



MAXWELLON MX3395A

10Hz ~ 26.5/36/40GHz

Microwave Frequency Counter
2023

MX3395A Intelligent Microwave Frequency Counter is a newly developed high-precision frequency counter by our company. It utilizes a high-performance AVR microcontroller for measurement control and an ARM microcontroller for functional control, data processing, and measurement display. The frequency counter employs reciprocal counting technology and digital interpolation technology, achieving high-precision measurements across the entire measurement range. Additionally, it incorporates CPLD programmable devices to enhance instrument integration and reliability.

■ Key Feature

- High measurement accuracy, and the low-frequency high-impedance channel also offers an option for a 9-digit high-resolution measurement per second.
- The microwave channel features automatic and manual rapid measurement functions.
- It includes calibration/deviation, limit, relative, and average calculation functions.
- The current instrument settings are automatically saved and not lost when the instrument is turned off.
- It can store 9 complete instrument settings.
- RS232 universal serial interface is provided as standard configuration.
- Optional IEEE488 general-purpose programmable interface and USB serial interface.
- The instrument features a color large-screen LCD display with rich information, attractive design, compact size, and comfortable operation.
- The LCD screen character display

■ Specifications

Instrument Input Characteristics	
Frequency Measurement Ranges	110Hz~26.5GHz (Type I)
	10Hz~36GHz (Type II)
	10Hz~40GHz (Type III)
Channel A	
Frequency Range	10Hz to 80MHz
Resolution	1Hz, 10Hz, 100Hz, 1KHz, 10KHz, 9-digit high-resolution (Option)
Input Sensitivity	25mVrms (-19.1dBm) ≤10Hz~50MHz
	40mVrms (-15dBm) ≤50MHz~80MHz
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.	

Instrument Input Characteristics	
Channel B	
Frequency Range	2GHz to 40GHz
Resolution	1Hz, 10Hz, 100Hz, 1KHz, 10KHz (Selectable, <22GHz)
	10Hz, 100Hz, 1KHz, 10KHz (Selectable, ≥22GHz)
Input Sensitivity	≤ -20dBm 2~18GHz (typical value: -23 dBm)
	≤ -15dBm 18-26.5GHz (typical value: -18dBm)
	≤ -10dBm 26.5-36GHz (typical value: -13dBm)
	≤ -5dBm 36~40GHz (typical value: -10 dBm)
Maximum Input Level	+0dBm ≤ 5GHz (typical value+3 dBm)
	+3dBm ≤ 9GHz (typical value+5 dBm)
	+7dBm>9GHz (typical value+10 dBm)
Anti-Burn Level	+20dBm
Input Impedance	50Ω
Standing Wave Ratio	<3:1 (Typical value)
Measurement Error	±5LSD×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
Frequency	47Hz~63Hz
Power Consumption	40W
Dimensions	
270mm×370mm×110mm (Width × Depth × Height)	
Power Supply	
Approximately 2.5kg	

■ Ordering Information

Standard

No.	Name	Qty.
1	Test cable BNC Q9-J5 double male	1 pc
2	Test cable ≤ 26.5 GHz, SMA type double male	1 pc
	Test cable $\leq 36/40$ GHz, K type double male	1 pc
3	Power cord	1 pc
4	Fuse tube 2A/220V (already installed in the socket)	2 pc
5	Product user manual	1 pc
6	Product qualification certificate	1 pc
7	Product warranty certificate and user file card	1 pc
8	RS232 connection cable	1 pc
9	RS232 test software CD	1 pc

Option

No.	Name	Qty.
Crystal Oscillators	Option I: 5×10^{-9} /day Crystal Oscillator	1 unit
	Option II: 3×10^{-9} /day Crystal Oscillator	1 unit
Interfaces	Option III: IEEE488 Universal Interface	1 set
	Option IV: USB DEVICE Universal Interface	1 set
	Option V: USB Host	1 set
Manual Measurement Module	Manual Measurement Module	1 pc



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