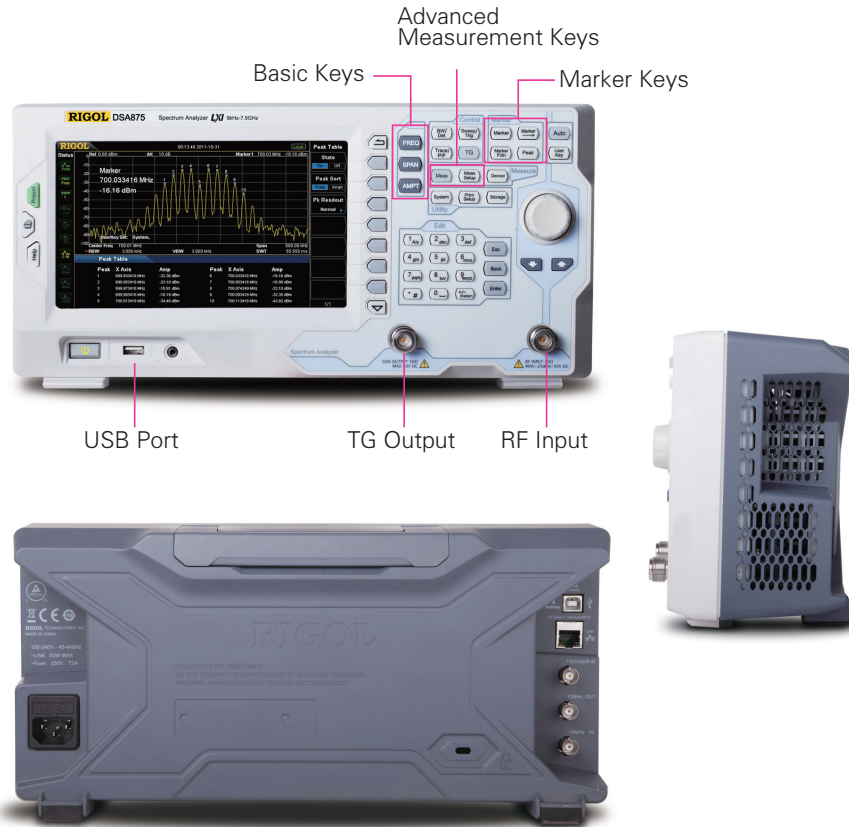




DSA800/E Series Spectrum Analyzer

- All-Digital IF Technology
- Frequency Range from 9 kHz up to 7.5 GHz
- Min. -161 dBm Displayed Average Noise Level (Typ.)
- Min. < -98 dBc/Hz @ 10 kHz Offset Phase Noise
- Level Measurement Uncertainty < 0.8 dB
- 10 Hz Minimum Resolution Bandwidth
- Up to 7.5 GHz Tracking Generator (DSA8XX/E-TG)
- Advanced Measurement Functions (Opt.)
- EMI Filter & Quasi-Peak Detector Kit (Opt.)
- VSWR Measurement Kit (Opt.)
- PC Software (Opt.)
- Optional RF TX/RX Training Kit
- Optional RF Accessories (Cable, Adaptor, Attenuator, Bridge ...)
- Complete Connectivity: LAN (LXI), USB Host & Device, GPIB (Opt.)
- 8 Inch WVGA (800x480) Display
- Compact Size, Light Weight Design

DSA800/E Series Spectrum Analyzer



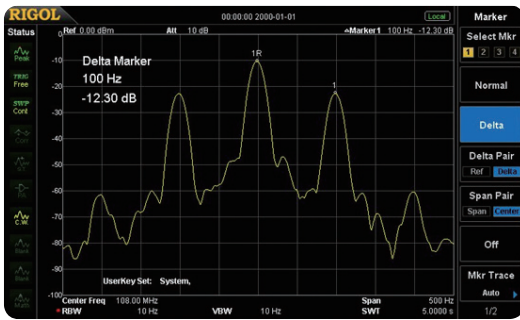
Product Dimensions: Width X Height X Depth = 361.6 mm x 178.8 mm x 128 mm

► Benefits of Rigol's all digital IF design

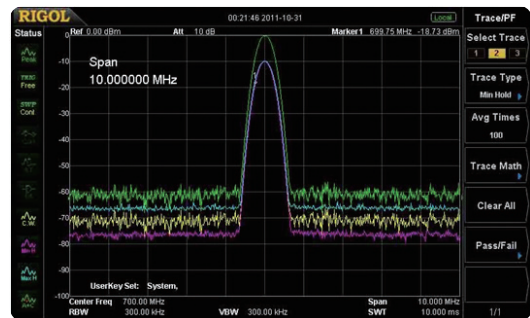
- The ability to measure smaller signals: on the basis of this technology, the IF filter enables smaller bandwidth settings, which greatly reduce the displayed average noise level.
- The ability to distinguish between small signals by frequency: using the IF filter with the smallest bandwidth setting, it is possible to make out signals with a frequency difference of only 10 Hz.
- High precision amplitude readings: this technology almost eliminates the errors generated by filter switching, reference level uncertainty, scale distortion, as well as errors produced in the process of switching between logarithmic and linear display of amplitude when using a traditional analog IF design.
- Higher reliability: compared with traditional analog designs, the digital IF greatly reduces the complexity of the hardware, the system instability caused by channel aging, and the temperature sensitivity that can contribute to parts failure.
- High measurement speed: the use of digital IF technology improves the bandwidth precision and selectivity of the filter, minimizing the scanning time and improving the speed of the measurement.

► Features and Benefits

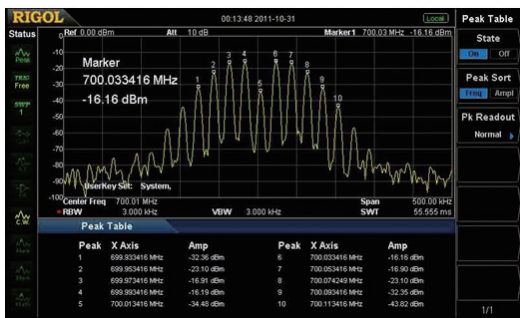
Distinguish the two nearby signals clearly with the 10 Hz RBW



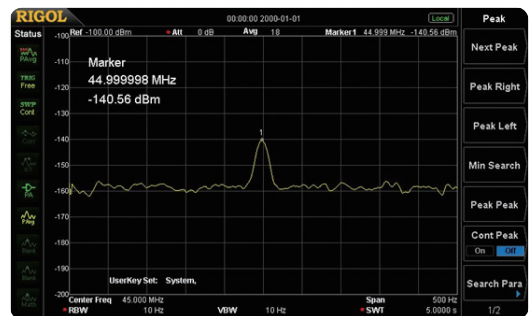
Compare the spectrums with different color trace



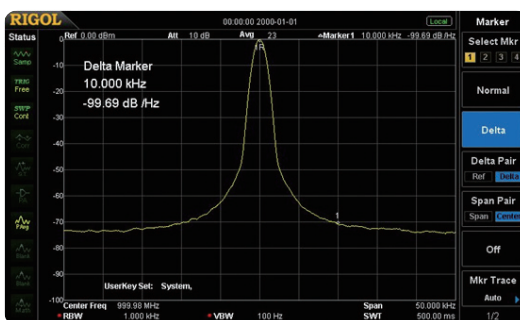
Readout the spectrum peak values with the peak table function



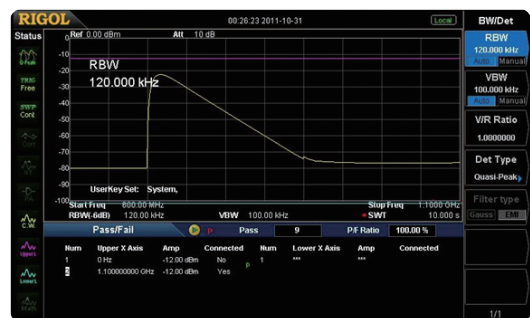
Measure lower level signal with the preamplifier turn on



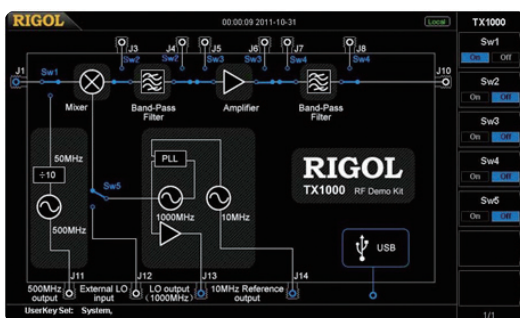
Phase noise < -98 dBc/Hz @10 kHz offset (DSA832/875/832E)



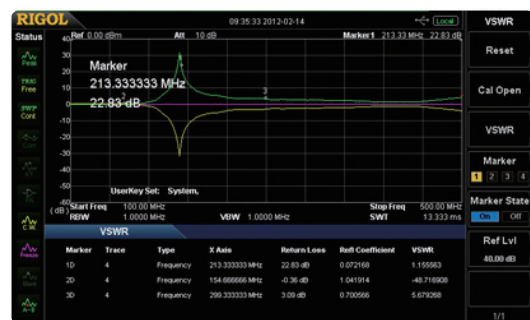
EMI kit (EMI filter & Quasi-peak & Pass/Fail)



The GUI to control the RF demo kit (Transmitter) directly



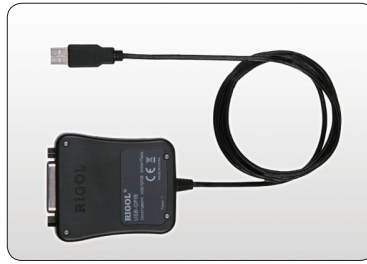
VSWR measurement



► RIGOL Spectrum Analyzer Option and Accessory

| | | |
|------------------------|------------------------|--------------------|
| Harmonic Distortion | TOI | Emission Bandwidth |
| Channel Power | Occupied Bandwidth | |
| Time Domain Power | Carrier to Noise Ratio | |
| Adjacent Channel Power | Pass/Fail | |

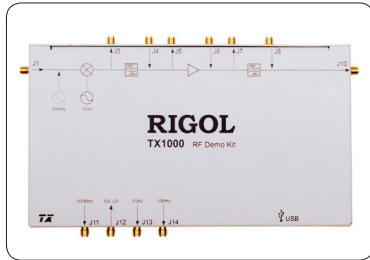
Advanced Measurement Kit
(AMK-DSA800)



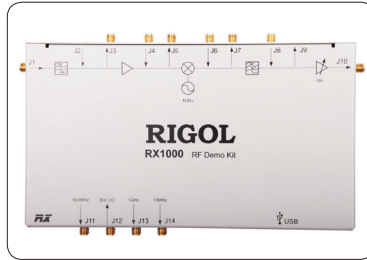
USB to GPIB Converter
(USB-GPIB)



VSWR Bridge
(VB1032/VB1040/VB1080)



RF Demo Kit
(TX1000)



RF Demo Kit
(RX1000)



RF CATV Kit



DSA Utility Kit



RF Adaptor Kit



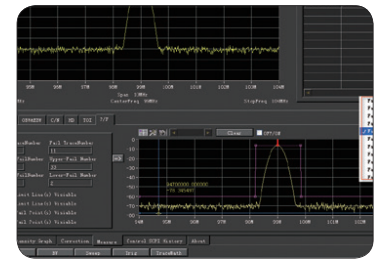
RF Attenuator Kit



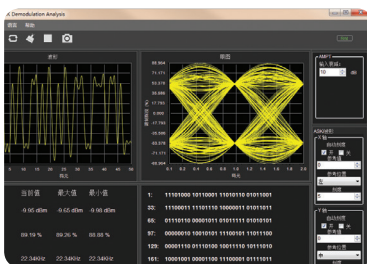
RF Cable Kit
(CB-NM-NM-75-L-12G)
(CB-NM-SMAM-75-L-12G)



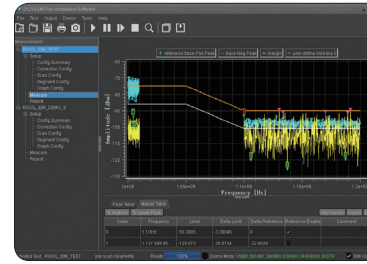
High Power Attenuator
(ATT03301H)



DSA PC Software
(Ultra Spectrum)



ASK-FSK Demodulation Analysis
(S1220 ASK-FSK Demodulation Analysis Software)



EMI Pre-compliance Test Software
(S1210 EMI Pre-compliance Software)



Near Field Probe
(NFP-3)

► Specifications

Specifications are valid under the following conditions: the instrument is within the calibration period, is stored for at least two hours at 0 °C to 50 °C temperature, and is warmed up for 40 minutes. Unless otherwise noted, the specifications in this manual include the measurement uncertainty.

Typical (typ.): characteristic performance, which 80 percent of the measurement results will meet at room temperature (approximately 25°C). This data is not warranted and does not include the measurement uncertainty.

Nominal (nom.): the expected mean or average performance or a designed attribute (such as the 50 Ω connector). This data is not warranted and is measured at room temperature (approximately 25°C).

Measured (meas.): an attribute measured during the design phase which can be compared to the expected performance, such as the amplitude drift variation with time. This data is not warranted and is measured at room temperature (approximately 25°C).

NOTE: All charts in this manual are the measurement results of multiple instruments at room temperature unless otherwise noted. The specifications (except the TG specifications) listed in this manual are those when the tracking generator is off.

Frequency

| Frequency | DSA815 | DSA832 | DSA875 | DSA832E |
|----------------------|------------------|------------------|------------------|------------------|
| Frequency range | 9 kHz to 1.5 GHz | 9 kHz to 3.2 GHz | 9 kHz to 7.5 GHz | 9 kHz to 3.2 GHz |
| Frequency resolution | 1 Hz | | | |

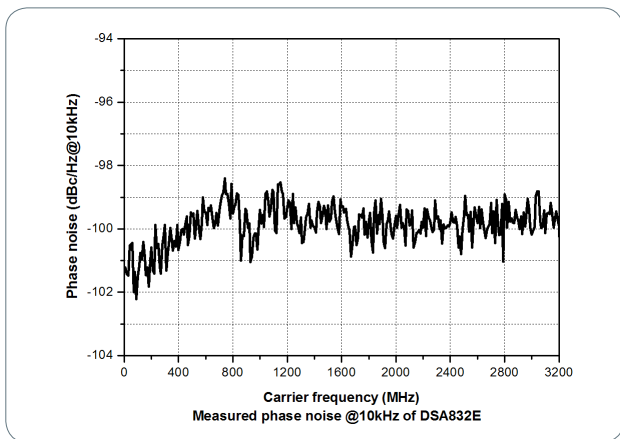
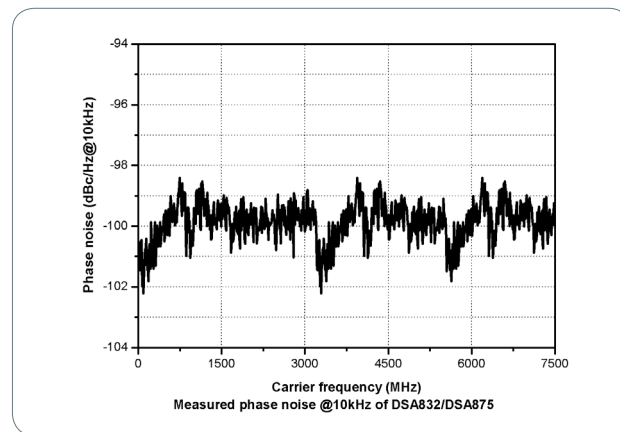
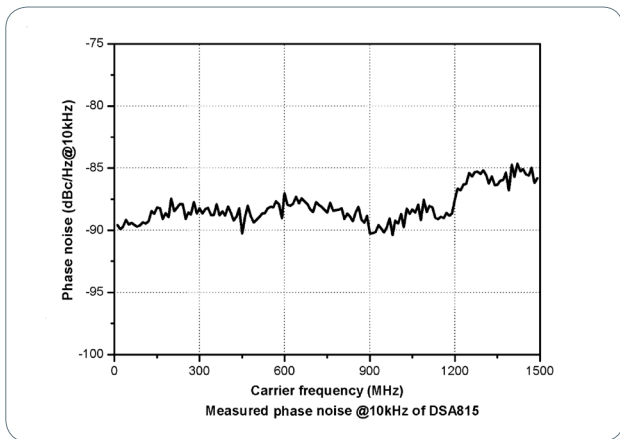
| Internal Reference Frequency | DSA815 | DSA832 | DSA875 | DSA832E |
|------------------------------|--|-------------|--------|-------------|
| Reference frequency | 10 MHz | | | |
| Accuracy | ± [(time since last adjustment × aging rate) + temperature stability + calibration accuracy] | | | |
| Initial calibration accuracy | <1 ppm | | | |
| Temperature stability | 0°C to 50°C , reference to 25°C | | | |
| | <2 ppm | <0.5 ppm | | <1 ppm |
| Aging rate | <2 ppm/year | <1 ppm/year | | <2 ppm/year |

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

| Frequency Counter | |
|-------------------|--|
| Resolution | 1 Hz, 10 Hz, 100 Hz, 1 kHz, 10 kHz, 100 kHz |
| Uncertainty | ± (frequency indication × reference frequency accuracy + counter resolution) |

| Frequency Span | |
|----------------|---|
| Range | 0 Hz, 100 Hz to maximum frequency of instrument |
| Uncertainty | ±span/ (number of sweep points - 1) |

| SSB Phase Noise | 20°C to 30°C , f _c =1 GHz | | | |
|-----------------|--------------------------------------|---------------------|--------|------------------------------------|
| Carrier offset | DSA815 | DSA832 | DSA875 | DSA832E |
| 10 kHz | <-80 dBc/Hz | <-98 dBc/Hz | | <-90 dBc/Hz, <-98 dBc/Hz (typ.) |
| 100 kHz | <-100 dBc/Hz (typ.) | <-100 dBc/Hz (typ.) | | <-100 dBc/Hz (typ.) |



| Residual FM | | | | |
|-------------|----------------------------------|---------------|--------|---------|
| | 20°C to 30°C , RBW = VBW = 1 kHz | | | |
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Residual FM | <50 Hz (nom.) | <20 Hz (nom.) | | |

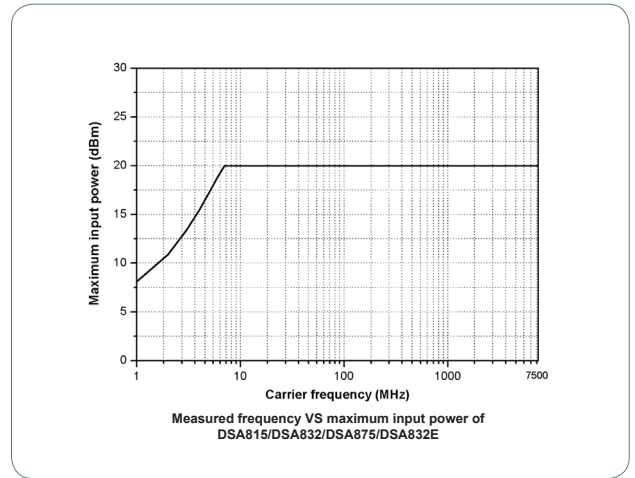
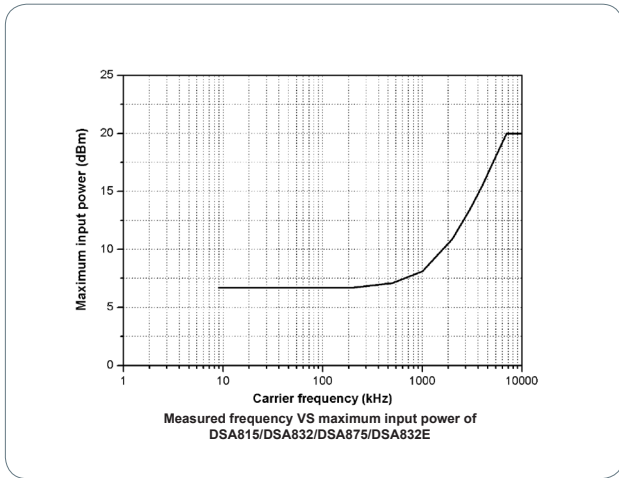
| Bandwidths | | | | |
|--|------------------------------------|--------|--------|---------|
| | Set "Auto SWT" to "Accy" | | | |
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Resolution bandwidth (-3 dB) | 10 Hz to 1 MHz, in 1-3-10 sequence | | | |
| RBW uncertainty | <5% (nom.) | | | |
| Resolution filter shape factor (60 dB: 3 dB) | <5 (nom.) | | | |
| Video bandwidth (-3 dB) | 1 Hz to 3 MHz, in 1-3-10 sequence | | | |
| Resolution bandwidth (-6 dB) (EMI-DSA800 option) | 200 Hz, 9 kHz, 120 kHz | | | |

Amplitude

| Measurement Range | |
|-------------------|--------------------------------------|
| Range | $f_c \geq 10$ MHz DANL to +20 dBm |

| Maximum Input Level | |
|----------------------------------|---|
| DC voltage | 50 V |
| CW RF power | attenuation = 30 dB +20 dBm (100 mW) |
| Max. damage level ^[1] | +30 dBm (1 W) |

NOTE: [1] When $f_c \geq 10$ MHz, input level > +25 dBm and PA is Off, the protection switch will be on.



Displayed Average Noise Level (DANL)

| | | DSA815 |
|-----------|------------------|---|
| Frequency | | attenuation = 0 dB, RBW = VBW = 100 Hz, sample detector, trace average ≥ 50, tracking generator off, 20°C to 30°C, input impedance = 50 Ω |
| PA off | 100 kHz to 1 MHz | <-90 dBm, <-110 dBm (typ.) |
| | 1 MHz to 1.5 GHz | <-110 dBm + 6 × (f/1 GHz) dB, <-115 dBm (typ.) |
| PA on | 100 kHz to 1 MHz | <-110 dBm, <-130 dBm (typ.) |
| | 1 MHz to 1.5 GHz | <-130 dBm + 6 × (f/1 GHz) dB, <-135 dBm (typ.) |

Displayed Average Noise Level (DANL)

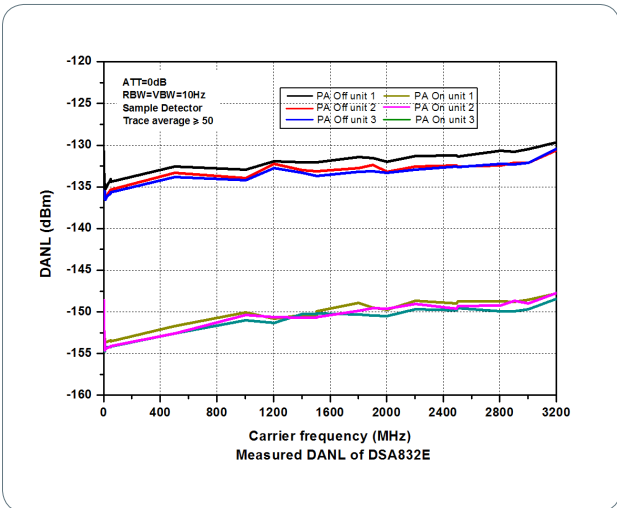
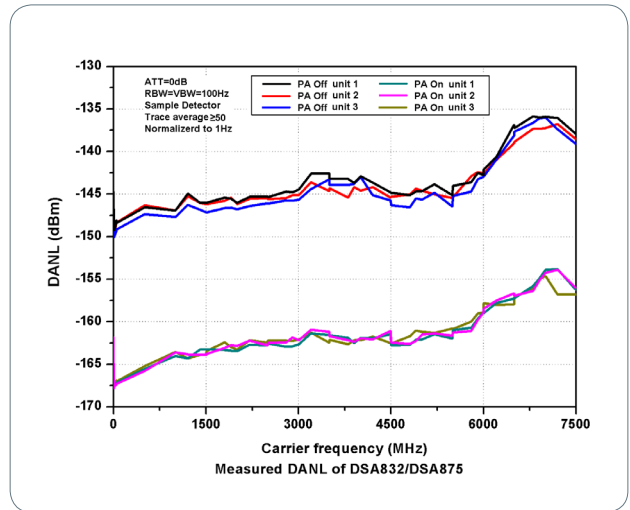
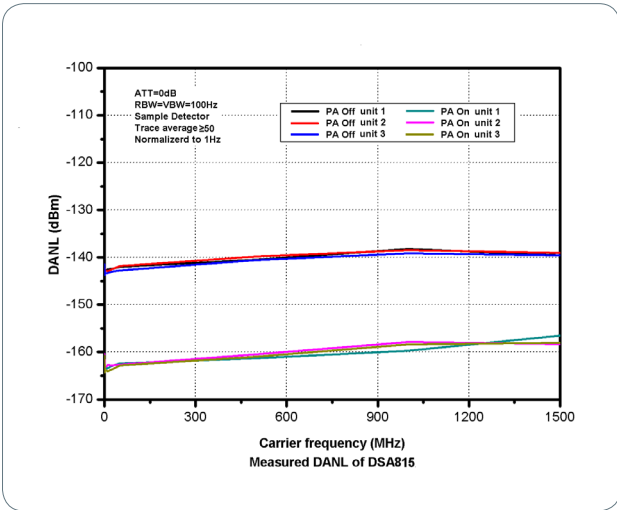
| | | DSA832 | DSA875 |
|-----------|------------------|--|-----------------------------|
| Frequency | | attenuation = 0 dB, RBW = VBW = 10 Hz, sample detector, trace average ≥ 50, tracking generator off, 20°C to 30°C, input impedance = 50 Ω | |
| PA off | 9 kHz to 100 kHz | <-110 dBm (typ.) | <-110 dBm (typ.) |
| | 100 kHz to 5 MHz | <-125 dBm, <-128 dBm (typ.) | <-125 dBm, <-128 dBm (typ.) |
| | 5 MHz to 3.2 GHz | <-130 dBm, <-134 dBm (typ.) | <-130 dBm, <-134 dBm (typ.) |
| | 3.2 GHz to 6 GHz | | <-126 dBm, <-130 dBm (typ.) |
| | 6 GHz to 7.5 GHz | | <-121 dBm, <-125 dBm (typ.) |
| PA on | 100 kHz to 1 MHz | <-142 dBm (typ.) | <-142 dBm (typ.) |
| | 1 MHz to 5 MHz | <-142 dBm, <-145 dBm (typ.) | <-142 dBm, <-145 dBm (typ.) |
| | 5 MHz to 3.2 GHz | <-147 dBm, <-151 dBm (typ.) | <-147 dBm, <-151 dBm (typ.) |
| | 3.2 GHz to 6 GHz | | <-143 dBm, <-147 dBm (typ.) |
| | 6 GHz to 7.5 GHz | | <-138 dBm, <-142 dBm (typ.) |

Displayed Average Noise Level (DANL)

| | | DSA832E |
|-----------|------------------|--|
| Frequency | | attenuation = 0 dB, RBW = VBW = 10 Hz, sample detector, trace average ≥ 50, tracking generator off, 20°C to 30°C, input impedance = 50 Ω |
| PA off | 9 kHz to 100 kHz | <-110 dBm (typ.) |
| | 100 kHz to 5 MHz | <-122 dBm, <-128 dBm (typ.) |
| | 5 MHz to 3.2 GHz | <-127 dBm, <-134 dBm (typ.) |
| PA on | 100 kHz to 1 MHz | <-142 dBm (typ.) |
| | 1 MHz to 5 MHz | <-140 dBm, <-145 dBm (typ.) |
| | 5 MHz to 3.2 GHz | <-145 dBm, <-151 dBm (typ.) |

Displayed Average Noise Level (DANL) (Normalized to 1Hz)

| | | DSA815 | DSA832 | DSA875 | DSA832E |
|-----------|--------------------|--|--------------------------------|--------------------------------|--------------------------------|
| Frequency | | attenuation = 0 dB, RBW = VBW = 100 Hz, sample detector, trace average ≥ 50, tracking generator off, normalized to 1Hz, 20°C to 30°C, input impedance = 50 Ω | | | |
| PA off | 9 kHz to 100 kHz | | <-120 dBm (typ.) | <-120 dBm (typ.) | <-120 dBm (typ.) |
| | 100 kHz to 1 MHz | <-110 dBm, <-130 dBm (typ.) | <-135 dBm, <-138 dBm (typ.) | <-135 dBm, <-138 dBm (typ.) | <-132 dBm, <-138 dBm (typ.) |
| | 1 MHz to 5 MHz | <-130 dBm + 6 × (f/1 GHz) dB, <-135 dBm (typ.) | <-140 dBm, <-144 dBm (typ.) | <-140 dBm, <-144 dBm (typ.) | <-137 dBm, <-144 dBm (typ.) |
| | 5 MHz to 1.5 GHz | | | | |
| | 1.5 GHz to 3.2 GHz | | | | |
| | 3.2 GHz to 6 GHz | | | <-136 dBm, <-140 dBm (typ.) | |
| | 6 GHz to 7.5 GHz | | | <-131 dBm, <-135 dBm (typ.) | |
| PA on | 100 kHz to 1 MHz | <-130 dBm, <-150 dBm (typ.) | <-152 dBm (typ.) | <-152 dBm (typ.) | <-152 dBm (typ.) |
| | 1 MHz to 5 MHz | <-150 dBm + 6 × (f/1 GHz) dB, <-155 dBm (typ.) | <-152 dBm, <-155 dBm (typ.) | <-152 dBm, <-155 dBm (typ.) | <-150 dBm, <-155 dBm (typ.) |
| | 5 MHz to 1.5 GHz | <-155 dBm (typ.) | <-157 dBm, <-161 dBm (typ.) | <-157 dBm, <-161 dBm (typ.) | <-155 dBm, <-161 dBm (typ.) |
| | 1.5 GHz to 3.2 GHz | | | | |
| | 3.2 GHz to 6 GHz | | | <-153 dBm, <-157 dBm (typ.) | |
| | 6 GHz to 7.5 GHz | | | <-148 dBm, <-152 dBm (typ.) | |

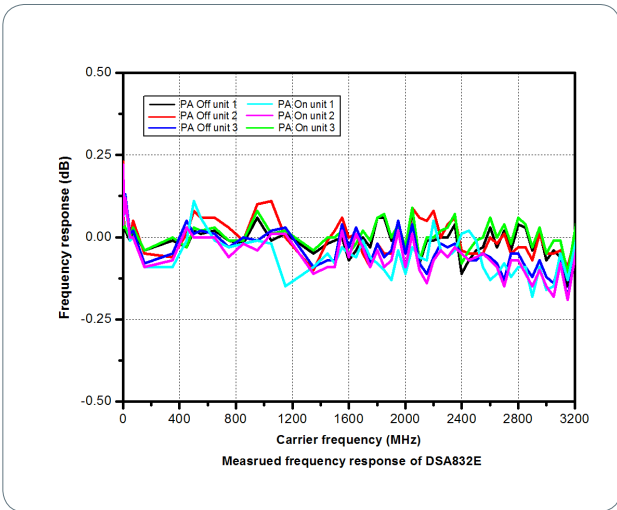
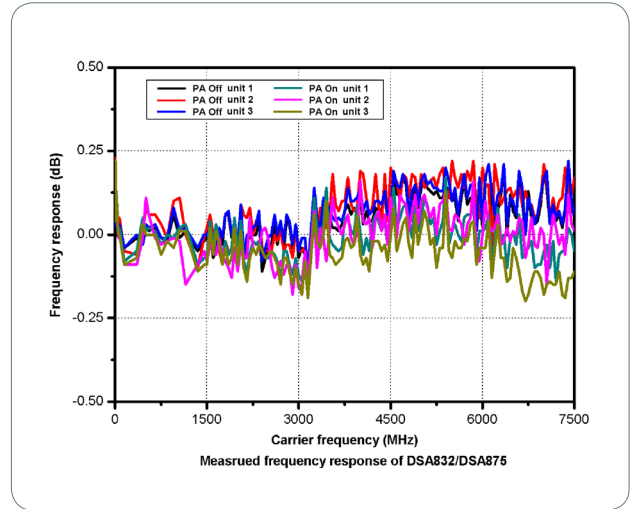
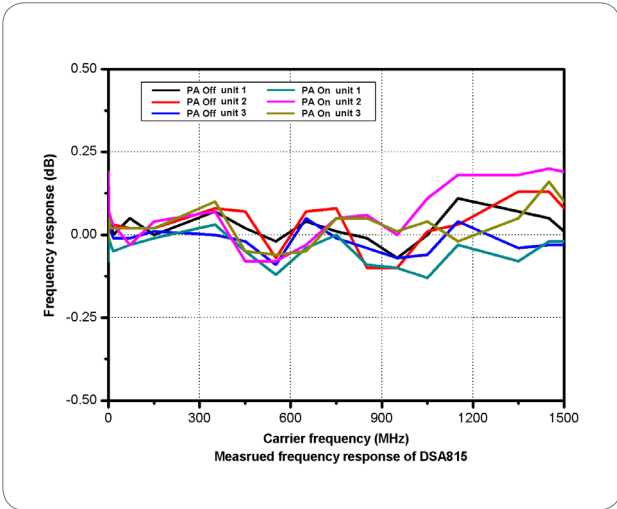


Level Display

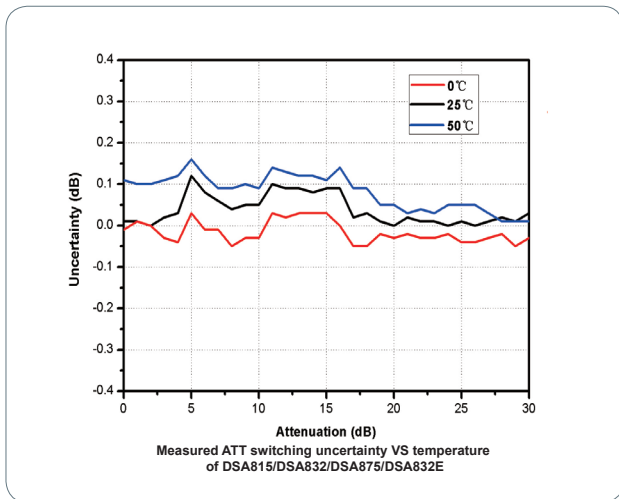
| | |
|--------------------------|---|
| Logarithmic level axis | 1 dB to 200 dB |
| Linear level axis | 0 to reference level |
| Number of display points | 601 |
| Number of traces | 3 + math trace |
| Trace detectors | normal, positive-peak, negative-peak, sample, RMS, voltage average quasi-peak (with EMI-DSA800 option) |
| Trace functions | clear write, max hold, min hold, average, view, blank |
| Units of level axis | dBm, dBmV, dBμV, nV, μV, mV, V, nW, μW, mW, W |

Frequency Response

| | DSA815 | DSA832 | DSA875 | DSA832E |
|---|---|---------|-------------------------|-------------------------|
| Frequency response | $f_c \geq 100$ kHz, attenuation = 10 dB, relative to 50 MHz, 20°C to 30°C | | | |
| PA off | 100 kHz to 1.5 GHz | <0.7 dB | <0.5 dB, <0.3 dB (typ.) | <0.5 dB, <0.3 dB (typ.) |
| | 1.5 GHz to 3.2 GHz | | | <0.7 dB |
| | 3.2 GHz to 7.5 GHz | | <0.7 dB, <0.3 dB (typ.) | |
| $f_c \geq 1$ MHz, attenuation = 10 dB, relative to 50 MHz, 20°C to 30°C | | | | |
| PA on | 100 kHz to 1.5 GHz | <1.0 dB | <0.7 dB, <0.3 dB (typ.) | <0.7 dB, <0.3 dB (typ.) |
| | 1.5 GHz to 3.2 GHz | | | <1.0 dB |
| | 3.2 GHz to 7.5 GHz | | <0.9 dB, <0.3 dB (typ.) | |



| Input Attenuation Switching Uncertainty | | | | |
|---|---|--------|---------|---------|
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Setting range | 0 to 30 dB, in 1 dB step | | | |
| Switching uncertainty | $f_c=50$ MHz, relative to 10 dB, 20 °C to 30 °C | | | |
| | <0.5 dB | | <0.3 dB | |



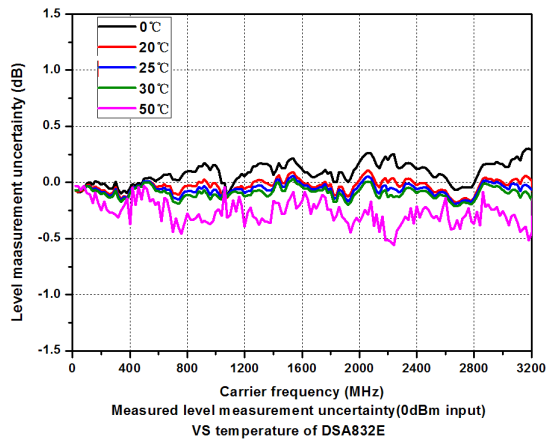
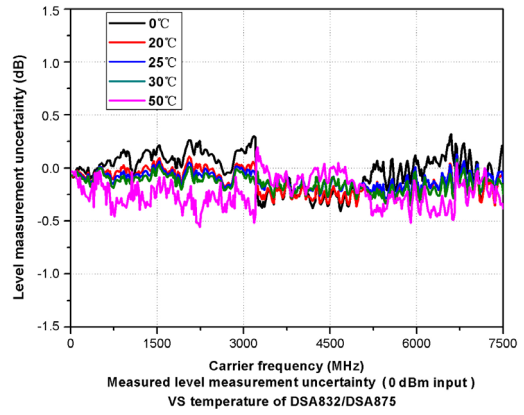
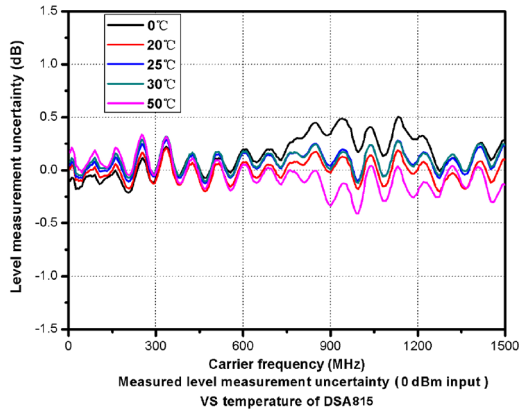
| Absolute Amplitude Uncertainty | | | | |
|--------------------------------|--|--------|---------|---------|
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Uncertainty | $f_c = 50$ MHz, peak detector, preamplifier off, attenuation = 10 dB, input signal level = -10 dBm, 20 °C to 30 °C | | | |
| | <0.4 dB | | <0.3 dB | |

| RBW Switching Uncertainty | |
|---------------------------|-----------------------|
| Uncertainty | relative to 1 kHz RBW |
| | <0.1 dB |

| Reference Level | | |
|-----------------|-----------------------------------|----------|
| Range | -100 dBm to +20 dBm, in 1 dB step | |
| Resolution | log scale | 0.01 dB |
| | linear scale | 4 digits |

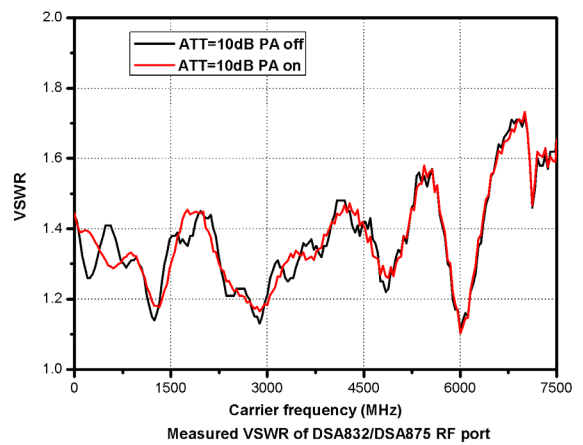
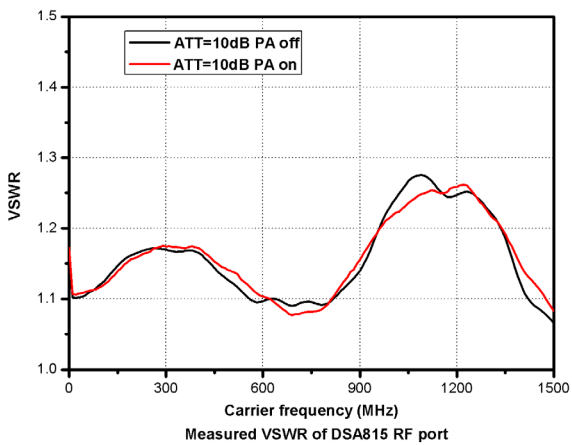
| Preamplifier | | | | | |
|--------------|--------------------|--------------|--------------|--------------|--------------|
| | | DSA815 | DSA832 | DSA875 | DSA832E |
| Gain | 100 kHz to 1.5 GHz | 20 dB (nom.) | 17 dB (nom.) | 17 dB (nom.) | 17 dB (nom.) |
| | 1.5 GHz to 3.2 GHz | | | | |
| | 3.2 GHz to 7.5 GHz | | | | |

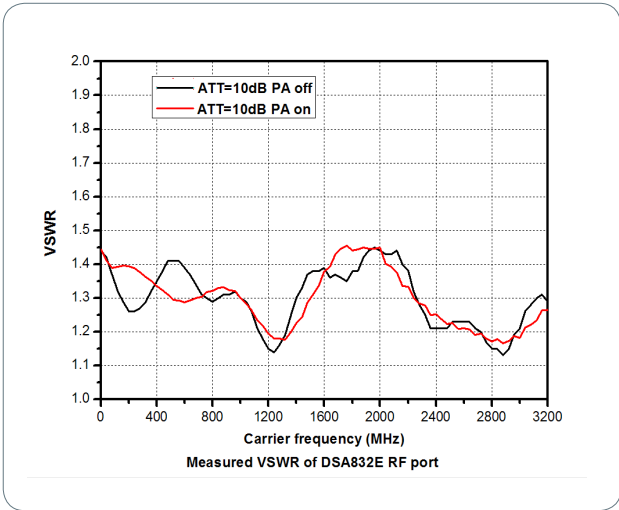
| Level Measurement Uncertainty | | | | |
|-------------------------------|--|----------------|--------|----------------|
| | DSA815 | DSA832 | DSA875 | DSA832E |
| | 95% confidence level, S/N>20 dB, RBW = VBW = 1 kHz, preamplifier off, attenuation = 10 dB, -50 dBm < input level ≤ 0 dBm, $f_c > 10$ MHz, 20 °C to 30 °C | | | |
| Level measurement uncertainty | <1.5 dB (nom.) | <0.8 dB (nom.) | | <1.0 dB (nom.) |



RF Input VSWR

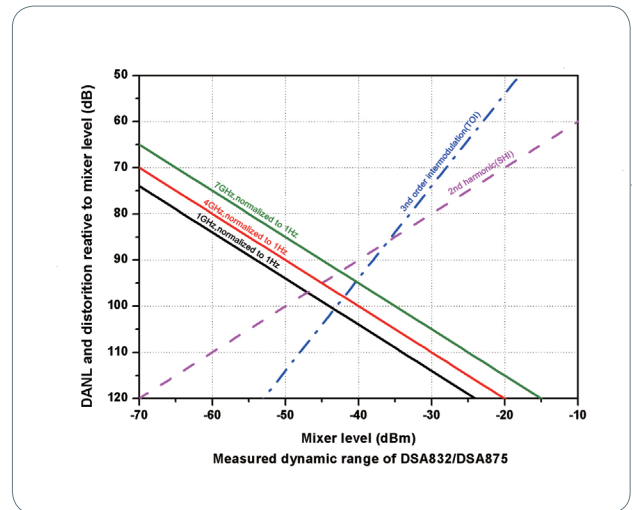
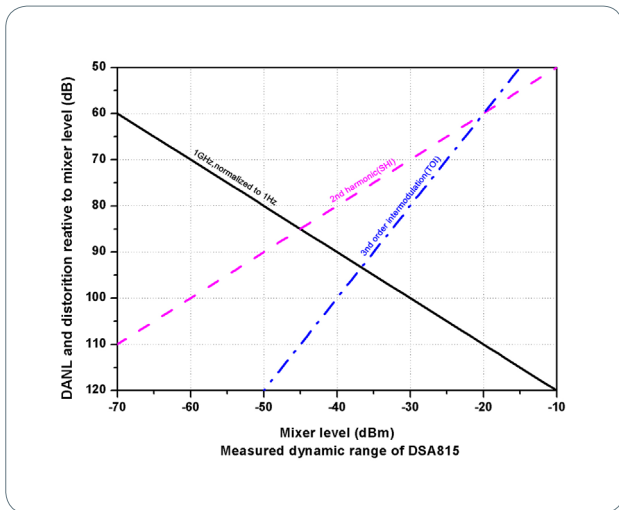
| | | DSA815 | DSA832 | DSA875 | DSA832E |
|------|--------------------|--------------------------|-------------|-------------|-------------|
| | | attenuation ≥ 10 dB | | | |
| VSWR | 300 kHz to 1.5 GHz | <1.5 (nom.) | <1.5 (nom.) | <1.5 (nom.) | <1.5 (nom.) |
| | 1.5 GHz to 3.2 GHz | | | <1.8 (nom.) | |
| | 3.2 GHz to 7.5 GHz | | | | |

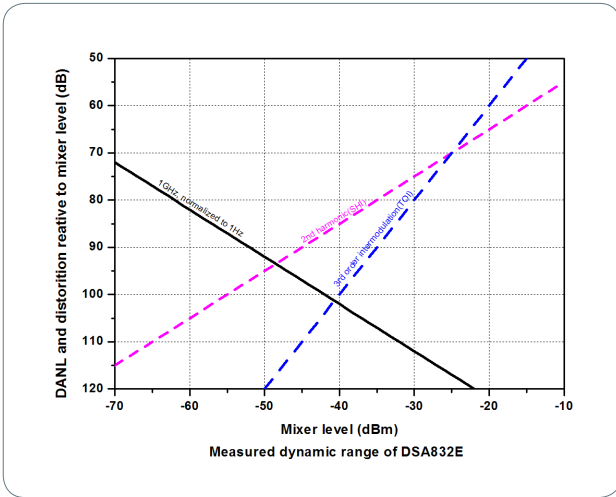




Distortion

| Second Harmonic Intercept | | | | |
|---|--|-------------------------|--------|---------|
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Second harmonic intercept (SHI) | $f_c \geq 50$ MHz, input signal level = -20 dBm, attenuation = 10 dB | | | |
| | +40 dBm | +45 dBm | | +40 dBm |
| Third-order Intercept | | | | |
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Third-order intercept (TOI) | $f_c \geq 50$ MHz, two -20 dBm tones at input mixer spaced by 200 kHz, attenuation = 10 dB | | | |
| | +10 dBm | +11 dBm, +15 dBm (typ.) | | +7 dBm |
| 1 dB Gain Compression | | | | |
| 1 dB compression of input mixer (P_{1dB}) | $f_c \geq 50$ MHz, attenuation = 0 dB | | | |
| | >0 dBm | | | |





Spurious Responses

| | DSA815 | DSA832 | DSA875 | DSA832E |
|--------------------------|--|--------|--|---------|
| Spurious response | input terminated 50 Ω, attenuation = 0 dB, 20°C to 30°C | | | |
| | <-88 dBm (typ.) | | <-90 dBm ^[1] , <-100 dBm (typ.) | |
| Intermediate frequency | <-60 dBc | | | |
| System related sidebands | referenced to local oscillators, referenced to A/D conversion, referenced to subharmonic of first LO, referenced to harmonic of first LO | | | |
| | <-60 dBc | | | |
| Input related spurious | mixer level = -30 dBm | | | |
| | <-60 dBc | | | |

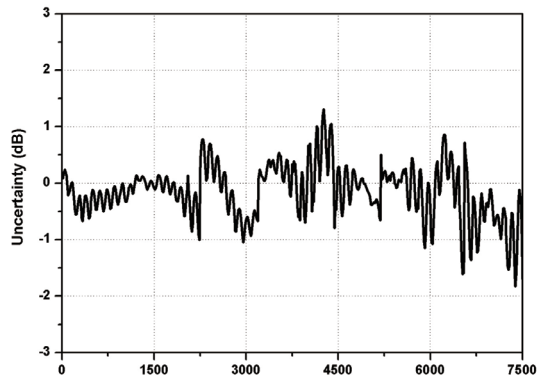
Sweep

| Sweep | | DSA815 | DSA832 | DSA875 | DSA832E |
|------------------------|---|-----------------|-----------------|-----------------|-----------------|
| Sweep time | span ≥ 100 Hz | 10 ms to 1500s | 1 ms to 1500 s | 1 ms to 1500 s | 1 ms to 3200 s |
| | zero span | 20 μs to 1500 s | 20 μs to 3200 s | 20 μs to 7500 s | 20 μs to 3200 s |
| Sweep time uncertainty | span ≥ 100 Hz | 5% (nom.) | | | |
| | zero span (sweep time setting value > 1 ms) | 5% (nom.) | | | |
| Sweep mode | continuous, single | | | | |

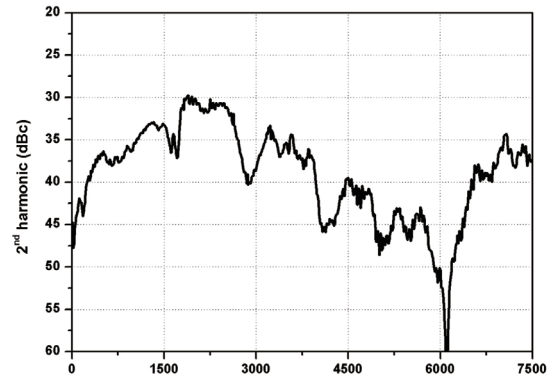
Tracking Generator (Option)

| TG Output | | DSA815 | DSA832 | DSA875 | DSA832E |
|-------------------------|--|--------------------|--------------------|--------------------|--------------------|
| Frequency range | | 100 kHz to 1.5 GHz | 100 kHz to 3.2 GHz | 100 kHz to 7.5 GHz | 100 kHz to 3.2 GHz |
| Output level range | | -20 dBm to 0 dBm | -40 dBm to 0 dBm | | |
| Output level resolution | | 1 dB | | | |
| Output flatness | | relative to 50 MHz | | | |
| | | ±3 dB (nom.) | | | |

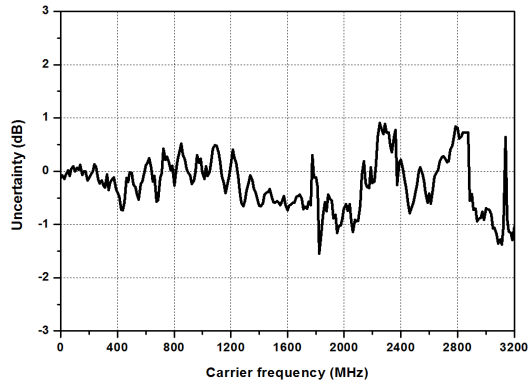
NOTE: [1] Except the internal local oscillator (1820 MHz) and its harmonics.



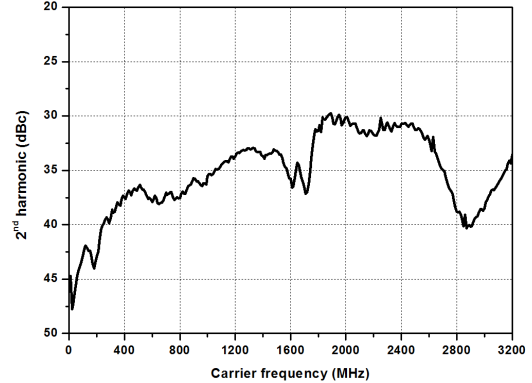
Measured tracking generator output level uncertainty @0dBm of DSA832/DSA875



Measured tracking generator output 2nd harmonic of DSA832/DSA875



Measured tracking generator output level uncertainty @0dBm of DSA832E



Measured tracking generator output 2nd harmonic of DSA832E

Trigger Functions

| | |
|------------------------|---------------------------|
| Trigger | |
| Trigger source | free run, video, external |
| External trigger level | 5 V TTL level |

SSC-DSA (Option) (Only for DSA815)

| | |
|-------------------------------|---------|
| Signal Seamless Capture (SSC) | |
| Measurement bandwidth | 1.5 MHz |

Input /Output

| Front Panel Connectors | | |
|---------------------------|-----------|--------------------|
| RF input | impedance | 50 Ω (nom.) |
| | connector | N female |
| Tracking generator output | impedance | 50 Ω (nom.) |
| | connector | N female |

| Internal/ External Reference | | |
|------------------------------|--------------|----------------------------------|
| Internal reference | frequency | 10 MHz |
| | output level | +3 dBm to +10 dBm, +8 dBm (typ.) |
| | impedance | 50 Ω (nom.) |
| | connector | BNC female |
| External reference | frequency | 10 MHz \pm 5 ppm |
| | input level | 0 dBm to +10 dBm |
| | impedance | 50 Ω (nom.) |
| | connector | BNC female |

| External Trigger Input | | |
|------------------------|-----------|---------------------|
| External trigger input | impedance | 1 k Ω (nom.) |
| | connector | BNC female |

| Communication Interface | | |
|---------------------------------------|----------------------|-------------------|
| USB host | connector | A plug |
| | protocol | version2.0 |
| USB device | connector | B plug |
| | protocol | version2.0 |
| LAN | LXI core 2011 device | 10/100Base, RJ-45 |
| IEC/IEEE (GPIB) bus (USB-GPIB option) | | IEEE488.2 |

General Specifications

| Display | |
|------------|------------------|
| Type | TFT LCD |
| Resolution | 800 x 480 pixels |
| Size | 8 inch |
| Colors | 64 k |

| Printer Supported | |
|-------------------|------------|
| Protocol | PictBridge |

| Mass Memory | |
|-------------|--|
| Mass memory | flash disk (internal), USB storage device (not supplied) |

| Power Supply | |
|-------------------------|---|
| Input voltage range, AC | 100 V to 240 V (nom.) |
| AC supply frequency | 45 Hz to 440 Hz |
| Power consumption | 35 W (typ.), max. 50 W with all options |

| Environmental | | |
|---------------|-----------------------------|--------------------------|
| Temperature | operating temperature range | 0°C to 50°C |
| | Storage temperature range | -20°C to 70°C |
| Humidity | 0°C to 30°C | \leq 95% rel. humidity |
| | 30°C to 40°C | \leq 75% rel. humidity |
| Altitude | operating height | up to 3,000m |

| Electromagnetic Compatibility and Safety | |
|--|---|
| EMC | in line with EMC instruction (2014/30/EU), in line with or exceed IEC61326-1: 2013/EN61326-1: 2013 Group 1 Class A standard CISPR 11/EN 55011 |
| | IEC 61000-4-2:2008/EN 61000-4-2 ±4.0 kV (contact discharge), ±8.0 kV (air discharge) |
| | IEC 61000-4-3:2002/EN 61000-4-3 3 V/m (80 MHz to 1 GHz); 3 V/m (1.4 GHz to 2 GHz); 1 V/m (2.0 GHz to 2.7 GHz) |
| | IEC 61000-4-4:2004/EN 61000-4-4 1 kV power lines |
| | IEC 61000-4-5:2001/EN 61000-4-5 0.5 kV (phase to neutral); 0.5 kV (phase to PE); 1 kV (neutral to PE) |
| | IEC 61000-4-6:2003/EN 61000-4-6 3 V, 0.15-80MHz |
| | IEC 61000-4-11:2004/EN 61000-4-11 voltage dip: 0% UT during half cycle; 0% UT during 1 cycle; 70% UT during 25 cycles short interruption: 0% UT during 250 cycles |
| Electrical safety | IEC 61010-1:2010 (Third Edition)/EN 61010-1:2010, UL 61010-1:2012 R4.16 and CAN/CSA-C22.2 NO. 61010-1-12+ GI1+ GI2 |

| Dimensions | |
|-------------|---|
| (W x H x D) | 361.6 mm × 178.8 mm × 128 mm (14.2 in × 7.0 in × 5.0 in) |

| Weight | | | | |
|-------------------------|------------------|-------------------|--------|---------|
| | DSA815 | DSA832 | DSA875 | DSA832E |
| Standard | 4.25 kg (9.4 lb) | 4.55 kg (10.0 lb) | | |
| With tracking generator | | 5.15 kg (11.4 lb) | | |

| Calibration Interval | |
|----------------------------------|--------|
| Recommended calibration interval | 1 year |

► Ordering Information

| | Description | Order Number |
|--|---|--|
| Model | spectrum analyzer, 9 kHz to 1.5 GHz | DSA815 |
| | spectrum analyzer, 9 kHz to 3.2 GHz | DSA832 |
| | spectrum analyzer, 9 kHz to 7.5 GHz | DSA875 |
| | spectrum analyzer, 9 kHz to 3.2 GHz | DSA832E |
| | spectrum analyzer, 9 kHz to 1.5 GHz (with tracking generator, factory installed) | DSA815-TG |
| | spectrum analyzer, 9 kHz to 3.2 GHz (with tracking generator, factory installed) | DSA832-TG |
| | spectrum analyzer, 9 kHz to 7.5 GHz (with tracking generator, factory installed) | DSA875-TG |
| | spectrum analyzer, 9 kHz to 3.2 GHz (with tracking generator, factory installed) | DSA832E-TG |
| Standard accessories | quick guide (hard copy) | - |
| | power cable | - |
| Options | EMI filter & quasi-peak detector | EMI-DSA800 |
| | Advanced measurement kit | AMK-DSA800 |
| | VSWR measurement kit | VSWR-DSA800 |
| | DSA PC software | Ultra Spectrum |
| | EMI Pre-compliance test software | S1210 EMI Pre-compliance Software |
| | ASK-FSK Demodulation Analysis (only for DSA832/DSA875/DSA832E) | S1220 ASK-FSK Demodulation Analysis Software |
| | signal seamless capture (only for DSA815) | SSC-DSA |
| Optional accessories | include: N-SMA cable, BNC-BNC cable, N-BNC adaptor, N-SMA adaptor, 75 Ω to 50 Ω adaptor, 900 MHz/1.8 GHz antenna (2pcs), 2.4 GHz antenna (2pcs) | DSA Utility Kit |
| | include: 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) | RF Adaptor Kit |
| | include: 50 Ω to 75 Ω adaptor (2pcs) | RF CATV Kit |
| | include: 6 dB attenuator (1pcs), 10 dB attenuator (2pcs) | RF Attenuator Kit |
| | 30 dB high power attenuator, max. power 100 W | ATT03301H |
| | N(M)-N(M) RF cable | CB-NM-NM-75-L-12G |
| | N(M)-SMA(M) RF cable | CB-NM-SMAM-75-L-12G |
| | RF demo kit (transmitter) | TX1000 |
| | RF demo kit (receiver) | RX1000 |
| | VSWR bridge, 1 MHz to 3.2 GHz | VB1032 |
| | VSWR bridge, 800 MHz to 4 GHz | VB1040 |
| | VSWR bridge, 2 GHz to 8 GHz | VB1080 |
| | near field probe | NFP-3 |
| | rack mount kit | RM-DSA800 |
| | soft carrying bag | BAG-G1 |
| USB cable | CB-USBA-USBB-FF-150 | |
| USB to GPIB interface converter for instrument | USB-GPIB | |

Warranty

Three-year warranty, excluding probes and accessories.



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