

**Agilent 85059A  
precision calibration/verification kit, 1.0 mm**

The Agilent 85059A is a 1.0 mm calibration/verification kit designed for vector network analyzer systems operating over the frequency range of 45 MHz to 110 GHz. The opens, shorts and loads in this kit were optimized to provide accurate calibrations over the specified frequency range. For best results, the calibration techniques recommended are the open-short-load-thru (OSLT) calibration from 45 MHz to 50 GHz, and the offset-shorts calibration from 50 GHz to 110 GHz, all in one calibration sequence.



**Electrical specifications for 1.0 mm 50 ohm devices**

Device	Frequency (GHz)	Parameter	Specifications	
			Male	Female
<b>Loads</b>	DC to 2 GHz	Return loss	30 dB	30 dB
	2 GHz to 18 GHz		30 dB	30 dB
	18 GHz to 40 GHz		26 dB	26 dB
	40 GHz to 50 GHz		24 dB	24 dB
<b>Opens</b>	DC to 2 GHz	Deviation from nominal phase	$\pm 1.0^\circ$	$\pm 1.0^\circ$
	2 GHz to 18 GHz		$\pm 1.5^\circ$	$\pm 3.0^\circ$
	18 GHz to 50 GHz		$\pm 2.5^\circ$	$\pm 4.0^\circ$
<b>Short 3</b>	DC to 2 GHz	Deviation from nominal phase	$\pm 0.8^\circ$	$\pm 1.0^\circ$
	2 GHz to 18 GHz		$\pm 1.2^\circ$	$\pm 2.0^\circ$
	18 GHz to 50 GHz		$\pm 1.5^\circ$	$\pm 2.5^\circ$
	50 GHz to 110 GHz		$\pm 3.0^\circ$	$\pm 5.0^\circ$
<b>Short 1</b>	50 GHz to 110 GHz	Deviation from nominal phase	$\pm 2.5^\circ$	$\pm 4.0^\circ$
<b>Short 2</b>	75 GHz to 110 GHz	Deviation from nominal phase	$\pm 2.5^\circ$	$\pm 4.0^\circ$
<b>Short 4</b>	50 GHz to 75 GHz	Deviation from nominal phase	$\pm 2^\circ$	$\pm 4.5^\circ$

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Device	Frequency (GHz)	Parameter	Specifications
<b>Lossy delay line</b>	DC to 110 GHz	Return loss	18 dB
<b>Adapters</b>	DC to 20 GHz	Return loss	24 dB
	20 GHz to 50 GHz		20 dB
	50 GHz to 75 GHz		18 dB
	75 GHz to 110 GHz		14 dB
<b>Verification match Thru (adapter)</b>	DC to 20 GHz	Return loss	24 dB
	20 GHz to 50 GHz		20 dB
	50 GHz to 75 GHz		18 dB
	75 GHz to 110 GHz		14 dB
<b>Verification mismatch Thru (adapter)</b>	DC to 110 GHz	Return loss	6 dB @ ~22.6 GHz intervals

## Agilent 85059A precision calibration/verification kit, 1.0 mm (continued)

## Replaceable parts

Description	Qty per kit	Agilent replacement part number
<b>Shorts:</b>		
M short 3	1	85059-60003
F short 3	1	85059-60007
M short 4	1	85059-60004
F short 4	1	85059-60008
M short 2	1	85059-60002
F short 2	1	85059-60006
M short 1	1	85059-60001
F short 1	1	85059-60005
<b>Opens:</b>		
Male open	1	85059-60009
Female open	1	85059-60010
<b>Loads:</b>		
Male load	1	85059-60019
Female load	1	85059-60020
Lossy delay line	2	85059-60021
<b>Adapters:</b>		
Male to male adapter	1	11920-60001
Female to female adapter	1	11920-60002
Male to female adapter	1	11920-60003
<b>Cables:</b>		
Female to female cable (8.8 cm)	1	11500-60001
<b>Verification devices</b>		
Mismatched thru adapter	1	85059-60016
Matched thru adapter	1	85059-60017
<b>Wrenches</b>		
6 mm 4 in-lb torque	1	8710-2079
6 mm open-end	1	8710-2156