

MS27200A Microwave Spectrum Monitor Module

9 kHz to 9/14/20/26.5/32/43.5/54 GHz

High-Performance MS27200A Microwave Spectrum Monitor Module for Custom System Integration

The MS27200A Microwave Spectrum Monitor Module with real-time spectrum analyzer (RTSA) from Anritsu is a new instrument designed to facilitate wide area spectrum monitoring up to 54 GHz. Building on over 40 years experience in developing high-performance field portable spectrum analyzers, the MS27200A Microwave Spectrum Monitor Module series is our highest frequency spectrum monitor covering all standard LMR, cellular, satellite, and defense electronic bands.

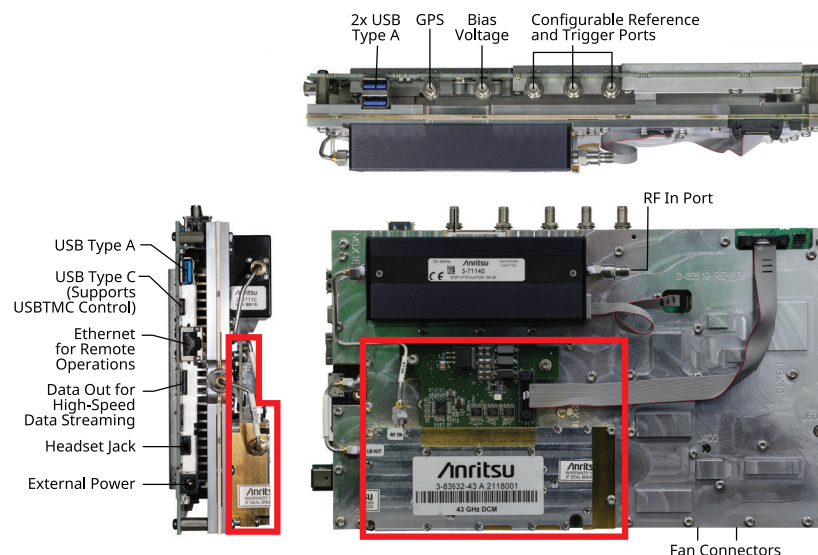
Designed specifically for long term monitoring applications, the module is designed to be integrated into a custom user defined system. To ensure continuous and reliable operation, recovery features include a built-in watchdog timer, which resets the instrument in the event of a software interruption and following a break in the power supply, the instrument will resume normal operation in the same state it was in prior to loss of power.

Applications for MS27200A Microwave Spectrum Monitor Modules necessitate excellent noise floor for signal detection and high Third-Order-Intercept point (TOI) to minimize internal distortions when exposed to multiple input signals. With a displayed average noise level (DANL) of -164 dBm and a TOI of typically +20 dBm, signal detection and measurement integrity are assured. Measurement bandwidths of up to 150 MHz with IQ capture and streaming options provide class leading functionality in a small form factor package.

Common use cases are: spectrum clearing when new licenses are issued, shared spectrum monitoring for CBRS applications, satellite ground station downlink monitoring and critical infrastructure RF interference monitoring.

MS27200A Microwave Spectrum Monitor Module Highlights

- 9 kHz to 9/14/20/26.5/32/43.5/54 GHz
- RTSA bandwidth: 22 MHz (standard) up to 150 MHz (optional)
- RTSA POI: 22 MHz = 2.520 μ s, 150 MHz = 2.06 μ s
- DANL: -164 dBm (with preamp)
- TOI: +20 dBm (typical)
- Analysis bandwidth: 150 MHz
- Amp range: DANL to +30 dBm
- Phase noise at 1 GHz: -110 dBc/Hz @ 100 kHz offset (typical)
- Demodulation: WCDMA, 5G NR, LTE TDD/FDD, RF, and modulation quality plus SSB signal analysis
- Resolution bandwidth (RBW): 1 Hz to 10 MHz
- Amplitude accuracy: < 14 GHz $\pm$ 1.3 dB ($\pm$ 0.5 dB, typical)
- Zero span with 60 ns minimum span
- IQ capture and streaming
- Carrier-to-Interference
- Total Harmonic Distortion (THD)
- Channel Scanner
- Pulse Analyzer
- LTE/5G TDD/FDD uplink interference with gated spectrum
- WCDMA FDD measurement



■ Downconverter module only on > 20 GHz units

Key Specifications

Parameter	Specification
Frequency Range	9 kHz to 9/14/20/26.5/32/43.5/54 GHz
Analysis Bandwidth	Up to 150 MHz
RTSA Bandwidth	22 MHz, 55 MHz, 120 MHz or 150 MHz (option dependent)
TOI	+20 dBm
DANL (with preamp)	-164 dBm in 1 Hz RBW
Amplitude Range	DANL to +30 dBm
Phase Noise	-106 dBc/Hz @ 10 kHz offset at 1 GHz
RBW	1 Hz to 10 MHz
Amplitude Accuracy	< 20 GHz ± 1.3 dB < 20 GHz (± 0.5 dB typical)

Key Features

Feature	Specification
Control Interfaces	Ethernet, USBTMC
PC Control	Remote SCPI programming
Automated Monitoring Software	MX280001A Vision™ Monitor PC application
IQ	Capture and streaming IQ data through Ethernet, USB, and PCIe interfaces
Cellular Modulation Quality Measurements	WCDMA, LTE and 5G NR
Continuous Operation and Recovery	Built-in watchdog timer and auto recover on power failure provide continuity of service
Traces	Six with independent detectors per trace
Markers and Limits	Intelligent markers and comprehensive limits
Event Capture	Save traces and alarms on defined events

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Instrument Options

Part Number	Description
MS27200A	Microwave Spectrum Monitor Module (requires Option 709, 714, 720, 726, 732, 743 or 754)
Options	
MS27200A-0709	Frequency Range 9 kHz to 9 GHz
MS27200A-0714	Frequency Range 9 kHz to 14 GHz
MS27200A-0720	Frequency Range 9 kHz to 20 GHz
MS27200A-0726	Frequency Range 9 kHz to 26.5 GHz
MS27200A-0732	Frequency Range 9 kHz to 32 GHz
MS27200A-0743	Frequency Range 9 kHz to 43.5 GHz
MS27200A-0754	Frequency Range 9 kHz to 54 GHz
MS27200A-0005	Wi-Fi Connectivity
MS27200A-0006	Remove Wi-Fi Connectivity
MS27200A-0007	Secure Data
MS27200A-0017	Secure Communication
MS27200A-0024	Interference Finder (Option 31 and directional antenna recommended, sold separately)
MS27200A-0027	Channel Scanner
MS27200A-0031	GNSS Receiver (requires GPS antenna, sold separately)
MS27200A-0089	Zero Span IF Output
MS27200A-0090	Gated Sweep
MS27200A-0103	55 MHz Analysis Bandwidth
MS27200A-0104	120 MHz Analysis Bandwidth
MS27200A-0105	150 MHz Analysis Bandwidth
MS27200A-0124	IQ Waveform Capture (includes MX280005A IQ Signal Master base feature set)
MS27200A-0125	IQ Waveform Streaming (includes MX280005A IQ Signal Master base feature set) (requires Option 124)
MS27200A-0126	IQ Waveform Capture (includes MX280005A IQ Signal Master base feature set) (non-export controlled)
MS27200A-0127	IQ Waveform Streaming (includes MX280005A IQ Signal Master base feature set) (requires Option 126, non-export controlled)
MS27200A-0128	Enable Vector Signal Analysis (requires Option 126)
MS27200A-0199	Real-Time Spectrum Analysis (RTSA)
MS27200A-0400	Enable Vision Monitor
MS27200A-0401	Enable Vision Locate (Option 400 required)
MS27200A-0407	Enable Vision High-Speed Port Scanner
MS27200A-0421	Pulse Analyzer
MS27200A-0509	AM/FM Modulation Measurement
MS27200A-0871	WCDMA FDD Measurements (requires Option 31)
MS27200A-0883	LTE FDD/TDD Measurements (requires Option 31)
MS27200A-0888	5G NR FDD/TDD Measurements (requires Option 31)
MS27200A-xxxx-0097	Accredited Calibration to ISO17025 and ANSI/NCSL Z540-1 (xxxx is the frequency option number)
MS27200A-xxxx-0098	Standard Calibration to ISO17025 and ANSI/NCSL Z540-1 (xxxx is the frequency option number)
MS27200A-xxxx-0099	Premium Calibration to ISO17025 and ANSI/NCSL Z540-1 plus data (xxxx is the frequency option number)

Supporting Software

MX280005A	IQ Signal Master™ Vector Modulation Analysis Software
MX280001A	Vision™ Monitor Software
MX280007A	Mobile InterferenceHunter™