

## Coaxial 200W 20dB Directional Coupler 0.8GHz-3.5GHz



### Product Description

RFDC8M4G20A is a coaxial directional coupler with a frequency range of 0.8 to 3.5GHz.

The power handling of this directional coupler is 200W. The insertion loss is 0.4dB with a typical directivity of 22dB.

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

### Features

- High power handling up to 200W
- Wide band operation
- High directivity within operational band
- Low Insertion Loss

### 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	0.8		3.5	GHz
Nominal Coupling	19	20	21	dB
Frequency Sensitivity		±0.6	±0.8	dB
Directivity	20	22		dB
Insertion Loss (Excl Coupling)		0.25	0.4	dB
Insertion Loss (true)		0.35	0.45	dB
VSWR Primary		1.20	1.25	: 1
VSWR Secondary		1.20	1.25	: 1
Power Rating	Average	200		W
	Peak	1 (10% Duty Cycle, 1 us Pulse Width)		KW
Weight		0.68 Max.		lbs
Impedance		50		Ω
Input / Output Connectors	N-Female(Input) – N-Female(Output)			
Package	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

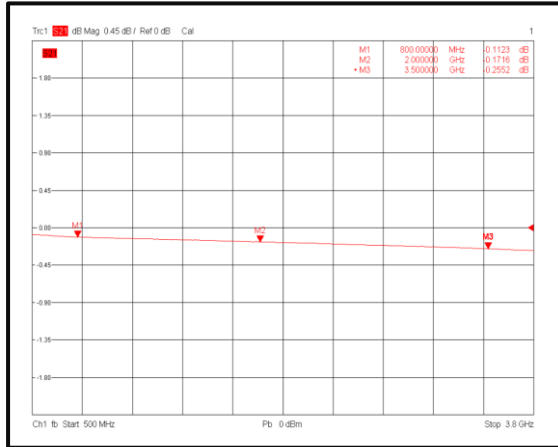
**Environmental Specifications and Test Standards**

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (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)

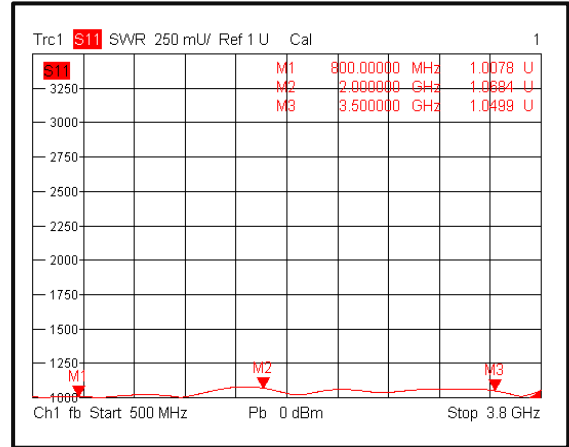
\*For vibration testing details please see additional information section.

**Typical Performance Plots**

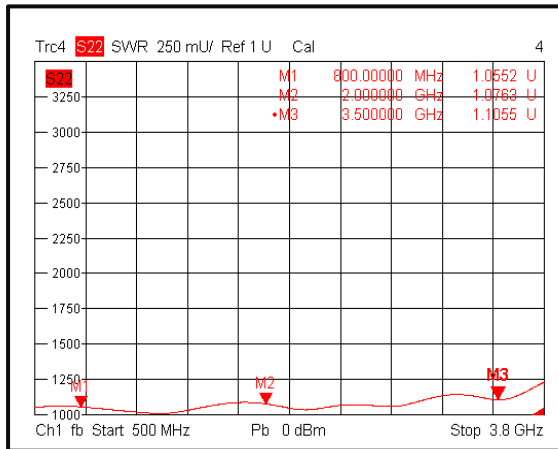
**Insertion Loss**



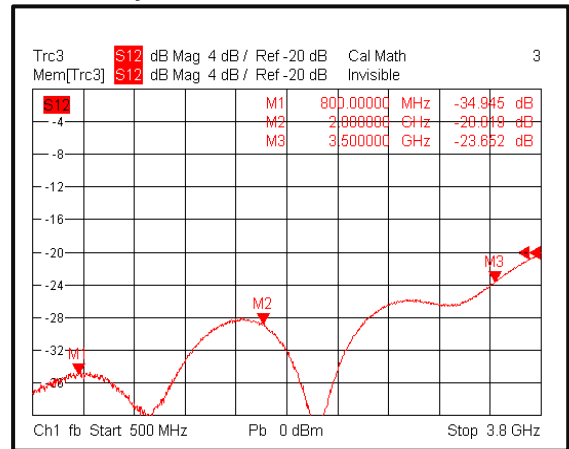
**Primary VSWR**



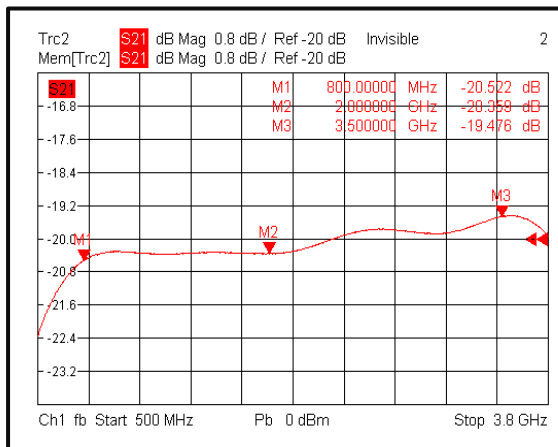
**Secondary VSWR**



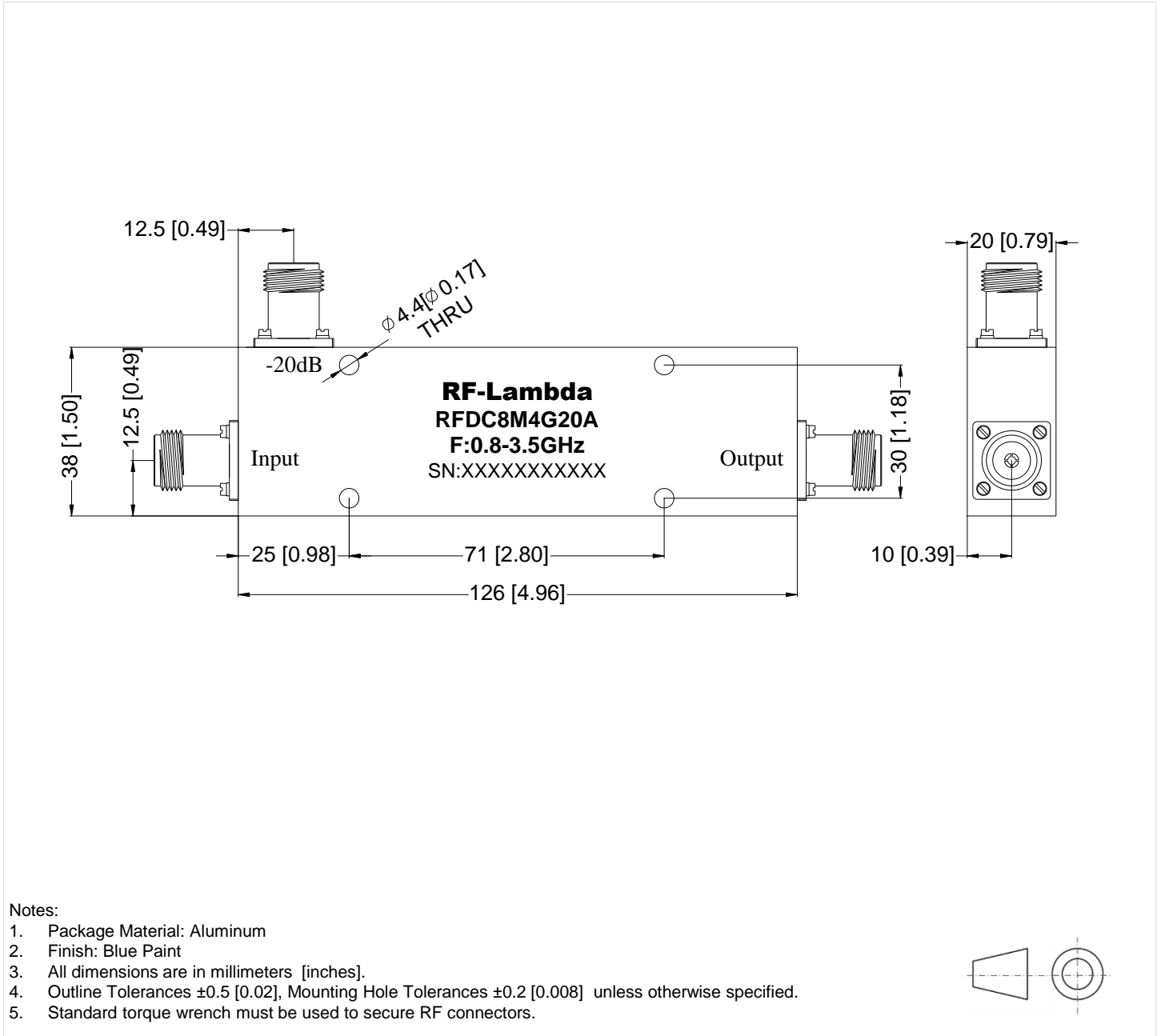
**Directivity**



**Nominal Coupling**



**Outline Drawing**



**Additional Information**

Documentation	Webpage
Connector Torque Specifications	<a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>
Random Vibration Test Standard	<a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a>

**Ordering Information**

Part Number	Modification	Description
RFDC8M4G20A	Connectors N-Female	0.8GHz-3.5GHz Directional Coupler

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