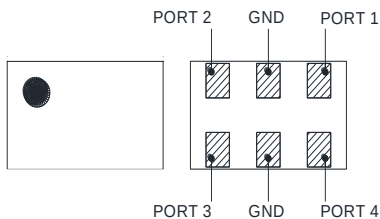


Description

The YCPD02020 is a compact 20 dB directional coupler designed for high performance in a variety of applications. It satisfies a RoHS-compliant, halogen-free surface mount package and excels where power sensing, signal injection, and low insertion loss signal monitoring are required.

The YCPD02020 is customized for pick and place operations in high volume manufacturing and is available on tape and reel.



Applications

- ◆ Cellular Infrastructure
- ◆ Narrow & Wideband Amplifiers
- ◆ Test Instrumentation

Features

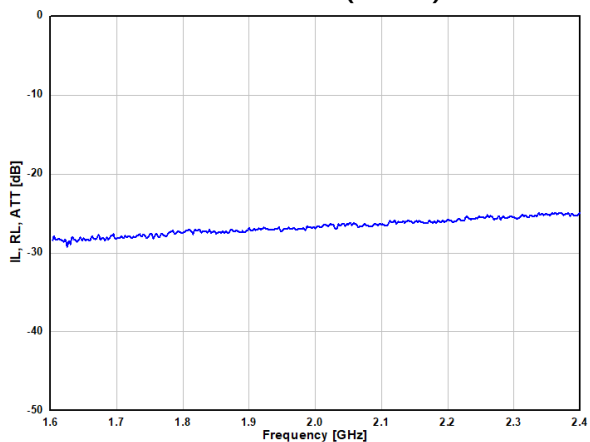
- ◆ 1700 - 2300MHz
- ◆ Mean Coupling 20dB
- ◆ Low Loss Silver Conductor
- ◆ Surface Mount Type
- ◆ Gold Plating Finish

Electrical Specification

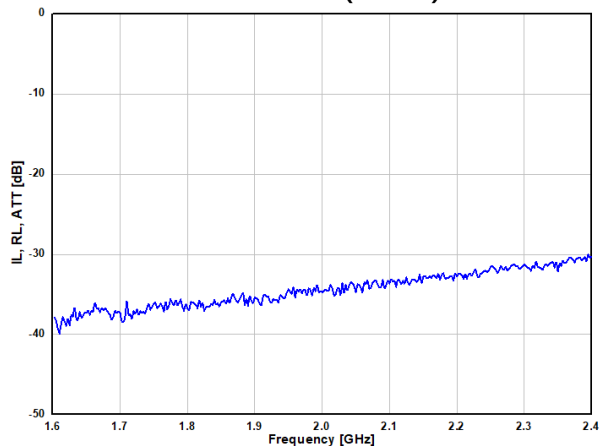
Parameter	Specification			Unit
	Min.	Typ.	Max.	
Frequency	1700	-	2300	MHz
Coupling	19	20	21	dB
Insertion Loss	-	-	0.3	dB
Return Loss	-	20	-	dB
Directivity	18	20	-	dB
Power Capacity	-	10	-	W
Operation Temperature Range	-55	-	125	°C

Performance Plots

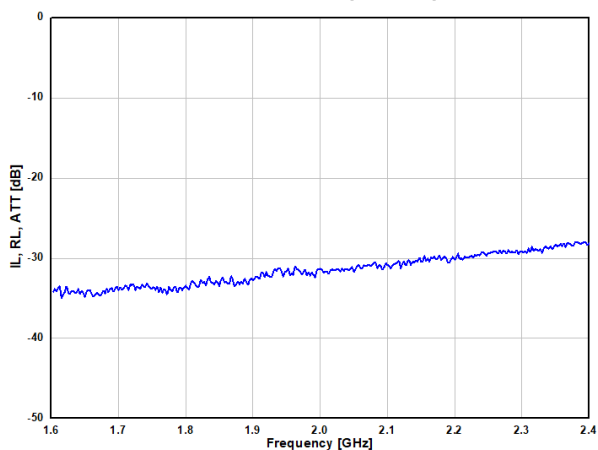
Return Loss (Port 1)



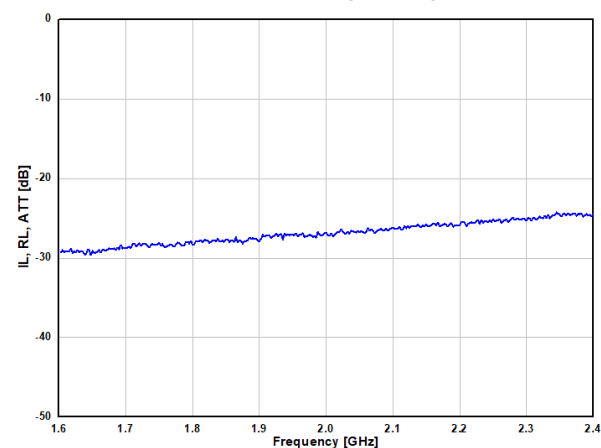
Return Loss (Port 2)



Return Loss (Port 3)

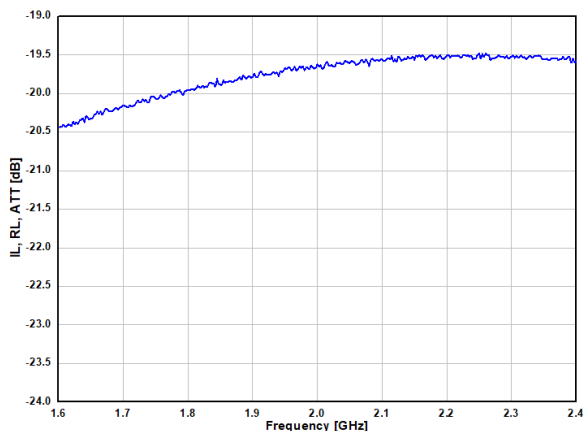


Return Loss (Port 4)

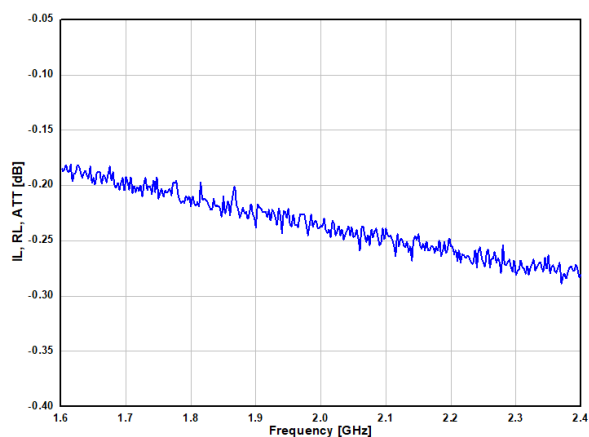


Performance Plots

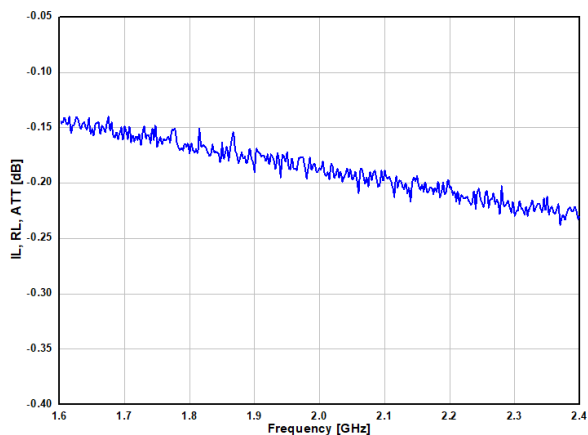
Coupling



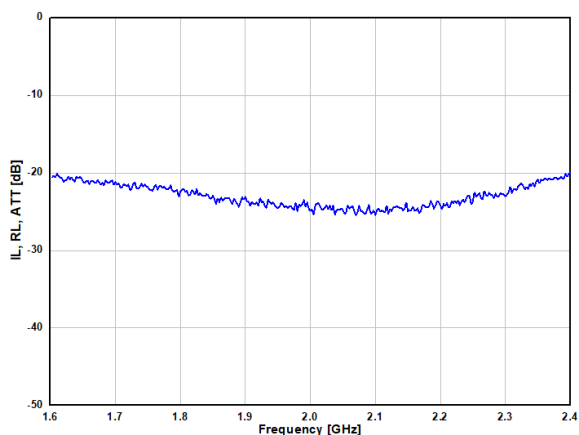
Transmission



Insertion Loss



Directivity

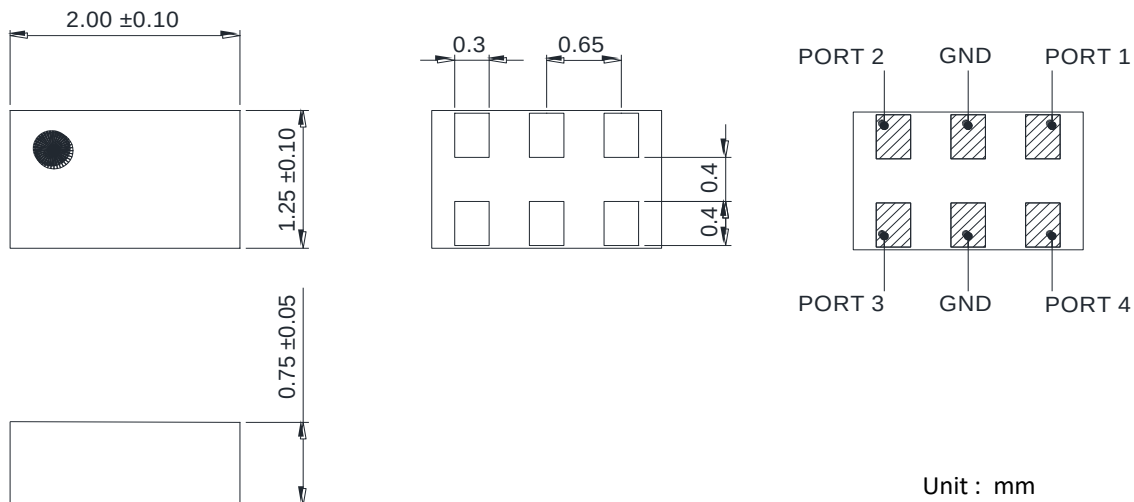


Notes:

1. Return Loss through Port 1 to Port 1 (S11,S22,S33,S44)
2. Coupling through Port 1 to Port 4 (S41)
3. Transmission through Port 1 to Port 2 (S21)
4. Isolation through Port 1 to Port 3 (S31)
5. Directivity (S31-S41)
6. Insertion Loss and Amplitude Balance is function of the below mathematical formula.

Parameter	Mathematical Formula
Insertion Loss (dB)	$10 \cdot \log \left[\frac{P_{in}}{P_{cou} + P_{out}} \right]$

Package Outline Drawing



Port Configuration

Configuration	Port 1	Port 2	Port 3.	Port 4
Case 1.	Input	Output	Isolated	Coupling
Case 2.	Output	Input	Coupling	Isolated