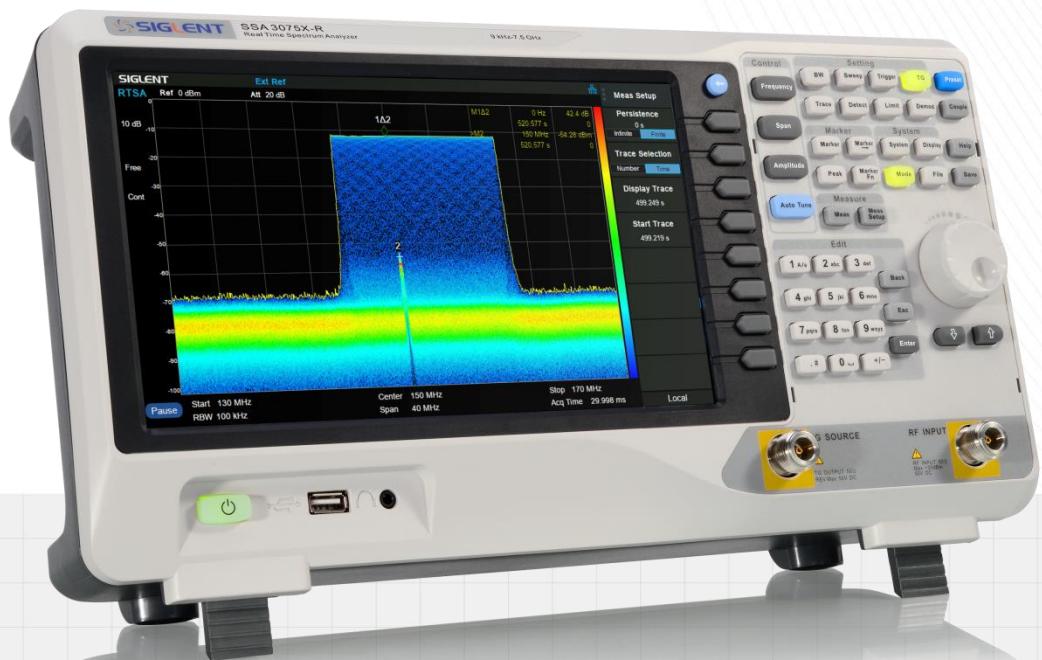


SSA3000X-R

 **SIGLENT®**

Real-Time Spectrum Analyzer

DataSheet DS0703R_E01B



SIGLENT TECHNOLOGIES CO.,LTD

General Description

The SIGLENT SSA3000X-R real-time spectrum analyzers are powerful and flexible tools for complex RF spectrum and signal analysis. With a capability of 40 MHz analysis bandwidth and 7.2 μ s 100% POI, the analyzer can provide multi-dimensions data displays, advanced triggering, and RF data capturing, to solve modern RF spectrum challenges, like hopping frequency, conflict channel, spectrum interference, etc. They also provide standard tracking generator for network analysis, optional wide band digital modulation analysis, and EMI measurement.

Applications include broadcast monitoring/evaluation, cellular site, IoT, WiFi, Bluetooth, surveying, research and development, education, production, and maintenance.

Features and Benefits

- ◆ Spectrum Analyzer Frequency Range from 9 kHz up to 5.0 GHz / 7.5 GHz
- ◆ -165 dBm/Hz Displayed Average Noise Level (Typ.)
- ◆ -98 dBc/Hz @ 10 kHz Offset Phase Noise (1 GHz, Typ.)
- ◆ Level Measurement Uncertainty < 0.7 dB (Typ.)
- ◆ 1 Hz Minimum Resolution Bandwidth (RBW)
- ◆ Preamplifier Standard
- ◆ Tracking Generator Standard
- ◆ Up to 40 MHz Real Time Analysis Bandwidth (Opt.)
- ◆ 100% POI 7.20 μ s, Dynamic Range 60 dB
- ◆ Multi-view for Density, Spectrogram, PvT and 3D
- ◆ Advanced Measurement Kit (Opt.)
- ◆ Reflection Measurement Kit (Opt.)
- ◆ Modulation Analysis Mode (Opt.)
- ◆ EMI Measurement Mode (Opt.)
- ◆ 10.1 inch Multi-Touch Screen, Mouse and Keyboard supported
- ◆ Web Browser Remote Control on PC and Mobile Terminals and File Operation

Models and Main index

| Model | SSA3050X-R | SSA3075X-R |
|-------------------------------|--|-------------------|
| Frequency Range | 9 kHz~5.0 GHz | 9 kHz~7.5 GHz |
| Resolution Bandwidth | 1 Hz~3 MHz | 1 Hz~3 MHz |
| Displayed Average Noise Level | -165 dBm/Hz | -165 dBm/Hz |
| SSB Phase Noise | <-98 dBc/Hz | <-98 dBc/Hz |
| Third-order intercept(TOI) | +14 dbm | +14 dbm |
| Total Amplitude Accuracy | < 0.7 dB | < 0.7 dB |
| Tracking Generator | 100 kHz - 5.0 GHz | 100 kHz - 7.5 GHz |
| Real Time Band Width | 25 MHz, 40 MHz (Option) | |
| SFDR | 60 dB | |
| 100% POI | 7.20 μ s | |
| RTSA Measurement | Density, Spectrogram, 3D, PvT | |
| Touch Screen | Multi Touch, Mouse and Keyboard supported | |
| Advanced Measurement | CHP, ACPR, OBW, CNR, Harmonic, TOI, Monitor | |
| Modulation Analysis | AM, FM, ASK, FSK, MSK, PSK, QAM | |
| Reflection Measurement | VSWR measurement using Reflection Bridge | |
| EMI Measurement | EMI Filter and Quasi-Peak Detector, Log Scale and Limit Line | |
| Communication Interface | LAN, USB Device, USB Host (USB-GPIB) | |
| Remote Control Capability | SCPI/Labview/IVI based on USB-TMC/VXI-11/Socket/Telnet | |
| Remote Controller | NI-MAX, Web Browser, Easy Spectrum software, File Explorer | |

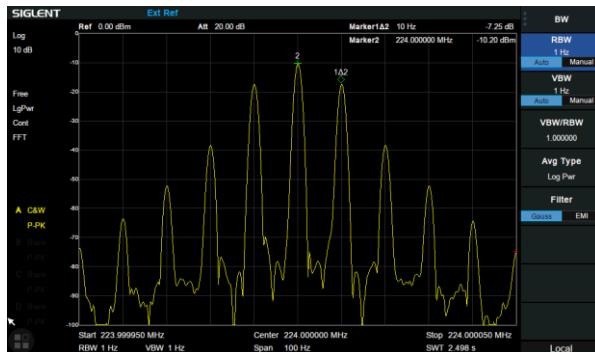
Design Features

Spectrum Analyzer Mode

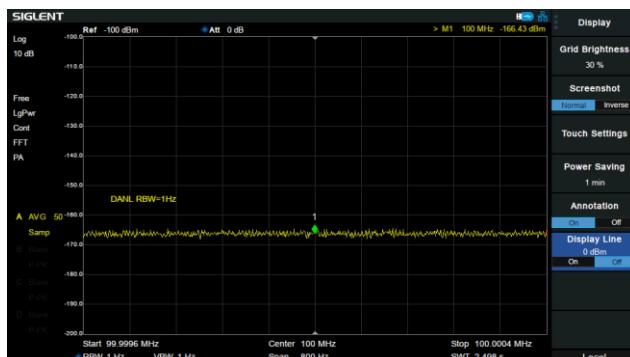
10.1 Inch Display with Multi-Touch Screen



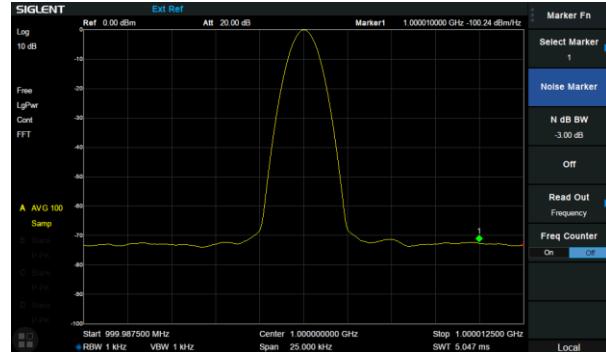
Minimum 1 Hz Resolution Bandwidth (RBW)



-165 dBm/Hz Displayed Average Noise Level



Phase noise <-98 dBc/Hz@1 GHz

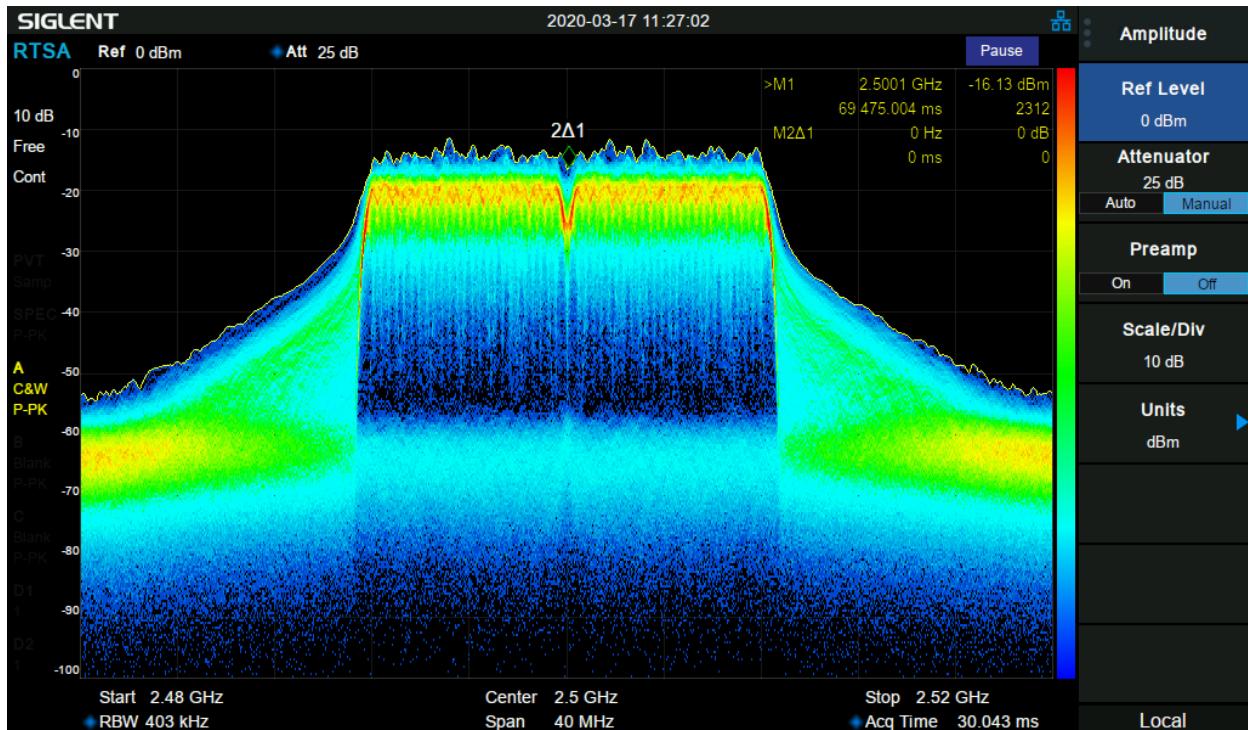


ACPR in Advanced Measurement Kit



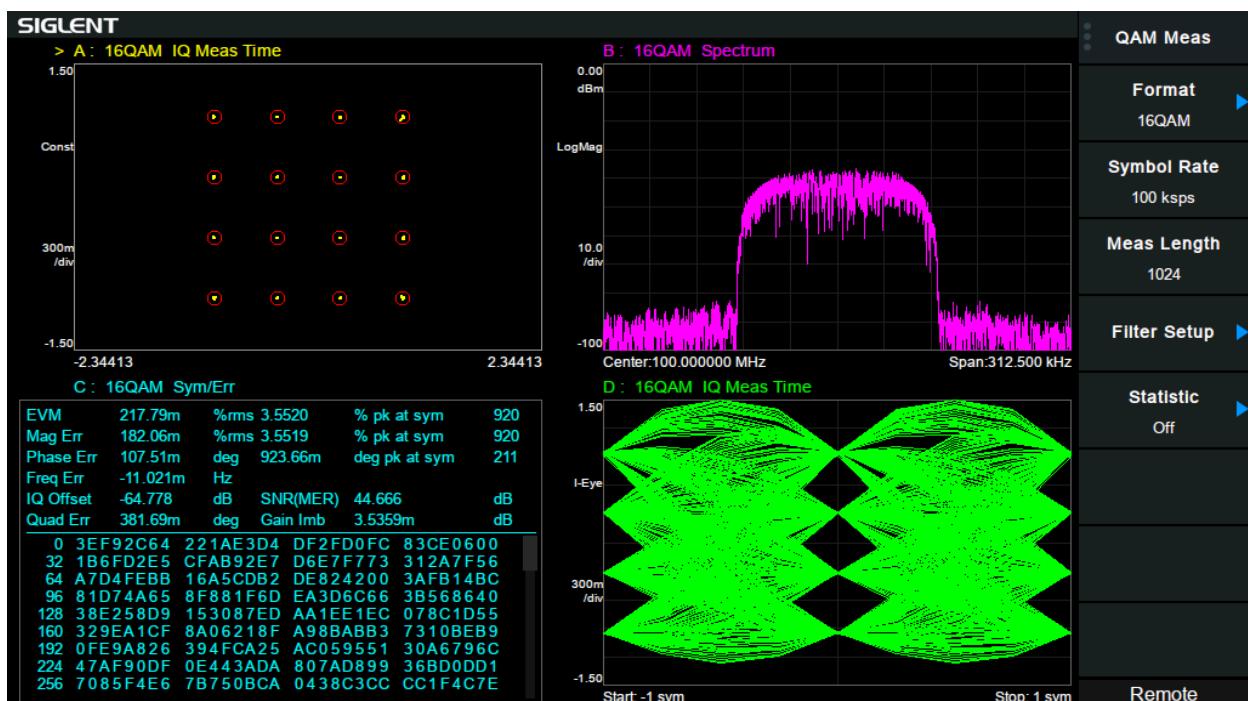
Real Time Analysis Mode

Density,3D,Spectrogram,PvT,Multi-view and dimensions to monitor complex signals



Modulation Analysis Mode

AM/FM, ASK/FSK/PSK/MSK/QAM Vector Signal Modulation Analysis and EVM evaluation, and Data recording to PC. The analysis BW is same with real-time BW in RTSA mode



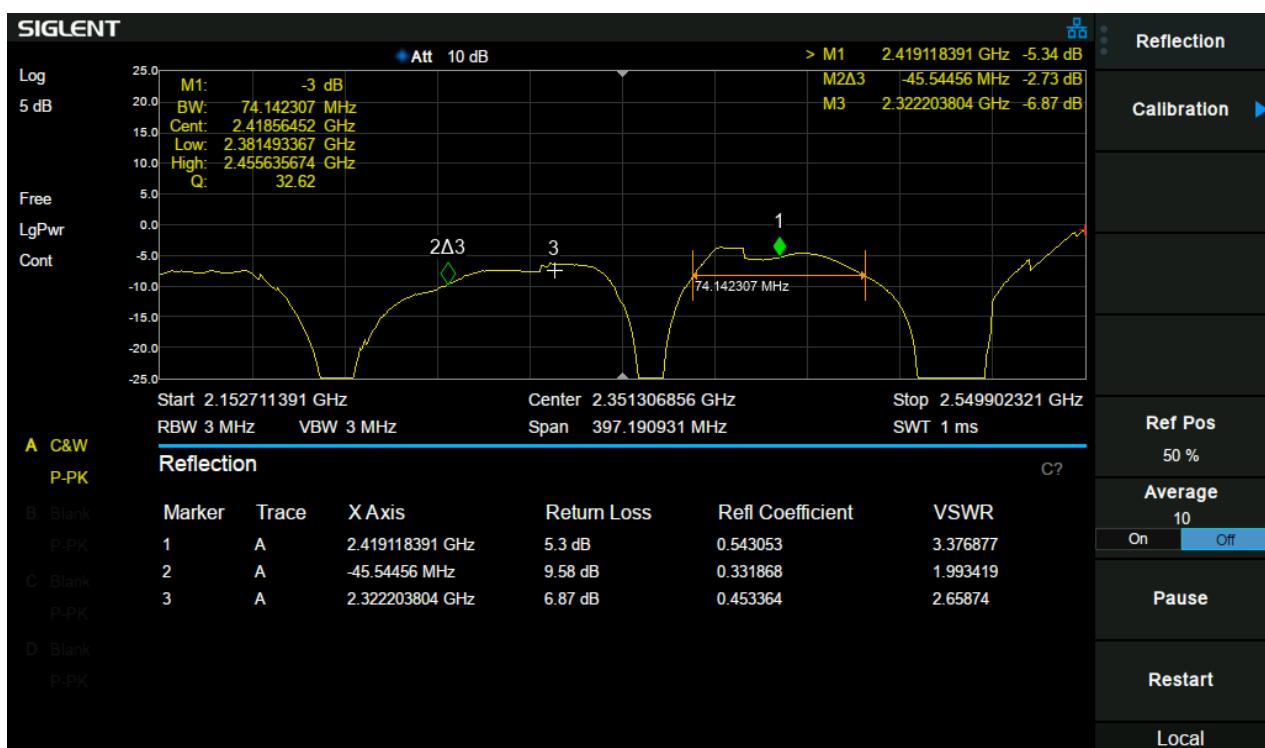
EMI Measurement Mode

EMI Measurement with CISPR 16-1-1 EMI filter, Quasi-peak Detector, and pre-stored standards.



Reflection Measurement

VSWR and Return Loss measurement with Q value calculation, using an external reflection bridge or coupler.



Accessories

Utility Kit



Near Field Probe Set



USB-GPIB Adaptor



6U Rack Mount



Soft Carrying Bag



Reflection Bridge



Calibration Kit



Specifications

Specifications are valid under the following conditions: The instrument is within the calibration period, has been stored between 0 and 50°C for at least 2 hours prior to use, and has been powered on and warmed up for at least 40 minutes. The specifications include the measurement uncertainty, unless otherwise noted.

Specifications: All products are guaranteed to meet published specifications when operating at room temperature (approximately 25°C), unless otherwise noted.

Typical: Performance deemed typical implies that 80 percent of the measurement results will meet the typical published performance with a 95th percentile confidence level at room temperature (approximately 25°C). Typical performance is not warranted and does not include measurement uncertainty.

Nominal: The expected performance or design attribute

Spectrum Analyzer Mode

Frequency and Time Characteristic

| Frequency | |
|--|--|
| | SSA3050X-R |
| Frequency range | 9 kHz~5.0 GHz |
| Frequency Span | |
| Range | 0 Hz, 100 Hz to Max Frequency |
| Accuracy | \pm Span / (number of display points - 1) |
| Internal Reference Source | |
| Reference frequency | 10.000000 MHz |
| Reference frequency accuracy / uncertainty | \pm [(time since last adjustment \times frequency aging rate) + temperature stability + initial calibration accuracy] |
| Initial calibration accuracy | <1 ppm |
| Temperature stability | <1 ppm, 0 °C ~50 °C |
| Frequency aging rate | <0.5 ppm/first year, 3.0 ppm/20 years |
| Marker | |
| Marker resolution | Span / (number of display points - 1) |
| Marker uncertainty | \pm [frequency indication \times reference frequency uncertainty + 1% \times span + 10% \times resolution bandwidth + marker resolution] |
| Frequency Counter resolution | 0.1 Hz |
| Bandwidths | |
| Resolution bandwidth (-3dB) | 1 Hz ~ 3 MHz, in 1-3-10 sequence |
| Resolution filter shape factor | < 4.8 : 1 (60 dB:3 dB), Gaussian-like |
| RBW uncertainty | < 5% |
| Video bandwidth (-3dB) | 1 Hz ~ 10 MHz, in 1-3-10 sequence |
| VBW uncertainty | < 5% |
| Sweep and Trigger | |
| Sweep time | 1 ms to 7500 s |
| Sweep mode | RBW = 3k Hz ~ 3 MHz, Sweep RBW = 1 Hz ~ 10 kHz, FFT |
| Sweep rule | Single, Continuous |
| Trigger source | Free, Video, External |
| External trigger | 5V TTL level, Rising edge/Falling edge |

Amplitude Accuracy and Range Specifications

| Amplitude and Level | |
|--------------------------|--|
| Measurement range | DANL to +10 dBm, 100 kHz ~ 1 MHz, Preamp off DANL to +20 dBm, 1 MHz ~ 7.5 GHz, Preamp off |
| Reference level | -200 dBm to +30 dBm, 1 dB steps |
| Preamplifier | 20 dB (nom.) |
| Input attenuation | 0 ~ 50 dB, 1 dB steps |
| Maximum input DC voltage | +/- 50 V _{DC} |
| Maximum average power | 30 dBm, 3 minutes, fc ≥ 10 MHz, att > 20 dBm, preamp off |
| Maximum damage level | 33 dBm, fc ≥ 10 MHz, att > 20 dBm, preamp off |

| Level Display | |
|--------------------------|---|
| Logarithmic level axis | 1 dB to 200 dB |
| Linear level axis | 0 to reference level, 0% to 100% |
| Units of level axis | dBm, dBmV, dB μ V, dB μ A, Volt, Watt |
| Number of display points | 751 |
| Number of traces | 4 |
| Trace detectors | Positive-peak, Negative-peak, Sample, Normal, Average(Voltage/RMS/Video) |
| Trace functions | Clear write, Max Hold, Min Hold, View, Blank, Average, Math |

| SSB Phase Noise | |
|-----------------|--|
| Offset | 20 °C to 30 °C, fc = 1 GHz, Normalized to 1 Hz |
| 10 kHz | -96 dBc/Hz, -98 dBc/Hz (typ.) |
| 100 kHz | -95 dBc/Hz, -97 dBc/Hz (typ.) |
| 1 MHz | -112 dBc/Hz, -114 dBc/Hz (typ.) |

Displayed Average Noise Level (DANL)

| | | SSA3050X-R | SSA3075X-R |
|---------------|---|------------------------------|------------------------------|
| | 20 °C to 30 °C, att = 0 dB, RBW = 1 Hz, sample detector, trace average > 50, TG off | | |
| | 100 kHz ~1 MHz | -105 dBm, -109 dBm (typ.) | -105 dBm, -109 dBm (typ.) |
| | 1 MHz~10 MHz | -122 dBm, -126 dBm (typ.) | -122 dBm, -126 dBm (typ.) |
| | 10 MHz~200 MHz | -142 dBm, -146 dBm (typ.) | -142 dBm, -146 dBm (typ.) |
| Preamp off | 200 MHz~1.5 GHz | -142 dBm, -147 dBm (typ.) | -142 dBm, -147 dBm (typ.) |
| | 1.5 GHz~3.2 GHz | -140 dBm, -145 dBm (typ.) | -140 dBm, -145 dBm (typ.) |
| | 3.2 GHz~5.0 GHz | -137 dBm, -143 dBm (typ.) | -137 dBm, -143 dBm (typ.) |
| | 5.0 GHz~6.5 GHz | | -136 dBm, -141 dBm (typ.) |
| | 6.5 GHz~7.5 GHz | | -134 dBm, -139 dBm (typ.) |
| | 100 kHz ~1 MHz | -133 dBm, -136 dBm (typ.) | -133 dBm, -136 dBm (typ.) |
| | 1 MHz~10 MHz | -151 dBm, -154 dBm (typ.) | -151 dBm, -154 dBm (typ.) |
| Preamp on | 10 MHz~200 MHz | -161 dBm, -165 dBm (typ.) | -161 dBm, -165 dBm (typ.) |
| | 200 MHz~1.5 GHz | -159 dBm, -163 dBm (typ.) | -159 dBm, -163 dBm (typ.) |
| | 1.5 GHz~3.2 GHz | -159 dBm, -162 dBm (typ.) | -159 dBm, -162 dBm (typ.) |
| | 3.2 GHz~5.0 GHz | -157 dBm, -161 dBm (typ.) | -157 dBm, -161 dBm (typ.) |
| | 5.0 GHz~6.5 GHz | | -157 dBm, -160 dBm (typ.) |
| | 6.5 GHz~7.5 GHz | | -155 dBm, -159 dBm (typ.) |

Frequency Response

20 °C to 30 °C, 30% to 70% relative humidity, att = 20 dB, relative to 50 MHz

| | |
|------------|-----------------------------------|
| Preamp off | ± 0.8 dB, ± 0.4 dB (typ.) |
| Preamp on | ± 1.2 dB, ± 0.6 dB (typ.) |

Error and Accuracy

| | |
|--|--|
| Resolution bandwidth switching uncertainty | Logarithmic resolution, relative to RBW = 10 kHz ± 0.2 dB (nom.) |
| Input attenuation switching uncertainty | 20 °C to 30 °C, fc = 50 MHz, preamp off, relative to att = 20 dB ± 0.5 dB |
| Absolute amplitude accuracy | 20 °C to 30 °C, fc = 50 MHz, RBW = VBW = 1 kHz, att = 20 dB, peak detector, 95% reliability ± 0.4 dB, input signal -20 dBm, Preamp off ± 0.6 dB, input signal -40 dBm, Preamp on |
| Total amplitude accuracy | 20 °C to 30 °C, fc > 100 kHz, input signal -50 dBm ~ 0 dBm, att = 20 dB, RBW=VBW=1 kHz, peak detector, preamp off, 95% reliability ± 0.7 dB |
| RF input VSWR | Att = 10 dB, 1 MHz ~ 7.5 GHz <1.5 (nom.) |

Distortion and Spurious Responses

| | |
|----------------------------------|---|
| Second harmonic distortion (SHI) | 20 °C to 30 °C, fc \geq 50 MHz, mixer level -20 dBm, att = 0 dB, preamp off -65 dBc / +45 dBm (nom.) |
| Third-order intercept (TOI) | 20 °C to 30 °C, fc \geq 50 MHz, two -20 dBm tones spaced by 100 kHz, att = 0 dB, preamp off +14 dBm (typ.) |
| 1dB gain compression | 20 °C to 30 °C, fc \geq 50 MHz, att = 0 dB, preamp off > 0 dBm (nom.) |
| Residual response | 20 °C to 30 °C, input terminated = 50 Ω, att = 0 dB < -90 dBm |
| Input related spurious | 20 °C to 30 °C, mixer level = -30 dBm <-65 dBc |

Tracking Generator

Frequency Parameter

| | SSA3050X-R | SSA3075X-R |
|----------------------------|------------------------------|-------------------|
| Frequency Range | 100 kHz ~ 5.0 GHz | 100 kHz ~ 7.5 GHz |
| Frequency Resolution | 1 Hz, Zero Span | |
| RBW, sweep mode | 3 kHz ~ 3 MHz | |
| Power Parameter | | |
| Output level | -40 dBm ~ 0 dBm | |
| Output level resolution | 1 dB | |
| Output flatness | +/-3 dB (nom.) | |
| Normalization Trace | Ref A/B/C/D->Ref trace | |
| VSWR | < 2 (nom.) | |
| Connector and Impedance | N-type female, 50 Ω | |
| Average safe reverse power | Total : 30 dBm (1 W) | |
| Maximum safe reverse level | Voltage: ±50 V _{DC} | |

Advanced Measurement Kit (Option SSA3000XR-AMK)

Power Measurement

| | |
|------------------------------------|--|
| CHP, Channel Power | Channel Power, Power Spectral Density |
| ACPR, Adjacent Channel Power Ratio | Main CH Power, Left channel power, Right channel power |
| OBW, Occupied Bandwidth | Occupied Bandwidth, Transmit Frequency Error |
| T-Power, Time Domain Power | Zero Span Integrated Power |
| CNR, Carrier Noise Ratio | C/N, Noise Power |

Non-Linear Measurement

| | |
|----------------------------|---|
| Harmonic measurement | Max Harmonic number 10 |
| TOI, Third-Order Intercept | Measure the third-order products from two tones |

Spectrum Monitor Measurement

| |
|-------------|
| Spectrogram |
|-------------|

Reflection Measurement Kit (Option SSA3000XR-Refl)

Stimulus and Measurement

| | SSA3050X-R | SSA3075X-R |
|-----------------|---|-----------------|
| Frequency Range | 100 kHz ~ 5.0 GHz | 100 kHz~7.5 GHz |
| RBW | 3k Hz ~ 1 MHz | |
| Stimulus Power | -40 ~ 0 dBm | |
| Format | VSWR, Return Loss, Reflection Coefficient | |
| Calibration | Open, Open + Short, Open + Load | |
| Marker Function | N dB BW, Q measurement | |

Real-Time Spectrum Analyzer Mode

| Frequency and Time | | | |
|----------------------------------|---|---------------|------------|
| Real-Time Bandwidth | 25 MHz (Default) | | |
| | 40 MHz (Option SSA3000XR-RT40) | | |
| 100% POI Minimum Signal Duration | Full Span, Kaiser Window, Frequency Mask Triggering at full amplitude accuracy | | |
| | 7.20 μ s | | |
| Measurement view | Density | 30 ms ~ 50 s | |
| | 3D+Spectrogram | 30 ms ~ 50 s | |
| | Spectrogram | 100 us ~ 50 s | |
| | PvT+Spectrum | 100 us ~ 50 s | |
| Points | 800 | | |
| MAX Sample rate | 51.2 MHz | | |
| FFT | 150 000(40 MHz analysis BW) | | |
| Marker | 8 | | |
| Span min | 5 kHz | | |
| Window | Kaiser(Default), Hanning, Flattop, Gaussian, Blackman-Harris, Rectangular | | |
| | Any SPAN, six RBW for every window (only one for Rectangular), default min RBW. | | |
| | Typical RBW for Kaiser: | | |
| RBW | Span | RBW min | RBW MAX |
| | 40 MHz | 100.43 kHz | 3.3142 MHz |
| | 20 MHz | 50.21 kHz | 1.657 MHz |
| | 10 MHz | 25.11 kHz | 828.55 kHz |
| | 1 MHz | 2.51 kHz | 82.85 kHz |
| | 100 kHz | 251 Hz | 8.285 kHz |
| Spectrogram / PvT | | | |
| Maximum stored | 50 000 (Loop store) | | |

Different RBW and span, 100% POI (μ s)

| Analysis BW | RBW1 | RBW2 | RBW3 | RBW4 | RBW5 | RBW6 |
|-------------|--------|--------|--------|--------|-------|-------|
| 40 MHz | 26.56 | 16.56 | 11.56 | 9.06 | 7.81 | 7.20 |
| 20 MHz | 46.56 | 26.56 | 16.56 | 11.56 | 9.06 | 7.81 |
| 10 MHz | 86.56 | 46.56 | 26.56 | 16.56 | 11.56 | 9.06 |
| 1 MHz | 806.56 | 406.56 | 206.56 | 106.56 | 56.56 | 31.56 |

Different window length for RBW

| Length\Type | 1024 | 512 | 256 | 128 | 64 | 32 |
|---------------------|----------|----------|----------|----------|---------|---------|
| Kaiser(Beta=12) | 398.2849 | 198.9478 | 99.2793 | 49.4450 | 24.5279 | 12.0693 |
| Hanning | 533.4785 | 266.4785 | 132.9785 | 66.2285 | 32.8535 | 16.1660 |
| Flattop | 212.2447 | 106.0182 | 52.9050 | 26.3483 | 13.0700 | 6.4309 |
| Gaussian(alpha=3.5) | 404.8707 | 202.2399 | 100.9244 | 50.2666 | 24.9376 | 12.2729 |
| Blackman-Harris | 399.2401 | 199.4250 | 99.5174 | 49.5636 | 24.5868 | 12.0983 |
| Rectangular | 801 | 400.5000 | 200.2500 | 100.1250 | 50.0625 | 25.0313 |

Amplitude Accuracy and Range

| | | |
|-------------------------------|-------------------------------|--|
| Detector | +Peak, -Peak, Sample, Average | |
| Trace | 3 | |
| Spectrum Density Display | 0~100% (resolution 0.1%) | |
| Dynamic range for Spectrogram | 200 dB | |
| Amplitude | Flatness | < 0.4 dB |
| | Resolution | 0.01 dB |
| | Dynamic range | < 60 dB |
| Trigger | Free Run, PvT, External | |
| Frequency Mask Trigger (FMT) | Source | Traces |
| | Type | Greater Than, Less Than, Outside Mask, Inside Mask |
| | Actions | Stop, Beep |
| Colour Mode | Warm(Default), Cool, Gray | |

Modulation Analyzer Mode

| Common Parameter | |
|------------------------|--|
| | SSA3050X-R |
| Frequency Range | 2 MHz~5.0 GHz |
| Carrier Power Accuracy | ± 2 dB (nom.) |
| Carrier Power Range | -30 dBm to +20 dBm (nom.) |
| Recording | |
| Data Packing | I = Q = 4 Byte |
| Memory | 60 MByte |
| Length (IQ pairs) | 7.5 MSample (60MB/8B) |
| Length (Time units) | Samples / (Span x 1.25) |
| PC Software | Analysis and Playback in Easy VSA Software |
| Playback | Easy VSA, Easy IQ or SSG5000X signal generator |

Analog Modulation Analysis (Option SSA3000XR-AMA)

| AM | | |
|------------------------|--|---|
| Modulation rate range | 20 Hz to 100 kHz | |
| Accuracy | 1 Hz (nom.) < 0.1% modulation rate (nom.) | Modulation rate < 1 kHz Modulation rate \geq 1 kHz |
| Modulation depth range | 5% to 95% | |
| Accuracy | $\pm 4\%$ (nom.) | |
| FM | | |
| Modulation rate range | 20 Hz to 200 kHz | |
| Accuracy | 1 Hz (nom.) < 0.1% modulation rate (nom.) | Modulation rate < 1 kHz Modulation rate \geq 1 kHz |
| Frequency deviation | 1 kHz to 400 kHz | |
| Accuracy | $\pm 4\%$ (nom.) | |

Digital Modulation Analysis (Option SSA3000XR-WDMA)

| Measurement | |
|---|--|
| Modulation Type (The analysis BW is same with real-time BW in RTSA mode) | ASK: 2ASK; FSK: 2,4,8,16 level; MSK: GMSK; PSK: BPSK,QPSK,OQPSK,8PSK; DPSK: DBPSK, DQPSK, D8PSK, $\pi/4$ -DQPSK, $\pi/8$ -D8PSK; QAM: 16,32,64,128,256 |
| Meas Length | 16 to 4096 |
| Points/Symbol | 4,6,8,10,12,14,16 |
| Symbol Rate | 1 ksps to 25 Msps, Symbol Rate* Points/Symbol <=160 Msps |
| Filter | |
| Meas/Ref Filter | Nyquist, Squrt Nyquist, Gauss, Half Sine, Rectangular |
| Length | 2 to 128 |
| Alpha/BT | Alpha 0.01~1, BT 0.01~10 |
| Trace | |
| Trace Data | IQ Meas Time, IQ Meas Spectrum, IQ Ref Time, IQ Ref Spectrum, Time, Spectrum, Symbol Error Chart, Err Vector Time, Err Vector Spectrum, IQ Mag Err, IQ Phase Err |
| Layout | Single, Stacked 2, Grid 1 2, Grid 2*2 |
| Trace Formats | Log mag, Lin mag, Real, Imag, I-Q, Constellation, I-eye, Q-eye, Wrap Phase, Unwrap Phase, Trellis eye |
| Symbol Error Chart | |
| PSK/DPSK/MSK/QAM | EVM (rms EVM, peak EVM), Magnitude error, Phase error, IQ offset, Carrier offset, SNR Quadrature error, Gain imbalance(not support for MSK) |
| ASK | ASK Error, ASK depth, carrier offset |
| FSK | FSK Error, Magnitude error, FSK deviation, carrier offset |

EMI Measurement Mode

Option SSA3000XR-EMI

| Measurement | |
|-------------------------|---|
| Measurement View | Frequency scan, Meter, Signal list |
| Pre-compliance Sequence | Scan, Search, Meas |
| EMI filter RBW (-6dB) | 200 Hz, 9 kHz, 120 kHz, 1MHz(following CISPR 16-1-1) |
| RBW uncertainty | < 5% |
| Detector | Peak, Voltage Average, Quasi-Peak(following CISPR 16-1-1) |
| Dwell time | 0 us ~ 10 s |
| RBW/Steps | 0.1, 0.3, 0.5, 1, 2, 3 |
| Corrections | 4 |
| Limit and Trace | 3 |
| Limit Standards | EN550xx, GB9254, FCC Part15, User defined |
| Attenuator | 0-50 dB |
| Report | Signal List |
| Frequency scale | Linear, Logarithmic |

Inputs and Outputs

| Front Panel | |
|---------------------------|--|
| RF input, Port 2 | N-type female, 50 Ω (nom.) |
| TG Source, Port 1 | N-type female, 50 Ω (nom.) |
| USB host | USB-A plug, version 2.0 |
| Ear Phone Jack | 3.5 mm |
| Rear Panel | |
| USB device | USB-B plug, version 2.0 |
| LAN | 10/100 Base, RJ-45 |
| 10 MHz reference output | 10 MHz, >0 dBm, BNC-type female, 50 Ω (nom.) |
| 10 MHz reference input | 10 MHz, -5 to +10 dBm, BNC-type female, 50 Ω (nom.) |
| External trigger input | 5V TTL level, BNC-type female, 10 kΩ |
| Remote Control | |
| Communication Interface | LAN, USB Device, USB Host (USB-GPIB adaptor) SCPI / Labview / IVI based on USB-TMC / VXI-11 / Socket / Telnet; NI-MAX; |
| Remote Control Capability | Web Browser (HTML 5 Supported); Easy Spectrum software; File Explorer (FTP) |

General Specification

| Structure | |
|---|---|
| Dimensions | 393 mm × 207 mm × 116.5 mm (W×H×D) |
| Weight | Net: 4.70 kg (10 lb); Shipping: 5.50 kg |
| Display | TFT LCD, 1024 × 600, 10.1 inch capacitive multi-touch screen |
| Storage | Internal (Flash) 256 MB, external (USB storage device) 32 GB |
| Working Environment | |
| Source | AC voltage range: 100-240 V, 50/60 Hz or 100-120 V 400 Hz; Power consumption: 70 W (MAX) |
| Temperature | Working temperature: 0 °C to 40 °C, Storage temperature: -20 °C to 70 °C |
| Humidity | 0 °C to 30 °C, ≤ 95% Relative humidity 30 °C to 50 °C, ≤ 75% Relative humidity |
| Altitude | Operating: less than 3 km |
| Electromagnetic Compatibility | |
| EN 61326-1: 2013 / EN 61000-3-2: 2014 | Class A(The active input power of the EUT is less than 75 W. According to EN 61000-3-2, no limits are necessary.) |
| EN 61000-3-3: 2013 | Plt: 0.65 Pst: 1.00, dmax: 4.00 %, dc: 3.00 %; dt Lim: 3.30 % dt>Lim: 500ms |
| IEC 61000-4-2: 2008 | AD ±8.0 kV, CD ±4.0 kV |
| IEC 61000-4-3: 2006 + A1: 2007 + A2: 2010 | 80 MHz to 1000 MHz: 10V/m, 1.4 GHz to 2.0 GHz:3 V/m, 2.0 GHz to 2.7 GHz:1V/m |
| IEC 61000-4-4: 2004 + A1: 2010 | AC Line:±2.00 kV |
| IEC 61000-4-5: 2005 | Line to Line: 1.0 kV, Line to Earth: 2.0 kV |
| IEC 61000-4-6: 2008 | 0.15-80 MHz:3 V 1 KHz 80% AM |
| IEC 61000-4-8: 2009 | 30 A/m, 50/60 Hz |
| IEC 61000-4-11: 2004 | Voltage Dips:0%/0.5P; 40%/10P; 70%/25P; Short Interruptions Test Level % UT: 0%/250P |
| Safety | |
| IEC 61010-1:2010/EN 61010-1:2010 | |
| CAN/CSA-C22.2 No.61010-1:2012, CAN/CSA-C22.2 No.61010-2-30:2012, | |
| UL 61010-1:2012, UL 61010-2-30:2012 | |
| RoHS | |
| 2011/65/EU | |

Ordering Information

| Product | Description | Order Number |
|--------------------------------|---|--------------------------------|
| Product Code | Real Time Spectrum Analyzer, 9 kHz ~ 5.0 GHz, Preamp and TG standard | SSA3050X-R |
| | Real Time Spectrum Analyzer, 9 kHz ~ 7.5 GHz, Preamp and TG standard | SSA3075X-R |
| Standard Accessories | Quick Start, USB Cable, Power Cord Advanced Measurement Kit Utility Kit: N(M)-SMA(M) cable(6 GHz), N(M)-N(M) cable(6 GHz), N(M)-BNC(F) adaptor x2, N(M)-SMA(F) adaptor x2, 10 dB 1W attenuator | SSA3000XR-AMK UKitSSA3X |
| Common Options and Accessories | N(M)-SMA(M) cable, 70cm, 6 GHz | N-SMA-6L |
| | N(M)-N(M) cable, 70cm, 6 GHz | N-N-6L |
| | N(M)-BNC(M) cable, 70cm, 2 GHz | N-BNC-2L |
| | N(M)-SMA(M) cable, 100cm, 18 GHz | N-SMA-18L |
| | N(M)-N(M) cable, 100cm, 18 GHz | N-N-18L |
| | USB-GPIB Adaptor | USB-GPIB |
| | Soft carrying bag | BAG-S2 |
| | 6U Rack Mount Kit | SSA-RMK |
| Real-Time Options | 40 MHz Real-Time BandWidth | SSA3000XR-RT40 |
| Reflection Measurement | SSA3000-Refl | |
| Reflection Measurement Options | Reflection Bridge(1 MHz ~ 2.5 GHz) | RB3X25 |
| | 50 Ω N type Mechanical Calibration Kit: Open(M),Short(M),Match(M),Through Adapter(M-M) | F503ME |
| EMI Measurement Options | EMI Measurement Mode | SSA3000XR-EMI |
| | 300 kHz~3 GHz Near Field Probe Kit: 3 H-probes (20/10/5 mm), 1 E-probe (5 mm) | SRF5030T |
| Modulation Analysis Options | Analog Modulation Analysis: AM, FM | SSA3000XR-AMA |
| | Digital Modulation Analysis: ASK, FSK, MSK, PSK, QAM. The analysis BW is the Real-Time BW in RTSA mode | SSA3000XR-WDMA |
| | Easy VSA Software | EasyVSA |

About SIGLENT

SIGLENT is an international high-tech company, concentrating on R&D, sales, production and services of electronic test & measurement instruments.

SIGLENT first began developing digital oscilloscopes independently in 2002. After more than a decade of continuous development, SIGLENT has extended its product line to include digital oscilloscopes, function/arbitrary waveform generators, RF generators, digital multimeters, DC power supplies, spectrum analyzers, vector network analyzers, isolated handheld oscilloscopes, electronic load and other general purpose test instrumentation. Since its first oscilloscope, the ADS7000 series, was launched in 2005, SIGLENT has become the fastest growing manufacturer of digital oscilloscopes. We firmly believe that today SIGLENT is the best value in electronic test & measurement.

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