



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFDDC5M18G10

Coaxial 50W 10dB Dual Directional Coupler 0.5 - 18GHz



Features

- High power handling up to 50 W
- Ultra Wide band operation
- High isolation within operational band
- Low Insertion Loss
- 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.	Min.	Typ.	Max.	Units
Frequency Range		0.5		6	6		18	GHz
Nominal Coupling		9	10	11	9	10	11	dB
Frequency Sensitivity			±0.7	±1.0		±0.5	±0.7	dB
Directivity		15	18		10	12		dB
Insertion Loss (Excl .Coupling)				1.0			1.0	dB
Insertion Loss (True)			1.5	1.8		2.9	3.3	dB
VSWR Primary			1.3	1.5		1.4	1.6	: 1
VSWR Secondary			1.3	1.5		1.4	1.6	: 1
Power Rating	Average	50						W
	Peak	500						W
Impedance		50						Ohms
Weight		5.64						Ounces
Input / Output Connectors		SMA-Female						
Material		Aluminum						
Finishing		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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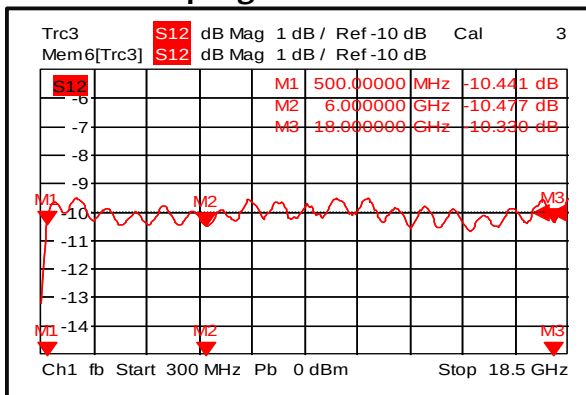
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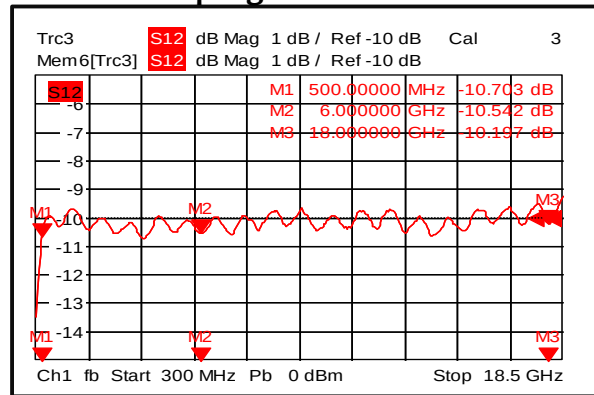
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Typical Performance Plots

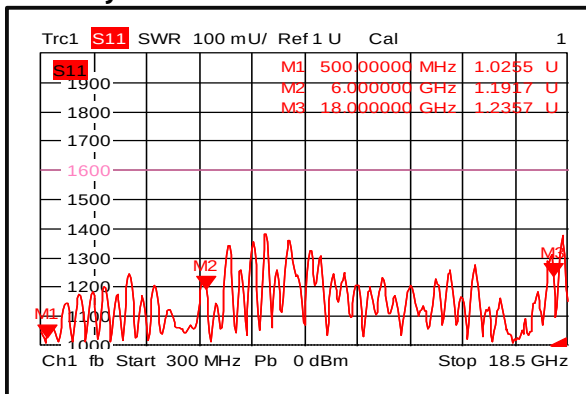
Nominal Coupling 1



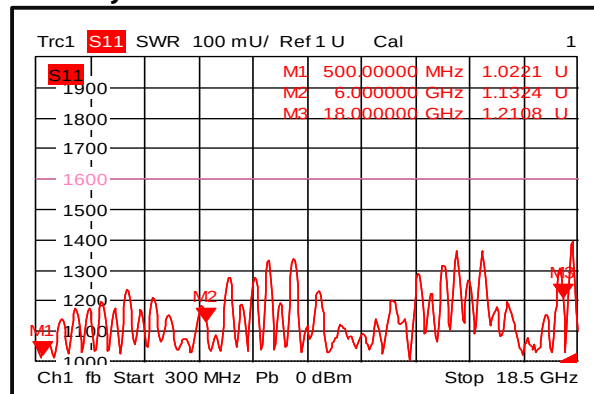
Nominal Coupling 2



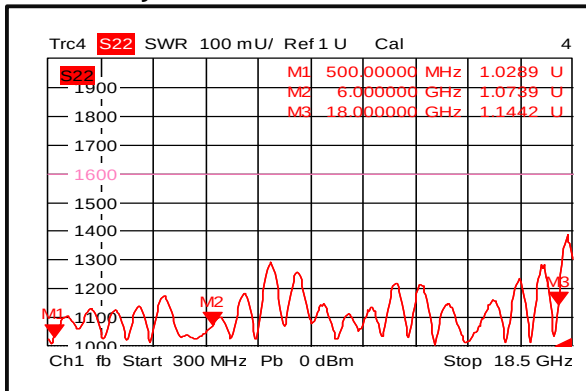
Primary VSWR 1



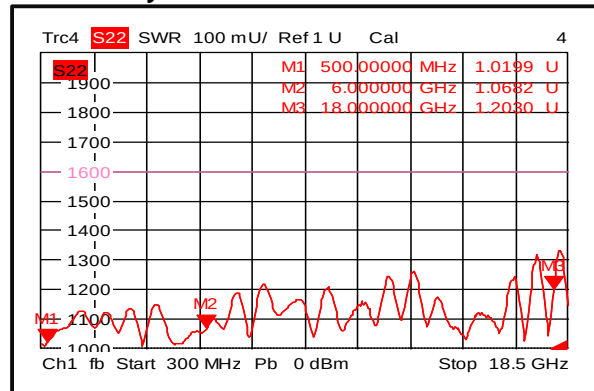
Primary VSWR 2



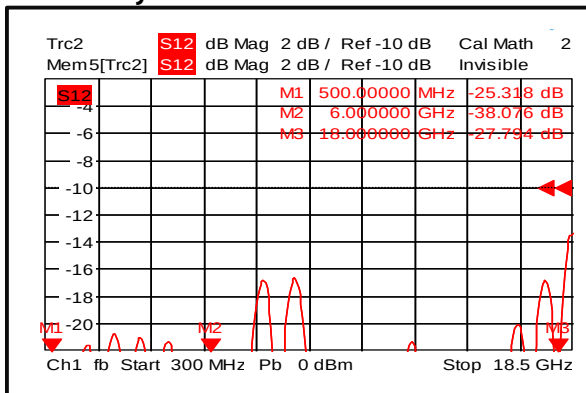
Secondary VSWR 1



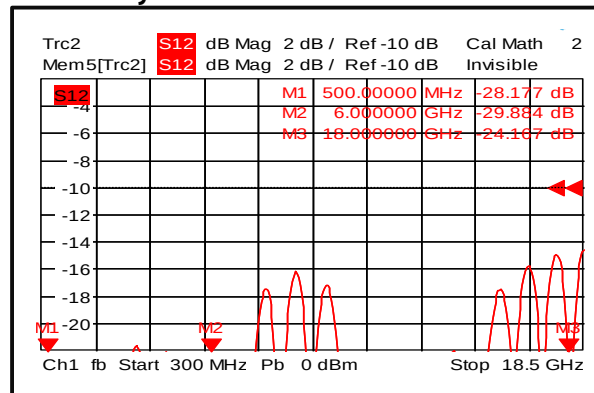
Secondary VSWR 2



Directivity 1



Directivity 2



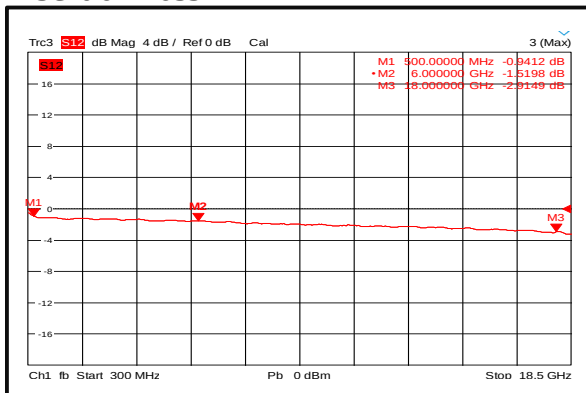


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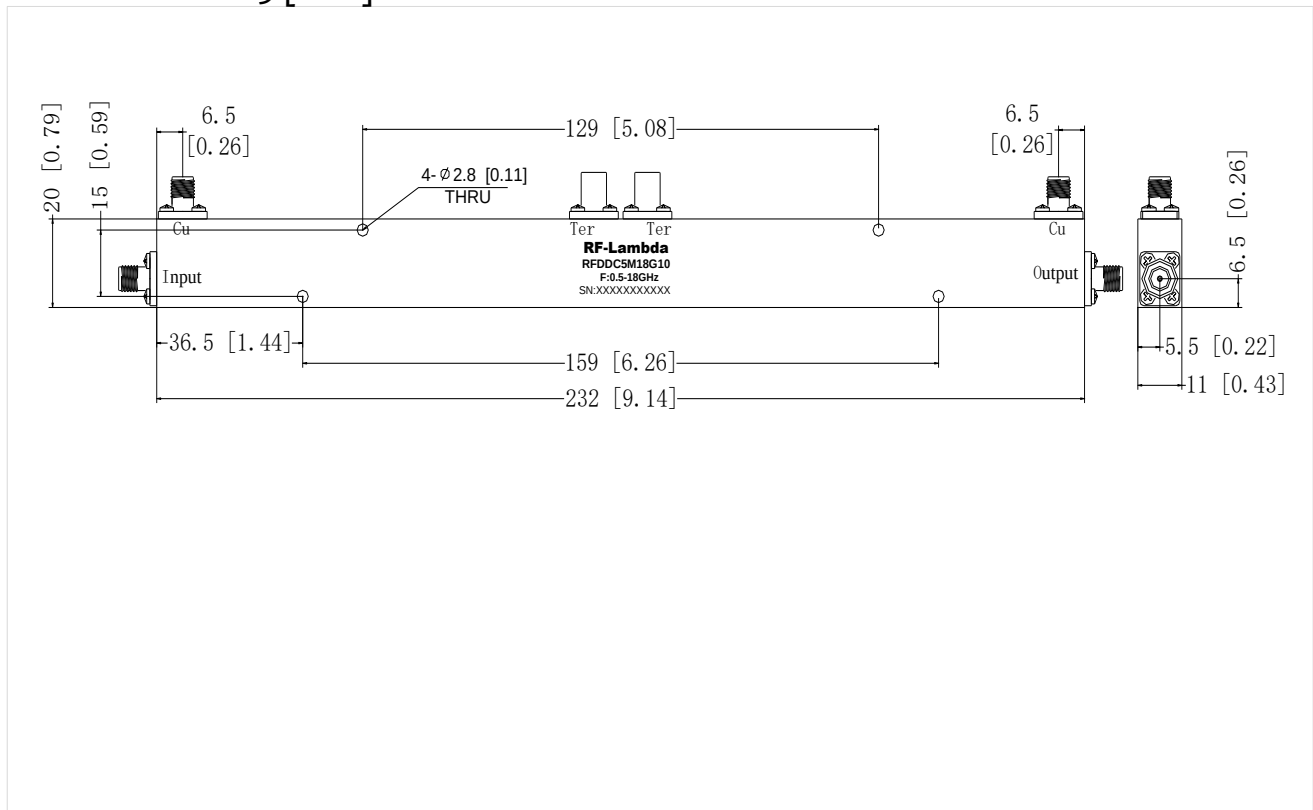
Insertion Loss



Outline Drawing:

All Dimensions in mm [inches]

Tolerance ± 0.25 [0.01]



Important Notice

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