

Keysight 86213A Attenuator Kit

NOTICE: This document contains references to Agilent Technologies. Agilent's former Test and Measurement business has become Keysight Technologies. For more information, go to www.keysight.com.



Notice.

The information contained in this document is subject to change without notice.

Agilent Technologies makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Warranty

This Agilent Technologies instrument product is warranted against defects in material and workmanship for a period of one year from date of shipment. During the warranty period, Agilent Technologies will, at its option, either repair or replace products which prove to be defective.

For warranty service or repair, this product must be returned to a service facility designated by Agilent Technologies. Buyer shall prepay shipping charges to Agilent Technologies and Agilent Technologies shall pay shipping charges to return the product to Buyer. However, Buyer shall pay all shipping charges, duties, and taxes for products returned to Agilent Technologies from another country.

Agilent Technologies warrants that its software and firmware designated by Agilent Technologies for use with an instrument will execute its programming instructions when properly installed on that instrument. Agilent Technologies does not warrant that the operation of the instrument, or software, or firmware will be uninterrupted or error-free.

LIMITATION OF WARRANTY

The foregoing warranty shall not apply to defects resulting from improper or inadequate maintenance by Buyer, Buyer-supplied software or interfacing, unauthorized modification or misuse, operation outside of the environmental specifications for the product, or improper site preparation or maintenance.

NO OTHER WARRANTY IS EXPRESSED OR IMPLIED. AGILENT TECHNOLOGIES SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

EXCLUSIVE, REMEDIES

THE REMEDIES PROVIDED HEREIN ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. AGILENT TECHNOLOGIES SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY.

Assistance

Product maintenance agreements and other customer assistance agreements are available for Agilent Technologies products.

For any assistance, contact your nearest Agilent Technologies Sales and Service Office.

General Information

This kit contains four 75 Ω type-N attenuators. Nominal attenuation values are 3 dB, 6 dB, 10 dB, and 20 dB. These attenuators are useful in many 75 Ω applications and are specifically designed to minimize mismatches in various network analyzer measurement configurations up to 3.0 GHz.

Typical Performance (25 ± 5°C) and Physical Characteristics of Each Attenuator

Nominal Impedance:	75Ω
Frequency Range:	DC to 3.0 GHz
SWR (to 1.3 GHz):	1.12:1 max. (25 dB Return Loss)
SWR (to 3.0 GHz):	1.3:1 max. (17.7 dB Return Loss)
Attenuation Accuracy:	±0.3 dB to 1.3 GHz; ±0.5 dB to 3.0 GHz
Maximum Input Power:	0.5 Watt @ 25°C
Connectors:	75Ω Type-N female and 75Ω Type-N male
Size:	2.8 inches long x 0.81 inch diameter (71 x 21 mm)
Weight:	4 oz. (.11 kg)
Operating Temperature:	0 to +55 °C; (Storage: -40 to +70 °C)

CAUTION Mating a 50Ω male connector with a 75Ω female connector will destroy the 75Ω female connector!

Replaceable Parts

NOTE These attenuators are not repairable. If damaged, they must be replaced.

Description	Part Number
3 dB attenuator	0955-0765
6 dB attenuator	0955-0766
10 dB attenuator	0955-0767
20 dB attenuator	0955-0768
Case 5 x 5 x 2	9211-1009
Foam pad: cutout	9220-3697
Foam pad: top	9220-1291

Performance Characterization

If characterization of any of these attenuators is required to determine exact individual performance, it is recommended that each attenuator be tested on a vector network analyzer with an S-parameter test set using full 2-port correction. One such analyzer is the Agilent 8753D Option 075. The required calibration standards are contained in the Agilent 85036B Calibration Kit.

Service and Support

Any adjustment, maintenance, or repair of this product must be performed by qualified personnel. Contact your customer engineer through your local Agilent Technologies Service Center. You can find a list of local service representatives on the web at:

<http://www.keysight.com/find/assist>

If you do not have access to the Internet, one of the following centers can direct you to your nearest Agilent Technologies representative:

United States	(800) 403-0801
Canada	(877) 429-9969
Europe	(41 22) 780.6111 (Switzerland) (33 1) 69 82 66 66 (France) (49 7031) 464-6222 (Germany) (44 188) 9696622 (Great Britain)
Japan	0120-32-0119
Latin America	(11) 7297-3700 (Brazil)
Australia/New Zealand	1-800-802-540 (Australia) 0800-738-378 (New Zealand)
Asia-Pacific	080-047-669

This information is subject to change without notice.
© Keysight Technologies 1999, 2000, 2014
August 2014



86213-90001
www.keysight.com