PRODUCT FACT SHEET

Keysight N469xD Series Microwave Electronic Calibration (ECal) Module

N4696D (7 mm)

N4694D (1.85 mm)

N4693D (2.4 mm)

N4692D (2.92 mm)

N4691D (3.5 mm)

N4690D (Type-N)

Key features

Features	Descriptions
Frequency	DC or 300 kHz to 18 / 26.5 GHz (N4690D / N4691D / N4696D) DC or 10 MHz to 40 / 50 / 67 GHz (N4692D / N4693D / N4694D)
Number of port	2-port, 50 Ω
Connector type	Type-N / 7 mm (18 GHz), 3.5 mm (26.5 GHz), 2.92 mm (40 GHz), 2.4 mm (50 GHz), 1.85 mm (67 GHz)
Connector mix	female–female, male-female, male-male (for in-family connector type)
Supported vector network analyzers	Keysight ENA, PNA, PXI VNA, FieldFox

Calibrate your VNA with Greater Precision and Higher Accuracy

Keysight electronic calibration (ECal) modules bring calibration to your vector network analyzers with just a single connection. ECal modules are controlled directly from the Keysight network analyzers; no external PC is required.

The Keysight N469xD Series microwave electronic calibration modules make calibration of Keysight vector network analyzers (VNAs) fast, easy, and accurate.

The N469XD Series ECal offers a DC option (Option 0DC) to extend the calibration frequency range down to DC, which makes it possible to calibrate a wide frequency from DC to 67 GHz without making numerous connections during the calibration process. This is beneficial for broadband device modeling or time domain and signal integrity.

For greater precision and higher accuracy measurements, consider the N469XD series ECal modules.

- Precision 2-port microwave ECal module with high accuracy
- Broad choice of solutions (frequency and connector types)
- Frequency coverage from DC to 67 GHz
- Fast, easy and accurate full calibration
- Available in male/male, female/female, and male/female connector configurations
- Direct control from Keysight vector network analyzers via USB

www.keysight.com/find/vna

KEYSIGHT TECHNOLOGIES

Configuration

Options	Descriptions
Electronic Calibration (ECal) Module	
N4690D	18 GHz 2-port type-N 50 ohm ECal module
N4691D	26.5 GHz 2-port 3.5 mm ECal module
N4692D	40 GHz 2-port 2.92 mm ECal module
N4693D	50 GHz 2-port 2.4 mm ECal module
N4694D	67 GHz 2-port 1.85 mm ECal module
N4696D	18 GHz 2-port 7 mm ECal module

Frequency options[1]	
Option 0DC	Starts from DC (for all N469xD models)
Option 003	Starts from 300 kHz (for N4690D, N4691D or N4696D)
Option 100	Starts from 10 MHz (for N4692D, N4693D or N4694D)

Connector options[2,3]	
Option F0F	Both connectors are female on module
Option M0M	Both connectors are male on module
Option M0F	1 female and 1 male connector on module

Calibration options	
Option 1A7	Calibration + Uncertainties + Guardbanding (Not Accredited)
Option A6J	ANSI Z540-1-1994 calibration
Option UK6	Commercial calibration certificate test data

Adapter options (Option 00A)[3]	
N4690D-00A	Add type-N 50 ohm adapters
N4691D-00A	Add 3.5 mm adapters
N4692D-00A	Add 2.92 mm adapters
N4693D-00A	Add 2.4 mm adapters
N4694D-00A	Add 1.85 mm adapters

1. Must choose one of frequency options
2. Must choose one of connector options
3. There are no connector options for N4696D with 7 mm connectors

For additional information please go to:

www.keysight.com/find/ecal

Electronic Calibration (Ecal) Modules for Vector Network Analyzers

Supported Analyzers

Model	Descriptions
ENA Series Vector Network Analyzer	
E5061B	Must have firmware revision B.05.00 or above
E5063A	Must have firmware revision B.05.04 or above
E5071C	Must have firmware revision B.14.0x or above
E5072A	Must have firmware revision B.02.4x or above
E5080A	Must have firmware revision A.12.60.0x or above
PNA Series Vector Network Analyzer	
N522xB, N523xB, N524xB	Must have firmware revision A.12.85.00 or above
N522xA, N523xA, N524xA	ust have firmware revision A.10.60.04 or above
PXI Vector Network Analyzers	
M937xA, M9485A	Must have firmware revision A.12.60.0x or above

FieldFox Handheld RF and Microwave Analyzers	
N9923A/5/6/7/8A	Requires a FieldFox with the new CPU (CPU2)
N9913/4/5/6/7/8A	
N9950/51/52A	

The storage case and torque wrench for the N469xD series are included.

KEYSIGHT TECHNOLOGIES