Specifications (Extract)

Specifications are subject to change without notice.

● MT8820C Radio Communication Analyzer

General
- Frequency range: 30 MHz to 2.7 GHz
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Max. input level: +35 dBm (Main)

RF Signal Generator
- Frequency: 30 MHz to 2.7 GHz (setting range: 400 kHz to 2.7 GHz)
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Setting resolution: 1 Hz
- Output level
  - Level range: –140 to –10 dBm (Main), –130 to 0 dBm (AUX)
  - Resolution: 0.1 dB
  - Accuracy:
    - Main: ±1.0 dB, ±0.7 dB typ. (Output frequency: ≥50 MHz), ±1.5 dB (Output frequency: <50 MHz)
    - (–120 to –10 dBm, after calibration, 10° to 40°C)
    - AUX: ±1.0 dB, ±0.7 dB typ. (Output frequency: ≥50 MHz), ±1.5 dB (Output frequency: <50 MHz)
    - (–110 to 0 dBm, after calibration, 10° to 40°C)

• MT8820C-008 LTE Measurement Hardware, MX882012C LTE FDD Measurement Software,
  MX882013C LTE TDD Measurement Software

Modulation Analysis
- Frequency: 400 MHz to 2.7 GHz
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Input level: –40 to +35 dBm (Main)
- Carrier frequency accuracy: ± (Set frequency × Reference oscillator accuracy + 15 Hz)
- Measurement object: PUSCH, PRACH, PUCCH

RF Power
- Frequency: 400 MHz to 2.7 GHz
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Input level: –60 to +35 dBm (Main)
- Measurement accuracy:
  - 400 MHz to 2.7 GHz, After calibration, 10° to 40°C
  - ±0.5 dB, ±0.3 dB typ. (–20 to +35 dBm), ±0.7 dB (–50 to –20 dBm), ±0.9 dB (–60 to –50 dBm)
  - 3.4 GHz to 3.8 GHz, After calibration, 10° to 40°C
  - ±0.5 dB, ±0.3 dB typ. (–20 to +35 dBm, 18° to 28°C), ±0.7 dB (–50 to +35 dBm), ±0.9 dB (–60 to –50 dBm)
- Linearity:
  - 400 MHz to 2.7 GHz, After calibration, 10° to 40°C
  - ±0.2 dB (–40 to 0 dB, ≥–50 dBm), ±0.4 dB (–40 to 0 dB, ≥–60 dBm)
  - 3.4 GHz to 3.8 GHz, After calibration, 10° to 40°C
  - ±0.2 dB (–40 to 0 dB, ≥–50 dBm, 18° to 28°C), ±0.3 dB (–40 to 0 dB, ≥–50 dBm), ±0.4 dB (–40 to 0 dB, ≥–60 dBm)

Call Processing
- Call controlling: Registration, Call processing for Reference Measurement Channel (executes each processing conforming to 3GPP standards and performs pass/fail evaluation)
- Mobile terminal controlling: Output level (executes each mobile terminal control conforming to 3GPP standards)

● MX882042C LTE FDD Measurement Software Lite, MX882043C LTE TDD Measurement Software Lite

Modulation Analysis
- Frequency: 400 MHz to 2.7 GHz
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Input level: –40 to +35 dBm (Main)
- Carrier frequency accuracy: ± (Set frequency × Reference oscillator accuracy + 15 Hz)
- Measurement object: PUSCH

RF Power
- Frequency: 400 MHz to 2.7 GHz
- 3.4 GHz to 3.8 GHz (with MT8820C-018)
- Input level: –60 to +35 dBm (Main)
- Measurement accuracy:
  - 400 MHz to 2.7 GHz, After calibration, 10° to 40°C
  - ±0.5 dB, ±0.3 dB typ. (–20 to +35 dBm), ±0.7 dB (–50 to –20 dBm), ±0.9 dB (–60 to –50 dBm)
  - 3.4 GHz to 3.8 GHz, After calibration, 10° to 40°C
  - ±0.5 dB, ±0.3 dB typ. (–20 to +35 dBm, 18° to 28°C), ±0.7 dB (–50 to +35 dBm), ±0.9 dB (–60 to –50 dBm)
- Linearity:
  - 400 MHz to 2.7 GHz, After calibration, 10° to 40°C
  - ±0.2 dB (–40 to 0 dB, ≥–50 dBm), ±0.4 dB (–40 to 0 dB, ≥–60 dBm)
  - 3.4 GHz to 3.8 GHz, After calibration, 10° to 40°C
  - ±0.2 dB (–40 to 0 dB, ≥–50 dBm, 18° to 28°C), ±0.3 dB (–40 to 0 dB, ≥–50 dBm), ±0.4 dB (–40 to 0 dB, ≥–60 dBm)
### MT8820C-001 W-CDMA Measurement Hardware, MX882000C W-CDMA Measurement Software, MX88205xC W-CDMA Call Processing Software

| Modulation Analysis | Frequency: 300 MHz to 2.7 GHz  
|                     | Input level: –30 to +35 dBm (Main)  
|                     | Modulation accuracy (residual vector error): ≤2.5% (at input of single DPCCH and single DPDCH) |

| RF Power | Frequency: 300 MHz to 2.7 GHz  
|          | Input level: –65 to +35 dBm (Main)  
|          | Modulation accuracy: ±0.3 dB (typ.), ±0.5 dB (–25 to +35 dBm), ±0.7 dB (–55 to –25 dBm), ±0.9 dB (–65 to –55 dBm)  
|          | After calibration, 10° to 40°C  
|          | Measurement object: DPCCH, PRACH |

| Occupied Bandwidth | Frequency: 300 MHz to 2.7 GHz  
|                   | Input level: –10 to +35 dBm (Main) |

| Adjacent Channel Leakage Power Ratio | Frequency: 300 MHz to 2.7 GHz  
|                                    | Input level: –10 to +35 dBm (Main)  
|                                    | Measurement points: ±5 MHz, ±10 MHz  
|                                    | Measurement range: ≥50 dB (±5 MHz), ≥55 dB (±10 MHz) |

| Error Rate Measurement | Measurement items: BER, BLER  
|                       | Measurement object: Loopback data imposed on uplink DTCH (BER, BLER), Serial data input from rear-panel call processing I/O port (BER) |

| Call Processing | Call controlling: Registration, Origination, Termination, Handover, Network disconnect, Terminal disconnect (executes each processing conforming to 3GPP standards and performs Pass/Fail evaluation)  
|                 | Mobile terminal controlling: Output level, Loopback (executes each mobile terminal control conforming to 3GPP standards) |

### MT8820C-002 TDMA Measurement Hardware, MX882001C GSM Measurement Software

| Frequency/Modulation Measurement | Frequency: 300 MHz to 2.7 GHz  
|                                  | Input level: –30 to +40 dBm (Average power of burst signal, Main)  
|                                  | Measurement items: Normal burst, RACH |

| Amplitude Measurement | Frequency: 300 MHz to 2.7 GHz  
|                       | Input level: –30 to +40 dBm (Average power of burst signal, Main)  
|                       | Measurement items: Normal burst, RACH  
|                       | Measurement accuracy: ±0.3 dB (typ.), ±0.5 dB (–20 to +40 dBm), ±0.7 dB (–30 to –20 dBm)  
|                       | After calibration, 10° to 40°C  
|                       | Linearity: ±0.2 dB (–40 to 0 dB, ≥–30 dBm) |

| Error Rate Measurement | Functions: frame, bit and CRC error measurement  
|                       | Measurement object: Loopback data imposed on uplink TCH  
|                       | Serial data input from rear panel call processing I/O port  
|                       | Number of blocks received from terminal imposed on uplink TCH for GPRS  
|                       | Number of USF blocks received from terminal for GPRS |

| Call Processing | Call controlling: GSM  
|                | • Location registration, Terminal call origination, Network call origination, Network disconnect, Terminal disconnect GPRS  
|                | • Connection, Disconnection, Data transfer  
|                | Terminal controlling: GSM  
|                | • Output level, Time slot, Timing advance, Loopback on/off GPRS  
|                | • Test Mode A, Test Mode B, BLER |
MT8820C-003 CDMA2000 Measurement Hardware, MX882002C CDMA2000 Measurement Software

| Amplitude Measurement | Frequency: 300 MHz to 2.7 GHz  
| Input level: –65 to +35 dBm (Main)  
| Measurement accuracy: ±0.3 dB (typ.), ±0.5 dB (–25 to +35 dBm), ±0.7 dB (–55 to –25 dBm), ±0.9 dB (–65 to –55 dBm)  
| Linearity: ±0.2 dB (0 to –40 dB, ±55 dBm), ±0.4 dB (0 to –40 dB, ±65 dBm)  
| Filtered Power measurement, Input Level Setting for reference  

| Frequency/Modulation Measurement | Frequency: 300 MHz to 2.7 GHz  
| Input level: –30 to +35 dBm  
| Carrier frequency accuracy: ± (Setting frequency × Reference oscillator accuracy + 10 Hz)  
| Residual waveform quality: >0.999  

| Error Rate Measurement | FER (Frame Error Rate) measurement: FER measurement with service option 2, 9, 55 and 32 (TDSO)  
| Display items: Confidence level, FER, Error frame count, Sample frame count  

| Call Processing | Band class: BC 0 to 12, 14, 15, 18 to 20  
| Call control: Location registration, Origination, Termination, Disconnection from network, Disconnection from terminal  
| Radio configuration: F-RC1 + R-RC1, F-RC2 + R-RC2, F-RC3 + R-RC3, F-RC4 + R-RC4, F-RC5 + R-RC4  
| PCH Data Rate: Full  

MT8820C-001 W-CDMA Measurement Hardware, MT8820C-007 TD-SCDMA Measurement Hardware, MX882007C TD-SCDMA Measurement Software

| Modulation Analysis | Frequency: 300 MHz to 2.7 GHz  
| Input level: –30 to +35 dBm (Main)  
| Carrier frequency accuracy: ± (Setting frequency × Reference oscillator accuracy + 10 Hz)  
| Modulation accuracy (residual vector error): ≤2.5% (when Single Code is input)  

| RF Power | Frequency: 300 MHz to 2.7 GHz  
| Input level: –70 to +35 dBm (Main)  
| Measurement accuracy: ±0.3 dB (typ.), ±0.5 dB (–25 to +35 dBm), ±0.7 dB (–55 to –25 dBm), ±0.9 dB (–70 to –55 dBm)  
| Linearity: ±0.2 dB (–40 to 0 dB, ±55 dBm), ±0.4 dB (–40 to 0 dB, ±65 dBm)  

| Error Rate Measurement | Functions: Insert PN9 or PN15 pattern in DTCH  
| Measurement items: BER, BLER  
| Measurement objective: Loopback data imposed on uplink DTCH (BER, BLER)  

| Call Processing | Origination controlling: Registration, Origination, Termination, Network disconnect, Terminal disconnect  
| (executes each processing conforming to 3GPP standards and performs Pass/Fail evaluation)  
| Mobile terminal controlling: Output level, Loopback (executes each mobile terminal control conforming to 3GPP standards)  

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