RIGOL

SETUP
ELECTRÓNICA

# RSA800 Series

## Real-Time Spectrum Analyzer

Data Sheet
2026.06

# Product Features

- Five working modes: GPSA, RTSA, VSA, EMI, and ADM
- Frequency range: 5 kHz to 14 GHz
- Excellent DANL (Displayed Average Noise Level)
- Good phase noise performance
- High-precision amplitude measurement error
- Multiple analysis bandwidth options
- Excellent SFDR
- Powerful real-time spectrum analysis function
- Display different types of measurement values in multi-pane windowing form
- Built-in tracking generator output
- Appearance and Dimensions: 265.35 mm (W) × 161.75 mm (H) × 77.38 mm (D)
- Interfaces: USB, LAN, and HDMI
- Power supply: Type-C adapter; supports power bank
- Support standard SCPI instruction sets

RSA800 series real-time spectrum analyzer is RIGOL's real-time spectrum analyzer product. With excellent dynamic range, phase noise, amplitude accuracy, and test speed, it supports spectrum analysis, real-time spectrum analysis, and vector signal analysis to meet various signal test and analysis requirements. The RSA800 series offers strong system expansion capability via digital and analog interfaces for test system integration and custom development. Compact and portable, it is suitable for lab, education, and field testing, and supports power bank supply for mobile testing. With stable performance and flexible applications, the RSA800 series is widely used in R&D, production, and maintenance testing for wireless communications, automotive electronics, IoT, and related fields.

# RSA800 Series Technical Specifications

Five working modes: GPSA, RTSA, VSA, EMI, and ADM

| Model | RSA804 | RSA808 | RSA814 |
|---|---|---|---|
| Frequency Range | 5 kHz to 4.5 GHz | 5 kHz to 8.5 GHz | 5 kHz to 14 GHz |
| Amplitude Range | DANL to +20 dBm | | |
| 1 GHz Phase Noise | 10 kHz offset, <-110 dBc/Hz, -112 dBc/Hz (typ.) | | |
| 1 GHz DANL (DANL) normalized to 1 Hz | -146 dBm (typ.) with PA off<br>-168 dBm (typ.) with PA on | | |
| RBW | 1 Hz to 10 MHz | | |
| VBW | 1 Hz to 10 MHz | | |
| Third-order Intercept (TOI) 1GHz | +20 dBm (typ.) | | |
| Max. Analysis Bandwidth | 40 MHz | | |
| Max. Real-Time Bandwidth | 40 MHz | | |
| Measurement Functions | GPSA, RTSA, VSA, EMI, ADM, phase noise measurement, and IoT protocol analysis | | |
| Tracking Generator Output Power | - 40dBm to +0dBm | | |
| Appearance and Dimensions | 265.35 mm (W) × 161.75 mm (H) × 77.38 mm (D) | | |
| I/O | LAN. USB. HDMI | | |
| Screen | 7-inch 1024×600 HD touch display | | |
| Programming Control Instruction Sets | Support standard SCPI instruction sets | | |

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# Specifications

- Specifications are valid under the following conditions: the instrument is within the calibration period; stored for at least two hours at 0℃ to 50℃ temperature; 40-minute warm-up. Unless otherwise noted, the specifications in the manual include the measurement uncertainty.
- Typical (typ.): typical performance, which 80 percent of the measurement results will meet at room temperature (approximately 25℃). The data are not warranted and do not include the measurement uncertainty.
- Nominal (nom.): the expected mean or average performance or a designed attribute (such as the 50 Ω connector). The data are not warranted and are measured at room temperature (approximately 25°C).
- Measured (meas.): an attribute measured during the design phase and can be compared with the expected performance, e.g. the amplitude drift varies with time. The data are not warranted and are measured at room temperature (approximately 25℃).

**Note:**
All charts in this manual are the measurement results of multiple instruments at room temperature unless otherwise noted. All the specifications (except tracking generator specifications) listed in this manual are obtained with tracking generator off.

## Measurement Mode and Product Model Adaptation Table

| | RSA804 | RSA808 | RSA814 |
|---|---|---|---|
| GPSA | √ | √ | √ |
| RTSA | √ | √ | √ |
| VSA | ○ | ○ | ○ |
| EMI | ○ | ○ | ○ |
| ADM | ○ | ○ | ○ |

**NOTE: √ indicates standard configuration; ○ indicates optional configuration.**

## All Measurement Modes

| Model | RSA804 | RSA808 | RSA814 |
|---|---|---|---|
| Frequency Range | 5 kHz to 4.5 GHz | 5 kHz to 8.5 GHz | 5 kHz to 14 GHz |
| Internal Reference Frequency | | | |
| Reference Frequency | 10 MHz | | |
| Accuracy | ±[(time since last calibration × aging rate) + temperature stability + calibration accuracy] | | |
| Initial Calibration Accuracy | 1 ppm | | |
| Temperature Stability | 0℃ to 50℃, with the reference 25℃ | | |
| | <0.5 ppm | | |
| Aging Rate | <0.5 ppm/year | | |
| Built-in GNSS 1PPS accuracy | ± 8 ns | | |

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# GPSA Mode

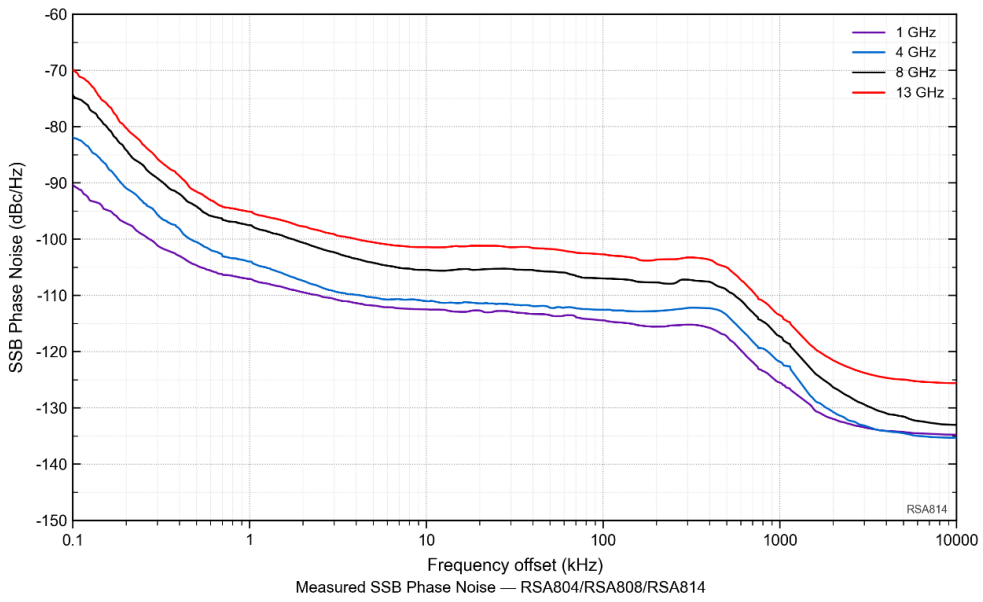
## Frequency

| Frequency Readout Accuracy | |
|---|---|
| Marker Frequency Resolution | span/(number of sweep points - 1) |
| Marker Frequency Uncertainty | ±(marker frequency readout × reference frequency accuracy + 1% × span + 10% × resolution bandwidth + marker frequency resolution) |

| Frequency counter (RBW = 1 kHz, Freq = 1 GHz) | |
|---|---|
| Resolution | 1 Hz (Max.) |
| Uncertainty | ±(marker frequency readout × reference frequency accuracy + counter resolution) |

| Frequency Span | |
|---|---|
| Range | 0 Hz, 10 Hz to maximum frequency |
| Resolution | 2 Hz |
| Uncertainty | ±[0.1% x span RBW + span/(number of sweep points - 1)] |

| SSB Phase Noise | | |
|---|---|---|
| 20°C to 30°C, fc = 1 GHz, sample detector | | |
| Carrier Offset | 1 kHz | <-100 dBc/Hz, <-102 dBc/Hz (typ.) |
| | 10 kHz | <-110 dBc/Hz, <-112 dBc/Hz (typ.) |
| | 100 kHz | <-113 dBc/Hz, <-115 dBc/Hz (typ.) |
| | 1 MHz | <-120 dBc/Hz, <-122 dBc/Hz (typ.) |
| | 10 MHz | <-130 dBc/Hz (typ.) |




**SSB Phase Noise**

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| Residual FM | |
|---|---|
| 20℃ to 30℃, RBW = VBW = 1 kHz | |
| Residual FM | <10 Hz (nom.) |

| Bandwidth | |
|---|---|
| Set "Sweep Type" to "Accurate" | |
| Resolution Bandwidth (-3 dB) | 1 Hz to 10 MHz, in 1-3-10 sequence |
| RBW Accuracy | 10 MHz, <10% |
| | 1 Hz to 3 MHz, <3% |
| Resolution filter shape factor (60 dB:3 dB) [1] | ≤5 (nom.) |
| Video Bandwidth (-3 dB) | 1 Hz to 10 MHz, in 1-3-10 sequence |
| Resolution Bandwidth (-6 dB) | 200 Hz, 9 kHz, 120 kHz, 1 MHz |

## Amplitude

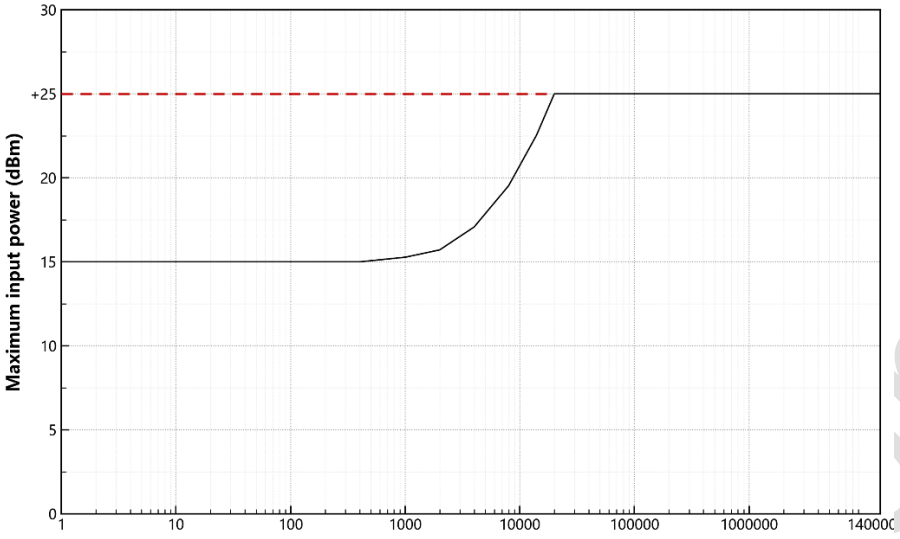
| Measurement Range | |
|---|---|
| Range | fc ≥10 MHz |
| | Displayed Average Noise Level (DANL) to +20 dBm |

| Maximum Safe Input Level [2] | |
|---|---|
| DC Voltage | 35 V |
| CW RF Power | +20 dBm, attenuator = 30 dB, PA off |
| | -10 dBm, attenuator = 30 dB, PA on |

| Maximum Damage Level | |
|---|---|
| CW RF Power | +25 dBm |

**Note:**
[1]: When RBW is greater than 100 kHz, the filter characteristics near -60 dB cannot be directly obtained with measurement.
[2]: When fc < 10 MHz, the maximum safe input level is reduced.

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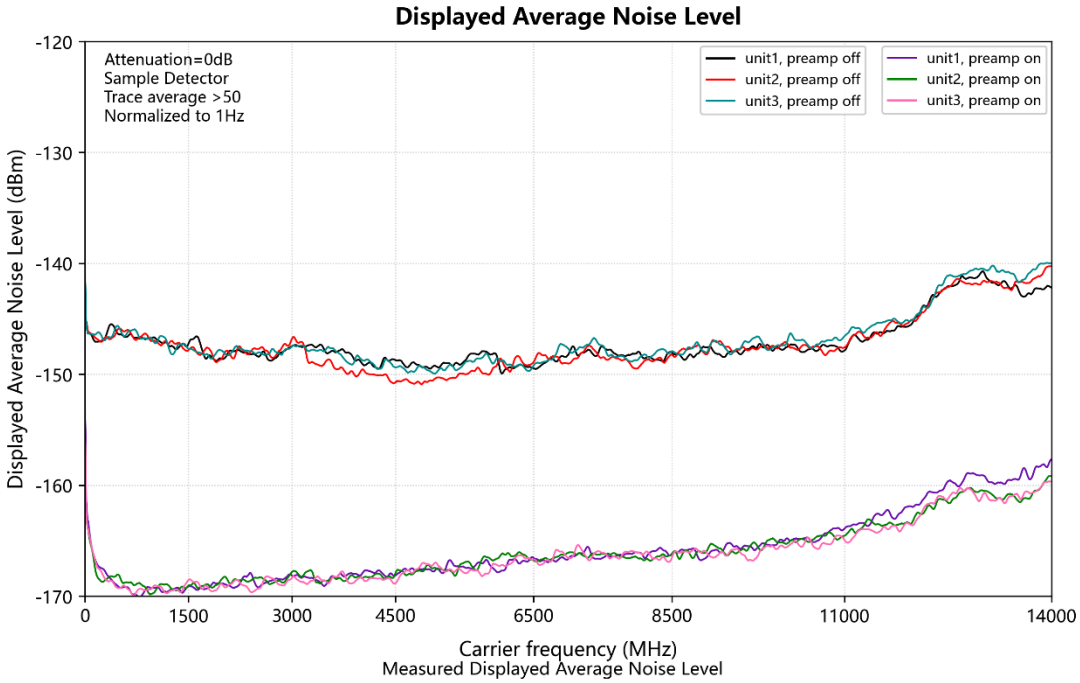



Measured frequency VS maximum input power of RSA804/RSA808/RSA814

**Maximum Damage Level**

| **Displayed Average Noise Level (DANL)** | | |
|---|---|---|
| Attenuation = 0 dB, sample detector, trace averages ≥ 50, tracking generator off, normalized to 1 Hz, 20℃ to 30℃, input impedance = 50 Ω. | | |
| PA Off | 5 kHz < f ≤ 100 kHz | <-120 dBm (typ.) |
| | 100 kHz < f ≤ 100 MHz | <-140 dBm, <-143 dBm (typ.) |
| | 100 MHz < f ≤ 4.5 GHz | <-141 dBm, <-144 dBm (typ.) |
| | 4.5 GHz < f ≤ 8.5 GHz | <-142 dBm, <-145 dBm (typ.) |
| | 8.5 GHz < f ≤ 11 GHz | <-140 dBm, <-143 dBm (typ.) |
| | 11 GHz < f ≤ 14 GHz | <-135 dBm, <-138 dBm (typ.) |
| PA On | 10 MHz < f ≤ 100 MHz | <-150 dBm, <-153 dBm (typ.) |
| | 100 MHz < f ≤ 4.5 GHz | <-165 dBm, <-168 dBm (typ.) |
| | 4.5 GHz < f ≤ 8.5 GHz | <-163 dBm, <-166 dBm (typ.) |
| | 8.5 GHz < f ≤ 11 GHz | <-160 dBm, <-163 dBm (typ.) |
| | 11 GHz < f ≤ 14 GHz | <-155 dBm, <-158 dBm (typ.) |

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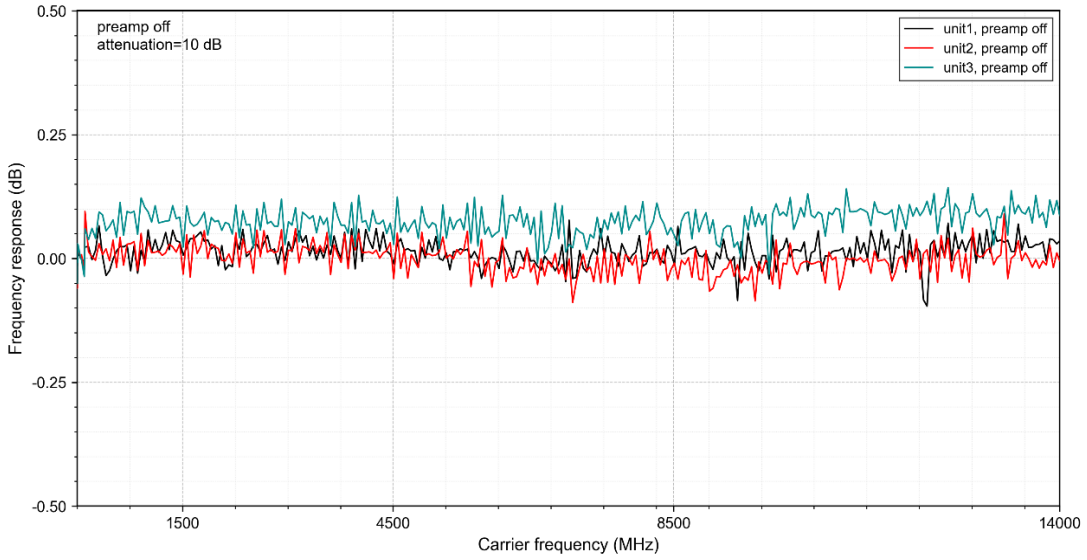



**DANL**

| **Level Display** | |
|---|---|
| Logarithmic Scale | 1 dB to 200 dB |
| Linear Scale | 0 to reference level |
| Number of display points | 801 |
| Number of traces | 6 |
| Detector Type | Normal, pos-peak, neg-peak, sample, RMS average, voltage average, Quasi-peak, EMI CISPR RMS average |
| Trace Type | Clear write, max hold, min hold, average, view, blank |
| Scale Unit | dBm, dBmV, dBuV, nV, uV, mV, V, pW, nW, uW, mW, W, mA, uA, A |

| **Frequency Response** | | |
|---|---|---|
| | attenuation = 10 dB, relative to 50 MHz, 20℃ to 30℃ | |
| PA Off | 9 kHz < f ≤ 100 kHz | <0.3 dB (typ.) |
| | 100 kHz < f ≤ 4.5 GHz | <0.5 dB, <0.3 dB (typ.) |
| | 4.5 GHz < f ≤ 8.5 GHz | <0.7 dB, <0.5 dB (typical) |
| | 8.5 GHz < f ≤ 14 GHz | <0.9 dB, <0.7 dB (typ.) |

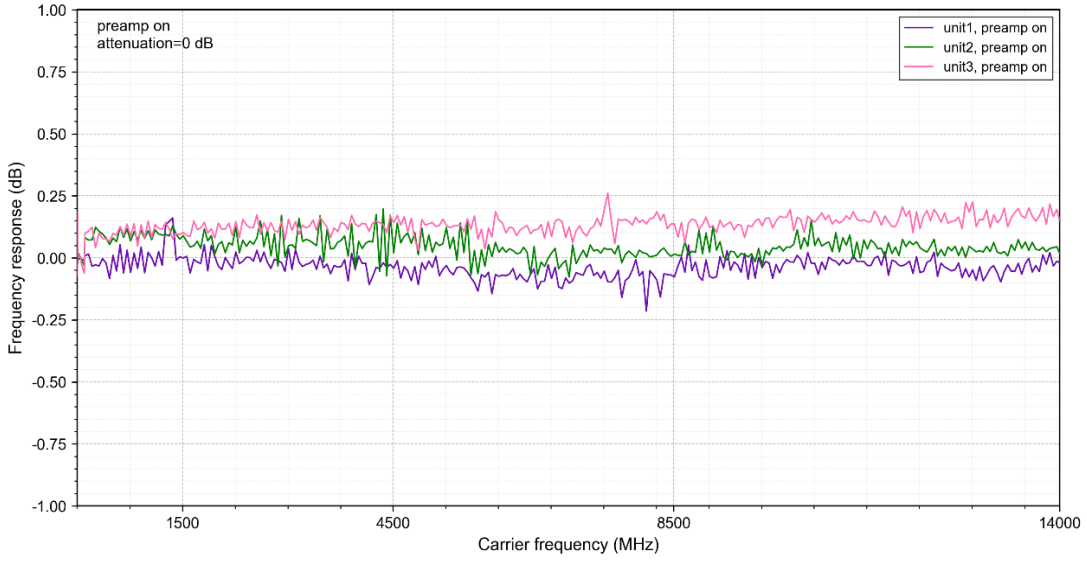
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Measured frequency response of RSA804/RSA808/RSA814

**Frequency Response (attenuation = 10 dB, PA off)**

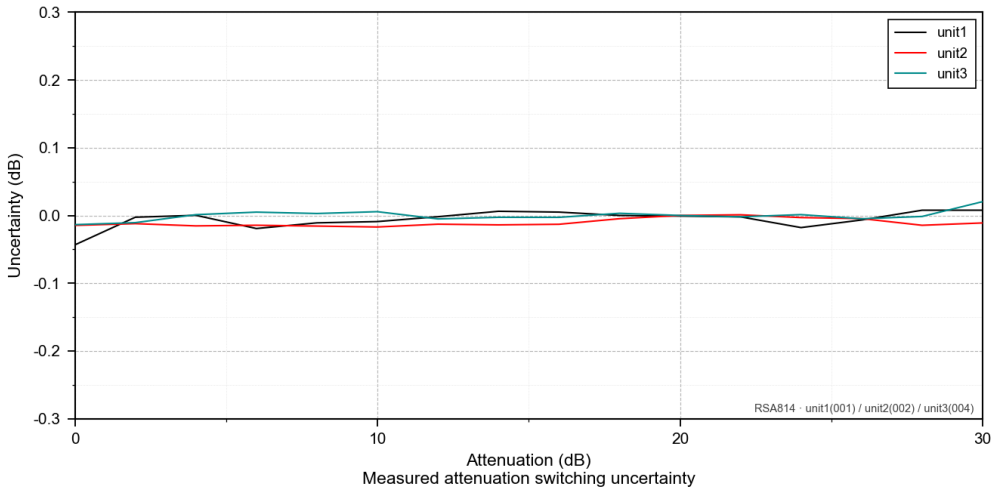
| **Frequency Response** | | |
|---|---|---|
| | attenuation = 0 dB, relative to 50 MHz, 20℃ to 30℃ | |
| PA On | 100 kHz < f ≤ 4.5 GHz | <0.7 dB, <0.5 dB (typical) |
| | 4.5 GHz < f ≤ 8.5 GHz | <0.9 dB, <0.7 dB (typ.) |
| | 8.5 GHz < f ≤ 14 GHz | <1.1 dB, <0.9 dB (typ.) |




Measured frequency response of RSA804/RSA808/RSA814

**Frequency Response (attenuation = 0 dB, PA on)**

| **Input Attenuation Switching Uncertainty** | |
|---|---|
| Setting Range | 0 dB to 30 dB, step 2 dB |
| Switching Uncertainty | fc = 50 MHz, relative to 10 dB attenuation, PA off, 20°C to 30°C |
| | <0.3 dB |




**Switching Uncertainty**

| **Absolute Amplitude Accuracy** | |
|---|---|
| Uncertainty | fc = 50 MHz, peak detector, PA off, 10 dB attenuation, input level -10 dBm, 20°C to 30°C |
| | <0.3 dB |

| **Reference Level** | | |
|---|---|---|
| Range | Logarithmic Scale | -170 dBm to +20 dBm, step 0.01 dB |
| | Linear Scale | 707 pV to 2.24 V, 0.11% (0.01 dB) resolution |

| **RBW Switching** | | |
|---|---|---|
| Uncertainty | Set "Sweep Type" to "Accurate", relative to 30 kHz RBW | |
| | 1 Hz to 1 MHz | <0.1 dB |
| | 3 MHz, 10 MHz | <0.3 dB |

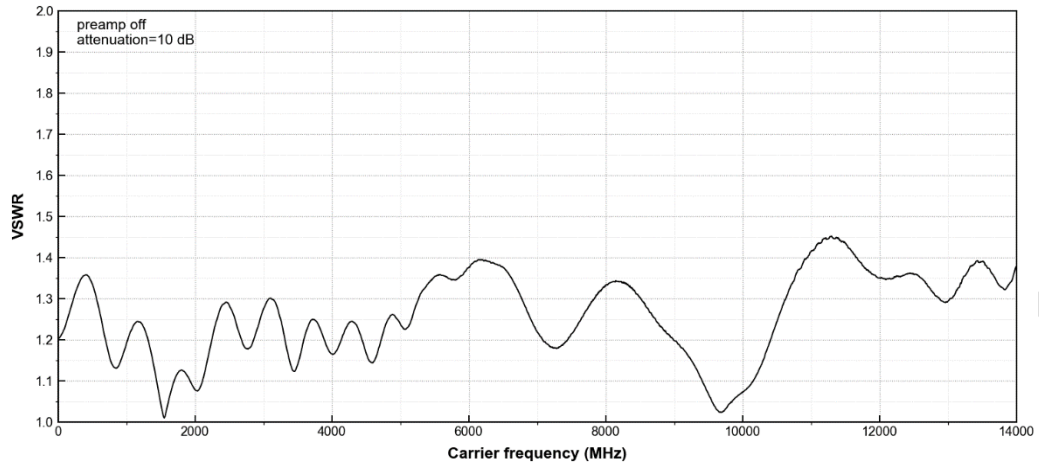
| **Preamplifier (option RSA800-PA)** | | | |
|---|---|---|---|
| | RSA804 | RSA808 | RSA814 |
| Frequency Range | 10 MHz to 4.5 GHz | 10 MHz to 8.5 GHz | 10 MHz to 14 GHz |
| Gain | 20 dB (nom.) | | |

| **Level Measurement Uncertainty** | | |
|---|---|---|
| 95% confidence, S/N > 20 dB, RBW and VBW both 1 kHz, PA off, 10 dB attenuation, -50 dBm < input level ≤ 0 dBm, fc > 10 MHz, 20°C to 30°C | | |
| Level Measurement Uncertainty | 10 MHz < f ≤4.5 GHz | < 0.8 dB (nom.) |
| | 4.5 GHz < f ≤8.5 GHz | < 1.0 dB (nom.) |
| | 8.5 GHz < f ≤14 GHz | < 1.8 dB (nom.) |

| **RF Input VSWR** | | |
|---|---|---|
| Attenuation ≥ 10 dB, preamp off | | |
| VSWR | 10 MHz≤ f ≤ 4.5 GHz | <1.5 (nom.) |

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| RF Input VSWR | | |
|---|---|---|
| | 4.5 GHz ≤ f ≤ 14 GHz | <1.7 (nom.) |

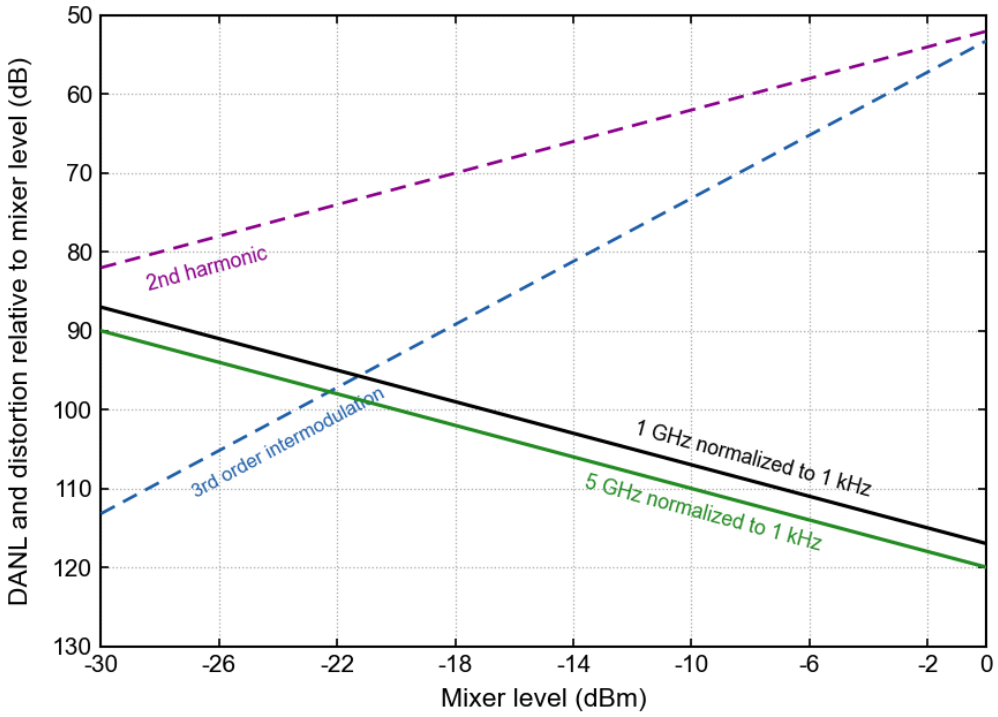



**VSWR**

| Distortion | | |
|---|---|---|
| Second Harmonic Intercept (SHI) | fc ≥ 50 MHz, input level -20 dBm, 0 dB attenuation, PA off | |
| | 10 MHz ≤ f ≤ 5.7 GHz | +45 dBm |
| | 5.7 GHz < f ≤ 7 GHz | +30 dBm |
| Third-order Intercept (TOI) | fc ≥ 50 MHz, two tones at -10 dBm, precision mode, tone spacing > 5× IF preselector bandwidth, 0 dB attenuation, PA off | |
| | 18 dBm, +20 dBm (typ.) | |
| 1 dB gain compression (P1 dB) [1] Dual-tone Test | fc ≥ 50 MHz, 0 dB attenuation, PA off | |
| | 0 dBm (nom.) | |

**Note:**
[1]: The frequency interval of the two-tone signals should be greater than 20 MHz.

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Measured dynamic range of RSA804/RSA808/RSA814

**Distortion**

| **Spurious Response** | | |
|---|---|---|
| Residual Response[1] | 50 Ω termination at input, 0 dB attenuation, 20°C to 30°C | |
| | <-100 dBm (typ.) | |
| Intermediate Frequency | <-100 dBc (typ.) | |
| System-related Sideband | Carrier offset = 1 kHz | |
| | <-60 dBc/Hz (typical) | |
| Input-related Spurious | mixer level -30 dBm | |
| | <-90 dBc (typ.) | |
| Image spurious | mixer level -10 dBm | |
| | <-90 dBc (typ.) | |

**Note:**
[1]: Reference-related responses may appear at 100 MHz reference frequency and its integer multiples; these frequencies are excluded from residual response specifications.

## Sweep

| **Sweep** | | |
|---|---|---|
| Sweep Time | Span ≥ 10 Hz | 1 ms to 4,000 s |
| | zero span | 1 µs to 6,000 s |
| Sweep Time Uncertainty | Span ≥ 10 Hz, RBW ≥ 1 kHz | 5% (nom.) |
| | zero span (sweep time > 1ms) | 5% (nom.) |
| Sweep Mode | Continuous, single | |

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| Sweep | |
|---|---|
| Sweep Points | EMI mode: 101 to 100,001, default 801 Other modes: 101 to 100,001, default 801 |

## Trigger

| Trigger | | |
|---|---|---|
| Trigger Source | Free fun, external trigger, video | |
| Trigger Delay | Span ≥ 10 Hz | 0 ms to 500 ms |
| | zero span | -150 ms to 500 ms |
| Trigger Delay Resolution | 0.1 μs | |

## Tracking Generator (standard)

| TG Output [1] | | | |
|---|---|---|---|
| | **RSA804** | **RSA808** | **RSA814** |
| Frequency Range | 100 kHz to 4.5GHz | 100 kHz to 8.5GHz | 100 kHz to 14GHz |
| Output Level Range | -40 dBm to 0 dBm | | |
| Output Level Resolution | 1 dB | | |
| Output Flatness | Relative to 50 MHz | | |
| | ±3 dB (nom.) | | |

**Note:**
[1]: The TG and FFT sweep mode are mutually exclusive. When the TG is enabled, the sweep mode will be affected.

# RTSA Application

| RTSA | | | |
|---|---|---|---|
| Real-Time Bandwidth | 40 MHz | | |
| Min. Signal Duration for 100% POI at the Full-Scale Accuracy | maximum span; default Kaiser Window | | |
| | 5.62 μs | | |
| Detector Type | Pos-peak, neg-peak, sample, voltage average | | |
| Number of Traces | 6 | | |
| Window Type | Hanning, Blackman-Harris, Rectangular, Flattop, Kaiser, and Gaussian | | |
| RBW | Provides 6 RBWs for each window, except the Rectangular; Span | | |
| | Span | Min. bandwidth | Max. bandwidth |
| | 40 MHz | 100.46 kHz | 3.21 MHz |
| Max. Sample Rate | 51.15 Msa/s | | |
| FFT Rate | 199804 frames/s | | |
| Number of Markers | 8 | | |
| Amplitude Resolution | 0.01 dB | | |
| Frequency Point | 801 | | |

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| RTSA | |
|---|---|
| Acquisition Time | Max. Sample Rate |
| | ≥100 μs |

| Min. signal duration for 100% POI at different RBWs, with the unit μs | | | | | | |
|---|---|---|---|---|---|---|
| Span | RBW1 | RBW2 | RBW3 | RBW4 | RBW5 | RBW6 |
| 40 MHz | 25.005 | 14.996 | 9.991 | 7.488 | 6.237 | 5.620 |
| 25 MHz | 40.008 | 23.993 | 15.985 | 11.981 | 9.979 | 8.978 |
| 10 MHz | 90.010 | 49.971 | 29.952 | 19.942 | 14.937 | 12.435 |
| 1 MHz | 812.513 | 412.122 | 211.926 | 111.828 | 61.780 | 36.755 |

| Amplitude | |
|---|---|
| Amplitude Flatness | Only applicable to the Normal measurement. |
| | SFDR |
| SFDR | <-60 dBc (typ.) |

| Density | |
|---|---|
| 0 to 100% (with a step of 0.1%) | Min. Span |
| Min. Span | 5 kHz |
| 32 ms to 10 s | Maximum Acquisition Volume |

| Spectrogram | |
|---|---|
| Maximum Acquisition Volume | 10000 |
| Dynamic Range Covered with Color | 200 dB |

| PVT | |
|---|---|
| Min. Capture Time | 100 μs |
| Max. Capture Time | 40 s |

| Trigger | |
|---|---|
| Trigger Source | Free run, external, IF power (time), FMT |
| FMT | |
| Trigger Diagram | density, spectrogram, normal |
| Trigger Resolution | 0.5 dB |
| Trigger Condition | Enter, Leave, Inside, Outside, Enter-Leave, Leave-Enter |

# VSA Application

| VSA | |
|---|---|
| Analysis Bandwidth | 40 MHz |
| Capture Oversampling | 4. 8. 16 |
| Capture Length | Max. 4,096 |
| Max. Sample Rate | 51.15 MSa/s |

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| VSA | |
|---|---|
| Symbol Rate | Related to Capture Oversampling |
| | Sample Rate/Capture Oversampling, ≥1 kHz |
| Available I/Q Bandwidth | Symbol Rate x Capture Oversampling/1.28 |
| Trig Mode | Free run, external, IF power (time) |
| Modulation Format | |
| FSK | 2FSK, 4FSK, 8FSK |
| MSK | Enables or disables the differential encoding for MSK |
| PSK | BPSK, QPSK, OQPSK, DQPSK, π/4-DQPSK, 8PSK, D8PSK, π/8- D8PSK |
| QAM | 16QAM, 32QAM, 64QAM. 128QAM. 256QAM. 512QAM. 1024QAM |
| ASK | 2ASK, 4ASK |
| Filter Type | |
| Measurement Filter Type | No Filter, RRC, Gaussian, Rectangular, user-defined |
| Reference Filter Type | Raised Cosine, RRC, Gaussian, Rectangular, Half Sine, user-defined |
| Preset Standard | |
| Cellular | GSM. NADC. WCDMA. PDC. PHP(PHS) |
| Wireless Networking | Bluetooth. WLAN(802.11b). ZIGBEE 868M. ZIGBEE 915M. ZIGBEE 2450M |
| Others | TETRA. DECT. APCO-25 |
| Measurement Uncertainty | |
| Applicable Conditions | Temperature at +20°C to +30°C<br>Signal level ≥ -25 dBm<br>Select the proper amplitude range<br>Deviation between the instrument's center frequency and the signal's<br>center frequency less than 5% of symbol rate<br>Random data sequence<br>Capture oversampling 4 |

| Residual Error for QPSK | | |
|---|---|---|
| Test Signal | | The reference filter is RC, measurement filter RRC, with rolloff factor 0.35. The result lengths are 150 symbols. The center frequency is 1 GHz, and the capture oversampling is 4. |
| | | Residual EVM (EVM) RMS |
| Symbol Rate | 100 ksps | <0.7% (nom.) |
| | 1 Msps | <0.7% (nom.) |
| | 10 Msps | <1.0% (nom.) |

| Residual Error for FSK | |
|---|---|
| Test Signal | The reference filter is RC, measurement filter RRC, with rolloff |

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| Residual Error for FSK | | |
|---|---|---|
| | | factor 0.35. The FSK frequency deviation is a quarter of the symbol rate. The result lengths are 150 symbols. The center frequency is 1 GHz, and the capture oversampling is 4. |
| FSK Error | | |
| Symbol Rate | 10 Msps | < 1.5% (nom.) |

# EMI Application

| EMI Resolution Bandwidth | |
|---|---|
| Resolution Bandwidth (-3 dB) | 100 Hz to 10 MHz, in 1-3-10 sequence |
| Resolution Bandwidth (-6 dB) | 200 Hz, 9 kHz, 120 kHz, 1 MHz |

| EMI Detector | |
|---|---|
| Detector | Pos-peak, neg-peak, average, quasi-peak, EMI average, and RMS average |

| EMI Key Features | |
|---|---|
| Key Features | CISPR 16-1-1 detectors<br>CISPR 16-1-1 bandwidths<br>log and linear display<br>signal list<br>scan table<br>simultaneous detectors<br>automatic limit testing<br>measure at marker<br>delta to limit<br>report generation |

# ADM Application

| General Specifications | | | |
|---|---|---|---|
| | RSA804 | RSA808 | RSA814 |
| Carrier Power | -30 dBm to 20 dBm | | |
| Carrier Power Accuracy | ±1.8 dB (nom.) | | |

| Amplitude Modulation (AM) | | |
|---|---|---|
| Modulation Rate | | 20 Hz to 100 KHz |
| Modulation Rate Accuracy | Modulation Rate < 1 kHz | 1 Hz (nom.) |
| | Modulation Rate ≥ 1 kHz | <0.1% of the Modulation Rate (nom.) |
| Modulation Depth | | 5% to 95% |
| Modulation Depth Accuracy | | ±4% (nom.) |

| Frequency Modulation (FM) | | |
|---|---|---|
| Modulation Rate [1] | | 20 Hz to 200 KHz |
| Modulation Rate Accuracy | Modulation Rate < 1 kHz | 1 Hz (nom.) |
| | Modulation Rate ≥ 1 kHz | <0.1% of the Modulation Rate (nom.) |

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| Frequency Modulation (FM) | |
|---|---|
| Freq Deviation | 20 Hz to 400 kHz |
| FM Deviation Accuracy [1] | ±4% (nom.) |

| Phase Modulation (PM) | | |
|---|---|---|
| Modulation Rate | | 50 Hz to 50 kHz |
| Modulation Rate Accuracy | Modulation Rate < 1 kHz | 1 Hz (nom.) |
| | Modulation Rate ≥ 1 kHz | <0.1% of the Modulation Rate (nom.) |
| PM Deviation | | 0.2 rad to 100 rad |
| PM Deviation Accuracy | | ±4% (nom.) |

**Note:**
[1]: Modulation Index = Modulation Frequency Deviation/Modulation Rate. The range of the modulation index is from 0.2 to 1,000.

# General Specifications

| Display | |
|---|---|
| Type | capacitive multi-touch screen |
| Resolution | 1024X600 |
| Dimensions | 7 inch |
| Color | 24-bit color |

| Mass Memory | | |
|---|---|---|
| Mass Memory | Internal Storage | 32 GB |
| | External Storage | USB storage device (not supplied) |

| Power | |
|---|---|
| Power Interface | Type-CI/O |
| Supply Voltage | DC 20 V, 5A |
| Power Consumption | 55 W (typ.) |

| Environment | | |
|---|---|---|
| Temperature | Storage Temperature Range | 0℃ to 50℃ |
| | Storage Temperature Range | -20°C to 60°C |
| Humidity | Operating | 0 ℃ to 30 ℃:≤ 95% RH<br>30℃ to 40℃: ≤75% RH<br>40℃ to 50℃: ≤45%RH |
| | Non-operating | <+40℃: 5% to 90%RH, without condensation<br>≥+40℃ to <+60℃:<br>5% to 80%RH, without condensation |

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| Environment | | |
|---|---|---|
| | | >+60℃ to <+70℃:<br>5% to 45%RH, without condensation |
| Altitude | Operating Height | Below 3,000 m (9,842 feet) |

| Electromagnetic Compatibility and Safety | | |
|---|---|---|
| EMC | Complies with EMC Directive (2014/30/EU) and meets or exceeds IEC 61326-1:2013 / EN 61326-1:2013 Group 1 Class A | |
| | CISPR11/EN 55011 | |
| | IEC61000-4-2:2008/EN61000-4-2 | ±4.0 kV (contact discharge)<br>±8.0 kV (air discharge) |
| | IEC61000-4-3:2002/EN61000-4-3 | 3 V/m (80 MHz to 1 GHz)<br>3 V/m (1.4 GHz to 2 GHz);<br>1 V/m (2.0 GHz to 2.7 GHz) |
| | IEC61000-4-4:2004/EN61000-4-4 | 1 kV power line |
| | IEC61000-4-5:2001/EN61000-4-5 | 0.5 kV (phase-to-neutral voltage)<br>1 kV (phase-to-earth voltage)<br>1 kV (neutral-to-earth voltage) |
| | IEC61000-4-6:2003/EN61000-4-6 | 3 V, 0.15 MHz to 80 MHz |
| | IEC61000-4-11:2004/EN61000-4-11 | Voltage dip<br>0%UT during half cycle<br>0% UT during 1 cycle<br>70% UT during 25 cycles<br>Short interruption:<br>0%UT during 250 cycles |
| Safety | IEC61010-1:2010 (Third Edition)/EN 61010-1:2010<br>UL61010-1:2012 R4.16 and CAN/CSA-C22.2 NO. 61010-1-12+ GI1+ GI2 | |
| Environment | The test methods are compliant with standards specified in GB/T65872 Class 2 and MIL-PRF-28800F Class 3. | |

| Appearance and Dimensions | |
|---|---|
| Dimensions | 265.35 mm (W) × 161.75 mm (H) × 77.38 mm (D) |
| Weight | 1.9 kg |

| Calibration Interval | |
|---|---|
| Recommended Calibration Interval | 18 months |

# Input / Output

| Front Panel Connector | | |
|---|---|---|
| RF Input | Impedance | 50 Ω (nom.) |
| | Connector | N-type female |
| Tracking Generator Output | Impedance | 50 Ω (nom.) |
| | Connector | N-type female |

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| Internal/External Reference | | |
|---|---|---|
| Internal Reference | Frequency | 10 MHz |
| | Output Level | +3 dBm to +10 dBm, +7 dBm (typ.) |
| | Impedance | 50 Ω (nom.) |
| | Connector | BNC female |
| External Reference | Frequency | 10 MHz ± 10 ppm |
| | Input Level | 0 dBm to +10 dBm |
| | Impedance | 50 Ω (nom.) |
| | Connector | BNC female |

| External Trigger Input/Output | | |
|---|---|---|
| Trig Input | Impedance | 1 kΩ (nom.) |
| | Connector | BNC female |
| | Level | 3.3 V TTL Level |
| Trig Output | Impedance | 50 Ω (nom.) |
| | Connector | BNC female |
| | Level | 3.3 V TTL Level |

| Communication Interface | | |
|---|---|---|
| USB Host | Connector | USB Type-A (Standard) |
| | Protocol | Version 2.0 |
| USB Device | Connector | USB Type-B (Standard) |
| | Protocol | Version 2.0 |
| LAN | Connector | 100/1000 Base-T, RJ-45 |
| | Protocol | LXI Core 2011 Device |
| HDMI | Connector | A plug |
| | Protocol | HDMI 1.4 |

Unofficial Version

# Ordering Information and Warranty

## Ordering Information

| | Description | Order No. |
|---|---|---|
| Model | Real-time spectrum analyzer, 5 kHz to 4.5 GHz | RSA804 |
| | Real-time spectrum analyzer, 5 kHz to 8.5 GHz | RSA808 |
| | Real-time spectrum analyzer, 5 kHz to 14 GHz | RSA814 |
| Standard Accessory | Power adapter compliant with local standards | - |
| Options | Vector Signal Analysis Application Software | RSA800-VSA |
| | EMI Measurement Application Software | RSA800-EMI |
| | Analog Demodulation Application Software | RSA800-ADM |
| | Advanced Measurement Kit | RSA800-AMK |
| | Phase Noise Measurement Application Software | RSA800-PNOISE |
| Optional Accessories | DSA utility kit. Refer to Note[1] for details. | DSA Utility Kit |
| | RF adaptor kit. Refer to Note[2] for details. | RF Adaptor Kit |
| | Includes: 50 Ω to 75 Ω adaptor (2pcs) | RF CATV Kit |
| | Includes: 6 dB attenuator (1pcs), 10 dB attenuator (2pcs) | RF Attenuator Kit |
| | 30 dB high-power attenuator, with the max. power of 100 W | ATT03301H |
| | Near-field Probe | NFP-3 |
| | USB Cable x1 | CB-USBA-USBB-FF-150 |
| | RF Cable | Refer to RF-Cable Datasheet |

**Note:**
For all the mainframes, accessories, and options, please contact the local office of RIGOL .
[1]: Includes N-SMA cable, BNC-BNC cable, N-BNC adaptor, N-SMA adaptor, 75 Ω-50 Ω adaptor, 800 MHz/1.8 GHz antenna (2pcs), 2.4 GHz antenna (2pcs)
[2]: Includes: N(F)-N(F) adaptor (1pcs), N(M)-N(M) adaptor (1pcs), N(M)-SMA(F) adaptor (2pcs), N(M)-BNC(F) adaptor (2pcs), SMA(F)-SMA(F) adaptor (1pcs), SMA(M)-SMA(M) adaptor (1pcs), BNC T type adaptor (1pcs), 50 Ω SMA load (1pcs), 50 Ω BNC impedance adaptor (1pcs)

## Warranty Period

Three-year warranty on the main unit; accessories excluded

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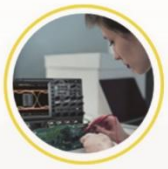
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