



Filters & Combiners

DATA SHEET

Outdoor Broadband Triplexer

TPX-192126



- Low Loss
- Small, lightweight
- Good Isolation
- Good IM
- Lightning protected
- High reliability
- Full PCS, AWS and WCS/BRS bands

Overview

Communication Components, Inc. Outdoor Broadband Triplexer combines Basestation Tx/Rx signals from PCS Band, AWS Band and WCS/BRS Band onto a common port. Specifically intended for use in multi-band systems with limited feeder lines, the CCI Triplexer model TPX-192126 facilitates the addition of new technologies including LTE 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-thru retains full RET and TMA capability utilizing CCI's AISG suite of products.

Technical Description:

The Outdoor Broadband Triplexer consists of multiple filters to combine (or divide) PCS, AWS, and WCS/BRS 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 multiple options for DC and AISG 2.0 pass-thru. Pass-thru is available on the PCS RF path, the AWS RF path, both AWS & PCS RF paths or neither the AWS or PCS RF path to the common port of the Triplexer. When utilized the DC/AISG Signal pass-thru provides power to control Tower Mount Amplifiers (TMA's) & Remote electrical Tilt (RET) Antennas. 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

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Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	1850 - 1990	18 dB min., 20 dB Typ.	
		1710 - 1770, 2110 - 2170	18 dB min., 20 dB Typ.	
		2300 - 2690	18 dB min., 20 dB Typ.	
	PCS	Common	1850 - 1990	18 dB min., 20 dB Typ.
			1710 - 1770, 2110 - 2170	18 dB min., 20 dB Typ.
			2300 - 2690	18 dB min., 20 dB Typ.
	AWS	Common	1850 - 1990	18 dB min., 20 dB Typ.
			1710 - 1770, 2110 - 2170	18 dB min., 20 dB Typ.
			2300 - 2690	18 dB min., 20 dB Typ.
	WCS/BRS	Common	1850 - 1990	18 dB min., 20 dB Typ.
			1710 - 1770, 2110 - 2170	18 dB min., 20 dB Typ.
			2300 - 2690	18 dB min., 20 dB Typ.
Insertion Loss	Common	1850 - 1990	0.2 dB typ.	
		1710 - 1770, 2110 - 2170	0.2 dB typ.	
		2300 - 2700	0.2 dB typ.	
Rejection	PCS to AWS or WCS/BRS	1710 - 1770, 2110 - 2170	50 dB min.	
		2300 - 2690	50 dB min.	
	AWS to PCS or WCS/BRS	1850 - 1990	50 dB min.	
		2300 - 2690	50 dB min.	
	WCS/BRS to PCS or AWS	1850 - 1990	50 dB min.	
		1710 - 1770, 2110 - 2170	50 dB min.	

General Characteristics	
Impedance	50 ohms
Continuous Average Power	300 W max.
Peak Envelope Power	3 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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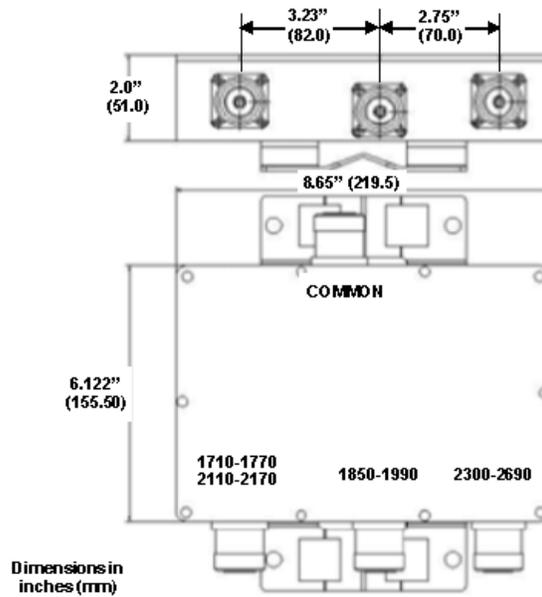
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Mechanical Specification

Connectors	4 x 7-16 DIN female long neck
Dimensions single unit (body only)(HxWxD)	6.12 x 8.65 x 2.0 in. (155.5 x 219.5 x 51 mm)
Weight	6.6 lbs (3.0 kg)
Mounting	Pole/Wall mounting bracket



Outdoor Broadband Triplexer Outline Drawing



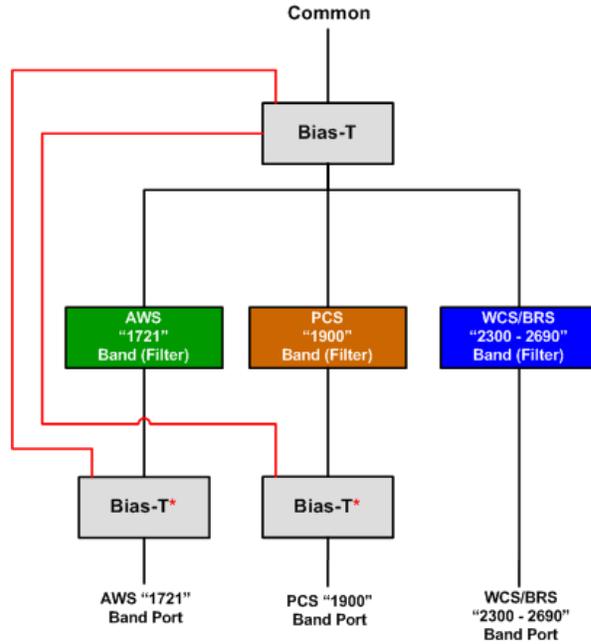
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Block Diagram



***See Ordering Options Table for specific combinations of DC/ISG Pass-Through**

Outdoor Broadband Triplexer Block Diagram



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ORDERING

Outdoor Broadband Triplexer

TPX-192126

Parts & Accessories

TPX-192126-* Single Unit Outdoor Broadband Triplexer

Option (-*) Description

- 1 DC/AISG Pass thru PCS to COMMON, DC Block on AWS & WCS/BRS ports
- 2 DC/AISG Pass thru AWS to COMMON, DC Block PCS & WCS/BRS ports
- 3 DC/AISG Pass thru AWS to COMMON & PCS to COMON, DC Block on WCS/BRS ports
- 4 DC Block on all ports



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STANDARDS &
CERTIFICATIONS

Outdoor Broadband Triplexer

TPX-192126

Certifications

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

