

KEYSIGHT TECHNOLOGIES (AGILENT HP)

N4693D

The Keysight Technologies N4693D is a high-performance, 2-port Microwave Electronic Calibration (ECal) Module. Operating over a frequency range of 10 MHz to 50 GHz, it features precision 2.4 mm connectors. This ECal module simplifies vector network analyzer (VNA) calibration by replacing traditional manual calibration kits with an automated, highly repeatable, and NIST-traceable single-connection process, reducing operator error and port wear.

SPECIFICATIONS

General

Interfaces	USB Type-C
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Physical

Power Supply	USB bus-powered
Operating Temperature	20 °C to 30 °C °C
Dimensions (W×H×D)	111 mm × 22 mm × 128 mm mm
Weight	0.36 kg kg

RF Characteristics

Frequency Range	10 MHz to 50 GHz
Number of Ports	2
Connector Type	2.4 mm
Nominal Impedance	50 Ω
Connector Options	Option F0F (female-female), Option M0M (male-male), Option F0M (female-male)

Calibration Features

Calibration Type	Electronic Calibration (ECal)
Internal S-parameter Storage	Yes, built-in non-volatile memory stores factory calibration data
Temperature Sensor	Integrated internal sensor for temperature-compensated calibration
Supported Calibration Standards	NIST-traceable measurements

Operating Limits

Maximum Operating RF Power	+10 dBm
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Damage Levels

Maximum RF Damage Level	+20 dBm
Maximum DC Voltage	±10 VDC

Environmental

Storage Temperature	-40 °C to +70 °C
Operating Humidity	0% to 95% RH (non-condensing)

Operating Conditions

Warm-up Time	20 minutes
Maximum Operating Altitude	3000 m (9842 ft)
Maximum Storage Altitude	4500 m (14764 ft)

TECHNOLOGY

Electronic Calibration (ECal)

APPLICATIONS

Vector Network Analyzer Calibration

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.