(These specifications apply to GSP-818 being powered up for 45 minutes, and the environment temperature is between 20 and 30 degrees C unless otherwise specified.)

Model	GSP-818
Frequency	
Range	9 kHz to 1.8 GHz
Resolution	1 Hz
Frequency Span	
Span Range	0 Hz, 100 Hz to max. frequency of instrument
Span Uncertainty	±span / (sweep points-1)
Internal Frequency Reference	
Span Range	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
SSB Phase Noise (20°C to 30°C, fc=1 GHz, RBW= 1 kHz, VBW=10 Hz, Average ≥ 40)	
10 kHz	< -82 dBc/Hz
100 kHz	< -98 dBc/Hz(Typical)
1 MHz	< -110 dBc/Hz(Typical)
Bandwidth	
Resolution Bandwidth	10Hz to 500kHz (1-10 steps by sequence), 1MHz, 3MHz EMI Filter(6dB): 200Hz, 9kHz, 120kHz, 1MHz (Option)
RBW Uncertainty	< 5%, typical (RBW ≤ 1 MHz) < 18%, typical (RBW is 3MHz)
Resolution Filter Shape Factor (60 dB: 3 dB)	<5: 1 typical (digital and close to Gaussian shape)
Video Bandwidth (VBW)	10 Hz to 3 MHz
Amplitude	
Amplitude and level	
Amplitude measurement range	DANL to +10 dBm, 100 kHz to 1 MHz, Preamp Off DANL to +20 dBm, 1 MHz to 1.5 GHz, Preamp Off
Reference Level	-80 dBm to +30 dBm, 0.01dB by step
Preamp	20 dB, nominal, 100 kHz to 1.8 GHz
Input Attenuation	0 to 40 dB, in 1 dB step
Max Input DC Current	50 VDC
Max continuous power	+30dBm, average continuous power
Display Average Noise Level (Input Attenuation= 0 dB, RBW=1 Hz and RBW normalizes to 1 Hz)	
Preamp Off	
100 kHz to 1MHz	-117 dBm (Typical)
1 MHz to 10 MHz	-130 dBm (Typical)
10 MHz to 1 GHz	-130 dBm (Typical)
1 GHz to 1.8 GHz	-128 dBm (Typical)
Preamp On	
100 kHz to 1MHz	-140 dBm (Typical)
1 MHz to 10 MHz	-150 dBm (Typical)
10 MHz to 1 GHz	-150 dBm (Typical)
1 GHz to 1.8 GHz	-148 dBm (Typical)
Frequency response (20°C to 30°C, 30% to 70% relative humidity, input attenuation=10 dB, reference frequency=50 MHz)	
Preamp Off (fc ≥100 kHz)	±0.8 dB；±0.4 dB, Typical
Preamp On(fc ≥100 MHz)	±0.9 dB；±0.5 dB, Typical
Uncertainty and Accuracy	
RBW Switch Uncertainty	Reference: 10 kHz RBW at 50 MHz Log resolution=±0.2 dB, Lin resolution=±0.01 Nominal
Input Attenuation Uncertainty	20°C ~30°C, fc=50 MHz, Preamplifier Off, 10 dB RF attenuation, input signal 0~40 dB ±0.5 dB

	Absolute Amplitude Uncertainty		20°C to 30°C, fc=50 MHz, Span=200 kHz, RBW=10 kHz, VBW=10 kHz, peak detector, 10 dB RF attenuation, 95% confidence level
		Preamp Off	±0.4 dB, input signal level -20 dBm
		Preamp On	±0.5 dB, input signal level -40 dBm
	Uncertainty		Input signal range 0 dBm to -50 dBm ±1.5 dB
	VSWR		Input 10 dB RF attenuation, 1MHz to 1.8GHz <1.5, Nominal
Distortion and spurious response			
	Second harmonic distortion		fc ≥ 50 MHz, Preamp off, signal input -20 dBm, 0 dB RF attenuation, 20°C to 30°C -65 dBc
	Third-order intermodulation		fc ≥ 50 MHz, Input double tone level -20 dBm, frequency interval 100 kHz, input attenuation 0 dB, preamplifier off, 20°C to 30°C +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 50 Ω load at input port, 0 dB input attenuation, 20°C to 30°C <-85 dBm, from 100 kHz to 1.5 GHz <-80 dBm, from 1.5 GHz to 1.8 GHz
	Input related spurious		-30 dBm signal at input mixer, 20°C to 30°C <-60 dBc
Sweep			
	Sweep Time		
		None-zero Span	10 ms to 3000 s
		Zero Span	1 ms to 3000 s
	Span Mode		Continue, Single
Tracking Generator (Only apply to - TG option)			
Tracking Generator Output			
	Frequency Range		100 kHz to 1.8GHz
	Output power level range		-30 dBm to 0 dBm
	Output power level resolution		1 dB
	Output flatness		± 3 dB
	Maximum safe reverse level		Average total power: 30 dBm, DC : ±50 VDC
Demodulation			
Audio Demodulation			
	Frequency Range		100 kHz to 1.8 GHz
	Demodulation Type		FM/AM/USB/LSB
AM Measurement			
	Frequency Range		10MHz to 1.8GHz
	Modulation rate		20Hz to 100kHz
	Modulation Rate Accuracy		1Hz, 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		10 MHz to 1.8 GHz
	Modulation rate		20 Hz to 100 kHz
	Modulation Rate Accuracy		1Hz, nominal(Modulation rate < 1 kHz) <0.1% modulation rate, nominal(Modulation rate ≥ 1 kHz)
	Deviation		20 Hz to 200 kHz
	Deviation Accuracy		±4%, nominal
Frequency Counter			
	Counter Resolution		1Hz, 10Hz, 100Hz, 1kHz
	Accuracy		±(frequency indication × frequency reference accuracy) + counter resolution
Inputs and Outputs			
RF Input			
	Impedance		50 Ω, Typical
	Connector		N Type Female
Tracking Generator Output			
	Impedance		50 Ω, Typical

	Connector		N Type Female
Reference Input			
	Connector		BNC Female
	10MHz Reference Amplitude		0 dBm to +10 dBm
USB			
	USB Host		
		Connector	A Plug
		Protocol	USB 2.0 (Host End)
	USB Device		
		Connector	B Plug
		Protocol	2.0 Version
VGA			
	Connector		15-pins D-SUB(female)
	Resolution		800*600, 60 Hz
General Specification			
Display			
	Type		TFT LCD
	Resolution		800*600
	Size		10.4 inches
	Color		65536
Remote Control			
	USB		USB TMC
	LAN		10/100Base, RJ-45
Mass Memory			
	Internal Memory		256M Bytes
Temperature			
	Operating Temperature Range		0 °C to 40°C
	Storage Temperature Range		-20°C to 70°C
Appearance			
	Dimensions		421 mm (Width)×221 mm (Height)×115 mm (Depth)
	Weight		Approx. 5.0 kg (without package)