



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFDC1G4G30

Coaxial 50W 30dB Directional Coupler 1 - 4GHz



Features

- High power handling up to 50W
- Wide band operation
- High directivity 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.	Min.	Typ.	Max.	Units
Frequency Range		1		2	2		4	GHz
Nominal Coupling		29	30	31	29	30	31	dB
Frequency Sensitivity			± 0.7			± 0.7		dB
Directivity		20	21		20	20		dB
Insertion Loss (Excl Coupling)				0.3			0.4	dB
Insertion Loss (True)			0.2	0.3		0.3	0.4	dB
VSWR Primary			1.15	1.2		1.18	1.2	: 1
VSWR Secondary			1.15	1.2		1.18	1.2	: 1
Power Rating	Average	50						W
	Peak	1						KW
Impedance		50						Ohms
Weight		1.41						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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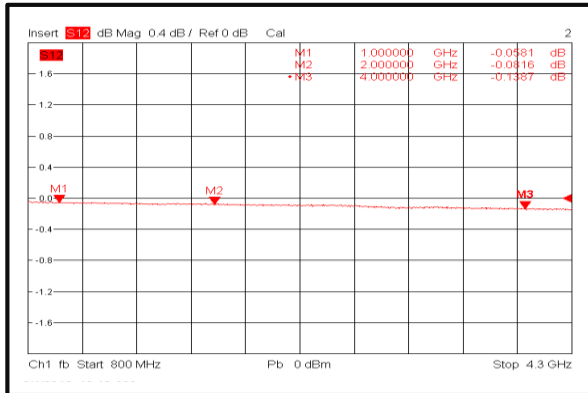
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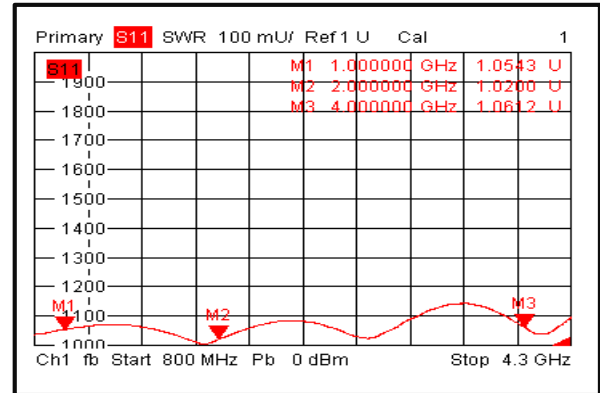
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Typical Performance Plots

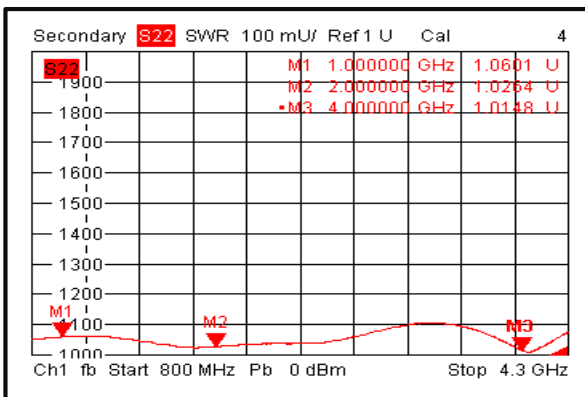
Insertion Loss



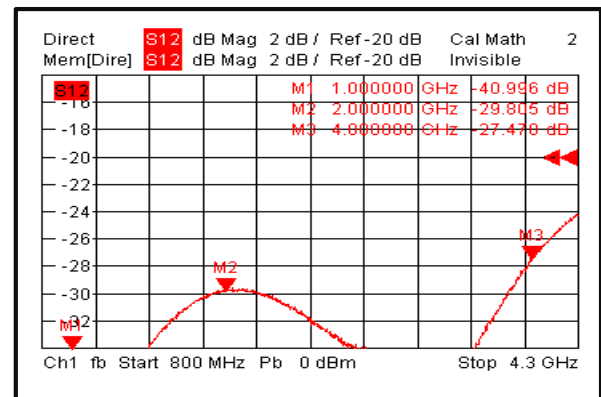
Primary VSWR



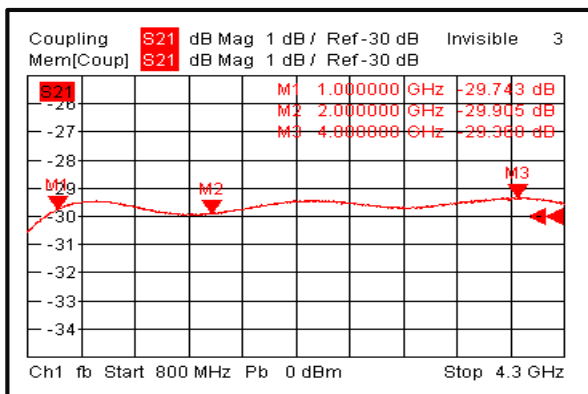
Secondary VSWR



Directivity



Nominal Coupling



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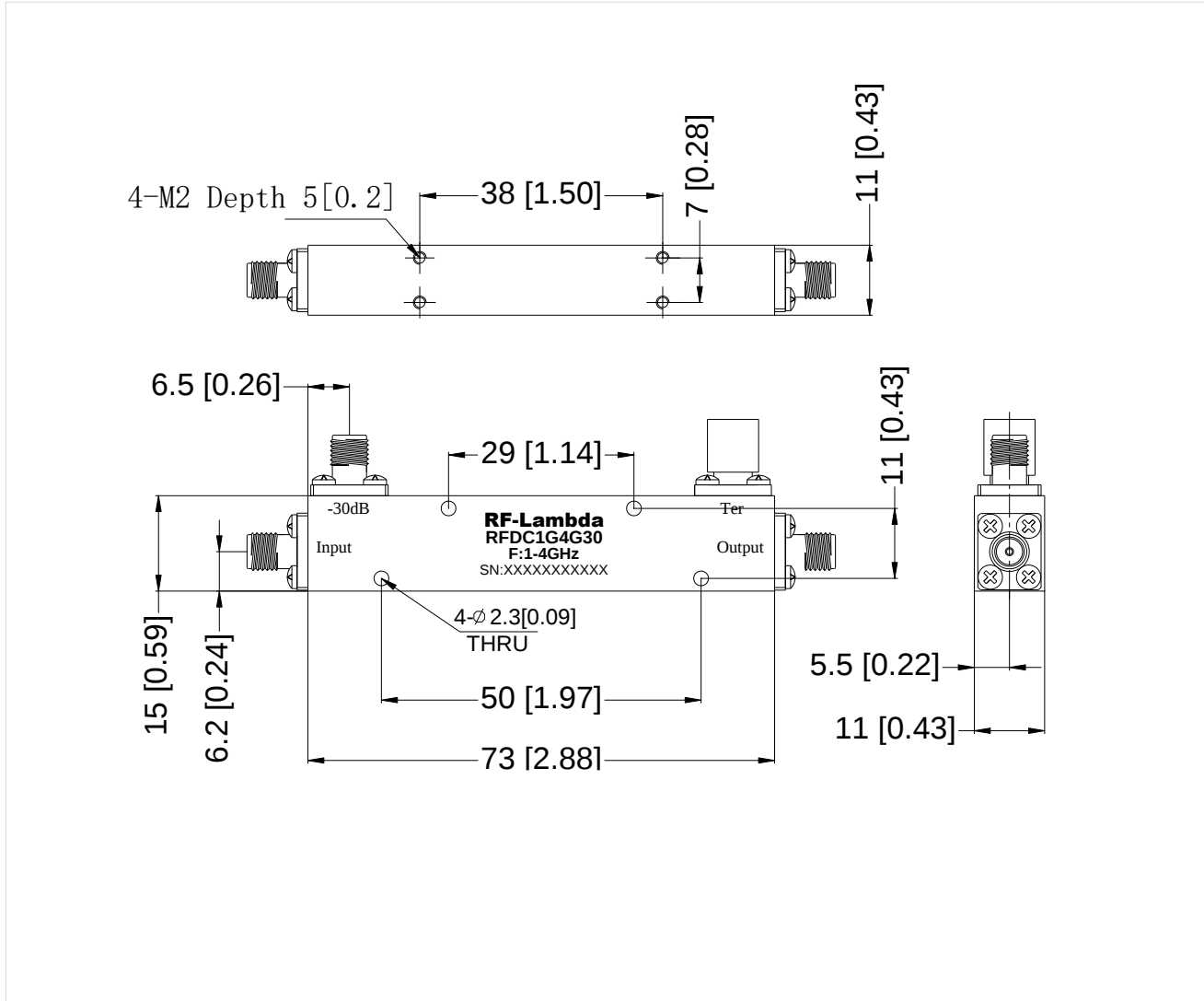
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Outline Drawing:

All Dimensions in mm [inches]

Tolerance ± 0.25 [0.01]



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