



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFDC1G4G20N

Coaxial 50W 20dB Directional Coupler 1 - 4GHz



Features

- High power handling up to 50 W
- Ultra 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, $T_A=25^\circ\text{C}$

Parameter		Min.	Typ.	Max.	Units
Frequency Range		1		4	GHz
Nominal Coupling		19	20	21	dB
Frequency Sensitivity			± 0.5	± 0.7	dB
Directivity		20	25		dB
Insertion Loss(Excl Coupling)				0.4	dB
Insertion Loss (true)			0.26	0.4	dB
VSWR Primary			1.2	1.25	: 1
VSWR Secondary			1.2	1.25	: 1
Power Rating	Average	50			W
	Peak	1			KW
Impedance		50			Ohms
Weight		4.94			ounces
Input / Output Connectors		N-Female			
Material		Aluminum			
Finish		Blue Paint			

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		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

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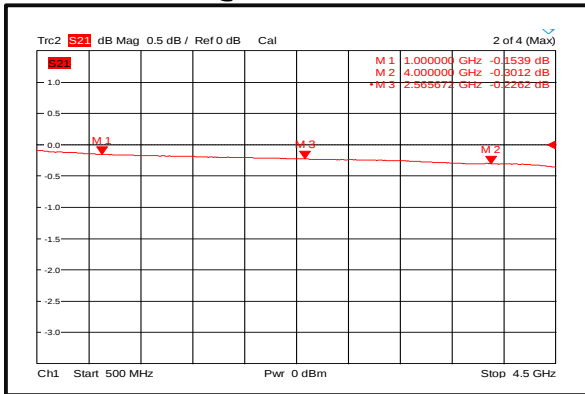
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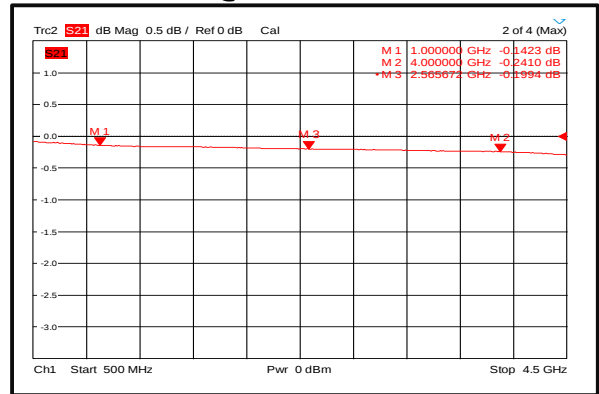
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Typical Performance Plots

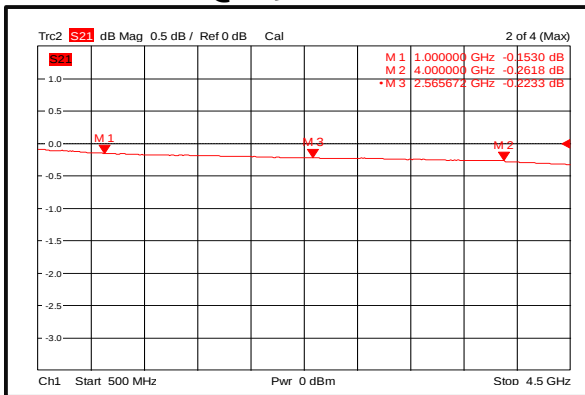
Insertion Loss @+25°C



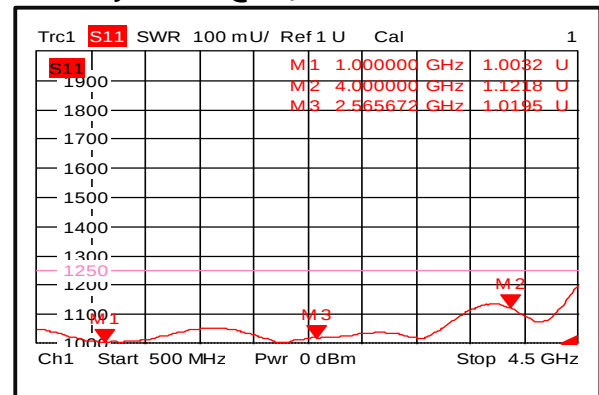
Insertion Loss @-45°C



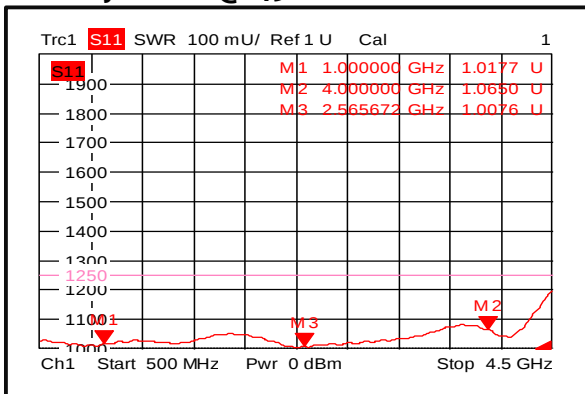
Insertion Loss @+85°C



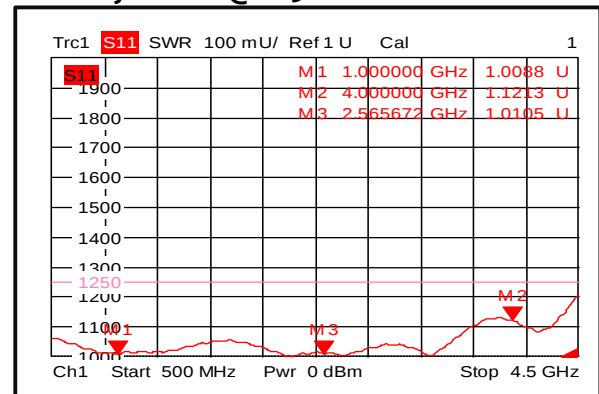
Primary VSWR @+25°C



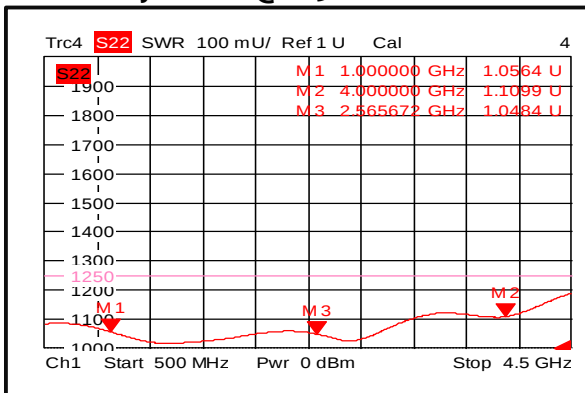
Primary VSWR @-45°C



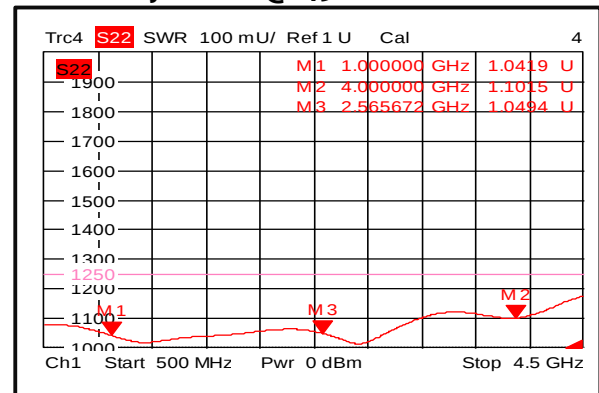
Primary VSWR @+85°C



Secondary VSWR @+25°C



Secondary VSWR @-45°C



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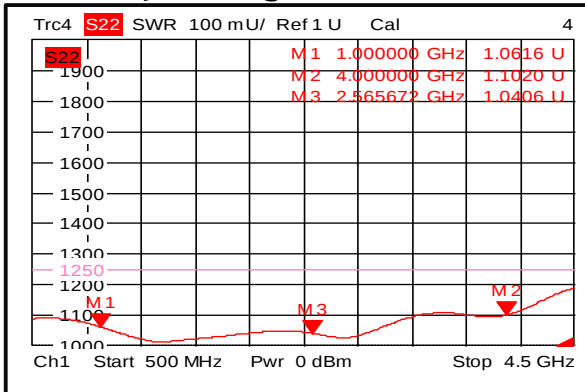


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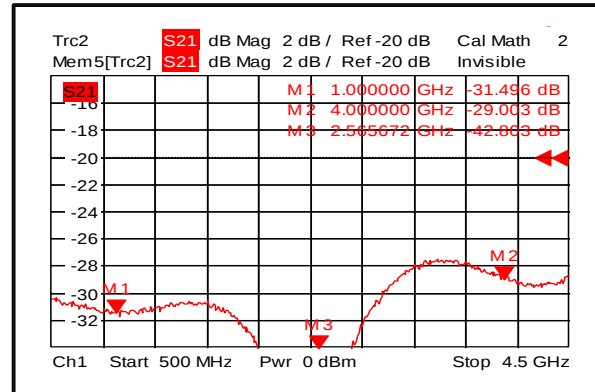
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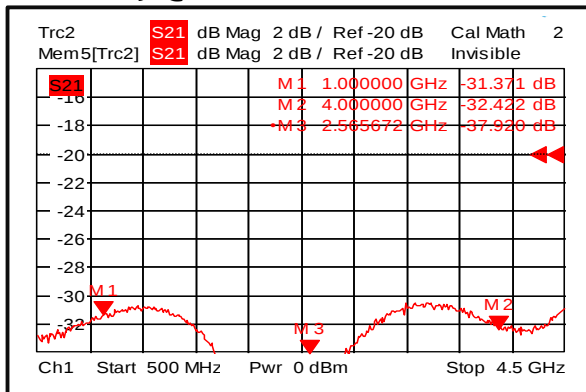
Secondary VSWR @+85°C



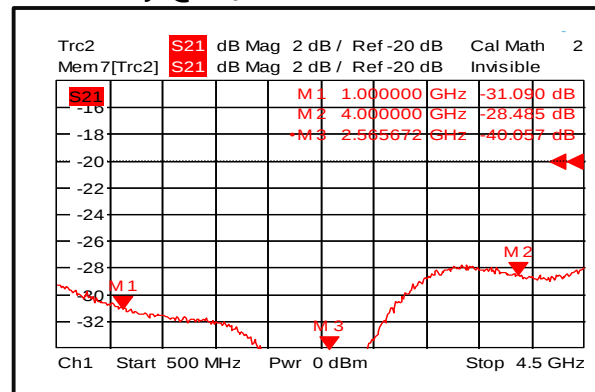
Directivity @+25°C



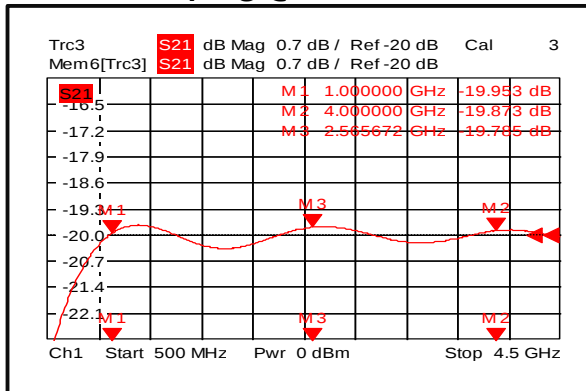
Directivity @-45°C



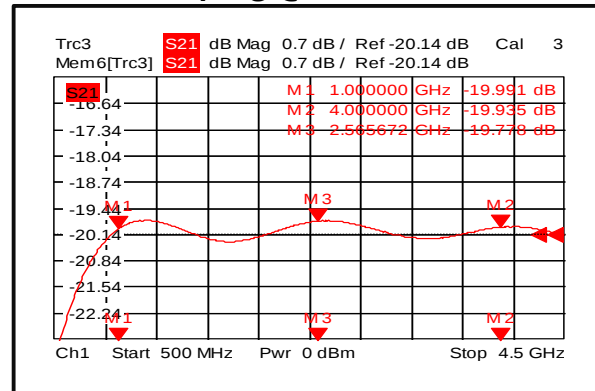
Directivity @+85°C



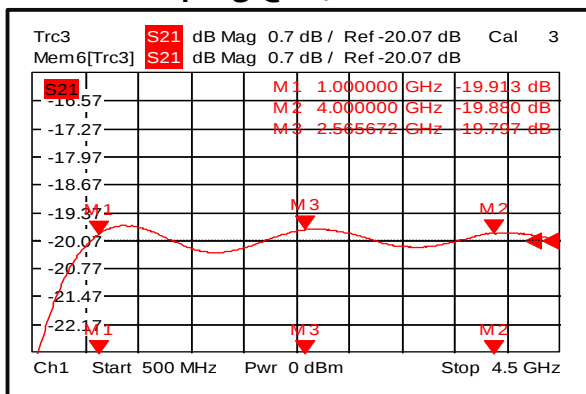
Nominal Coupling @+25°C



Nominal Coupling @-45°C



Nominal Coupling @+85°C



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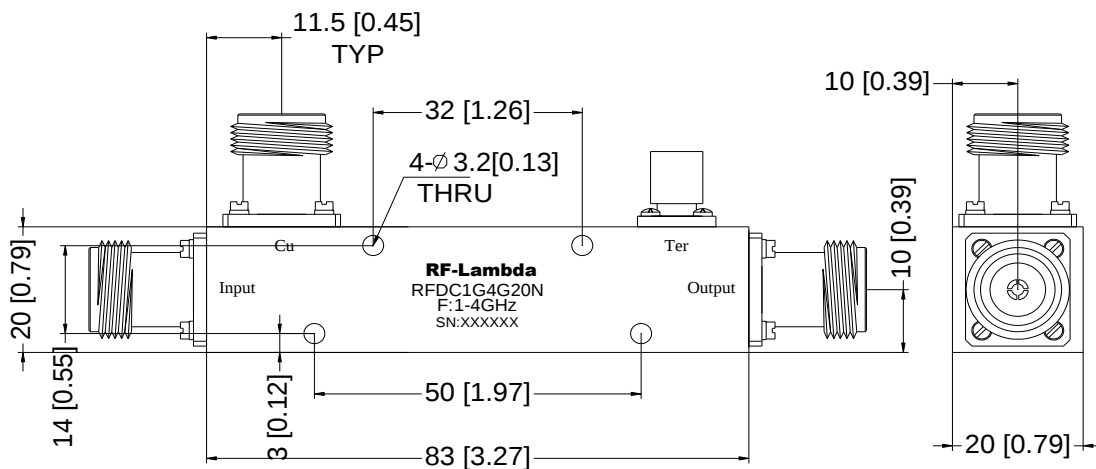
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Outline Drawing:

All Dimensions in mm [inches]

Tolerance ± 0.25 [0.01]



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