E5055A SSA-X
Signal Source Analyzer

1 MHz to 8 GHz

KEYSIGHT

E5055A SSA-X Signal Source Analyzer Configurations

This configuration guide describes standard configurations, options, accessories, and application software for the Keysight E5055A SSA-X Signal Source Analyzer. All documentations of the E5055A are available on the product page at: www.keysight.com/find/E5055A

E5055A options

The table below shows all available and selectable options in the E5055A SSA-X Signal Source Analyzer.

E5055A:

Product / Option number	Description	Additional Information
E5055A	SSA-X Signal Source Analyzer, 1 MHz to 8 GHz	
Core Software		
S963105B-C12 S963105B-C36 S963105B-C60	Core software for E5055A, node-locked perpetual license, 1 year Core software for E5055A, node-locked perpetual license, 3 years Core software for E5055A, node-locked perpetual license, 5 years	Option of the support subscription duration for the Core software of the E5055A. One must be selected
Hardware options		
E5055A-100	Standard phase noise	Either one must be selected
E5055A-200	Enhanced low phase noise	
Calibration options		
E5055A-1A7 [1]	Calibration + Uncertainties + Guardbanding	Optional
E5055A-A6J [1]	ANSI Z540-1-1994 Calibration	Optional
Other hardware options		
E5055A-181	Add keyboard	Optional
E5055A-182	Add mouse	Optional
E5055A-1CM	Rackmount kit for installation without handles	Optional
E5055A-1CP	Rackmount kit for installation with handles	Optional

1. Available from September 2022.

Application Software:

Option number	Description	Additional Information
S963015B	SSA-X Signal Source Analyzer advanced features for E5055A	Can be ordered as an embedded software when ordering the E5055A or can be ordered as an independent software.
S963905B	Spectrum analysis for E5055A	Can be ordered as an embedded software when ordering the E5055A or can be ordered as an independent software.
S96325B	Pulsed-RF measurements for SSA-X Signal Source Analyzer	Can be ordered as an embedded software when ordering the E5055A or can be ordered as an independent software.

Configuration step-by-step

Follow the below steps when ordering the E5055A:

Step 1: Select the hardware option (Noise sensitivity option):

- Select either Option 100 Standard phase noise or Option 200 Enhanced low phase noise.

Step 2: Select the period of Core software support subscription:

- Select the support subscription period from 1 year (C12), 3 years (C36), or 5 years (C60). 1 year(12 months) support subscription period (C12) is the default.

Step 3: Select Calibration option:

- If you need any calibration option, please select either one, Option 1A7 Calibration + Uncertainties + Guardbanding or Option A6J ANSI Z540-1-1994 Calibration. (These options are available from September 2022)

Step 4: Select Other hardware options:

- Keyboard, mouse, and rackmount kits are available as other hardware options. You can select any required options from them.
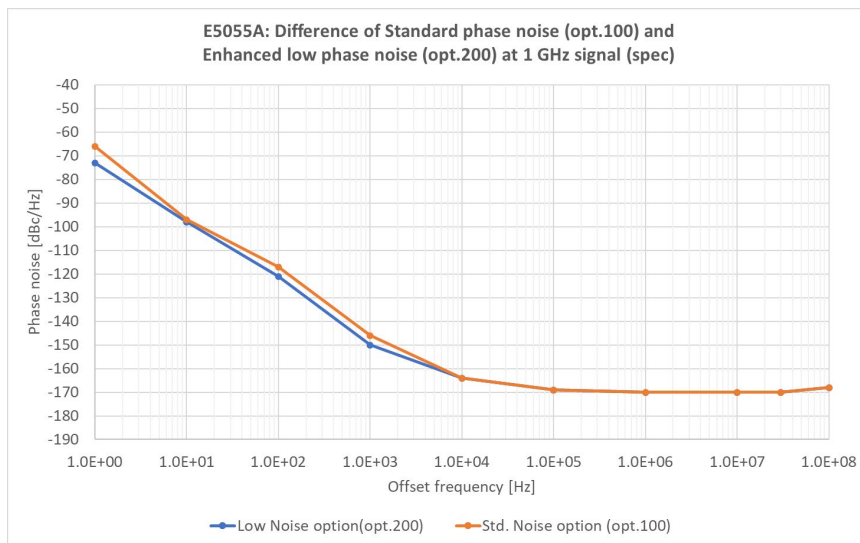
Step 5: Select application software options:

- There are three application software available for E5055A SSA-X. You can select application software as HW embedded software or purchase them separately from the E5055A SSA-X hardware.
- When ordering as embedded application software with the E5055A, only the node-locked/perpetual license type/term is available for each application software.
- When ordering as individual software apart from the E5055A purchase, all license types and terms can be selected for each application software. Please refer to the page 7 Keysight Software Licensing options Provide Flexibility and Support in this document for more detail about the available license types and terms.
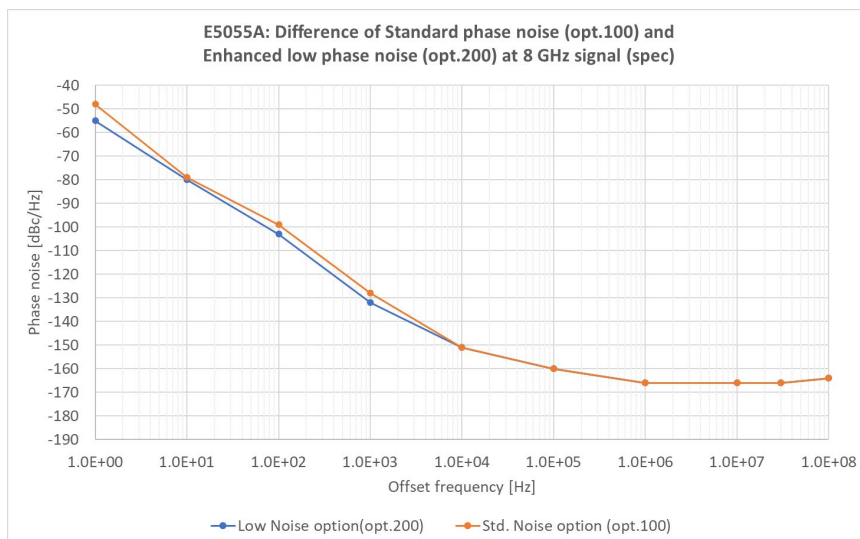
Summary of Hardware Options and Application Software

E5055A Option 100 / 200, Noise sensitivity options

The E5055A has two hardware options according to the system noise sensitivity. Option 100 Standard phase noise level and Option 200 Enhanced low phase noise. Option 200 incorporates the cleaner internal reference oscillator component than that of the Option 100. Up to around 10 kHz offset frequency, Option 200 has 4 to 7 dB noise sensitivity advantages comparing to the Option 100.

Figure 1. Comparison of Option 100 standard phase noise and Option 200 Enhanced low phase noise (RF In signal @ 1 GHz)

Figure 2. Comparison of Option 100 standard phase noise and Option 200 Enhanced low phase noise (RF In signal @ 8 GHz)

Core Software (S963105B)

S963105B SSA-X Signal Source Analyzer core software for E5055A is the mandatory software for the E5055A. This software is stored and shipped from the factory with the E5055A hardware. This software includes very basic capabilities and functionalities as the signal source analyzer such as:

- Phase noise, AM noise, and Baseband noise measurements
- User specified number of cross correlation cycles is limited to 1

The core software is available with the Node-locked and perpetual license only. When ordering the E5055A, the support subscription period must be selected from 1 year(default), 3 years, or 5 years. After the expiration of the support subscription period, even if some new functions and capabilities have been added to the core software, these are not available until you purchase and renew the support subscription license from Keysight.

Application Software

The following application software are available for the E5055A SSA-X Signal Source Analyzer. Each Software supports the following license types and terms:

- License Types: Node-locked, Transportable, Floating, and USB portable
- License Terms: Perpetual and Subscription (6 / 12 / 24 / 36 months)

KeysightCare software support subscription is available with the 12 months, 36 months, or 60 months.

S963015B SSA-X Signal Source Analyzer advanced features for E5055A

This software adds the following versatile functionalities on top of the basic phase noise measurements available with the core software. If you need the user specified cross correlation capabilities, this software is required.

- User specified cross correlation (2 to 100,000 cycles)
- Transient measurements (frequency, power, and phase transient)
- VCO characterization measurements (Frequency, Power, Current, and Frequency sensitivity)
- Spectrum monitor (up to 15 MHz span)

S963905B Spectrum analysis for E5055A

This software enables you to perform the full span (8 GHz) spectrum analysis on the E5055A SSA-X Signal Source Analyzer. With fast stepped-FFT sweeps resulting from optimized data processing, the SA application provides quick spurious searches over the full frequency range.

S96325B Pulsed-RF measurements for SSA-X Signal Source Analyzer

This application enables to measure the phase noise and AM noise of pulsed shaped RF input signal. The pulse application provides an easy way to set up point-in-pulse measurements with pulse width as narrow as 100 nsec.

Keysight Software Licensing Options Provide Flexibility and Support

Projects ramp up and down, teams grow and shrink, and projects move location. In such a dynamic environment, you need flexible licensing options that allow you to balance your project's requirements. Whether your software will be a staple for years to come or you have a short-term need for a leading-edge measurement application, Keysight's licensing puts you in charge.

Choose your term. Choose your type. Keep control of your budget.

Select a node-locked, transportable, USB portable or floating license type, depending on how much flexibility you need.

- Select a node-locked, transportable, USB portable or floating license type, depending on how much flexibility you need.
- Select a subscription or perpetual license term, depending on how long you need to use the software.
- Each license is sold with a KeysightCare software support subscription which provides technical support with ensured response time, proactive software updates and enhancements.

Choose a license term and type that best suits your requirements from the table below.

License term:

License term	Description
Perpetual	Perpetual licenses can be used indefinitely
Subscription	Licenses can be used through the term of the subscription (6, 12, 24, or 36 month)

License type:

License term	Description
Node Locked	License can be used on one specified instrument/computer.
Transportable	License can be used on one instrument/computer at a time but may be transferred to another using Keysight Software Manager (internet connection required).
USB portable	License can be used on one instrument/computer at a time but can be transferred to another using a certified USB dongle (available for additional purchase, Keysight part number E8900-D10).
Floating (Networking)	Networked instruments/computers can access a license from a server one at a time. Multiple licenses may be purchased for concurrent usage. Three types of floating license are available: Single Site: 1-mile radius from the server Single Region[1] : Americas, Europe, Asia Worldwide (export restriction identified in End User License Agreement (EULA))

1. Americas (North, Central, and South America, Canada); Europe (European Continent, Middle Eastern Europe, Africa, India); Asia (North and South Asia Pacific Countries, China, Taiwan, Japan).

KeysightCare Software Support Subscription provides peace of mind amid evolving technologies.

- Ensure your software is always current with the latest enhancements and measurement standards.
- Gain additional insight into your measurement problems with live access to our team of technical experts.
- Stay on schedule with fast turnaround times and priority escalations when you need support.

Subscription	Description
KeysightCare software support	Perpetual licenses are sold with a 12 (default), 24, 36, or 60-month software support subscription. Support subscriptions may be renewed for a fee after that.
	Software subscription licenses include a software support subscription through the term of the license.

Ordering Information

- Step 1. Choose your software product.
- Step 2. Choose your license term: perpetual or subscription.
- Step 3. Choose your license type: node-locked, transportable, USB portable, or floating.
- Step 4. Depending on the license term, choose your subscription or support duration.

Product	License type	License term			Subscription
		Perpetual			
		License	+	Support	License and Support
S963xxxB	Node-locked (fixed)	R-A5B-001-A	+	R-A6B-001-z	R-A4B-001-z
	Transportable	R-A5B-001-D	+	R-A6B-001-z	R-A4B-001-z
	USB portable [1]	R-A5B-001-E	+	R-A6B-001-z	R-A4B-001-z
	Floating (single site)	R-A5B-001-B	+	R-A6B-001-z	R-A4B-001-z
	Floating (single region)	R-A5B-001-F	+	R-A6B-001-z	R-A4B-001-z
	Floating (worldwide)	R-A5B-001-J	+	R-A6B-001-z	R-A4B-001-z
				z=Duration	z=Duration
				L 12 months (default) [2]	F 6 months
				X 24 months	L 12 months
				Y 36 months	X 24 months
				Z 60 months	Y 36 months

1. USB portable license requires a certified USB dongle (available for additional purchase, Keysight part number E8900-D10).
2. For S963xxxB software, the fixed-perpetual with a 12-months, support subscription (R-A6B-001-L) is the only license type that can be ordered as part of the instrument and installed. The other license types for S963xxxB software must be ordered separately and installed from the web after the receipt of the instrument.

Web Sources

Visit our Signal Source Analyzer Web site for additional product information and literature:

www.keysight.com/find/E5055A
www.keysight.com/find/ssa

Phase noise measurements:
www.keysight.com/find/phasenoise

RF and microwave accessories:
www.keysight.com/find/mta

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