

# 3GHz SPECTRUM ANALYZER



GSP-830 (9kHz ~ 3GHz)

**NEW**



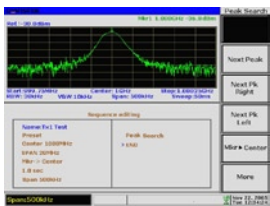
## FEATURES

- \* Low Noise Floor (-117dBm @600MHz, 3k RBW)
- \* Autoset Function
- \* Sequence Programming Functions
- \* ACPR, OCBW, Channel Power, N-dB Measurements
- \* Pass/Fail Test with Limit Line Editing
- \* 10 Markers with  $\Delta$  Marker, Peak Functions
- \* Split Windows Allow Separate Settings
- \* AC/DC/Battery Multi-Mode Power Operation
- \* USB/RS232/GPIB(Optional) Interface
- \* Direct VGA Output
- \* 6.4" TFT Color LCD, Resolution: 640 x 480
- \* Compact Size, 330(W) x 170 (H) x 340 (D)mm
- \* Light Weight of 6kg Without Options
- \* Optional Tracing Generator
- \* Optional Preamplifier



### Autoset

Signal is automatically measured and located at the display center with default or specified settings.



### Sequence

Front panel operations can be automated with built-in Sequence programming functions.

## GKT-006 EMI Probe Kit Set

- ADP-01 Test Lead: BNC(P/M)-BNC(P/M) RF Cable x 1
  - ADP-02 Test Lead: SMA(P/M)-SMA(P/M) RF Cable x 1
  - ANT-01
  - ANT-02
  - ANT-03
  - PR-03
- For:GSP-810/827/830



The newly announced 3GHz Spectrum Analyzer, GSP-830, inherits advantages of high performance, low cost, easy to use and varied portability. With GW Instek state-of-the-art design, GSP-830's outstanding noise floor level, -152dBm/Hz and -162dBm/Hz with GAP-801 preamplifier, presents extreme sensitivity for picking up weak signals. Thru Auto Sequence mode, professionals can define their own macros in 10 Sequence sets while additional Pause, Repeat or Single run mode can be selected for different applications. Further advanced features, as Auto Set, Split window, Power measurements, Pass/Fail, all make GSP-830 an ideal solution when it comes to spectrum analysis. The vast and advanced interfaces, as USB host/device, RS-232C, VGA, and GPIB (optional), make print-out, remote control and monitoring, as well as data transactions possible.

## SPECIFICATIONS

### FREQUENCY

Frequency Range	9kHz ~ 3GHz
Aging Rate	$\pm 10$ ppm, 0-50°C, 5ppm/yr
Span Range	2kHz ~ 3GHz in 1-2-5 sequence, full span, zero span
Phase Noise	-80dBc/Hz @1GHz 20kHz offset typical
Sweep Time Range	50ms ~ 25.6s

### RESOLUTION BANDWIDTH

RBW Range	3kHz, 30kHz, 300kHz, 4MHz
RBW Accuracy	15%
Video Bandwidth Range	10Hz ~ 1MHz in 1-3 steps

### AMPLITUDE

Measurement Range	-103dBm ~ +20dBm, 1MHz ~ 5MHz -120 $\pm 1$ dBm ~ +20dBm, 5MHz ~ 600MHz, Ref. Level @-50dBm -117 $\pm 1$ dBm ~ +20dBm, 600MHz ~ 2.3GHz, Ref. Level @-50dBm -115 $\pm 1$ dBm ~ +20dBm, 2.3GHz ~ 3GHz
Overload Protection	+30dBm, 25VDC
Reference Level Range	-110dBm ~ +20dBm
Accuracy	$\pm 1$ dB @100MHz
Frequency Flatness	$\pm 1$ dB
Display Range Linearity	$\pm 1$ dB over 70dB

### DYNAMIC RANGE

Average Noise Floor	-135dBm/Hz, 1MHz ~ 15MHz, Ref. Level @-30dBm -152 $\pm 1$ dBm/Hz, 15MHz ~ 600MHz, Ref. Level @-50dBm -149 $\pm 1$ dBm/Hz, 600MHz ~ 2.3GHz, Ref. Level @-50dBm -147 $\pm 1$ dBm/Hz, 2.3GHz ~ 3GHz
Third Inter-Modulation	< -70dBc @-40dBm Input, Ref. Level @-30dBm
Harmonic Distortion	< -60dBc RF Input < -40dBm, Ref. Level @-30dBm
Non-Harmonic Spurious	< -110dBm @3kHz RBW

### GENERAL

Display	640 x 480 high resolution color TFT LCD
Internal Memory	10 traces or Setup info, 10 Limit lines, 5 Corrections, 10 Sequences
Markers	10 Markers for peaks; 5 normal-delta marker pairs Functions: Delta, Peak, Marker Track
Trace Detection	3 traces with Peak, Maximum hold, Freeze, Trace math
Power Measurement	ACPR, OCBW, Channel power, N dB BW and Phase Jitter
Autoset Function	Auto tuning the measurement result for observation

### CONNECTORS

RF-Input	Type: N female, 50 $\Omega$ nominal RF input VSWR: <2:1 @ 0dBm Reference Level
External Reference	Type: BNC female, 1M, 1.544M, 2.048M, 5M, 10M, 10.24M, 13M, 15.36M, 15.4M, 19.2MHz
Clock Input	Type: BNC female, accept +5-V TTL signal
External Trigger Input	Type: BNC female, 10MHz
Reference Clock Output	Jack: 5.5mm, 12V
DC Input	Type: SMB male, outputs +9V/100mA Max.
DC Voltage Output Terminal	

### INTERFACE

RS-232C	Sub-D 9 pins female
USB	USB Host/Device 2.0 full speed supported
VGA Output	
Option : GPIB Interface	Fully programmable with IEEE 488.2 compliance

### POWER SOURCE

AC 100 ~ 240V, 50/60Hz

### ACCESSORIES

User manual x1, Power cord x1

### DIMENSIONS & WEIGHT

330(W) x 170(H) x 340(D) mm, Approx. 6kg

Note: Need to Collocate the Optional Accessories.

### OPTION

#### Opt. 01 Tracking Generator

Frequency Range	9kHz ~ 3GHz
Amplitude Range	-50dBm ~ 0dBm
Amplitude Accuracy	$\pm 1$ dB @100MHz, 0dBm
Amplitude Flatness	$\pm 1$ dB @0dBm
Harmonics	<-30dBc typical



**GSP-830**

**Rear Panel**



OPTION	
<b>Opt. 02 Battery pack</b>	10.8V Li-Ion battery pack x 2
<b>Opt. 03 ±1ppm Stability</b>	±1ppm , 0 ~ 50°C, ±1ppm/yr
<b>Opt. 04 300Hz RBW</b>	RBW 300Hz, 3dB bandwidth RBW accuracy : 15%
<b>Opt. 05 9kHz &amp; 120kHz RBW(*)</b>	RBW selections : 9kHz and 120kHz, 6dB bandwidth RBW accuracy : 15%
<b>Opt. 06 10kHz &amp; 100kHz RBW(*)</b>	RBW selections : 10kHz and 100kHz, 3dB bandwidth RBW accuracy : 15%
<b>Opt. 07 AM/FM Demodulator &amp; 10kHz &amp; 100kHz RBW(*)</b>	Demodulation : AM , FM Output : internal speaker, 3.5mm stereo jack wired for mono operation RBW selections : 10kHz and 100kHz, 3dB bandwidth RBW accuracy : 15%
<b>Opt. 08 GPIB Interface</b>	IEEE 488 bus

NOTE : 1. (\*) Only one option can be selected between Opt. 05,06,07.  
2. All options are factory-installed except opt.02.

OPTIONAL ACCESSORIES	
<b>ATA-001 BNC Antenna</b>	
<b>ATA-002 Near Field Probe</b>	Wideband, 0.1~1000 Mhz, Low Noise, 2.9dB Typical
<b>GAP-801 Preamplifier</b>	Preamplifier with 10dB(typical) 9kHz ~ 6GHz
<b>GKT-001 General Kit set</b>	ADP-002: adaptor, SMA(I/F) ~ N(P/M) x 2 ATN-100: 10dB attenuator, N(I/F) ~ N(P/M) x 1 GTL-303: RF cable assembly(SMA(P/M),RD316,600mm)x2 GSC-002: Kit box x 1
<b>GKT-002 CATV Kit set</b>	ADP-001: adaptor, BNC(I/F) ~ N(P/M) x 2 ADP-101: adaptor,BNC(I/F)75Ω~BNC(P/M)50Ω x 2 GTL-304: RF cable assembly(RG223,N(P/M)-N(I/F),300mm)x2 GSC-003: Kit box x 1
<b>GKT-003 RLB Kit set</b>	GAK-001: termination 50Ω, N(P/M) x 1 GAK-002: Cap with chain, N(P/M) x 1 GTL-302: RF cable assembly(RG223,N(P/M),300mm)x2 GSC-004: Kit box x 1
<b>GKT-006 EMI Probe Kit set</b>	ANT-01: 6cm Loop, H-Field Probe x 1 ANT-02: 3cm Loop, H-Field Probe x 1 ANT-03 6mm Stub tip, E- Field Probe x 1 PR-03: Touch Passive Probe x 1 Test Lead: BNC(P/M)~BNC(P/M) RF Cable x 1 Test Lead: SMA(P/M)~SMA(P/M) RF Cable x 1 ADP-01: N(P/M)~BNC(I/F) Adaptor x 1 ADP-02: N(P/M)~SMA(I/F) Adaptor x 1
<b>GRA-404 Rack Adapter Panel</b>	Rack Mounting (19", 4U)
<b>GSC-001 Soft Carrying Case</b>	
<b>GTL-301 RF Cable</b>	RG 223 N(P/M), 1000mm
<b>GTL-401 DC Power Cord</b>	DC power cord with DC Jack and lighter plug,Current 5A

**GRA-404 Rack Adapter Panel**

For : GSP-827/830, Rack Mounting (19", 4U)



**GSC-001 Soft Carrying Case**

For : GSP-827/830



**GKT-001 General Kit Set**

ADP-002  
ATN-100  
GTL-303  
GSC-002  
For:GSP-810/827/830



**GKT-002 CATV Kit Set**

ADP-001  
ADP-101  
GTL-304  
GSC-003  
For:GSP-810/827/830



**GKT-003 RLB Kit Set**

GAK-001  
GAK-002  
GTL-302  
GSC-004  
For:GSP-810/827/830



**GTL-401**

DC Power Cord with DC Jack and Lighter Plug, Current 5A  
For:GSP-827/830

