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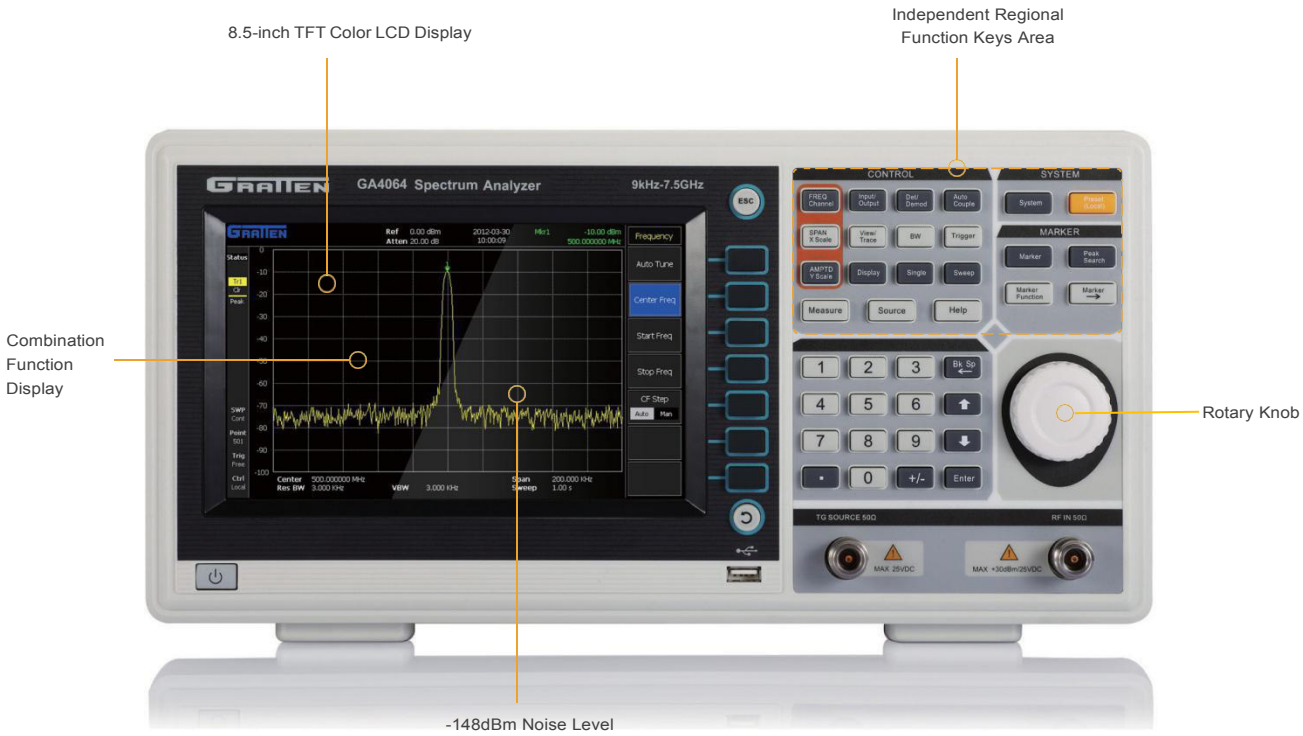
GA40XX Series Digital Spectrum Analyzer



Summary

GA40XX series is a small size, light weight, cost-effective portable spectrum analyzer to meet your all the RF application demands. It has easy-to key board layout and high-definition TFT color LCD display; display contains the appropriate settings and alerts. It includes the standard USB, LAN and RS232 communication interface, virtual terminal display and control and remote network access. The spectrum analyzer can be widely applied in many fields of science education, enterprise research and development and industrial production

Main features

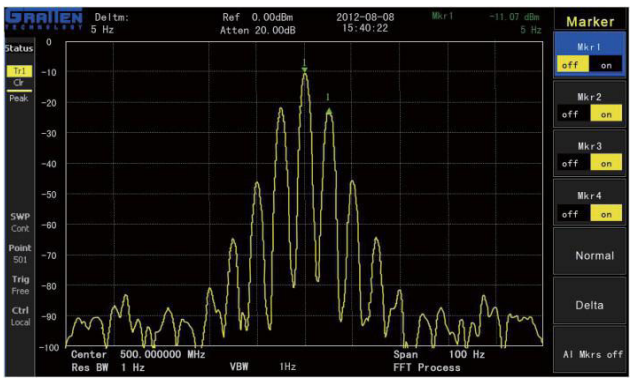
- Frequency range: 9KHz-1.5GHz/3GHz/7.5GHz
- Displayed average noise level (DANL): <-160 dBm (typical value)
- Phase Noise : -95dBc/Hz(Offset 10KHz)
- Full amplitude accuracy: <1.0 dB.
- Minimum resolution bandwidth (RBW): 1Hz
- Standard Preamplifier
- Tracking generator (optional)
- AM/FM demodulation measurement (optional)
- Extensive measurement capabilities and a variety of automatic setting functions

Technical Parameters

Model	GA4062A	GA4033	GA4063	GA4064
Frequency Range	9kHz~1.5GHz	9kHz~3GHz	9kHz~3GHz	9kHz~7.5GHz
Aging Rate	±0.1ppm /year			
Frequency Readout Accuracy with Marker	Marker Resolution: (frequency span)/(sweep points-1)			
	Uncertainty:±(frequency indication × frequency reference uncertainty + 1%×span + 10%×resolution bandwidth + marker resolution +1Hz (3Hz GA4064))			
Sweep Time	Range: 10 ms ~ 3000 s (SPAN>100Hz) Sweep mode: continuous, single Trigger source: Free run, Line trigger, external trigger			
Counter	Max resolution：1Hz			
Frequency Span Range	0Hz(Zero Span), 100Hz~Max frequency；Resolution：1Hz			
SSB Phase Noise	< -100dBc/Hz@10kHz	< -90dBc/Hz@10kHz	< -95dBc/Hz@10kHz ①	
Resolution Bandwidth (RBW)	1Hz~3MHz			
-3dB Bandwidth	Resolution filter shape factor: < 5 : 1			
Measurement Range	+30 dBm to displayed average noise level(DANL)			
Max Safe Input Level	+30dBm (1W)，DC:50V ②			
Displayed Average Noise Level (DANL)	≤-148dBm, -160dBm(Typical value)	≤-128dBm, -140dBm(Typical value)	≤-148dBm, -160dBm(Typical value)	
Level Measurement	Scale unit：dBm, dBmV, dBμV, dBμV/m, μV, mV, V, mW, W			
	Detectors: Positive peak, Negative peak, Sample, Normal			
	Level measurement error: ± (0.6dB+frequency response), frequency response ±1dB；±dB (Typical value)(±2dB 3GHz - 7.5GHz)			
Reference Level	Setting range: -110dBm ~ +30dBm			
Spurious Response	Second harmonic distortion< -70 dB③, Third order inter modulation distortion < -70dBc ④, Inherent residual response < -88dBm (Typical value) ⑤			
RF Input	N-Type female；50Ω nominal；VSWR: 1.5:1 < 2.0 (3GHz~7.5GHz)(10dB attenuation)			
External Interface	USB、LAN、RS232 or VGA			
Auto Measurement Functions	Phase noise, Adjacent channel power, Occupied bandwidth, Third order inter modulation distortion, Pass/Fail, Standing wave ratio			
Display	9 inch TFT LCD	8.5 inch TFT LCD		
Language	English Simplified Chinese Russian			
Power Requirements	Adaptor voltage: 100V ~ 240V; Rate: 50/60/400Hz			
	Power consumption ≤40W	Power consumption ≤35W		Power consumption ≤70W
Size	Weight: ≤7 kg; Dimensions: 410mm×210mm×136mm			
Optional Specifications				
Tracking Generator	Frequency range: 5MHz(available to 9kHz) ~ Max frequency value			
	Output level: 0 ~ -20dBm (GA4062A，GA4064)；0 ~ -25dBm (GA4063, GA4033)			
	output flatness:±3dB(GA4062A，GA4063, GA4033); ±5dB (GA4064) ⑥			
	Connector and impedance: N-Type female；50Ω(nominal value)			
AM/FM Demodulation Measurement	AM Demodulation	Demodulation Frequency: 20Hz~20kHz		
		Demodulation Freq error≦±4Hz(modulation freq ≦1kHz); ≦±0.2% (modulation freq > 1kHz)		
		Demodulation Depth: 5%~95%; AM modulation error: ±4%nominal (modulation freq < 10kHz)		
	FM Demodulation	Demodulation Freq: 20Hz~50kHz (modulation freq ≦500Hz)		
		Demodulation Freq error: ≦±4Hz (nominal modulation freq ≦1kHz; ≦±0.2% nominal value (modulation freq > 1kHz)		
		Freq Offset：20Hz~100kHz (modulation freq ≦500Hz); 0.2%×modulation freq ~ 100kHz (modulation freq > 500Hz)		
		Demodulation Freq error: < ±5%(modulation freq ≦1kHz); < ±4%(modulation freq > 1kHz)		
	PM Demodulation	Freq range: 20Hz~20kHz ; Phase deviation range: 0~10Rad		
		Demodulation Freq error: ≦±4Hz(modulation freq ≦1kHz); ≦±0.2%(modulation freq > 1kHz)		
		Phase deviation error: < ±0.04Rad (Nominal value Phase deviation < 1Rad); < ±4%(Nominal value, Phase deviation ≧ 1Rad)		
	SINAD	Measurement Range: 0~60dB Precision: ±1.5dB Nominal value		

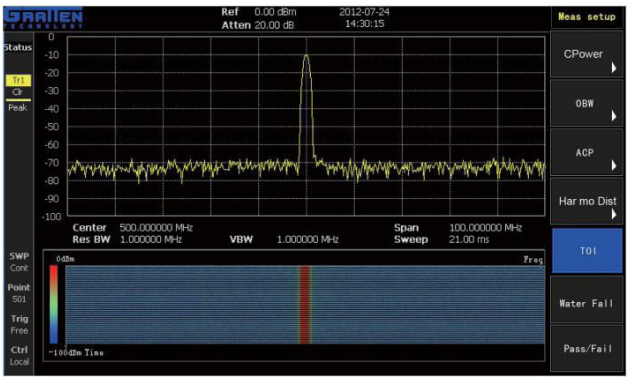
*Note Test condition: ① fc=500MHz,RBW=100Hz,VBW=1Hz ② Input attenuator set≥20 dB ③ The mixer level-40dBm, frequency: 1~1500MHz ④ Frequency space of two-frequency signal is more than 1MHz, The mixer level -30dBm ⑤ Input terminal connect 50Ω load, ATT:0dB ⑥ 50MHz, 0dBm for reference. "Nominal value" is calculate the expected performance based on theory, it does not ensure all of the product performance.

Advanced Measurement Functions



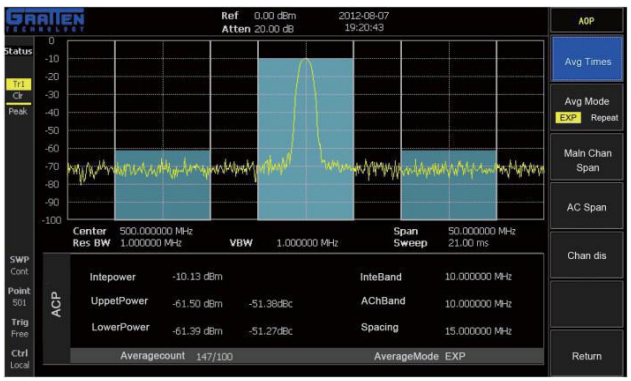
Distinguish similar nearby signal at RBW1Hz

It is easy to distinguish two similar nearby signals by using intermediate Frequency filter with smaller bandwidth.



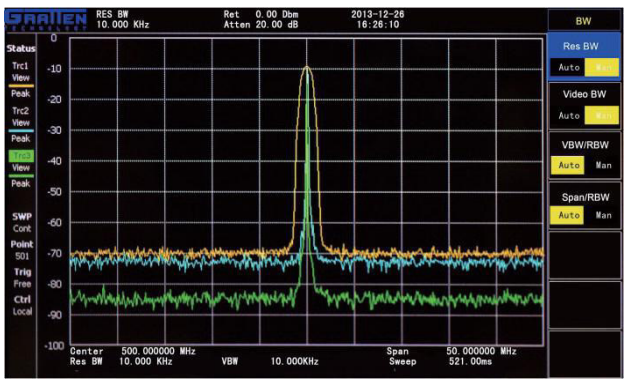
Waterfall plot display

It can intuitively see the distribution of spectrum power.



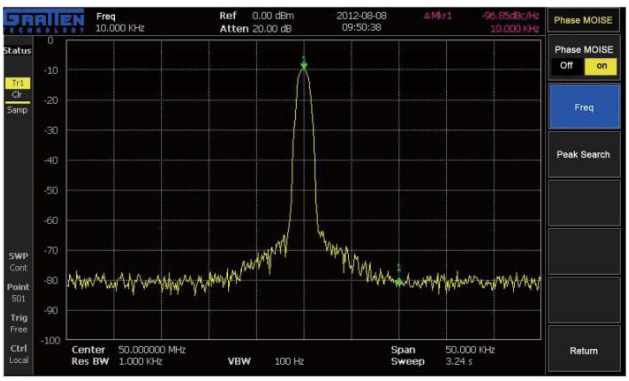
Adjacent Channel Power

In communication test, it convenient to observe the disturbance state of adjacent channel power



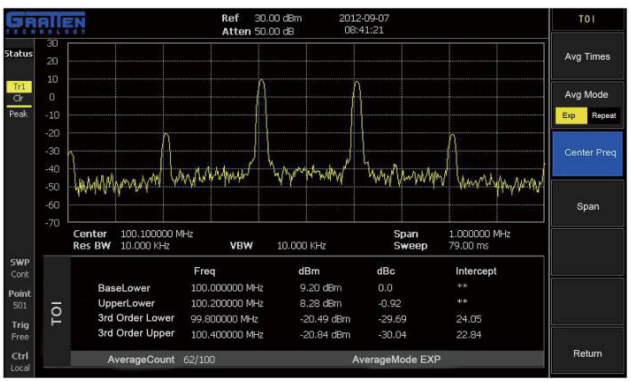
Three simultaneous trace display at RBW1M/100K/10K

Different colors of trace represent the different test state after change resolution bandwidth.



Phase noise measurement display

It can automatically measure the signal phase noise by use of low phase noise source.



Third order inter modulation distortion

It is convenient to directly measure the inter modulation interference of two RF signals.