

## Overview

Southwest Antennas Part # 1080-175 is a small cavity bandpass filter designed for operation in federal C-Band radio network applications, with a center frequency of 4,450 MHz and a 20 MHz wide pass band of 4,400 - 4,460 MHz.

The narrow 20 MHz pass band is designed to offer the best performance and out-of-band rejection possible for users with narrow channel assignments, while still maintaining a physically compact product that can be easily integrated into deployed radio systems.

This cavity bandpass filter offers excellent -60 dB out-of-band rejection and is designed to be installed in-line between the radio and antenna, or integrated within other communication equipment when additional RF filtering is required to improve network performance. This bandpass filter is ideal for tactical radio systems, fixed site infrastructure, base station systems, network nodes, or other communication network infrastructure that operates in congested, high-interference RF environments.

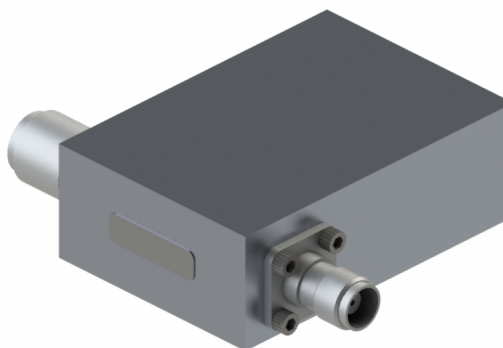
Southwest Antennas bandpass filters can be utilized to help eliminate interference by rejecting out-of-band noise from other co-located radios operating outside of the filter's operational bandpass range, providing increased performance for radio systems and attached antennas.

**Note:** Other federal C-Band cavity filters with a 20 MHz pass band are available from 4,400 MHz to 4,940 MHz in the same form factor. Contact Southwest Antennas or visit our website for details.

## Features:

Stand-alone cavity filter module with RF connectors

- 3.0 dBa insertion loss maximum over passband
- 15 dB return loss over pass band
- Can be quickly added to existing systems to help improve performance
- 4,440 – 4,460 MHz operational frequency range
- 4,450 MHz cF
- Machined aluminum housing, silver plated
- TNC(m) and TNC(f) RF connectors
  - Bi-directional design, no dedicated input or output port

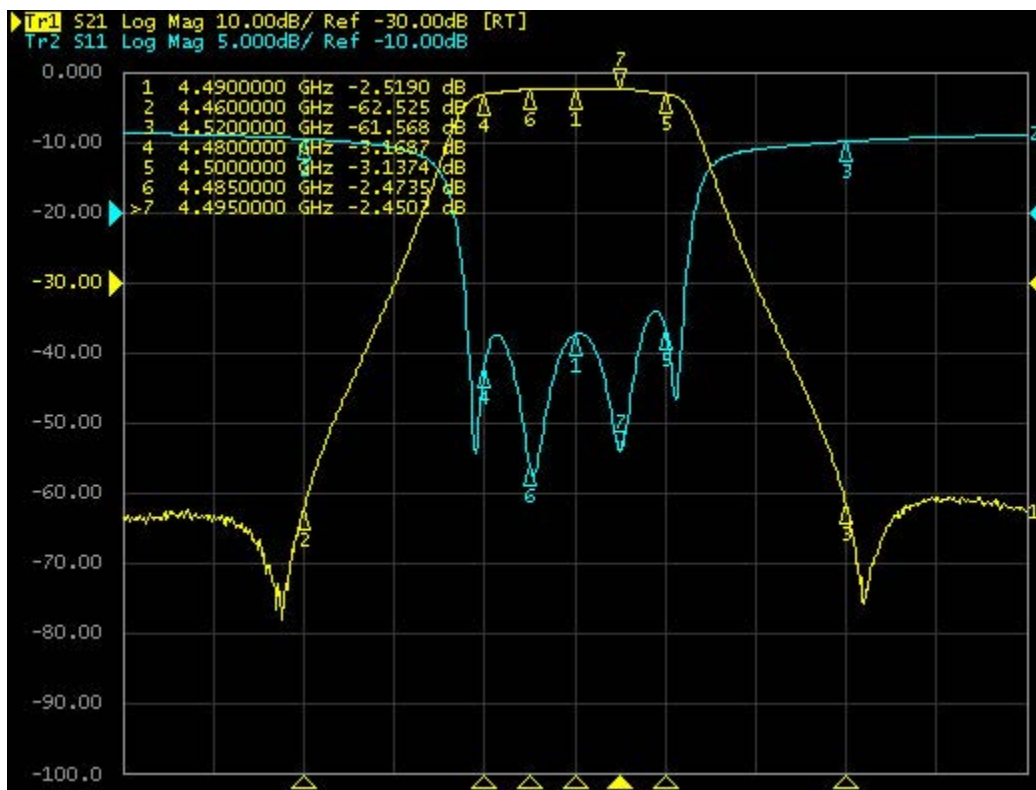


## Applications:

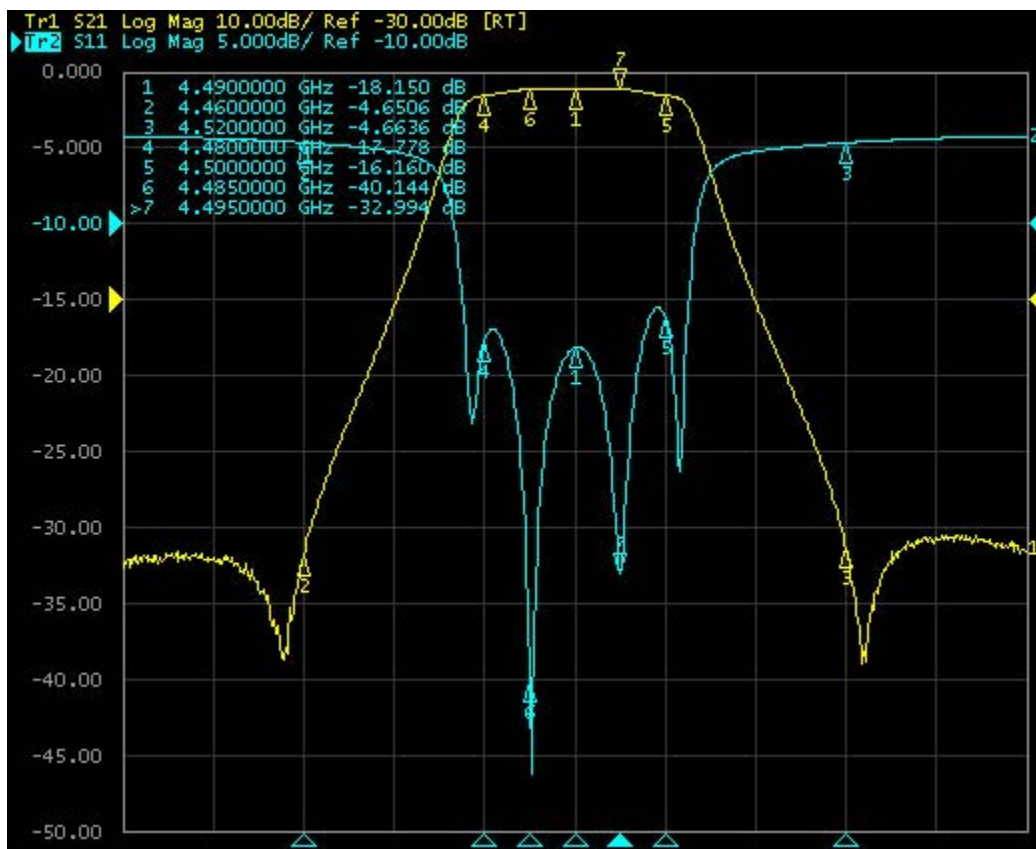
- Tactical radio systems
- Federal government radio systems
- Fixed site / point-to-point communication infrastructure
- Vehicle mounted radio systems

### Filter Specifications

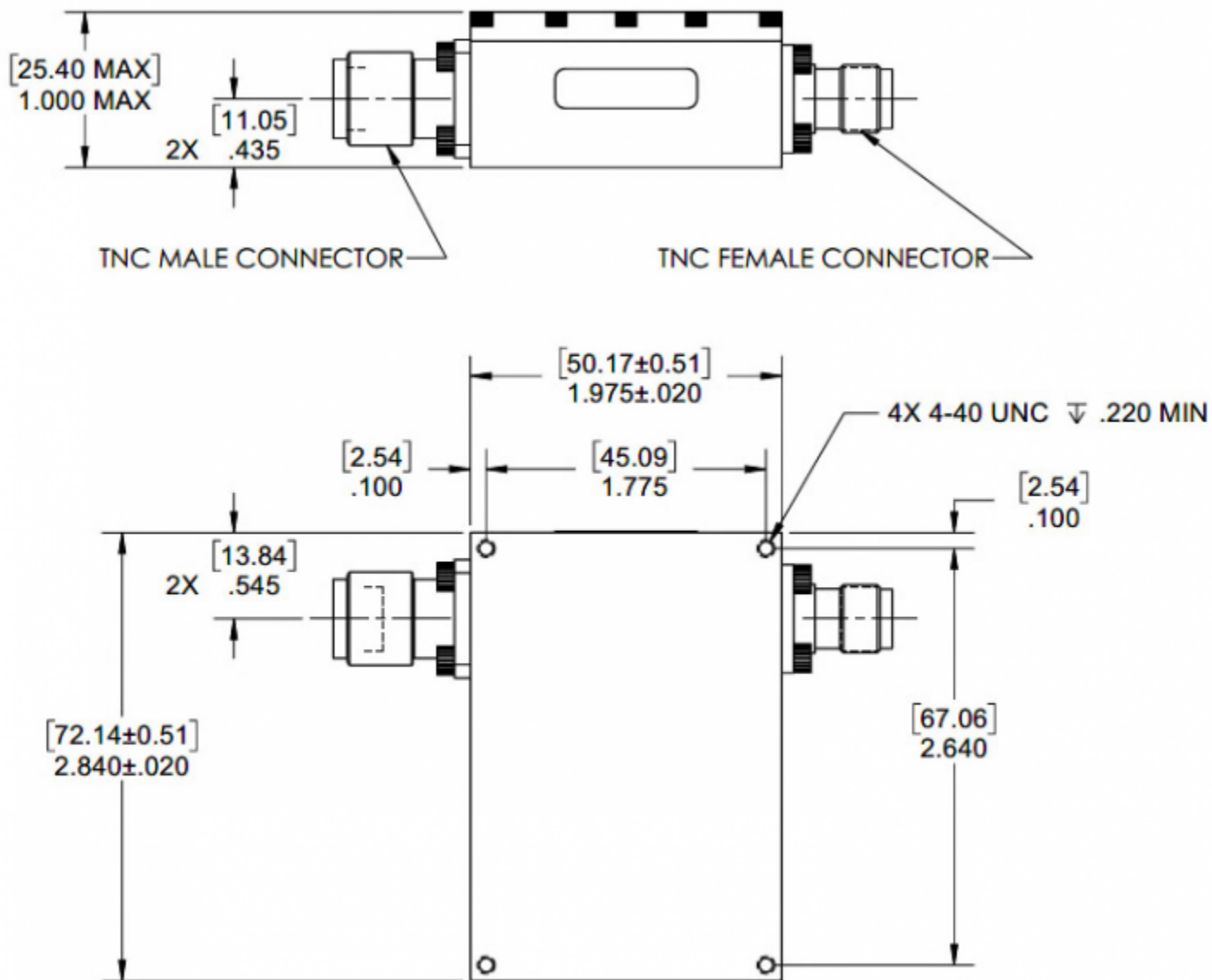
Parameter	Value	Units	Tolerance
<b>Filter Type</b>	Cavity Bandpass Filter		
<b>Filter Frequency Band</b>	C-Band		
<b>Filter Impedance</b>	50	Ohms	
<b>Filter Min Frequency</b>	4.44 / 4,440	GHz / MHz	
<b>Filter Max Frequency</b>	4.46 / 4,460	GHz / MHz	
<b>Filter Frequency of Operation</b>	4,440 – 4,460 MHz pass band		
<b>Insertion Loss</b>	3.0	dBa	Max across pass band, 3.3 dBa max at +65°C
<b>Return Loss</b>	15	dB	Min over 20 MHz pass band
<b>Rejection 1</b>	-60	dBc	Min ±30 MHz cF
<b>Filter Power CW</b>	40	Watts	
<b>Operating Temp</b>	-40 to +65	C	
<b>Storage Temp</b>	-55 to +125	C	
<b>Product Length</b>	2.84 / 72.14	inches / mm	±0.020"
<b>Product Width</b>	1.98 / 50.17	inches / mm	±0.020"
<b>Product Height</b>	1.00 / 25.40	inches / mm	
<b>Product Weight</b>	14.0 / 396.9	oz / grams	
<b>RF Connectors</b>	TNC(m), TNC(f)		



Insertion Loss Plot



Return Loss Plot



**Engineering Drawing**

All dimensions in inches [mm in brackets]