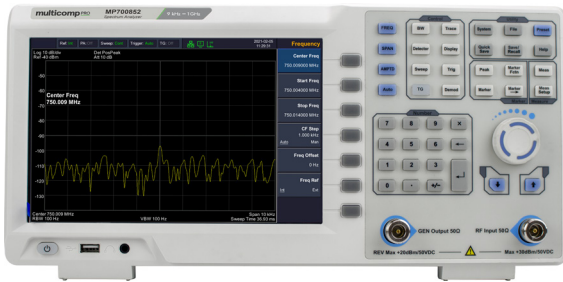


RoHS
Compliant



Features

- Frequency Range from 9 kHz up to 1 GHz
- -160dBm Displayed Average Noise Level
- Phase Noise -80dBc/Hz @1Gz and offset at 10KHz
- Total Amplitude Accuracy <0.7dB
- 1Hz Minimum Resolution Bandwidth (RBW)
- EMI pre-compliance test kit, optional EMC test software
- Standard tracking generator hardware, can be remotely upgraded according to needs
- 9 inches LCD

Performance Specifications

Model	MP700852	MP700853
Frequency		
Range	9kHz-1GHz	9kHz-500MHz
Resolution	1Hz	
Frequency span		
Range	0 Hz, 100 Hz to maximum frequency of device	
Accuracy	$\pm \text{span} / (\text{swept points} - 1)$	
Internal reference		
Reference frequency	10 MHz	
Reference frequency accuracy	$\pm [(\text{days from last calibrate} \times \text{freq aging rate}) + \text{temperature stability} + \text{initial accuracy}]$	
Temperature stability	<0.5ppm (15°C to 35°C)	
Aging rate	<1ppm/year	
Readout		
Marker frequency resolution	span/ (the number of sweep points - 1)	
Uncertainty	$\pm (\text{freq indication} \times \text{freq reference uncertainty} + 1\% \times \text{span} + 10\% \times \text{resolution bandwidth} + \text{Marker Frequency Resolution})$	
Frequency counter		
Resolution	1 Hz, 10 Hz, 100 Hz, 1 kHz	
Accuracy	$\pm (\text{marker freq} \times \text{freq reference uncertainty} + \text{counter resolution})$	
Bandwidth		
Resolution bandwidth (-3 dB)	1Hz to 1MHz (in 1 to 10 sequence), 1MHz, 3MHz	
Resolution filter shape factor	<5 nominal (Digital implement, similar to Gauss Pattern)	
Accuracy	<5% nominal	
Video bandwidth (-3 dB)	1Hz to 1MHz	

Amplitude Specification

Amplitude and electric level	
Amplitude measurement range	DANL to +10 dBm, 100KHz to 10MHz, close the preamplifier DANL to +20 dBm, 10MHz to 1GHz , close the preamplifier
Max input DC voltage	50V DC
Max. continuous wave RF power	+20 dBm (100 mW), attenuation = 40 dB
Max. damage level	+30 dBm (1W)
Displayed average noise level (DANL) attenuation = 0 dB, RBW = VBW = 100 Hz, sample detector, trace average ≥ 50, 20°C to 30°C , input impedance = 50 Ω	
Preamp off	-95 dBm (typical), < -88 dBm (9 kHz to 1 MHz)
	-140 dBm (typical), <-130dBm (1MHz to 500MHz)
	-138 dBm (typical), <-128 dBm (500MHz to max)
Preamp on	-135 dBm (typical), <-128 dBm (9kHz to 1MHz)
	-160 dBm (typical), <-150 dBm (1MHz to 500MHz)
	-158 dBm (typical), <-148 dBm (500MHz to max)
Phase noise	20°C to 30°C, fc=1 GHz
Phase noise	<-80 dBc/Hz @10 kHz offset,
	<-100 dBc/Hz @100 kHz offset
	<-115 dBc/Hz @1 MHz -500MHz offset
Level display range	
Log scale coordinate	0.01dB to 255dB
Linear scale coordinate	0 to reference level
level unit	dBm, dBuW, dBpW, dBmV, dBuV, W,V
Points	760
Number of traces	5
Detectors	Positive-peak, negative-peak, sample, normal, RMS, Average, quasi-peak (with EMI option)
Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average, Trace math
Frequency response	
	20°C to 30°C, 30% to 70% relative humidity, 10 dB input attenuation, reference 50 MHz
Preamp off (fc≥9KHz)	<0.7dB;
Preamp on (fc≥9KHz)	<1.0 dB;
Accuracy	
RBW Switching Uncertainty	Relative to 10 kHz RBW <0.1 dB
Input Attenuation Switching Uncertainty	20°C to 30°C, fc=50 MHz, Preamplifier Off, 10dB RF attenuation, input signal 0~40 dB <0.5 dB
Absolute Amplitude Uncertainty	20°C to 30°C, fc=50 MHz, peak detector, 10 dB RF attenuation, preamplifier off, input signal level = -10 dBm <0.4 dB
Reference Level Range	-80 dBm to +30 dBm, in 1 dB step

Reference Level Resolution	Log scale 0.01 dB; linear scale 4 digits
Uncertainty	95% confidence level, S/N > 20 dB, RBW = VBW = 1 kHz, preamplifier off, attenuation = 10 dB, -50 dBm < input level ≤ 0 dBm, fc > 10 MHz, 20°C to 30°C
	<0.7 dB
VSWR	input ≥ 10 dB, 300 kHz to max;
	<1.5, nominal
Distortion and spurious response	
Second harmonic distortion	fc ≥ 50 MHz, Preamp off, signal input -20 dBm, 10 dB RF attenuation, 20°C to 30°C
	>+45 dBm
Third-order intermodulation	fc ≥ 50 MHz, two -20 dBm tones at input mixer spaced by 200 kHz, attenuation = 0 dB
	>+10 dBm
1 dB Gain Compression	fc ≥ 50 MHz, 0 dB RF attenuation, Preamp off, 20°C to 30°C
	>0 dBm, nominal
Residual response	connect 50 Ω load at input port, 0 dB input attenuation, 20°C to 30°C
	<-90dBm, nominated
Intermediate frequency	<-60 dBc
System related sidebands	Referenced to local oscillators, referenced to A/D conversion, referenced to subharmonic of first LO, referenced to harmonic of first LO
	<-60 dBc
Input related spurious	-30 dBm signal at input mixer, 20°C to 30°C
	<-60 dBc
Sweep time and triggering	
Sweep time	SPAN ≥ 100 Hz 10ms to 3000s zero sweep width 10ms to 3000s
Sweep time uncertainty	SPAN ≥ 100 Hz 5% (nominal) zero sweep (Sweep time >1 ms) 5% (nominal)
Mode	Continue, single
Trigger	Free run, video, external
External trigger level	5 V TTL level
Tracking generator	
Output frequency range	100 kHz to 1.5 GHz (Tracking generator)
Output power level range	-40 dBm to 0 dBm
Output power level resolution	1dB
Output flatness	±3dB
Tracking generator spurious	Harmonic spurious -30 dBc (Tracking generator output power -10 dBm) Non-harmonic spurious -40 dBc (Tracking generator output power -10 dBm)
Tracking source to input terminal isolation	-60 dB (Tracking generator output power 0 dBm)
Maximum safe reverse level	Average total power: +30 dBm, DC : ±50V DC
Inputs and Outputs	
Front panel RF input connector	50 Ω, N-type female

Front panel track generator output	50 Ω, N-type female
Internal/ External Reference	50 Ω, N-type female
External Trigger Input	50 Ω, N-type female
Communication port	USB HOST, USB DEVICE, LAN, earphone port, HDMI
General technical specification	
Display	TFT LCD, 9 inches (1280*800)
Weight (without package)	About 3.7 kg
Dimension (W × H × D)	375mm*185mm*120mm
Working temperature	0°C to 40°C
Storage temperature	-20 °C to +60 °C
Power	100V - 240V 50/60Hz

Part Number Table

Description	Part Number
Spectrum Analyzer, 9kHz to 1GHz	MP700852
Spectrum Analyzer, 9kHz to 500MHz	MP700853

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