Agilent **E5071C Network Analyzer**
- 9 kHz to 4.5/6.5/8.5 GHz
- 100 kHz to 4.5/6.5/8.5 GHz (with bias tees)
- 300 kHz to 14/20 GHz (with bias tees)

E5092A Configurable Multiport Test Set

Configuration Guide

This configuration guide describes standard configurations, options, accessories and peripherals for the E5071C ENA network analyzer. Refer to the ENA brochure for a complete description of the ENA network analyzer and the E5092A configurable multiport test set.

Anticipate ___ *Accelerate* ___ *Achieve*

Agilent Technologies

E5071C ENA Network Analyzer

The ENA is an integrated network analyzer with a two- or four-port S-parameter test set, a synthesized RF source, a 10.4-inch color LCD, and a hard disk drive. A 1-year return-to-Agilent service warranty is included with the each ENA network analyzer.

Step 1: Select frequency range, number of test ports, and with or without bias tees

Up to 4.5 GHz range
9 kHz to 4.5 GHz (without bias tees)
E5071C-240 2-port S-parameter test set
E5071C-440 4-port S-parameter test set

100 kHz to 4.5 GHz (with bias tees)
E5071C-245 2-port S-parameter test set
E5071C-445 4-port S-parameter test set

Up to 6.5 GHz range
9 kHz to 6.5 GHz (without bias tees)
E5071C-260 2-port S-parameter test set
E5071C-460 4-port S-parameter test set

100 kHz to 6.5 GHz (with bias tees)
E5071C-265 2-port S-parameter test set
E5071C-465 4-port S-parameter test set

Up to 8.5 GHz range
9 kHz to 8.5 GHz (without bias tees)
E5071C-280 2-port S-parameter test set
E5071C-480 4-port S-parameter test set

100 kHz to 8.5 GHz (with bias tees)
E5071C-285 2-port S-parameter test set
E5071C-485 4-port S-parameter test set

Up to 14 GHz range[3]
300 kHz to 14 GHz (with bias tees)
E5071C-2D5 2-port S-parameter test set
E5071C-4D5 4-port S-parameter test set

Up to 20 GHz range[3]
300 kHz to 20 GHz (with bias tees)
E5071C-2K5 2-port S-parameter test set
E5071C-4K5 4-port S-parameter test set

Step 2: Select time base

E5071C-1E5 High stability time base
E5071C-UNQ Standard stability time base

Step 3: Select hard disk drive

E5071C-017 Removable hard disk drive
E5071C-019 Standard hard disk drive

Step 4: Choose additional options (Optional)

E5071C-008[1] Frequency offset mode
E5071C-TDR[2] Enhanced time domain analysis
E5071C-010 Time domain analysis
E5071C-790 Measurement Wizard Assistant software

Step 5: Choose accessories (Optional)

E5071C-1CM Rack mount kit,
E5071C-1CN Front handle kit
E5071C-1CP Rack mount and front handle kit
E5071C-810 Adds a keyboard
E5071C-820 Adds a mouse

Step 6: Choose certification documentation (Optional)

E5071C-1A7 ISO 17025 compliant calibration
E5071C-A6J ANSI Z540 compliant calibration

Step 7: Choose your warranty service (Optional)

3 year return-to Agilent warranty and service
5 year return-to Agilent warranty and service

Documentation

The documentation for the E5071C is located in the Online Help system for the E5071C ENA network analyzer. The ENA Service Guide and Online Help system are also available on the Web site:
www.agilent.com/find/ena

Additional product information

For additional product information, refer to the ENA brochure available on the Web site:
www.agilent.com/find/ena

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1. Order the 82357B USB/GPIB interface at the same time if you want to control power meters with the E5071C. This will allow you to conduct scalar mixer calibrations (SMC), power calibrations, or receiver calibrations after power calibrations.
2. E5071C-TDR is a superset of E5071C-010. E5071C-TDR and E5071C-010 are mutually exclusive options and there is no need to purchase both options.
3. Consider purchasing Agilent 20mm TORQUE WRENCH 8710-1764 for NMD 3.5 mm(f) test port connector.

E5071CEP ENA Network Analyzer – Express Configuration

The Agilent E5071CEP ENA series network analyzer express configurations are preconfigured option packages for off-the-shelf delivery from our authorized distributors. The express configurations deliver the same specifications and functionality as Agilent's build-to-order instruments and also provide the same level of upgradeability, ensuring that they can evolve as your test needs change. For more detail, visit, **www.agilent.com/find/express-e5071c**

Model

Options	Description
E5071CEP	ENA Series Network Analyzer – Express Configuration

Options

Options	Frequency	Connector Type	Number of Port	Bias Tee	Equivalent standard model option [1]
E5071CEP-240	9 kHz to 4.5 GHz	Type-N (f)	2	No	E5071C-240/UNQ/019
E5071CEP-280	9 kHz to 8.5 GHz	Type-N (f)	2	No	E5071C-280/UNQ/019
E5071CEP-2K5	300 kHz to 20 GHz	3.5mm (m)	2	Yes	E5071C-2K5/UNQ/019

1. Equivalent standard model options
   Option UNQ : Standard stability time base
   Option 019 : Standard hard disk drive

Receiver assignment
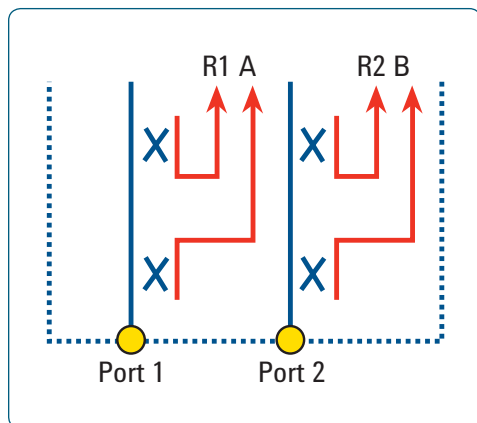
2-port test set option
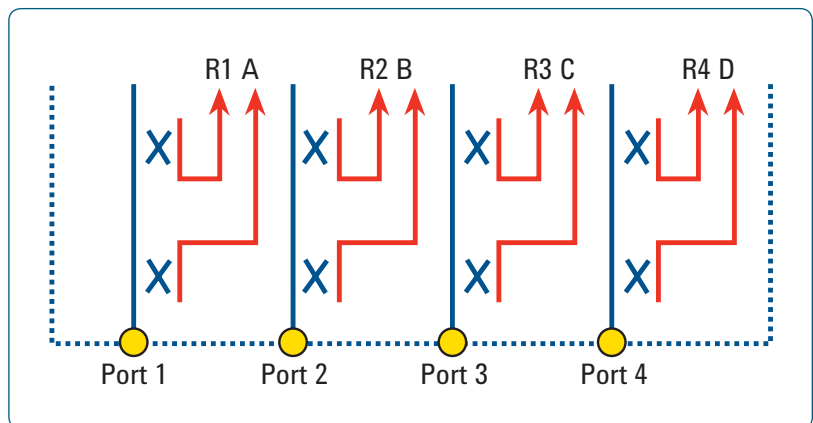
4-port test set option

E5071C ENA Network Analyzer

Options

To add options to a product, order the corresponding item number.

Option[1]	Description	Additional information
Test set		
Option 240	2-port test set, 9 kHz to 4.5 GHz without bias tees	
Option 440	4-port test set, 9 kHz to 4.5 GHz without bias tees	
Option 245	2-port test set, 100 kHz to 4.5 GHz with bias tees	
Option 445	4-port test set, 100 kHz to 4.5 GHz with bias tees	
Option 260	2-port test set, 9 kHz to 6.5 GHz without bias tees	
Option 460	4-port test set, 9 kHz to 6.5 GHz without bias tees	Test port connector: Type-N (f)
Option 265	2-port test set, 100 kHz to 6.5 GHz with bias tees	
Option 465	4-port test set, 100 kHz to 6.5 GHz with bias tees	
Option 280	2-port test set, 9 kHz to 8.5 GHz without bias tees	
Option 480	4-port test set, 9 kHz to 8.5 GHz without bias tees	
Option 285	2-port test set, 100 kHz to 8.5 GHz with bias tees	
Option 485	4-port test set, 100 kHz to 8.5 GHz with bias tees	
Option 2D5	2-port test set, 300 kHz to 14 GHz with bias tees	
Option 4D5	4-port test set, 300 kHz to 14 GHz with bias tees	Test port connector: 3.5 mm (m)[5]
Option 2K5	2-port test set, 300 kHz to 20 GHz with bias tees	
Option 4K5	4-port test set, 300 kHz to 20 GHz with bias tees	
Time base		
Option UNQ	Standard stability time base	
Option 1E5	High stability time base	Adds a higher stability time base reference.
Hard disk drive		
Option 017	Removable hard disk drive	
Option 019	Standard hard disk drive	
Additional features		
Option 008[2]	Frequency offset mode	Adds frequency-offset sweep and harmonic measurement capabilities.
Option TDR[3]	Enhanced time domain analysis	Adds time domain transform, gating capabilities and graphical user interface to simplify time domain measurements.
Option 010	Time domain analysis	Adds time domain transform and gating capabilities.
Option 790[4]	Measurement wizard assistant software	Adds Measurement Wizard Assistant (MWA) software to simplify your multiport measurements with the 4-port ENA
Accessories		
Option 1CM	Rack mount kit	
Option 1CN	Front handle kit	
Option 1CP	Rack mount and front handle kit	
Option 810	Add keyboard	
Option 820	Add mouse	
Calibration documentation		
Option 1A7	ISO 17025 compliant calibration	
Option A6J	ANSI Z540 compliant calibration	

1. Options are ordered using the combined model/option number, e.g. E5071C-240.
2. Order the 82357B USB/GPIB interface at the same time if you want to control power meters with the E5071C. This will allow you to conduct scalar mixer calibrations (SMC), power calibrations, or receiver calibrations after power calibrations.
3. Option TDR is a superset of Option 010. Option TDR and Option 010 are mutually exclusive options and there is no need to purchase both options.
4. When using an ECal module with the MWA calibration wizard, a 4-port ECal module (i.e. N4431B, N4433A) is required.
5. Consider purchasing Agilent 20mm TORQUE WRENCH 8710-1764

E5092A Configurable Multiport Test Set

This guide is intended to assist you in the ordering process of the E5092A configurable multiport test set for use with the 4-port ENA (E5070B, E5071B and E5071C). Multiple multiport measurement configurations, from 50 MHz to 20 GHz, can be made by connecting included semi-rigid cables to the E5092A's front panel which accesses its internal switches.

Step 1:[1] Select appropriate cable and adapter set for connection to the ENA (Optional)

E5092A-08C   Cables and adapters for connection to E5071C Option 440/445/460/465/480/485
E5092A-20C   Cables and adapters for connection to E5071C Option 4D5/4K5

Step 2: Choose accessories (Optional)

E5092A-1CM   Rack mount kit only
E5092A-1CN   Front handle kit only
E5092A-1CP   Rack mount kit with handle kit

Step 3: Choose calibration certification documentation (Optional)

E5092A-1A7   ISO 17025 compliant calibration
E5092A-A6J   ANSI Z540 compliant calibration

Step 4: Choose your warranty service (Optional)

3 year return-to-Agilent warranty and service
5 year return-to-Agilent warranty and service

Documentation

The documentation for the E5092A is located in the Online Help system for the E5071C ENA network analyzer. The ENA Service Guide and Online Help system are also available on the Web site: **www.agilent.com/find/ena**

Additional product information

For additional product information, refer to the ENA brochure available on the Web site:
www.agilent.com/find/ena
www.agilent.com/find/multiport

Block diagram

E5092A (Option 020)
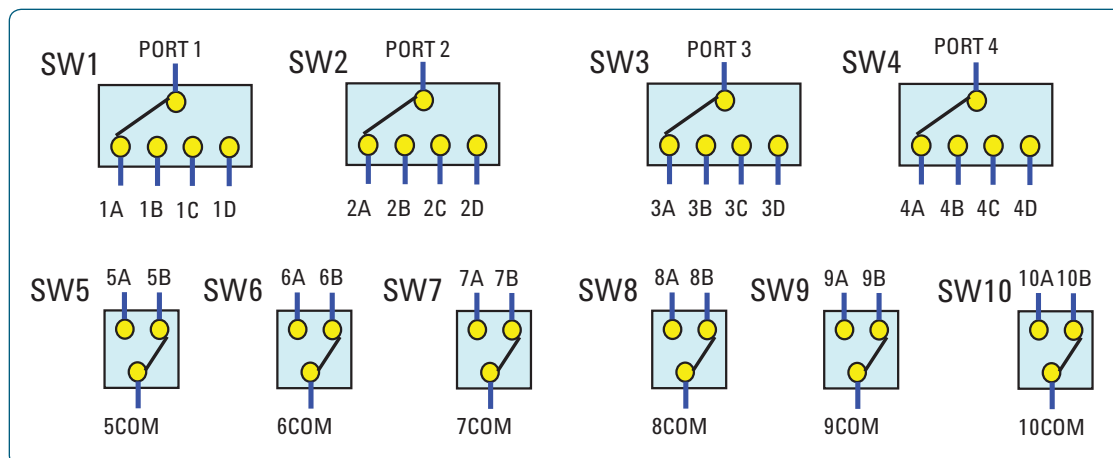
1. Semi-rigid cables are designed for connection to the E5071C and are not available for the E5070B, E5071B.

E5092A Configurable Multiport Test Set

Options

To add options to a product, order the corresponding option number.

Option[1]	Description	Additional information
Test set Option 020	20 GHz switching test set	Up to 22-port or 10-port full crossbar measurement.
Cable adapter set Option 08C	Cable and adapter set for E5071C Option 440/445/460/465/480/485 (4.5 GHz/6.5 GHz/8.5 GHz)	Adds SMA semi-rigid cables and type-N-to-SMA adapters for connection to the E5071C.
Option 20C	Cable and adapter set for the E5071C Option 4D5/4K5 (14 GHz/20 GHz)	Adds SMA semi-rigid cables and 3.5 mm-to-3.5 mm adapters for connection to the E5071C.
Accessories Option 1CM	Rack mount kit	Adds a rack mount kit (part number: 5063-9214) for use without handles.
Option 1CN	Front handle kit	Adds a front handle kit (part number: 5063-9227).
Option 1CP	Rack mount and front handle kit	Adds a rack mount and front handle kit (part number: 5063-9221).
Calibration documentation Option 1A7	ISO 17025 compliant calibration	
Option A6J	ANSI Z540 compliant calibration	

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1. Options are ordered using the combined model/option number, e.g. E5092A-020.

ENA Network Analyzer (E5071C)

Additional software options

Option TDR Enhanced time domain analysis
Option TDR enables the ENA to view reflection and transmission responses in the time domain using a simple and intuitive graphical user interface. Use time domain to tune filters, gate out the response of fixtures and cables, characterize the impedance of transmission lines, and more.

Option 010 Time domain analysis
Option 010 enables the ENA to view reflection and transmission responses in the time domain. Use time domain to tune filters, gate out the response of fixtures and cables, characterize the impedance of transmission lines, and more.

Option 008 Frequency offset mode
Option 008 enables the ENA to set the receiver frequencies independently from where the source frequency is tuned. This ability is important for harmonic distortion measurements and for measuring frequency converting devices such as mixers and converters. Advanced calibration techniques for the ENA, such as scalar mixer calibration (SMC) or vector mixer calibration (VMC), require this option.

Option 790 Measurement Wizard Assistant
Option 790 provides a simple measurement procedure setup for the 4-port ENA with a multiport test set such as the E5092A. The software delivers an easy-to-use measurement wizard programs including a calibration wizard setup[1], which reduces operation time for complicated, time-consuming multiport measurements.

Time base options

Option UNQ Standard stability time base
Option UNQ provides following stability:
CW accuracy:　　±5 ppm (specification)
Source stability:　±5 ppm (5 °C to 40 °C typical)

Option 1E5 High stability time base
Option 1E5 provides the following stability:
CW accuracy:　　±1 ppm (specification)
Source stability:　±0.05 ppm (5 °C to 40 °C typical),
　　　　　　　　± 0.5 ppm/year

Hard disk drive options

Option 019 Standard hard disk drive
Option 019 provides a fixed hard disk drive. The removable disk drive is not available.

Option 017 Removable hard disk drive
Option 017 provides a removable hard disk drive. You can remove or replace the hard disk drive for secure area operations. If a spare disk is needed, order E5071CU-018 or E5071CU-028 hard disk drive kit.

Certification options

Option 1A7 ISO 17025 compliant calibration
Option 1A7 provides a complete set of measurements which test the unit to manufacturer's published specifications. Includes calibration label, ISO 17025 calibration certificate, and data report, and measurement uncertainties and guardbands on all customer specifications. Conforms to ISO 17025 and ISO 9001.

Option A6J ANSI Z540 compliant calibration
Option A6J provides a complete set of measurements which test the unit to manufacturer's published specifications. Includes pre- and post-adjustment data and measurement uncertainty information compliant with the ANSI/NCSL Z540 standard.

1.　When using an ECal module with MWA calibration wizard, a 4-port ECal module (i.e. N4431B, N4433A) is required.

Measurement Accessories

A complete list of RF and microwave test accessories is available on our Web site:
www.agilent.com/find/accessories

Accessories are available with the following 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/ECal module should be added for a complete measurement system.

Calibration kits

Coaxial measurements

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

Electronic calibration (ECal) kits replace mechanical calibration standards with one solid-state calibration module that is controlled by the network analyzer via USB. ECal kits 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.

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[1] (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

Waveguide measurements

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

- waveguide-to-coax adapters (X, P, K, R, Q, U, and V bands)
- precision waveguide section
- flush short circuit
- fixed terminations[2]
- straight section

Cables and adapter sets

Agilent offers the following types of cables:

- single cables: semi-rigid or flexible
- cable sets: semi-rigid or flexible

There are also adapter sets 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.

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1. A sliding load is not supported by the ENA.
2. An offset load is not supported by the ENA.

For devices with 50 Ω Type-N connectors

Mechanical calibration kits

☐ **85032F** economy: 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 85032F-100** adds:
   85032-60021 Type-N (f) to Type-N (f) adapter
  ☐ **Option 85032F-200** adds:
   85032-60019 Type-N (m) to Type-N (m) adapter
  ☐ **Option 85032F-300** adds:
   85032-60020 Type-N (m) to Type-N (f) adapter
  ☐ **Option 85032F-500** adds:
   85054-60001 Type-N (f) to 7 mm adapter (two included)
   85054-60009 Type-N (m) to 7 mm adapter (two included)

☐ **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 7 mm adapter
85054-60032 Type-N (m) to 7 mm 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

☐ **85092C RF ECal: 300 kHz to 9 GHz, 2 ports**
Includes:
Option 85092C-MOF module with:
85092-60008 Type-N (f) to Type-N (m) RF ECal module
Option Option 85092C-00M module with:
85092-60009 Type-N (m) to Type-N (m) RF ECal module
Option 85092C-00F module with:
85092-60010 Type-N (f) to Type-N (f) RF ECal module
Option 85092C-00A adds:
85054-60037 Type-N (f) to Type-N (f) adapter
85054-60038 Type-N (m) to Type-N (m) adapter

☐ **N4431B Microwave ECal: 9 kHz to 13.5 GHz, 4 ports**[1]
Includes:
Option 020 module with:
N4431-60007 4 x Type-N (f) ECal module

N4431B-xxx mixed-connector options:

Connector type	Port A option	Port B option	Port C option	Port D Option
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)	105	205	305	405
7-16 (m)	106	206	306	406

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1. Performance from 9 kHz to 300 kHz is valid only for the E5071C ENA network analyzer with firmware version A.09.10 or higher.

☐ **N4432A Microwave ECal: 300 kHz to 18 GHz, 4 ports**
Includes:
Option 020 module with:
N4432-60003 4 x Type-N (f) ECal module

N4432A-xxx mixed-connector options:

Connector type	Port A option	Port B option	Port C option	Port D Option
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

☐ **N4690B Microwave ECal: 300 kHz to 18 GHz, 2 ports**
Includes:
Option M0F module with:
N4690-60001 Type-N (f) to Type-N (m) ECal module
Option 00M module with:
N4690-60002 Type-N (m) to Type-N (m) ECal module
Option 00F module with:
N4690-60003 Type-N (f) to Type-N (f) ECal module
Option 00A adds:
85054-60037 Type-N (f) to Type-N (f) adapter
85054-60038 Type-N (m) to Type-N (m) adapter

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

Adapters

☐ **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**[1,2,3] 3.5 mm to Type-N Includes:
85054-60029 NMD-3.5 mm to Type-N (f)
85054-60030 NMD-3.5 mm to Type-N (m)

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1. Special rugged female connector specifically for connecting to the network analyzer test port, but does not mate with a standard male connector.
2. Recommended to connect H device to E5071C option xD5/xK5 which has NMD-3.5 mm (m) connectors.
3. Consider purchasing Agilent 20mm TORQUE WRENCH 8710-1764

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 85033E-100 adds:
85027-60005 3.5 mm (f) to 3.5 mm (f) adapter
Option 85033E-200 adds:
85027-60007 3.5 mm (m) to 3.5 mm (m) adapter
Option 85033E-300 adds:
85027-60006 3.5 mm (m) to 3.5 mm (f) adapter
Option 85033E-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 85033E-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)

☐ **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

Electronic calibration kits

☐ **85093C** RF ECal: 300 kHz to 9 GHz, 2 ports
Standard module includes:
Option M0F with:
85093-60008 3.5 mm (f) to 3.5 mm (m) ECal module
Option 00F module with:
85093-60010 3.5 mm (f) to 3.5 mm (f) ECal module
Option 00M module with:
85093-60009 3.5 mm (m) to 3.5 mm (m) ECal module
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

85093C-xxx mixed-connector options:

Port A option			Port B option					
Type	**(f)**	**(m)**	**Type**	**(f)**	**(m)**	**Type**	**(f)**	**(m)**
3.5 mm	101	102	Type-N	203	204	7-16	205	206

☐ **N4431B Microwave ECal: 9 kHz to 13.5 GHz, 4 ports**[1]
Includes:
Option 010 module with:
N4431-60006 4 x 3.5 mm (f) ECal module

N4431B-xxx mixed-connector options:

Connector type	Port A option	Port B option	Port C option	Port D option
3.5 mm		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)	105	205	305	405
7-16 (m)	106	206	306	406

☐ **N4433A Microwave ECal: 300 kHz to 20 GHz, 4 ports**
Includes:
Option 010 module with:
N4433-60003 4 x 3.5 mm (f) ECal module

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1. Performance from 9 kHz to 300 kHz is valid only for the E5071C ENA network analyzer with firmware version A.09.10 or higher.

N4433A-xxx mixed-connector options:

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

☐ **N4691B Microwave ECal: 300 kHz to 26.5 GHz, 2 ports.**
Includes:
Option M0F module with:
N4691-60001 3.5 mm (f) to 3.5 mm (m) ECal module
Option 00M module with:
N4691-60002 3.5 mm (m) to 3.5 mm (m) ECal module
Option 00F module with:
N4691-60003 3.5 mm (f) to 3.5 mm (f) ECal module
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

Cables
☐ **11500E[2, 3, 4]** cable, APC 3.5 mm (m), DC to 26.5 GHz
Includes: one 610 mm (24 in) with male connectors.
☐ **11500F[2, 3, 4]** 150 cm cable, APC 3.5 mm (m), DC to 26.5 GHz
Includes: one 1520 mm (60 in) with male connectors.
☐ **85131C[1, 4]** single, semi-rigid: 3.5 mm (f) to PSC-3.5 mm (f), 81 cm, 32 inches
☐ **85131D[1, 4]** set, semi-rigid:
85131-60009 one 3.5 mm (f) to 3.5 mm (m), 53 cm, 21 inches,
85131-60010 one 3.5 mm (f) to PSC-3.5 mm (f), 53 cm, 21 inches
☐ **85131E[1, 4]** single, flexible: 3.5 mm (f) to PSC-3.5 mm (f), 96.5 cm, 38 inches
☐ **85131F[1, 4]** set, flexible:
85131-60012 one 3.5 mm (f) to 3.5 mm (m), 62.2 cm, 24.5 inches
85131-60013 one 3.5 mm (f) to PSC-3.5 mm (f), 62.2 cm, 24.5 inches
☐ **85131G[1, 4]** single, semi-rigid: 3.5 mm (f) to 3.5 mm (m), 53 cm, 21 inches
☐ **85131H[1, 4]** single, flexible: 3.5 mm (f) to 3.5 mm (m), 62.2 cm, 24.5 inches
☐ **85134C[1]** single, semi-rigid: PSC-3.5 mm (f) to 2.4 mm (f), 81 cm, 32 inches

☐ **85134D[1]** set, semi-rigid:
85134-60002 one 2.4 mm (f) to PSC-3.5 mm (f), 53 cm, 21 inches
85134-60001 one 2.4 mm (f) to PSC-3.5 mm (m), 53 cm, 21 inches
☐ **85134E[1]** single, flexible: PSC-3.5 mm (f) to 2.4 mm (f), 96 cm, 38 inches
☐ **85134F[1]** set, flexible:
85134-60004 one 2.4 mm (f) to PSC-3.5 mm (f), 61 cm, 24 inches
85134-60003 one 2.4 mm (f) to PSC-3.5 mm (m), 61 cm, 24 inches
☐ **85134G[1]** single, semi-rigid: 2.4 mm (f) to PSC-3.5 mm (m), 53 cm, 21 inches
☐ **85134H[1]** single, flexible: 2.4 mm (f) to PSC-3.5 mm (m), 61 cm, 24 inches
☐ **N4419AK20** single, flexible: 3.5 mm (m) to 3.5 mm (f), 91.4 cm, 36 inches
☐ **Z5623A-B20** set of 4, flexible: 3.5 mm (m) to 3.5 mm (m), 91.4 cm, 36 inches (phase-matched)

Adapters
☐ **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)
85032-60009 Type-N (f) short
85032-60008 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[1]** 3.5 mm to Type-N
Includes:
85054-60029 NMD-3.5 mm to Type-N (f)
85054-60030 NMD-3.5 mm to Type-N (m)
☐ **85130D[1]** 3.5 mm to 3.5 mm
Includes:
85130-60005 NMD-3.5 mm to PSC-3.5 mm (f)
85130-60006 NMD-3.5 mm to PSC-3.5 mm (m)
☐ **85130F[1]** 2.4 mm to 3.5 mm

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1. Special rugged female connector specifically for connecting to the network analyzer test port, but does not mate with a standard male connector.
2. 1250-1744 3.5 mm (f) to 50 Ω Type-N (m) adapters are recommended to connect to the E5071C Option x4x, x6x, and x8x test ports, which have Type-N (f) connectors.
3. NMD-3.5 mm (f) to 3.5 mm (f), or 3.5 mm (f) to 3.5 mm (f) adapters are recommended to connect to the E5071C Option xD5, xK5, which have NMD-3.5 mm (m) connectors.
4. Consider purchasing Agilent 20mm TORQUE WRENCH 8710-1764

For devices with 75 Ω Type-N connectors

Mechanical calibration kits

☐ **85036B** DC to 3 GHz, includes:
  00909-60019 75 Ω Type-N (m) broadband load
  00909-60020 75 Ω Type-N (f) broadband load
  85036-60012 75 Ω Type-N (m) short
  85036-60011 75 Ω Type-N (f) short
  85032-60007 75 Ω Type-N (m) open
  85032-20001 75 Ω Type-N (f) open body
  85036-60010 75 Ω Type-N (f) open center conductor
  extender
  85036-60013 75 Ω Type-N (m) to (m) adapter
  85036-60014 75 Ω Type-N (f) to (f) adapter
  85036-60015 75 Ω Type-N (m) to (f) adapter

☐ **85036E** DC to 3 GHz, includes:
  00909-60019 75 Ω Type-N (m) broadband load
  85036-60016 75 Ω Type N (m) combined open/short

Adapters

☐ **11852B** Minimum-loss pad
  Option 11852B-004 Type-N connectors, 50 Ω (m)
  to 75 Ω (f)

Calibration must be done with a 75 Ω calibration kit
using an 11852B minimum-loss pad, and impedance con-
version to 75 Ω using the ENA's fixture simulator function
is required.

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
☐ **85132F** cable set (set of 2, flexible 7 mm to 3.5 mm,
  62.9 cm each, 24.75 inches each)
☐ **85135F** cable set (set of 2 , flexible,
  7 mm to 2.4 mm, 53 cm each, 21 inches each)
☐ **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
☐ **85132F** cable set (set of 2, flexible, 7 mm to 3.5 mm,
  62.9 cm each, 24.75 inches each)
☐ **85135F** cable set (set of 2, flexible, 7 mm to 2.4 mm,
  53 cm each, 21 inches each)
☐ **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
☐ **85134F** cable set (set of 2, flexible, 3.5 mm to 2.4 mm,
  53 cm each, 21 inches each)
☐ **K281C** adapter (included in calibration kit):
  WR-42 to 3.5 mm (f)
  Option 012[1] WR-42 to 3.5 mm (m)

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1. For this option order K281C-012.

Additional Accessories

Power limiters
- ☐ **N9355B** power limiter, 10 dBm limiting threshold, 10 MHz to 18 GHz, Type-N
- ☐ **N9356B** power limiter, 25 dBm limiting threshold, 10 MHz to 18 GHz, Type-N
- ☐ **N9355C** power limiter, 10 dBm limiting threshold, 10 MHz to 26.5 GHz, 3.5 mm
- ☐ **N9356C** power limiter, 25 dBm limiting threshold, 10 MHz to 26.5 GHz, 3.5 mm

DC blocks
- ☐ **N9398C** DC block, 16 V maximum working voltage, 50 kHz to 26.5 GHz, 3.5 mm
- ☐ **N9399C** DC block, 50 V maximum working voltage, 700 kHz to 26.5 GHz, 3.5 mm
- ☐ **11742A**, 50 V maximum working voltage, 45 MHz to 26.5 GHz, 3.5 mm

Amplifiers
- ☐ **87405B** pre-amplifier, 22 dB gain, 10 MHz to 4 GHz
- ☐ **87405C** pre-amplifier, 25 dB gain, 100 MHz to 18 GHz
- ☐ **87415A** amplifier, 25 dB gain, 2 to 8 GHz
- ☐ **83006A** amplifier, 20 dB gain, 10 MHz to 26.5 GHz

Attenuators
- ☐ **8491A** fixed attenuator, DC to 12.4 GHz, Type-N
- ☐ **8493A** fixed attenuator, DC to 12.4 GHz, SMA

RF & microwave switches
- ☐ **N1810TL** SPDT switch, terminated, DC to 26.5 GHz
- ☐ **N1810UL** SPDT switch, unterminated, DC to 26.5 GHz
- ☐ **87104B** SP4T switch, terminated, DC to 20 GHz
- ☐ **87106B** SP6T switch, terminated, DC to 20 GHz
- ☐ **87222C** transfer switch, DC to 26.5 GHz
- ☐ **L7104B** SP4T switch, terminated, DC to 20 GHz
- ☐ **L7106B** SP6T Switch, terminated, DC to 20 GHz
- ☐ **L7222C** transfer switch, DC to 26.5 GHz
- ☐ **P9400C** solid state PIN diode transfer switch, 100 MHz to 18 GHz
- ☐ **P9402C** SPDT solid state PIN diode switch, 100 MHz to 18 GHz
- ☐ **P9404C** SP4T solid state PIN diode switch, 100 MHz to 18 GHz
- ☐ **U9397C** SPDT solid state FET hybrid switch, 300 kHz to 18 GHz
- ☐ **U9400C** solid state FET hybrid transfer switch, 300 KHz to 18 GHz

Power meters and sensors[1]
Recommended for source output power calibration.
- ☐ **E4416A**[1] single-channel EPM-P series power meter
- ☐ **E4417A**[1] dual-channel EPM-P series power meter
- ☐ **E4418B**[1] single-channel EPM series power meter
- ☐ **E4419B**[1] dual-channel EPM series power meter
- ☐ **N1911A**[1] single-channel P-series power meter
- ☐ **N1912A**[1] dual-channel P-series power meter
- ☐ **8482A** power sensor, 100 kHz to 4.2 GHz, Type-N (m), 100 mW
- ☐ **E9304A-H18** power sensor, 9 kHz to 18 GHz, Type-N (m), 100 mW
- ☐ **E4412A** CW power sensor, 10 MHz to 18 GHz, Type-N (m), 200 mW
- ☐ **E4413A** CW power sensor, 50 MHz to 26.5 GHz, 3.5 mm (m), 200 mW
- ☐ **N1921A** power sensor 50 MHz to 18 GHz, Type-N (m)
- ☐ **N1922A** power sensor 50 MHz to 40 GHz, 2.4 mm (m)
- ☐ **U2000A/B/H**[2] USB power sensor, 10 MHz to 18 GHz, Type-N (m)
- ☐ **U2001A/B/H**[2] USB power sensor, 10 MHz to 6 GHz, Type-N (m)
- ☐ **U2002A/H**[2] USB power sensor, 50 MHz to 24 GHz, 3.5 mm (m)
- ☐ **U2004A**[2] USB power sensor, 9 kHz to 6 GHz, Type-N (m)

Probes
- ☐ **N1021B** 18 GHz differential TDR/TDT passive probe kit
- ☐ **N1020A** 6 GHz single-ended TDR/TDT passive probe
- ☐ **85024A** high-frequency probe, 300 kHz to 3 GHz

General accessories

System racks
- ☐ **1CN005A** handle kit, may be ordered as option 1CN (two included)
- ☐ **1CM015A** rack mount kit, for use without handles: may be ordered as option 1CM
- ☐ **1CP009A** rack mount kit, for use with previously supplied handles; may be ordered as option 1CP
- ☐ **E3663AC** rack mount rail kit, for use with 5063-9216 or 5188-4430
- ☐ **1181BZ** test mobile system cart

Interface cables
The following GPIB cables can be used to connect the network analyzer with an external device such as a computer
- ☐ **10833A** GPIB cable, 1.0 m (3.3 ft)
- ☐ **10833B** GPIB cable, 2.0 m (6.6 ft)
- ☐ **10833C** GPIB cable, 4.0 m (13.1 ft)
- ☐ **10833D** GPIB cable, 0.5 m (1.6 ft)
- ☐ **82357B** GPIB to USB interface, necessary to control a power meter or signal generator with the E5071C.

Monitors
- ☐ XGA-compatible monitor

Printers
- ☐ USB printers with Microsoft® Windows printer driver

Other
- ☐ 8710-1764 WRENCH - TORQUE 8 IN/LB, 20 MM OPEN END

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1. Order the 82357B USB/GPIB interface to control a power meter by the E5071C.
2. To use the U200x USB power sensors for source power calibration, the E5071C ENA firmware version A.09.2x or higher is required.

Upgrade kits

Upgrade kits for the E5071C

Protecting your hardware investment
The E5071C ENA network analyzer is a safe investment because of its flexibility. Easily upgrade any ENA software or hardware feature whenever you need that feature.

Ordering instructions
To upgrade an existing E5071C, order the corresponding model number as the followings. For further information, such as time required by the service center, visit:
http://www.agilent.com/find/ena_upgrades

Software option upgrades
a) Add Frequency-offset mode option (Customer installable):
   Order the E5003A with E5003A-1FP Frequency-offset mode for the E5071C.

b) Add Enhanced time domain analysis option (Return to Service Center for Installation)

   b-1) Order E5008A with E5008A-1FP Enhanced time domain analysis for the E5071C, if Option 010 is not already installed.

   b-2) Order E5009A with E5009A-1FP Enhanced time domain analysis from Option 010 for the E5071C, if Option 010 is already installed.

c) Add Time domain analysis option (Customer installable):
   Order the E5004A with E5004A-1FP Time domain analysis for the E5071C.

d) Add Measurement Wizard Assistant software (Customer installable):
   Order the E5005A with E5005A-1FP Measurement wizard assistant software for the E5071C.

Hardware option upgrades
(Installed by the Agilent service center)
Please refer to "E5071C Test set option table" below and the "E5071C Hardware upgrade option matrix" on page 14 of this document for help selecting the proper upgrade options.

E5071C Upgrade option list

a) Maximum frequency upgrade
E5071CU-260   from 4.5 GHz to 6.5 GHz for E5071C-240
E5071CU-265   from 4.5 GHz to 6.5 GHz for E5071C-245
E5071CU-280   from 4.5 GHz to 8.5 GHz for E5071C-240
E5071CU-281   from 6.5 GHz to 8.5 GHz for E5071C-260
E5071CU-285   from 4.5 GHz to 8.5 GHz for E5071C-245

E5071CU-286[3]   from 6.5 GHz to 8.5 GHz for E5071C-265
E5071CU-2D5[3]   from 8.5 GHz to 14 GHz for E5071C-280/285
E5071CU-2K5[3]   from 8.5 GHz to 20 GHz for E5071C-280/285
E5071CU-2K6   from 14 GHz to 20 GHz for E5071C-2D5
E5071CU-460   from 4.5 GHz to 6.5 GHz for E5071C-440
E5071CU-465   from 4.5 GHz to 6.5 GHz for E5071C-445
E5071CU-480   from 4.5 GHz to 8.5 GHz for E5071C-440
E5071CU-481   from 6.5 GHz to 8.5 GHz for E5071C-460
E5071CU-485   from 4.5 GHz to 8.5 GHz for E5071C-445
E5071CU-486   from 6.5 GHz to 8.5 GHz for E5071C-465
E5071CU-4D5[3]   from 8.5 GHz to 14 GHz for E5071C-480/485
E5071CU-4K5[3]   from 8.5 GHz to 20 GHz for E5071C-480/485
E5071CU-4K6[3]   from 14 GHz to 20 GHz for E5071C-4D5

b) Add bias tees[1]
E5071CU-100   Add bias tees for E5071C-240
E5071CU-101   Add bias tees for E5071C-280
E5071CU-102   Add bias tees for E5071C-440
E5071CU-103   Add bias tees for E5071C-480
E5071CU-104   Add bias tees for E5071C-260
E5071CU-105   Add bias tees for E5071C-460

c) Lower frequency limit upgrade[2]
E5071CU-200   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-245
E5071CU-201   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-285
E5071CU-202   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-445
E5071CU-203   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-485
E5071CU-204   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-265
E5071CU-205   Lower limit upgrade from 100 kHz to 9 kHz for E5071C-465

d) Measurement port upgrade
E5071CU-300 Port up from 2 ports to 4 ports for E5071C-240
E5071CU-301 Port up from 2 ports to 4 ports for E5071C-245
E5071CU-302 Port up from 2 ports to 4 ports for E5071C-280
E5071CU-303 Port up from 2 ports to 4 ports for E5071C-285
E5071CU-304 Port up from 2 ports to 4 ports for E5071C-2K5
E5071CU-305 Port up from 2 ports to 4 ports for E5071C-260
E5071CU-306 Port up from 2 ports to 4 ports for E5071C-265
E5071CU-307 Port up from 2 ports to 4 ports for E5071C-2D5

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1. Minimum frequency changes from 9 kHz to 100 kHz.
2. Bias tees are removed.
3. Consider purchasing Agilent 20mm TORQUE WRENCH 8710-1764 at the same time for microwave test port connector of E5071CU-2D5, E5071CU-2K5, E5071CU-2K6, E5071CU-4D5, E5071CU-4K5 and E5071CU-4K6

e) Add high stability time base option

E5071CU-1E5 Add high stability time base

f) Add removable hard disk drive feature

E5071CU-017 Upgrade to removable hard disk drive. E5071CU-017 is only applicable for the instrument with S/N MY461xxxxx and it will be discontinued on 1 Oct. 2011. New hard disk is not included in this option and an original disk is reused. Order E5071CU-018 if spare disk is necessary.

E5071CU-018[3] Hard disk drive kit, applicable for E5071C S/N MY461xxxxx and will be discontinued on 1 Oct. 2011.

E5071CU-028[3] Hard disk drive kit for E5071C S/N MY462xxxxx (spare hard disk, customer installable)

g) CPU upgrade

E5071CU-040 Upgrade digital HW module, from 1.3GHz CPU to 1.86GHz

E5071C Test set option table

Frequency range & bias tees	Number of test ports	
	2-port	4-port
9 kHz to 4.5 GHz without bias tees	240	440
100 kHz to 4.5 GHz with bias tees	245	445
9 kHz to 6.5 GHz without bias tees	260	460
100 kHz to 6.5 GHz with bias tees	265	465
9 kHz to 8.5 GHz without bias tees	280	480
100 kHz to 8.5 GHz with bias tees	285	485
300 kHz to 14 GHz with bias tees	2D5	4D5
300 kHz to 20 GHz with bias tees	2K5	4K5

- When upgrading the maximum frequency, number of ports, bias-tees or lower frequency limit, please be aware that the upgrade options listed in the "E5071C Hardware upgrade option matrix" need to be ordered as well (e.g. To upgrade the unit from Opt. 240 to Opt. 480, order "E5071CU-300" and "E5071CU-480" respectively).
- "Add high stability time base" and "Upgrade to removable HDD" can be ordered at the same time as the upgrade options for frequency, number of ports, bias-tees or lower frequency limit.

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3. When using E5071CU-018, E5071C-017 or E5071CU-028 removable hard disk drive is required.

E5071C Hardware upgrade options matrix

From	To	Upgrade options to order
240	245	E5071CU-100
	260	E5071CU-260
	265	E5071CU-100 + E5071CU-265
	280	E5071CU-280
	285	E5071CU-100 + E5071CU-285
	440	E5071CU-300
	445	E5071CU-100 + E5071CU-301
	460	E5071CU-260 + E5071CU-305
	465	E5071CU-100 + E5071CU-265+ E5071CU-306
	480	E5071CU-280 + E5071CU-302
	485	E5071CU-100 + E5071CU-285+ E5071CU-303
	2D5	E5071CU-280 + E5071CU-2D5
	4D5	E5071CU-280 + E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-280 + E5071CU-2K5
	4K5	E5071CU-280 + E5071CU-2K5 + E5071CU-304
245	240	E5071CU-200
	260	E5071CU-200 + E5071CU-260
	265	E5071CU-265
	280	E5071CU-200 + E5071CU-280
	285	E5071CU-285
	440	E5071CU-200 + E5071CU-300
	445	E5071CU-301
	460	E5071CU-200 + E5071CU-260 + E5071CU-305
	465	E5071CU-265 + E5071CU-306
	480	E5071CU-200 + E5071CU-280 + E5071CU-302
	485	E5071CU-285 + E5071CU-303
	2D5	E5071CU-285 + E5071CU-2D5
	4D5	E5071CU-285 + E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-285 + E5071CU-2K5
	4K5	E5071CU-285 + E5071CU-2K5 + E5071CU-304
260	265	E5071CU-104
	280	E5071CU-281
	285	E5071CU-104 + E5071CU-286
	460	E5071CU-305
	465	E5071CU-104 + E5071CU-306
	480	E5071CU-281 + E5071CU-302
	485	E5071CU-104 + E5071CU-286 + E5071CU-303
	2D5	E5071CU-281 + E5071CU-2D5
	4D5	E5071CU-281 + E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-281 + E5071CU-2K5
	4K5	E5071CU-281 + E5071CU-2K5 + E5071CU-304
265	260	E5071CU-204
	280	E5071CU-204 + E5071CU-281
	285	E5071CU-286
	460	E5071CU-204 + E5071CU-305
	465	E5071CU-306
	480	E5071CU-204 + E5071CU-281 + E5071CU-302
	485	E5071CU-286 + E5071CU-303
	2D5	E5071CU-286 + E5071CU-2D5
	4D5	E5071CU-286 + E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-286 + E5071CU-2K5
	4K5	E5071CU-286 + E5071CU-2K5 + E5071CU-304

From	To	Upgrade options to order
280	285	E5071CU-101
	480	E5071CU-302
	485	E5071CU-101 + E5071CU-303
	2D5	E5071CU-2D5
	4D5	E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-2K5
	4K5	E5071CU-2K5 + E5071CU-304
285	280	E5071CU-201
	480	E5071CU-201 + E5071CU-302
	485	E5071CU-303
	2D5	E5071CU-2D5
	4D5	E5071CU-2D5 + E5071CU-307
	2K5	E5071CU-2K5
	4K5	E5071CU-2K5 + E5071CU-304
2D5	2K5	E5071CU-2K6
	4D5	E5071CU-307
	4K5	E5071CU-2K6 + E5071CU-304
2K5	4K5	E5071CU-304
440	445	E5071CU-102
	460	E5071CU-460
	465	E5071CU-102 + E5071CU-465
	480	E5071CU-480
	485	E5071CU-102 + E5071CU-485
	4D5	E5071CU-480 + E5071CU-4D5
	4K5	E5071CU-480 + E5071CU-4K5
445	440	E5071CU-202
	460	E5071CU-202 + E5071CU-460
	465	E5071CU-465
	480	E5071CU-202 + E5071CU-480
	485	E5071CU-485
	4D5	E5071CU-485 + E5071CU-4D5
	4K5	E5071CU-485 + E5071CU-4K5
460	465	E5071CU-105
	480	E5071CU-481
	485	E5071CU-105 + E5071CU-486
	4D5	E5071CU-481 + E5071CU-4D5
	4K5	E5071CU-481 + E5071CU-4K5
465	460	E5071CU-205
	480	E5071CU-205 + E5071CU-481
	485	E5071CU-486
	4D5	E5071CU-486 + E5071CU-4D5
	4K5	E5071CU-486 + E5071CU-4K5
480	485	E5071CU-103
	4D5	E5071CU-4D5
	4K5	E5071CU-4K5
485	480	E5071CU-203
	4D5	E5071CU-4D5
	4K5	E5071CU-4K5
4D5	4K5	E5071CU-4K6
UNQ	1E5	E5071CU-1E5
019	017	E5071CU-017

Application and product notes

Introduction to the Fixture Simulator Function of the ENA Series RF Network Analyzers: Network De-embedding/ Embedding and Balanced Measurement, Product Note E5070/71-1 Literature number 5988-4923EN

Evolution of Test Automation Using Built-in VBA with the ENA Series RF Network Analyzers, Product Note E5070/71-2 Literature number 5988-6192EN

On-wafer Multiport Calibration Using the ENA Series RF Network Analyzer with the Cascade Microtech Probing System, Product Note E5070/71-3 Literature number 5988-5886EN

In-Fixture Characterization Using the ENA Series RF Network Analyzer with Cascade Microtech Probing System, Product Note E5070/71-4 Literature number 5988-6522EN

Improve the Circuit Evaluation Efficiency of Wireless LAN Chip Set Design, Application Note 1463-2 Literature number 5988-9803EN

Impedance Characteristic Evaluation of SMD by Using the ENA with Inter-Continental Microwave (ICM) Application Note 1463-5 Literature number 5989-0547EN

Accurate Mixer Measurements Using the Frequency-Offset Mode, Application Note 1463-6 Literature number 5989-1420EN

7 Reasons to Migrate from Your 8753 to an ENA Network Analyzer Application Note 1478 Literature number 5989-0206EN

Multiport Solutions for E5071C ENA RF Network Analyzers Using External Switches Literature number 5989-7916EN

Advanced Measurement Techniques for RF Amplifiers Using Unique Functions of the Agilent E5071C ENA Literature number 5989-6522EN

Measurement Wizard Assistant software for ENA/E5091A Literature number 5989-4855EN

Comprehensive Multiport Solution for the ENA Network Analyzer Literature number 5989-8737EN

E5071C ENA Option TDR Enhanced Time Domain Analysis Option Literature number 5990-5237EN

Correlation between TDR oscilloscope and VNA generated time domain waveform Literature number 5990-5238EN

Literature and information

ENA Network Analyzers Brochure Literature number 5989-5478EN

ENA Network Analyzers Data Sheet Literature number 5989-5479EN

Agilent Network Analyzer Selection Guide Literature number 5989-7603EN

ENA-L RF Network Analyzers Brochure Literature number 5989-0167EN

ENA-L RF Network Analyzers Data Sheet Literature number 5989-0018EN

Test Solutions for Multiport and Balanced Devices Selection Guide Literature number 5988-2461EN

Agilent RF & MW Test Accessories Catalog Literature number 5968-4314EN

Key web resources for additional information on the ENA Series, visit:

www.agilent.com/find/ena

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