



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFHB14M25GVT

Coaxial 50W 90° Hybrid Coupler 1.4-2.5GHz



Features

- High power handling up to 50W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature
- High peak to average handling capability

Typical Applications

- Aerospace and military applications
- LMDS multi-carrier operation

Electrical Specifications, $T_A=25^\circ\text{C}$

Parameters		Min.	Typ.	Max.	Units
Frequency Range		1.4		2.5	GHz
Nominal Coupling			3		dB
Insertion Loss			0.15	0.2	dB
Isolation		23	25		dB
Amplitude Imbalance			± 0.25	± 0.35	dB
Phase Imbalance			± 1.5	± 2	deg
VSWR			1.15	1.2	: 1
Power Rating	Average	50			W
	Peak	1			kW
Impedance		50			Ohms
Weight		1.06			ounces
Input / Output Connectors		SMA -Female			
Material		Aluminum			
Finish		Blue Paint			

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Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)

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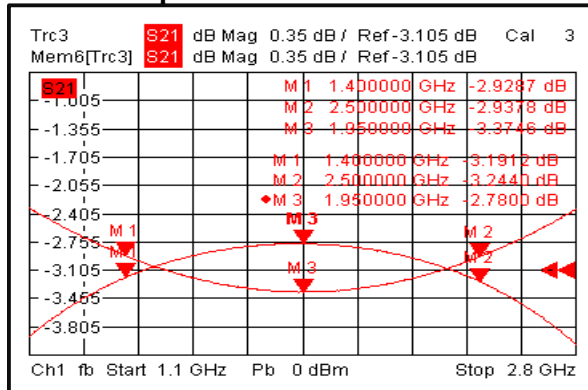
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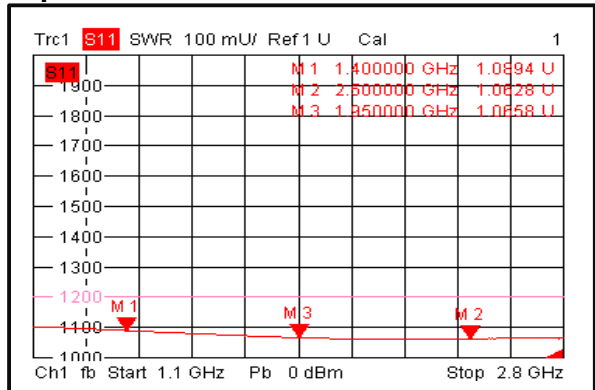
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Typical Performance Plots

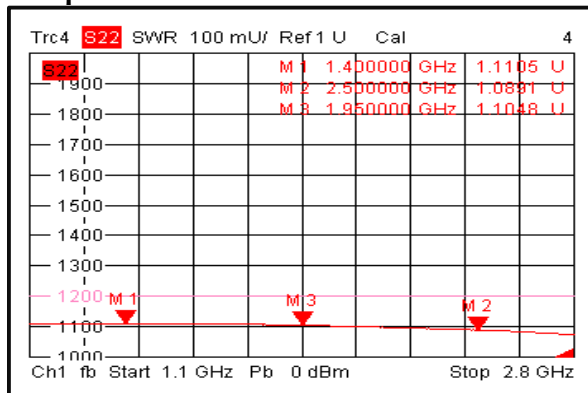
Loss & Amplitude Imbalance



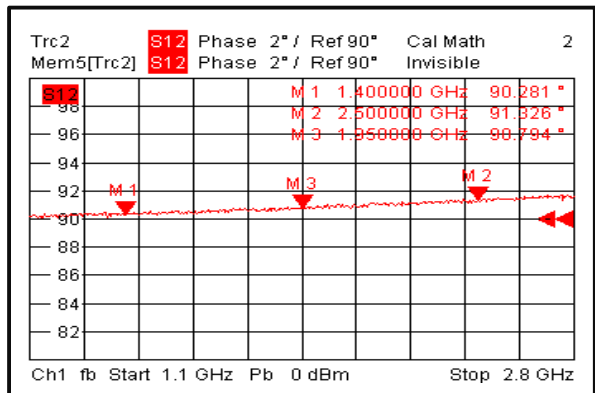
Input VSWR



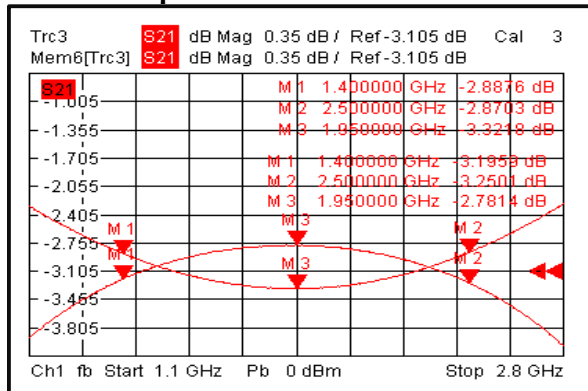
Output VSWR



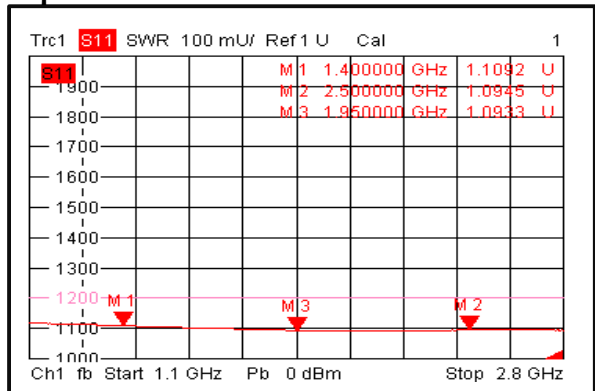
Phase Imbalance



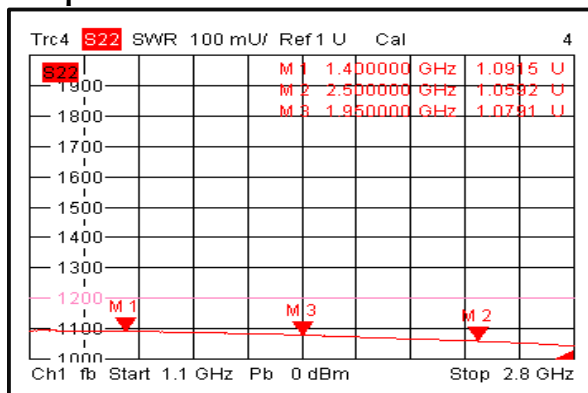
Loss & Amplitude Imbalance



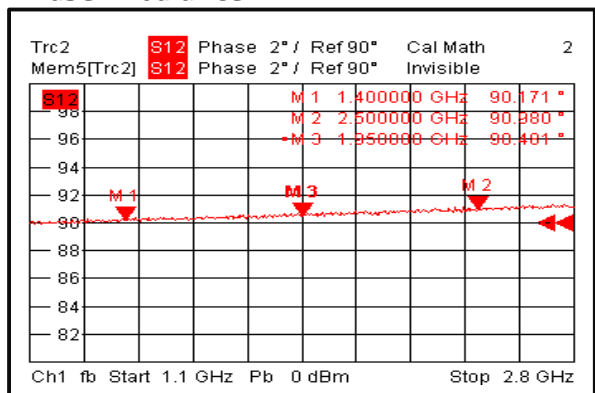
Input VSWR



Output VSWR



Phase Imbalance



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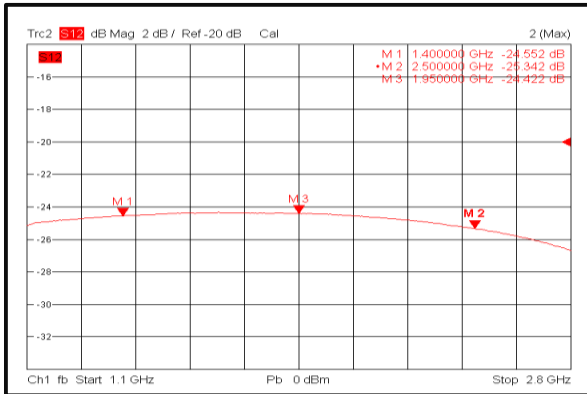


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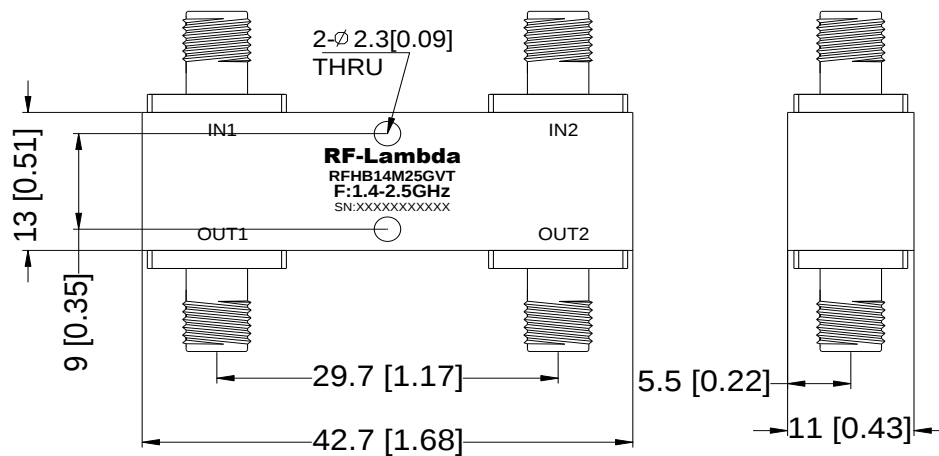
Isolation



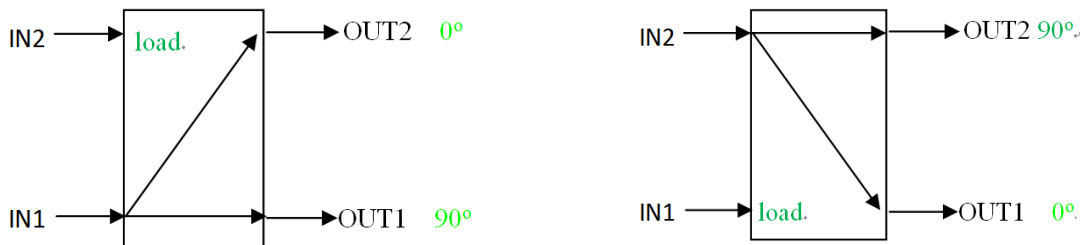
Outline Drawing:

All Dimensions in mm [inches]

Tolerances ± 0.2 [0.008]



Schematic:



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