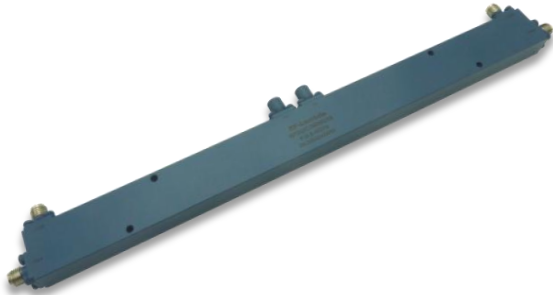


## Coaxial 50W 10dB Dual Directional Coupler 0.5 - 6GHz



### Features

- High power handling up to 50 W
- Ultra Wide band operation
- High directivity within operational band
- Low Insertion Loss

### Typical Applications

- Aerospace and Military
- Wireless Infrastructure
- Test and Measurement

### Electrical Specifications, $T_A=25^\circ\text{C}$

Parameters		Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		0.5		2	2		6	GHz
Nominal Coupling		9	10	11	9	10	11	dB
Frequency Sensitivity			$\pm 0.7$	$\pm 1.0$		$\pm 0.7$	$\pm 1.0$	dB
Directivity		20	22		18	20		dB
Insertion Loss (Excl. Coupling)				0.9			0.9	dB
Insertion Loss (True)			1.1	1.5		1.55	1.8	dB
VSWR Primary			1.15	1.25		1.15	1.25	: 1
VSWR Secondary			1.15	1.25		1.15	1.25	: 1
Power Rating	Average	50						W
	Peak	1						KW
Impedance		50						Ohms
Weight		5.8 Max.						ounces
Input / Output Connectors		SMA-Female						
Material		Aluminum						
Finish		Blue Paint						

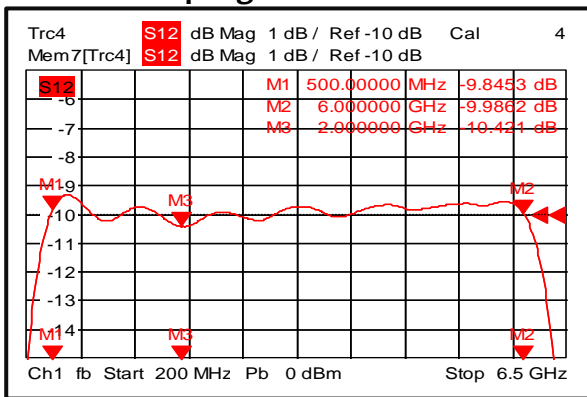
**Environmental Specifications and Test Standards**

Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+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
High 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 (For Hermetically Sealed Units)

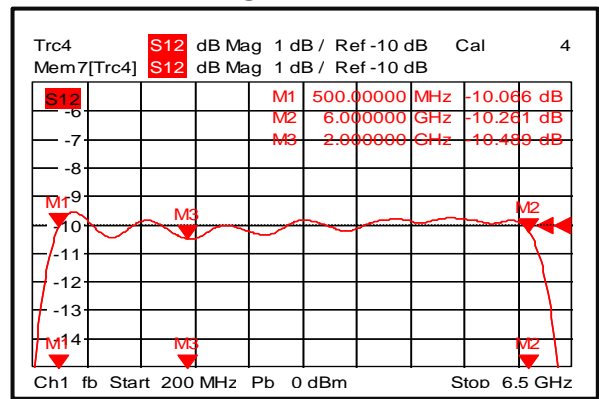
**Coaxial 50W 10dB Dual Directional Coupler 0.5 - 6GHz**

**Typical Performance Plots**

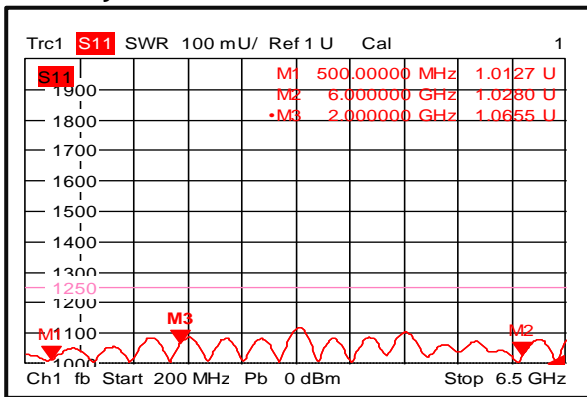
**Nominal Coupling 1**



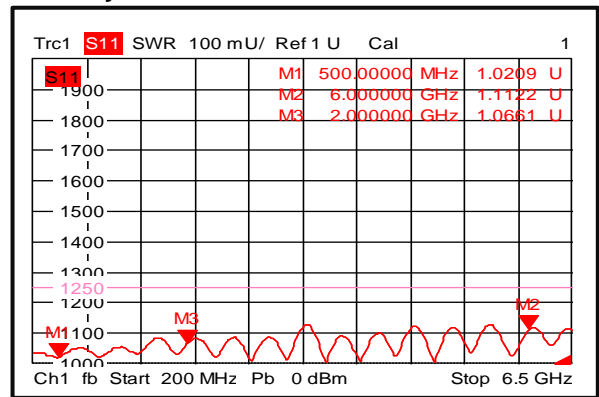
**Nominal Coupling 2**



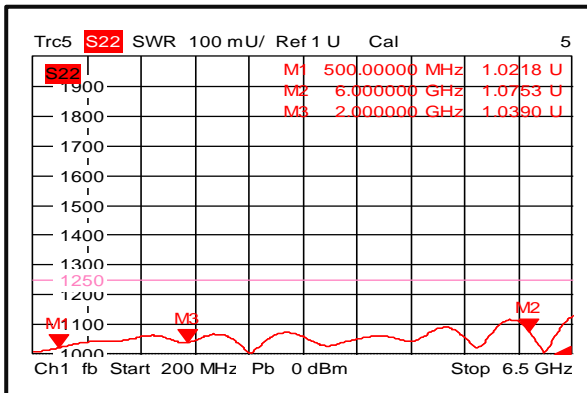
**Primary VSWR 1**



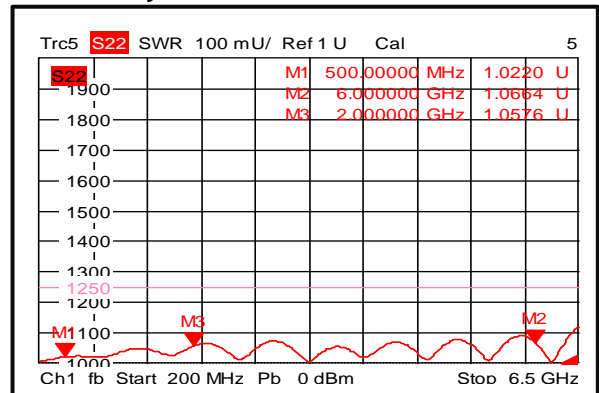
**Primary VSWR 2**



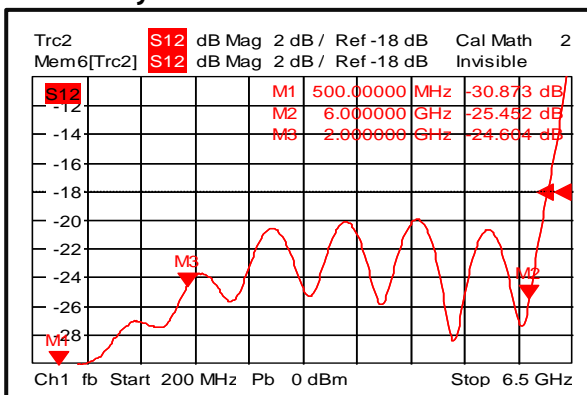
**Secondary VSWR 1**



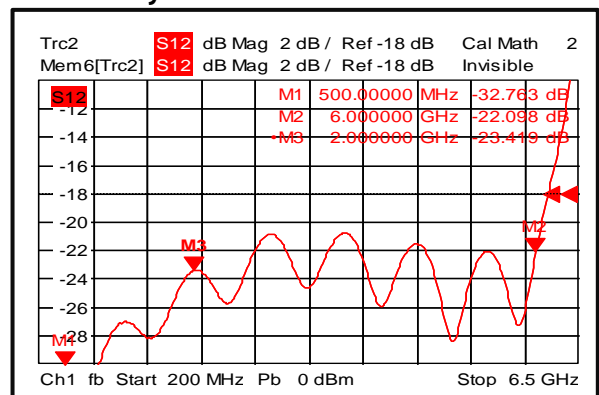
**Secondary VSWR 2**



**Directivity 1**

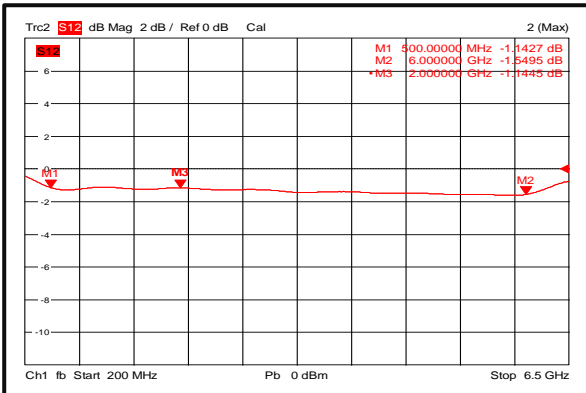


**Directivity 2**



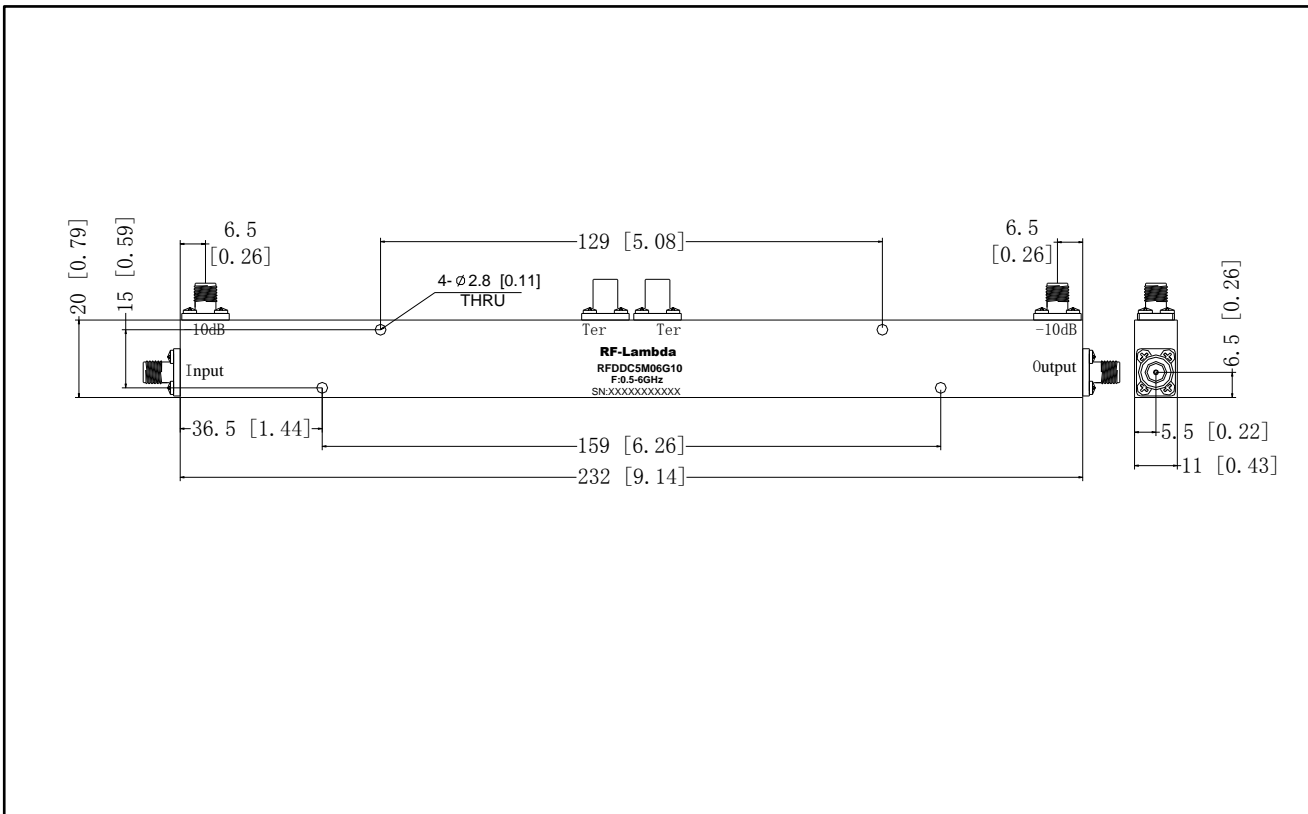
**Coaxial 50W 10dB Dual Directional Coupler 0.5 - 6GHz**

**Insertion Loss**



**Outline Drawing:**

All Dimensions in mm [inches]  
 Outline Tolerance  $\pm 0.5$  [0.02]  
 Mounting Holes Tolerance  $\pm 0.2$  [0.008]



**Coaxial 50W 10dB Dual Directional Coupler 0.5 - 6GHz**

**Important Notice**

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.