



MAXWELLON MX3382A

10Hz ~ 9/12.4/18GHz

Microwave Frequency Counter
2023

MX3382A Intelligent Microwave Frequency Counter is a newly developed high-precision frequency counter by Maxwellon. It employs a high-performance AVR microcontroller for measurement control and an ARM microcontroller for function control, data processing, and measurement display. The MX3382A Frequency Counter utilizes reciprocal counting and digital interpolation technologies, achieving high-precision measurements across the entire range. Additionally, it incorporates CPLD programmable devices, enhancing the instrument's integration and reliability.

■ Key Feature

High Measurement Accuracy:

- High resolution across the entire frequency range, reaching 1Hz.
- Option for high-resolution measurements in the low-frequency high-impedance channel at 9 digits per second.

Microwave Channel Features:

- Automatic and manual rapid measurement functions for the microwave channel.

Calculation Functions:

- Calibration/deviation, limit, relative, and average calculation functions.

Automatic Setting Storage:

- Current instrument settings are automatically stored, and the settings are retained even when the instrument is turned off.

Storage Capability:

- Ability to store 9 complete instrument settings.

Communication Interfaces:

- Standard RS232 universal serial interface.
- Optional IEEE488 general-purpose programmable interface and USB serial interface.

Display:

- Colorful large-screen LCD for rich and aesthetically pleasing displays.
- Compact size, comfortable operation.

Instrument Input Characteristics	
Frequency Measurement Ranges	10Hz~9GHz (Type I)
	10Hz~12.4GHz (Type II)
	10Hz~18GHz (Type III)
Channel A	
Frequency Range	10Hz to 80MHz
Resolution	1Hz, 10Hz, 100Hz, 1KHz, 10KHz, 9-digit high-resolution (Option)
Input Sensitivity	25mVrms (-20dBm)
Maximum Input Level	1Vrms (+13dBm)
Anti-Burn Level	3Vrms (+23 dBm)
Input Impedance	1MΩ
Low-Pass Filter	Cutoff frequency approximately 100kHz, selectable
Coupling Mode	AC
Note: To prevent high-frequency components in low-frequency signals under 100kHz, it is recommended to engage the low-pass filter during low-frequency measurements.	
Frequency Range	60MHz to 3.2GHz (Typical upper limit value can reach 3.8GHz, but technical specifications are not provided)
Resolution	1Hz, 10Hz, 100Hz, 1KHz, 10KHz (Selectable)
Input Sensitivity	25mVrms (-20dBm) ≤3GHz
	40mVrms (-15dBm) >3GHz
Maximum Input Level	1Vrms (+13dBm)
Anti-Burn Level	3Vrms (+23 dBm)
Input Impedance	50Ω
Coupling Mode	AC
Channel A is suitable for amplitude-modulated signals with modulation depths up to 30%, and its envelope valley should meet the input sensitivity requirements.	
Channel B	
Frequency Range	2GHz to 22GHz
Resolution	1Hz, 10Hz, 100Hz, 1KHz, 10KHz (Selectable)
Input Sensitivity	≤ -25dBm 2~12.4GHz
	≤ -15dBm 12.4-18GHz (Typical: -20dBm)
	≤ -10dBm 18-22GHz (Typical: -15dBm)
Maximum Input Level	+7dBm (Typical value below 3GHz)
Anti-Burn Level	+20dBm
Input Impedance	50Ω
Standing Wave Ratio	<3:1 (Typical value)
Measurement Error	±LSD×2±Trigger Error±Time Base Error×Test Signal Frequency
Timebase	
Internal Crystal Oscillator	
Nominal Frequency	10MHz
Aging Rate	Standard: 1×10^{-8} / day
	Option VII: 5×10^{-9} / day (Option I)
	Option VIII: 3×10^{-9} / day (Option II)
Timebase Input	
Frequency	5MHz or 10MHz
Amplitude	≥1Vp-p
Timebase Output	
Frequency	10MHz (Sin)
Amplitude	≥1Vp-p

Others

Storage and Recall Functionality

The instrument can store up to 9 measurement states for convenient recall.

Remote Control Interfaces

RS232 Universal Serial Interface

IEEE488 (GPIB) Universal Interface (optional)

USB DEVICE Universal Serial Interface (optional)

Programmable Command Language

Standard Instructions for Programmable Instruments (SCPI) language.

Power Supply

Voltage	AC 220V ± 22V
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Frequency	47Hz~63Hz
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Power Consumption	40W
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Dimensions

270mm×370mm×110mm (Width × Depth × Height)

Power Supply

Approximately 2.5kg

■ Ordering Information

Standard

No.	Name	Qty.
1	Testing Cables (BNC Q9-J5)	2 pc
2	RS232 Cable	1 pc
3	Power Cord	1 pc
4	Fuse Tube (BGXP-1-18-1A)	2 pc
5	Product User Manual	1 pc
6	Product Certificate of Conformity	1 pc
7	Product Warranty Certificate and User Profile Card	1 pc

Option

No.	Name	Qty.
Crystal Oscillators	Option VII: 5×10^{-9} /day Crystal Oscillator	1 unit
	Option VIII: 3×10^{-9} /day Crystal Oscillator	1 unit
Interfaces	Option IX: IEEE488 Universal Interface	1 set
	Option X: USB DEVICE Universal Interface	1 set
Manual Measurement Module	Manual Measurement Module	1 pc



Maxwellon Electronic Instruments Co.,LTD.

Factory: No.6 Xiangjiang Road, Qingdao 266000, China
Tel: 0086 13816527810

Sales Office: NO.153 Zhuzhou Rd.,Laoshan District, Qingdao 266100, China.
Tel: 0086-532-80977508
Fax: 0086-532-80977508

Sales: Sales@Maxwellon.com
Web: www.maxwellon.com