

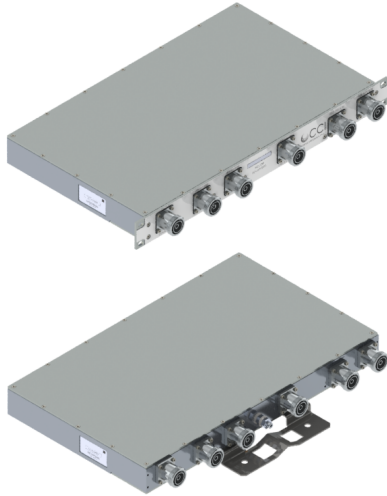


Filters & Combiners

DATA SHEET

Broadband Pentaplexer Combiner

5PX-0726A-xxx



- The Indoor/Outdoor Pentaplexer combines the frequency ranges 698-787 MHz, 806-894 MHz, 1850-1995 MHz, 1695-1780 MHz/2110-2180 MHz and 2305-2690 MHz onto a common port.
- Supports the 700 band on port 1, SMR/850 band on port 2, PCS band on port 3, AWS band on port 4 and the WCS/2600 band on port 5
- High power 60 W per port with low insertion loss in a small, lightweight enclosure
- AISG 2.0 compliant with multiple options for DC/AISG pass through
- Low intermodulation with isolation of 45-50 dB port to port
- Available configurations include a rack or wall mount for indoor and pole or wall mount for outdoor
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

The CCI Broadband Pentaplexer Combiner combines 700, SMR/850, PCS, AWS and WCS/2600 band basestation Tx/Rx signals onto a common port. Specifically intended for use in feeder line limited sites or multi-band high power DAS systems, the CCI pentaplexer facilitates the addition of new technologies including LTE and new spectrum including AWS-3 to existing sites while providing a low insertion loss and a high degree of isolation between systems. The cost and complexity of upgrading a Macro or DAS site is significantly reduced.

The CCI Broadband Pentaplexer Combiner 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 DAS system and base station, saving precious transmit power. The unit is available in both an indoor rack mountable version and an outdoor weather rated version.

Technical Description:

The Broadband Pentaplexer Combiner consists of multiple filters to combine full band 700, SMR/850, PCS, AWS, and WCS/2600 band signals. This unit can be used as either a splitter or combiner to aggregate multiple bands on a common line. The RF ports of the pentaplexer can be configured with either DIN 7-16 or 4.3-10 connectors. The pentaplexer's filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the broadband pentaplexer to minimize any passive intermodulation products from occurring. Both the indoor and the outdoor configurations are fully IP67 rated. The pentaplexer in the outdoor configuration can be pole or wall mounted. The indoor configuration is ready for 19 inch rack mounting and has an available mounting kit for wall mount.



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SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	698 - 787	18 dB min., 20 dB typ.	
		806 - 894	18 dB min., 20 dB typ.	
		1850 - 1995	18 dB min., 20 dB typ.	
		1695 - 1780	18 dB min., 20 dB typ.	
		2110 - 2180	18 dB min., 20 dB typ.	
		2305 - 2690	18 dB min., 20 dB typ.	
		700	698 - 787	18 dB min., 20 dB typ.
		SMR/850	806 - 894	18 dB min., 20 dB typ.
		PCS	1850 - 1995	18 dB min., 20 dB typ.
		AWS	1695 - 1780	18 dB min., 20 dB typ.
Insertion Loss	COM to 700	2110 - 2180	18 dB min., 20 dB typ.	
		WCS/2600	2305 - 2690	18 dB min., 20 dB typ.
		COM to 700	698 - 787	0.35 dB typ., 0.5 dB max.
		COM to SMR/850	806 - 894	0.35 dB typ., 0.65 dB max.
		COM to PCS	1850 - 1995	0.35 dB typ., 0.5 dB max.
		COM to AWS	1695 - 1780	0.35 dB typ., 0.5 dB max.
Isolation	COM to 700	2110 - 2180	0.35 dB typ., 0.5 dB max.	
		COM to WCS/2600	2305 - 2690	0.35 dB typ., 0.5 dB max.
		COM to 700	806 - 894	45 dB min.
			1850 - 1995	50 dB min.
			1695 - 1780	50 dB min.
			2110 - 2180	50 dB min.
	COM to SMR/850		2305 - 2690	50 dB min.
		COM to SMR/850	698 - 787	45 dB min.
			1850 - 1995	50 dB min.
			1695 - 1780	50 dB min.
			2110 - 2180	50 dB min.
			2305 - 2690	50 dB min.
	COM to PCS	COM to PCS	698 - 787	50 dB min.
			806 - 894	50 dB min.
			1695 - 1780	50 dB min.
			2110 - 2180	50 dB min.
			2305 - 2690	50 dB min.
		COM to AWS	COM to AWS	698 - 787
	806 - 894		50 dB min.	
	1850 - 1995		50 dB min.	
	2305 - 2690		50 dB min.	
COM to WCS/2600	COM to WCS/2600	698 - 787	50 dB min.	
		806 - 894	50 dB min.	
		1850 - 1995	50 dB min.	
		1695 - 1780	50 dB min.	
		2110 - 2180	50 dB min.	



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General Characteristics	
Impedance	50 ohms
Continuous Average Power	60 W max.
Peak Envelope Power	500 W max. (700, 850), 1.2 kW max. (PCS, AWS), 650 W max. (WCS/2600)
Intermodulation Performance	<-117 dBm (-160 dBc) typical (2x +43 dBm tones) all bands
	<-127 dBm (-162 dBc) typical (2x +35 dBm tones) all bands

Environmental Specification

Operating Temperature	-40 °C to +65 °C
Enclosure	IP67
Relative Humidity	0 - 99%
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each, IEC61000-4-5

Mechanical Specification

Indoor Rack Mount	
Connectors	6 x 7-16 DIN female long neck or 6 x 4.3-10
Dimensions housing only	10.5 x 17.4 x 1.73 in. (266.0 x 443.0 x 44.0 mm)
Dimensions with connectors and panel	11.7 x 19.0 x 1.73 in. (296.3x 483.0 x 44.0 mm)
Weight	20.1 lbs (9.1 kg)
Mounting	19 in. rack mountable (Wall mounting bracket included)

Outdoor Pole Mount	
Connectors	6 x 7-16 DIN female long neck or 6 x 4.3-10
Dimensions housing only	10.5 x 17.4 x 1.73 in. (266.0x 443.0 x 44.0 mm)
Dimensions with connectors and bracket	10.5 x 17.4 x 2.36 in. (266.0 x 443.0 x 60.0 mm)
Weight without bracket	20.3 lbs (9.2 kg)
Mounting	Pole/Wall Mount

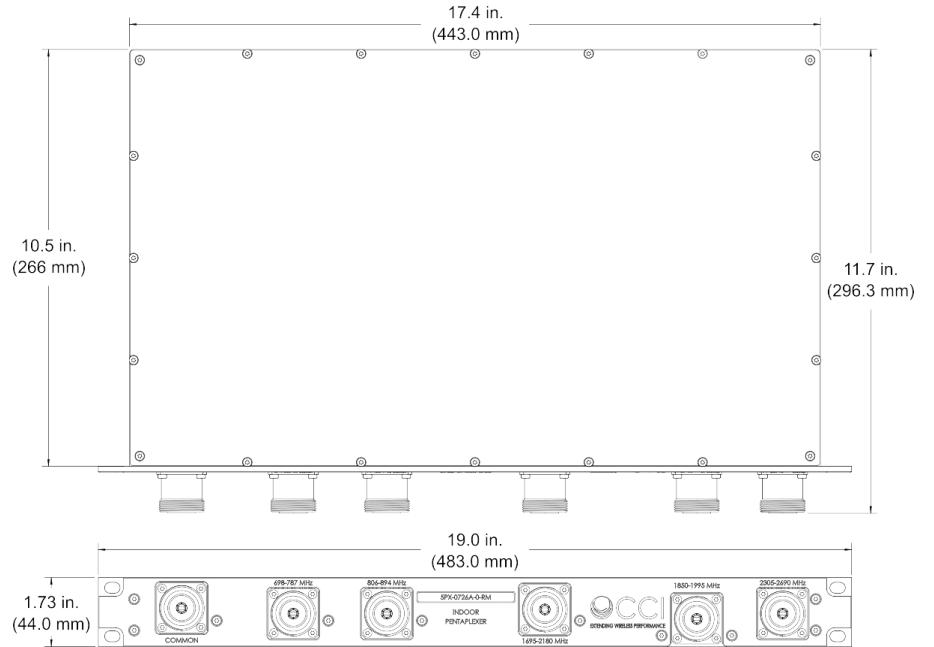


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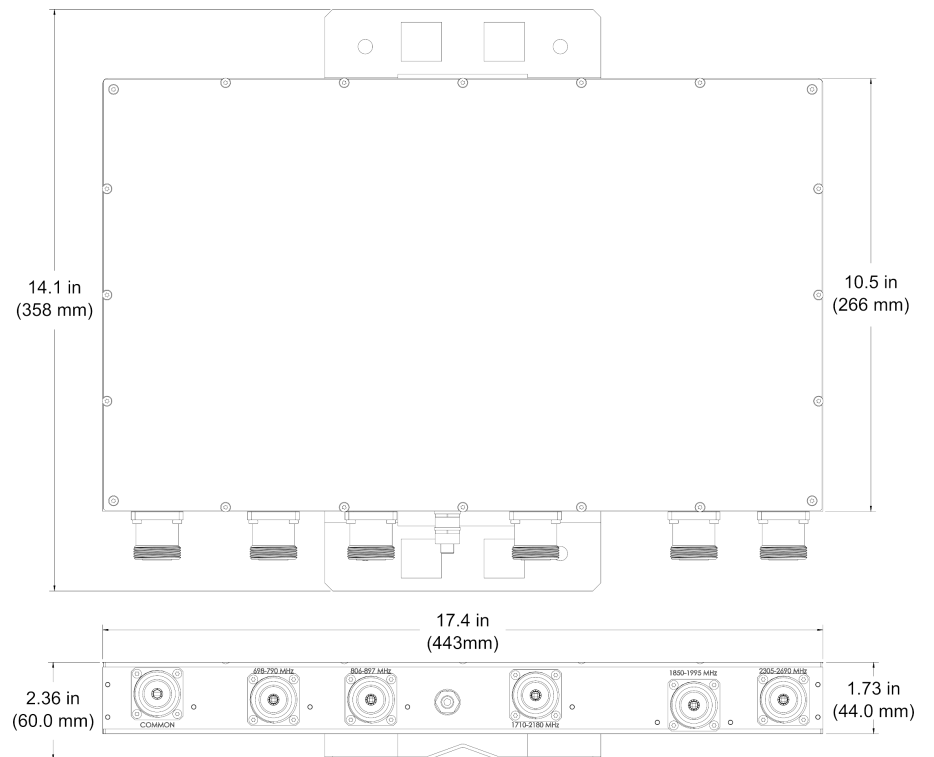
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Indoor Broadband Pentaplexer (5PX-0726A-x-RM) Outline Drawing



Outdoor Broadband Pentaplexer (5PX-0726A-x-O) Outline Drawing



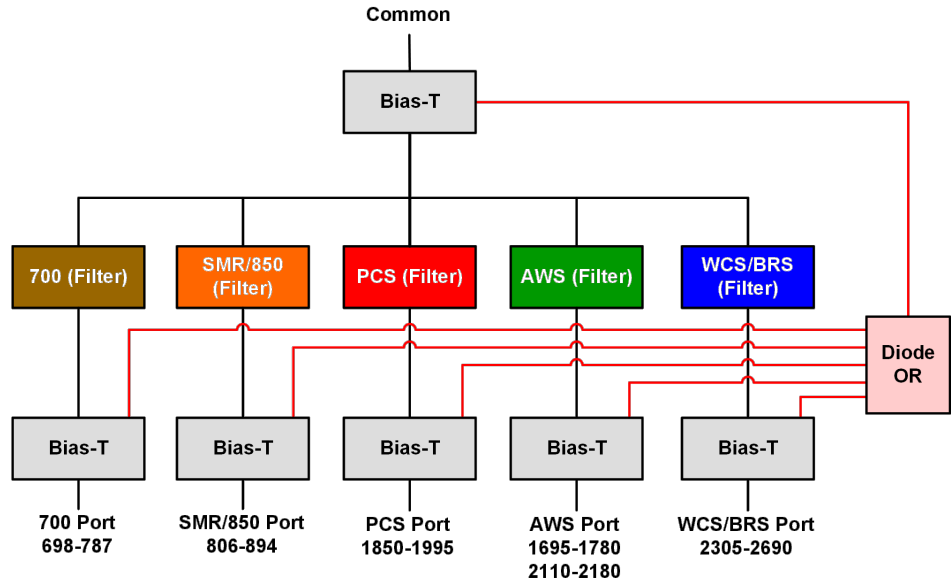
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Block Diagram



Outdoor Broadband Pentaplexer (5PX-0726A-S-xx) Block Diagram with Smart Bias-T Option



Filters & Combiners

STANDARDS & CERTIFICATIONS

Broadband Pentaplexer Combiner

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Parts & Accessories

5PX-0726A-x-RM	Indoor Rack Mount Pentaplexer with 7-16 DIN connectors
5PX-0726A-x-RM-C2	Indoor Rack Mount Pentaplexer with 4.3-10 connectors
5PX-0726A-x-O	Outdoor Pentaplexer with 7-16 DIN connectors
5PX-0726A-x-O-C2	Outdoor Pentaplexer with 4.3-10 connectors

Option (-x)	Description
-0	No DC/AISG Pass through
-1	DC/AISG Pass through 700 Band to COMMON, DC Block on all other input ports
-2	DC/AISG Pass through 850/900 Band to COMMON, DC Block on all other input ports
-3	DC/AISG Pass through PCS to COMMON, DC Block on all other input ports
-4	DC/AISG Pass through AWS to COMMON, DC Block on all other input ports
-5	DC/AISG Pass through WCS/BRS to COMMON, DC Block on all other input ports
-S	Smart Bias-T, DC/AISG Pass through on either port

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, IEC61000-4-5, GR-63-CORE 4.3.1, EN 60529 IP68

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001

