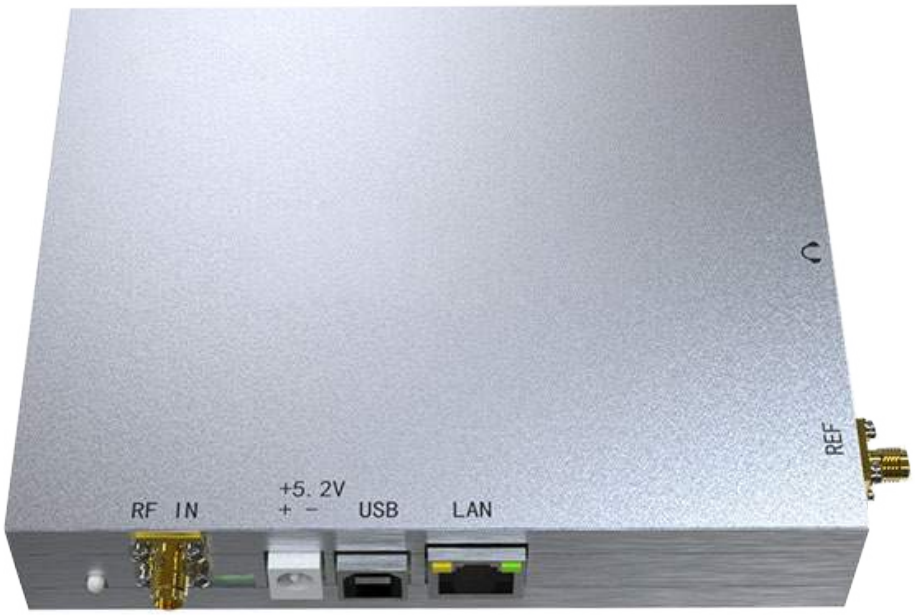
Quality&**Precise**



MAXWELLON MRM100

9kHz~3.6GHz

Modular Monitoring Receiver

2023

Maxwellon

The MRM 100 modular monitoring receiver has excellent performance and compact size, covering monitoring frequencies ranging from 9 kHz to 3.6 GHz. The monitoring range not only covers the HF, VHF, and UHF frequency bands, but also allows for high-speed scanning of user set frequency bands. In integrated application scenarios, this module can transmit I/Q data and spectrum data to network servers for signal analysis and processing. Especially in the application of distributed RF sensors, multiple receiver modules can be remotely deployed and connected on standard TCP/IP networks.

Key Feature

- Monitoring frequency 9kHz~3.6GHz
- Adjustable digital intermediate frequency bandwidth, up to 5MHz panoramic intermediate frequency display
- Signal storage and playback for easy monitoring, processing, and positioning of transient signals
- Record the I/Q data stream to a maximum bandwidth of 500kHz
- Support AM/FM broadcast signal demodulation and provide analog audio streaming interface
- API documentation provides users with system programming or application extension LAN interfaces for remote control and data output
- Low power consumption, light weight, and compact size, suitable for system integration and installation

Specifications

RF		
Frequency Range	9kHz~3.6GHz	
Input impedance	50Ω	
VSWR	≤ 2 : 1	
Input attenuation	RF attenuator: Max. 40dB IF attenuator: None	
Amplitude accuracy	± 1.5dB	
Preselector	High pass/low pass filter combination	
Noise coefficient	Typical value 15dB	
Third order cutoff point (TOI)	Typical value 13dBm(Within the input band)	
Second order intercept (SOI)	Typical value 40dBm	
phase noise(△ f = 10 k Hz, fc = 1.0GHz)	Typical value -83dBc/Hz	
Image Rejection	≥ 60dB	
IF Rejection	≥ 60dB	
Inherent residual response	Typical value -100dBm	
IF		
Spectrum display range	10kHz~5MHz	
Display mode	Regular, average, and Max Hold	
IF demodulation bandwidth(15 filters)	1.5/2.4/6/9/15/30/50/120/150/200/300/500kHz/1/2/5MHz	
Demodulation mode	AM, FM	
Signal		
Fast Fourier Transform (IF Spectrum)	2048 point (Blackman Window)	
Data Type	I/Q Data (14bit accuracy)	Bandwidth up to 5MHz
	Spectrum Data	IF spectrum and sweep spectrum
	Field-strength Level	Minimum channel bandwidth up to 1.5kHz
Data Storage	512MB	

SCAN		
Frequency Sweep	Start/End Frequency	User selectable
	Scanning step	125/250/500/625Hz/1.25/2.5/3.125/6.25/12.5/25/50 kHz
Storage Scan	Storage location	1024 channels, user programmable
Measurement Accuracy and Display Mode		
Frequency Resolution	1Hz	
Frequency Accuracy	±0.5ppm	
	Aging rate	±1ppm/ year
Signal Level	Resolution: 0.1 dB	
Display Error	±1.5dB	
Interface		
Antenna input	SMA,50Ω	
Maximum measurement level	+20dBm	
Reference Input	10 MHz	SMA,50Ω
	Input level	0dBm~+10dBm
I/Q output	LAN	
Audio output, analog	300Hz to 12.5kHz	
Data and Control Interface	Ethernet10/100BaseT	
General		
Operating temperature range	Typical range	0 ℃ to+50 ℃
Permissible temperature range	Maximum range	-10 ℃ to+50 ℃ (non condensing)
Power	DC	Typical value+5.3V ± 5%
	Typical value voltage	Maximum current 2A
Size (length × wide × High)	145mm × 120mm × 28mm	
weight	700g	

Ordering Information

Configure	Describe	Order No.
Main Engine	Monitoring receiver module	MRM100
Standard	CD (user manual, programming manual, upper computer software (basic software package))	
	LAN connection cable (standard Ethernet cable)	
Option	Compact omnidirectional antenna (0.3~7.5GHz)	OA750
	Handheld directional antenna (0.6~8GHz)	DA800

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