



# RF Savvy RFC001 Series Broadband External Antenna RF Coupler

**Part Number:** RFST-RFC001B-A (MMCX Jack)

**Features:**

- Ultra Low Insertion loss (<0.5dB @915MHz)
- Universal (10 bands) operation for mesh, 2G/3G/4G LTE cellular, GPS and Iridium satellite SBD network coverage:
  - 700/850/900/1800/1900/2100MHz
  - 900MHz & 2.45GHz ISM bands
  - 1616MHz (Iridium) & 1575MHz (GPS) Satellite bands
- 10kV Electrical isolation
- UL 94V-0 rated coating

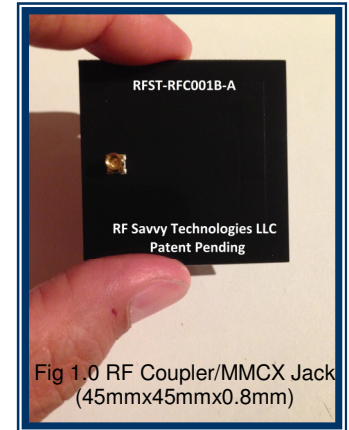


Fig 1.0 RF Coupler/MMCX Jack (45mmx45mmx0.8mm)

**Application:**

This RF Savvy RFC001 series broadband RF coupler is an *ultra low-loss*, universal ten-band, stand-alone radio frequency coupler designed with a generic low-profile form factor suitable for use within the enclosure of most electric utility meters containing embedded AMI communications modules. The RFST-RFC001 series is suitable for other applications, where electrical isolation between the radio modem RF output and external antenna is required. The 10kV electrical isolation enables safe routing of the RF signal from the NIC or wireless modem to a remote external antenna via a bulk head connection in the meter base or body of the communications module.

Input and output RF connections are provided via MMCX jacks Qty 1/ea located either side of the PCB.

Note: RF input and output cables and an external antenna are not included but can be optionally bundled/packaged and configured to customer specifications on request, contact [info@rfsavvy.com](mailto:info@rfsavvy.com) for details.

**Disclaimer: Customer is cautioned that safe installation requires the input and output coaxial cable assemblies to be run inside of the customer application in such a manner so as not to allow them to cross paths which if permitted can severely degrade the quoted 10kV electrical safety isolation of this product.**

**Electrical Properties:**

Operating Frequencies:	<ul style="list-style-type: none"> <li>• 902-928MHz (ISM band)</li> <li>• 2.45GHz (ISM band)</li> <li>• 700/850/900/1800/1900/2100MHz</li> <li>• 900MHz &amp; 2.45GHz ISM bands</li> <li>• 1616MHz (Iridium Satellite SBD)</li> <li>• 1575MHz (GPS L1)</li> </ul>
Input/Output Impedance:	50 Ohms (nominal)
Max VSWR:	<1.3:1 @ 915MHz (typ) <1.3:1 @ 2.45GHz (typ)
Insertion Loss: *	<0.5dB @ 915MHz (typ) <2.5dB @ 2.45GHz (typ)
Electrical Isolation (DC)	10kV (no damage)
Max RF power:	2 Watts(+33dBm)

\* Tested with Qty 2 - 4" 1.32mm OD coaxial cables for the input and output.

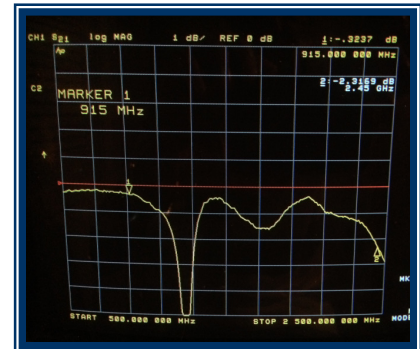


Fig 2.0 RF Coupler Insertion Loss S21 (dB) \*

**Mechanical Properties:**

Dimensions:	45mm x 45mm x0.8mm
Coating:	UL 94V-0 rated
RF Input/Output:	Qty 2 MMCX Jack SMD Connectors (1 front, 1 back)

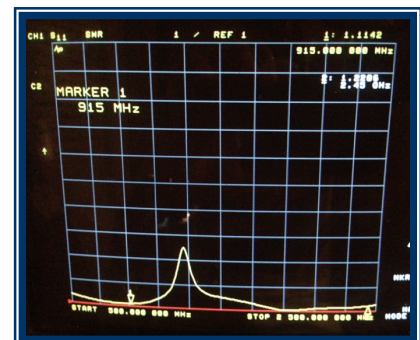


Fig 3.0 RF Coupler VSWR

**Environmental:**

Operating Temperature:	-40 °C to +85 °C
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RF Savvy Technologies Patent Pending  
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