

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.

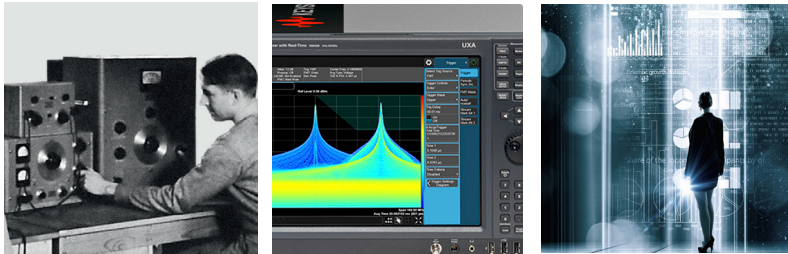
Web Resource

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