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HL9472 Broadband Resistive Power Divider (20 GHz)

Features and Technical Specifications

Bandwidth (-1.5 dB)	DC to 20 GHz
Insertion Loss (DC)	6.02 ± 0.11 dB
Insertion Loss (AC)	6 dB, typical See *Fig. 1* below
Amplitude Match	± 0.1 dB, typical See *Fig. 1* below
Phase Match	± 3-4° at 20 GHz, typical See *Fig. 2* below
Return Loss	See *Fig. 3* below
Rise time	17.5 ps, typical
Insertion Delay	≈ 125 ps, all ports
Max Input Power	+33 dBm
Impedance (DC)	50 Ω ± 5%
Connectors	SMA, 3x jack/female
Length and Width (center to end of each connector)	17.57 mm (0.69”)
Height	13.59 mm (0.535”)
Weight	14 g (0.49 oz.)
Temperature Limits	-40° to +40° C, operating
RoHS Compliance	RoHS compliant; made with lead-free solder
Warranty	1 year, see website

PRODUCT SUMMARY

The HL9472 is a 6 dB power divider that provides outstanding amplitude and phase symmetrical power division from DC to beyond 20 GHz.

This product is designed using a three-resistor network resulting in outputs that are nominally attenuated to 6 dB, and all ports are impedance matched to 50 Ohms when the ports are terminated.

The HL9472 is designed suitable for use in multi-Gbps communications systems, high-speed analog-to-digital conversion, frequency response testing for differential devices, and many other applications.

DEPLOYMENT NOTES

This product is also available with different connectors: 1.85 mm (P/N HL9477), or 2.4 mm (HL9475), or 2.92 mm (HL9474).

The HL9472 ports are symmetrical and the device can be used in any direction.

For the purposes of this datasheet and the S Parameters on our website, Port 1 is indicated with a small dot on the label.

ADDITIONAL DATA

Higher-resolution versions of the charts on the following pages are available on our website.

HL9472 Amplitude and Phase Match

The HL9472 is matched to 50 Ω on all ports and thus can be used in any direction. *Figure 1* shows bandwidth and amplitude match of the HL9472 from 10 MHz to 20 GHz. *Figure 2* shows phase mismatch (from 0°) on the output ports over the same frequency range.

For both plots, Port 1 is the input and Ports 2-3 are the outputs.

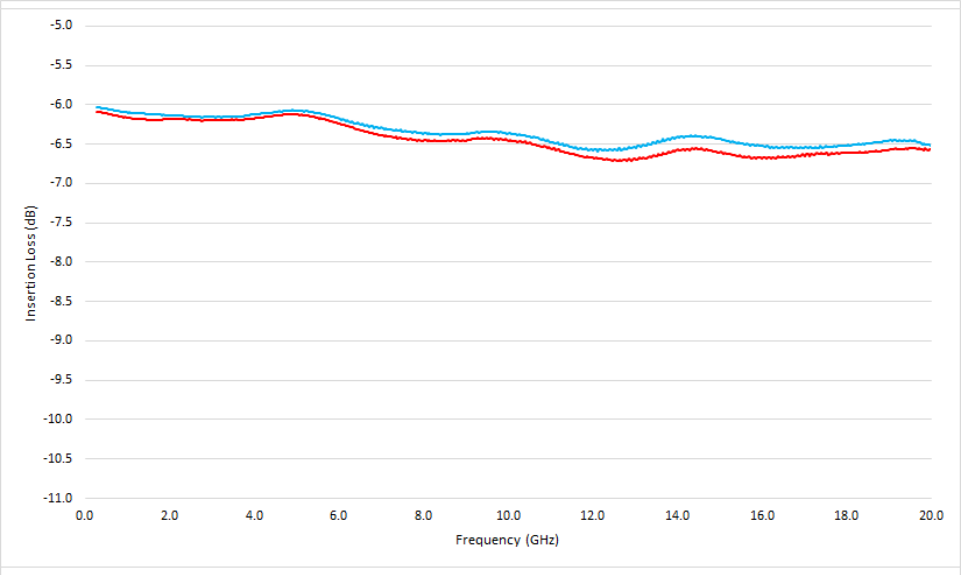

Figure 1: Typical amplitude match of an HL9472 device

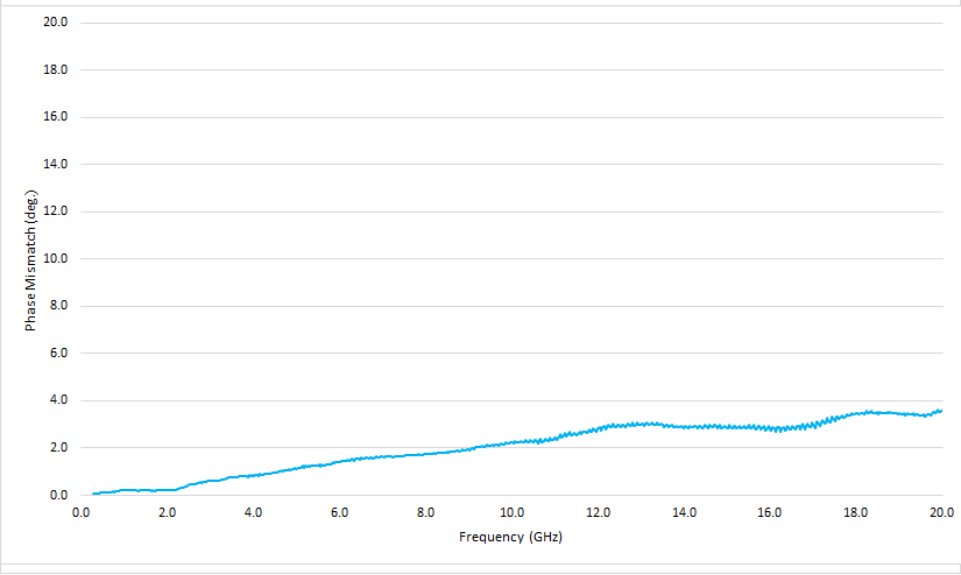

Figure 2: Typical phase mismatch of HL9472 output ports, in degrees

HL9472 Return Loss and VSWR

The HL9472 is a symmetrical power divider, so Return Loss and VSWR are very similar between ports. *Figure 3* shows the typical return loss of all ports, while *Figure 4* shows VSWR.

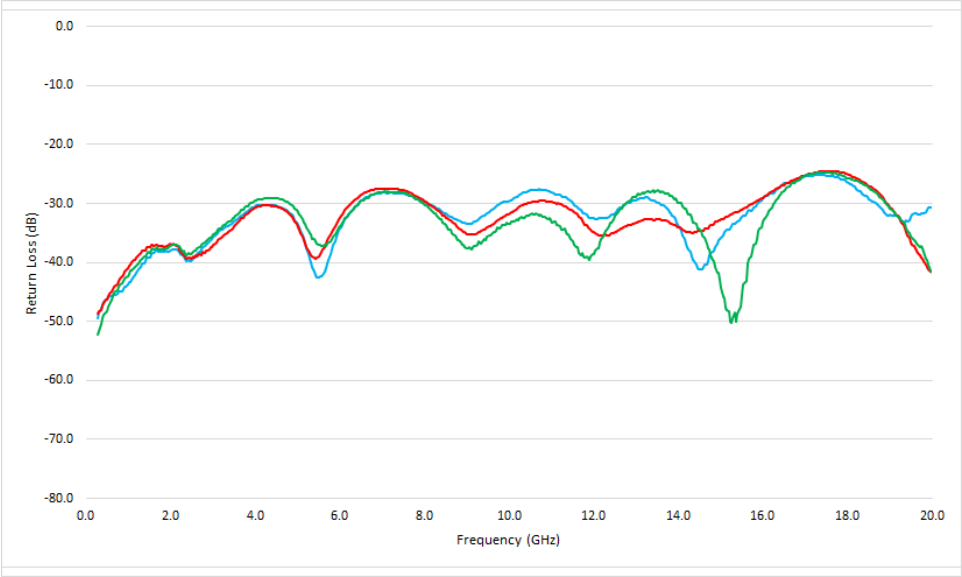

Figure 3: Typical return loss on the HL9472

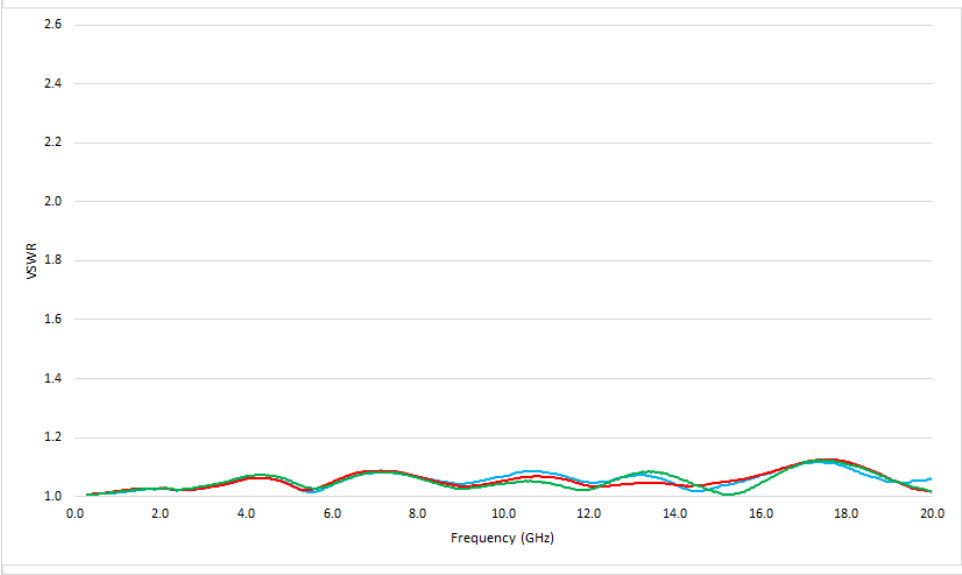

Figure 4: Typical VSWR on the HL9472