relative level of each of the CPICH*1, P-CCPCH*2, SCH*3, PICH*4, DPCH*5, S-CCPCH*6, and AICH*7 code channels can be set within the range of -30 to 0 dB. In addition, OCNS*8 and AWGN*9 can also be provided, supporting generation of any downlink modulation signal required for Tx and Rx tests. The RF output level can be set within the range of -140 to -10 dBm (Main I/O connectors) in 0.1-dB steps.

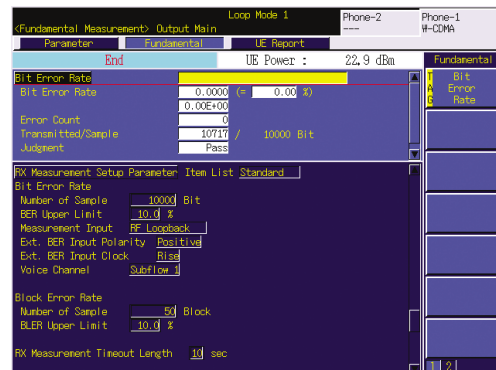
- *1: Common Pilot Channel
- *2: Primary Common Control Physical Channel
- *3: Synchronization Channel
- *4: Paging Indicator Channel
- *5: Dedicated Physical Channel
- *6: Secondary Common Control Physical Channel
- *7: Acquisition Indication Channel
- *8: Orthogonal Channel Noise Simulator
- *9: Additive White Gaussian Noise



Receiver Tests

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.



*Read the MX88200C W-CDMA Measurement Software catalog for details.

HSDPA Measurements

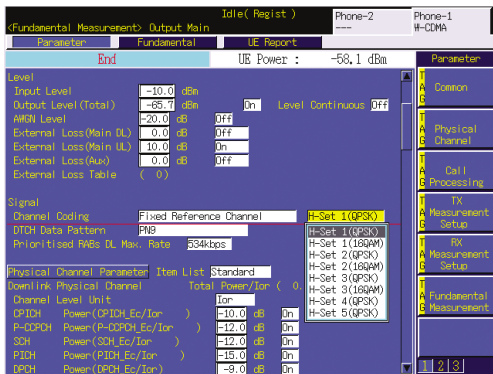
– W-CDMA Measurement Software and Hardware and HSDPA Measurement Software

When the MX88200C-011 HSDPA Measurement Software is installed in the MT8820B main frame*1, the Tx and Rx characteristics of 3.5G HSDPA terminals can be measured.

*1: Requires MT8820B-001, MX88200C and MX882050C

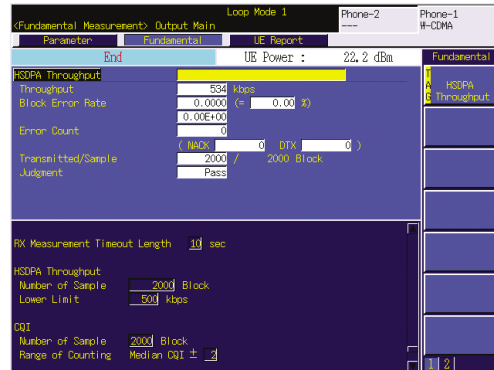
HSDPA FRC Signals

The FRC H-Set 1 to 5 can be set as a test signal to measure Tx and Rx characteristics of HSDPA terminals, and both QPSK and 16QAM modulation types are supported too.



Receiver Measurement

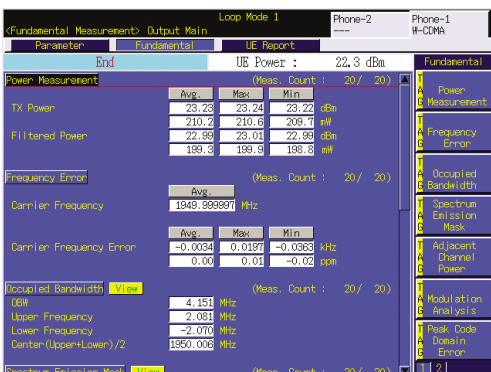
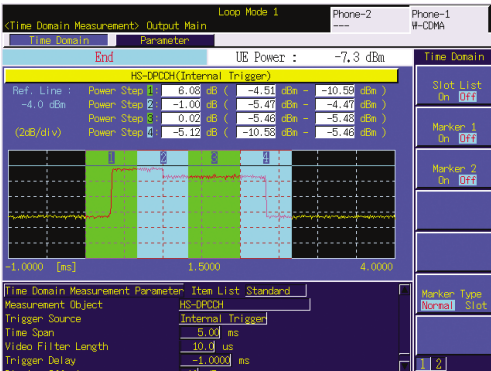
The HSDPA throughput can be measured by counting the number of ACK blocks from the HSDPA terminal.



Transmitter Measurements

The transmit power, spectrum emission, adjacent channel leakage power ratio, and modulation accuracy can be measured during HS-DPCCH transmission.

The power steps at HS-DPCCH slot boundaries can be measured in the time domain.



*Read the MX88200C-011 HSDPA Measurement Software catalog for details.

GSM/GPRS/EGPRS Measurements

– GSM and EGPRS Measurement Software, and TDMA Measurement Hardware

When the MT8820B-002 TDMA Measurement Hardware and MX882001C GSM Measurement Software are installed in the MT8820B main frame, the Tx and Rx characteristics of GSM/GPRS terminals--the world's most widely used digital mobile standard--can be measured.

Adding the MX882001C-011 EGPRS Measurement Software supports Tx and Rx measurements of enhanced GPRS system (EGPRS) terminals.

Transmitter Measurements

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.

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.

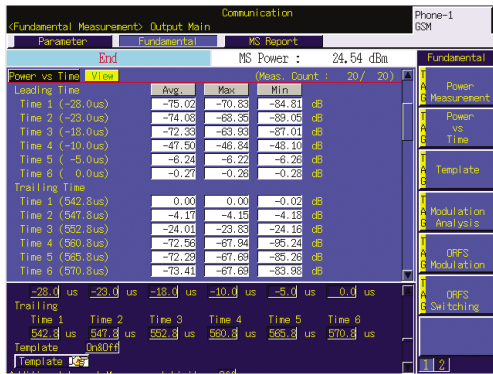
Receiver Measurements

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.

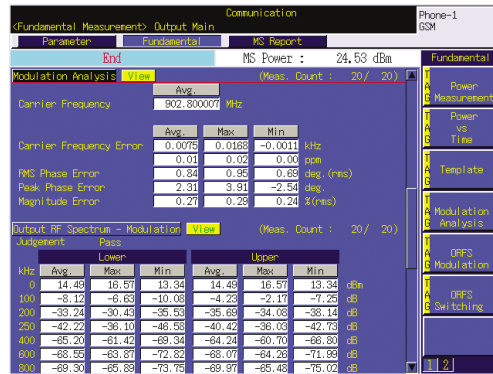
The block error rate can be measured with the BLER and Test Mode B connection by controlling the GPRS terminal in the loopback condition.

The uplink RF signal, which is looped back from EGPRS terminal, is demodulated by controlling the GSM terminal in the loopback condition to measure the bit error.

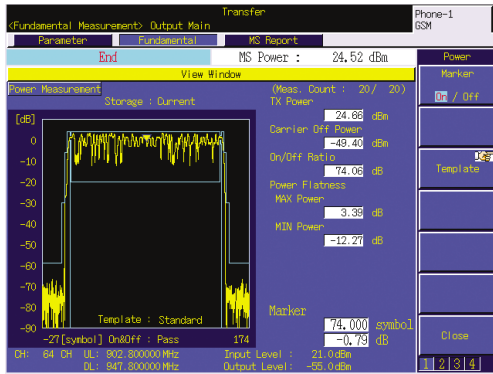
The above receiver measurements can be performed in parallel with transmitter measurements.



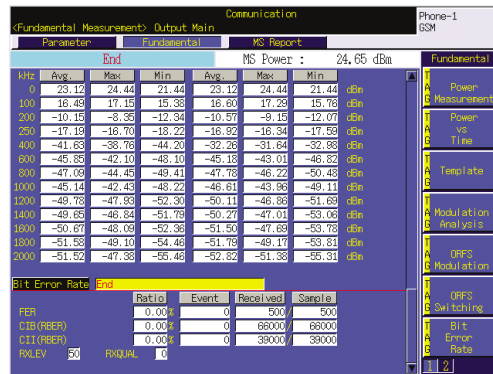
Power vs Time (GSM)



Modulation analysis (EGPRS)



Burst waveform display (EGPRS)



BLER (GPRS)

*Read the MX882001C GSM Measurement Software catalog for details.

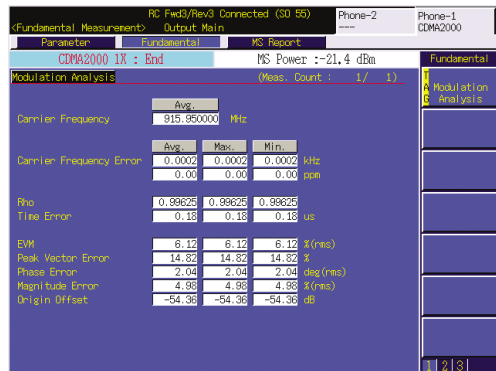
CDMA2000 1X Measurements

– CDMA2000 Measurement Software and Hardware

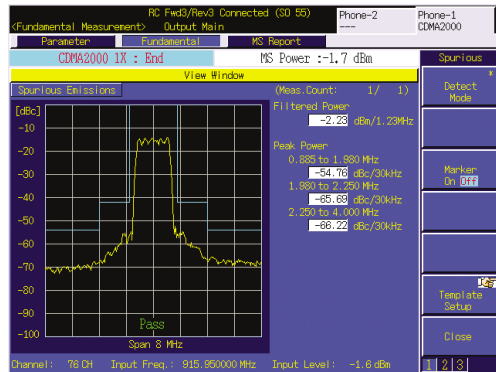
When the MT8820B-003 CDMA2000 Measurement Hardware and MX882002C CDMA2000 Measurement Software are installed in the MT8820B main frame, the Tx and Rx characteristics of 3G CDMA2000 1X terminals can be measured according to the 3GPP2 standard.

Transmitter Measurements

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



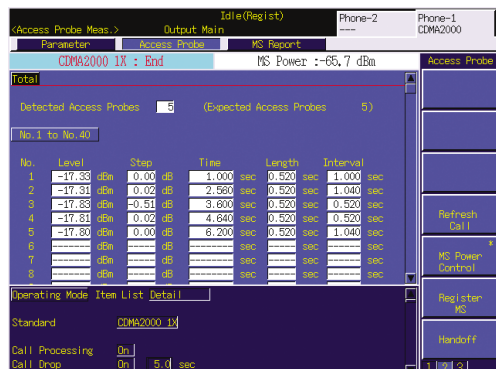
Modulation analysis



Spurious emission mask

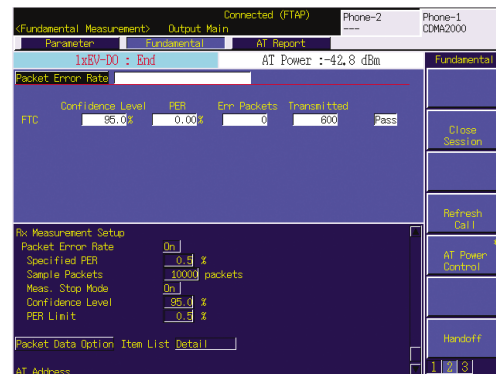
Access Probe Power Measurement

The Access Probe Power screen measures the Access Probe transmitted continuously from a CDMA2000 1X UE. (During measurement, Ack is not returned to the Access Probe from a CDMA2000 UE.) In addition to the level of each probe, the difference from the last probe level, probe detection time, probe transmission time, and probe interval are measured simultaneously.



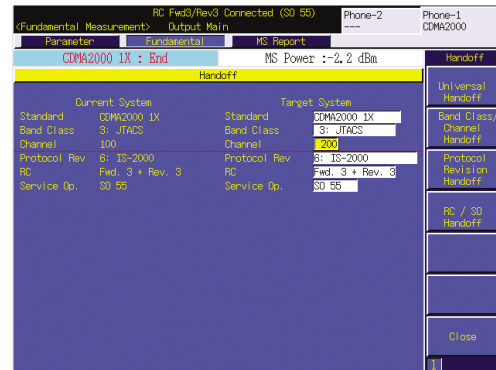
Receiver Measurements

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.



Handoff Function

The Handoff window is used to set parameters after Handoff [Band Class Channel, Protocol Revision (P_REV), Radio Configuration Service Option], and to perform handoff according to the preset parameters.



*Read the MX882002C CDMA2000 1X Measurement Software catalog for details.

CDMA2000 1xEV-DO Measurements

– 1xEV-DO Measurement Software and Hardware

When the MT8820B-004 1xEV-DO Measurement Hardware and MX882003C 1xEV-DO Measurement Software are installed in the MT8820B main frame*1, the Tx and Rx characteristics of 3.5G 1xEV-DO terminals can be measured according to the 3GPP2 standard.

*1: Requires MT8820B-003 and MX882002C

Transmitter Measurements

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

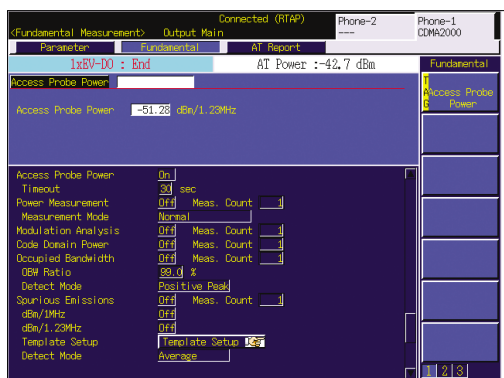


Code Domain power

* Output power, modulation analysis, occupied bandwidth measurement etc. can be performed similarly to the MX882002C.

Access Probe Power

The first access probe from the 1xEV-DO UE is captured by the level trigger to measure the average power. This value is held after terminating the probe measurement once even in the Continuous Measurement mode, which is convenient for the Open Loop Output Power measurement described in C.S0033 of the 3GPP2 standard.

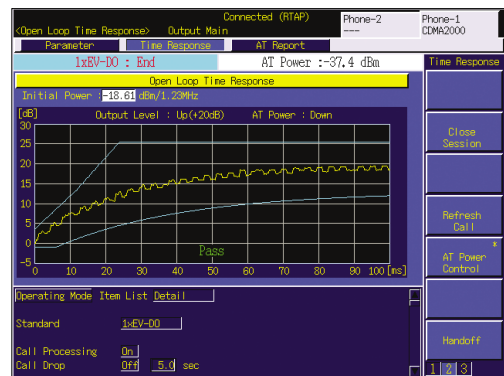


1xEV-DO Access probe power

Open Loop Time Response

The Open Loop Time Response screen is used to measure the time response of the 1xEV-DO UE open loop power control. Changes in the UE transmitted power are measured at 100-ms intervals from the point where the power of the forward link signal changed.

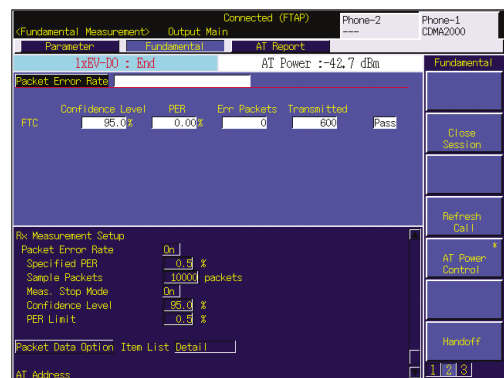
*The MX882002C supports this measurement too.



* Similarly the MX882002A can perform the Open Loop Time Response measurement.

Packet Error Rate

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.



*Read the MX882003C 1xEV-DO Measurement Software catalog for details.

Parallelphone Measurement

– Parallel Phone Measurement Software and Hardware

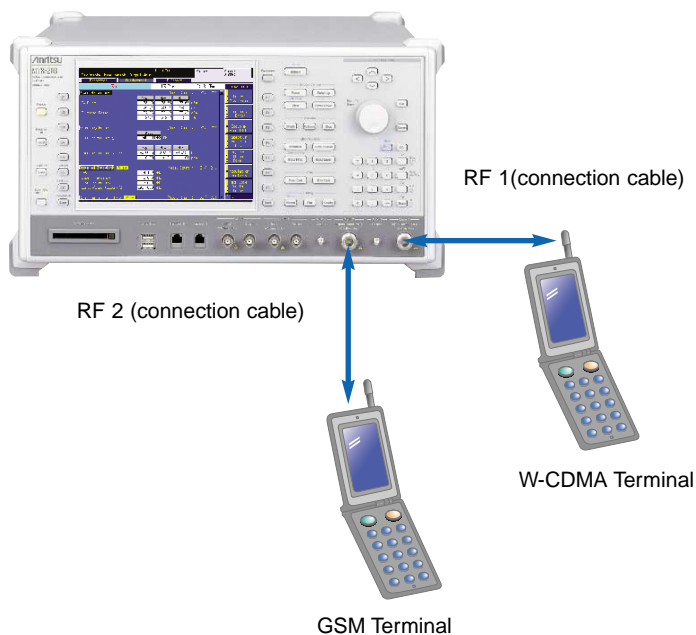
Simultaneous Measurement of Two Mobile Terminals

When the Parallelphone*1 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. The MT8820B has dual independent RF, AF, GPIB, and Ethernet connectors that can be controlled separately. For example, a W-CDMA terminal connected to RF1 and a GSM terminal connected to RF2 can be tested simultaneously. This functionality contributes significantly to improved manufacturing efficiency by reducing production costs (return on investment and energy saving) and space.

The MT8820B supports Parallelphone Measurement for W-CDMA/HSDPA, GSM/GPRS/EGPRS, CDMA2000 1X, and CDMA2000 1xEV-DO communication systems*2.

*1: Parallelphone is a registered trademark of Anritsu Corporation.

*2: Any measurement hardware can be installed together.



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.

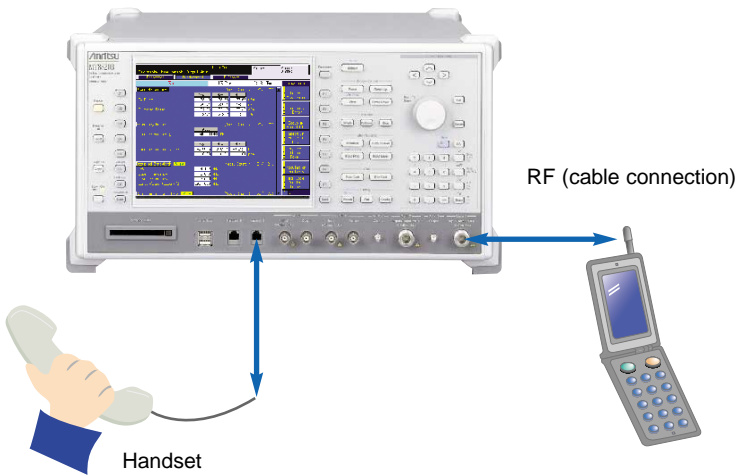
*The MT8820B-012 (112) Parallel Phone Measurement Hardware requires the MX882010C Parallel Phone Measurement Software as well as installation of the required measurement software and two measurement hardware units. For example, for GSM Parallelphone Measurement, two MT8820B-002 TDMA Measurement Hardware units and one copy of the MX882001C GSM Measurement Software are required.

Real-time Voice Encoding and Decoding

The MX882000C-001 W-CDMA Voice Codec (MX882001C-001 GSM Voice Codec) supports real-time voice encoding and decoding in software, so end-to-end communication with W-CDMA (GSM) terminals can be tested by installing this option and the MT8820B-011 Audio Board. In addition, the audio transmitter and receiver can be tested while calling.

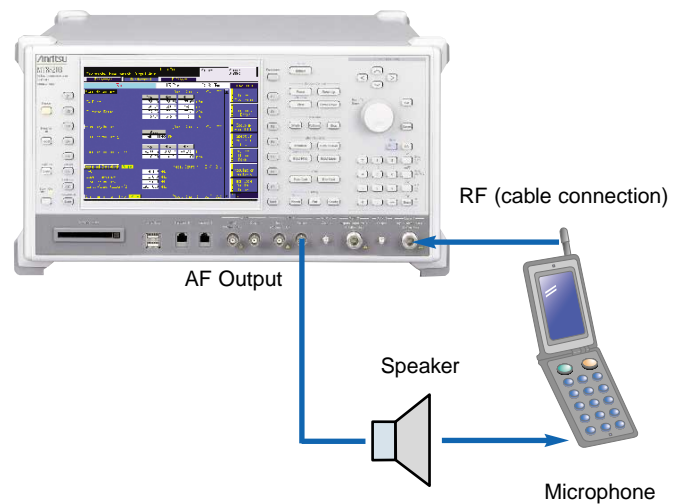
End-to-End Communications Test

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



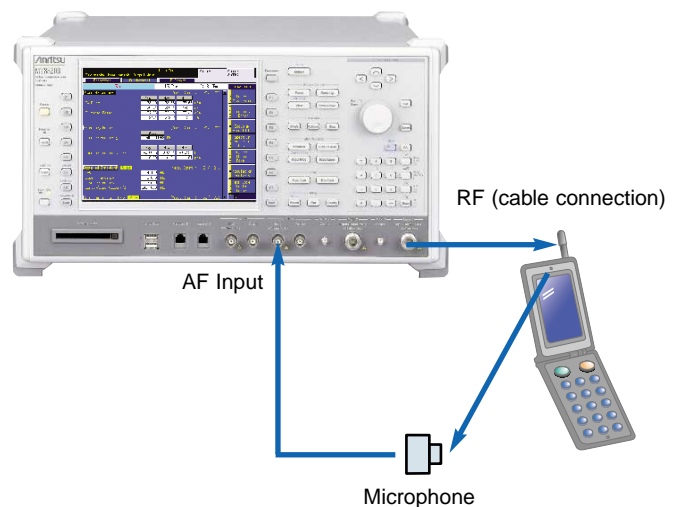
Audio Transmitter Measurement

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.



Audio Receiver Measurement

The tone signal demodulated by the mobile terminal is supplied to the MT8820B AF Input connector and the audio receiver characteristics of the mobile terminal can be measured by using the MT8820B to measure the level, frequency, and distortion of the tone signal at the AF Input.

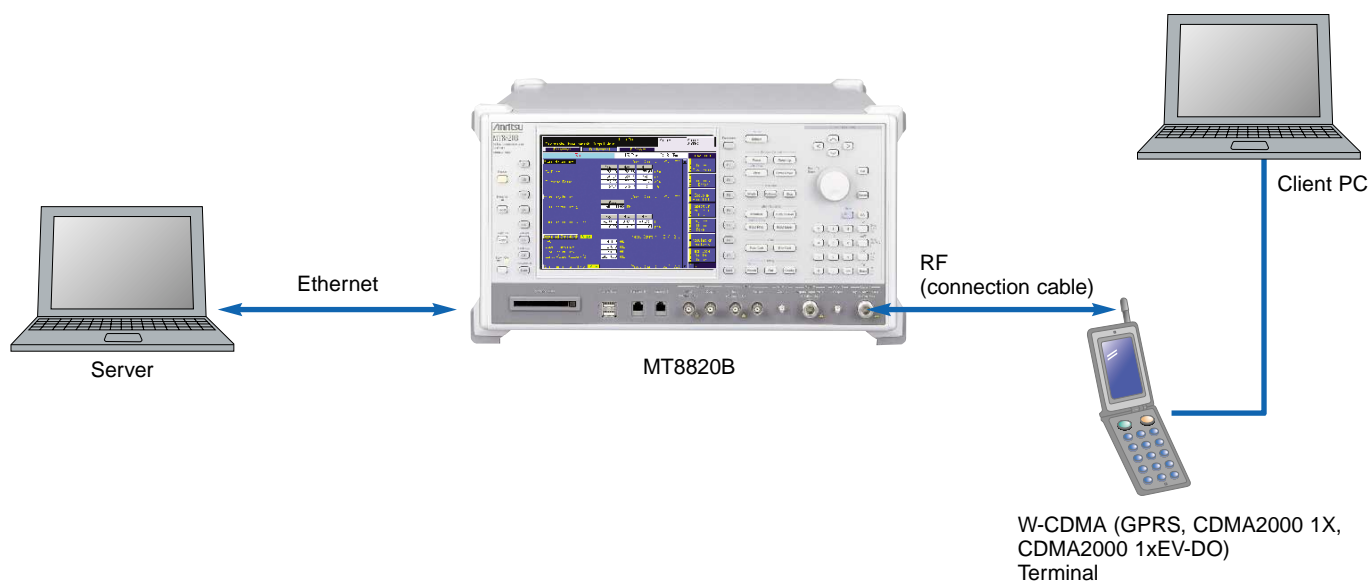


External Packet Data

– Measurement Software Option

Packet Communication Data Transfer Test

The External Packet Data option supports data transfer to/from external equipment via the Ethernet port. End-to-end data transfer between an application server connected to the MT8820B and the mobile terminal (W-CDMA, HSDPA, GPRS, CDMA2000 1X, CDMA2000 1xEV-DO) or client PC connected to the mobile terminal can be tested using the External Packet Data option (MX882050C-002, MX882051C-002, MX882050C-011, MX882001C-002, MX882002C-002, MX882003C-002).



Sample MT8820B connection

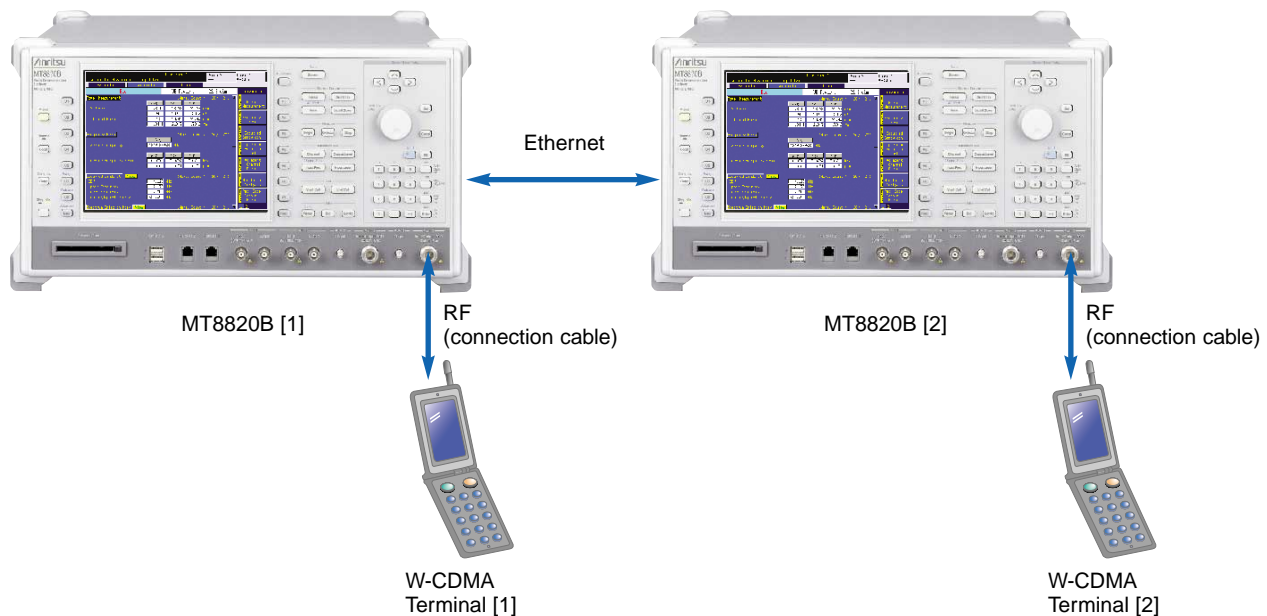
*Read the separate MX882000C, MX882001C, MX882002C/MX882003C catalogs for details.

W-CDMA Video Phone Test

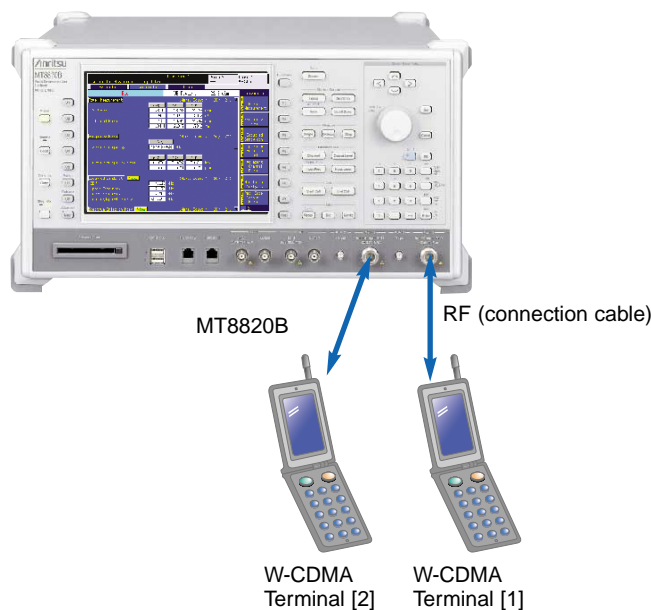
– Measurement Software Option

End-to-End Video Phone Test

End-to-end video communication between two W-CDMA terminals supporting a video phone can be tested via the Ethernet port in the back panel of the MT8820B using the MX88205x-C-003 W-CDMA Video Phone Test. End-to-end video communication can be tested with two MT8820B units or a single MT8820B configured with Parallelphone Measurement.



Sample MT8820B connection: when MT8820B is two sets



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

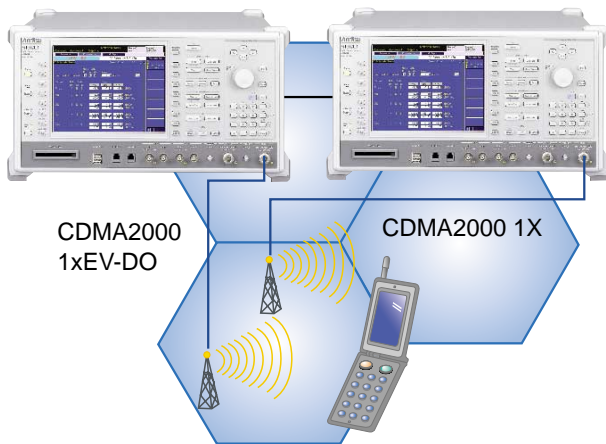
*Read the MX882000C W-CDMA Measurement Software catalog for details.

CDMA2000 1X/1xEV-DO Synchronous Function

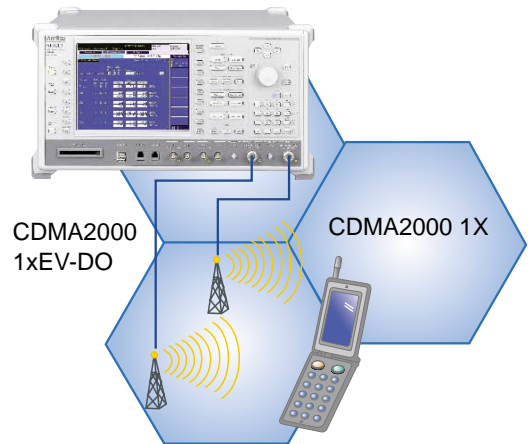
Functional Tests of Terminals Supporting CDMA2000 1X and CDMA2000 1xEV-DO

By using the MX882002C and MX882003C with two MT8820B units or one MT8820B unit with the Parallelphone measurement option, the CDMA2000 1X and 1xEV-DO forward link signals can be output with synchronized system times, supporting function tests of both CDMA2000 1X and 1xEV-DO mobile terminals*1.

*1: This function cannot be used when the MX882000C W-CDMA Measurement Software is installed. Uninstall this function when the MX882000C is installed.



Sample MT8820B connection: When MT8820B is two sets

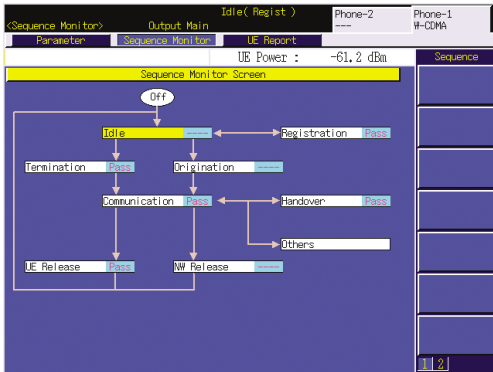


Sample MT8820B connection:
When MT8820B is one set
(Parallelphone measurement correspondence)

*Read the MX882002C/MX882003C catalog for details.

Connection Tests

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.



Example of 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.

Parameter	Value
MS Power Class	0
IMSI	001011234567890
IMEI	35528000441183
IM Phone No	44444
MS Power Level	0
Timing Advance	0
RSRQ	10
RSRP	10
RSRB	10

Example of terminal monitor measurement (GSM)

The built-in GPIB interface enables the MT8820B to be integrated into automated test systems for after-sales maintenance, as well as into automated production lines.

Independent Screen Items

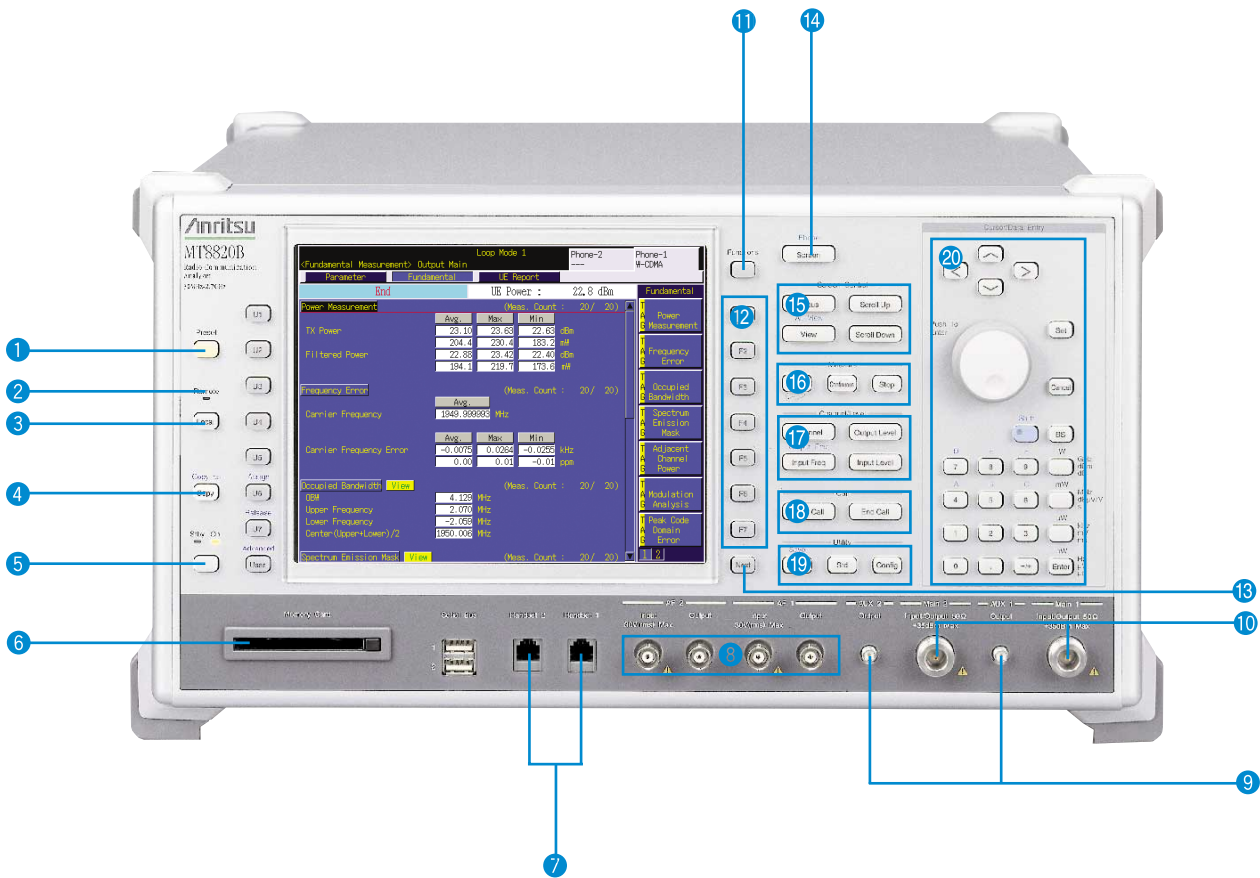
Items not currently displayed on-screen can be read out or changed freely without changing the screen, dramatically saving time that would otherwise be lost by displaying the relevant screen.

Batch Readout Command for Measurement Results

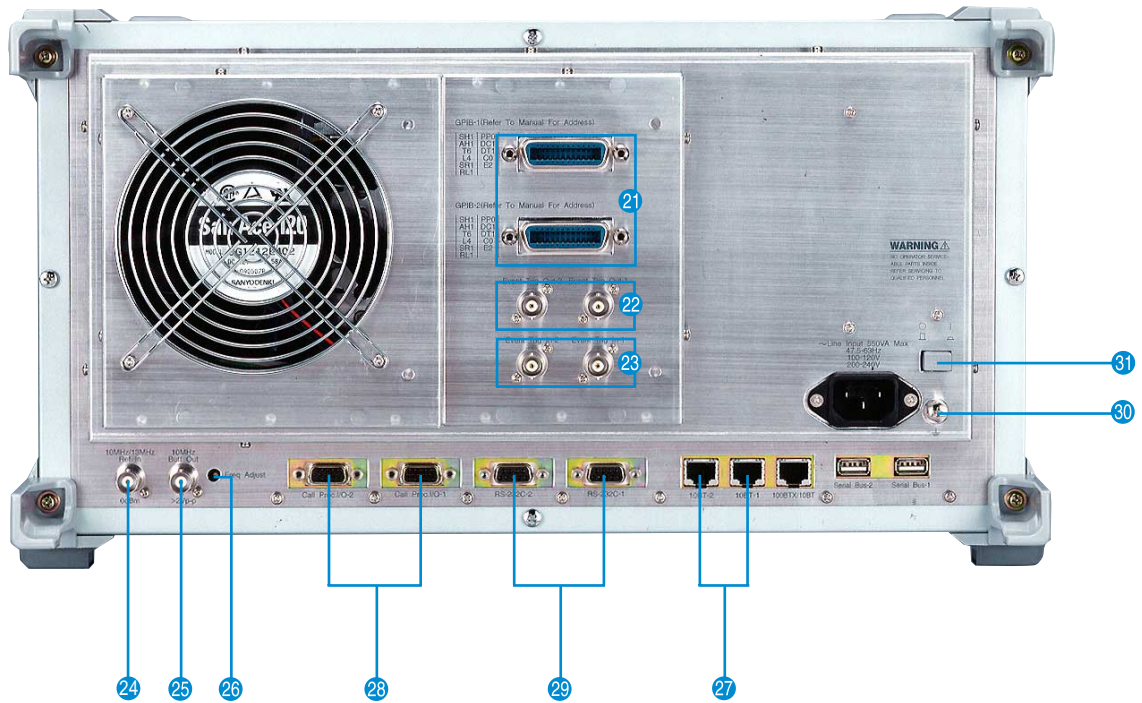
All results of batch measurement can be read out using the single command "ALLMEAS?". The intended measurement results can be read out using a command such as "ALL MEAS? MOD".

The reduced number of GPIB commands cuts the overhead of both the MT8820B and control PC, increasing measurement throughput. Moreover, since the control program step size is also reduced, easy-to-read control programs with high maintainability are easily created.

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 Main frame

General	<p>Frequency range: 30 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 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 10⁻⁹/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</p>
RF signal generator	<p>Frequency Frequency range: 30 to 2700 MHz (setting range: 0.4 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 (at offset frequency: ≥100 kHz) Harmonics: ≤-25 dBc Uninterrupted level variation Variable range: 0 to -30 dB Setting resolution: 1-dB</p>
Others	<p>Display Color 8.4-inch TFT LCD, 640 x 480 dots External control GPIO: 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</p>
Power supply	100 to 120/200 to 240 Vac (-15/+15%, 250 V max.), 47.5 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	<p>Operating temperature and humidity: 0° to +50°C, ≤95% (no condensation) Storage temperature and humidity: -20° to +60°C, ≤95% (no condensation) EMC EN61326:1997+A1:1998+A2:2001+A3:2003 (Class A, Annex A), EN61000-3-2: 2000 (Class A) LVD EN61010-1: 2001 (Pollution Degree 2)</p>

Ordering Information

Please specify the model/order number, name and quantity when ordering.

Model/Order No.	Name
MT8820B	Main frame Radio Communication Analyzer
	Standard accessories
	Power Cord, 2.6 m : 1 pc
Z0906A	ANR-CFX00T64 (CF card, 64 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
MT8820B-011	Audio Board
MT8820B-012	Parallel Phone Measurement Hardware
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
MT8820B-111	Audio Board retrofit
MT8820B-112	Parallel Phone Measurement Hardware 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)
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)
MX882002C	CDMA2000 Measurement Software (requires MT8820B-003)
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)
MX882010C	Parallel Phone Measurement Software*1 [requires MT8820B-012, the two same measurement hardware (2 board/set) and one measurement software]
MX882050C	W-CDMA Call Processing Software*2 (requires MX882000C)
MX882050C-002	W-CDMA External Packet Data*2, *3 (requires MX882050C)
MX882050C-003	W-CDMA Video Phone Test*2 (requires MX882050C)
MX882050C-009	W-CDMA Band IX*2 (requires MX882050C)
MX882050C-011	HSDPA External Packet Data*2 (requires MX882000C-001)
MX882070C	W-CDMA Ciphering Software*2 (requires MX882050C)
MX882051C	W-CDMA Call Processing Software*2 (requires MX882000C)
MX882051C-002	W-CDMA External Packet Data*2 (requires MX882051C)
MX882051C-003	W-CDMA Video Phone Test*2 (requires MX882051C)
MX882071C	W-CDMA Ciphering Software*2 (requires MX882051C)

Model/Order No.	Name
W2764AE	MX882000C Operation Manual*4 (attached to MX882000C)
W2770AE	MX882001C Operation Manual*4 (attached to MX882001C)
W2789AE	MX882002C Operation Manual*4 (attached to MX882002C)
W2792AE	MX882003C Operation Manual*4 (attached to MX882003C)
W2766AE	MX88205xC Operation Manual*4 (attached to MX88205xC)
W2772AE	MX88207xC Operation Manual*4 (attached to MX88207xC)
	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
P0027	W-CDMA/GSM Test USIM
A0013	Handset
J1249	CDMA2000 Cable [D-sub (15pin, P-type) · D-sub (15pin, P-type), used in combination with J1267 (sold separately)]
J1267	CDMA2000 Cross Cable [D-sub (9pin, P-type) · D-sub (9pin, 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)
W2767AE	MX88205xC Operation Manual (booklet)
W2773AE	MX88207xC Operation Manual (booklet)

*1: The Measurement Hardwares applied to Parallel Phone Measurement are MT8820B-001, MT8820B-002, MT8820B-003, MT8820B-004. And these hardwares can be implemented all together.

*2: For terminal connectivity, contact your Anritsu sales representative.

*3: MX882050C preinstalls the integrity protection function.

*4: Supplied by CD-ROM

*5: This Test USIM can be worked on only W-CDMA mode.
When the connection of GSM is necessary, P0027 can be applied.

- Parallelphone™ is a registered trademark of Anritsu Corporation.
- CF® card is a registered trademark of SanDisk Corporation in the United States and is licensed to CFA (Compact Flash Association).

Note:

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