

Keysight E5063A

ENA Vector Network Analyzer

100 kHz to 500 M/1.5 G/3 G/4.5 G/6.5 G/8.5 G/14 G/18 GHz

Configuration Guide



Ordering Guide

The following steps will guide you through configuring your Keysight Technologies' E5063A.

Standard furnished item

Description	Additional information
Installation guide	Contains the information necessary to start up with the E5063A.
CD ROM IO libraries	
Power Cable	
Calibration of Certification	

Step 1. Choose frequency option (must choose one of the eight frequency options.)

Description	Option no.
Network Analyzer 100 kHz to 500 MHz, S-parameter test set, 50 Ω system impedance	E5063A-205
Network Analyzer 100 kHz to 1.5 GHz, S-parameter test set, 50 Ω system impedance	E5063A-215
Network Analyzer 100 kHz to 3 GHz, S-parameter test set, 50 Ω system impedance	E5063A-235
Network Analyzer 100 kHz to 4.5 GHz, S-parameter test set, 50 Ω system impedance	E5063A-245
Network Analyzer 100 kHz to 6.5 GHz, S-parameter test set, 50 Ω system impedance	E5063A-265
Network Analyzer 100 kHz to 8.5 GHz, S-parameter test set, 50 Ω system impedance	E5063A-285
Network Analyzer 100 kHz to 14 GHz, S-parameter test set, 50 Ω system impedance	E5063A-2D5
Network Analyzer 100 kHz to 18 GHz, S-parameter test set, 50 Ω system impedance	E5063A-2H5

Step 2. Choose software option (If not required, go to step 4.)

Description	Option no.	Requires	Not compatible	Additional information
Time Domain/Test wizard	E5063A-011	None	None ¹	This option is required for time domain analysis or PCB measurements
Time Domain	E5063A-010	None	E5063A-011	Adds time domain transform and gating capabilities
Wireless power transfer analysis	E5063A-006	None	None	This option is required for wireless power transfer efficiency test of wireless power transfer modules

1. E5063A-011 is a superset of E5063A-010. E5063A-011 includes the capability of E5063A-010.

Step 3. Choose hardware option

Description	Option no.	Requires	Not compatible	Additional information
Add GPIB interface	E5063A-721	None	E5063A-722	Must choose either Option 721 or 722
Without GPIB interface	E5063A-722	None	E5063A-721	Must choose either Option 721 or 722
Add handler I/O interface	E5063A-731	None	E5063A-732	Must choose either Option 731 or 732
Without handler I/O interface	E5063A-732	None	E5063A-731	Must choose either Option 731 or 732

Step 4. Choose storage drive option (mandatory option)

Description	Option no.	Requires	Not compatible	Additional information
Standard storage drive	E5063A-019	None	None	Option 019 is the only storage drive option for the E5063A. Must choose this option

Step 5. Add accessory option (If not required, go to step 6.)

Description	Option no.	Requires	Not compatible	Additional information
Keyboard	E5063A-810	None	None	USB Keyboard for simplifying word inputs.
Mouse	E5063A-820	None	None	USB Mouse for simplifying measurement operation.
Rackmount Kit	E5063A-1CM	None	None	Not installable simultaneously with E5063A -1CP.
Front Handle Kit	E5063A-1CN	None	None	Not installable simultaneously with E5063A -1CP.
Handle/Rack Mount Kit	E5063A-1CP	None	None	Not installable simultaneously with E5063A -1CM or 1CN.

Step 6. Add calibration certificate (If not required, go to step 7.)

Description	Option no.	Additional information
ISO 17025 Compliant Calibration	E5063A-1A7	ISO 17025 compliant calibration
ANSI Z540 compliant calibration	E5063A-A6J	ANSI Z540 compliant calibration

E5063A Upgrade Kits

Upgrade kits are available to add any E5063A software or hardware features after initial purchase. To upgrade your existing E5063A, order the corresponding item number. For further information, visit: www.keysight.com/find/ena_support

Frequency Upgrades

Upgrade kit option no.	Description	From	To	Customer installable
E5063AU-210	Upgrade from 500 MHz to 1.5 GHz	E5063A-205	E5063A-215	No
E5063AU-230	Upgrade from 500 MHz to 3 GHz	E5063A-205	E5063A-235	No
E5063AU-240	Upgrade from 500 MHz to 4.5 GHz	E5063A-205	E5063A-245	No
E5063AU-260	Upgrade from 500 MHz to 6.5 GHz	E5063A-205	E5063A-265	No
E5063AU-280	Upgrade from 500 MHz to 8.5 GHz	E5063A-205	E5063A-285	No
E5063AU-2D0	Upgrade from 500 MHz to 14 GHz	E5063A-205	E5063A-2D5	No
E5063AU-2H0	Upgrade from 500 MHz to 18 GHz	E5063A-205	E5063A-2H5	No
E5063AU-231	Upgrade from 1.5 GHz to 3 GHz	E5063A-215	E5063A-235	No
E5063AU-241	Upgrade from 1.5 GHz to 4.5 GHz	E5063A-215	E5063A-245	No
E5063AU-261	Upgrade from 1.5 GHz to 6.5 GHz	E5063A-215	E5063A-265	No
E5063AU-281	Upgrade from 1.5 GHz to 8.5 GHz	E5063A-215	E5063A-285	No
E5063AU-2D1	Upgrade from 1.5 GHz to 14 GHz	E5063A-215	E5063A-2D5	No
E5063AU-2H1	Upgrade from 1.5 GHz to 18 GHz	E5063A-215	E5063A-2H5	No
E5063AU-243	Upgrade from 3 GHz to 4.5 GHz	E5063A-235	E5063A-245	No
E5063AU-263	Upgrade from 3 GHz to 6.5 GHz	E5063A-235	E5063A-265	No
E5063AU-283	Upgrade from 3 GHz to 8.5 GHz	E5063A-235	E5063A-285	No
E5063AU-2D3	Upgrade from 3 GHz to 14 GHz	E5063A-235	E5063A-2D5	No
E5063AU-2H3	Upgrade from 3 GHz to 18 GHz	E5063A-235	E5063A-2H5	No
E5063AU-265	Upgrade from 4.5 GHz to 6.5 GHz	E5063A-245	E5063A-265	No
E5063AU-285	Upgrade from 4.5 GHz to 8.5 GHz	E5063A-245	E5063A-285	No
E5063AU-2D5	Upgrade from 4.5 GHz to 14 GHz	E5063A-245	E5063A-2D5	No
E5063AU-2H5	Upgrade from 4.5 GHz to 18 GHz	E5063A-245	E5063A-2H5	No
E5063AU-286	Upgrade from 6.5 GHz to 8.5 GHz	E5063A-265	E5063A-285	No
E5063AU-2D6	Upgrade from 6.5 GHz to 14 GHz	E5063A-265	E5063A-2D5	No
E5063AU-2H7	Upgrade from 6.5 GHz to 18 GHz	E5063A-265	E5063A-2H5	No
E5063AU-2D8	Upgrade from 8.5 GHz to 14 GHz	E5063A-285	E5063A-2D5	No
E5063AU-2H6	Upgrade from 8.5 GHz to 18 GHz	E5063A-285	E5063A-2H5	No
E5063AU-2HD	Upgrade from 14 GHz to 18 GHz	E5063A-2D5	E5063A-2H5	No

Hardware Upgrades

Upgrade model no.	Description	Option no.	Customer installable	Requires (Instrument must already include the following)
E5063AU-721	Add GPIB interface	E5063A-721	No	None
E5063AU-731	Add handler I/O interface	E5063A-731	No	None

Software Upgrades

Upgrade model no.	Description	Option no.	Customer installable	Requires (Instrument must already include the following)	Additional information
E5063AU-011	Time Domain/Test wizard	E5063A-011	Yes	None	This option is required for time domain analysis or PCB measurements
E5063AU-010	Time Domain	E5063A-010	Yes	None	Adds time domain transform and gating capabilities
E5063AU-006	Wireless power transfer analysis	E5063A-006	Yes	None	This option is required for wireless power transfer efficiency test of wireless power transfer modules

OS Upgrades

Upgrade model no.	Description	Customer installable	Requires (instrument must already include the following)	Additional information
E5063AU-040	Upgrade digital H/W from Windows 7 to Windows 10 for COMe CPU	No	None	For units with older CPUs (serial-number prefixes of MY541/542, SG541/542 or lower), order this upgrade model.
E5063AU-041	Upgrade digital H/W from Windows 7 to Windows 10 for Flex-ATX CPU	No	None	For units with newer CPUs (serial-number prefixes of MY543/544, SG543/544 or higher), order this upgrade model.

Test Accessories and Calibration Kits

A complete list of RF test accessories and calibration kits are available on our Web site:

www.keysight.com/find/mta
www.keysight.com/find/ecal

Test accessories

Test accessories such as test port cable are necessary for a complete measurement system using the E5063A. Order test accessories in accordance with the desired measurement system.

Category	Product Number	Description
Cables	N6314A	50 Ω Type-N (m) to Type-N (m) cable, DC to 12.4 GHz, 61 cm (24 inches)
	N6315A	50 Ω Type-N (m) to Type-N (f) cable, DC to 12.4 GHz, 61 cm (24 inches)
	11500E	3.5 mm (m) to 3.5 mm (m) cable, 61 cm (24 inches)
	11500F	3.5 mm (m) to 3.5 mm (m) cable, 152 cm (60 inches)
	N4419AK20	Single, flexible: 3.5 mm (m) to 3.5 mm (f), 91.4 cm (26 inches)
	Z5623A-K20	Single, flexible: 3.5 mm (m) to 3.5 mm (m), 91.4 cm (36 inches)
Adapters	11853A	50 Ω Type-N accessory kit
	11878A	Type-N to 3.5 mm adapter kit

Calibration kits

Calibration is an accuracy enhancement procedure that effectively reduces the system errors that cause uncertainty in network measurement. Calibration kit is necessary to perform the calibration.

- Mechanical calibration kits include standards, such as opens, shorts and loads, which are measured by the network analyzer. Choose a calibration kit for each connector type to be used.
- Electronic calibration (ECal) modules replace mechanical calibration standards with one solid-state calibration module that is controlled by the network analyzer via USB. ECal modules provide many different impedances to the test ports which enables a full two-port calibration to be performed quickly with a single connection. This technique reduces operator errors and connector wear and abrasion.

Category	Product Number	Description
Mechanical calibration kits	85032F	Standard mechanical calibration kit, DC to 9 GHz, Type-N
	85033E	Standard mechanical calibration kit, DC to 9 GHz, 3.5 mm
	85052D	Economy mechanical calibration kit, DC to 26.5 GHz, 3.5 mm
	85054D	Economy mechanical calibration kit, DC to 18 GHz, Type-N
Electronic calibration (ECal) modules	85092C	RF ECal module, 300 kHz to 9 GHz, Type-N, 2-port
	85093C	RF ECal module, 300 kHz to 9 GHz, 3.5 mm, 2-port
	N7550A ¹	Economy ECal module, DC to 4 GHz, Type-N or 3.5 mm, 2-port
	N7551A ¹	Economy ECal module, DC to 6.5 GHz, Type-N or 3.5 mm, 2-port
	N7552A ¹	Economy ECal module, DC to 9 GHz, Type-N or 3.5 mm, 2-port
	N7553A ¹	Economy ECal module, DC to 14 GHz, Type-N or 3.5 mm, 2-port
	N7554A ¹	Economy ECal module, DC to 18 GHz, Type-N or 3.5 mm, 2-port
	N4690D ²	Microwave ECal module, DC/300 kHz to 18 GHz, Type-N, 2-port
	N4691D ²	Microwave ECal module, DC/300 kHz to 26.5 GHz, 3.5 mm, 2-port
	N4696D ²	Microwave ECal module, DC/300 kHz to 18 GHz, 7 mm, 2-port

1. The E5063A must have the firmware revision A.03.72 or above for the operation with the N755xA series ECal.

2. The E5063A must have the firmware revision A.05.04 or above for the operation with the N469xD series ECal.

Literature Resources

Description	Publication number
<i>E5063A ENA Vector Network Analyzer, Data Sheet</i>	5991-3615EN
<i>E5063A ENA Vector Network Analyzer, Configuration Guide</i>	5991-3616EN
<i>E5063A PCB Analyzer, Technical Overview</i>	5991-3617EN
<i>Keysight Vector Network Analyzer Selection Guide</i>	5989-7603EN

More literature is available on our web site.

Web Resource

www.keysight.com/find/vna

www.keysight.com/find/ena-pcb

www.keysight.com/find/ecal

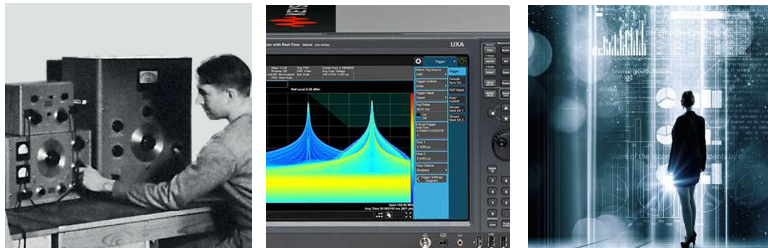
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