Coaxial 50W 90º Hybrid Coupler 400MHz-800MHz

Product Description

RFHB04M08MVT is a coaxial hybrid coupler with a frequency range of 400 to 800MHz.

The power handling of this hybrid coupler is 50W. The insertion loss is 0.2dB with a typical isolation of 25dB.

The working temperature of this product is between - 40℃ and + 85℃.

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

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications, TA = +25°C

Parameter		Min	Typ	Max	Units
Frequency Range		400		800	MHz
Nominal Coupling			3		dB
Insertion Loss			0.2	0.3	dB
Isolation		22	25		dB
Amplitude Imbalance			±0.35	±0.5	dB
Phase Imbalance			±1	±2	deg
VSWR			1.15	1.2	: 1
Power Rating	Forward Power		50		W
	Peak Power		500 (10% Duty Cycle, 1 us Pulse Width)		W
Weight			0.11 Max.		lbs
Impedance			50		Ω
Input / Output Connectors			SMA-Female(Input) – SMA-Female(Output)		
Package			Epoxy Sealed (Standard)		
			Hermetically Sealed (Optional)		

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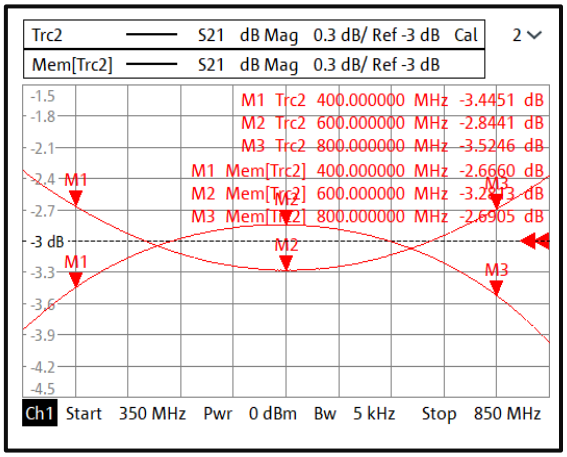
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40ºC to +85ºC (Case Temperature)
Storage Temperature	-50ºC to +105ºC
Thermal Shock	-40ºC → +85ºC (5 Cycles / 10 hours)
* Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
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	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)

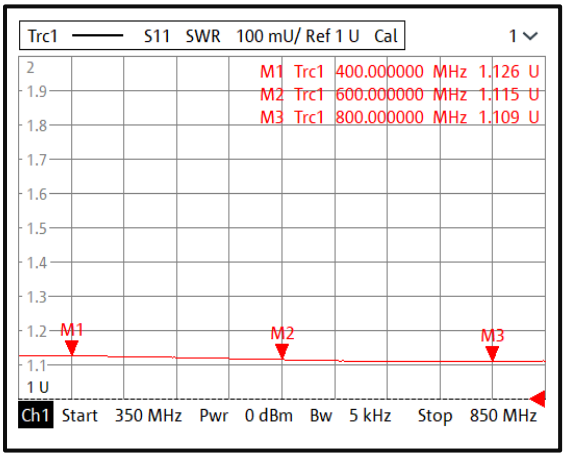
* For vibration testing details please see additional information section.

Typical Performance Plots

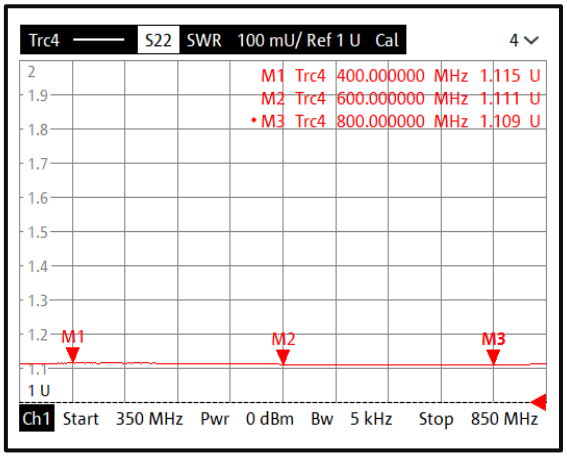
Loss & Amplitude Imbalance



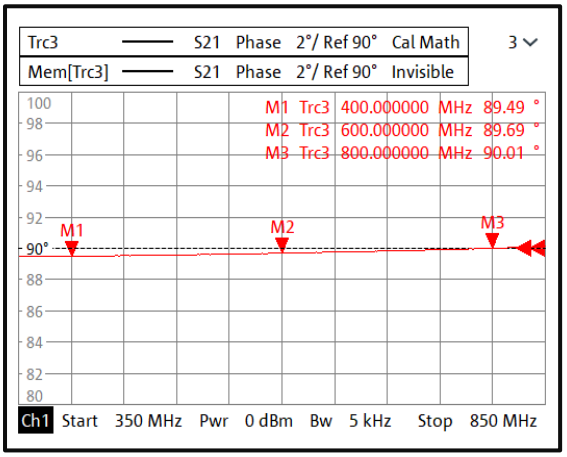
Input VSWR



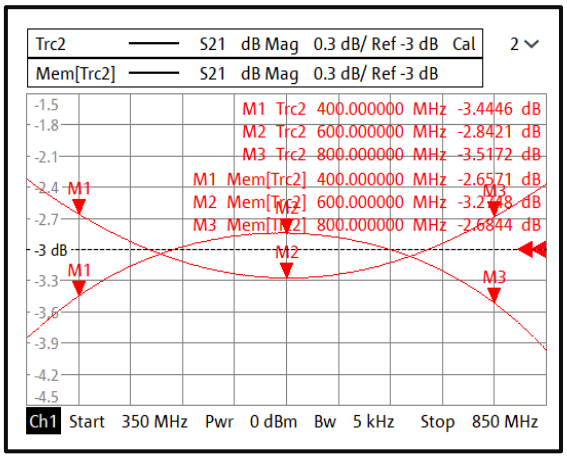
Output VSWR



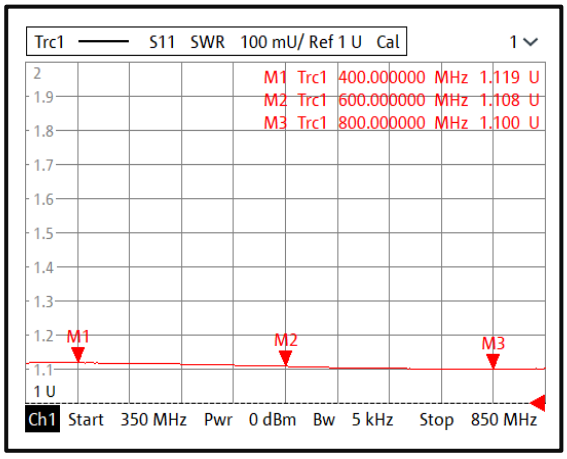
Phase Imbalance



Loss & Amplitude Imbalance

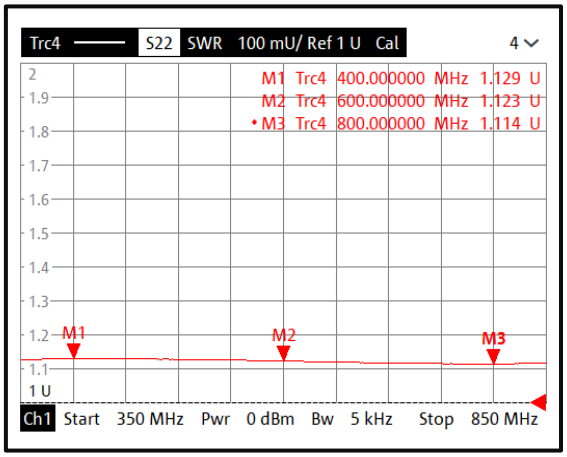


Input VSWR

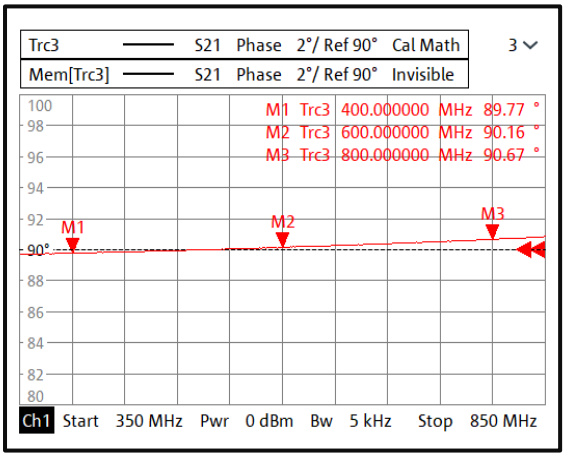


Typical Performance Plots

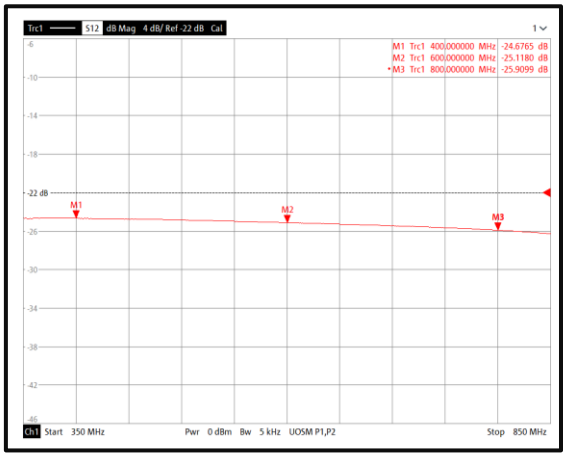
Output VSWR



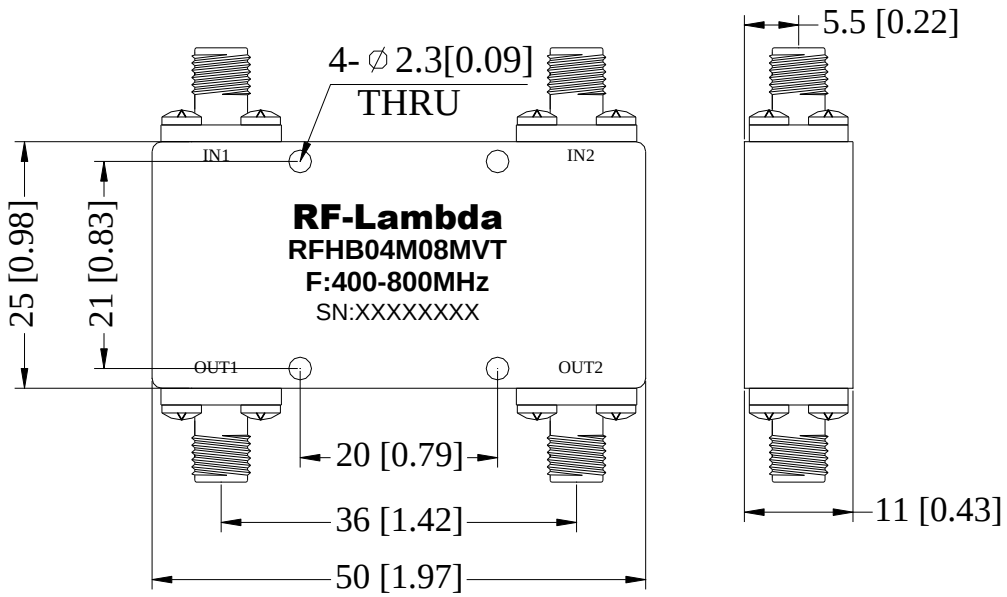
Phase Imbalance



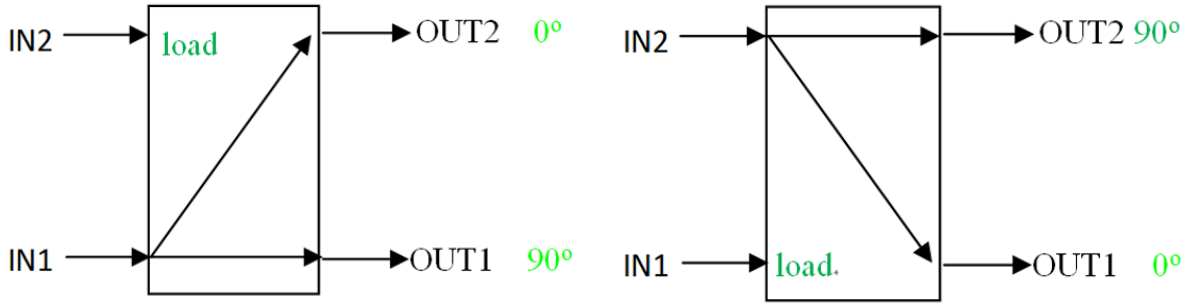
Isolation



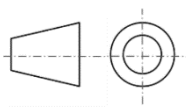
Outline Drawing



Schematic：



Notes:
1. Package Material: Aluminum
2. Finish: Blue Paint
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ±0.5 [0.02], Mounting Hole Tolerances ±0.2 [0.008] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.



Additional Information

Documentation	Webpage
Connector Torque Specifications	https://www.rflambda.com/pdf/Torque_Specifications.pdf
Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RFHB04M08MVT	Standard	400MHz-800MGHz Hybrid Coupler

Important Notice

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