



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

Features and Technical Specifications HL8838

| | |
|---------------------------------|---|
| Bandwidth | 500 kHz to 115 GHz (3 dB) 115 GHz to 145 GHz (12 dB) |
| Insertion Loss | 7 dB |
| Return Loss | < 10 dB, unbal. port < 9 dB, bal. ports |
| Amplitude Match | ± 0.5 dB, f ≤ 70 GHz ± 1.5 dB, f > 95 GHz |
| Phase Match | 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 |

PRODUCT SUMMARY

The HL8308 is the industry's most ultrabroadband 180° signal splitter and combiner that offers excellent amplitude and phase match over an industry-best bandwidth of 500 kHz to 115 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:

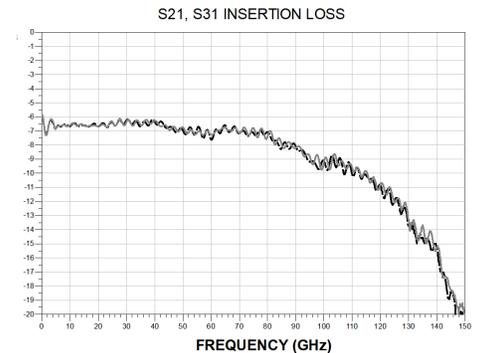
HL8808, 145 GHz

The following connector option is available:

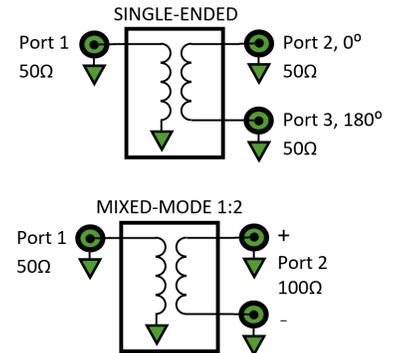
-JJJ, jack all ports



HL8808, Option -JJJ shown



Typical HL8808 Insertion Loss



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.

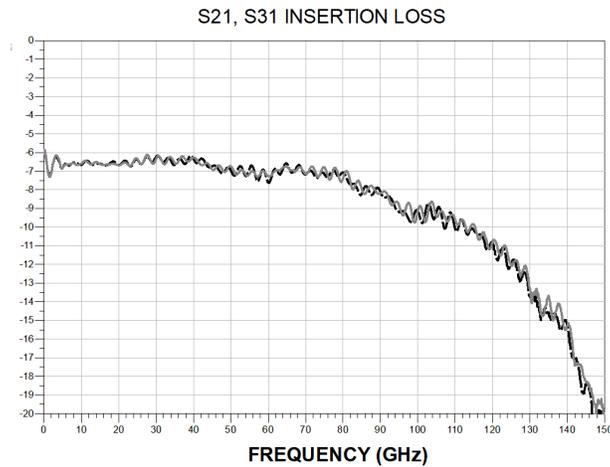


Figure 1: Typical HL8808 Bandwidth and Insertion loss

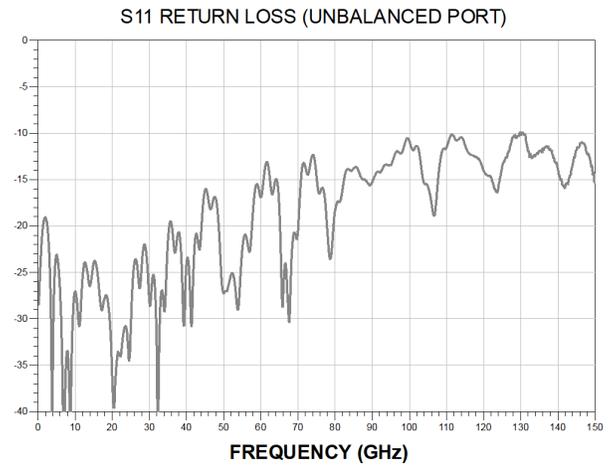


Figure 2: Typical HL8808 Return Loss Unbalanced Port

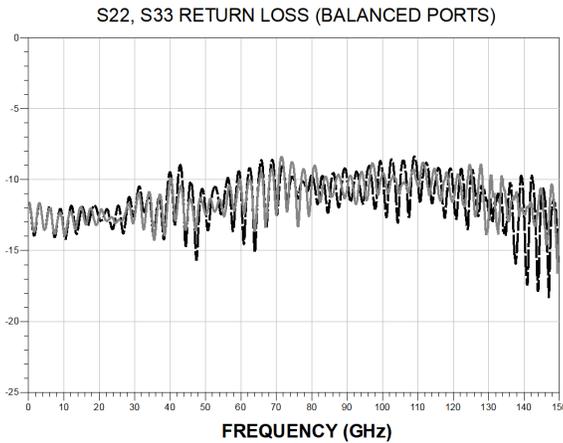


Figure 3: Typical HL8808 Return Loss Balanced Ports

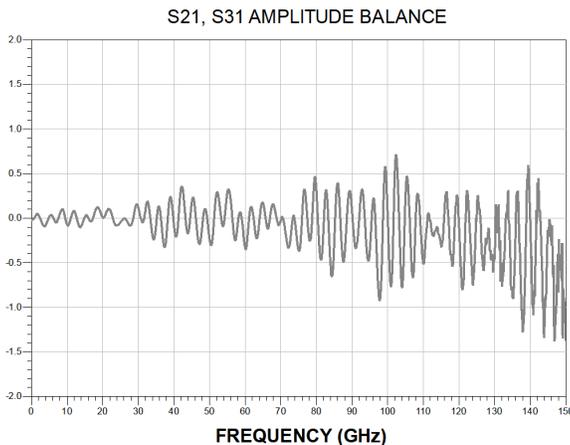


Figure 4: Typical HL8808 Amplitude Balance

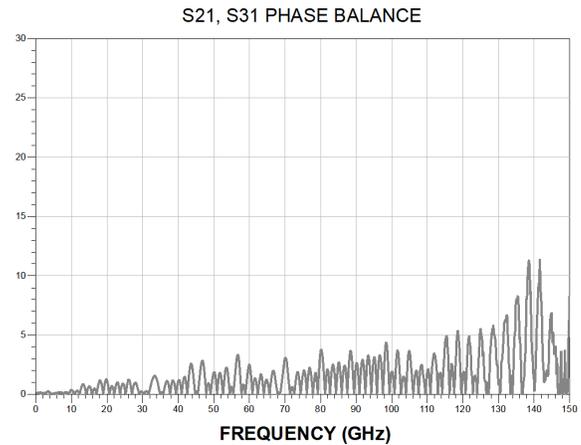


Figure 5: Typical HL8808 Phase Balance