

GSP-9300B 規格

規格適用於 GSP-9300B 規格在 + 20°C ~ + 30°C 的環境中至少熱機 30 分鐘時

規格			
頻率			
頻率	範圍	9 kHz to 3 GHz	
	解析度	1 Hz	
參考頻率	準確率	±(period since last adjustment X aging rate) + stability over temperature + supply voltage stability	
	老化率	±1 ppm max.	1 year after last adjustment
	頻率過溫穩定度	±0.025 ppm	0 to 50 °C
	電壓供應穩定度	±0.02 ppm	
頻率讀值準確率	開始, 停止, 中心, 標記	±(marker frequency indication X frequency reference accuracy + 10% x RBW + frequency resolution)	
	追蹤點	Max 601 points, min 6 points	
標記頻率計數	解析度	1 Hz, 10 Hz, 100 Hz, 1 kHz	
	準確率	±(marker frequency indication X frequency reference accuracy + counter resolution)	RBW/Span >=0.02 ; Mkr level to DNL > 30 dB
頻率掃寬	範圍	0 Hz (zero span), 100 Hz to 3 GHz	
	解析度	1 Hz	

	準確率	± frequency resolution1	RBW: Auto;
相位雜訊	載波偏移		Fc =1 GHz; RBW = 1 kHz, VBW = 10 Hz; Average ≥ 40
	10 kHz	< -88 dBc/Hz	Typical
	100 kHz	< -95 dBc/Hz	Typical
	1M Hz	< -113 dBc/Hz	Typical
RBW 濾波器頻寬	濾波器頻寬	1 Hz to 1 MHz in 1-3-10 sequence	-3dB bandwidth
		200 Hz, 9 kHz, 120 kHz, 1MHz	-6dB bandwidth
	準確率	± 8%, RBW = 1MHz	Nominal
		± 5%, RBW < 1MHz	Nominal
	波形因素	< 4.5:1	Normal Bandwidth ratio: -60dB:-3dB
VBW 濾波器頻寬	濾波器頻寬	1 Hz to 1 MHz in 1-3-10 sequence	-3dB bandwidth
振幅			
振幅範圍	量測範圍	100 kHz to 1 MHz	Displayed Average Noise Level (DANL) to 18 dBm
		1 MHz to 10 MHz	DANL to 21 dBm
		10 MHz to 3 GHz	DANL to 30 dBm
衰減	輸入衰減範圍	0 to 50 dB, in 1 dB step	Auto or manual setup
最大安全輸入準位	平均總功率	≤ +33 dBm	Input attenuator ≥10 dB
	平均總功率	± 50 V	
1 dB 壓縮點增益	Total Power at 1st Mixer	> 0 dBm	Typical; Fc ≥ 50 MHz; preamp. off
	Total Power at the Preamp	> -22 dBm	Typical; Fc ≥ 50 MHz; preamp. on
		mixer power level (dBm)= input power (dBm)-attenuation (dB)	

平均顯示雜訊準位 (DANL)	前置放大關閉	0 dB attenuation; RF Input is terminated with a 50Ω load. RBW 10 Hz; VBW 10 Hz; span 500 Hz; reference level = -60dBm; trace average ≥ 40	
	9 kHz to 100 kHz	< -93 dBm	Nominal
	100 kHz to 1 MHz	< -90 dBm - 3 x (f/100 kHz) dB	
	1 MHz to 2.7 GHz	< -122 dBm	
	2.7 GHz to 3 GHz	< -116 dBm	
	前置放大開啟	0 dB attenuation; RF Input is terminated with a 50Ω load ; RBW 10 Hz; VBW 10Hz; span 500 Hz; reference level = -60dBm; trace average ≥ 40	
	100 kHz to 1 MHz	< -108 dBm - 3 x (f/100 kHz) dB	Nominal
	1 MHz to 10 MHz	< -142 dBm	
	10 MHz to 3 GHz	< -142 dBm + 3 x (f/1 GHz) dB	
	顯示準位範圍	比例	Log, Linear
單位		dBm, dBmV, dBuV, V, W	
標記準位讀值		0.01 dB	Log scale
		0.01 % of reference level	Linear scale
顯示準位模式		Trace, Topographic, Spectrogram	Single / split Windows
追蹤數量		4	
偵測		Positive-peak, negative-peak, sample, normal, RMS(not Video)	Can be setup for each trace separately
追蹤功能		Clear & Write, Max/Min Hold, View, Blank, Average	

絕對振幅度準確度	絕對點	Center=160 MHz ; RBW 10 kHz; VBW 1 kHz; span 100 kHz; log scale; 1 dB/div; peak detector; 23°C±1°C; Signal at Reference Level	
	前置放大關閉	± 0.3 dB	Ref level 0 dBm; 10 dB RF attenuation
	絕對點 前置放大關閉	± 0.4 dB	Ref level -30 dBm; 0 dB RF attenuation
頻率響應	前置放大關閉	Attenuation: 10 dB; Reference: 160 MHz; 20 to 30°C	
	100 kHz to 2.0 GHz	± 0.5 dB	
	2GHz to 3 GHz	± 0.7 dB	
	前置放大開啟	Attenuation: 0 dB; Reference: 160 MHz; 20 to 30°C	
	1 MHz to 2 GHz	± 0.6 dB	
	2 GHz to 3 GHz	± 0.8 dB	
衰減切換不確定性	衰減設定	0 to 50 dB in 1 dB step	
	不確定性	± 0.25 dB	reference: 160 MHz, 10dB attenuation
RBW 切換不確定性	1 Hz to 1 MHz	± 0.25 dB	reference : 10 kHz RBW
準位量測不確定性	Overall 振幅 準確度	± 1.5 dB	20 to 30°C; frequency > 1 MHz; Signal input 0 to -50 dBm; Reference level 0 to -50 dBm; Input attenuation 10 dB; RBW 1 kHz; VBW 1 kHz; after cal; Preamp Off
		± 0.5 dB	Typical
Spurious 響應	二階諧波截距		Preamp off; signal input -30dBm; 0 dB attenuation
		+35 dBm	Typical; 10 MHz < fc < 775 MHz
		+60 dBm	Typical; 775 MHz ≤ fc < 1.625 GHz
	三階諧波截距		Preamp off; signal input -30dBm; 0 dB attenuation

		> 1dBm	300 MHz to 3 GHz
	Input Related Spurious	< -60 dBc	Input signal level -30 dBm, Att. Mode, Att=0dB; 20-30°C
	Residual Response (inherent)	< -90 dBm	Input terminated; 0 dB attenuation; Preamp off
掃描			
掃描時間	範圍	204 us to 1000 s	Span > 0 Hz
		50 us to 1000 s	Span = 0 Hz; Min Resolution = 10 us
	掃描模式	Continuous; Single	
	觸發來源	Free run; Video; External	
	觸發斜率	Positive or negative edge	
RF 前置放大器			
	頻率範圍	1 MHz to 3 GHz	
	增益	18 dB	Nominal
			(installed as standard)
前面板輸入/輸出			
RF 輸入	接孔類型	N-type female	
	阻抗	50 ohm	Nominal
	VSWR	<1.6 :1	300 kHz to 3 GHz; Input attenuator ≥ 10 dB
電源選項	連接類型	SMB male	
	電壓/電流	DC +7V / 500 mA max	With short-circuit protection
USB Host	連接類型	A plug	
	協定	Version 2.0	Supports Full/High/Low speed
MicroSD 卡槽	協定	SD 1.1	
	支援卡類	microSD, microSDHC	Up to 32GB capacity
Rear Panel Input/Output			
參考輸出	連接類型	BNC female	
	輸出頻率	10 MHz	Nominal

	輸出振幅	3.3V CMOS	
	輸出阻抗	50 ohm	
參考輸入	連接類型	BNC female	
	輸入參考頻率	10 MHz	
	輸入振幅	-5 dBm to +10 dBm	
	頻率鎖定範圍	Within ± 5 ppm of the input reference frequency	
警示輸出	連接類型	BNC female	Open-collector
觸發輸入/掃描閘	連接類型	BNC female	
	輸入振幅	3.3V CMOS	
	切換	Auto selection by function	
LAN TCP/IP Interface	連接類型	RJ-45	
	Base	10Base-T; 100Base-Tx; Auto-MDIX	
USB Device	連接類型	B plug	For remote control only; supports USB TMC
	協定	Version 2.0	Supports Full/High/Low speed
IF 輸出	連接類型	SMA female	
	阻抗	50 ohm	Nominal
	IF 頻率	886 MHz	Nominal
	輸出準位	-25 dBm	10 dB attenuation; RF input: 0 dBm @ 1 GHz
耳機輸出	連接類型	3.5mm stereo jack, wired for mono operation	
影像輸出	連接類型	DVI-I (integrated analog and digital), Single Link. Compatible with VGA or HDMI standard through adapter	
RS232 介面	連接類型	D-sub 9-pin female	Tx,Rx,RTS,CTS
GPIB 介面 (選配)	連接類型	IEEE-488 bus connector	

AC 電源輸出	電源	AC 100 V to 240 V, 50 / 60 Hz	
		Auto range selection	
電池組 (選配)	電池組	6 cells, Li-Ion rechargeable, 3S2P	With UN38.3 Certification
	電壓	DC 10.8 V	
	容量	5200 mAh / 56Wh	
一般			
	內部資料儲存	16 MB nominal	
	電源消耗	<65 W	
	暖機時間	< 30 minutes	
	溫度範圍	+5 °C to +45 °C	Operating
		-20 °C to + 70 °C	Storage
	重量	4.5 kg (9.9 lb)	Inc. all options (Basic+TG+GPIB+Battery)
	尺寸	210 x 350 x 100 (mm)	Approximately
		8.3 x 13.8 x 3.9 (in)	
追蹤產生器(選配)			
	頻率範圍	100 kHz to 3 GHz	
	輸出功率	-50 dBm to 0 dBm in 0.5 dB steps	
	絕對準確度	± 0.5 dB	@160 MHz, -10 dBm, Source attenuation 10 dB, 20 to 30°C
	輸出平坦度	Referenced to 160 MHz, -10 dBm	
		100 kHz to 2 GHz	± 1.5 dB
		2 GHz to 3 GHz	± 2 dB
	輸出準位切換不確定性	± 0.8 dB	Referenced to -10 dBm
	諧波	< -30 dBc	Typical, output level = -10 dBm
	反轉電源	+30 dBm max.	
	連接類型	N-type female	
阻抗	50 ohm	Nominal	
輸出 VSWR	< 1.6:1	300 kHz to 3 GHz, source attenuation ≥ 12 dB	

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