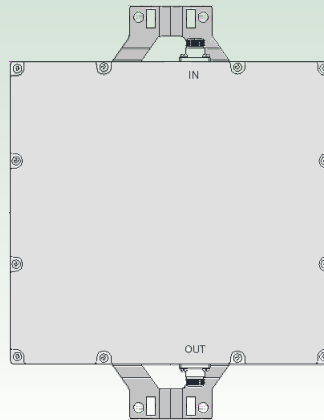


Bandpass Filter 800MHz Public Safety with FirstNet, 700MHz NB and Cellular Rejection Model: 95-83L-02-M



DS039745-3
8/16/2024



Need

Minimize interference to Public Safety 800MHz communications systems from FirstNet, 700MHz NB and Cellular systems. These high power signals can interfere with BDA and DAS systems that do not have sharp filtering. Nearby FirstNet band 14 sites can cause interference to wideband BDAs, additionally a BDA may cause interference to a nearby FirstNet site.

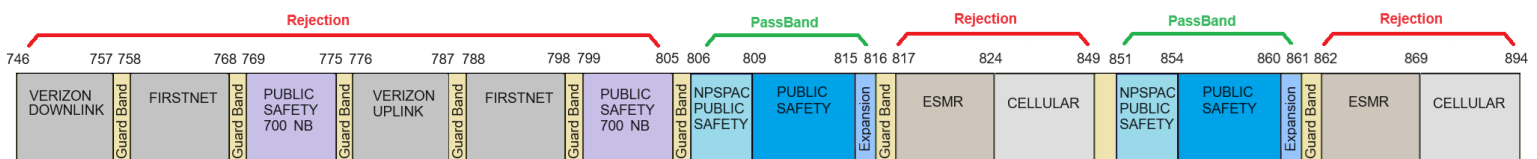
There are many cases where Public Safety DAS systems are seeing interference in 700MHz from FirstNet and Cellular that are located P25 systems sites. FirstNet seems to be a particular problem because high power FirstNet sites are being implemented.

Solution

In-line Dual-Band filter for Public Safety 800MHz Uplink and Downlink with rejection of FirstNet, 700MHz NB and Cellular frequencies. The filter passes the essential public safety 800MHz band.

How it Works and Benefits

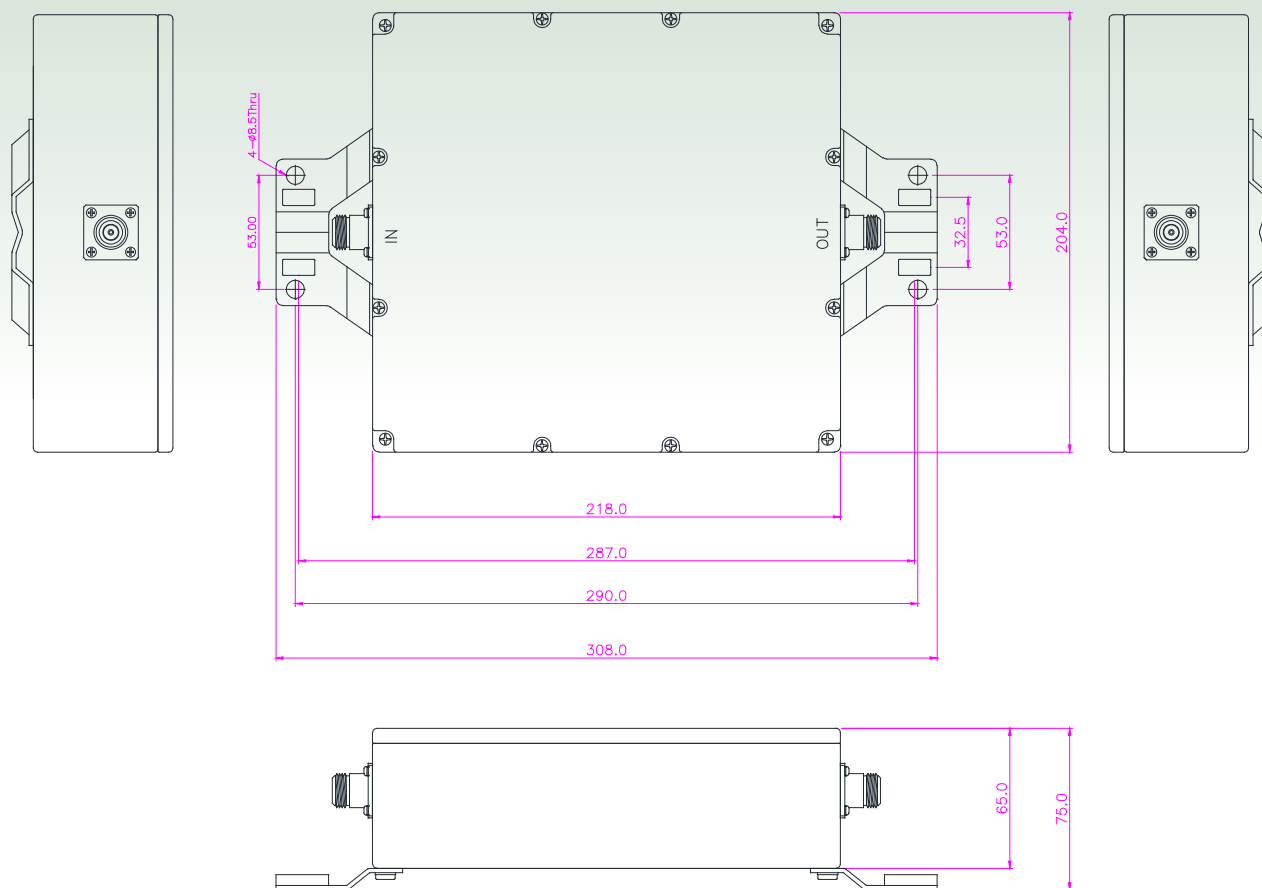
The filter can be installed in-line with BDA and DAS systems in the Donor and/or DAS lines. The filter passes the 800MHz major Public Safety frequency band and will provide a minimum of 30dB reject to the nearby FirstNet, 700MHz NB and Cellular bands. The filter is small and has low PIM characteristics. This keeps the 800MHz Public Safety band clear of any outside band interference.



Specifications

	Parameter	Specification
Electrical	2 Filter Passbands	Passband 1: 806-816 MHz (Uplink) Passband 2: 851-861 MHz (Downlink)
	Insertion Loss (in passbands)	2.0 dB max
	Return Loss (in passbands)	19.0 dB min
	Out of Band Rejection	30dBc Min @750-793MHz 30dBc Min @818-849MHz 30dBc Min @863-86MHz
	RF Power	150 W average, 1500 W peak
	PIMD (9th order)	150dBc Min @ 2x43dBm Input
	Impedance (all ports)	50 Ω
Mechanical	Size (filter housing)	8.0 x 8.6 x 2.6 (in) H x W x D 204 x 218 x 65 (mm) H x W x D
	RF Connectors	Input and Output ports: Type N-f
	Connector position	See mechanical outline drawing
	Mounting Points	See mechanical outline drawing
	Finish	Gray Color Powder Coating
Environmental	Temperature Range	-30 to +65°C
	Relative humidity	5 - 95%
	Barometric	55 KPa - 106KPa
	Lightning Protection (all ports)	3kA 10/350us, 8kA 8/20 us
	Enclosure rating	IP67
	RoHS	Compliant

Mechanical Outline



Performance Curves

Passband 806-816 MHz

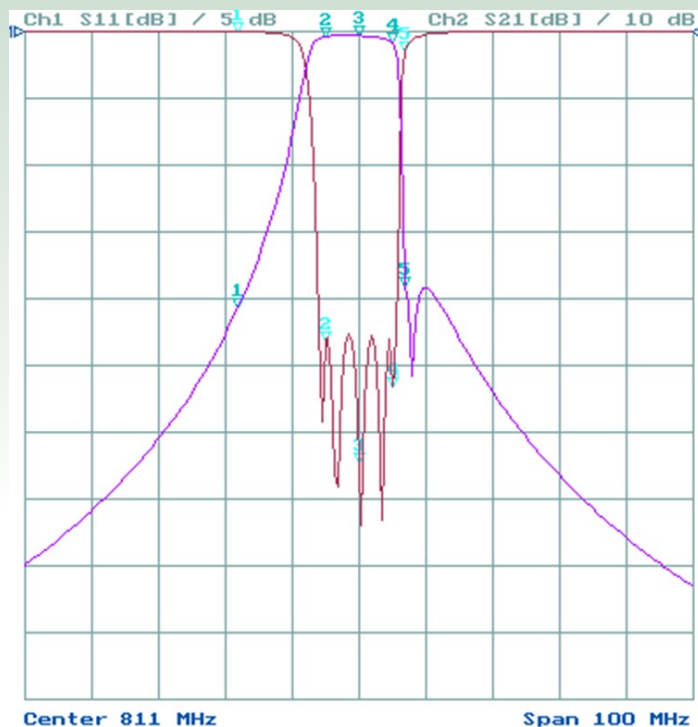
Marker 1 (793 MHz): -41.5 dB

Marker 2 (706 MHz): -0.8 dB

Marker 3 (811 MHz): -0.8 dB

Marker 4 (816 MHz): -1.8 dB

Marker 5 (818 MHz): -38.2 dB



Passband 851-861 MHz

Marker 1 (849 MHz): -38.0 dB

Marker 2 (851 MHz): -1.8 dB

Marker 3 (856 MHz): -0.9 dB

Marker 4 (861 MHz): -1.8 dB

Marker 5 (863 MHz): -38.0 dB

