

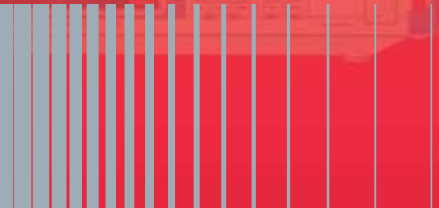
Aerospace and Defense

Rohde & Schwarz 2011 GSA Contract Products



2 GHz Digital Oscilloscope
R&S[®] RT01024

67 GHz Spectrum Analyzer
R&S[®] FSU67



Meeting Tomorrow's Challenges

Test and measurement solutions for aerospace and defense

From multimode radar to the networkcentric battlefield, mission success depends on the performance of electronic systems for detection, interception, encryption, dissemination, communications, and interdiction. These systems must all perform flawlessly, and tomorrow's challenges must be anticipated and met today.



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Rohde & Schwarz plays an integral role in meeting the challenges tomorrow will bring. We're one of the world's leading innovators in electronic test and measurement, radio communications, and radio monitoring and radio location. The scope and performance of our technologies are second to none.

Aerospace and defense programs rely on the unsurpassed performance and quality of Rohde & Schwarz solutions. Since we keep all manufacturing in-house, we can maintain the tight control on quality that only co-located engineering and manufacturing can provide. We also provide a unique level of support. With facilities in over 70 countries, comprehensive service, and the ability to serve any need including custom solutions and systems, we not only win on performance – we win on support too.

The force behind innovation

Rohde & Schwarz has been developing test and measurement solutions for more than 75 years, starting with our first frequency meter in 1933. We've been instrumental in moving the technological benchmark – with developments such as state-of-the-art TOI performance and 120 MHz analysis bandwidth in our high performance spectrum analyzers. High-precision network analysis up to 500 GHz, innovative signal generators with up to two signal paths in one instrument (including 2 x 2 MIMO real-time fading), oscilloscopes with an industry-leading acquisition rate of one million waveforms per second, power meters with smart sensor technology, and the unique R&S®PR 100 handheld radio monitoring receiver are further examples of pace setting Rohde & Schwarz products.

For decades, Rohde & Schwarz solutions have been in use by military services and government agencies. Aerospace and defense contractors use our test and measurement solutions in cutting-edge R&D, production, and operational support programs alike. We work collaboratively with the aerospace and defense industry to bring focused solutions that meet our customers' exacting requirements. Our developments are integral parts of many of the most cutting edge defense programs in the world today.

Designed for the job

We understand the specific needs of the aerospace and defense community, and design our solutions to meet these needs.

Instrument security

Aerospace and defense security requirements demand the ability to remove user data and instrument usage information. Many of our instruments offer removable data storage and memory clearing procedures to address these security issues. Easy-to-follow, clearly written application notes simplify compliance with recommended procedures.

Software-code compatibility

Software-code compatibility is another critical requirement for aerospace and defense ATE systems. Due to the costs and technical issues surrounding TPS modifications, legacy TPS programs demand that upgrade and replacement instrumentation be code-compatible. Many of our instruments provide near drop-in replacement for key legacy instrumentation.

Longevity

From system development and demonstration to production and field-operational support, Rohde & Schwarz instrumentation is designed to meet the aerospace and defense industry's long program life cycles. Our modular instruments allow users to add additional capabilities as required, and we regularly provide enhancements to keep our instruments at the forefront of technology.

Repair and calibration autonomy

We offer a wide range of service and support choices, from complete turnkey services to specialized "self-service" programs. We work collaboratively with aerospace and defense metrology organizations to ensure that technical, business, and process requirements are met. Our calibration and adjustment tools give the aerospace and defense metrologist a large degree of autonomy.

LXI solutions

Rohde & Schwarz products are designed to provide maximum functionality and flexibility together with a small form factor to satisfy emerging system test requirements. LXI-conformant and supported by IVI drivers, they fit seamlessly together with other concepts.

Handheld Spectrum Analyzer

GSA R&S® FSH Series

Spectrum analysis anywhere, anytime—on earth and in space

The FSH is the ideal spectrum analyzer for rapid, high-precision, cost-effective signal investigations. It provides a large number of measurement functions. The FSH can handle anything from the installation or maintenance of a mobile radio base station up to on-site fault location in RF cables to development and service.

- Robust edge protection, stable carrying handle
- Easy operation
- Four hours operating time on battery power
- Storage of up to 256 traces and setups
- Easy data transfer to PC
- High measurement accuracy



Model	Frequency Range	MSRP	GSA Price
FSH3.03	100 kHz–3 GHz	\$8,450.00	\$7,790.77
FSH4.04	9 kHz–3.6 GHz	\$9,220.00	\$8,759.00
FSH8.08	9 kHz–8 GHz	\$13,545.00	\$12,867.75
FSH18	100 kHz–18 GHz	\$19,635.00	\$18,653.25

Measuring Receiver

GSA R&S® FSMR Series

One-box-solution for calibrating signal generators and attenuators

The Measuring Receiver FSMR is a one-box solution for calibrating RF-level and analog modulation parameters of signal generators as well as attenuation.

Functions combined in one instrument:

- High precision level calibrator.
- Modulation Analyzer for AM/FM/PM.
- Audio Analyzer with THD and SINAD.
- Support for NRP power sensors for absolute power measurements.
- High-performance spectrum analyzer.



Model	Frequency Range	MSRP	GSA Price
FSMR3	20 Hz–3.6 GHz	\$76,050.00	\$72,247.50
FSMR26	20 Hz–26.5 GHz	\$88,555.00	\$84,127.25
FSMR50	20 Hz–50 GHz	\$116,875.00	\$111,031.25

Spectrum & Signal Analyzer

GSA R&S® FSQ Series

Spectrum and signal analysis in a single unit

The FSQ combines signal and spectrum analysis in one instrument and is a solution for all areas in development and production. It offers very low phase noise, an unsurpassed low residual EVM, a high dynamic range as well as above-average accuracy.

- 28 MHz demodulation bandwidth (optional 120 MHz)
- 16 Msample I and Q memory, extendable up to 705 M sample
- Outstanding RF characteristics
TOI + 25 dBm, typ.
1 dB compression +13 dBm, typ. 84 dB ACLR/3GPP with noise correction
- Numerous and standard-specific modulation and code domain power measurements



Model	Frequency Range	MSRP	GSA Price
FSQ3	20 Hz–3.6 GHz	\$75,830.00	\$72,038.50
FSQ8	20 Hz–8 GHz	\$84,975.00	\$80,726.25
FSQ26	20 Hz–26.5 GHz	\$94,135.00	\$89,428.25
FSQ40	20 Hz–40 GHz	\$115,485.00	\$109,710.75

Signal & Spectrum Analyzer

GSA R&S® FSV Series **UNIQUE TOUCH SCREEN**

Signal analysis at its best

The FSV is the fastest and most versatile signal and spectrum analyzer available for performance-oriented, cost-conscious users working in the development, production, installation and servicing of RF systems. Outstanding RF properties that are unmatched in class. Analysis packages for analog modulation, wireless and wideband communications standards.



Model	Frequency Range	MSRP	GSA Price
FSV3	9 kHz–3.6 GHz	\$21,475.00	\$20,401.25
FSV7	9 kHz–7 GHz	\$30,030.00	\$28,528.50
FSV13	9 kHz–13.6 GHz	\$34,450.00	\$32,727.50
FSV30	9 kHz–30 GHz	\$39,500.00	\$37,525.00
FSV40	9 kHz–40 GHz	\$55,125.00	\$52,368.75

Spectrum Analyzer

GSA R&S® FSU Series

The world's fastest, most accurate spectrum analyzer with the highest dynamic range

FSU is a high-performance spectrum analyzer with outstanding performance in phase noise, dynamic range and measurement accuracy that meets any challenge in RF analysis—in aerospace and defense or for general microwave applications up to 67 GHz.

- DANL typ. -158 dBm (1Hz) w/o preamp
- SSB phase noise typ. -133 dBc (1Hz) at 10 kHz offset, CF 640 MHz
- Phase-noise typ -160 dBc/Hz at 10 MHz offset, CF 640 MHz
- TOI typ. 25 dBm
- 1 dB compression point typ. 13 dBm
- WCDMA ACLR dynamic range of 77.5 dB / 84 dB with noise correction



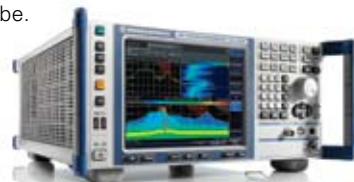
Model	Frequency Range	MSRP	GSA Price
FSU3	20 Hz–3.6 GHz	\$49,950.00	\$47,452.50
FSU8	20 Hz–8 GHz	\$55,725.00	\$52,938.75
FSU26	20 Hz–26.5 GHz	\$61,200.00	\$58,140.00
FSU46	20 Hz–46 GHz	\$86,120.00	\$81,814.00
FSU50	20 Hz–50 GHz	\$94,950.00	\$90,202.50
FSU67	20 Hz–67 GHz	\$128,510.00	\$122,084.50

Real-Time Spectrum Analyzer

GSA R&S® FSVR Series

Discover the unseen

The FSVR combines a full-featured signal and spectrum analyzer with a real-time spectrum analyzer. Therefore it provides all the capabilities and features that modern T&M instruments of this kind have to offer. In real-time operation the FSVR seamlessly measures and displays the spectrum in the time domain with a span of up to 40 MHz. As a result it captures every event for analysis no matter how brief that event might be.



Model	Frequency Range	MSRP	GSA Price
FSVR7	10 Hz–7 GHz	\$56,940.00	\$54,093.00
FSVR13	10 Hz–13.6 GHz	\$75,560.00	\$71,782.00
FSVR30	10 Hz–30 GHz	\$88,820.00	\$84,379.00
FSVR40	10 Hz–40 GHz	\$105,900.00	\$100,605.00

Signal Source Analyzer

GSA R&S® FSUP Series

Phase noise tester, high-end spectrum and signal analyzer in a single box

The FSUP is a highly flexible phase noise tester with versatile measurement capabilities that combines the scope of functions of a high-end signal and spectrum analyzer with the benefits of a phase-noise-only tester.

- Frequency range up to 8/26.5/50 GHz
- Up to 110 GHz with external mixers
- Low-noise DC outputs for supply and tuning voltages
- Maximum flexibility for phase noise measurements
- Noise figure and gain measurements
- Oscillator characterization
- Analysis of digital and analog modulated signals



Model	Frequency Range	MSRP	GSA Price
FSUP8	20 Hz–8 GHz	\$61,650.00	\$58,567.50
FSUP26	20 Hz–26.5 GHz	\$94,195.00	\$89,485.25
FSUP50	20 Hz–50 GHz	\$127,520.00	\$121,144.00

RF Signal Generator

GSA R&S® SMA100A

**SMA100A
CAN EMULATE THE
HP8662A/63A**

The new standard of excellence in the analog signal generator class

Standard pulse modulator with >80 dB on/off ratio (typ. 100 dB) and typ. 10 ns rise/fall time. Standard pulse generator can generate simple pulses with min. 2 Hs width. High-performance pulse generator with a min. pulse width of 20 ns and high flexibility (single, double and delayed pulses possible), option SMA-K23. Can simulate fast frequency hopping by directly setting the DDS based synthesizer, the instrument can achieve frequency setting times of typ. <10 Hs within a bandwidth of up to 80 MHz. Generate VOR/ILS signals to perform receiver tests, option SMA-K25.



Model	Description	MSRP	GSA Price
SMA100A	9 kHz–3 GHz or 6 GHz, Frequency Level & LF Sweeps	\$3,360.00	\$3,192.00
SMA-B103	9 kHz–3 GHz w/ Electronic Level Attenuator Over Full Frequency Range	\$16,000.00	\$15,200.00
SMA-B106	9 kHz–6 GHz w/ Electronic Level Attenuator Over Full Frequency Range	\$21,300.00	\$20,235.00
SMA-B29	Option: Clock Synthesizer	\$4,920.00	\$4,383.72
SMA-K27	Option: Pulse Train - User-defined Pulse Sequences.	\$2,470.00	\$2,346.50
SMA-K23	Option: High-Performance Pulse Generator	\$1,750.00	\$1,662.50
SMA-K25	Option: VOR/ILS Modulation	\$2,460.00	\$2,337.00
SMB-B103	Option: Frequency Range 9 kHz–3.2 GHz	\$7,710.00	\$7,324.50
SMB-B106	Option: Frequency Range 9 KHz–6 GHz	\$15,220.00	\$14,459.00

Analog Signal Generator

GSA R&S® SMB100A

Setting standards in the mid-range

The analog SMB100A signal generator delivers excellent signal characteristics and high flexibility at low cost of ownership, perfectly matching the key criteria for a signal source. The technical characteristics of the SMB100A set new standards in the mid-range, especially the generator's high output power and signal purity.

- All-purpose RF source
- Best signal quality in the mid-range
- High output power as standard
- Ideal for production
- Testing of FM stereo and RDS receivers
- Ready for aerospace and defense applications
- Flexible service concept



Model	Description	MSRP	GSA Price
SMB100A.02	Signal Generator Base Unit, Requires Frequency Option:	\$1,940.00	\$1,843.00
SMB-B101	Option: 9 kHz–1.1 GHz, 1 MHz ≤ f < 12.75 GHz, >+18 dBm, -120 dBm	\$5,440.00	\$5,168.00
SMB-B102	Option: 9 kHz–2.2 GHz, 1 MHz ≤ f < 12.75 GHz, >+18 dBm, -120 dBm	\$6,770.00	\$6,431.50
SMB-B103	Option: 9 kHz–3.2 GHz, 1 MHz ≤ f < 12.75 GHz, >+18 dBm, -120 dBm	\$7,710.00	\$7,324.50
SMB-B106	Option: 9 kHz–6 GHz, 1 MHz ≤ f < 12.75 GHz, >+18 dBm, -120 dBm	\$15,220.00	\$14,459.00
SMB-B112	Option: 100 kHz–12.75 GHz, 1 MHz ≤ f < 12.75 GHz, >+18 dBm, -120 dBm	\$18,500.00	\$17,575.00

GSA Contract GS24F0066M Small business credit applies. Free shipping FOB U.S. destinations.

Vector Signal Generator

GSA R&S® SMBV100A

Generating signals for today and tomorrow

The SMBV100A offers excellent RF performance along with very high output level and short setting times. At the same time the SMBV100A can be equipped with an internal baseband generator to allow generation of a number of digital standards (e.g. WiMAX™, HSPA+, LTE). The wide frequency range from 9 kHz–6 GHz covers all of the standard bands for digital modulation.

- Optional baseband generator with real-time coder and arbitrary waveform generator for maximum flexibility
- Optional ARB-only baseband generators as cost-saving alternatives
- Support of 3GPP LTE FDD/TDD, 3GPP FDD/HSPA/HSPA+, GSM/EDGE/EDGE Evolution, TD-SCDMA, WiMAX™ and all other important digital standards
- I/Q modulator with 528 MHz RF bandwidth



Model	Description	MSRP	GSA Price
SMBV100A	Vector Signal Generator Base Unit, Requires Frequency Option	\$3,400.00	\$3,230.00
SMBV-B103	Option: Frequency Range 9 kHz–3.2 GHz	\$13,000.00	\$12,350.00
SMBV-B106	Option: Frequency Range 9 kHz–6 GHz	\$22,800.00	\$21,660.00

Microwave Signal Generator

GSA R&S® SMF100A

Signal generation redefined

Signal quality, speed, and flexibility—these are decisive properties for a signal generator in the microwave range. The SMF100A is a state-of-the-art microwave signal generator that sets standards. It covers the numerous fields of applications encountered in R & D, production, service, maintenance and repair.

Excellent signal quality

- Exceptionally low single sideband phase noise: typ. -120 dBc (at 10 GHz; 10 kHz carrier offset; 1 Hz measurement bandwidth)
- Improved close in phase noise performance with option SMF-B22 (f=10 GHz; offset 10 Hz; measurement bandwidth 1 Hz; -65 dBc (w/o SMF-B22; -57 dBc))
- Very low wideband noise: typ. <-148 dBc at 10 GHz (>10 MHz carrier offset; 1 Hz bandwidth; at +10 dBm)
- Very low harmonics: typ. <-55 dBc at 10 GHz (at +10 dBm)
- High suppression of nonharmonics: typ. <-62 dBc at 10 GHz (>3 kHz carrier offset; at +10 dBm)



Model	Description	MSRP	GSA Price
SMF100A	Signal Generator Base Unit 100 kHz–43.5 GHz, Requires Frequency Range Option	\$3,900.00	\$3,705.00
SMF-B2	Option: Frequency Extension 100 kHz–1 GHz	\$2,610.00	\$2,479.50
SMF-B122	Option: Frequency Range 1 GHz–22 GHz	\$22,000.00	\$20,900.00
SMF-B144	Option: Frequency Range 1GHz–43.5 GHz	\$42,000.00	\$39,900.00

See all Rohde & Schwarz models at www.rohdeschwarz.gsmart.com



SIGNAL GENERATORS

Microwave Signal Generator

GSA R&S® SMR

High-performance, cost-effective and reliable up to 40 GHz

The SMR family comprises four base models designed as CW generators with pulse modulation capability. Offering an excellent price/performance ratio, the SMR is ideal for entering the field of microwave testing at an affordable price. Base models can be upgraded any time by means of options.

Three instruments in one

- CW generator with pulse modulation capability (standard version)
- Signal generator with AM/FM and LF generator (option SMR-B5)
- Synthesized sweep generator with analog ramp sweep (option SMR-B4)



Model	Description	MSRP	GSA Price
SMR20	10 MHz–20 GHz	\$27,285.00	\$25,920.75
SMR27	10 MHz–27 GHz	\$38,410.00	\$36,489.50
SMR30	10 MHz–30 GHz	\$41,500.00	\$39,425.00
SMR40	10 MHz–40 GHz	\$48,565.00	\$46,136.75
SMR-B3	Option: Frequency Resolution 0.1 Hz Software	\$950.00	\$902.50
SMR-B4	Option: Ramp Sweep Software	\$2,260.00	\$2,147.00
SMR-B5	Option: AM/FM/Scan Modulator	\$1,765.00	\$1,676.75



Vector Signal Generator

GSA R&S® SMU200A Series

The art of signal generation

The SMU200A not only combines up to two independent signal generators in one cabinet, it also offers unrivalled RF and baseband characteristics. The generator has been designed to meet all requirements encountered in research and development of modern communication systems as well as in their production.

- First RF path from 100 kHz to 2.2/3/4/6 GHz
- Optional second RF path from 100 kHz to 2.2/3 GHz
- Up to two complete baseband paths
- Support of 3GPP LTE FDD and TDD, WiMAX™ and all other important digital standards



Model	Description	MSRP	GSA Price
SMU200A	Base Unit	\$3,900.00	\$3,705.00
SMU-B10	Opt: 1st RF Path	\$15,410.00	\$14,639.50
SMU-B13	Opt: Baseband Main Module	\$1,300.00	\$1,235.00
SMU-B20	Opt: 2nd RF Path	\$3,890.00	\$3,695.50
SMU-B103	Opt: 100 kHz - 3GHz	\$23,570.00	\$22,391.50
SMU-B106	Opt: 100 kHz - 6GHz	\$36,260.00	\$34,447.00

Frequency Multiplier

GSA R&S® SMZ Series

Precise and adjustable output levels from 50 GHz–110 GHz

The SMZ family of frequency multipliers combines easy handling and precise, adjustable output levels in the frequency range from 50 GHz to 110 GHz. It can be used in diverse applications, e.g. in the automotive sector with distance radars, in astronomy with sophisticated telescopes and in RADAR interferometry for analyzing the earth's surface.

- Wide frequency range
- Wide dynamic range
- Easy handling
- High signal quality



Model	Frequency Range	MSRP	GSA Price
SMZ75	50 GHz–75 GHz	\$20,150.00	\$19,142.50
SMZ90	60 GHz–90 GHz	\$20,150.00	\$19,142.50
SMZ110	75 GHz–110 GHz	\$20,150.00	\$19,142.50

CALL FOR BEST PRICE

Call toll free for GSA quote 1-888-665-2765

Vector Network Analyzer

GSA R&S® ZNB Series

Leading in speed, dynamic range and ease of operation

Rohde & Schwarz once again sets new benchmarks with the ZNB vector network analyzers. The new family of network analyzers features high measurement speed, outstanding precision and exceptional ease of operation.

- Wide dynamic range of up to 140 dB
- Short sweep times of 4 ms for 401 points
- High temperature stability of typ. 0.01 dB/°C
- Wide power sweep range of 98 dB
- Wide range of IF bandwidths from 1 Hz to 10 MHz
- Manual and automatic calibration
- Large, high-resolution 12.1" screen
- Touchscreen user interface
- Two or four test ports



Model	Description	MSRP	CALL FOR BEST PRICE
ZNB4	2 Port, 4,5 GHz, N	\$31,590.00	
ZNB8	2 Port, 8,5 GHz, N	\$39,490.00	

Vector Network Analyzer

GSA R&S® ZNC Series

**FREQUENCY RANGE
9 KHZ–3 GHZ**

Solid performance on a future-oriented platform

High reliability, outstanding ease of operation, maximum precision and a wide dynamic range—this is what customers expect from a network analyzer. Using state-of-the-art technology and a user-friendly operating concept, R&S has implemented all these features in its ZNC.

- Dynamic range of up to 130 dB
- Short sweep times of 11 ms for 401 points
- High temperature stability of typ. 0.01 dB/°C
- Wide power sweep range from -50 dBm to +13 dBm
- IF bandwidths from 1 Hz to 300 kHz
- Manual and auto calibration
- Low trace noise of 0.004 dB RMS at 10 kHz
- Large, high-resolution 12.1" screen
- Touchscreen user interface



Model	Description	MSRP	CALL FOR BEST PRICE
ZNC3	Two Ports, 3 GHz, N	\$25,680.00	

Vector Network Analyzer

GSA R&S® ZVA Series

High performance up to 110 GHz with up to four test ports

The ZVA series are high-end VNAs are an ideal choice for demanding measurements on active and passive components and modules, which require high performance and wide versatility. The frequency range of the high-frequency models can be extended up to 500 GHz.



2-port models listed

Model	Frequency Range	MSRP	GSA Price
ZVA8.08	300 kHz–8 GHz	\$53,625.00	\$50,943.75
ZVA24.24	10 MHz–24 GHz	\$89,525.00	\$85,048.75
ZVA40.40	10 MHz–40 GHz	\$114,155.00	\$108,447.25
ZVA50.50	10 MHz–50 GHz	\$127,463.00	\$121,089.85
ZVA67	10 MHz–67 GHz	\$168,335.00	CALL
ZVA80.02	10 MHz–80 GHz	\$331,700.00	\$315,115.00
ZVA110	10 MHz–110 GHz	\$494,175.00	CALL

Handheld Cable & Antenna Analyzer

GSA R&S® ZVH Series

Where mobility counts

The ZVH cable and antenna analyzer is rugged, handy and designed for use in the field. Its low weight and simple operation make it indispensable for anyone who needs an efficient measuring instrument outdoors for the installation and maintenance of antenna systems.

- Frequency range from 100 kHz to 3.6 GHz or 8 GHz
- Typ. 100 dB dynamic range for filter and antenna isolation measurements
- Built-in DC voltage supply (bias) for active components such as amplifiers
- Power meter option
- Saving of measurement results on SD memory card or USB memory stick
- Easy operation with user-configurable test sequences (wizard)
- Easy-to-replace Li-ion battery for up to 4.5 hours of operation
- Rugged, splash-proof housing



Model	Frequency Range	MSRP	GSA Price
ZVH4	100 kHz–3.6 GHz	\$8,150.00	\$7,742.50
ZVH8	100 kHz–8 GHz	\$10,100.00	\$9,595.00

Digital Oscilloscope

GSA R&S® RTO Series



Welcome to the future

The RTO oscilloscopes combine excellent signal fidelity, high acquisition rate and the world's first real-time digital trigger system with a compact device format in the 1 GHz and 2 GHz class. They offer hardware-accelerated measurement and analysis functions.

- Find signal faults fast
- Hardware-accelerated analysis
- Highly accurate digital trigger system
- New ease of operation
- Convincing accuracy



Model	Bandwidth	Channels	MSRP	GSA Price
RT01012	1 GHz	2	\$15,230.00	\$14,468.50
RT01014	1 GHz	4	\$20,550.00	\$19,522.50
RT01022	2 GHz	2	\$18,210.00	\$17,299.50
RT01024	2 GHz	4	\$25,990.00	\$24,690.50

Digital Oscilloscope

GSA R&S® RTM Series

Compact, precise, versatile

Excellent measurement properties and wide variety of practical functions, the RTM oscilloscopes facilitate daily work whether in product development or service. Their compact dimensions, simple operation and brilliant display make them the first choice for everyday test and measurement tasks.

- Finding signal faults quickly and effectively
- Tools for fast signal analysis
- Smart operating concept
- Reliable results for stringent demands
- Triggering and decoding of serial protocols



Scan code to sign up or rohdeschwarz.gsamart.com



Model	Bandwidth	Channels	MSRP	GSA Price
RTM1052	500 MHz	2	\$8,410.00	\$7,989.50
RTM1054	500 MHz	4	\$10,220.00	\$9,709.00

Call for GSA quote 1-888-665-2765

On-Site Radio Monitoring

GSA R&S® PR100 & HE300

COMPACT RECEIVING SYSTEM

On-site radio monitoring from 9 kHz–7.5 GHz

The PR100 portable receiver has been specifically designed for radio monitoring applications in the field. The receiver's functions and control concept have been optimized for monitoring tasks. Operates in 9 kHz–7.5 GHz frequency range. Monitor emissions, detect interference or locate miniature transmitters, the receiver always combines high mobility with maximum operating ease.

The HE300 active directional antenna, due to its small size and low weight is ideal for portable use. From 20 MHz to 7.5 GHz is covered by three exchangeable antenna modules delivered with the HE300.

Ability to locate signal sources by means of triangulation

- Direction-finding of a signal source with the HE300 active directional antenna
- Triangulation based on multiple, manually determined DF results
- Display of results on a digital map loaded in the PR100



Model	Description	MSRP	GSA Price
PR100	9 kHz–7.5 GHz, 10 MHz Real Time Bandwidth, Includes Power Supply Unit & Battery	\$20,300.00	\$19,285.00
HE300	20 MHz–7.5 GHz Portable Directional Antenna	\$8,530.00	\$7,600.23
HE300HF	Option: Loop Antenna For HE300, 9 kHz–20 MHz	\$1,800.00	\$1,710.00
HE300CE	Active Directional Antenna, 500 MHz–7.5 GHz	\$4,000.00	\$3,800.00

Wideband Monitoring Receiver

GSA R&S® ESMD

The radio monitoring specialist: versatile, fast and accurate

The ESMD wideband monitoring receiver can handle all the tasks involved in the areas of signal searching, radio monitoring, radio detection/reconnaissance and spectrum monitoring in line with ITU recommendations. The receiver is equally well suited for mobile and stationary applications.

Its operation and functionality are optimized for monitoring tasks. Additional functions allow use in other areas, especially when real-time analysis of signals is required.

- Extensive preselection for optimum reception even in scenarios with dense signal occupancy
- 20 MHz real-time bandwidth (optional 80 MHz)
- Four additional digital down converters (DDCs) within the real-time bandwidth



Model	Description	MSRP	GSA Price
ESMD.02	Wideband Monitoring Receiver; 20 MHz to 3600 MHz w/out Control Panel, 19", 4HU	\$54,000.00	\$51,300.00
ESMD.03	Wideband Monitoring Receiver; 20 MHz bis 3600 MHz w/ Control Panel, 19", 4 HU	\$61,000.00	\$57,950.00
ESMD-DDC	Option: Multi-channel Reception (4DDC's) for ESMD for 20 MHz & 80 MHz IF-Bandwidth	\$4,000.00	\$3,800.00
ESMD-PS	Option: Panorama Scan RF Spectrum for ESMD	\$8,900.00	\$8,455.00
ESMD-WB	Option: 80 MHz IF Panorama Bandwidth for ESMD	\$14,700.00	\$13,965.00
ESMD-DF	Option: Direction Finder for ESMD Control Module & Software w/out DF Antenna	\$59,000.00	\$56,050.00

See all Rohde & Schwarz models at www.rohdeschwarz.gsmart.com

EMI Test Receiver

GSA R&S® ESU Family

Maximum-precision, standard-compliant EMI measurements at unparalleled measurement speed

The ESU is a new family of CISPR16-1-1-compliant EMI test receivers that meet all military standards for electromagnetic interference measurements. The new FFT-based time-domain scan allows users to perform overview measurements up to 150 times faster than on previous EMI test receivers. The R&S ESU also features automatic and interactive measurement functions, real-time IF analysis and parallel detectors including the new CISPR-RMS detector.



Model	Description	MSRP	GSA Price
ESU8	EMI Test Receiver 20 Hz–8 GHz, -155 dBm to +30 dBm, RBW 1 Hz–10 MHz	\$92,620.00	\$87,989.00
ESU26	EMI Test Receiver 20 Hz–26.5 GHz -155 dBm to +30 dBm, RBW 1 Hz–10 MHz	\$123,850.00	\$117,657.50
ESU40	EMI Test Receiver 20 Hz–40 GHz, -155 dBm to +30 dBm, RBW 1 Hz–10 MHz	\$146,950.00	\$139,602.50
ESU-B24.08	Option: Internal Preamplifier 100 kHz–8 GHz; Gain 30dB Nominal	\$5,225.00	\$4,963.75
ESU-B24.26	Option: Internal Preamplifier 100 kHz–26.5 GHz; Gain 30dB Nominal	\$15,125.00	\$14,368.75
ESU-B24.40	Option: Internal Preamplifier 100 kHz–40 GHz; Gain 30dB Nominal	\$23,405.00	\$22,234.75
ESU-K53	Option: Time Domain Scan FFT Based Scan For Very Fast Overview Measurements	\$8,560.00	\$8,132.00

ILS/VOR Analyzer

GSA R&S® EVS300

Precision level and modulation analysis for ground and flight inspection

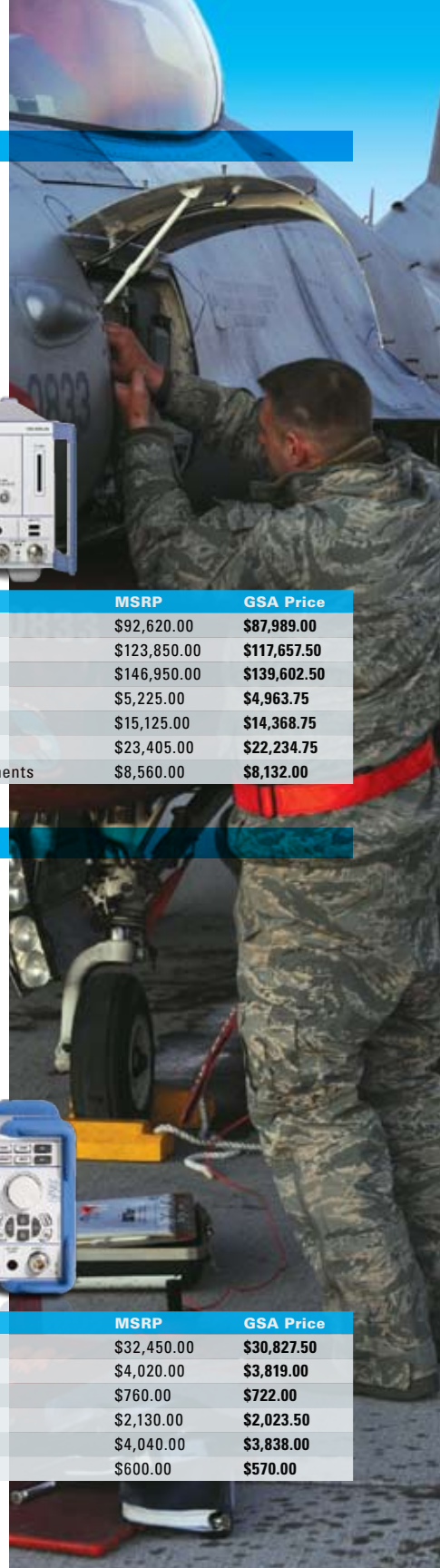
The EVS300 is a portable level and modulation analyzer designed especially for starting up, checking and maintaining ILS, VOR and marker beacon systems. The integrated rechargeable battery and robust design make it the ideal choice for mobile, mains-independent measurements in the field. Due to the high measurement speed and the trigger/synchronization functions, the EVS300 is also tailor-made for deployment with flight inspection systems.

- Extremely fast (100 measurements per second)
- Synchronization via GPS, trigger and remote interfaces
- Digital separation of course and clearance signals using only one signal processing channel (EVS-K3 option)



Model	Description	MSRP	GSA Price
EVS300	ILS/VOR Analyzer	\$32,450.00	\$30,827.50
EVS300-K1	Option: Frequency Scan Mode, 70-350 MHz	\$4,020.00	\$3,819.00
EVS300-K2	Option: GPS Data Logger Mode	\$760.00	\$722.00
EVS300-K3	Option: Simultaneous Two Channel Course/Clearance Measurements	\$2,130.00	\$2,023.50
EVS300-K4	Option: FFT Mode, Spectral Analysis of Baseband	\$4,040.00	\$3,838.00
EVS-Z21	Option: DC Buffer EVS300	\$600.00	\$570.00

GSA Contract GS24F0066M Small business credit applies. Free shipping FOB U.S. destinations.



Audio Analyzer

GSA R&S® UPP200/400/800

For use in production

High measurement speed, parallel signal processing in multichannel applications and high reliability in continuous operation are vital requirements met by the UPP audio analyzer.

- Suitable for all interfaces: analog, digital and combined
- Parallel measurements on up to eight channels
- Up to 80 kHz bandwidth and 200 kHz sampling rate
- User-programmable filters for analyzer and generator
- Compact instrument with integrated PC and low height



Model	Description	MSRP	GSA Price
UPP200 PN	2 Ch, DC–80 kHz	\$9,900.00	\$9,405.00
UPP400 PN	4 Ch, DC–80 kHz	\$12,950.00	\$12,302.50
UPP800 PN	8 Ch, DC–80 kHz	\$16,500.00	\$15,675.00
UPP-B2 PN	Opt: AES/EBU	\$2,400.00	\$2,280.00
UPP-K800 PN	Opt: Multi-Ch Measurements	\$750.00	\$712.50

Universal Radio Network Analyzer

GSA R&S® TSMW

Scanner for drive tests and I/Q streaming

The TSMW, a high-end platform for optimizing all conventional wireless communications networks. Two highly sensitive 20 MHz front ends for any input frequency from 30 MHz to 6 GHz, a dual-channel preselection and an FPGA-based software-defined architecture offer unsurpassed performance while providing maximum flexibility and operational readiness. The TSMW is also an ideal digital I/Q baseband receiver for customer-specific applications.

- User-definable input frequency range from 30 MHz to 6 GHz
- Two independent RF and signal processing paths, each with a bandwidth of 20 MHz



Model	Description	MSRP	GSA Price
TSMW	Drive Tests & I/Q Streaming	\$26,490.00	
TSMW-K21	Opt: GSM/WCDMA Scanner	\$6,395.00	
TSMW-K27	Opt: RF Power Scan	\$2,910.00	
TSMW-K28	Opt: WiMAX™ Scanner	\$6,395.00	



Audio Analyzer

GSA R&S® UPV

Compact instrument for all audio measurements

Although audio signals are mainly processed digitally nowadays, analog technology will remain a viable alternative that is continuously being enhanced. Therefore, both analog and digital measurements must be performed. The UPV audio analyzer is designed precisely for this purpose.

- Suitable for all interfaces: analog, digital and combined
- Simultaneous display of multiple measurement functions
- Sampling rate up to 400 kHz
- User-programmable filters for analyzers and generators
- Compact instrument with integrated PC
- Slots for future options



Model	Description	MSRP	GSA Price
UPV	DC–250 kHz	\$18,100.00	\$17,195.00
UPV66	DC–250 kHz; w/o Display	\$15,900.00	\$15,105.00
UPV-B1	Opt: Low Distortion Generator	\$1,760.00	\$1,672.00
UPV-B3	Opt: 2nd Analog Generator	\$2,010.00	\$1,909.50

I/Q Data Recorder

GSA R&S® IQR Series

Real-time recording and streaming of digital I/Q data

The IQR is a high-speed recorder for recording and playing digital I/Q data streams. When used in combination with one of the many Rohde & Schwarz instruments that have the Digital I/Q Interface, the IQR can store and play data in real-time.

- Recording and playing digital I/Q data with a sample rate of up to 66.6 Msample/s or up to 270 Mbyte/s
- 2 × 16 bit I/Q data width
- Touch screen for easy manual operation
- Two models for various requirements: IQR20 with up to 20 Msample/s and IQR100 with up to 100 Msample/s depending on the memory packs used
- Easily removable memory packs with hard disk drives (HDDs) for stationary use and with solid state drives (SSDs) for higher data rates and mobile use



Model	Description	MSRP	GSA Price
IQR20	1× I/Q Channel; Max. 20 Msample/s, 80 Mbyte/s	\$21,700.00	
IQR100	1× I/Q Channel; Max. 66 Msample/s, 270 Mbyte/s	\$28,700.00	



Wideband Radio Communication Tester

GSA R&S® CMW500

All-in-one test platform for wireless devices

The CMW500 is the universal tester for testing the air interface of wireless devices. The CMW500 can be used in all phases of product development and production and supports all common cellular and non-cellular wireless technologies.

- Wireless standards and broadcast technologies, e.g. LTE (incl. MIMO), WLAN or DVB-T and associated inter-RAT messages
- All phases of development, verification and production
- All protocol layers, from RF tests and protocol tests to end-to-end application tests

CALL FOR PRICES AND CONFIGURATION OPTIONS



CALL FOR BEST PRICE

Model	Description
CMW500	Universal Wireless Tester

Digital Video Signal Generator

GSA R&S® DVSG

Development and quality assurance of TV displays

The DVSG digital video signal generator supports the development and quality assurance of latest-generation TV sets and projectors. It is a cost efficient, one-box solution that generates the audio and video signals required for these tasks.

The DVSG-K10 AV signal generator option makes it possible to test displays with up to 12-bit color depth. The AV signal generator outputs uncompressed video content with a maximum resolution of 1080p and PC resolutions of up to 1920 x 1200 (WUXGA).



Model	Description	MSRP	GSA Price
DVSG	Digital Video Signal Generator	\$7,860.00	\$7,296.00
DVSG-K10	Opt: AV Signal Generator	\$6,085.00	\$5,780.75

Sensors

GSA R&S® NRP-Zxx

CONNECT NRP-ZXX SENSORS TO LAPTOP OR OTHER R&S INSTRUMENTS

For Power Meter NRP

No matter whether you work in the lab or in production—the Microwave Power Meter NRP is always the right choice. The versatility of the novel Power Meter Series NRP is due to the newly developed sensors. These sensors are intelligent standalone instruments that communicate with the base unit or a PC via a digital interface.



Model	Frequency Range	MSRP	GSA Price
NRP-Z11	10 MHz–8 GHz	\$3,370.00	\$3,126.34
NRP-Z31	10 MHz–33 GHz	\$5,300.00	\$5,035.00
NRP-Z85	50 MHz–40 GHz	\$6,750.00	\$6,412.50
NRP-Z86	50 MHz–40 GHz	\$6,750.00	\$6,412.50
NRP-Z51	0–18 GHz	\$2,750.00	\$2,612.50
NRP-Z55	0–40 GHz	\$4,550.00	\$4,413.50
NRP-Z56	DC–50 GHz	\$5,300.00	\$5,035.00
NRP-Z57	DC to 67 GHz	\$5,900.00	\$5,605.00
NRP-Z22	10 MHz–18 GHz	\$4,210.00	\$3,999.50
NRP-Z23	10 MHz–18 GHz	\$4,610.00	\$4,379.50
NRP-Z91	9 kHz–6 GHz	\$3,850.00	\$3,657.50

Digital TV Monitoring System

GSA R&S® DVMS Family

Ensuring high quality of digital TV network operation

The new DVMS family is a professional, attractively priced and compact solution for monitoring digital TV networks. It includes the DVMS1 and the DVMS4. Typical fields of applications for the DVMS family are signal monitoring at the transmitter site, the satellite uplink or the headend.

- Simultaneous monitoring of up to four signals
- RF modules for DVB-T/DVB-H and DVB-S/DVB-S2
- Support for DVB, ATSC and ISDB-T/ISDB-TB specific TS characteristics
- Optional functions for detailed analysis
- Modular and extremely compact design (1 HU)



Model	Description	MSRP	GSA Price
DVMS1	DTV Monitoring System	\$1,380.00	\$1,311.00
DVMS4	DTV Monitoring System	\$3,315.00	\$3,149.25
DVMS-PK01	DVMS-K11, K12 & K18	\$3,670.00	\$3,486.50
DVMS-PK02	DVMS-K16, K17, K19 & K20	\$4,435.00	\$4,213.25

Handheld TV Analyzer

GSA R&S® ETH Series

Portable digital TV signal analysis up to 3.6 GHz/8 GHz

The ETH handheld TV analyzer was specially developed for coverage measurements as well as for service and maintenance work on DVB-T, DVB-H and ISDB-T gap-filler and low-power transmitters. The universal capabilities of the ETH also make it useful in the repair and development of TV components.

- TV, spectrum and network analyzer in a single box
- Frequency range up to 3.6 GHz or 8 GHz
- High-precision demodulator (MER typ. 45 dB)
- Wide input level range (-76 dBm to +10 dBm) for quasi-error-free transport stream decoding
- Compact, lightweight, portable instrument that runs max. 4.5 hours on battery



Model	Description	MSRP	GSA Price
ETH.04	100 kHz–3.6 GHz	\$11,040.00	\$10,488.00
ETH.08	100 kHz–8 GHz	\$14,160.00	\$13,452.00
ETH.14	To 3.6 GHz, w/ Tracking Gen	\$12,900.00	\$12,225.00
ETH.18	To 8 GHz, w/ Tracking Gen	\$16,335.00	\$15,518.25

TV Analyzer

GSA R&S® ETL

The universal reference for the analysis of TV, mobile TV and sound broadcasting signals

The ETL TV analyzer stands for all-in-one. The ETL combines the functionality of a TV and FM (radio) signal analyzer, a video and MPEG TS analyzer and a spectrum analyzer in a single instrument. The ETL also contains generators to create analog video signals, audio signals and MPEG-2 transport streams.

- Frequency range from 500 kHz to 3 GHz
- TV, FM (radio), video, audio, MPEG-2 transport stream and spectrum analysis in a single box
- FPGA and chip-based real-time demodulators for analog TV, DVB-T, DVB-T2, DVB-H, ATSC/8VSB, ATSC Mobile DTV, ISDB-T(B), J.83/A/C, DVB-C, J.83/B, DTMB, T-DMB/DAB and FM (radio)



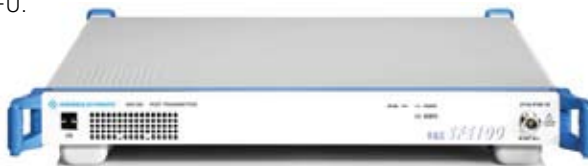
Model	Description	MSRP	GSA Price
ETL	500 kHz–3 GHz w/Tracking Gen	\$25,575.00	\$24,296.25
ETL-B110	High SNR FM Frontend	\$6,030.00	\$5,728.50
ETL-B201	DTV, ATV, FM Universal Interface	\$1,295.00	\$1,230.25
ETL-B203	RF Preselector	\$5,245.00	\$4,983.75

Test Transmitter

GSA R&S® SFE100

The powerful broadcast signal generator for production test systems

The SFE100 is a multistandard test transmitter providing real-time coding for broadcast signals. It supports all common digital and analog TV standards and a number of audio broadcasting standards. Its flexible customization options make it suitable for a wide variety of applications. The SFE100 can be equipped with a power amplifier unique in this class. Plus, it can be used as a simple and economical signal generator and as a second RF channel for special applications available with the SFU.



Model	Description	MSRP	GSA Price
SFE100.02	Test Transmitter DTV Model .02 Instrument, Basic Unit Requires DTV or ARB Coder Option	\$8,710.00	\$8,274.50
SFE100.03	Test Transmitter ATV & DTV Model .03 Instrument, Basic Unit Requires Coder Option or ARB	\$9,090.00	\$8,635.50
SFE100.12	Test Transmitter DTV Model .12 Instrument, Basic Unit Requires DTV Coder Option	\$4,900.00	\$4,655.00
SFE100.13	Test Transmitter ATV Model .13 Instrument, Basic Unit Requires ATV Coder Option	\$6,245.00	\$5,932.75

See all Rohde & Schwarz models at www.rohdeschwarz.gsamart.com



Do you need to replace discontinued instrumentation?

Rohde & Schwarz Legacy Pro offers signal generators as well as spectrum and network analyzers that understand the existing code written for your existing test system.

- Retain your current test system software
- Benefit from our experience in code emulation
- Rely on our long-term support



Drop-down menu list with emulated HP analyzers (shown: the FSV).



Scan the code to see the complete Legacy Pro Compatibility Matrix for all manufacturers.

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