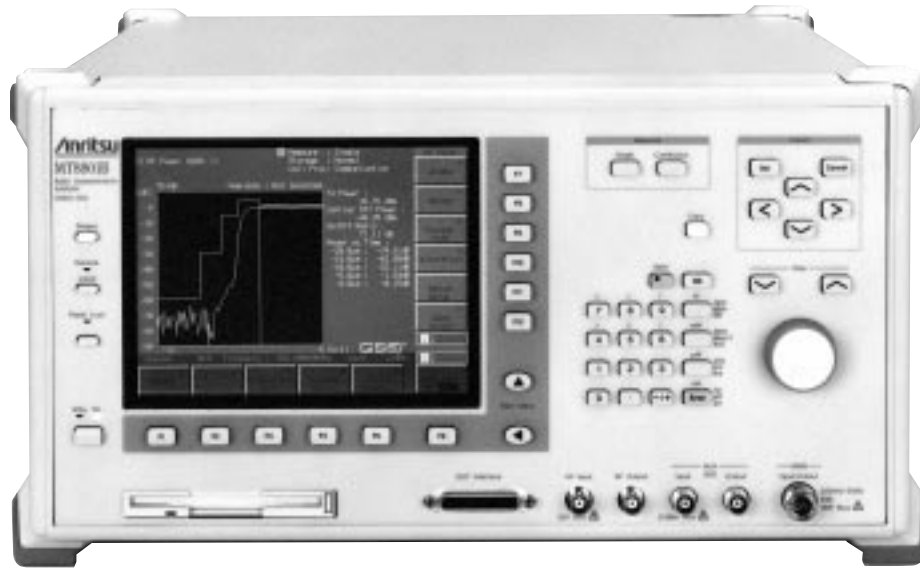


RADIO COMMUNICATION ANALYZER

MT8801B

300 kHz to 3 GHz

NEW



CE GPIB

Every major radio communication system in the world, including GSM/DCS1800/PCS1900, IS-136A, PDC and PHS, can be evaluated using just one MT8801B Radio Communication Analyzer, covering the 300 kHz to 3 GHz frequency band in one hardware platform, and the dedicated measurement software options. The call processing test and sensitivity test using loopback method are possible for GSM/DCS1800/PCS1900 and IS-136A.

In addition, connection testing, as well as send testing while communicating, are also possible for PDC and PHS measurement by using the call processing function. And the PDC uplink RCH can be monitored (RSSI, estimated error rate) too. FM radio transmission/reception tests are simplified by using the optional analog measurement function. And the optional spectrum analyzer function covering 10 MHz to 3 GHz is very useful for maintenance as well as for measuring spurious near carrier on production lines. GPIB and RS-232C interfaces are standard, so MT8801B can be incorporated easily into automated production lines or on-site automated testing systems. The time required for testing equipment on production lines is greatly reduced using the high-speed adjacent channel power and occupied bandwidth measurement functions based on Anritsu's proprietary measurement algorithm and DSP (Digital Signal Processing). Furthermore, major transmission test items such as transmission frequency, modulation accuracy (phase error), transmission power, rise/fall characteristics of burst wave, adjacent channel power, etc., can be measured and judged pass/fail for limit value of the each item.

Features

- 1 unit for GSM, IS-136A, PDC and PHS systems
- All basic transmission and reception measurements performed by 1 unit

System type	Measurement software	Description
IS-136A	MX880113A	Tx and Rx measurements of IS-136A mobile stations including call processing (requires option 01 and 02)
GSM DCS1800 PCS1900	MX880115A	Tx and Rx measurements of GSM system mobile stations including call processing (requires option 02)
PDC	MX880116A	Tx and Rx measurements of PDC mobile stations including call processing (requires option 02)
	MX880131A	Tx and Rx measurements of PDC mobile stations
PHS	MX880117A	Tx and Rx measurements of PHS mobile stations including call processing (requires option 02)
	MX880132A	Tx and Rx measurements of PHS mobile stations

Transmission test

• Batch measurements of transmission test items

Only about 1 second is required to measure all major transmission test items, including frequency, modulation accuracy, origin offset, transmission rate, transmission power, leakage power during carrier-off, rise/fall edge characteristics, occupied bandwidth, and adjacent channel power. Pass/fail decisions for limit value of each test item can also be displayed.



Example of linked send measurement items (PDC)

• Calibration functions

A built-in thermocouple power sensor is used for calibration, providing accurate measurement of absolute values such as average power with burst signal and leakage power during carrier-off. There is no need for other instruments; Just one press of the CAL key during measurement performs calibration.

● **Wide-band power meter**

The power meter with built-in thermocouple power sensor can accurately measure power between 0 and +40 dBm.



Example of power measurement

● **Adjacent channel power measurement**

The MT8801B can measure adjacent channel power for each communication system at high speed.



Output RF spectrum measurement (GSM)

● **Constellation display functions**

The I/Q vector components of measured signals are displayed. The frequency error, RMS/PEAK vector errors, and origin offset can be shown on the same screen.



Example of constellation display (PHS)

● **Receiver sensitivity measurement**

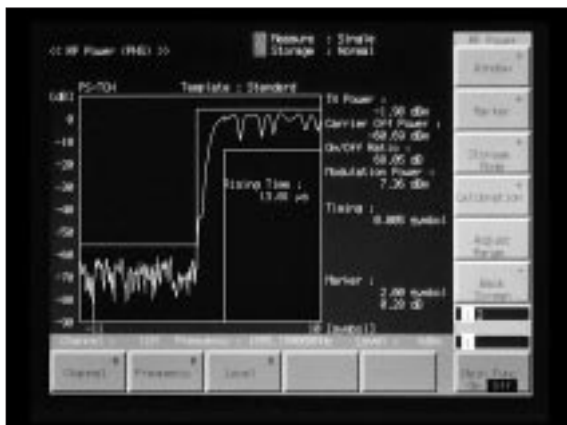
This function displays the error count and error rate in the RF input or DATA/CLOCK input measured signal.



Bit error rate measurement (IS-136A)

● **Measurement of antenna power rise/fall edge characteristics**

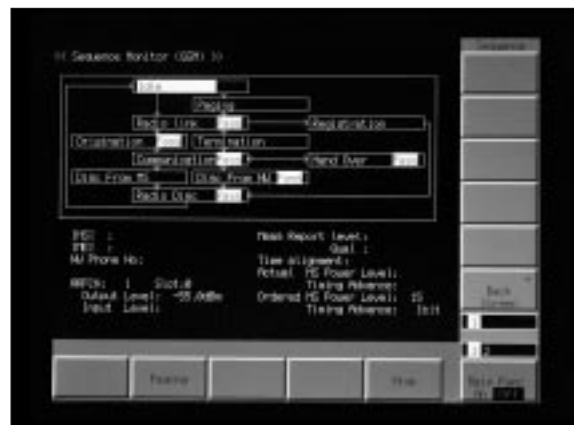
Antenna power rise/fall edge characteristics can be measured simultaneously with antenna power measurements. In addition, the marker points can be moved and the power can be read directly with 1/10 symbol resolution.



Example of burst rise characteristics (PHS)

● **Call processing function**

The MT8801B acts as artificial base station permitting to judge pass/fail for registration, origination, termination, communication, hand-over (PHS: TCH switching type only), disconnection from network and disconnection from mobile station at the sequence monitor screen.



Sequence monitor display (GSM)

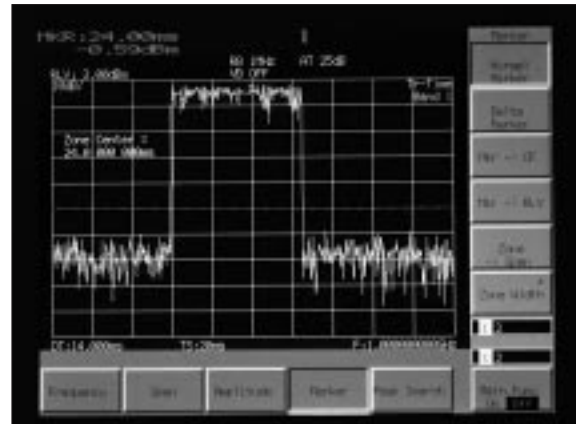
## Analog measurement

### • Analog measurement function (Option 01)

The MT8801B has general analog measurement functions too. Efficient FM TX/RX testing is made easy by built-in signal generator, AF oscillator, RF analyzer (power meter, frequency counter, FM measurement) and audio analyzer functions. This function is especially useful for the IS-136A analog test.

### • Transmission measurement

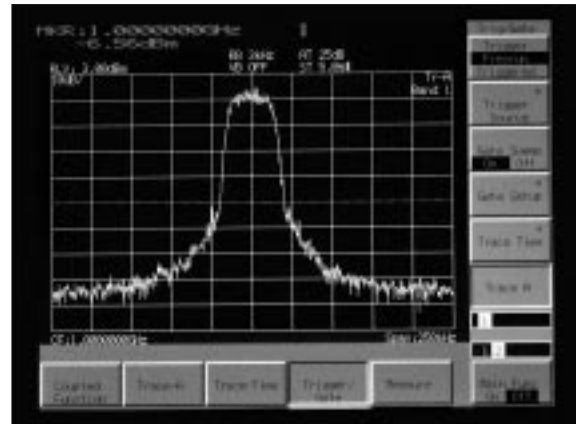
Characteristics such as frequency, power, and frequency deviation can be measured easily.



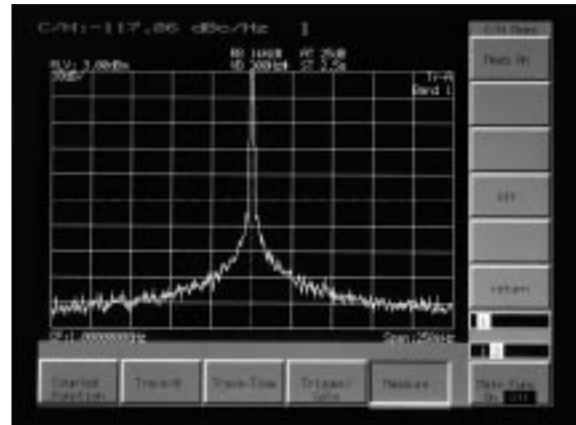
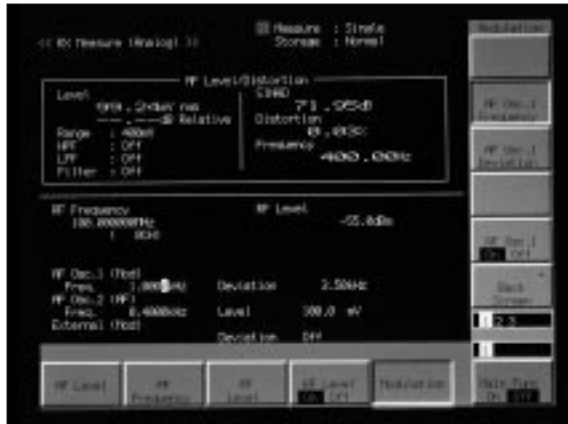
Burst wave measurement in time domain

### • Reception measurement

An FM modulated signal is output to permit measurement of the frequency and level of the AF signal from a receiver, as well as SINAD and distortion.



IS-136A modulated wave measurement



C/N measurement

## Spectrum analysis

### • Spectrum analyzer function (Option 07)

The spectrum analyzer with synthesized local covers a frequency range of 10 MHz to 3 GHz with a resolution of 1 Hz. In addition to a C/N of  $-115$  dBc (100 kHz offset), the RBW can be set to 300 Hz to 1 MHz, the VBW to 3 to 100 kHz, and the sweep time in the frequency domain to 100 ms to 1000 s (1 ms to 1000 s in time domain).

The total level accuracy is an astonishing  $\pm 1.5$  dB due to the analyzer's excellent linearity, and the level calibration function. Moreover, the average noise level is just  $-85$  dBm max. (at 10 MHz to 1 GHz), and the secondary harmonic distortion is  $-60$  dB max. (100 MHz to 1.5 GHz).

## Specifications

### • MT8801B

Frequency range	300 kHz to 3 GHz
Maximum input level	+40 dBm (10 W, MAIN connector), +20 dBm (100 mW, AUX connector)
Input/output connector	MAIN I/O connector Impedance: 50 Ω, N-type VSWR: ≤1.2 (≤2.2 GHz), ≤1.3 (>2.2 GHz) AUX input/output connector: TCN-type
Reference oscillator	Frequency: 10 MHz Starting characteristics: ≤5 x 10 <sup>-8</sup> /day (after 10 minutes of warm-up, referred to frequency after 24 hours warm-up) Aging rate: ≤2 x 10 <sup>-8</sup> /day, ≤1 x 10 <sup>-7</sup> /year (referred to frequency after 24 hours warm-up) Temperature characteristics: ≤5 x 10 <sup>-8</sup> (0° to 50°C, referred to frequency at 25°C) External standard input: 10 MHz or 13 MHz (±1 ppm), input level: 2 to 5 Vp-p
Power meter	Frequency range: 300 kHz to 3 GHz Level range: 0 to +40 dBm Measurement accuracy: ±10% (after zero point calibration)
Signal generator	Frequency Range: 300 kHz to 3 GHz Resolution: 1 Hz Accuracy: Reference frequency accuracy ±100 mHz Output level Setting range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Level accuracy: ±1.5 dB (10 MHz to 1 GHz, ≥-123 dBm), ±3 dB (10 MHz to 1 GHz, ≥-133 dBm), ±2 dB (>1 GHz, ≥-123 dBm), ±4 dB (>1 GHz, ≥-133 dBm) Radiated interference: 1 μV/50 Ω (carrier frequency measured, 25 mm from front panel with two-turn 25 mm diameter loop antenna) Signal purity Spurious: ≤-50 dBc (at CW, offset frequency 100 kHz to ≤50 MHz; where carrier frequency: other than 1300 MHz to 1400 MHz and 2000 MHz to 2100 MHz), ≤-40 dBc (for all band) Harmonics: ≤-25 dBc (at CW)
Others	Display: Color TFT-LCD, 7.8 inches, 640 x 480 dots Hard copy: Enables data hard copy of the display through a parallel interface (applicable only for EPSON VP series or equivalent) GPIB: This equipment is specified as a device, can be controlled from external controller (excluding power switch and FD ejection key). No controller function Interface: SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0, E2) Parallel Conform to the Centronics. Outputs printing data to printer. Data line exclusive for output: 8 Control line: 4 (BUSY, DTSB, ERROR, PE) Connectors: D-sub 25 pins, female (equivalent to the connector of IBM-PC/AT built-in printer) RS-232C: All functions except power switch controlled by external controller (baud rate: 1200, 2400, 4800, 9600 bps)
Dimensions and mass	426 (W) x 221.5 (H) x 451 (D) mm, ≤22 kg
Power	100 to 120/200 to 240 Vac (automatic voltage switch system), 47.5 to 63 Hz, ≤300 VA
Operating temperature	0° to 50°C

### • Option 01: Analog measurement

RF signal generator	Frequency range: 10 MHz to 3 GHz Output level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) FM deviation: 0 to 40 kHz (resolution: 10 Hz) Accuracy: Set value ±5% ±1 digit (internal modulation frequency: 1 kHz, excluding residual FM) Internal modulation: 20 Hz to 20 kHz External modulation: 20 Hz to 20 kHz (limited to 1Vpeak into 600 Ω) Flatness: ±0.5 dB (referenced to 1 kHz between 0.3 to 3 kHz with 4 kHz deviation) ±1 dB (referenced to 1 kHz between 20 Hz to 20 kHz with 4 kHz deviation) Distortion: ≤-50 dBc (internal modulation frequency: 1 kHz, demodulation bandwidth: 0.3 to 3 kHz, frequency deviation: 5 kHz)
AF Generator	Frequency range: 20 Hz to 20 kHz, Setting resolution: 0.1 Hz, Accuracy: Same as reference oscillator Output Level range: 0.1 mVrms to 3.0 Vrms (EMF, MAIN output impedance: 600 Ω) 0.1 mVrms to 0.3 Vrms (EMF, MAIN output impedance: 50 Ω) Setting resolution: 1 μV (output level: <4 mV), 10 μV (output level: <40 mV) 100 μV (output level: <0.4 V), 1 mV (output level: ≤3 V) Accuracy (bandwidth: <30 kHz) Unbalanced output: ±0.5 dB (frequency: 1 kHz, output level: ≥1 mV), ±1 dB (frequency: 20 Hz to 20 kHz, output level: ≥1 mV) Floating output: ±2 dB (frequency: 1 kHz, output level: ≥1 mV) Output impedance MAIN output: 600 Ω, 50 Ω selectable (unbalanced, BNC connector) DUT interface microphone output: 600 Ω, floating Distortion: <-50 dBc (bandwidth: <30 kHz, frequency: 1 kHz, output level: 1 V) <-45 dBc (bandwidth: <30 kHz, frequency: 20 Hz to 20 kHz, output level: 1 V) Noise generator: White noise passed through a weighting filter (conforming to ITU-T Rec. G.227)

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Transmission measurement	RF power meter	Frequency range: 300 kHz to 3 GHz Input range: 0 to +40 dBm (MAIN connector) Accuracy: $\pm 10\%$ (after zero calibration)
	IF level meter	Frequency range: 10 MHz to 3 GHz Input range: 0 to +40 dBm (MAIN connector) Accuracy: $\leq 10\%$ (after calibration with internal RF power meter) Linearity: $\pm 0.3$ dB (0 to $-30$ dB)
	Frequency counter	Frequency range: 10 MHz to 3 GHz Input level range: $-15$ to +40 dBm (MAIN connector), $-40$ to +20 dBm (AUX connector) Resolution: 1 Hz Accuracy: $\pm$ (reference oscillator accuracy + 10 Hz) Method: IF frequency counting (bandwidth: $\pm 30$ kHz)
	Modulation	<p><b>FM</b></p> <p>Frequency range: 10 MHz to 3 GHz Input level range: <math>-15</math> to +40 dBm (MAIN connector), <math>-40</math> to +20 dBm (AUX connector) Filters (3 dB cut-off frequency): HPF (300 Hz, 50 kHz), LPF (3 kHz, 15 kHz) Deviation: 0 to 20 kHz Demodulation frequency: 20 Hz to 20 kHz Accuracy: 1% + residual FM (demodulation frequency: 1 kHz) Frequency response: <math>\pm 0.5</math> dB (referenced to 1 kHz) Residual FM: 8 Hz-rms (demodulation frequency: 0.3 to 3 kHz) Distortion: 0.3% (modulation frequency: 1 kHz, demodulation bandwidth: 0.3 to 3 kHz)</p> <p><b><math>\phi</math>M</b></p> <p>Frequency range: 10 MHz to 3 GHz Input level range: <math>-15</math> to +40 dBm (MAIN connector), <math>-40</math> to +20 dBm (AUX connector) Filters (3 dB cut-off frequency): HPF (300 Hz, 50 kHz), LPF (3 kHz, 15 kHz) Deviation: 0 to 10 rad Demodulation frequency: 300 Hz to 3 kHz Accuracy: 1% + residual <math>\phi</math>M (modulation frequency: 1 kHz) Frequency response: <math>\pm 0.5</math> dB (referenced to 1 kHz) Residual <math>\phi</math>M: 0.01 rad-rms (demodulation bandwidth: 0.3 to 3 kHz) Distortion: 0.5% (modulation frequency: 1 kHz, demodulation bandwidth: 0.3 to 3 kHz, deviation: 5 rad)</p> <p><b>FM demodulation output</b></p> <p>Deviation: 0 to 40 kHz (4/40 kHz range selectable) Demodulation frequency range: 50 Hz to 10 kHz Output level: 4 V<sub>peak</sub> (EMF, at full-scale range) Output impedance: 600 <math>\Omega</math> Frequency response: <math>\pm 1</math> dB Distortion: 1% (FM frequency: 1 kHz, demodulation bandwidth: 0.3 to 3 kHz, frequency deviation: 4 kHz) Filters (3 dB cut-off frequency): HPF (300 Hz), LPF (3 kHz) De-emphasis: 750 <math>\mu</math>s</p>
Audio analyzer	<p>Input impedance: 600 <math>\Omega</math>/100 k<math>\Omega</math> selectable (unbalanced, BNC connector)</p> <p><b>Bandpass filter</b></p> <p>HPF: 400 Hz (for tone rejection) De-emphasis: 750 <math>\mu</math>s Weighting filter: ITU-T P.53, C-MESSAGE</p> <p><b>AF Level meter</b></p> <p>Frequency range: 30 Hz to 20 kHz Level range: 1 mV<sub>rms</sub> to 30 V<sub>rms</sub> Accuracy: <math>\pm 0.5</math> dB</p> <p><b>AF frequency counter</b></p> <p>Frequency range: 30 Hz to 20 kHz Level range: 30 mV<sub>rms</sub> to 30 V<sub>rms</sub> Accuracy: <math>\pm 0.1</math> Hz</p> <p><b>Distortion meter</b></p> <p>Frequency range: 100 Hz to 5 kHz Level range: 30 mV<sub>rms</sub> to 30 V<sub>rms</sub> Accuracy: <math>\pm 1</math> dB (frequency: 1 kHz, distortion factor: 1%)</p>	
Mass	$\leq 500$ g	

### • Option 07: Spectrum analyzer

Frequency	<p>Frequency setting</p> <p>Range: 0 to 3 GHz (band: 0), 10 MHz to 3 GHz (band: 1) Resolution: 1 Hz</p> <p>Frequency accuracy</p> <p>Display accuracy: <math>\pm</math>(display frequency x reference frequency accuracy + span x span accuracy) Normal marker: Same as display accuracy Delta marker: Same as span accuracy</p> <p>Frequency span</p> <p>Span setting range: 0 or 10 kHz to 3 GHz (band: 0), 0 or 10 kHz to 2.99 GHz (band: 1) Span accuracy: <math>\pm 2.5\%</math></p> <p>Resolution bandwidth</p> <p>Setting range: 300 Hz to 1 MHz (3 dB BW, 1-3 sequence) Accuracy: <math>\pm 2\%</math> (300 Hz to 300 kHz), <math>\pm 10\%</math> (1 MHz) Selectivity (60 dB:3 dB): <math>\leq 5:1</math></p> <p>Video bandwidth: 3 Hz to 100 kHz (1-3 sequence), off Sideband noise: <math>\leq -95</math> dBc/Hz (1 GHz, 10 kHz offset), <math>\leq -115</math> dBc/Hz (1 GHz, 100 kHz offset)</p>
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Amplitude (band 1)	<p>Maximum input level                  Continuous average power: +40 dBm (MAIN connector), +20 dBm (AUX connector)                  DC voltage: 0 V</p> <p>Average noise level (resolution bandwidth: 1 kHz, video bandwidth: 10 Hz)                  ≤-85 dBm (MAIN connector, 10 MHz to 1 GHz, input attenuator: 25 dB)                  ≤-85 dBm + f [GHz] dB (MAIN connector, &gt;1 GHz, input attenuator: 25 dB)                  ≤-110 dBm (AUX connector, 10 MHz to 1 GHz, input attenuator: 0 dB)                  ≤-110 dBm + f [GHz] dB (AUX connector, &gt;1 GHz, input attenuator: 0 dB)</p> <p>Residual response: ≤-65 dBm (MAIN connector, input attenuator: 25 dB)                  ≤-90 dBm (AUX connector, input attenuator: 0 dB)</p> <p>Level accuracy                  MAIN connector: ±1.5 dB (reference level: +15.1 to +40 dBm, at 0 to -50 dB of reference level)                  AUX connector: ±1.5 dB (reference level: -9.9 to +20 dBm, at 0 to -50 dB of reference level)</p> <p>Reference Level                  Setting range: ≤-50 to +50 dBm (MAIN connector), ≤-75 to +30 dBm (AUX connector)                  Setting resolution: 0.1 dB                  Accuracy: ±0.5 dB (MAIN connector, +15.1 to +40 dBm), ±1.0 dB (MAIN connector, -50 to +15 dBm)                  ±0.5 dB (AUX connector, -9.9 to +20 dBm), ±1.0 dB (AUX connector, -75 to -10 dBm)                  *After calibration (frequency: 100 MHz, span: 2 MHz, input attenuator/resolution bandwidth/video bandwidth/sweep time: AUTO)                  Resolution bandwidth switching deviation: ±0.1 dB (resolution bandwidth reference: 3 kHz)</p> <p>Frequency response:                  ±0.5 dB [100 MHz reference, input attenuation: 35 dB (10 dB for AUX); temperature range: +18° to +28°C]</p> <p>Log linearity: ±0.5 dB (0 to -50 dB, resolution bandwidth: ≤1 MHz), ±1.0 dB (0 to -70 dB, resolution bandwidth: ≤30 kHz),                  ±1.0 dB (0 to -80 dB, resolution bandwidth: ≤3 kHz)                  *10 MHz to 2.2 GHz, reference level: ≥+5 dBm (MAIN connector), ≥-20 dBm (AUX connector)</p> <p>2nd harmonic distortion: ≤-55 dBc (10 to 100 MHz), ≤-60 dBc (100 to 1500 MHz) *At mixer input level: -30 dBm</p>
Sweep	<p>Setting range: 100 ms to 1000 s (frequency axis sweep)                  100 ms to 1000 s (time axis sweep, resolution bandwidth: ≤1 kHz)                  10 ms to 1000 s (time axis sweep, resolution bandwidth: 3 to 10 kHz)                  1 ms to 1000 s (time axis sweep, resolution bandwidth: ≥30 kHz)</p> <p>Trigger switch: FREERUN, TRIGGERED</p> <p>Trigger source:                  WIDE IF VIDEO (3 dB bandwidth: ≥20 MHz, trigger slope: RISE/FALL)                  EXT (trigger level: TTL level, trigger slope: RISE/FALL)</p> <p>Trigger delay                  Range: 0 μs to 100 ms, Resolution: 2 μs</p> <p>Gate delay/gate width                  Range: 2 μs to 100 ms, Resolution: 2 μs</p>
Marker functions	<p>Signal search: PEAK → CF, PEAK → REF                  Zero marker: NORMAL, DELTA                  Marker → Function: MARKER → CF, MARKER → REF, ZONE → SPAN                  Peak search: PEAK, NEXT PEAK, NEXT RIGHT PEAK, NEXT LEFT PEAK</p>
Display	<p>Data point: 501</p> <p>Detector mode                  POSITIVE PEAK: Displays max. point between sample points                  NEGATIVE PEAK: Displays min. point between sample points                  SAMPLE: Displays momentary value at sample points</p> <p>Display memory                  TRACE A: Displays frequency spectrum                  TRACE B: Displays frequency spectrum                  Trace time: Displays time domain waveform at center frequency</p> <p>Storage: NORMAL (refreshed), VIEW (frozen), MAX HOLD, MIN HOLD, AVERAGE, CUMULATIVE, OVER WRITE</p>
Measurement function	<p>Noise power: dBm/Hz, dBm/ch                  C/N: dBc/Hz, dBc/ch                  Occupied bandwidth: N% of power method, X dB down method                  Adjacent channel power:                  Reference total power method, reference level method, channel designate display (2 channels x 2), graphic display                  Burst power: Average power within a burst</p>

● MX880113A IS-136A Measurement Software (extracts)

Transmission measurement	Digital	<p>Frequency/modulation measurement                  Frequency range: 10 MHz to 2.2 GHz                  Modulation accuracy: ±(2% of indicated value + 0.5%)</p> <p>Amplitude measurement                  Input level range: +10 to +40 dBm (average power with burst, MAIN connector)                  Transmitter power accuracy: ±10% (MAIN connector, after calibration)</p> <p>Adjacent channel power measurement                  Measurement range: ≥30 dB (30 kHz offset), ≥60 dB (60 kHz offset), ≥65 dB (90 kHz offset)</p> <p>Batch measurement functions                  Measurement time: ≤1.5 s (amplitude measurement in normal mode)</p>
	Analog	Same as Option 01
Reception measurement	Digital	<p>Signal generator                  Frequency range: 10 MHz to 3 GHz                  Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector)                  Modulation accuracy: ≤3%rms</p> <p>Error rate measurement                  Measurement pattern: PN9 (measures TCH data of up communication burst at RF input)                  Number of measurement bits: 1 to 99999999</p>
	Analog	Same as Option 01
Call processing	Pass/fail judgement of registration, origination, termination communication, handoff, disconnection from network, disconnection from mobile station	

## • MX880115A GSM Measurement Software (extracts)

Transmission measurement	Frequency/modulation measurement	Frequency range: 10 MHz to 2.2 GHz Residual phase error accuracy: $\leq 0.5^\circ$ rms, $\leq 2^\circ$ peak
	Amplitude measurement	Input level range: -5 to +40 dBm (average power within burst, MAIN connector) Calibration input level range: +10 to +40 dBm (average power within burst, MAIN connector) Transmission power accuracy: $\pm 0.4$ dB (+10 to +40 dBm), $\pm 0.7$ dBm (-5 to +40 dBm) *MAIN connector, after calibration by using built-in power meter with same Tx reference level as calibration
	Output RF spectrum measurement	Modulation portion measurement range: $\geq 50$ dB (200 kHz offset), $\geq 66$ dB ( $\geq 250$ kHz offset) Transition portion measurement range: $\geq 57$ dB ( $\geq 400$ kHz offset)
	All measurement items	Measurement time: $\leq 2.0$ s (amplitude measurement: normal mode, except MS report measurement)
Reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Phase error: $\leq 2^\circ$ rms
	Error rate measurement	Measurement pattern: 10 test patterns selectable Number of measurement samples: 1 to 99999999 (FER, Cib, CII)
Call processing		Pass/fail judgement of registration, origination, termination, communication, hand-over, disconnection from network, disconnection from mobile station

## • MX880116A PDC Measurement Software with Call Processing (extracts)

Transmission measurement	Frequency/modulation measurement	Frequency range: 10 MHz to 2.2 GHz Modulation accuracy: $\pm(2\%$ of indicated value + 0.5%)
	Amplitude measurement	Input level range: +10 to +40 dBm (average power with burst, MAIN connector) Transmitter power accuracy: $\pm 10\%$ (MAIN connector, after calibration by using built-in power meter)
	Adjacent channel power measurement	Measurement range: $\geq 60$ dB (50 kHz offset), $\geq 65$ dB (100 kHz offset)
	Batch measurement functions	Measurement time: $\leq 1.5$ s (amplitude measurement in normal mode; occupied bandwidth and adjacent channel power measurement on high-speed mode)
Reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Modulation accuracy: $\leq 3\%$ rms
	Error rate measurement	Measurement pattern: PN9, PN15 Number of measurement bits: $10^2, 10^3, 2556, 10^4, 10^5, 10^6, \infty$
Call processing		Pass/fail judgement of registration, origination, termination, communication, hand-over, disconnection from network, disconnection from mobile station

## • MX880117A PHS Measurement Software with Call Processing (extracts)

Transmission measurement	Frequency/modulation measurement	Frequency range: 10 MHz to 2.2 GHz Modulation accuracy: $\pm(2\%$ of indicated value + 0.7%)
	Amplitude measurement	Input level range: +10 to +40 dBm (average power with burst, MAIN connector) Transmitter power accuracy: $\pm 10\%$ (MAIN connector, after calibration by using built-in power meter, at +10 to +40 dBm)
	Adjacent channel power measurement	Measurement range: $\geq 60$ dB (600 kHz offset), $\geq 65$ dB (900 kHz offset)
	Batch measurement functions	Measurement time: $\leq 1.5$ s (amplitude measurement in normal mode; occupied bandwidth and adjacent channel power measurement on high-speed mode)
Reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Modulation accuracy: $\leq 3\%$ rms
	Error rate measurement	Measurement pattern: PN9, PN15 Number of measurement bits: $10^2, 10^3, 2556, 10^4, 10^5, 10^6, \infty$
Call processing		Pass/fail judgement of registration, origination, termination, communication, hand-over, disconnection from network, disconnection from mobile station

## • MX880131A PDC Measurement Software (extracts)

Transmission measurement	Frequency/modulation measurement	Frequency range: 10 MHz to 2.2 GHz Modulation accuracy: $\pm(2\%$ of indicated value + 0.5%)
	Amplitude measurement	Input level range: +10 to +40 dBm (average power with burst, MAIN connector) Transmitter power accuracy: $\pm 10\%$ (MAIN connector, after calibration by using built-in power meter)
	Adjacent channel power measurement	Measurement range: $\geq 60$ dB (50 kHz offset), $\geq 65$ dB (100 kHz offset)
	Batch measurement functions	Measurement time: $\leq 1.5$ s (amplitude measurement in normal mode; occupied bandwidth and adjacent channel power measurement on high-speed mode)
Reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Modulation accuracy: $\leq 3\%$ rms
	Error rate measurement	Measurement pattern: PN9, PN15 Number of measurement bits: $10^2, 10^3, 2556, 10^4, 10^5, 10^6, \infty$

## • MX880132A PHS Measurement Software (extracts)

Transmission measurement	Frequency/modulation measurement	Frequency range: 10 MHz to 2.2 GHz Modulation accuracy: $\pm(2\%$ of indicated value + 0.7%)
	Amplitude measurement	Input level range: +10 to +40 dBm (average power with burst, MAIN connector) Transmitter power accuracy: $\pm 10\%$ (MAIN connector, after calibration by using built-in power meter)
	Adjacent channel power measurement	Measurement range: $\geq 60$ dB (600 kHz offset), $\geq 65$ dB (900 kHz offset)
	Batch measurement functions	Measurement time: $\leq 1.5$ s (amplitude measurement in normal mode; occupied bandwidth and adjacent channel power measurement on high-speed mode)
Reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: -143 to -28 dBm (MAIN connector), -143 to -3 dBm (AUX connector) Modulation accuracy: $\leq 3\%$ rms
	Error rate measurement	Measurement pattern: PN9, PN15 Number of measurement bits: $10^2, 10^3, 2556, 10^4, 10^5, 10^6, \infty$

## Ordering information

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

Model/Order No.	Name
MT8801B	<b>Main frame</b> Radio Communication Analyzer
J0576B	<b>Standard accessories</b> Coaxial cord (N-P•5D-2W•N-P), 1 m: 1 pc
J0768	Coaxial adaptor (N-J•TNC-P): 2 pcs
F0014	Power cord: 1 pc Fuse, 6.3 A: 2 pc
	<b>Options*1</b>
MT8801B-01	Analog measurement
MT8801B-02	SG local
MT8801B-07	Spectrum analyzer
MX880113A	IS-136A Measurement Software (requires installation of Options 01 and 02)
MX880115A	GSM Measurement Software (requires installation of Option 02)
MX880116A	PDC Measurement Software with Call Processing (requires installation of Option 02)
MX880117A	PHS Measurement Software with Call Processing (requires installation of Option 02)
MX880131A	PDC Measurement Software
MX880132A	PHS Measurement Software
	<b>Peripherals</b>
MS8604A	Digital Mobile Radio Transmitter Tester
MD1620C	Signaling Tester
MD6420A	Data Transmission Analyzer
MS2602A	Spectrum Analyzer
MG3670B	Digital Modulation Signal Generator
	<b>Optional accessories</b>
J0127C	Coaxial cord (BNC-P•RG-58A/U•BNC-P), 0.5 m
J0769	Coaxial adaptor (BNC-J•TNC-P)
J0040	Coaxial adaptor (N-P•BNC-J)
MN1607A	50 $\Omega$ Coaxial Switch (DC to 3 GHz, external controllable)
MA1612A	Four-Point Junction Pad (5 to 3000 MHz)
J0395	Fixed attenuator for high power (30 dB, 30 W, DC to 9 GHz)
J0007	GPIB cable, 1 m
J0008	GPIB cable, 2 m
B0329D	Front cover (1MW 5U)
B0331D	Front handle kit (2 pcs/set)
B0332	Joint plate (4 pcs/set)
B0333D	Rack mount kit
B0334D	Carrying case (hard type, with protective cover and casters)

\*1: Option 01, 02 and 07 are installed in Anritsu.