

PRODUCT SUMMARY

The HL8808 is the industry's most ultrabroadband 180° signal splitter and combiner that offers excellent amplitude and phase match over an industry-best 3 dB bandwidth of 500 kHz to 110 GHz with a useable frequency range up to 145 GHz.

It is suitable for use in 224 Gbps PAM4 communications systems, high-speed analog-to-digital conversion, frequency response testing for differential devices, and many other applications.

DEPLOYMENT NOTES

When the device is used as a signal combiner using differential signals with unmatched source impedance, attenuators (3-6 dB) may be required to improve isolation.

If the DC voltage of the balanced or unbalanced ports is non-zero, DC blocks are required. The balanced ports (2 and 3) are DC shorted.

MODELS & OPTIONS

The following model is available:

HL8808, 110+ GHz

The following connector option is available:

-JJJ, jack all ports

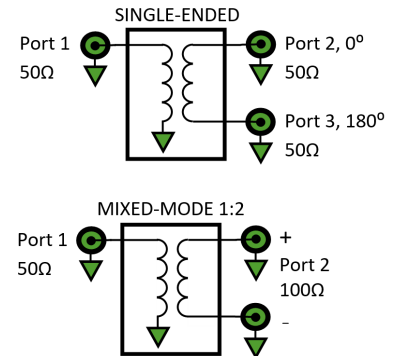
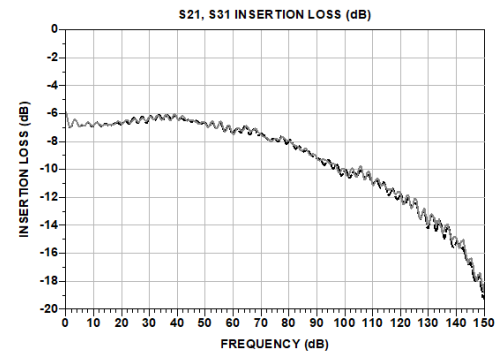
HL8808 Broadband Balun (500 kHz to 145 GHz (-12 dB))

Features and Technical Specifications HL8838

Bandwidth <i>See Fig. 1</i>	500 kHz to 110 GHz (3 dB) 110 GHz to 145 GHz (12 dB)
Insertion Loss	7 dB
Return Loss <i>See Figs. 2-3</i>	< 10 dB, unbalanced port < 9 dB, balanced ports
Amplitude Match <i>See Fig. 4</i>	± 0.5 dB, $f \leq 70$ GHz ± 1.5 dB, $f > 95$ GHz
Phase Match <i>See Fig. 5</i>	15° , $f = 120$ GHz
Group Delay	≈ 225 ps
Rise Time (10-90%)	3 ps
Max Input Power	1 W (+30 dBm)
Impedance	50 Ω
Connectors (PORT 1 / PORT 2)	0.8 mm, all jacks (opt. -JJJ)
Dimensions (L x W x H)	1.863" x 1.400" x 0.400" 47.3 x 35.6 x 10.2 mm
Weight	29 g
Temperature Limits	-40° to +70° C, operating
RoHS Compliant	Yes, assembled with lead-free solder
REACH Compliant	Yes
Warranty	1 year, see website



HL8808, Option -JJJ shown



HL8808 Schematic and Port Assignments

HL8808 Plot Diagrams

Figures 1-3 show the typical S-parameter characteristics of an HL8808. Figures 4-5 show phase and amplitude balance.

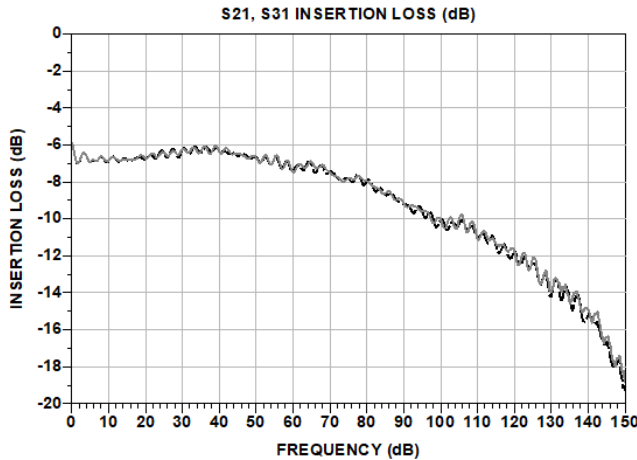


Figure 1: Typical HL8808 Bandwidth and Insertion loss

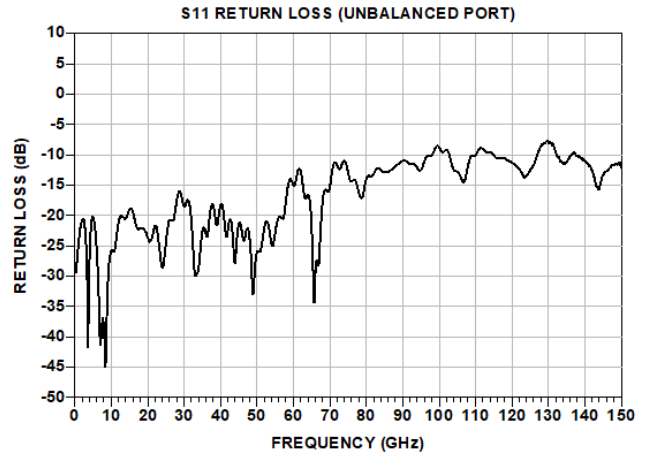


Figure 2: Typical HL8808 Return Loss Unbalanced Port

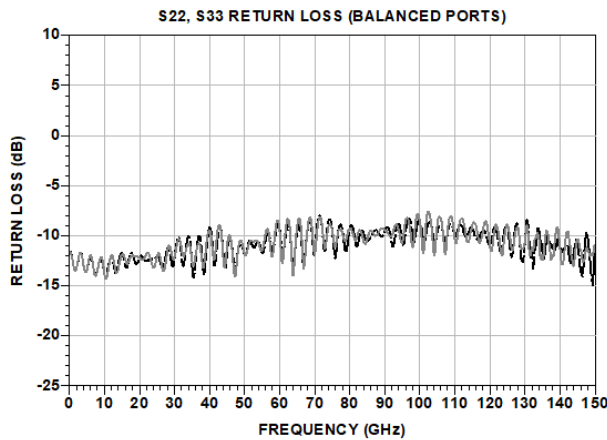


Figure 3: Typical HL8808 Return Loss Balanced Ports

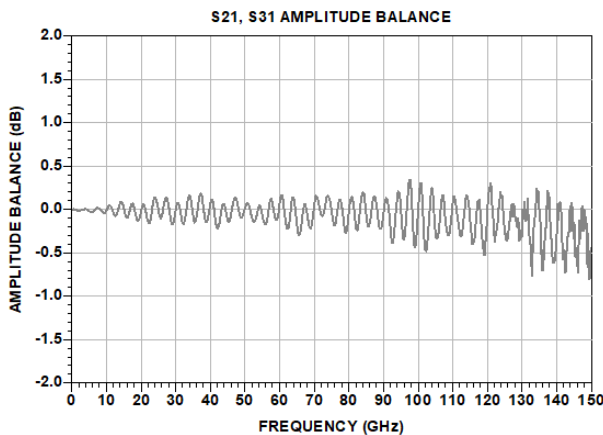


Figure 4: Typical HL8808 Amplitude Balance

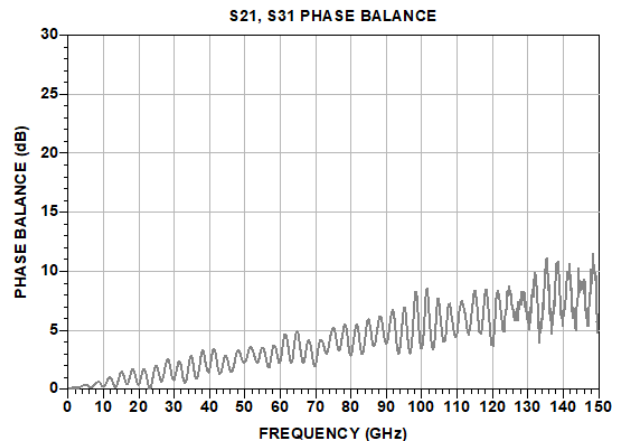


Figure 5: Typical HL8808 Phase Balance