



8-Way RF Splitter - Version 2 - Surface Mount - Broadband

Splitter Features:

- **BroadBand - 0.5 GHz to 7 GHz**
- **Low Loss - Less Than 2.7 dB At 6 GHz**
- **Excellent Amplitude/Phase Balance - 0.4 dB/7 Degrees At 6 GHz**
- **High Power - Greater Than 20 Watts As A Splitter**
- **RoHs Compliant**

Splitter Part Number:

- **BBTLine_8Way_V2_SMT**

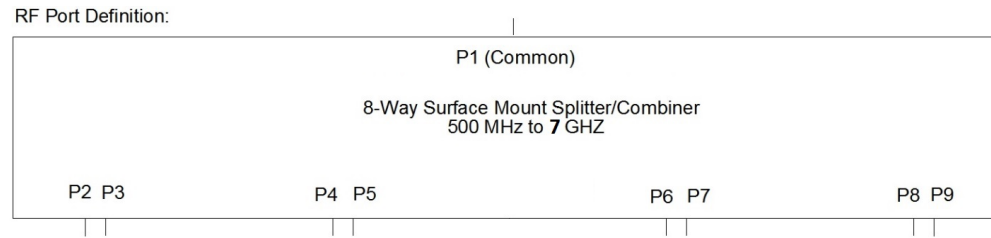
Version 2 has the common port on opposite side of the other eight ports

Description:

Shown below is a Patented (U.S. Patent 9,570,792) Broadband 8-Way Surface Mount (SMT) RF Splitter. This RF splitter is not a typical Wilkinson-style device, but a design which yields a Power Divider with excellent Low Loss RF characteristics and High Power-Handling capability.

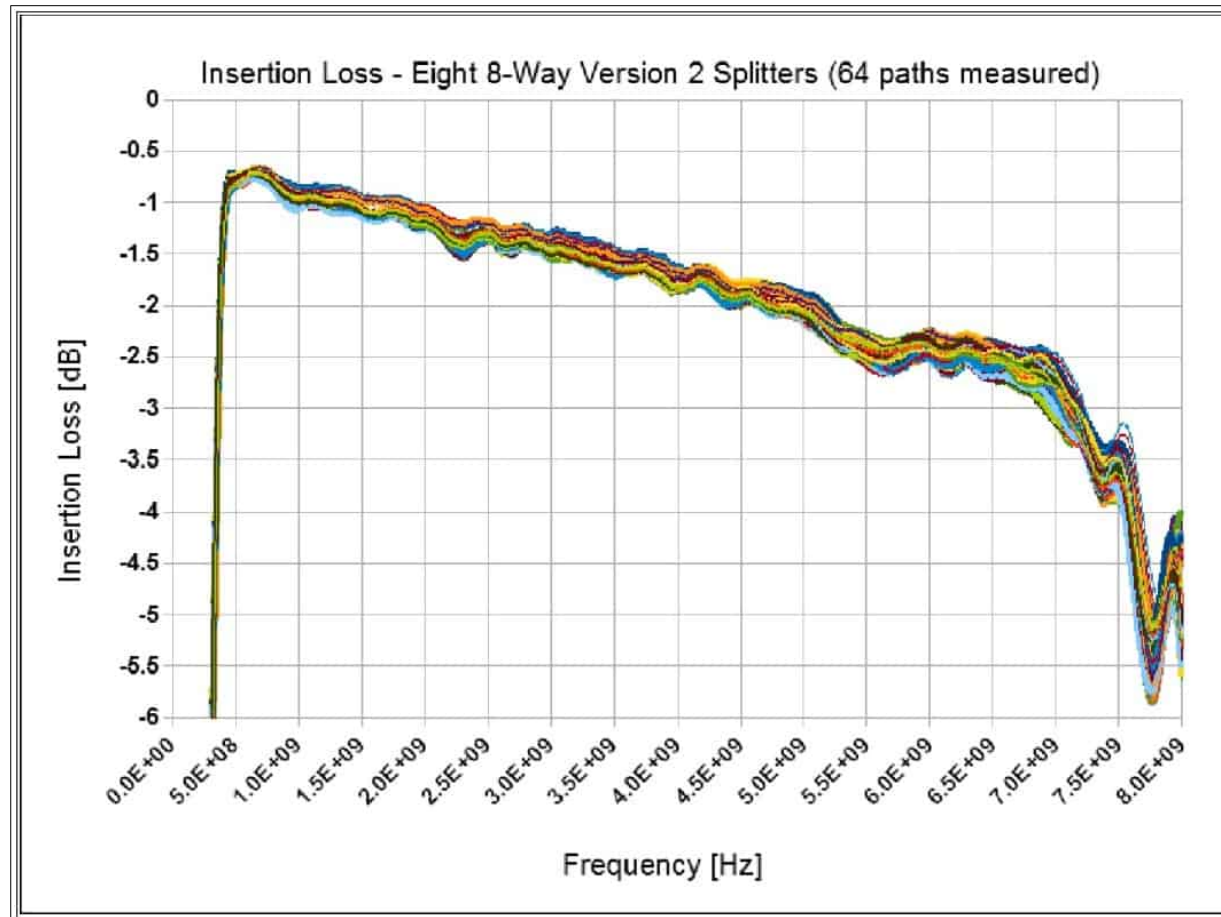


RF Specifications:



Insertion Loss:

Insertion Loss - Less Than 2.7 dB at 6 GHz:



Near Port Isolation:

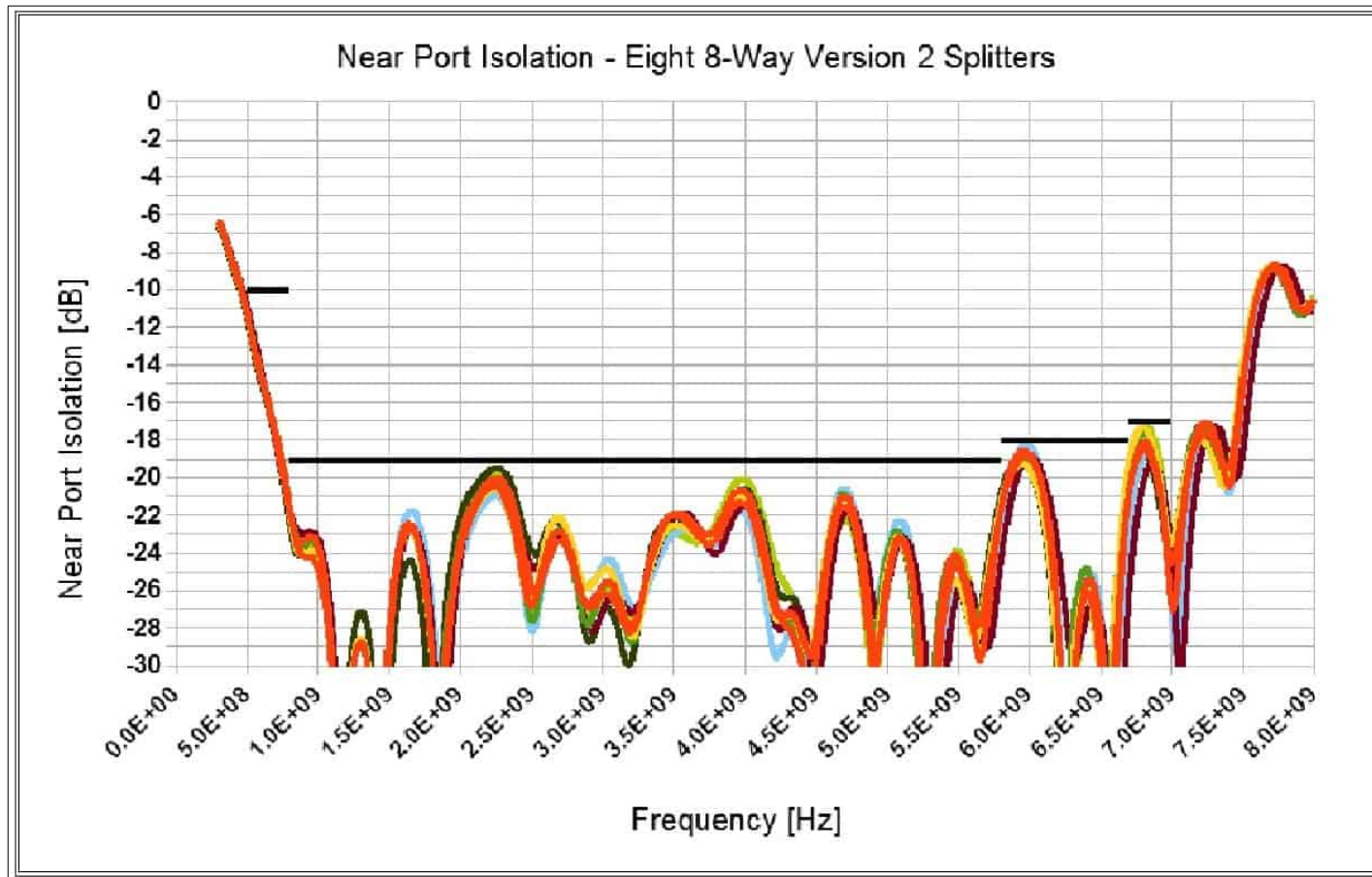
For Isolation Considerations, Ports P2/P3, P4/P5, P6/P7, P8/P9 are “Near Ports” - All Other Combinations are “Far Ports”

500 MHz To 800 MHz - Near Port Isolation Better Than 10 dB

800 MHz To 5.8 GHz - Near Port Isolation Better Than 19 dB

5.8 GHz To 6.7 GHz - Near Port Isolation Better Than 18 dB

6.7 GHz to 7 GHz - Near Port Isolation Better Than 17 dB

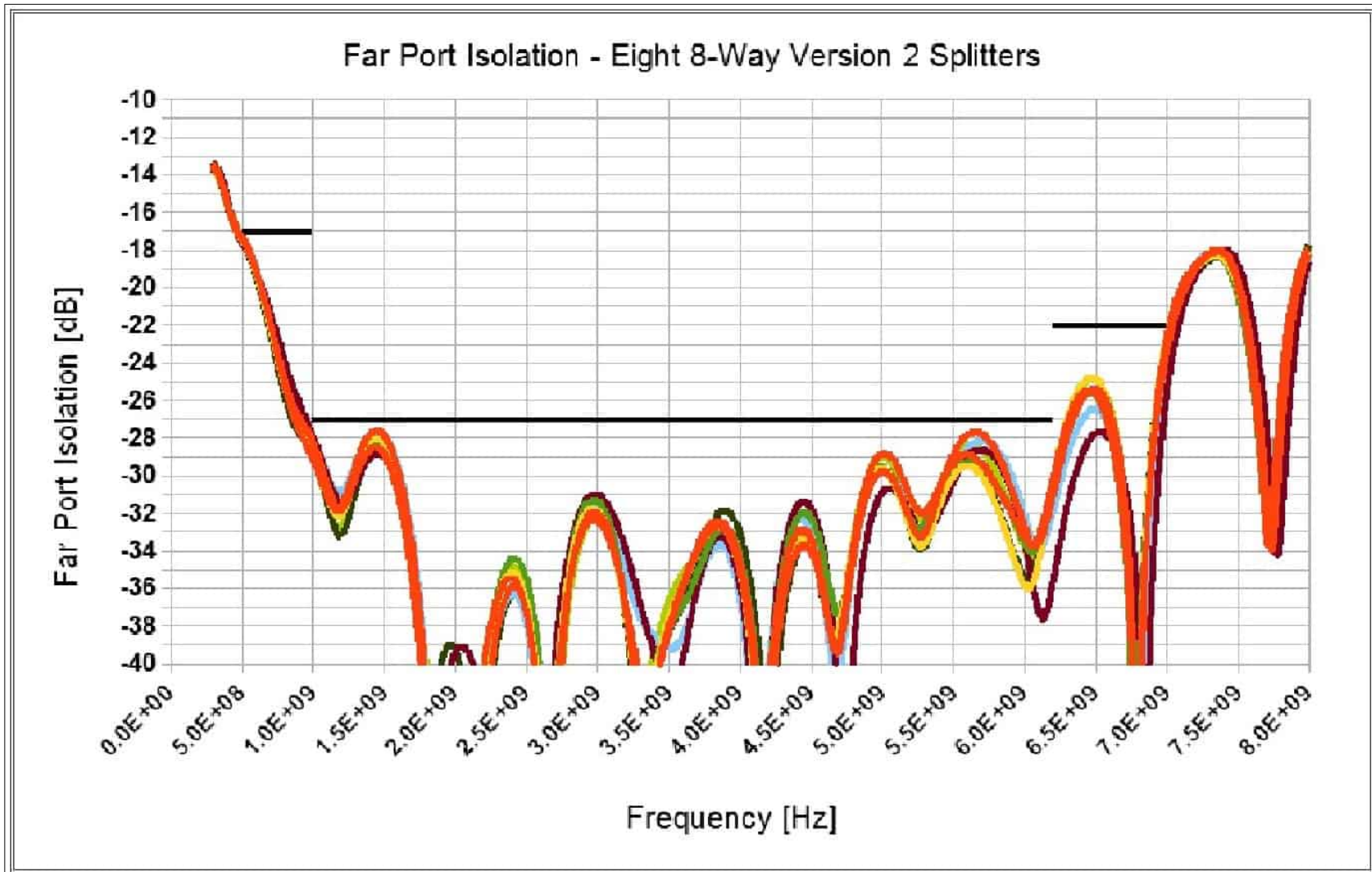


Far Port Isolation:

500 MHz To 1 GHz - Far Port Isolation Better Than 17 dB

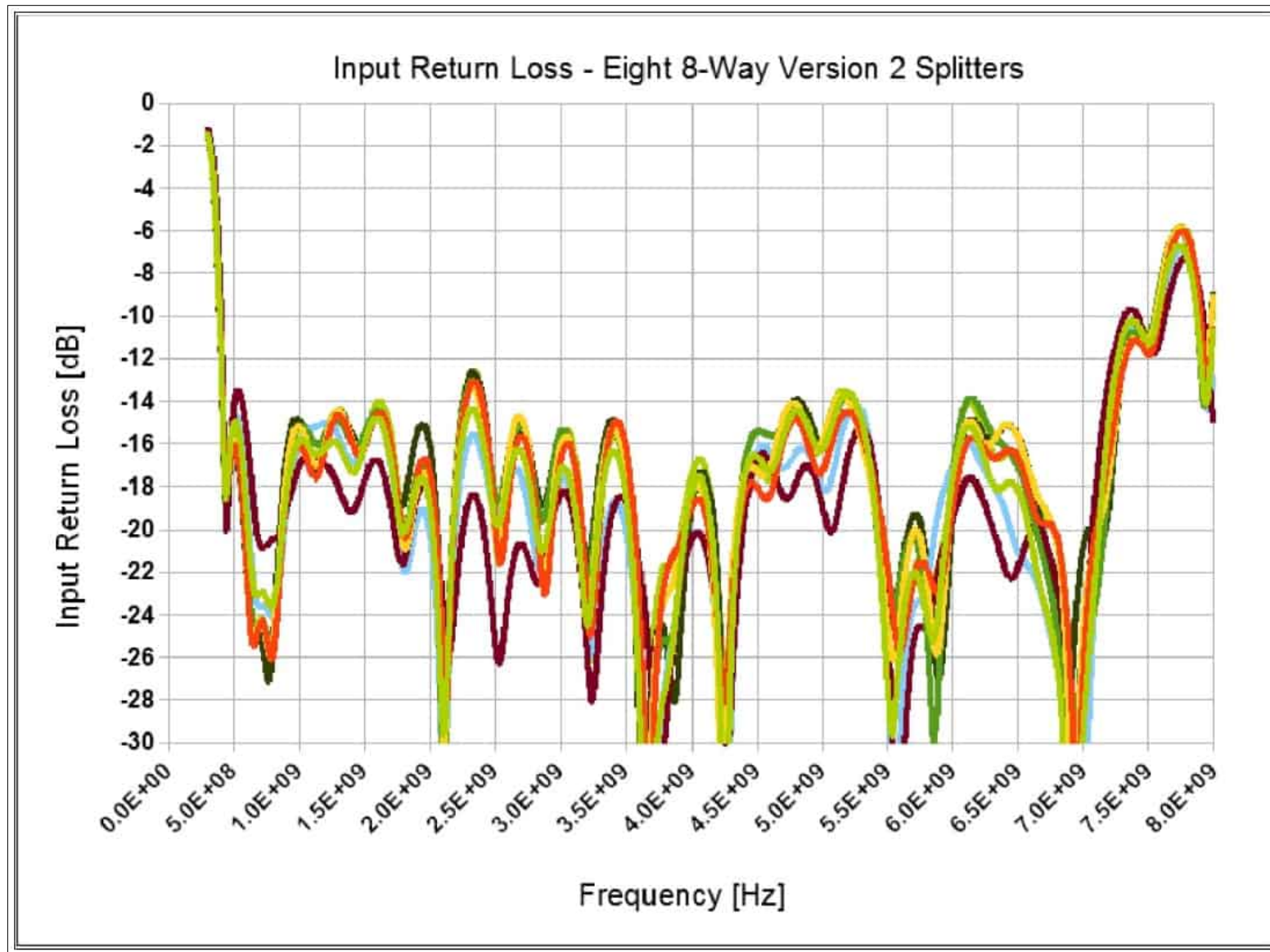
1 GHz To 6.2 GHz - Far Port Isolation Better Than 27 dB

6.2 GHz To 7 GHz - Far Port Isolation Better Than 22 dB



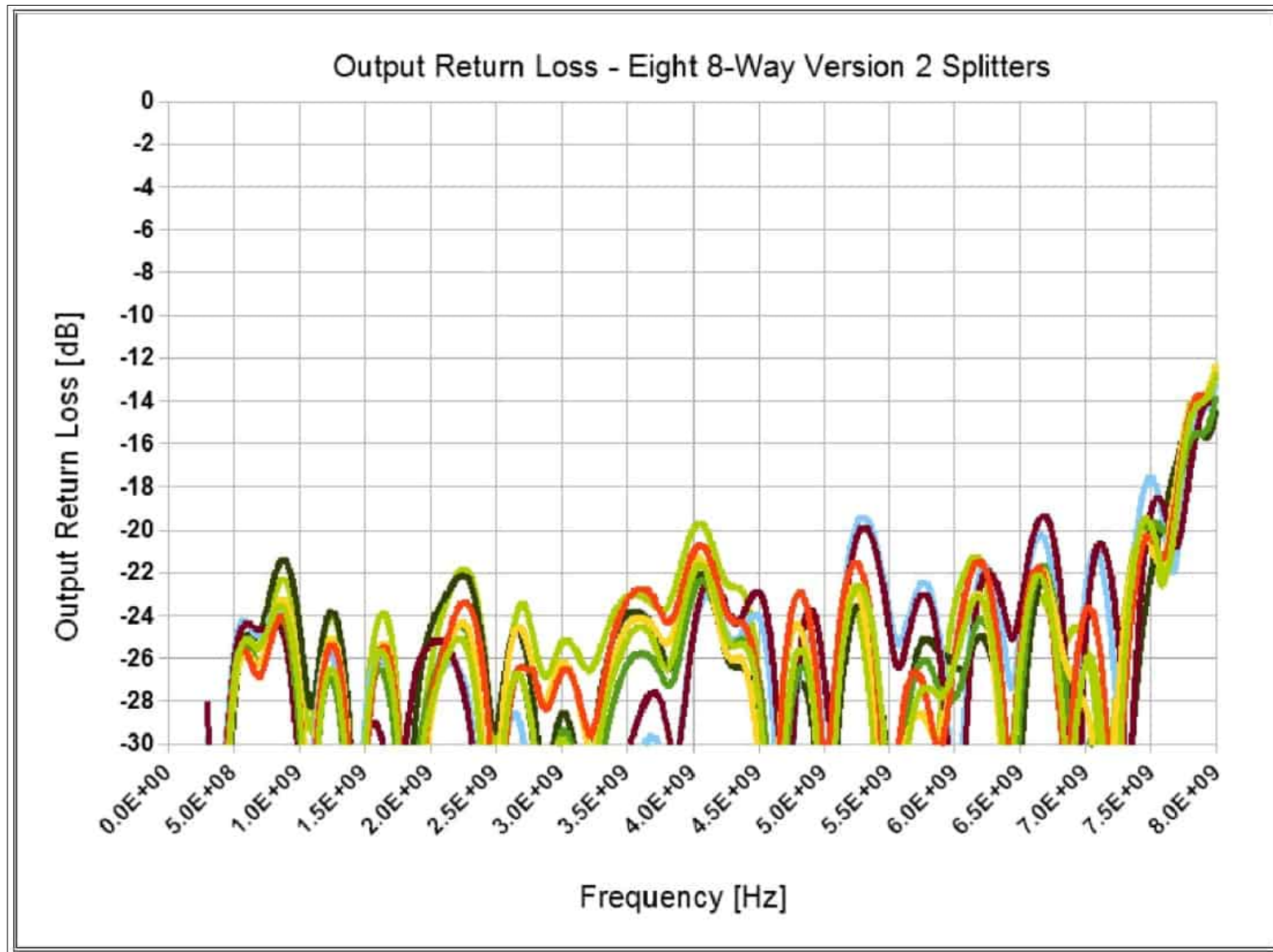
Input Return Loss (Common Port):

Input Return Loss Less Than -12 dB From 500 MHz To 7 GHz:



Output Return Loss:

Output Return Loss Less Than -19 dB From 500 MHz To 7 GHz:



Maximum Power As A Splitter: Greater Than 20 Watts*

Maximum Power As A Combiner (Same Frequency/Same Phase Signals): Greater Than 20 Watts

Maximum Power As A Combiner (Random Signals): 50 milliwatts (+17 dBm) - Limitation of internal
0201 isolation resistors

Phase Unbalance [Degrees At 6 GHz]: +/- 7

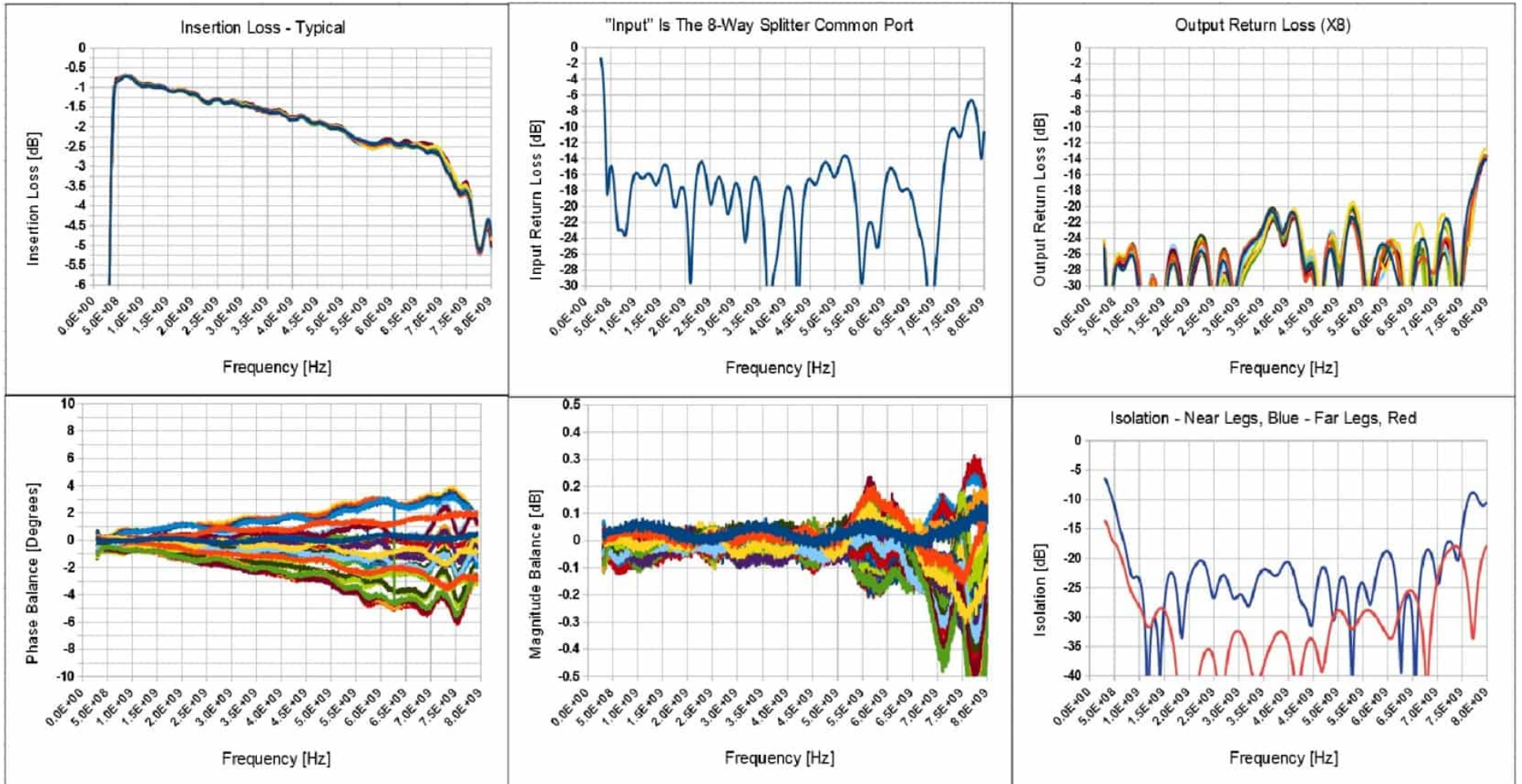
Amplitude Unbalance [dB At 6 GHz]: +/- 0.4

Operating Temperature Range: -55 To 125 C

Mass: Less Than 6.5 Grams

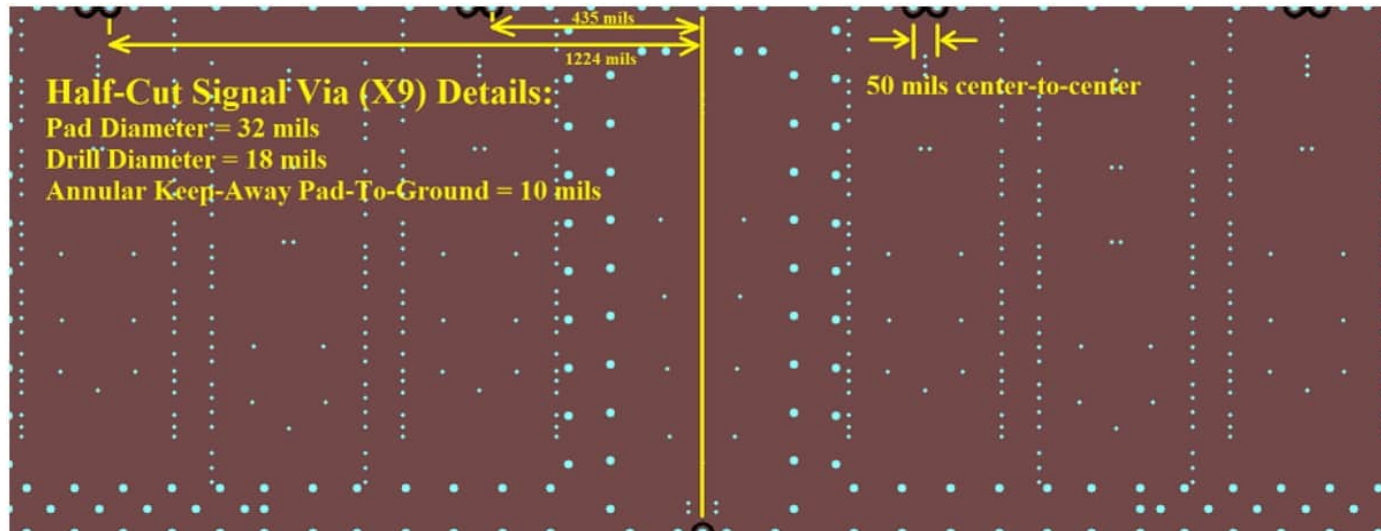
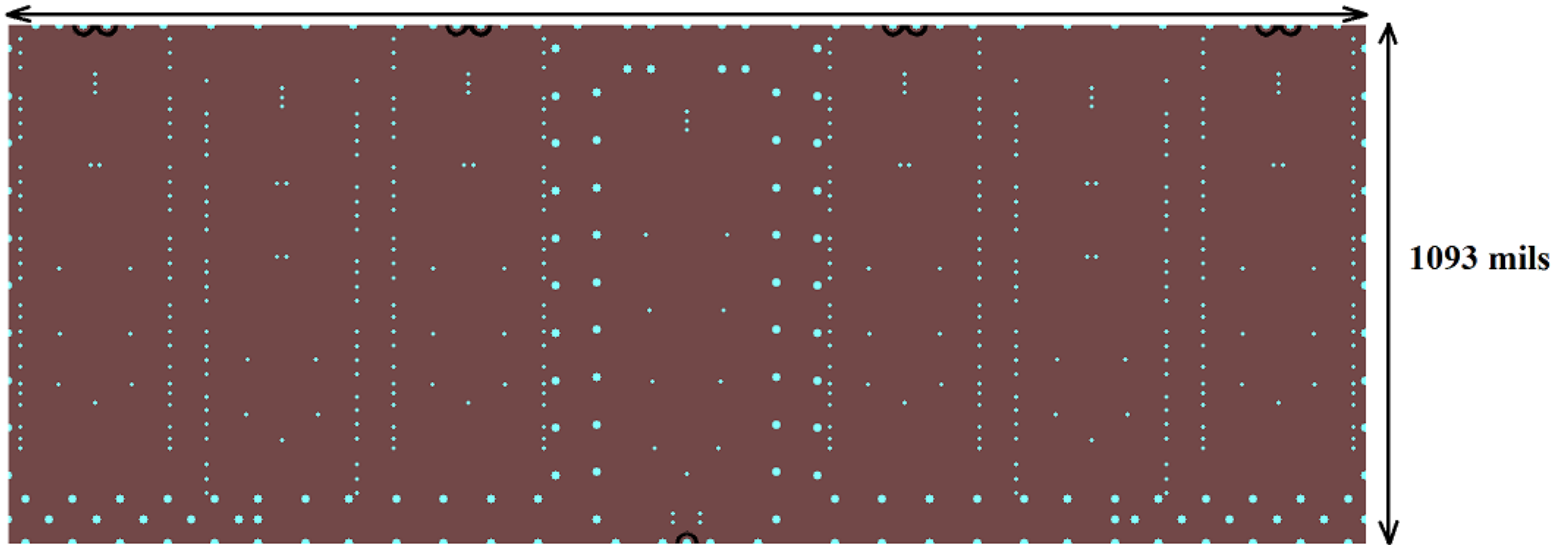
* At higher power levels (greater than 500 milliwatt internal splitter power dissipation), it is recommended to use “Pressure Plates” to provide heat-sinking for the splitter - the PCB Footprint/Decal should be adjusted to accommodate “Pressure Plates” (see the evaluation board for “Pressure Plate” details).

Typical Device RF Performance:

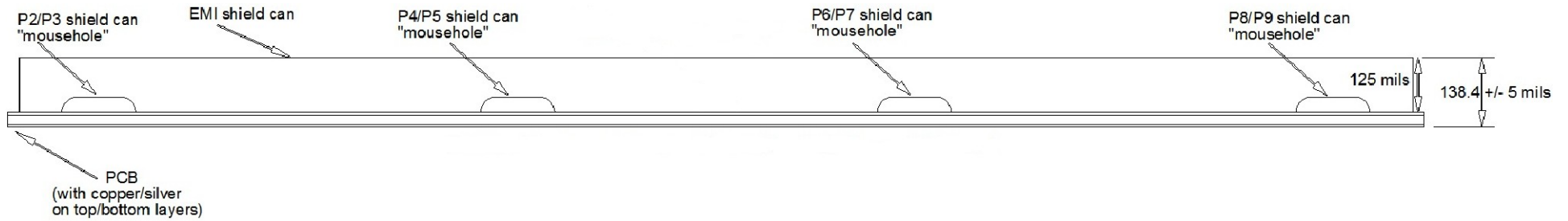


Mechanical Dimensions, Bottom Ground Plane View:

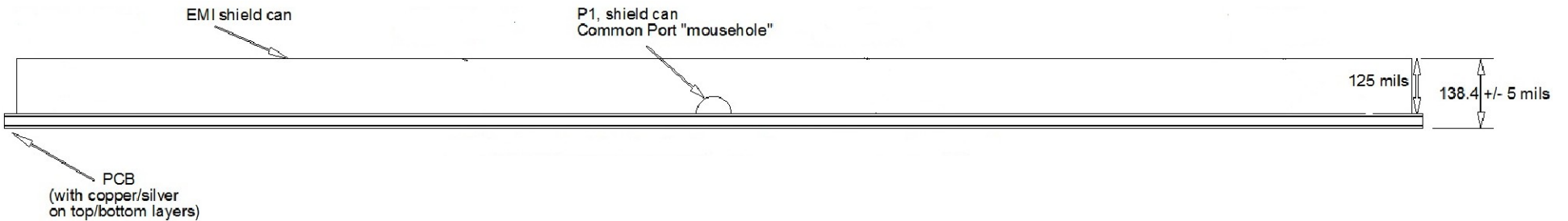
2865 mils



Mechanical View 1 - Eight Port Side:



Mechanical View 2 - Common Port Side:



An Evaluation Board with Male SMP Smooth-Bore Connectors is available:

The evaluation board uses “Pressure Plates” to apply pressure between the splitter and the evaluation board ground plane - this allows the user to evaluate the splitter without having to solder the splitter ground plane to the evaluation board ground plane. The “Pressure Plates” also supply heat-sinking to the splitter in high power applications (greater than 500 milliwatt internal splitter power dissipation).

