

MP700506 & MP700507 Handheld Spectrum Analyser



- + Frequency Range from 9kHz up to 1.6GHz/3.6GHz
- + -160dBm Displayed Average Noise Level
- + Phase Noise <-80dBc/Hz @1Gz and at 10kHz offset
- + Total Amplitude Accuracy <1.5dB
- + 10Hz Minimum Resolution Bandwidth (RBW)
- + Provide EMI Pre-compliance Test function, optional EMC test software
- + Up to 1.6/3.6GHz Tracking Generator, 3.6GHz have signal generator
- + Standard GPS receiver, antenna, the latitude/longitude information and test information can be recorded
- + 8 inches (1024 x 768) IPS LCD touchscreen, wider viewing angle, built-in light sensor to adjust the screen backlight according to the environmental light

+ Performance Specifications

Model	MP700506	MP700507
Frequency		
Range	9 kHz-1.6 GHz	9 kHz-3.6 GHz
Resolution	1 Hz	
Frequency span		
Range	0 Hz , 100 Hz to maximum frequency of device	
Accuracy	± span / (swept points -1)	
Internal reference		
Reference frequency	10.000000 MHz	
Reference frequency accuracy	± [(days from last calibrate × freq aging rate) + temperature stability + initial accuracy]	
Temperature stability	<2.5ppm (15°C to 35°C)	
Aging rate	<1ppm/year	
Readout		
Marker frequency resolution	span/ (the number of sweep points -1)	
Uncertainty	± (freq indication × freq reference uncertainty +1%× span +10%× resolution bandwidth + Marker Frequency Resolution)	
Frequency counter		
Resolution	1 Hz , 10 Hz , 100 Hz , 1 kHz	
Accuracy	± (marker freq × freq reference uncertainty + counter resolution)	
Bandwidth		
Resolution bandwidth (-3 dB)	10 Hz to 500 kHz (1-10 steps by sequence), 1 MHz, 3 MHz	
Resolution Filter Shape Factor (60 dB : 3 dB)	<5: 1 typical (digital and close to Gaussian shape)	
Accuracy	< 5%, typical (RBW ≤ 1 MHz)	
Video bandwidth (-3 dB)	10 Hz to 3 MHz	

Amplitude Specification

Amplitude and electric level

Amplitude measurement range	DANL to +20 dBm , close the preamplifier	
Reference electric level	-80 dBm to +30 dBm , 0.1dBm steps	
Preamp	20 dB, nominal, 9 kHz to 3.6 GHz	
Input attenuator range	0 to 40 dB, in 1 dB step	0 to 50 dB, in 1 dB step
Max input DC voltage	50 VDC	
Max continuous power	+30dBm, average continuous power	

Displayed average noise level (DANL) (Input Attenuation= 0 dB, Sample Detector ,Trace Average ≥ 20 , 20°C to 30°C, Input Impedance=50 Ω ,RBW normalizes to 1Hz)

Preamp off	1 MHz~1 GHz -140 dBm (Typical), <-130 dBm
	MP700506: 1 GHz~1.6 GHz -138 dBm(Typical), <-128 dBm
	MP700507: 1 GHz~3.6 GHz -138 dBm(Typical), <-128 dBm
Preamp on	1 MHz~1 GHz -160 dBm (Typical), <-150 dBm
	MP700506: 1 GHz~1.6 GHz -158 dBm (Typical), <-148 dBm
	MP700507: 1 GHz~3.6 GHz -158 dBm (Typical), <-148 dBm

SSB Phase Noise (20°C to 30°C, $f_c=1$ GHz, RBW=1 kHz, VBW=1 kHz)

Phase noise	<-80 dBc/Hz @10 kHz offset
	<-100 dBc/Hz @100 kHz offset
	<-107 dBc/Hz @1 MHz offset

Level display range

Log scale coordinate	1dB ~255dB
Linear scale coordinate	0 to reference level
level unit	dBm, dBuW, dBpW, dBmV, dBuV, W, V
Points	201~1001
Number of traces	5
Detectors	Positive-peak, negative-peak, sample, normal, RMS, AVG, Qual Peak
Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average

Frequency response

(20°C to 30°C, 30% to 70% relative humidity, input attenuation=21 dB, reference frequency=50 MHz)

Preamp Off ($f_c \geq 100K$)	± 0.8 dB ; ± 0.4 dB (Typical)
Preamp On ($f_c \geq 1$ MHz)	± 0.9 dB ; ± 0.5 dB (Typical)

Difference and Accuracy

RBW Switch Difference	RBW=10 kHz, Log resolution= ± 0.2 dB, Lin resolution= ± 0.01 . Nominal
Input Attenuation Difference	MP700506: 20°C ~30°C, $f_c=50$ MHz, Pre-amplifier Off, 10 dB RF attenuation, input signal 1~40dB ± 0.5 dB
	MP700507: 20°C ~30°C, $f_c=50$ MHz, Pre-amplifier Off, 20 dB RF attenuation, input signal 1~50dB ± 0.5 dB
Absolute Amplitude Uncertainty	20°C to 30°C, $f_c=50$ MHz, Span=200 kHz, RBW=10 kHz, VBW=10 kHz, peak detector,10 dB RF attenuation,95% confidence level Preamp Off $< \pm 0.4$ dB, input signal level -20 dBm Preamp On $< \pm 0.5$ dB, input signal level -40 dBm

Uncertainty	input signal range 0 dbm~-50 dbm	
	±1.5 dB	
VSWR	input 10 dB RF attenuation , 1 MHz~1.5 GHz	
	<1.5 nominal	
Distortion and spurious response		
Second harmonic distortion	fc ≥ 50 MHz , Pre-amp off, signal input -30 dBm, 0 dB RF attenuation, 20°C to 30°C	
	-65dbc	
Third-order intermodulation	fc ≥ 50 MHz	
	+10 dBm	
1 dB Gain Compression	fc ≥ 50 MHz, 0 dB RF attenuation, Preamp off, 20°C to 30°C	
	>+2 dBm, nominal	
Residual response	connect 50Ω load at input port, 0 dB input attenuation, 20°C to 30°C	
	<-85 dBm, typical	
Input related spurious	-30 dBm signal at input mixer, 20°C to 30°C	
	<-60 dBc	
Sweep time and triggering		
Sweep Time	100 Hz≤SPAN≤3 GHz 10ms to 3000s zero sweep width 10ms to 3000s	
Mode	Continue, single	
Tracking generator		
Output frequency range	100 kHz~1.6 GHz	100 kHz~3.6 GHz (Tracking generator) 35 MHz~3.6 GHz (Source generator)
	Output power level range	-30 dBm~0 dBm
Output power level resolution	1 dB	
Output flatness	± 3 dB	
Maximum safe reverse level	Average total power : ± 30 dBm , DC : ±50 VDC	
Audio Demodulation		
Frequency Range	100 kHz to 1.6 GHz	100 kHz to 3.6 GHz
Demodulation Type	FM/AM	
AM Measurement		
Frequency Range	100 kHz to 1.6 GHz	100 kHz to 3.6 GHz
Modulation rate	20 Hz to 100 kHz	
Modulation Rate Accuracy	1 Hz,nominal (Modulation rate < 1 kHz)	
	<0.1% modulation rate, nominal (Modulation rate ≥ 1 kHz)	
Depth	5% to 95%	
Depth Accuracy	±4%, nominal	
FM Measurement		
Frequency Range	100 kHz to 1.6 GHz	100 kHz to 3.6 GHz
Modulation rate	20 Hz to 100 kHz	
Modulation Rate Accuracy	1 Hz, nominal (Modulation rate < 1 kHz)	

	<0.1% modulation rate, nominal (Modulation rate ≥ 1 kHz)
Deviation	20 Hz to 200 kHz
Deviation Accuracy	$\pm 4\%$, nominal
Inputs and Outputs	
RF input connector	50 Ω N-type female
track generator output	50 Ω N-type female
External trigger in	BNC female
10 M reference input/output	50 Ω BNC
Interface	
USB HOST, USB DEVICE, LAN, earphone port, GPS & BDS	
General technical specification	
Display	8 inches touch screen LCD
Weight (without package)	About 2.5 kg
Dimension (W × H × D)	265mm x 190mm x 58mm
Working temperature	0~40°C
Storage temperature	-20°C to +60°C
Power	100V~240V 50/60Hz
Battery	7.4V 9100mAh

8-inch (1024*768) IPS LCD screen, wider viewing angle, full touch design for more convenient operation.

Built-in light sensor to adjust the screen backlight according to the environmental light.

Preset key, resets the analyzer to a known state.

Silicone non-slip to protect the instrument.

2.5kg (with battery) for easy carrying.



Full-band tracking generator output (optional).

Reference Clock IN/OUT.

EXT Trig In connector.

RF Input connector.

Headphone connector.

Communication Interface.

GPS/BDS antenna connector.

