

E505xA SSA-X Signal Source Analyzer

E5055A 1 MHz to 8 GHz

E5056A 1 MHz to 26.5 GHz

E5057A 1 MHz to 44 GHz

E5058A 1 MHz to 54 GHz



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E505xA SSA-X Signal Source Analyzer Configurations

This configuration guide describes standard configurations, options, accessories, and application software for the Keysight E505xA SSA-X Signal Source Analyzers. There are four models according to the maximum frequency range:

- E5055A SSA-X Signal Source Analyzer, 1 MHz to 8 GHz
- E5056A SSA-X Signal Source Analyzer, 1 MHz to 26.5 GHz
- E5057A SSA-X Signal Source Analyzer, 1 MHz to 44 GHz
- E5058A SSA-X Signal Source Analyzer, 1 MHz to 54 GHz

All documentations of the E505xA are available on the product page: www.keysight.com/find/phasenoise

Summary of E505xA configuration

The table below shows all available and selectable options in the E505xA SSA-X Signal Source Analyzer.

Product / Option number	Description	Additional information
E505xA main model		
E5055A	SSA-X Signal Source Analyzer, 1 MHz to 8 GHz	
E5056A	SSA-X Signal Source Analyzer, 1 MHz to 26.5 GHz	
E5057A	SSA-X Signal Source Analyzer, 1 MHz to 44 GHz	
E5058A	SSA-X Signal Source Analyzer, 1 MHz to 54 GHz	
Port configuration options (mandatory)		
1-port configuration		
E505xA-100	Standard phase noise	
E505xA-200	Enhanced low phase noise	
2-port configuration		
E505xA-150	2-port standard phase noise, standard noise source	one of port configuration options must be selected.
E505xA-151	2-port standard phase noise, low-noise source (Export-controlled)	
E505xA-160	2-port standard phase noise, standard noise source, network analyzer	
E505xA-161	2-port standard phase noise, low-noise source, network analyzer (Export-controlled)	
E505xA-250	2-port enhanced low phase noise, standard noise source	
E505xA-251	2-port enhanced low phase noise, low-noise source (Export-controlled)	
E505xA-260	2-port enhanced low phase noise, standard noise source, network analyzer	
E505xA-261	2-port enhanced low phase noise, low-noise source, network analyzer (Export-controlled)	
mmWave measurement configuration option		
E505xA-401	LO output (low-noise) / IF in (Export-controlled)	Available on E5056A/57A/58A.
E505xA-400	LO output (standard noise) / IF in	
Calibration options		
E505xA-1A7 ¹	Calibration + Uncertainties + Guardbanding	
E505xA-A6J ¹	ANSI Z540-1-1994 Calibration	
Other hardware options		
E505xA-181	Add keyboard	
E505xA-182	Add mouse	
E505xA-1CM	Rackmount kit for installation without handles	
E505xA-1CP	Rackmount kit for installation with handles	

1. Available from May 2024

Application software:

Option number	Description	Additional information
Advanced features software		
S963015B	SSA-X Signal Source Analyzer advanced features for E5055A	
S963016B	SSA-X Signal Source Analyzer advanced features for E5056A	
S963017B	SSA-X Signal Source Analyzer advanced features for E5057A	
S963018B	SSA-X Signal Source Analyzer advanced features for E5058A	
Spectrum analysis software		
S963905B	Spectrum analysis for E5055A	
S963906B	Spectrum analysis for E5056A	
S963907B	Spectrum analysis for E5057A	
S963908B	Spectrum analysis for E5058A	
Other application software		
S96325B	Pulsed-RF measurements for SSA-X Signal Source Analyzer	Requires S96301xB Advanced features software.
S96302B	Precision clock jitter analysis for SSA-X Signal Source Analyzer	

Front panel connector types

Port	Option ¹	E5055A 8 GHz	E5056A 26.5 GHz	E5057A 44 GHz	E5058A 54 GHz
RF1 Input	Default	Type N (f)	3.5 mm (m)	2.4 mm (m)	1.85 mm (m)
RF2 Input	Opt. x51/x50 Opt. x61/x60	Type N (f)	3.5 mm (m)	2.4 mm (m)	1.85 mm (m)
VNA Port 1 VNA Port 2	Opt. x61/x60	Type N (f)	3.5 mm (m)	2.4 mm (m)	1.85 mm (m)
Source 1 Out Source 2 Out	Opt. x51/x50 Opt. x61/x60	3.5 mm (f)	3.5 mm (f)	2.4 mm (f)	1.85 mm (f)
LO Out / IF In	Opt. 401/400	--	SMA (f)		
Baseband Input	Default	BNC (f)			
DC Control DC Supply 1 DC Supply 2	Default	BNC (f)			

1. Option.150/160/250/260 and 400 are for Export-Controlled countries.



Configuration step-by-step

Follow the below steps when ordering the E505xA:

Step 1: Select the model according to the frequency requirement.

- E5055A 8 GHz, E5056A 26.5 GHz, E5057A 44 GHz or E5058A 54 GHz

Step 2: Select one of HW options:

- For 1-port absolute phase measurement only: option. 100 or 200
- For 2-port measurements without Vector Network Analysis feature:
 - Option 151 with standard phase noise and low-noise source (Option 150 for export restricted countries with standard noise source)
 - Option 251 with enhanced low phase noise and low-noise source (Option 250 for export restricted countries with standard noise source)
- For 2-port measurements with Vector Network Analysis feature:
 - Option 161 with standard phase noise and low-noise source (Option 160 for export restricted countries with standard noise source)
 - Option 261 with enhanced low phase noise and low-noise source (Option 260 for export restricted countries with standard noise source)

Step 3: Add mmWave measurements option if necessary (only for E5056A/57A/58A)

- Option 401 LO output (low-noise) / IF in (Option 400 for export restricted countries with standard noise source)

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.

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 four application software available for E505xA SSA-X. You can select application software as HW embedded software or purchase them separately from the E505xA SSA-X hardware.
- When ordering as embedded application software with the E505xA, select appropriate license type and term for each software. (See page 11 about the license type and term.)
- You can order each application software individually apart from the E505xA purchase.

Summary of Hardware Options and Application Software

1-port phase noise measurement options:

Option 100/200, Noise sensitivity options

The E505xA 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.

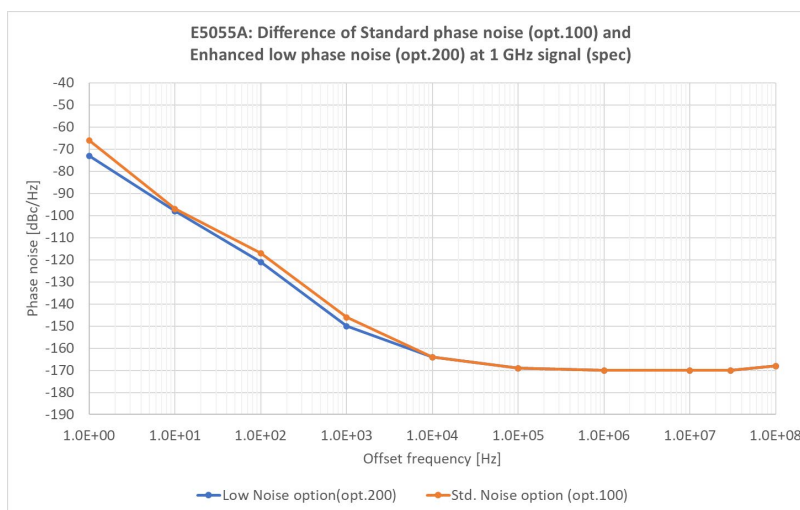


Figure 1. Comparison of Option 100 standard phase noise and Option 200 Enhanced low phase noise (RF In signal @ 1 GHz)

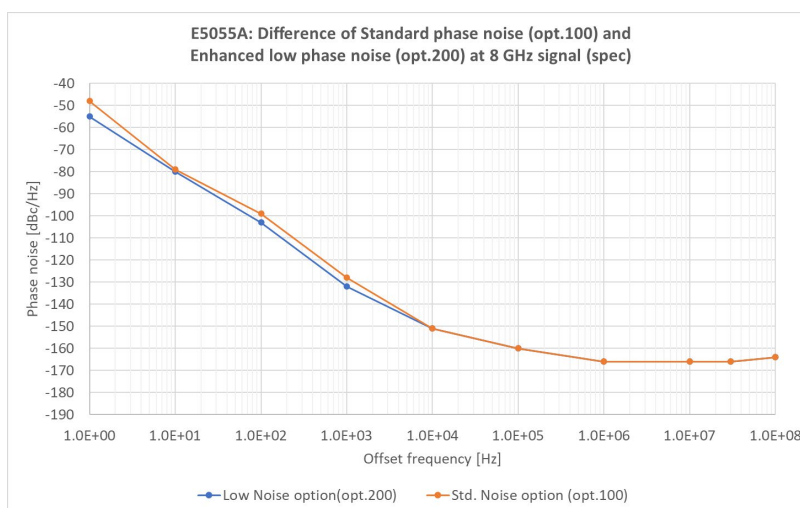


Figure 2. Comparison of Option 100 standard phase noise and Option 200 Enhanced low phase noise (RF In signal @ 8 GHz)

2-port phase noise measurement options

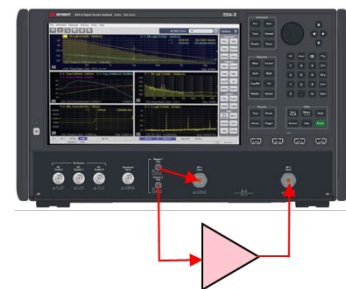
Option 151/251 (150/250)¹, 2-port phase noise measurement

Option 151/150/251/250 on E505xA SSA-X has two independent RF input port (RF1 Input and RF2 Input) and two independent receiver channels. Each channel and its receivers work as the cross correlation channels respectively. Two different absolute phase noise measurements can be done at a time using these two RF input ports.

In addition, the Source output 1 and 2 connectors are equipped with these options on the front panel to supply the clean signals up to the maximum frequency to measure the 2-port residual phase noise for 2 port devices, such as amplifiers, frequency converters (such as mixers, frequency multipliers, and converters, etc.)

Option 151/150 is available with the standard phase noise performance, meanwhile, the option 251/250 is available with the enhanced low phase noise. Please refer to the page 6.

1. Option 150/250 is the option which is specially designed for Export restricted countries. Option 151/251 cannot be shipped to such Export restricted countries.



2-port vector network analyzer options

Option 161/261 (160/260)¹, 2-port phase noise measurement with VNA (Vector Network Analysis) measurement

In addition to the above Option 151/150/251/250, Option 161/160/261/260 adds the 2-port Vector Network analyzer (VNA) capability on the E505xA SSA-X up to the maximum frequency range. This option enables you to measure the full 2-port network analysis with the same look and feel user interface and has the command level compatibility with other Keysight vector network analyzers. The performances as the network analyzer is almost comparable to the dedicated mid-range network analyzers. You can use the variety of calibration gears, such as ECal and mechanical calibration kit.

Option 161/160 is available with the standard phase noise performance, meanwhile, the option 261/260 is available with the enhanced low phase noise. Please refer to the page 6.

1. Option 160/260 is the option which is specially designed for Export restricted countries. Option 161/261 cannot be shipped to such Export restricted countries.

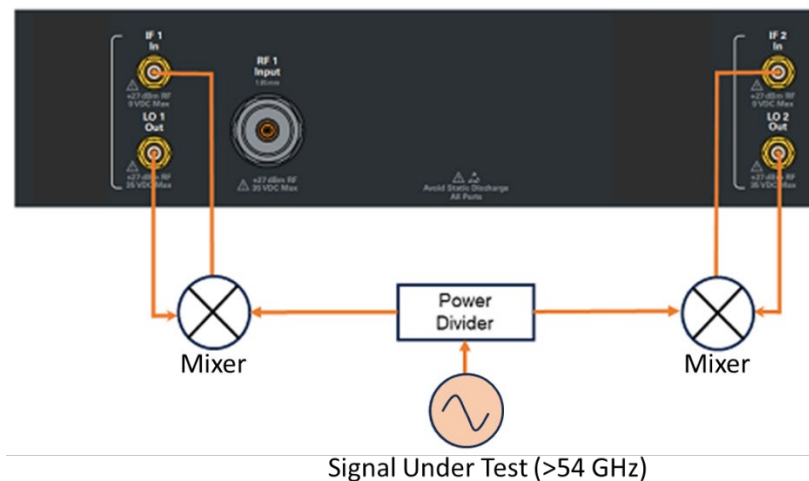


mmWave application support option

Option 401 (400)¹, LO Out and IF In functions

Option 401 (400) adds a pair of LO out/IF in connectors to support and measure the RF signal higher than 54 GHz. This option is available on E5056A 26.5 GHz, E5057A 44 GHz, and E5058A 54 GHz models and cannot be available on E5055A 8 GHz model. The external mixers and power dividers need to be prepared independently by users according to the measurement needs.

1. Option 400 is the option which is specially designed for Export restricted countries. Option 401 cannot be shipped to such Export restricted countries.



Application software

The following application software are available for the E505xA 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)

Refer to page 12 for details about License Types and Terms.

S96301xB SSA-X Signal Source Analyzer advanced features for E505xA

This software adds the following versatile functionalities on top of the basic phase noise. 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)

S96390xB Spectrum analysis for E5055A

This software enables you to perform the full span spectrum analysis on the E505xA SSA-X Signal Source Analyzer. (8 GHz span for E5055A, 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 software 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.

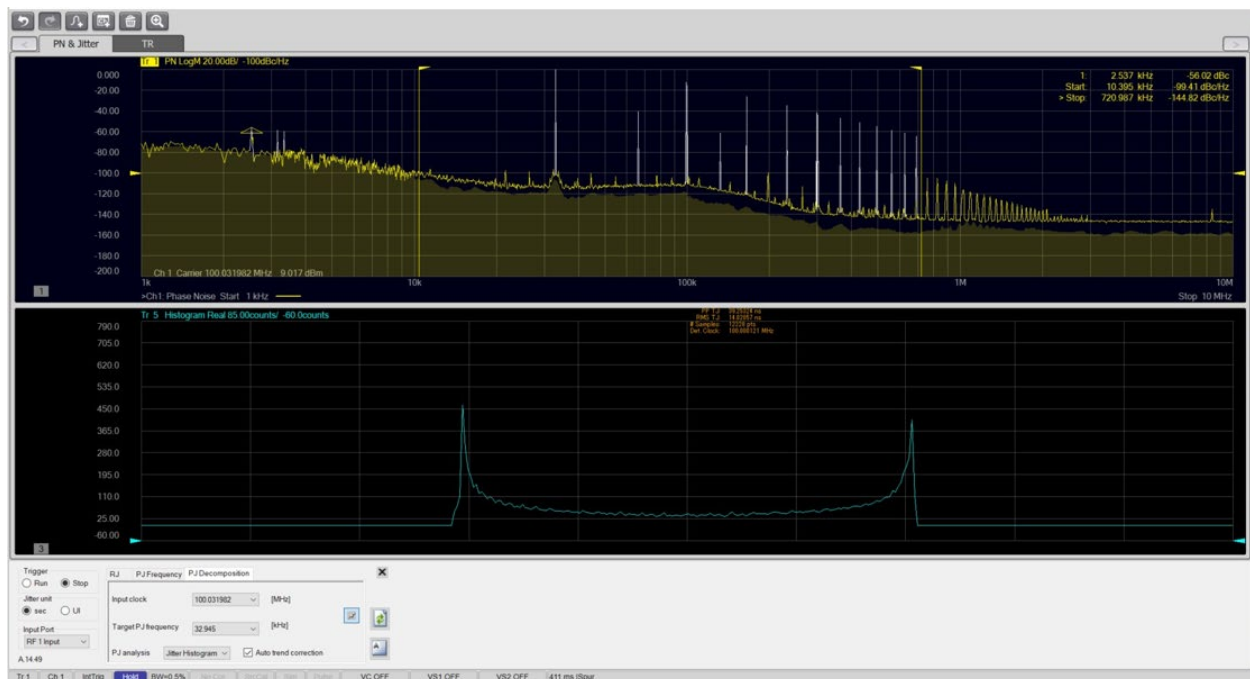
S96302B Precision clock jitter analysis for SSA-X Signal Source Analyzer

This application software enables to measure and evaluate more precisely and accurately for the today's advanced clock-signal jitter. This has the same functionality and look-and-feel user interface with the current E5001A Precision clock jitter analysis running on the E5052B Signal Source Analyzer and provides the following features:

- Real-time jitter spectrum analysis on both Random Jitter (RJ) and Periodic Jitter (PJ)
- Ultra-low RJ measurement with femto-second resolution
- Time-domain measurements on jitter trend, histogram, and RJ/PJ separation of clock signals.

Running on Keysight's E505xA SSA-X Signal Source Analyzer, the S96302B enhances your ability to separate RJ and PJ from total jitter (TJ) by combining time-domain waveform measurement techniques and frequency-domain phase-noise measurement techniques --providing remarkably ultra-low jitter measurement capabilities for both random jitter (RJ) and periodic jitter (PJ).

This software requires the S96301xB Advanced Feature Software according to the frequency of E505xA SSA-X.



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 (3 to 36 months)

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 SW1000-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

New software order:

- 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.

License term					
Product	License type	Perpetual			Subscription
		License	+	Support	License and support
S963xxxB	Node-locked (fixed)	SW1000-LIC-01	+	SW1000-SUP-01	SW1000-SUB-01
	Transportable				
	USB portable ¹				
	Floating (single site)				
	Floating (single region)				
	Floating (worldwide)				
		License Type attributes	+	Durations attributes (Duration or start/stop dates, 12 – 60 months)	License Type and Durations attributes (Subscription Duration or start/stop dates, 3 – 36 months)

1. USB portable license requires a certified USB dongle (available for additional purchase, Keysight part number E8900-D10).

Support renewal:

License term			
Product	License type	Perpetual	Subscription
	Node-locked (fixed)	SW1000-SUP-01	
	Transportable		
	USB portable ¹		
	Floating (single site)		
	Floating (single region)		
	Floating (worldwide)		
		License type attributes (1 month – 60 months)	License type attributes (Start/stop dates (1 – 36 months))

Measurement Accessories

A complete list of RF and microwave test accessories is available on our Web site:

www.keysight.com/find/mta

Accessories are available in these connector types: 50 Ω Type-N, 3.5 mm, 7 mm, 2.4 mm, 2.92 mm, 1.85 mm, 1.0 mm, and waveguide. Test port cables and a calibration kit should be added for a complete measurement system. A verification kit is used to verify corrected system performance.

Cable and adapter sets

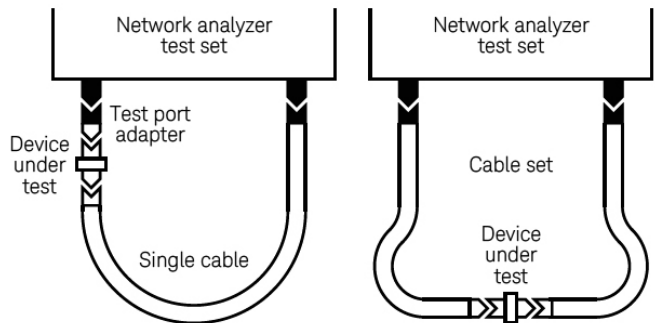
Keysight offers cables in the following types:

- Single cables in semi-rigid and flexible
- Cable sets in semi-rigid and flexible

There are also adapter sets available that protect the test port and convert the port to the desired connector interface. These kits contain:

- One male adapter
- One female adapter

To attain the best mechanical rigidity for device connection, use a single cable and the appropriate special adapter set. To attain the greatest flexibility for device connection, use a cable set.



Cable and adapter sets

Coaxial measurements

Mechanical calibration kits include standards, such as opens, shorts and loads, which are measured by the network analyzer for increased measurement accuracy.

Choose a calibration kit for each connector type to be used.

Economy, includes:

- Open standards (male and female)
- Short standards (male and female)
- Fixed-termination standards (male and female)

Standard, includes the devices in the economy kit and adds:

- Sliding load standards (male and female) or a series of offset shorts

Precision, includes the devices in the economy kit and adds:

- 50 Ω airline(s) for TRL calibration
- TRL adapters

Electronic calibration (ECal) kits replace mechanical calibration standards with one solid-state calibration module that is controlled by the network analyzer via USB, to present many different impedances to the test ports. A full two-port calibration can be performed quickly with a single connection. This technique reduces operator errors and connector wear and abrasion.

For more information about ECal modules, refer to the technical overview [5963-3743E](#) (N4690, 85090, N4430, N7550, and N7560 Series).

Waveguide measurements

For waveguide measurements, Keysight offers mechanical calibration kits that include:

- Waveguide-to-coax adapters (X, P, K, R, Q, U, V)
- Precision waveguide section
- Flush short circuit
- Fixed terminations
- Straight section

For devices with 1.85 mm connectors

Mechanical calibration kits

85058B standard: DC to 67 GHz. Includes:

- 85058-60101 1.85 mm (m) short 5.4 mm
- 85058-60102 1.85 mm (m) short 6.3 mm
- 85058-60103 1.85 mm (m) short 7.12 mm
- 85058-60104 1.85 mm (m) short 7.6 mm
- 85058-60105 1.85 mm (f) short 5.4 mm
- 85058-60106 1.85 mm (f) short 6.3 mm
- 85058-60107 1.85 mm (f) short 7.12 mm
- 85058-60108 1.85 mm (f) short 7.6 mm
- 85058-60109 1.85 mm male open
- 85058-60110 1.85 mm female open
- 85058-60111 1.85 mm male load
- 85058-60112 1.85 mm female load
- 85058-60113 1.85 mm (m) to 1.85 mm (m) adapter
- 85058-60114 1.85 mm (f) to 1.85 mm (f) adapter
- 85058-60115 1.85 mm (m) to 1.85 mm (f) adapter

85058E economy: DC to 67 GHz. Includes:

- 85058-60101 1.85 mm (m) short 5.4 mm
- 85058-60105 1.85 mm (f) short 5.4 mm
- 85058-60109 1.85 mm male open
- 85058-60110 1.85 mm female open
- 85058-60123 1.85 mm male load
- 85058-60124 1.85 mm female load
- 85058-60113 1.85 mm (m) to 1.85 mm (m) adapter
- 85058-60114 1.85 mm (f) to 1.85 mm (f) adapter
- 85058-60115 1.85 mm (m) to 1.85 mm (f) adapter

Electronic calibration kits

N4694D Microwave ECal: DC or 10 MHz to 67 GHz, 2-ports. Includes:

- Option F0F: Both connectors are 1.85 mm female on module
- Option M0F: 1 female and 1 male 1.85 mm connector on module
- Option M0M: Both connectors are 1.85 mm male on module
- Option 0DC: DC to 67 GHz
- Option 100: 10 MHz to 67 GHz
- Option 00A adds:
 - 85058-60113 1.85 mm (m) to 1.85 mm (m) adapter
 - 85058-60114 1.85 mm (f) to 1.85 mm (f) adapter

Cables

- N4697J¹ Single, flexible cable up to 70 GHz:
 - 1.85 mm (f) to 1.85 mm (f), 96.5 cm, 38 inches
- N4697K¹ Set, flexible cable set up to 70 GHz
 - One 1.85 mm (f) to 1.85 mm (f) cable, 62.2 cm, 24.5 inches, and one 1.85 mm (f) to 1.85 mm (m) cable, 62.2 cm, 24.5 inches
- N4421B-K67 Single, flexible: 1.85 mm (f) to 1.85 mm (m), 91.4 cm, 36 inches

Adapter sets

- 85130H¹ 1.85 mm to 1.85 mm

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

For devices with 2.4 mm connectors

Mechanical calibration kits

85056A standard: DC to 50 GHz. Includes:

- 00901-60003 2.4 mm (m) fixed broadband load
- 00902-60004 2.4 mm (f) fixed broadband load
- 00915-60003 2.4 mm (m) sliding load
- 00915-60004 2.4 mm (f) sliding load
- 85056-60005 2.4 mm (m) to 2.4 mm (m) adapter
- 85056-60006 2.4 mm (f) to 2.4 mm (f) adapter
- 85056-60007 2.4 mm (m) to 2.4 mm (f) adapter
- 85056-60020 2.4 mm (m) short
- 85056-60021 2.4 mm (f) short
- 85056-60022 2.4 mm (m) open
- 85056-60023 2.4 mm (f) open

85056D economy: DC to 50 GHz. Includes:

- 00901-60003 2.4 mm (m) fixed broadband load
- 00902-60004 2.4 mm (f) fixed broadband load
- 85056-60005 2.4 mm (m) to 2.4 mm (m) adapter
- 85056-60006 2.4 mm (f) to 2.4 mm (f) adapter
- 85056-60007 2.4 mm (m) to 2.4 mm (f) adapter
- 85056-60020 2.4 mm (m) short
- 85056-60021 2.4 mm (f) short
- 85056-60022 2.4 mm (m) open
- 85056-60023 2.4 mm (f) open

Electronic calibration kits

N4693D Microwave ECal: DC or 10 MHz to 50 GHz, 2-ports. Includes:

- Option F0F: Both connectors are 2.4 mm female on module
- Option M0F: 1 female and 1 male 2.4 mm connector on module
- Option M0M: Both connectors are 2.4 mm male on module
- Option 0DC: DC to 50 GHz
- Option 100: 10 MHz to 50 GHz
- Option 00A adds:
 - 85056-60005 2.4 mm (m) to 2.4 mm (m) adapter
 - 85058-60006 2.4 mm (f) to 2.4 mm (f) adapter

Cables

Note: Keysight offers the following 2.4 mm test port cables. Adapters will be necessary when using these cables for 2.92 mm measurements.

- 85133C¹ single, semi-rigid: 2.4 mm (f) to PSC-2.4 mm (f), 81 cm, 32 inches
- 85133D¹ set, semi-rigid:
 - One 2.4 mm (f) to 2.4 mm (m), 53 cm, 21 inches, p/n 85133-60001
 - One 2.4 mm (f) to 2.4 mm (f), 53 cm, 21 inches, p/n 85133-60002
- 85133E¹ single, flexible: 2.4 mm (f) to PSC-2.4 mm (f), 97 cm, 38 inches
- 85133F¹ set, flexible:
 - One 2.4 mm (f) to 2.4 mm (f), 63 cm, 25 inches, p/n 85133-60016
 - One 2.4 mm (f) to 2.4 mm (m), 63 cm, 25 inches, p/n 85133-60017
- 85133H¹ Single, flexible: 2.4 mm (f) to 2.4 mm (m), 63 cm, 25 inches
- N4421AK20 Single, flexible: 2.4 mm (f) to 2.4 mm (m), 91.4 cm, 36 inches

Adapter sets

- 85130E 2.4 mm¹ to 7 mm
- 85130F 2.4 mm¹ to 3.5 mm
- 85130G 2.4 mm¹ to 2.4 mm

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

For devices with K connectors (2.92 mm) connectors

Mechanical calibration kits

85056KE01 DC to 40 GHz

For use with user supplied 2.92 mm test port cables. 2.92 mm (K connector) calibration kit with fixed and sliding loads. The Keysight 85056KE01 calibration kit is an ordering convenience to allow the pass-through ordering from Keysight for the Maury 8770E47 calibration.

85056KE02 DC to 40 GHz

For use with user supplied 2.92 mm test ports cables. 2.92 mm (K connector) calibration kit with fixed loads only. The Keysight 85056KE02 calibration kit is an ordering convenience to allow the pass-through ordering from Keysight for the Maury 8770F47 calibration kit.

The 85056KE01 and 85056KE02 contains one NMD 2.4 mm¹ (f) to 2.92 mm (f) and one NMD 2.4 mm¹ (f) to 2.92 mm (m) test port adapter to adapt the 2.4 mm test ports of the PNA to 2.92 mm. It also supplies 2.92 mm to 2.92 mm in-series adapters (3 adapters) and a PNA Cal Coefficients on a USB stick. Users must supply their own 2.92 mm or K-connector test port cables. Also included is a 2.92 mm torque wrench.

Maury Microwave Terms and Conditions for Warranty and Return apply. Maury Microwave Corp. calibration kits are to be returned directly to Maury Microwave for service, repair, or calibration issues and not to Keysight Technologies. For additional information go to www.maurymicrowave.com. Keysight Technologies does not guarantee the performance of the Maury calibration kits or the system performance when connected to Keysight vector network analyzers.

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

Electronic calibration kits

N4692D Microwave ECal: DC or 10 MHz to 40 GHz, 2-ports. Includes:

- Option F0F: Both connectors are 2.92 mm female on module
- Option M0F: 1 female and 1 male 2.92 mm connector on module
- Option M0M: Both connectors are 2.92 mm male on module
- Option 0DC: DC to 40 GHz
- Option 100: 10 MHz to 40 GHz
- Option 00A adds:
 - N4692-60021 2.92 mm (m) to 2.92 mm (m) adapter
 - N4692-60022 2.92 mm (f) to 2.92 mm (f) adapter

Cables

Note: Keysight offers the following 2.4 mm test port cables. Adapters will be necessary when using these cables for 2.92 mm measurements.

- 85133C ¹ single, semi-rigid: 2.4 mm (f) to PSC-2.4 mm (f), 81 cm, 32 inches
- 85133D ¹ set, semi-rigid:
 - One 2.4 mm (f) to 2.4 mm (m), 53 cm, 21 inches, p/n 85133-60001
 - One 2.4 mm (f) to 2.4 mm (f), 53 cm, 21 inches, p/n 85133-60002
- 85133E ¹ single, flexible: 2.4 mm (f) to PSC-2.4 mm (f), 97 cm, 38 inches
- 85133F ¹ set, flexible:
 - One 2.4 mm (f) to 2.4 mm (f), 63 cm, 25 inches, p/n 85133-60016
 - One 2.4 mm (f) to 2.4 mm (m), 63 cm, 25 inches, p/n 85133-60017
- 85133H ¹ Single, flexible: 2.4 mm (f) to 2.4 mm (m), 63 cm, 25 inches
- N4421AK20 Single, flexible: 2.4 mm (f) to 2.4 mm (m), 91.4 cm, 36 inches

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

Adapter sets

- 11904A 2.4 mm (m) to 2.92 mm (m)
- 11904B 2.4 mm (f) to 2.92 mm (f)
- 11904C 2.4 mm (m) to 2.92 mm (f)
- 11904D 2.4 mm (f) to 2.92 mm (m)
- 11904S 2.4 mm to 2.92 mm, adapter set, contains 4 matched adapters

For devices with 3.5 mm or SMA connectors

Mechanical calibration kits

85033E economy: DC to 9 GHz. Includes:

- 85033-60016 3.5 mm (m) load
- 85033-60017 3.5 mm (f) load
- 85033-60018 3.5 mm (m) open
- 85033-60019 3.5 mm (f) open
- 85033-60020 3.5 mm (m) short
- 85033-60021 3.5 mm (f) short
- 8710-1761 torque wrench
- Option 100 adds:
 - 85027-60005 3.5 mm (f) to 3.5 mm (f) adapter
- Option 200 adds:
 - 85027-60007 3.5 mm (m) to 3.5 mm (m) adapter

- Option 300 adds:
 - 85027-60006 3.5 mm (m) to 3.5 mm (f) adapter
- Option 400 adds:
 - 1250-1744 3.5 mm (f) to 50 Ω Type-N (m) adapter
 - 1250-1743 3.5 mm (m) to 50 Ω Type-N (m) adapter
 - 1250-1745 3.5 mm (f) to 50 Ω Type-N (f) adapter
 - 1250-1750 3.5 mm (m) to 50 Ω Type-N (f) adapter
- Option 500 adds:
 - 1250-1746 3.5 mm (m) to 7 mm adapter (two included)
 - 1250-1747 3.5 mm (f) to 7 mm adapter (two included)

85052B standard: DC to 26.5 GHz. Includes:

- 00902-60003 3.5 mm (m) fixed load
- 00902-60004 3.5 mm (f) fixed load
- 00911-60019 3.5 mm (m) sliding load
- 00911-60020 3.5 mm (f) sliding load
- 85052-60006 3.5 mm (m) short
- 85052-60007 3.5 mm (f) short
- 85052-60008 3.5 mm (m) open
- 85052-60009 3.5 mm (f) open
- 85052-60012 3.5 mm (f) to 3.5 mm (f) adapter
- 85052-60013 3.5 mm (f) to 3.5 mm (m) adapter
- 85052-60014 3.5 mm (m) to 3.5 mm (m) adapter

85052C precision TRL: DC to 26.5 GHz. Includes:

- 00902-60003 3.5 mm (m) fixed load
- 00902-60004 3.5 mm (f) fixed load
- 85052-60006 3.5 mm (m) short
- 85052-60007 3.5 mm (f) short
- 85052-60008 3.5 mm (m) open
- 85052-60009 3.5 mm (f) open
- 85052-60032 3.5 mm (f) to 3.5 mm (f) adapter
- 85052-60033 3.5 mm (m) to 3.5 mm (m) adapter
- 85052-60034 3.5 mm (f) to 3.5 mm (m) adapter
- 85052-60035 3.5 mm short TRL line
- 85052-60036 3.5 mm long TRL line

85052D economy: DC to 26.5 GHz. Includes:

- 00902-60003 3.5 mm (m) fixed load
- 00902-60004 3.5 mm (f) fixed load
- 85052-60006 3.5 mm (m) short
- 85052-60007 3.5 mm (f) short
- 85052-60008 3.5 mm (m) open
- 85052-60009 3.5 mm (f) open
- 85052-60012 3.5 mm (f) to 3.5 mm (f) adapter
- 85052-60013 3.5 mm (f) to 3.5 mm (m) adapter
- 85052-60014 3.5 mm (m) to 3.5 mm (m) adapter

85052DH02 economy with data-based calibration standards: DC to 26.5 GHz. Includes:

- 5972-3342 USB flash drive
- 00902-60003 3.5 mm (m) fixed load
- 00902-60004 3.5 mm (f) fixed load
- 85052-60006 3.5 mm (m) short
- 85052-60007 3.5 mm (f) short
- 85052-60008 3.5 mm (m) open
- 85052-60009 3.5 mm (f) open
- 85052-60012 3.5 mm (f) to 3.5 mm (f) adapter
- 85052-60013 3.5 mm (f) to 3.5 mm (m) adapter
- 85052-60014 3.5 mm (m) to 3.5 mm (m) adapter

Electronic calibration kits

85093D RF ECal, DC or 300 kHz to 9 GHz, 2-ports. Includes:

- Option 003: 300 kHz to 9 GHz
- Option 0DC: DC to 9 GHz
- Option 00A: Add 3.5 mm adapters
- Option 00F: Both 3.5 mm connectors are female on module
- Option 00M: Both 3.5 mm connectors are male on module
- Option M0F: One female and one male connector, both 3.5 mm

85093D-xxx mixed-connector options

Port A option			Port B option		
Connector type	Female	Male	Connector type	Female	Male
3.5 mm	101	102	Type-N	203	204
			7-16	205	206
			4.3-10	207	208

N4431D Microwave ECal: DC to 13.5 GHz, 4 ports. Includes:

- Option 0DC: DC to 13.5 GHz (mandatory)
- Option 010: 3.5 mm female connector on four ports on module
- Option 020: Type-N female connector on four ports on module

N4431D-xxx mixed-connector options

Connector type	Port A option	Port B option	Port C option	Port D option
Four 3.5 mm (f)	010			
Four Type-N 50 Ω (f)	020			
3.5 mm (f)	101	201	301	401
3.5 mm (m)	102	202	302	402
Type-N 50 Ω (f)	103	203	303	403
Type-N 50 Ω (m)	104	204	304	404
7-16 (f) ¹	105	205	305	405
7-16 (m) ¹	106	206	306	406
4.3-10 (f) ²	107	207	307	407
4.3-10 (m) ²	108	208	308	408

1. Limits ECal module high frequency to 7.5 GHz.

2. Limits ECal module high frequency to 7.5 GHz.

N4433D Microwave ECal: DC or 300 kHz to 26.5 GHz, 4 ports. Includes:

- Option 0DC: DC to 26.5 GHz
- Option 003: 300 kHz to 26.5 GHz
- Option 010: 3.5 mm female connector on four ports on module

N4433D-xxx mixed-connector options

Connector type	Port A option	Port B option	Port C option	Port D option
Four 3.5 mm (f)	010			
3.5 mm (f)	101	201	301	401
3.5 mm (m)	102	202	302	402

N4691D Microwave ECal, DC or 300 kHz to 26.5 GHz, 2-ports. Includes:

- Option F0F: Both 3.5 mm connectors are female
- Option M0F: One female and one male connector, both 3.5 mm
- Option M0M: Both 3.5 mm connectors are male
- Option 0DC: DC to 26.5 GHz
- Option 003: 300 kHz to 26.5 GHz
- Option 00A adds:
 - 85052-60012 3.5 mm (f) to 3.5 mm (f) adapter
 - 85052-60014 3.5 mm (m) to 3.5 mm (m) adapter

N755xA Economy ECal, 2-ports. Includes:

- N7550A DC to 4 GHz, 2-ports
- N7551A DC to 6.5 GHz, 2-ports
- N7552A DC to 9 GHz, 2-ports
- N7553A DC to 14 GHz, 2-ports
- N7554A DC to 18 GHz, 2-ports
- N7555A DC to 26.5 GHz, 2-ports
- Option 3FF: Both 3.5 mm connectors are female
- Option 3MF: One female and one male connector, both 3.5 mm
- Option 3MM: Both 3.5 mm connectors are male
- Option 150: Plastic storage box
- N7550X-151: 3.5 mm or 2.92 mm torque wrench

Cables

- 85131C¹ single, semi-rigid: 3.5 mm (f) to PSC-3.5 mm (f), 81 cm, 32 inches
- 85131D¹ set, semi-rigid:
 - One 3.5 mm (f) to 3.5 mm (m), 53 cm, 21 inches, p/n 85131-60009
 - One 3.5 mm (f) to PSC-3.5 mm (f), 53 cm, 21 inches, p/n 85131-60010
- 85131E¹ single, flexible: 3.5 mm (f) to PSC-3.5 mm (f), 96.5 cm, 38 inches
- 85131F¹ set, flexible:
 - One 3.5 mm (f) to 3.5 mm (m), 62.2 cm, 24.5 inches, p/n 85131-60012
 - One 3.5 mm (f) to PSC-3.5 mm (f), 62.2 cm, 24.5 inches, p/n 85131-60013
- 85131H¹ single, flexible: 3.5 mm (f) to 3.5 mm (m), 62.2 cm, 24.5 inches
- 85134E¹ single, flexible: PSC-3.5 mm (f) to 2.4 mm (f), 96 cm, 38 inches
- 85134F¹ set, flexible:
 - One 2.4 mm (f) to PSC-3.5 mm (f), 53 cm, 21 inches, p/n 85134-60004
 - One 2.4 mm (f) to PSC-3.5 mm (m), 53 cm, 21 inches, p/n 85134-60003
- 85134H¹ single, flexible: 2.4 mm (f) to PSC-3.5 mm (m), 53 cm, 21 inches
- N4419AK20 single, flexible: 3.5 mm (m) to 3.5 mm (f), 91.4 cm, 36 inches

- Z5623A-K20 single, flexible: 3.5 mm (m) to 3.5 mm (m), 91.4 cm, 36 inches

Adapter sets

- 85130D 3.5 mm¹ to 3.5 mm

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

Connector repair kits

3.5 mm connector repair kit

- 85052-60049 Repair kit slotless
- 85052-60050 Contact – 3.5 package of 10
- 85052-60051 Repair kit slotless

Test fixtures

16198A bottom electrode SMD test fixture

- Option 010 10 GHz test fixture and adapter box
- Option 100 Standard set for 0201 (0.2 x 0.1 mm) surface mount devices (SMDs)^{1, 2}
- Option 200 Standard set for 0402 (0.4 x 0.2 mm) surface mount devices (SMDs)^{1, 3}
- Option 101 Contact board (Guide PCA 0201, 70 micrometer)
- Option 102 Contact board (Guide PCA 0201, 100 micrometer)
- Option 201 Contact board (Guide PCA 0402, 100 micrometer)
- Option 110 0201 short bar 5-piece set
- Option 210 0402 short bar 5-piece set
- Option 520 Weight 50 g
- Option 521 Weight 100 g
- Option 522 Weight 200 g
- Option 530 Carrying case
- Option 531 Torque driver

1. 16198A Option 100 and 200 are mutually exclusive.

2. Includes all accessories of Option 101/102/110/520/521/522.

3. Includes all accessories of Option 201/210/520/521/522.

For devices with Type-N connectors

Mechanical calibration kits

85032F standard: DC to 9 GHz. Includes:

- 85032-60017 Type-N (m) fixed load
- 85032-60018 Type-N (f) fixed load
- 85032-60013 Type-N (m) open
- 85032-60014 Type-N (f) open
- 85032-60016 Type-N (m) short
- 85032-60015 Type-N (f) short
- Option 100 adds:
 - 85032-60021 Type-N (f) to Type-N (f) adapter
- Option 200 adds:
 - 85032-60019 Type-N (m) to Type-N (m) adapter
- Option 300 adds:
 - 85032-60020 Type-N (m) to Type-N (f) adapter
- Option 500 adds:
 - 85054-60001 Type-N (f) to 7 mm adapter (two included)
 - 85054-60009 Type-N (m) to 7 mm adapter (two included)

85054B standard: DC to 18 GHz. Includes:

- 00909-60011 Type-N (m) fixed low-band load
- 00909-60012 Type-N (f) fixed low-band load
- 85054-60025 Type-N (m) short
- 85054-60026 Type-N (f) short
- 85054-60027 Type-N (m) open
- 85054-60028 Type-N (f) open
- 85054-60031 Type-N (f) to 7mm adapter
- 85054-60032 Type-N (m) to 7mm adapter
- 85054-60037 Type-N (f) to Type-N (f) adapter
- 85054-60038 Type-N (m) to Type-N (m) adapter
- 85054-80010 Type-N (f) sliding load
- 85054-80009 Type-N (m) sliding load
- 85054-60050 Type-N (f) connector gage
- 85054-60052 Type-N (f) gage master
- 85054-60051 Type-N (m) connector gage
- 85054-60053 Type-N (m) gage master

85054D economy: DC to 18 GHz. Includes:

- 85054-60025 Type-N (m) short
- 85054-60026 Type-N (f) short
- 85054-60027 Type-N (m) open
- 85054-60028 Type-N (f) open
- 85054-60031 Type-N (f) to 7mm adapter
- 85054-60032 Type-N (m) to 7mm adapter
- 85054-60037 Type-N (f) to Type-N (f) adapter
- 85054-60038 Type-N (m) to Type-N (m) adapter
- 85054-60046 Type-N (m) fixed load
- 85054-60047 Type-N (f) fixed load

Electronic calibration kits

85092D RF ECal, DC or 300 kHz to 9 GHz, 2-ports. Includes:

- Option 003: 300 kHz to 9 GHz
- Option 0DC: DC to 9 GHz
- Option 00A: Add Type-N 50 Ω adapters
- Option 00F: Both Type-N 50 Ω connectors are female on module
- Option 00M: Both Type-N 50 Ω connectors are male on module
- Option M0F: One female and one male connector, both type-N 50 Ω

85092D-xxx mixed-connector options

Port A option			Port B option		
Connector type	Female	Male	Connector type	Female	Male
Type-N	103	104	3.5 mm	201	202
			7-16	205	206
			4.3-10	207	208

N4431D Microwave ECal: DC to 13.5 GHz, 4 ports. Includes:

- Option 0DC: DC to 13.5 GHz (mandatory)
- Option 010: 3.5 mm female connector on four ports on module
- Option 020: Type-N female connector on four ports on module

N4431D-xxx mixed-connector options

Connector type	Port A option	Port B option	Port C option	Port D option
Four 3.5 mm (f)			010	
Four Type-N 50 Ω (f)			020	
3.5 mm (f)	101	201	301	401
3.5 mm (m)	102	202	302	402
Type-N 50 Ω (f)	103	203	303	403
Type-N 50 Ω (m)	104	204	304	404
7-16 (f) ¹	105	205	305	405
7-16 (m) ¹	106	206	306	406
4.3-10 (f) ²	107	207	307	407
4.3-10 (m) ²	108	208	308	408

1. Limits ECal module high frequency to 7.5 GHz.
2. Limits ECal module high frequency to 7.5 GHz.

N4432D Microwave ECal: DC or 300 kHz to 18 GHz, 4 ports. Includes:

- Option 0DC: DC to 18 GHz
- Option 003 300 kHz to 18 GHz
- Option 020: Type-N female connector on four ports on module

N4432D-xxx mixed-connector options

Connector type	Port A option	Port B option	Port C option	Port D option
Four Type-N 50 Ω (f)			020	
3.5 mm (f)	101	201	301	401
3.5 mm (m)	102	202	302	402
Type-N 50 Ω (f)	103	203	303	403
Type-N 50 Ω (m)	104	204	304	404

N4690D Microwave ECal, DC or 300 kHz to 18 GHz, 2-ports. Includes:

- Option F0F: Both Type-N connectors are female
- Option M0F: One female and one male connector, both Type-N connectors
- Option M0M: Both Type-N connectors are male
- Option 0DC: DC to 18 GHz
- Option 003: 300 kHz to 18 GHz
- Option 00A adds:
 - 85054-60037 Type-N (f) to Type-N (f) adapter
 - 85054-60038 Type-N (m) to Type-N (m) adapter

N755xA Economy ECal, 2-ports. Includes:

- N7550A DC to 4 GHz, 2-ports

- N7551A DC to 6.5 GHz, 2-ports
- N7552A DC to 9 GHz, 2-ports
- N7553A DC to 14 GHz, 2-ports
- N7554A DC to 18 GHz, 2-ports
- Option NFF: Both Type-N connectors are female
- Option NMF: One female and one male connector, both Type-N
- Option NMM: Both Type-N connectors are male
- Option 150: Plastic storage box
- N7550X-152: Type-N torque wrench

Cables

- N6314A 50 Ω Type-N RF cable, DC to 12.4 GHz Includes:
 - 8120-8862 one 610 mm (24 in) cable with male connectors
- N6315A 50 Ω Type-N RF cable, DC to 12.4 GHz Includes:
 - 8121-0027 one 610 mm (24 in) cable with both female and male connectors

Adapter sets

- 11853A 50 Ω Type-N accessory kit. Includes:
 - 1250-1472 Type-N (f) to Type-N (f) adapter (two included)
 - 1250-1475 Type-N (m) to Type-N (m) adapter (two included)
 - 11511A Type-N (f) short
 - 11512A Type-N (m) short
- 11878A Type-N to 3.5 mm adapter kit. Includes:
 - 1250-1744 3.5 mm (f) to 50 Ω Type-N (m) adapter
 - 1250-1743 3.5 mm (m) to 50 Ω Type-N (m) adapter
 - 1250-1745 3.5 mm (f) to 50 Ω Type-N (f) adapter
 - 1250-1750 3.5 mm (m) to 50 Ω Type-N (f) adapter
- 11524A 7 mm to Type-N (f) adapter
- 11525A 7 mm to Type-N (m) adapter
- 85130C 3.5 mm to Type-N Includes:
 - 85054-60029 3.5 mm to Type-N (f)
 - 85054-60030 3.5 mm to Type-N (m)

For devices with 7 mm connectors

Mechanical calibration kits

85050B standard: DC to 18 GHz. Includes:

- 00909-60008 7 mm coax termination
- 85050-60006 7 mm fixed broadband load
- 85050-80007 7 mm short
- 85050-80010 7 mm open
- 85050-80011 7 mm sliding load

85050C precision TRL: DC to 18 GHz. Includes:

- 00909-60008 7 mm coax termination
- 85050-60003 7 mm to 7 mm airline
- 85050-60005 7 mm to 7 mm TRL adapter
- 85050-60006 7 mm fixed broadband load
- 85050-80008 7 mm short
- 85050-80009 7 mm short with collect
- 85050-80010 7 mm open

85050D economy: DC to 18 GHz. Includes:

- 85050-60006 7 mm fixed broadband load
- 85050-80007 7 mm short
- 85050-80010 7 mm open

Electronic calibration kits

85091D RF ECal, DC or 300 kHz to 9 GHz, 7 mm, 2-ports. Includes:

- Option 003: 300 kHz to 9 GHz
- Option 0DC: DC to 9 GHz

N4696D Microwave ECal, DC or 300 kHz to 18 GHz, 7 mm, 2-ports. Includes:

- Option 0DC: DC to 18 GHz
- Option 003: 300 kHz to 18 GHz

Cables

- 85132E single, flexible: 3.5 mm (f) ¹ to 7 mm, 97.2 cm, 38.25 inches
- 85132F set, flexible: two 3.5 mm (f) ¹ to 7 mm cables, 62.9 cm each, 24.75 inches each, p/n 85132-60004
- 85135E single, flexible: 2.4 mm (f) to 7 mm, 96 cm, 38 inches
- 85135F set, flexible: two 2.4 mm (f) to 7 mm cables, 53 cm each, 21 inches each, p/n 85135-60002

1. Special rugged female connector specifically for connecting to the network analyzer test port but does not mate with a standard male connector.

For devices with 4.3-10 connectors

Electronic calibration kits

85094D RF ECal, DC or 300 kHz to 9 GHz, 4.3-10, 2-ports. Includes:

- Option 003: 300 kHz to 9 GHz
- Option 0DC: DC to 9 GHz
- Option 00A: Add two 4.3-10 adapters (one male-male, one female-female)
- Option 00F: Both 4.3-10 connectors are female on module
- Option 00M: Both 4.3-10 connectors are male on module
- Option M0F: One female and one male connector, both 4.3-10

85094D-xxx mixed-connector options

Port A option			Port B option		
Connector type	Female	Connector type	Female	Connector type	Female
4.3-10	107	108	Type-N	203	204
			7-16	205	206
			3.5 mm	201	202

For devices with 7-16 connectors

Electronic calibration kits

85098D RF ECal, DC or 300 kHz to 7.5 GHz, 7-16, 2-ports. Includes:

- Option 003: 300 kHz to 7.5 GHz
- Option 0DC: DC to 7.5 GHz
- Option 00A: Add two 7-16 adapters (one male-male, one female-female)
- Option 00F: Both 7-16 connectors are female on module
- Option 00M: Both 7-16 connectors are male on module
- Option M0F: One female and one male connector, both 7-16

85098D-xxx mixed-connector options

Port A option			Port B option		
Connector type	Female	Male	Connector type	Female	Male
7-16	105	106	Type-N	203	204
			4.3-10	207	208
			3.5 mm	201	202

For devices with waveguide

Mechanical calibration kits

X-Band

X11644A standard, WR-90: 8.2 to 12.4 GHz. Includes:

- 00896-60008 X-band standard section
- 00910-60003 X-band termination
- 11644-20018 X-band short
- 11644-20021 X-band shim
- X281C adapter (included in calibration kit): WR-90 to 7 mm

P Band

P11644A standard, WR-62: 12.4 to 18 GHz. Includes:

- 00896-60007 P-band standard section
- 00910-60002 P-band termination
- 11644-20017 P-band short
- 11644-20020 P-band shim
- P281C adapter (included in calibration kit): WR-62 to 7 mm

K Band

K11644A standard, WR-42: 18 to 26.5 GHz. Includes:

- 00896-60006 K-band standard section
- 00910-60001 K-band termination
- 11644-20016 K-band short
- 11644-20019 K-band shim
- K281C adapter (included in calibration kit): WR-42 to 3.5 mm (f) Option 012 WR-42 to 3.5 mm (m)

R Band

R11644A standard, WR-28: 26.5 to 40 GHz. Includes:

- 00914-20028 R-band termination
- 11644-20005 R-band short
- 11644-20003 R-band shim
- 11644-60001 R-band 10 cm straight waveguide
- 11644-60016 R-band 5 cm straight waveguide

Q Band

Q11644A standard, WR-22: 33 to 50 GHz. Includes:

- 11644-60005 Q-band termination
- 11644-20004 Q-band short
- 11644-20001 Q-band shim
- 11644-60002 Q-band 10 cm straight waveguide
- 11644-60017 Q-band 5 cm straight waveguide

U Band

U11644A standard, WR-19: 40 to 60 GHz. Includes:

- 11644-60006 U-band termination
- 11644-20004 U-band short
- 11644-20002 U-band shim
- 11644-60003 U-band 10 cm straight waveguide
- 11644-60018 U-band 5 cm straight waveguide

Verification kits

All Keysight verification kits include:

- Precision Z0 airline or match thru
- Mismatched airline or mismatch thru
- Fixed attenuators (except 85059V)
- Traceable measured data and uncertainties

85051B 45 MHz to 18 GHz 7 mm kit

Includes attenuators, airline, and mismatch airline with data on a USB drive for use in confirming calibrated system performance, traceable to national standards. Test procedure is provided in the service manual.

85053B 300 kHz to 26.5 GHz 3.5 mm kit

Includes attenuators, airline, and mismatch airline with data on a USB drive for use in confirming calibrated system performance, traceable to national standards. Test procedure is provided in the service manual.

85055A 300 kHz to 18 GHz Type-N kit

Includes attenuators, airline, and mismatch airline with data on a USB drive for use in confirming calibrated system performance, traceable to national standards. Test procedure is provided in the service manual.

85057B 45 MHz to 50 GHz 2.4 mm kit

Includes attenuators, airline, and mismatch airline with data on a USB drive for use in confirming calibrated system performance, traceable to national standards. Test procedure is provided in the service manual.

85058V 45 MHz to 67 GHz 1.85 mm kit

Includes attenuators, airline, and mismatch airline with data on a USB drive for use in confirming calibrated system performance, traceable to national standards. Test procedure is provided in the service manual.

CalPod calibration refresh modules (8553xB/4xB)

CalPod calibration refresh modules allow in-situ calibration refreshes to be performed at the push of a button without removing the DUT or re-connecting calibration standards. CalPods are designed for any measurement situation where it is desirable to ensure that a valid calibration is present before recording measurement data. For example, they are useful for removing environmental effects such as cable movement and thermal-based changes of cables, connectors, and adapters, as well as connector and switch-matrix repeatability errors. The modules are especially useful in temperature, or thermal-vacuum chamber testing. CalPod modules are equipped with 2.92 mm connectors.

- 85530B 20 GHz ambient-temperature CalPod
- 85531B 20 GHz temperature-compensated CalPod
- 85532B 20 GHz thermal-vacuum compatible CalPod
- 85540B 40 GHz ambient-temperature CalPod
- 85541B 40 GHz temperature-compensated CalPod
- 85542B 40 GHz thermal-vacuum compatible CalPod
- 85523B CalPod controller (provides control for up to 4 CalPods)
- 85556A CalPod drive-cable splitter (allows control for up to 12 CalPods)
- 85554A CalPod drive cable extension (10-meter cascable extension cable)

Web Sources

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

www.keysight.com/find/E5055A

www.keysight.com/find/E5056A

www.keysight.com/find/E5057A

www.keysight.com/find/E5058A

Phase noise measurements:

www.keysight.com/find/phasenoise

RF and microwave accessories:


www.keysight.com/find/mta

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KeysightCare 	KeysightCare provides elevated support for Keysight instruments and software, with access to technical support experts that respond within a specified time and ensure committed repair and calibration turnaround times (TAT). KeysightCare offers multiple service agreement tiers, including KeysightCare Assured, Enhanced, and Application Software Support. See the KeysightCare data sheet for details.
KeysightCare Assured	KeysightCare Assured goes beyond basic warranty with repair services that include committed TAT and unlimited access to technical experts.
KeysightCare Enhanced	KeysightCare Enhanced includes all the benefits of KeysightCare Assured plus Keysight's accurate and reliable Calibration Services , accelerated, and committed TAT, and technical response.
Keysight Support Portal & Knowledge Center	All KeysightCare tiers include access to the Keysight Support Portal where you can manage support and service resources related to your assets such as service requests, and status, or browse the Knowledge Center.
Education Services	Build confidence and gain new skills to make accurate measurements, with flexible Education Services developed by Keysight experts. Including Start-up Assistance.
Alternative acquisition options	
KeysightAccess	Reduce budget challenges with a leased-based subscription service, that offers low monthly payments, enabling you to get the instruments, software, and technical support you want for your test needs.

Recommended services

Maximize your test system up-time by securing technical support, repair, and calibration services with committed response and turnaround times. 1-year KeysightCare Assured is included in every new instrument purchase. Obtain multi-year KeysightCare upfront to eliminate the need for lengthy and tedious paperwork and yearly requests for maintenance budget. Plus, you benefit from secured service for 2, 3, or 5 years.

Service	Function
KeysightCare Enhanced*	Includes tech support, warranty and calibration
R-55B-001-1	KeysightCare Enhanced – Upgrade 1 year
R-55B-001-2	KeysightCare Enhanced – Extend to 2 years
R-55B-001-3	KeysightCare Enhanced – Extend to 3 years (Recommended)
R-55B-001-5	KeysightCare Enhanced – Extend to 5 years (Recommended)
KeysightCare Assured	Includes tech support and warranty
R-55A-001-2	KeysightCare Assured – Extend to 2 years
R-55A-001-3	KeysightCare Assured – Extend to 3 years
R-55A-001-5	KeysightCare Assured – Extend to 5 years
Start-Up Assistance	
PS-S40-01	Included – instrument fundamentals and operations starter
PS-S40-04	Recommended – instrument fundamentals and operations starter
PS-S40-02	Optional, technology & measurement science standard learning

* Available in select countries. For details, please view the [datasheet](#). R-55B-001-2/3/5 must be ordered with R-55B-001-1.