



Filters & Combiners

DATA SHEET

Outdoor Broadband Triplexer

TPX-081921A



- 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, PCS, AWS and AWS-3 bands

Overview

Communication Components, Inc. Outdoor Broadband Triplexer combines Base Station TX/RX signals from iDEN or 850 on the first port, AWS and AWS-3 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-081921A 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, PCS, AWS, and AWS-3 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/AWS-3 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-081921A

Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	COMMON	806 - 894	18 dB minimum, 20 dB typical	
		1695 - 1780	18 dB minimum, 20 dB typical	
		2110 - 2180	18 dB minimum, 20 dB typical	
		1850 - 1995	18 dB minimum, 20 dB typical	
	850/iDEN	AWS	806 - 894	18 dB minimum, 20 dB typical
			1695 - 2180	18 dB minimum, 20 dB typical
			2110 - 2180	18 dB minimum, 20 dB typical
	Insertion Loss	PCS	1850 - 1995	18 dB minimum, 20 dB typical
			850/iDEN	0.3 dB typical
			AWS	0.3 dB typical
	Rejection	850/iDEN to AWS, or PCS	1695 - 1780	75 dB minimum
			2110 - 2180	75 dB minimum
1850 - 1995			75 dB minimum	
AWS to 850/iDEN, or PCS		806 - 894	75 dB minimum	
		1850 - 1990	50 dB minimum	
		1990 - 1995	45 dB minimum, 50 dB typical	
PCS to 850/iDEN or AWS		806 - 894	75 dB minimum	
		1695 - 1780	75 dB minimum	
		2110 - 2180	75 dB minimum	
General Characteristics				
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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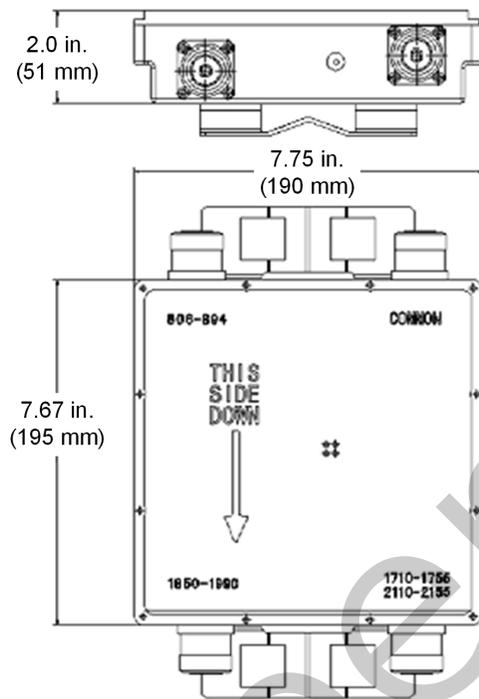
SPECIFICATIONS

Outdoor Broadband Triplexer

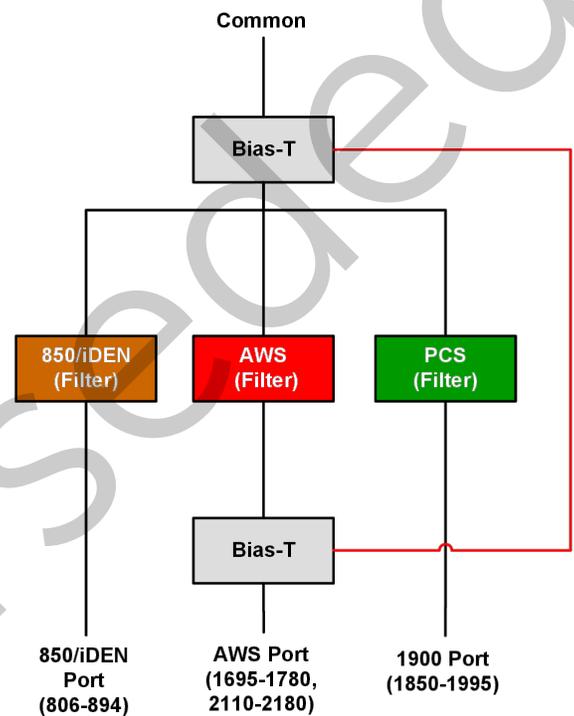
TPX-081921A

Mechanical Specification

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



Outdoor Broadband Triplexer Outline Drawing



Outdoor Broadband Triplexer Block Diagram



Filters & Combiners

ORDERING

Outdoor Broadband Triplexer

TPX-081921A

Parts & Accessories

TPX-081921A Outdoor Pole/Wall Mount Triplexer

Superseded



Filters & Combiners

STANDARDS &
CERTIFICATIONS

Outdoor Broadband Triplexer

TPX-081921A

Certifications

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



Superseded



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EXTENDING WIRELESS PERFORMANCE