

Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

withwave

Versatile RF & MW Test Solutions

Withwave's Automatic Calibration Modules are ideal for users who want fast and easy calibration for various Vector Network Analyzers (VNA). This module is powered up via USB or $\Phi 5.5$ DC connector and communicate with VNA via USB or LAN and designed for full one-port through four-port calibrations of VNAs by **One-Push START button**.

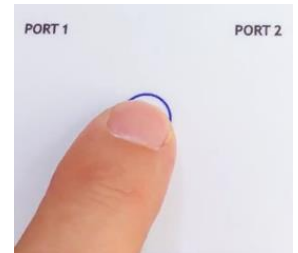
This module works as host systems, measures and calculates calibration coefficients and sends it to VNA easily.

Most of Electronic Calibration Kits work for same manufacturer's VNAs only.

But, this module provides cost-effective calibration solution for users by supporting various VNA models as below.

It's compatible with following VNAs:

- **Keysight PNA series, ENA series**
- **Rohde & Schwarz ZNB, ZVL, ZVA series, ZVT series, ZNLE**
- **Anritsu ShockLine Series**
- **Copper Mountain Technologies Compact & Cobalt Series**



One-Push START button



Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

■ Specification

Scope	Items	Specification
Electrical & Environmental	Freq. range	100 kHz to 12 GHz (W1202A, W1204A) 100 kHz to 18 GHz (W1802A, W1804A) 100 kHz to 26.5 GHz (W2602A, W2604A)
	Impedance	50 Ohm
	Port Power	+ 10 dBm (Max)
	Port DC Voltage	10 V (Max)
	DC Supply	5V/500mA, Φ 5.5
	Ethernet interface	LAN/micro USB
	Operating Temperature	+20~+30 (degree)
Mechanical	Port Configuration	Port 1: 3.5 mm, Female Port 2 : 3.5 mm, Female Port 3 : 3.5 mm, Female Port 4: 3.5 mm, Female
	Size	94.5 x 108 x 28.5 (mm)
	Weight	455 g (2-Port) 469 g (4-Port)



Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

■ Ordering Information

W1202A

Frequency	# of Port	Interface type
12: 12 GHz 18 : 18 GHz 26 : 26.5 GHz	02: 2-Port 04: 4-Port	A: 3.5 mm(F) B: N-type(F)



Interface: 3.5 mm (Female)

2-Port



4-Port



Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

■ **Ordering Information**

W1202B

Frequency	# of Port	Interface type
12: 12 GHz	02: 2-Port	A: 3.5 mm(F)
18 : 18 GHz	04: 4-Port	B: N-type(F)
26 : 26.5 GHz		



Interface: N-type (Female)

2-Port(12 GHz)

2-Port(18 GHz)



Calibration Procedure (Keysight VNA : 2-Port)



① USB Driver Installation



② Ready for Calibration



Zoom in Video



③ Calibration



Please click pictures for Watching YouTube Videos

Calibration Procedure (Rohde & Schwarz VNA : 4-Port)

① USB Driver Installation



② Ready for Calibration



③ Calibration



Two-Channel Calibration



Please click pictures for Watching YouTube Videos

Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

Contents Information



Index	Description
1	Automatic Calibration Module (2 Ports/ 4 Ports)
2	Torque Wrench (8 mm, 0.9 N·m) : 3.5 mm or N-type
3	USB Driver
4	Power Supply - Input : AC 100~240V, 50~60 Hz - Output : USB, Type A Female, 5V/2.1A
5	DC Power Cable - Connector type : USB Type-A male to Φ 5.5 DC plug
6	USB Cable - Connector type : USB 2.0 Type-A male to micro-USB(5 pin)
7	[OPTION] : Data-based Microwave Adapters - 3.5 mm adapter series - 3.5 mm to N adapter series (release 3Q, 2020)

Automatic Calibration Modules

Data-based Adapters (10 MHz to 26.5 GHz)

withwave

Versatile RF & MW Test Solutions

Withwave's Data-based Adapters are available for users who need **easy port extension** to other connector interface for cost saving. These adapters are provided with **microSD memory** which contains touchstone file(*.s2p) & binary file for user purpose/ port extension on calibration process.



Data-Based Adapter



MicroSD Memory



MicroSD Port

■ Features

- Easy Port Extension using data-based adapters
- Provide MicroSD Memory (including touchstone & binary file for port extension)
- Cost Saving without purchasing new E-Cal Module with other connector interface
- Various types of Precision Data-based Adapters (3.5 mm to 3.5 mm, 3.5 mm to N-type)



■ Contents Information



■ Ordering Information

DBA-35F-35M

Port1

35M: 3.5 mm(M)
35F : 3.5 mm(F)

Port2

35M: 3.5 mm(M)
35F : 3.5 mm(F)

Product	Part No.	Freq. Range
3.5 mm(M) to 3.5 mm M)	DBA-35M-35M	10MHz ~ 26.5GHz
3.5 mm(M) to 3.5 mm(F)	DBA-35M-35F	10MHz ~ 26.5GHz
3.5 mm(F) to 3.5 mm(F)	DBA-35F-35F	10MHz ~ 26.5GHz

* 3.5 mm to N-types are released in 2020 3Q

Automatic Calibration Modules

100 kHz to 12,18 & 26.5 GHz 2-Port & 4-Port

withwave

Versatile RF & MW Test Solutions

Revision History

Revision	Date	Changes
Ver 1.0	Mar.01, 2019	Release Automatic Calibration Module (300 kHz to 12 GHz)
Ver 1.1	Apr.22, 2019	Add 18 GHz & 26.5 GHz version
Ver 2.0	Aug.01, 2019	Change low freq. specification (300 kHz → 100 kHz)
Ver 3.0	Sep.01, 2019	Add 4-Port version (12, 18 & 26.5 GHz)
Ver 3.1	Sep.20, 2019	Add 4-Port Calibration Procedure
Ver 3.2	Nov.13, 2019	Change Contents information
Ver 3.3	Feb.13, 2020	Add Data-based adapters (3.5 mm to 3.5 mm type)
Ver 3.4	Apr.27, 2020	Add compatible model (ZNLE)

