MX880114A

AMPS/PCS1900 Measurement Software

(For MT8801C Radio Communication Analyzer)

This measurement software is for the MT8801C Radio Communication Analyzer which is used to measure AMPs analog mobile telephones and PCS1900 digital mobile telephones in service in North America.
Since it has a call processing function, it is able to set the mobile phone into communication state and perform both TX and RX test. Only for PCS1900 measurement, the MX880115A GSM Measurement Software is more reasonable because the MX880115A doesn't need Option 01 (analog measurement).

- **Option 04: AF Low Impedance Output**

This option converts the output impedance of the AF oscillator of the Option 01 Analog Measurement to low impedance. It permits direct driving of an external speaker connected to the AF output connector.

Specifications

• MX880114A AMPS/PCS1900 Measurement Software

PCS1900 transmission measurement	Modulation/ frequency measurement	Frequency range: 10 MHz to 2.2 GHz Input level range: –5 to +40 dBm (average power within burst, MAIN connector) –30 to +15 dBm (average power within burst, AUX input connector) Carrier frequency accuracy: ±(accuracy of reference frequency + 10 MHz) Residual phase error accuracy: ≤0.5˚ rms, ≤2˚ peak Waveform displays: Eye pattern, phase error vs. bit No., magnitude error vs. bit No., I/Q diagram
	Amplitude measurement	Frequency range: 10 MHz to 2.2 GHz 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: ±0.4 dB (+10 to +40 dBm, MAIN connector), ±0.7 dB (–5 to +40 dBm, MAIN connector) *After calibration by using built-in power meter Carrier-off power measurement range Normal mode: ≥55 dB (+10 to +40 dBm, compared with burst average power) ≥40 dB (–5 to +40 dBm, compared with burst average power) Wide dynamic range mode: ≥80 dB (compared with 1 W of burst average power) *Measurement limit is decided by average noise level (≤–50 dBm, 100 MHz to 2.1 GHz) Rise/fall characteristics: Displays rising/falling edge while synchronizing to modulation data of signal to be measured Specification line display Rising/falling time measurement (measured by 1 MHz bandwidth)
	Output spectrum measurement (output RF spectrum)	Frequency range: 100 MHz to 2.2 GHz Input level range: +10 to +40 dBm (average power within burst, MAIN connector) Modulation portion measurement range: ≥50 dB (≤200 kHz offset), ≥66 dB (≥250 kHz offset) Transient portion measurement range: ≥57 dB (≥400 kHz offset) Measurement points: ±100, ±200, ±250, ±400, ±600, ±800, ±1000, ±1200, ±1400, ±1600, ±1800, ±2000 kHz
	All items measurement	Frequency range: Same as each measurement item Input level range: Same as each measurement item Measurement items: Transmission frequency, transmission frequency error, phase error (rms, peak), transmission power, carrier-off power, carrier-on/off ratio, pass/fail judgement for response time specification of transmission output, burst position, transmission power vs. time, reception level report from mobile station (only at DUT control: call processing), reception quality report from mobile station (only at DUT control: call processing), transmission power report from mobile station (only at DUT control: call processing), timing advance from mobile station (only at DUT control: call processing), output spectrum Measurement time: ≤2.0 s (amplitude measurement: normal mode, DUT control: none) ≤2.5 s (amplitude measurement: wide dynamic range mode, DUT control: none) ≤3.0 s (amplitude measurement: normal mode, DUT control: call processing) ≤3.5 s (amplitude measurement: wide dynamic range mode, DUT control: call processing) *Under GPIB control, time from measurement start to measurement stop (SRQ signal generation)
PCS1900 reception measurement	Signal generator	Frequency range: 10 MHz to 3 GHz Level range: –133 to –13 dBm (MAIN connector), –133 to +7 dBm (AUX output connector) Modulation system: GMSK, BbT = 0.3 (Gaussian filter) Phase error: ≤1˚ rms, ≤4˚ peak Burst repetition period: 4.615 ms (only 1 burst output in 1 frame) Modulation data Continuous waveform output: PN9/15 pseudo-random patterns and arbitrary 4-bit data repetitive patterns Burst waveform output: Communications channel 10 test patterns selectable
	Error rate measurement	Function: FER/C1b/C11 error rate measurement is done by receiving RF modulated signal conforming to PCS1900 specification. Measured patterns: 10 test patterns selectable Number of measurement samples FER: 1 to 99,999,999, C1b: 1 to 99,999,999, C11: 1 to 99,999,999
Call processing		Pass/fail judgement of registration, origination, termination, communication, hand-over, disconnection from network, disconnection from mobile station
Analog measurement functions		The following analog measurement functions are provided.The performance is in accordance with the MT8801C Option 01 (analog measurement). Signal generator: FM modulation AF generator: Tone and noise generation function RF analyzer: Power meter (wide and narrow band), frequency counter, and FM/øM measurement function FM demodulated output Audio analyzer: AF level, distortion, and AF frequency measurement function

• Option 04: AF Low Impedance Output (factory option)

When this option is installed, the specifications for the output impedance, max. output current, and waveform distortion of the AF generator of the Option 01 (analog measurement) are changed as follows.

AF generator	Output impedance* MAIN output: ≤1 Ω (unbalanced, BNC connector) Max. output current MAIN output: ≥100 mA peak Waveform distortion: –50 dBc (band: <30 kHz, frequency: 1 kHz, output level: 0.3 V) –45 dBc (band: <30 kHz, frequency: 20 Hz to 20 kHz, output level: 0.3 V)

*Output impedance is fixed to <1 Ω, so 50/600 Ω switching is not possible.

Ordering Information

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

Model/Order No.	Name
	Main frame
MT8801C	Radio Communication Analyzer
	Standard accessories (for main frame)
J0576B	Coaxial cord (N-P • 5D-2W • N-P), 1 m: 1 pc
J0768	Coaxial adapter (N-J • TNC-P): 2 pcs
	Power cord, 2.6 m: 1 pc
F0014	Fuse, 6.3 A: 2 pcs
	Options*1
MT8801C-01	Analog measurement
MT8801C-04	AF low impedance output (requires Option 01)
MT8801C-07	Spectrum analyzer
MT8801C-11	GSM audio test (requires MX880115A and Option 01)
MT8801C-12	CDMA measurement (requires Option 01)
	Software
MX880113A	IS-136A Measurement Software (requires Option 01)
MX880114A	AMPS/PCS1900 Measurement Software (requires Option 01)
MX880115A	GSM Measurement Software
MX880116A	PDC Measurement Software (with call processing)
MX880117A	PHS Measurement Software (with call processing)
MX880118A	DECT Measurement Software (requires Option 07)
MX880131A	PDC Measurement Software

Model/Order No.	Name
MX880132A	PHS Measurement Software
MX880201A-01	Soft handoff (for CDMA, requires Option 12)
	Peripherals
MS8604A	Digital Mobile Radio Transmitter Tester
MD1620B	Signalling Tester
MD6420A	Data Transmission Analyzer
MG3672A	Digital Modulation Signal Generator
	Optional accessories
J0127C	Coaxial cord (BNC-RG-58A/U • BNC-P), 0.5 m
J0769	Coaxial adapter (BNC-J • TNC-P)
J0040	Coaxial adapter (N-P • BNC-J)
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 panel handles (2/set)
B0332	Coupling plate (4/set)
B0333D	Rack mount kit
B0334D	Carrying case (hard type, with protective cover and casters)
J0742A	RS-232C cable, 1 m (for PC-98, D-sub 25-pins)
J0743A	RS-232C cable, 1 m (for DOS/V, D-sub 9-pins)

*1 Options 01, 04, 07, 11 and 12 are factory-installed options.

Anritsu

Specifications are subject to change without notice.

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