

GSP-730 Specification

Frequency

Frequency Range

Setting Range	150kHz to 3GHz
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Center Frequency

Setting Resolution	0.1MHz
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Accuracy	within ± 50 kHz (frequency span : 0.3GHz to 2.6GHz, 20 $\pm 5^{\circ}$ C)
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Frequency Span

Setting range	1MHz to 3GHz
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Accuracy	within $\pm 3\%$ (frequency span : 0.3GHz to 2.6GHz, 20 $\pm 5^{\circ}$ C)
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Resolution Bandwidth

Setting Range	30KHz, 100KHz, 300KHz,1MHz,
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SSB Phase Noise

	-85dBc / Hz (typical, 500kHz offset, RBW : 30kHz, Sweep time: 1.5s, Span:1MHz@1GHz)
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Inherent Spurious Response

	less than -45dBc @ -40dBm Ref. Level (typical less than -50dBc)
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Amplitude

Reference Level

Input Range	+20 to -40dBm
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Accuracy	Within ± 2 dB (1GHz);SPAN:5MHz
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Unit	dBm, dBV, dB μ V
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Average Noise Level

	≤ -100 dBm (typical, center frequency : 1GHz RBW : 30kHz)
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Frequency Characteristic

	within ± 3.0 dB @300MHz~2.6GHz,
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	within ± 6.0 dB @ 80~300MHz, 2.6~3GHz
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Input

Input Impedance	50ohm
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Input VSWR	Less than 2.0@input att ≥ 10 dB
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Input damage level	+30dBm (CW average power), 25VDC
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Input connector	N connector
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Sweep

Sweep Time

Setting Range	300ms to 8.4s, auto (not adjustable)
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Accuracy	within $\pm 2\%$ (frequency span : full span)
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General

Communication

Display	640*480 RGB color LCD
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Interface

RS-232C	Sub-D female-D 9 pins
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USB Connector	USB Host/Device full speed supported
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VGA Output

	Sub-D female 15 pins
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Power Source

	AC 100~240V, 50/60Hz
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Other

Operating Temperature	5 to 45 $^{\circ}$ C (Guaranteed at 25 $\pm 5^{\circ}$ C, without soft carrying case)
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Operating Humidity	Less than 45 $^{\circ}$ C / 90%RH
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Storage Temperature	-20 to 60 $^{\circ}$ C, less than 60 $^{\circ}$ C / 70%RH
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Dimensions	296 (L) \times 153 (W) \times 105 (H) mm
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Weight	Approx. 2.2kg
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GRF-1300A Specification

Base Band		
Waveforms	Sine, Square, Triangle	
Frequency Range	0.1~3MHz Step: 10kHz	
Amplitude	$\geq 1.5\text{Vpp}$	
Harmonics Distortion	$\leq -30\text{dBc}$	
RF/FM Generator		
Frequency Accuracy	$\pm 0.15\text{MHz}$	
Adjustable Range	$\geq 45\text{MHz}$ (870M ~ 920MHz) Step: 1MHz	
Power Range	$\geq -15\text{dBm}$	
FM		
Max Frequency Deviation	$> 3\text{MHz}$	
AM		
Peak Difference	$\geq -18\text{dBm}$	
Mixer		
LO + IF	$\geq -35\text{dBm}$	
LO - IF	$\geq -35\text{dBm}$	
Mixer + modulation	$\geq -60\text{dBm}$	
Bandpass Filter		
Frequency Centre: 2.4GHz	Bandwidth: $\pm 20\text{MHz}$	
Interface		
USB Device		
Dimensions & Weight		
165(W)*155(H)*90(D)mm, 1.2kg		

USG-LF44 Specification

Frequency Range	
	34.5MHz to 4400MHz
Output Power	
	-30dBm to 0dBm , in 1 dB steps
Internal Reference Frequency	
	25 MHz , aging ± 1 ppm at first year
Frequency Accuracy (0 dBm Output Level)	
	± 100 Hz at 100MHz
Frequency Resolution	
	10 kHz
Output Isolation	
	≤ -75 dBc , Output Control On/Off
Mode Control	
	Fixed Frequency / Single Sweep / CW Sweep / Hopping / Power sweep
Step Dwell	
	≤ 1000 ms in 1 ms steps
Frequency Offset	
	-50 kHz to 50 kHz in 10 kHz steps
Output Flatness (0 dBm Output Level)	
	-1 dBm to 3.5 dBm, typical
Phase noise	
Carrier frequency $f_c=1\text{GHz}$	At 10 kHz offset frequency < -97 dBc/Hz, typical -100 dBc/Hz
	At 100kHz offset frequency < -107 dBc/Hz, typical -110dBc/Hz
2nd Harmonics (0 dB Attenuation)	
	34.5 MHz to 2.0 GHz, ≤ -15 dBc typical
	2.0 GHz to 3.0 GHz, ≤ -10 dBc typical
	3.0 GHz to 4.4 GHz, ≤ -25 dBc typical

3rd Harmonics		
(0 dB Attenuation)	34.5 MHz to 2.0 GHz, ≤ -5 dBc typical	
	2.0 GHz to 3.0 GHz, ≤ -20 dBc typical	
	3.0 GHz to 4.4 GHz, ≤ -40 dBc typical	
Spurious related to Resolution settings		
	≤ -30 dBc, typical , Resolution < 1MHz	
	≤ -65 dBc, typical , Resolution ≥ 1 MHz	
Spurious related to the fundamental output		
	≤ -60 dBc, typical	
Supported OS		
	Windows/Linux/Mac/Android	
Interface		
USB Connector Type	Mini B USB / USB 2.0	
Supply Voltage	5 V nominal / 200mA	
Current Consumption	5 V nominal / 200mA	
RF Connector Type	N-type male, 50 Ohm nominal	
Impedance	N-type male, 50 Ohm nominal	
Output VSWR	< 1.5:1 , Output Level @ -30dBm	
Maximum permissible DC voltage		
	± 25 V	
Maximum Reverse power		
	+30dBm (1W)	
Electromagnetic compatibility		
	EN 61000-4-2	EN 55011 class A,
	EN 61000-4-3	EN 61326-1 (industrial environment),
	EN 61000-4-11	EN 61326-2-1
Dimensions & Weight		
	30mm(W) x 103mm(H) x 30mm(D), Approx. 100g	

GSP-730, 3GHz Spectrum Analyzer

Standard Accessories

Quick Start Manual *1, User Manual CD *1, Power Cord *1

GRF-1300A, RF and Communication system trainer

Standard Accessories

Experiment Text Book, Student Version *1, User Manual and Remote Control Software CD *1, RF Cable *6 , Antenna *2, N to SMA Adaptor Connector *1, Power Cord *1

USG, RF Signal Generator

Standard Accessories

USB cable * 1, CD-ROM with USG software, GSP-730 Primary RF software and user manual * 1

Option

GBK-002 Experiment text Book, Teacher Version

ADP-003, 50 Ohm N type (female) to SMA (female) Adapter

GTL-303, 50 Ohm SMA RF cable (600mm)

Free Download

Primary RF, Remote Control Software