

ANRITSU

MT8221B

The Anritsu BTS Master MT8221B is a high-performance, battery-operated handheld base station analyzer designed to install, commission, and troubleshoot 2G, 3G, and 4G wireless networks. Combining a multi-functional cable and antenna analyzer, a spectrum analyzer, and a power meter with up to 20 MHz demodulation bandwidth, the MT8221B offers cell-site technicians a rugged, all-in-one field tool.

SPECIFICATIONS

General

Interfaces	LAN (RJ45), 2x USB 2.0 Type A, 1x Mini-USB Type B, SMA Female (GPS Antenna), BNC Female (External Reference, External Trigger), 2x Type N Female (RF In, RF Out/SWR), 3.5 mm Headphone Jack
Display	8.4-inch daylight-viewable color TFT touchscreen, 800 x 600 resolution

Physical

Power Supply	12 to 15 VDC (battery or external AC/DC adapter)
Operating Temperature	-10 °C to 55 °C °C
Dimensions (W×H×D)	315 mm x 211 mm x 77 mm (12.4 in x 8.3 in x 3.0 in) mm
Weight	4.9 kg (10.8 lbs) kg

Spectrum Analyzer Performance

Frequency Range	150 kHz to 7.1 GHz
Displayed Average Noise Level (DANL)	-163 dBm in 1 Hz RBW
SSB Phase Noise	-100 dBc/Hz @ 10 kHz offset at 1 GHz
Dynamic Range	> 95 dB in 1 Hz RBW
Frequency Reference Accuracy	< ±25 ppb with GPS On
Resolution Bandwidth (RBW) Range	10 Hz to 3 MHz
Video Bandwidth (VBW) Range	1 Hz to 3 MHz
Zero-Span IF Output Bandwidth	30 MHz

Cable and Antenna Analyzer Performance

Port Configuration	1-Port
Supported Measurements	Return Loss, VSWR, Cable Loss, Distance-to-Fault (DTF), 1-Port Phase

Signal Analyzer and Demodulation

Demodulation Bandwidth Capability	20 MHz
Supported Standards	GSM/EDGE, W-CDMA/HSPA+, LTE, TD-SCDMA/HSDPA, CDMA, EV-DO, Fixed WiMAX, Mobile WiMAX
RF Quality Measurements	Occupied Bandwidth, Channel Power, ACPR, Carrier-to-Interference (C/I)

Interference Analyzer and Receiver Features

Interference Analyzer Features	Spectrogram, Signal Strength, RSSI, Signal ID
--------------------------------	---

System Features & Productivity

Warm-up Time	< 5 minutes
Included PC Software	Master Software Tools (MST)
Remote Access Protocol	Remote Access Tool (RAT) over Internet

Environmental and Regulatory

Storage Temperature Range	-40 °C to 75 °C
---------------------------	-----------------

Cable & Antenna Analyzer

Cable and Antenna Analyzer Frequency Range	10 MHz to 4.0 GHz
Cable and Antenna Analyzer Frequency Resolution	1 kHz
Cable and Antenna Analyzer Sweep Speed	1.0 ms/point (typical)

Spectrum Analyzer

Spectrum Analyzer Tuning Resolution	1 Hz
Spectrum Analyzer Attenuator Range	0 dB to 65 dB in 5 dB steps
Maximum Input Damage Level	+30 dBm, ±50 VDC
Third-Order Intercept (TOI)	+15 dBm (typical at 2.4 GHz)

Power Meter

Internal Power Meter Frequency Range	10 MHz to 7.1 GHz
Internal Power Meter Display Range	-100 dBm to +30 dBm

GPS (Option 31)

Frequency Accuracy (GPS Locked)	< ±25 ppb (Option 31)
---------------------------------	-----------------------

Power & Storage

Battery Operating Time	2.0 hours (typical)
Internal Storage Capacity	> 4000 traces/setups

Environmental & Standards

Ruggedness Standard	MIL-PRF-28800F Class 2
---------------------	------------------------

Receiver & Preamplifier

Built-in Preamplifier	Standard, 150 kHz to 7.1 GHz
-----------------------	------------------------------

Options & Measurements

Vector Voltmeter Frequency Range	10 MHz to 4.0 GHz (requires Option 15)
High Accuracy Power Meter Compatibility	Compatible with USB Power Sensors (requires Option 19)
Interference Analyzer Option (Option 25)	Includes spectrogram, signal strength, RSSI, signal ID, and interference mapping
Channel Scanner Option (Option 27)	Scans up to 20 channels (frequencies or user-defined channels)

Power & Bias

Internal Bias Tee Voltage Output	12 V to 32 V (requires Option 10)
----------------------------------	-----------------------------------

Options & Accessories

GPS Receiver Option (Option 31)	Requires external GPS antenna; supports passive or active 3.3 V / 5 V antennas
---------------------------------	--

Frequency Reference

External Reference Input Level	-10 dBm to +10 dBm
--------------------------------	--------------------

Environmental

Maximum Operating Altitude	4,600 m (15,000 ft)
----------------------------	---------------------

Compliance

EMC Compliance	Conforms to European Union EN 61326-1 standards for Class A equipment
Safety Compliance	Conforms to European Union EN 61010-1 standards

TECHNOLOGY

Base Station Analysis & RF Testing

APPLICATIONS

Wireless Infrastructure Testing and Troubleshooting

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.