How do I pick the right spectrum analyzer for my application?

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Introduction

The SIGLENT SSA3000X, SSA3000X Plus and SVA1000X products are based on a similar swept superheterodyne spectrum analyzer platform and have very similar starting prices. There are quite a few similarities, but also a few differences that could affect the end results for particular applications.

The table below compares the major specifications and the comparable options as they pertain to specific applications like VSWR.

	SSA3000X Series		**SSA3000X Plus Series**		**SVA1000X Series**	
	SSA3021X	**SSA3032X**	**SSA3021X Plus**	**SSA3032X Plus**	**SVA1015X**	**SVA1032X**
TG	Standard		Standard		Standard	
SA Bandwidth	9 kHz – 2.1 GHz	9 kHz – 3.2 GHz	9 kHz – 2.1 GHz	9 kHz – 3.2 GHz	9 kHz – 1.5 GHz	9 kHz – 3.2 GHz
VNA Bandwidth	–		–		10MHz – 1.5 GHz	**100 kHz** – 3.2 GHz
VNA Calibration Kit	–		–		F503ME	
DANL	-151 dBm (RBW 10Hz) -161 dBm, Normalized to 1 Hz		-161 dBm/Hz		-156 dBm/Hz	-161 dBm/Hz
RBW	10 Hz – 1 MHz (1Hz settable)		1 Hz – 1 MHz		1 Hz – 1 MHz	
Phase Noise	< -98 dBc/Hz@1 GHz, 10 kHz offset		< -98 dBc/Hz@1 GHz, 10 kHz offset		< -98 dBc/Hz@1 GHz, 10 kHz offset	
Options	AMK/EMI/Refl*		AMK/EMI/**AMA/DMA**		AMK/EMI/**AMA/DMA/DTF**	
AMK details	CHP/ACPR/TOI/OBW/Monitor		CHP/ACPR/TOI/OBW/Monitor/**Harmonic/CNR**		CHP/ACPR/TOI/OBW/Monitor/**Harmonic/CNR**	
AMA details	–		**AM/FM**		**AM/FM**	
DMA details	–		**ASK/FSK/PSK/QAM**		**ASK/FSK/PSK/QAM**	
EMI filter details	200 Hz, 9 kHz, 120 kHz		200 Hz, 9 kHz, 120 kHz, **1MHz**		200 Hz, 9 kHz, 120 kHz, **1MHz**	
Touch Screen	–		**Touch Screen, Mouse & Keyboard, Webserver**		**Touch Screen, Mouse & Keyboard, Webserver**	

*Compatible with many commercially available return loss bridges/directional couplers

Additional SVA Features and Options

Still having trouble choosing?

Here are some additional features and options that are exclusive to the SSA PLUS and SVA platforms that may help:

Free Features:

- Touch screen control with shortcut widget
- Mouse/Keyboard support
- Easy web browser web control
- Power-On-Line – Instrument will automatically restart when power is restored to the mains power connection (power cord) when this feature is enabled.

Additional Options:

- AM/FM modulation analysis (SVA1000X-AMA. SSA3000XP-AMA) enables visualization of data encoded using AM/FM

- Digital modulation analysis (SVA1000X-DMA. SSA3000XP-DMA) enables visualization of data encoded using FSK/ASK
- Advanced measurement kit (SVA1000X-AMK, SSA3000XP-AMK) feature Harmonic and CNR measurements in addition to CHP/ACPR/TOI/OBW/Monitor.
- Mechanical calibration kit for VNA (F503ME)

If you have additional questions, you can always contact our applications team (info@siglent.com) and we would be happy to answer any additional questions you may have.

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