

SSA3000X Plus Spectrum Analyzer

DataSheet DS0703P_E02A



General Description

The SIGLENT SSA3000X Plus series spectrum analyzers are powerful and flexible tools for RF signal and network analysis. With a frequency range to 7.5 GHz, the analyzer delivers reliable automatic measurements and multiple modes of operation: spectrum analyzer the base, optional functions include RF power measurement, vector signal modulation analysis, reflection measurement, and EMI test.

Applications include broadcast monitoring/evaluation, site surveying, S-parameter measurement, analog/digital modulation analysis, EMI pre-compliance test, research and development, education, production, and maintenance.

Features and Benefits

- ◆ Spectrum Analyzer Frequency Range from 9 kHz up to 2.1 GHz / 3.2 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 (Opt.)
- ◆ Analog and Digital Signal Modulation Analysis Mode (Opt.)
- ◆ Reflection Measurement Kit (Opt.)
- ◆ EMI Filter and Quasi-Peak Detector Kit(Opt.)
- ◆ Advanced Measurement Kit (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

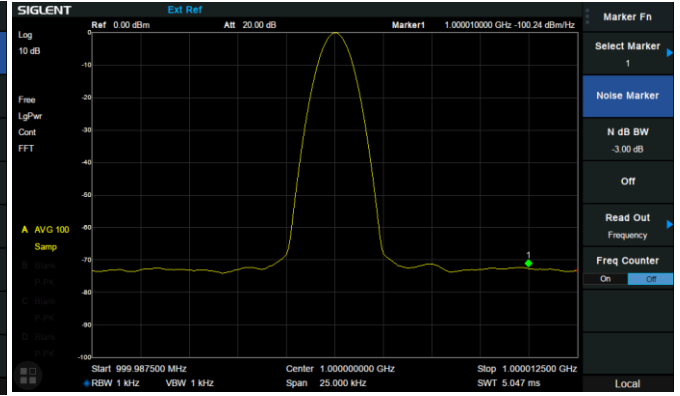
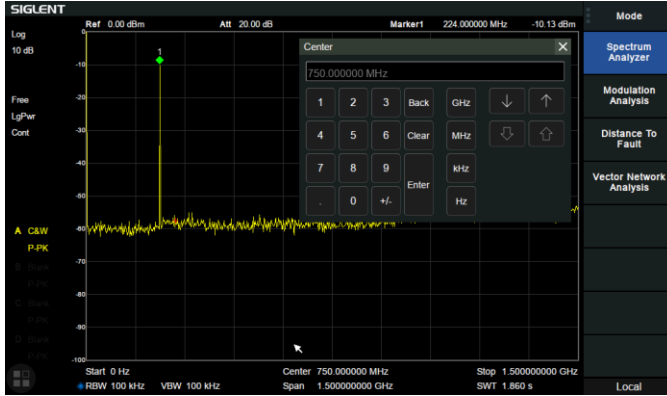
Model	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Frequency Range	9 kHz ~ 2.1 GHz	9 kHz~3.2 GHz	9 kHz~7.5 GHz
Resolution Bandwidth	1 Hz~1 MHz	1 Hz~1 MHz	1 Hz~3 MHz
Displayed Average Noise Level	-161 dBm/Hz	-161 dBm/Hz	-165 dBm/Hz
SSB Phase Noise	< -98 dBc/Hz	<-98 dBc/Hz	<-98 dBc/Hz
Total Amplitude Accuracy	< 0.7 dB	< 0.7 dB	< 0.7 dB
Tracking Generator	100 kHz ~ 2.1 GHz	100 kHz~3.2 GHz	100 kHz~7.5 GHz
Touch Screen	Multi Touch, Mouse and Keyboard supported		
Advanced Measurement	CHP, ACPR, OBW, CNR, Harmonic, TOI, Monitor		
Reflection Measurement	VSWR measurement using Reflection Bridge		
EMI Test	EMI Filter and Quasi-Peak Detector, Log Scale and Limit Line		
Modulation Analysis	AM, FM; ASK, FSK, MSK, PSK, QAM		
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

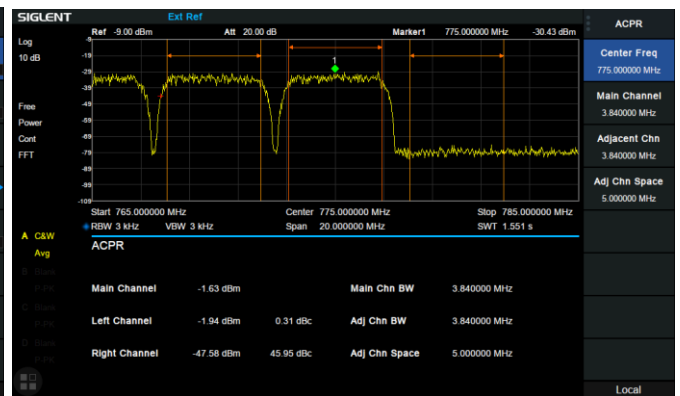
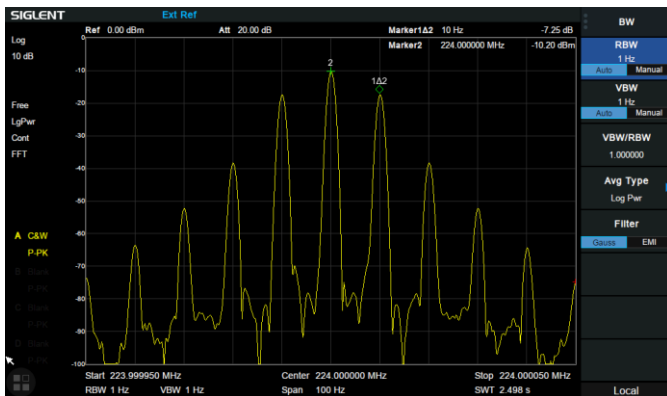
10.1 Inch Display with Multi-Touch Screen

Phase noise <math>< -98 \text{ dBc/Hz}</math>@1 GHz



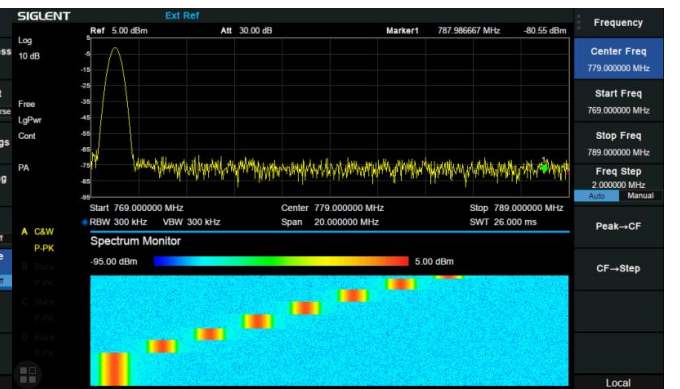
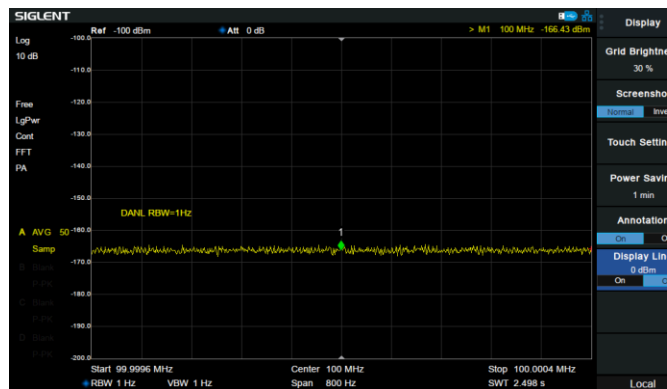
Minimum 1 Hz Resolution Bandwidth (RBW)

ACPR in Advanced Measurement Kit



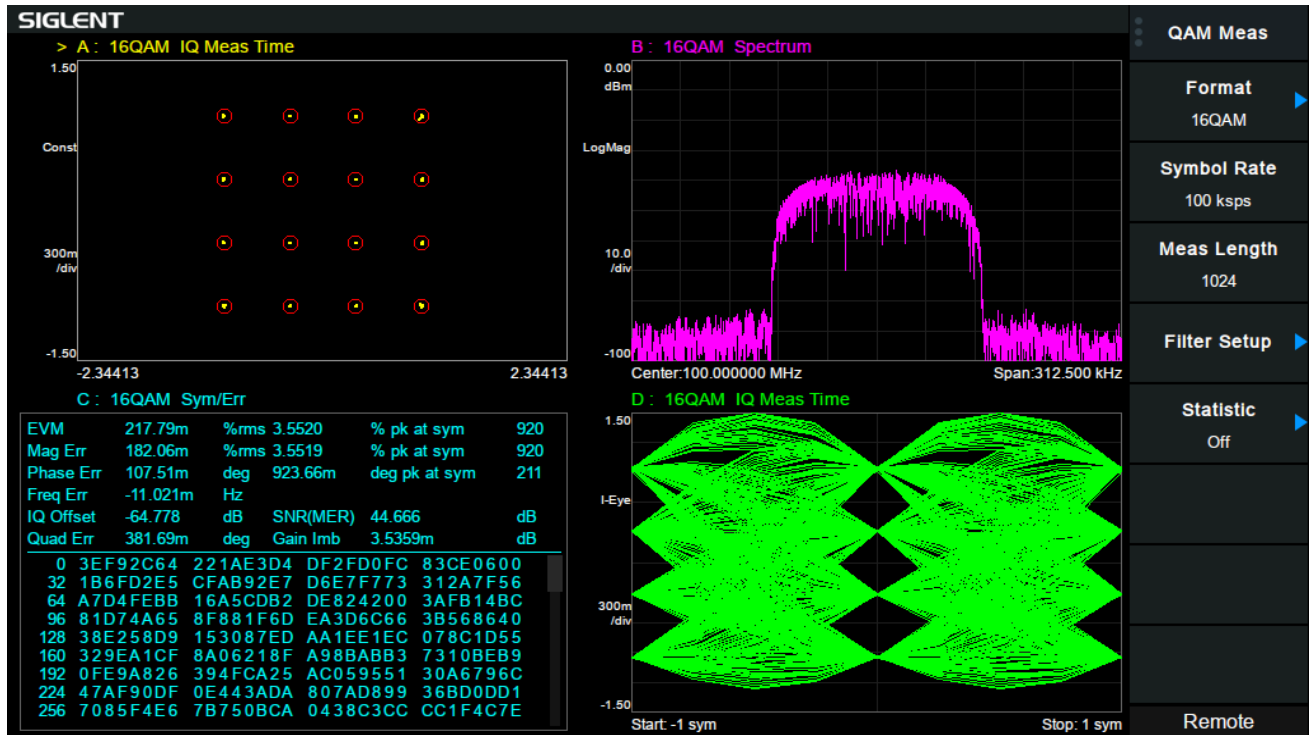
-165 dBm/Hz Displayed Average Noise Level

Monitor in Advanced Measurement Kit



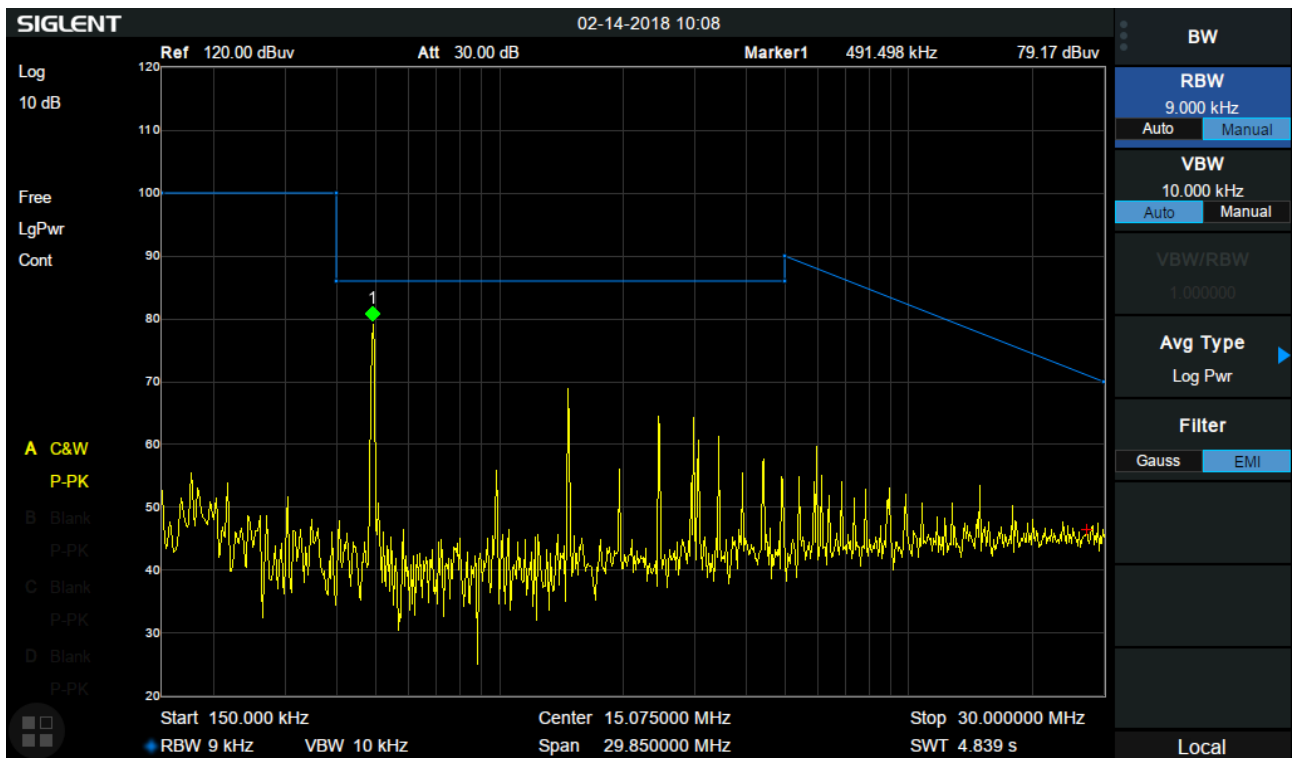
Modulation Analysis Mode

AM/FM, ASK/FSK/PSK/MSK/QAM Vector Signal Modulation Analysis, EVM evaluation



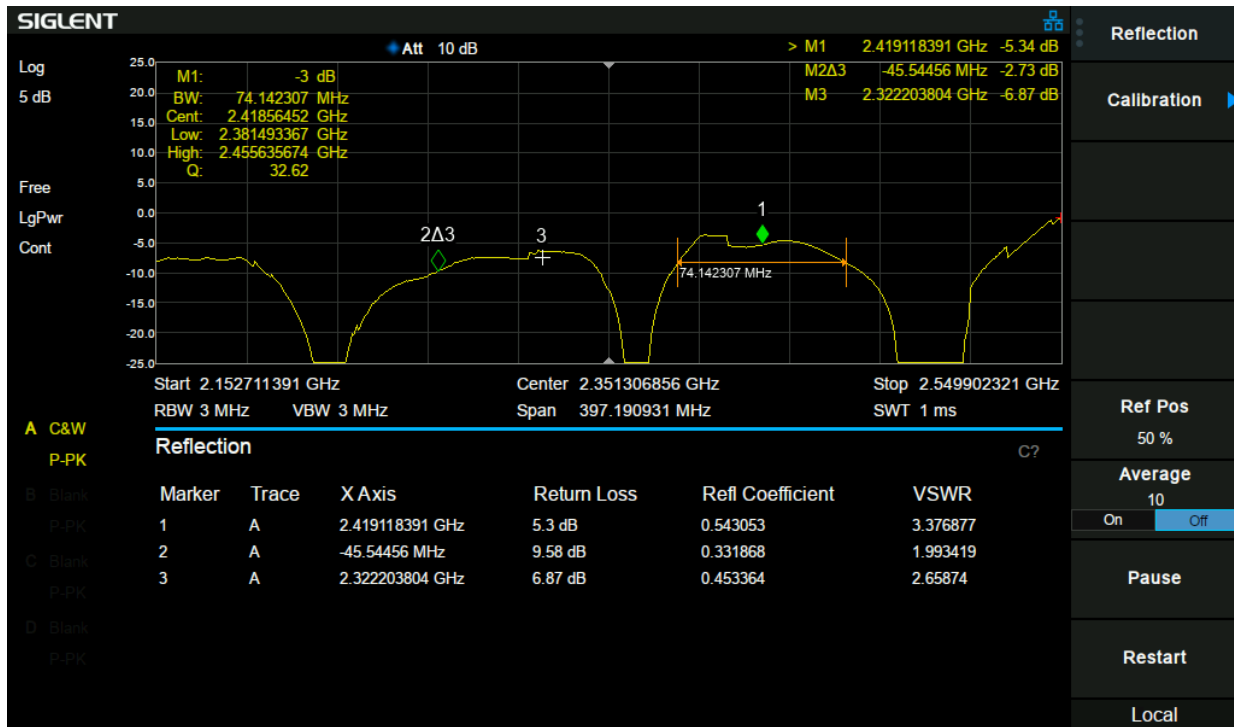
EMI Pre-Compliance Test

CISPR 16-1-1 EMI filter and Quasi-peak Detector, Log scale and Limit line



Reflection Measurement

VSWR and Return Loss measurement using External Reflection Bridge or Directional 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				
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus	
Frequency range	9 kHz ~ 2.1 GHz	9 kHz ~ 3.2 GHz	9 kHz ~ 7.5 GHz	
Frequency resolution	1 Hz			
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/year, 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	0.01 Hz		0.1 Hz	
Bandwidths				
Resolution bandwidth (-3dB)	1 Hz ~ 1 MHz, in 1-3-10 sequence		1 Hz~3 MHz	
Resolution filter shape factor	< 4.8 : 1 (60 dB:3 dB), Gaussian-like			
RBW uncertainty	<5%			
Video bandwidth (-3dB)	1 Hz ~ 3 MHz, in 1-3-10 sequence		1 Hz~10 MHz	
VBW uncertainty	<5%			
Sweep and Trigger				
Sweep time	1 ms to 7500 s			
RBW	Sweep	30 Hz ~ 1 MHz	30 Hz ~ 1 MHz	3 kHz ~ 3 MHz
	FFT	1 Hz ~ 10 kHz	1 Hz ~ 10 kHz	1 Hz ~ 10 kHz
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			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
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		
Pre-Amplifier	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, $f_c \geq 10$ MHz, att > 20 dBm, preamp off		
Maximum damage level	33 dBm, $f_c \geq 10$ MHz, att > 20 dBm, preamp off		
Level Display			
Logarithmic level axis	1 dB to 200 dB		
Linear level axis	0 to reference level		
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), Quasi-peak		
Trace functions	Clear write, Max Hold, Min Hold, View, Blank, Average, Math		

SSB Phase Noise			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Offset	20 °C to 30 °C, $f_c = 1$ GHz, Normalized to 1 Hz		
10 kHz	-95 dBc/Hz, -99 dBc/Hz (typ.)	-95 dBc/Hz, -98 dBc/Hz (typ.)	-96 dBc/Hz, -98 dBc/Hz (typ.)
100 kHz	-96 dBc/Hz, -98 dBc/Hz (typ.)	-96 dBc/Hz, -97 dBc/Hz (typ.)	-95 dBc/Hz, -97 dBc/Hz (typ.)
1 MHz	-115 dBc/Hz, -120 dBc/Hz (typ.)	-115 dBc/Hz, -117 dBc/Hz (typ.)	-112 dBc/Hz, -114 dBc/Hz (typ.)

Displayed Average Noise Level (DANL)

	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus	
20 °C to 30 °C, att = 0 dB, RBW = 1 Hz, sample detector, trace average > 50, TG off				
Preamp off	100 kHz ~1 MHz	-107 dBm, -111 dBm (typ.)	-107 dBm, -111 dBm (typ.)	
	1 MHz~10 MHz	-132 dBm, -136 dBm (typ.)	-132 dBm, -136 dBm (typ.)	
	10 MHz~200 MHz	-137 dBm, -141 dBm (typ.)	-137 dBm, -141 dBm (typ.)	
	200 MHz~1.5 GHz	-135 dBm, -139 dBm (typ.)	-135 dBm, -139 dBm (typ.)	
	1.5 GHz~3.2 GHz		-126 dBm, -132 dBm (typ.)	
	3.2 GHz~5.0 GHz		-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	-132 dBm, -137 dBm (typ.)	-132 dBm, -137 dBm (typ.)	-133 dBm, -136 dBm (typ.)
	1 MHz~10 MHz	-148 dBm, -154 dBm (typ.)	-148 dBm, -154 dBm (typ.)	-151 dBm, -154 dBm (typ.)
Preamp on	10 MHz~200 MHz	-156 dBm, -161 dBm (typ.)	-156 dBm, -161 dBm (typ.)	
	200 MHz~1.5 GHz	-155 dBm, -158 dBm (typ.)	-155 dBm, -158 dBm (typ.)	
	1.5 GHz~3.2 GHz		-145 dBm, -149 dBm (typ.)	
	3.2 GHz~5.0 GHz		-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			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
	20 °C to 30 °C, 30% to 70% relative humidity, att = 20 dB, relative to fc = 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, fc ≥ 1 MHz <1.5 (nom.)	Att = 20 dB, fc ≥ 1 MHz <1.5 (nom.)	
Distortion and Spurious Responses			
Second harmonic distortion (SHI)	20 °C to 30 °C, fc ≥ 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 ≥ 50 MHz, two -20 dBm tones spaced by 100 kHz, att = 0 dB, preamp off +10 dBm (typ.) +14 dBm (typ.)		
1dB gain compression	20 °C to 30 °C, fc ≥ 50 MHz, att = 0 dB, preamp off > -5 dBm (nom.) > 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 (Option SSA3000XP-TG)

Frequency Parameter			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Frequency Range	100 kHz ~ 2.1 GHz		100 kHz ~ 7.5 GHz
Frequency Resolution	1 Hz, Zero Span		
RBW, sweep mode	100 Hz ~ 1 MHz		3k Hz ~ 3 MHz
Power Parameter			
Output level	-20 dBm ~ 0 dBm		-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 Impedence	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 SSA3000XP-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	

EMI Filter and Quasi-Peak Detector Kit (Option SSA3000XP-EMI)

Measurement	
EMI filter RBW (-6dB)	200 Hz, 9 kHz, 120 kHz, 1MHz (following CISPR 16-1-1)
RBW uncertainty	< 5%
Detector	Peak, Average, RMS, Quasi-peak (following CISPR 16-1-1)
QPD Dwell time	0 us ~ 10 s
EMI Receiver Software	EasySpectrum EMI pre-compliance test Software
Frequency axis	Linear, Logarithmic

Reflection Measurement Kit (Option SSA3000XP-Refl)

Stimulus and Measurement			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Frequency Range	100 kHz ~ 2.1 GHz	100 kHz ~ 3.2 GHz	100 kHz ~ 7.5 GHz
RBW	100 Hz ~ 1 MHz		3k Hz ~ 3 MHz
Stimulus Power	-20 ~ 0 dBm		
Format	VSWR, Return Loss, Reflection Coefficient		
Calibration	Open Cal		
	Open + Short		
	Open + Load		

Modulation Analyzer Mode

Common Parameter			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Frequency Range	2 MHz ~ 2.1 GHz	2 MHz ~ 3.2 GHz	2 MHz ~ 7.5 GHz
Carrier Power Accuracy	±2 dB (nom.)		
Carrier Power Range	-30 dBm to +20 dBm (nom.)		

Digital Modulation Analysis (Option SSA3000XP-DMA)

Measurement	
Modulation Type	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 2.5 Msps, Symbol Rate* Points/Symbol ≤10 Msps
Filter	
Meas/Ref Filter	Nyquist, Sqrt 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

Analog Modulation Analysis (Option SSA3000XP-AMA)

AM

Modulation rate range	20 Hz to 100 kHz	
Accuracy	1 Hz (nom.)	Modulation rate < 1 kHz
	< 0.1% modulation rate (nom.)	Modulation rate ≥ 1 kHz
Modulation depth range	5% to 95%	
Accuracy	±4% (nom.)	

FM

Modulation rate range	20 Hz to 200 kHz	
Accuracy	1 Hz (nom.)	Modulation rate < 1 kHz
	< 0.1% modulation rate (nom.)	Modulation rate ≥ 1 kHz
Frequency deviation	1 kHz to 400 kHz	
Accuracy	±4% (nom.)	

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 k Ω
Remote Control	
Communication Interface	LAN, USB Device, USB Host (USB-GPIB adaptor)
Remote Control Capability	SCPI / Labview / IVI based on USB-TMC / VXI-11 / Socket / Telnet; NI-MAX; Web Browser (HTML 5 Supported); Easy Spectrum software; File Explorer (FTP)

General Specification

Structure			
	SSA3021X Plus	SSA3032X Plus	SSA3075X Plus
Weight	Net: 4.40 kg (9.7 lb); Shipping: 5.20 kg	Net: 4.40 kg (9.7 lb); Shipping: 5.20 kg	Net: 4.70 kg (10.0 lb); Shipping: 5.50 kg
Dimensions	393 mm × 207 mm × 116.5 mm (W×H×D)		
Display	TFT LCD, 1024 × 600, 10.1 inch multi-touch screen		
Storage	Internal (Flash) 256 MB, external (USB storage device) 32 GByte		
Working Environment			
Source	AC voltage range: 100-240 V, 50/60 Hz or 100-120 V 400 Hz;		
Power consumption	35 W		70 W
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	Spectrum Analyzer, 9 kHz ~ 2.1 GHz	SSA3021X Plus
	Spectrum Analyzer, 9 kHz ~ 3.2 GHz	SSA3032X Plus
	Spectrum Analyzer, 9 kHz ~ 7.5 GHz	SSA3075X Plus
Standard Accessories	Quick Start, USB Cable, Power Cord	
Common Options and Accessories	Tracking Generator	SSA3000XP-TG
	Advanced Measurement Kit	SSA3000XP-AMK
	Utility Kit:	UKitSSA3X
	N(M)-SMA(M) cable (6 GHz), N(M)-N(M) cable (6 GHz), N(M)-BNC(F) adaptor x 2, N(M)-SMA(F) adaptor x 2, 10 dB 1W attenuator	
	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
	USB-GPIB Adaptor	USB-GPIB
	Soft carrying bag	BAG-S2
	6U Rack Mount Kit	SSA-RMK
Reflection Measurement Options	Tracking Generator	SSA3000XP-TG
	Reflection Measurement	SSA3000XP-Refl
	Reflection Bridge Kit:	RB3X25
	Reflection Bridge (1 MHz ~ 2.5 GHz), N(M)-N(M) adaptors (2 pcs)	
	50 Ω, N type Male, 4.5 GHz Economic Calibration Kit: Open(M), Short(M), Match(M), Through Adapter(F-F)	F503ME
EMI test Options	EMI Measurement Kit: EMI Filter and Quasi Peak Detector, EMI Receiver Mode in EasySpectrum Software	SSA3000XP-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	Digital Modulation: ASK, FSK, MSK, PSK, QAM	SSA3000XP-DMA
	Analog Modulation: AM, FM	SSA3000XP-AMA

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.