

# Preliminary



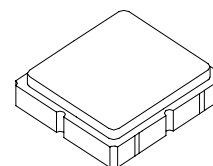
- 402.0 to 407.3 MHz Filter
- Optimized for use with the TRC105 Transceiver
- Balanced 150 ohm IC Interface
- Complies with Directive 2002/95/EC (RoHS) 

**RF3607D**

**403.5 MHz  
SAW Filter**

## Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	+15	dBm
DC Voltage	±5	V
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C



**SM3838-8**

## Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			403.5		MHz
1 dB Bandwidth	$BW_1$			18		MHz
Maximum Insertion Loss, 402.0 to 407.3 MHz	$IL_{MAX}$			1.7	2.0	dB
Amplitude Ripple, p-p, 402.0 to 407.3 MHz				0.6		
Rejection Referenced to Insertion Loss at 403.5 MHz:						
DC to 383.5 MHz			40	43		
483.5 to 450.5 MHz			30	33		
450.5 to 850.5 MHz			47	50		
850.5 to 1350.5 MHz			32	35		
1350.5 to 2000 MHz			21	24		
Source Impedance	$Z_S$			50		$\Omega$
Balanced Load Impedance	$Z_L$			150		$\Omega$

Case Style	SM3838-8 3.8 x 3.8 mm Nominal Footprint					
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	890, YWWS					
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces/Reel
	Reel Size 13 Inch					3000 Pieces/Reel

## Electrical Connections

Connection	Terminals
Single-ended Port	6
Balanced Port	1, 3
Case Ground	4, 5, 7, 8
No Connection	2

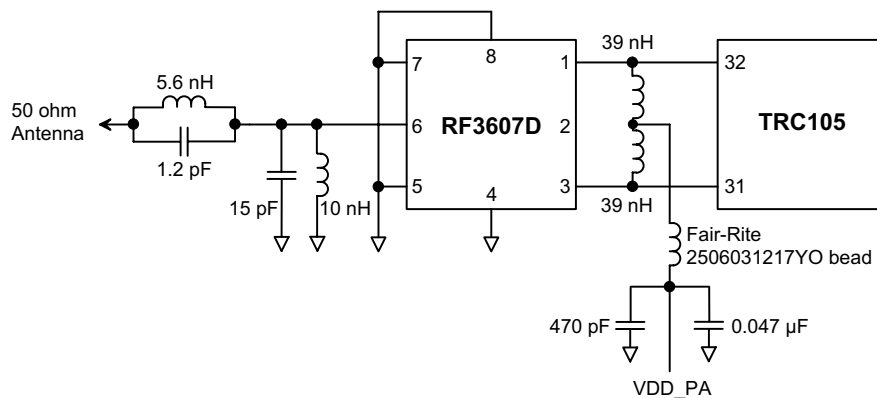


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

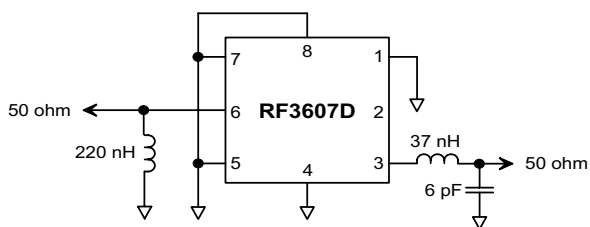
### Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_C$ .
3. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
4. The design, manufacturing process, and specifications of this filter are subject to change.
5. US and international patents may apply.
6. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

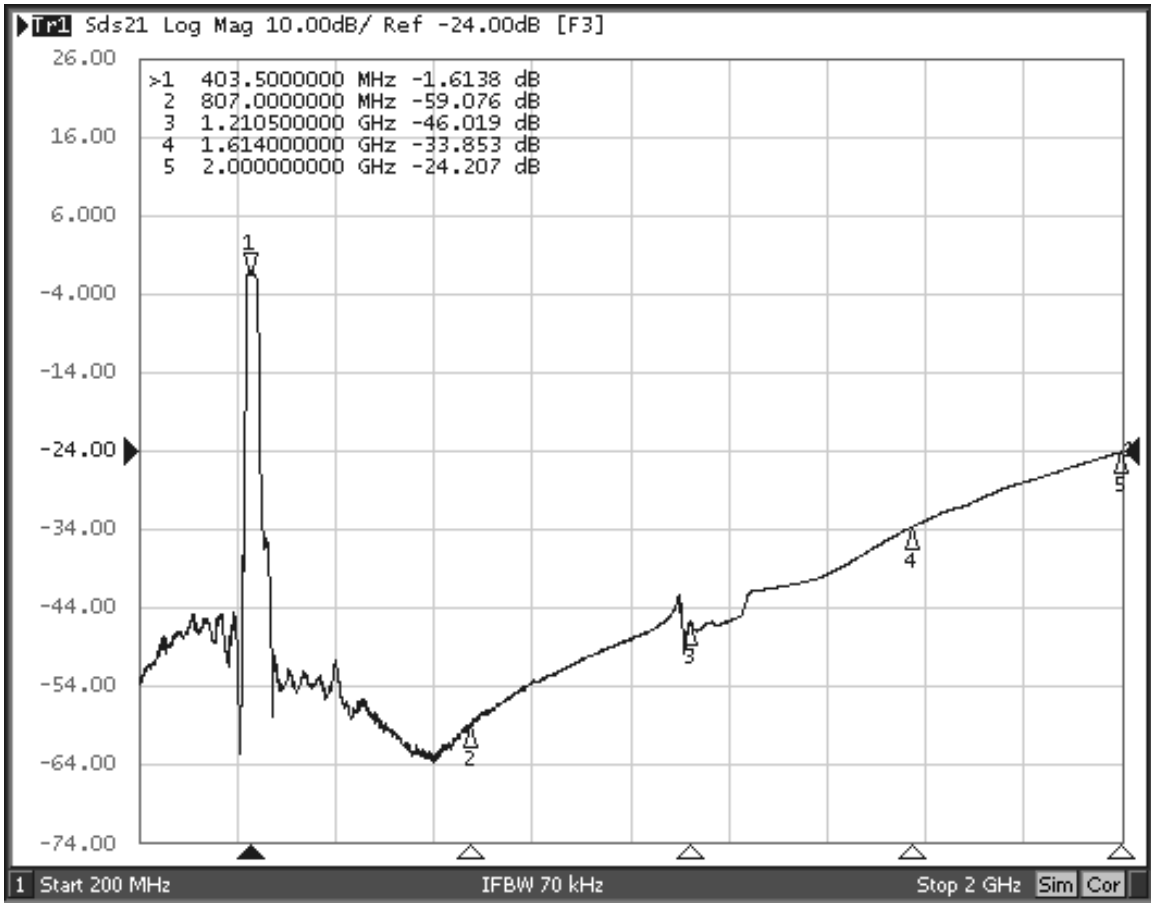
## RF3607D-TRC105 Application Circuit



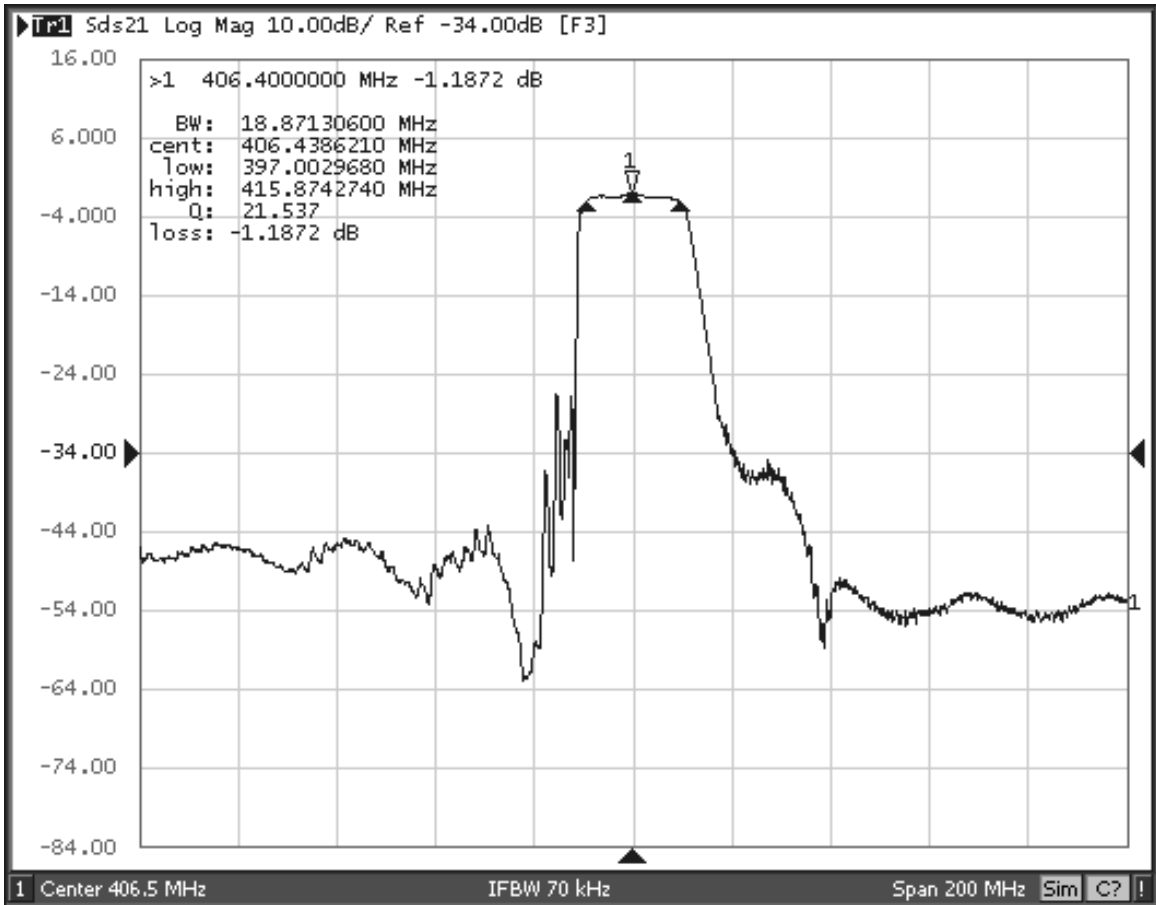
## RF3607D 50 Ohm Tuning Network



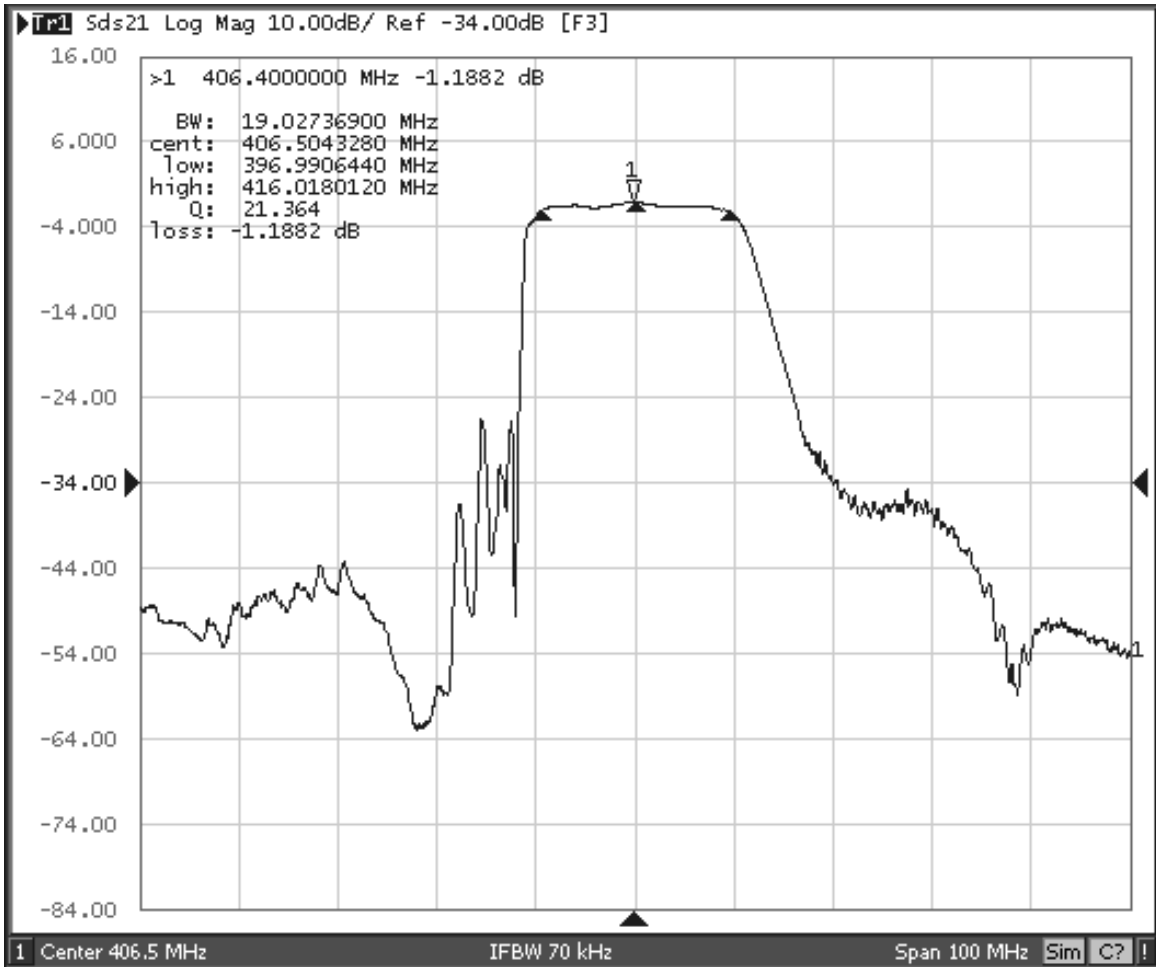
# RF3607D Broadband Response, 200 to 2000 MHz



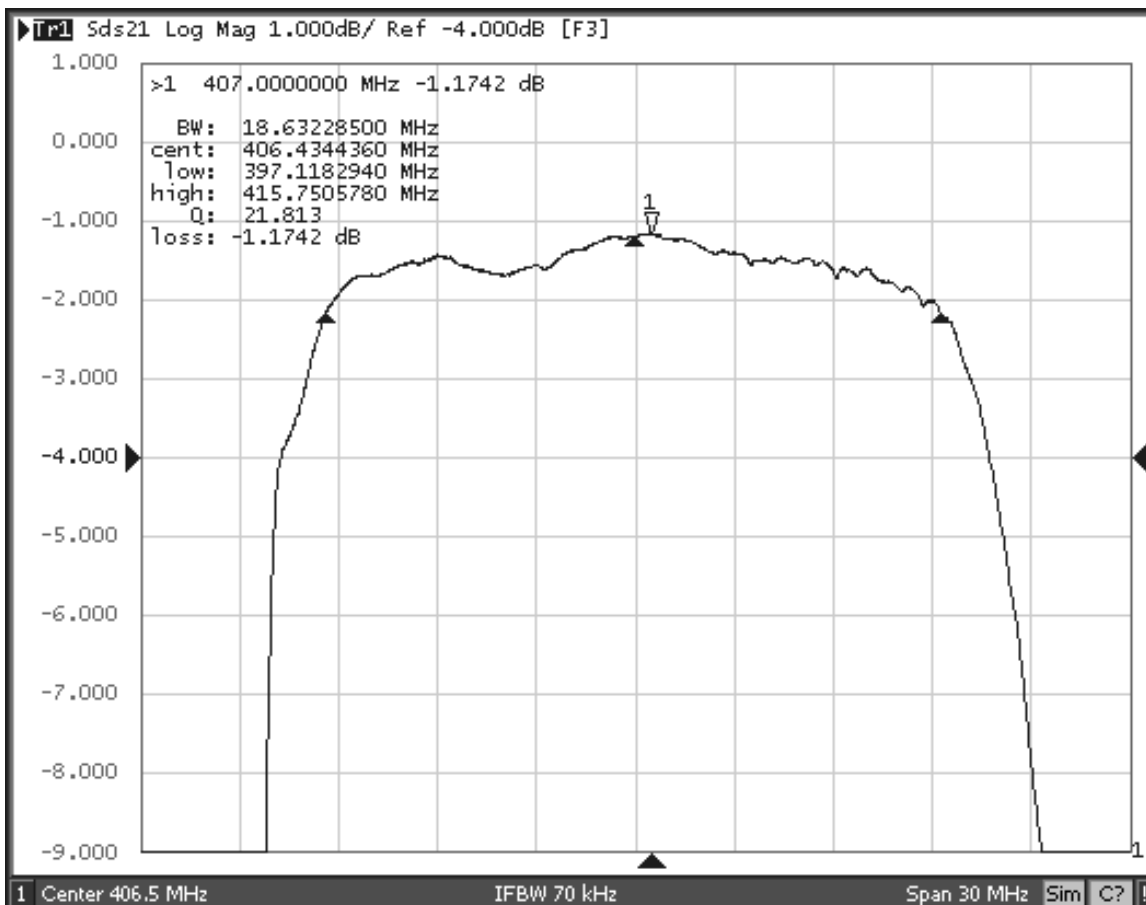
# RF3607D Response, 306.5 to 506.5 MHz



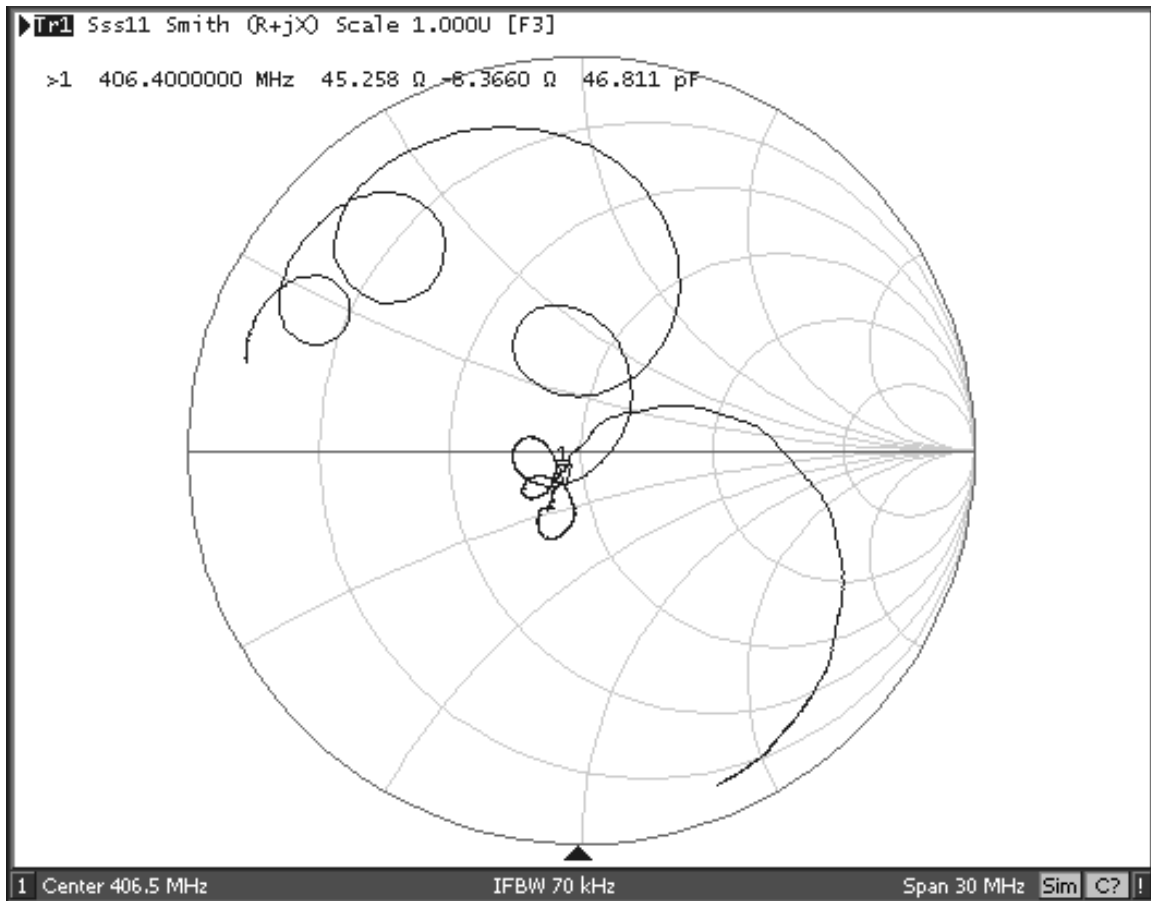
# RF3607D Response, 356.5 to 456.5 MHz



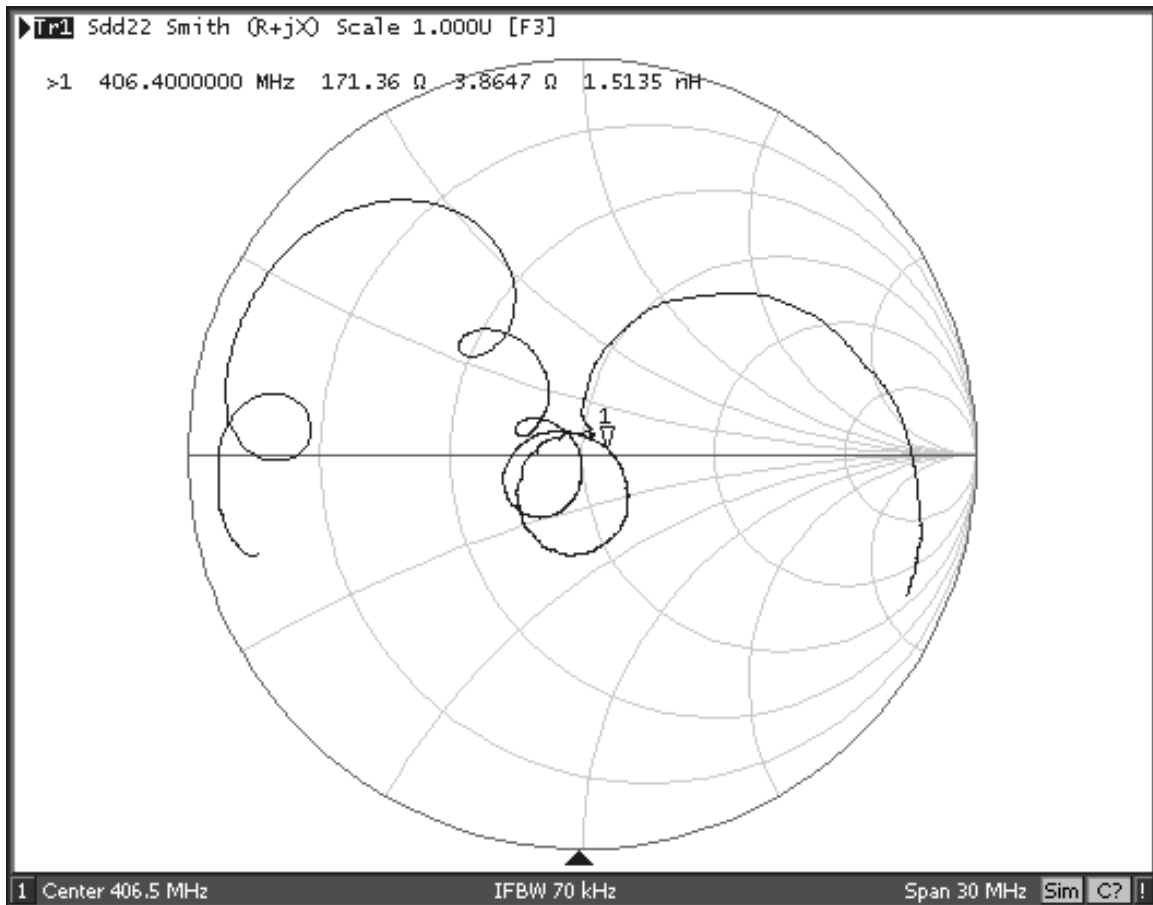
## RF3607D Passband Response



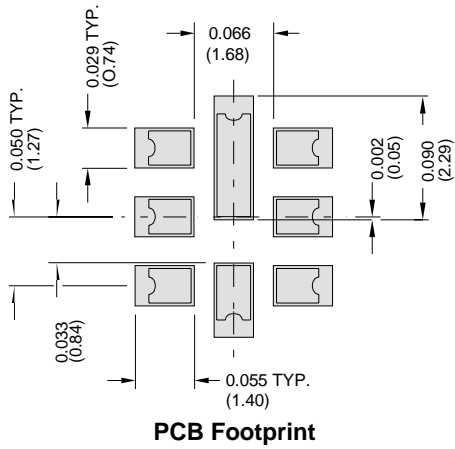
## RF3607D Input Impedance Plot



## RF3607D Balanced Output Impedance Plot



## 8-Terminal Ceramic Surface-Mount Case 3.8 X 3.8 mm Nominal Footprint



Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	3.6	3.8	4.0	0.142	0.150	0.157
B	3.6	3.8	4.0	0.142	0.150	0.157
C	0.90	1.00	1.1	0.035	0.040	0.043
D	0.80	0.90	1.0	0.031	0.035	0.040
E	0.90	1.00	1.10	0.035	0.040	0.043
F	0.50	0.60	0.70	0.020	0.024	0.028
G	2.39	2.54	2.69	0.090	0.100	0.110
H	1.40	1.75	2.05	0.055	0.069	0.080

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	2.0 to 3.0 $\mu$ m Nickel
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

