



# Filters & Combiners

DATA SHEET

## Outdoor Broadband Triplexer

TPX-081921



- Low Loss
- Small, lightweight
- AISG 2.0 compliant from AWS port to Common port
- Good Isolation
- Good IM
- Lightning protected
- High reliability
- Full 850 MHz, AWS and PCS bands

### Overview

Communication Components, Inc. Outdoor Broadband Triplexer combines Base Station TX/RX signals from iDEN or 850 on the first port, AWS on the second port, and PCS band on the third port, onto a common port. Specifically intended for use in multi-band systems with limited feeder lines, the CCI Triplexer model TPX-081921 facilitates the addition of new technologies to existing sites while providing a high degree of isolation between systems. By reducing the number of feeder lines, the cost to upgrade a site (tower loading, leasing and installation costs) is reduced. The CCI Outdoor Broadband Triplexer provides full band performance for each band with low insertion loss, low Intermodulation, and high power handling. Excellent return loss delivers the best match to the antennas and base station, saving precious transmit power. DC and AISG pass-through retains full RET and TMA capability utilizing CCI's AISG suite of products.

### Technical Description:

Outdoor Broadband Triplexer consists of multiple filters to combine (or divide) full band 850, AWS, and PCS signals onto a common port. This tower mount unit can be used as either a splitter or combiner to aggregate multiple bands on a common feeder line. All RF ports consist of DIN 7-16 connectors. The fully weatherproof tower mount unit incorporates a Bias-T which passes DC and the AISG carrier frequency from the AWS port to the common port. The unit has internal lightning strike protection using a multi-stage surge protection circuit.

The filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Broadband Triplexer to minimize any passive intermodulation products from occurring. All DIN Connectors are fully IP68 rated and the unit body is rated for IP66.



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## SPECIFICATIONS

### Outdoor Broadband Triplexer

TPX-081921

#### Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	COMMON	806 - 894	18 dB min., 20 dB Typ.	
		1710 - 1755	18 dB min., 20 dB Typ.	
		2110 - 2155	18 dB min., 20 dB Typ.	
		1850 - 1990	18 dB min., 20 dB Typ.	
	850/iDEN	806 - 894	18 dB min., 20 dB Typ.	
		AWS	1710 - 2155	18 dB min., 20 dB Typ.
		2110 - 2155	18 dB min., 20 dB Typ.	
	PCS	1850 - 1990	18 dB min., 20 dB Typ.	
		Insertion Loss	850/iDEN	0.3 dB typ.
			AWS	1710 - 1755
	2110 - 2155			0.3 dB typ.
	PCS		1850 - 1990	0.3 dB typ.
Rejection	850/iDEN to AWS or PCS	1710 - 1755	75 dB min.	
		2110 - 2155	75 dB min.	
		1850 - 1990	75dB min.	
	AWS to 850/iDEN or PCS	806 - 894	75dB min.	
		1850 - 1990	75dB min.	
	PCS to 850/iDEN or AWS	806 - 894	75dB min.	
		1710 - 1755	75dB min.	
		2110 - 2155	75dB min.	
<b>General Characteristics</b>				
Impedance	50 ohms			
Continuous Average Power	300 W max.			
Peak Envelope Power	5 kW max.			
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands			
DC Pass Current/AISG Pass (PCS/AWS to ANT port)	3A/AISG signal (2.176 Mhz) per AISG 2.0			

#### Environmental Specification

Operating Temperature	-50 °C to +60 °C
Enclosure	IP66 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ±20KA max., 10 strikes per IEC61000-4-5



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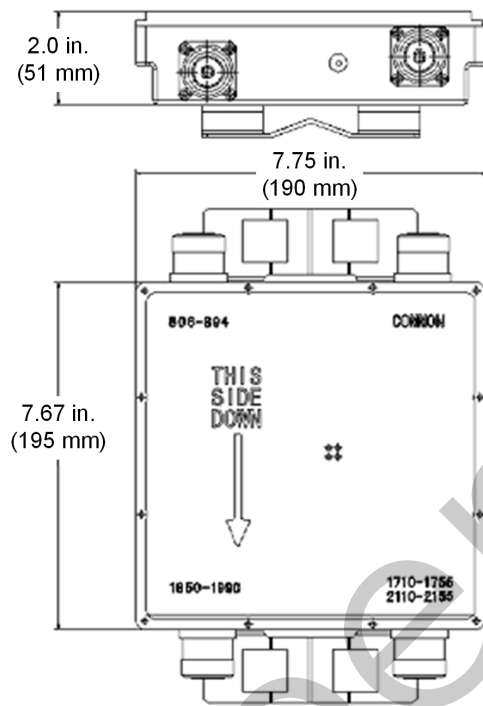
## SPECIFICATIONS

### Outdoor Broadband Triplexer

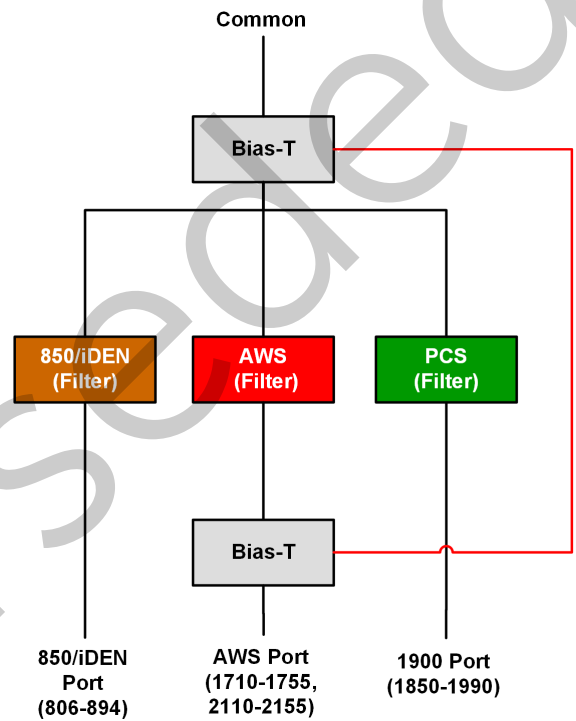
TPX-081921

#### Mechanical Specification

<b>Connectors</b>	4 x 7-16 DIN female long neck
<b>Dimensions (w/o connectors or brackets)(HxWxD)</b>	7.67 x 7.75 x 2.00 in. (195 x 197 x 51 mm)
<b>Weight</b>	7.9 lbs (3.6 kg)
<b>Mounting</b>	Pole/Wall mounting bracket



Outdoor Broadband Triplexer Outline Drawing



Outdoor Broadband Triplexer Block Diagram



# Filters & Combiners

ORDERING

Outdoor Broadband Triplexer

TPX-081921

Parts & Accessories

TPX-081921 Outdoor Pole/Wall Mount Triplexer

Superseded



# Filters & Combiners

STANDARDS &  
CERTIFICATIONS

Outdoor Broadband Triplexer

TPX-081921

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US



Superseded



**CCI**

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EXTENDING WIRELESS PERFORMANCE