

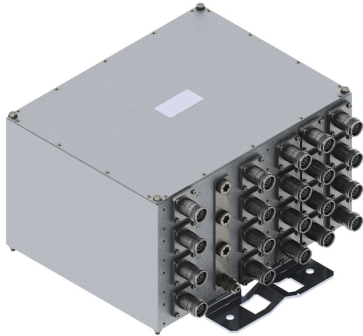


Filters & Combiners

DATA SHEET

Broadband Quadplexer Combiner

QPO-19203630-XXX



- The Quadplexer combines the frequency ranges 1850-1995 MHz, 1695-1780/2110-2200 MHz, 2305-2690 and 3300-5925 MHz onto a common port
- Supports the PCS band on port 1, AWS band on port 2, WCS/BRS band on port 3 and 3300-5925 MHz on port 4
- High power 60 W per port with low insertion loss in a small, lightweight enclosure
- Low intermodulation with isolation of ≥ 50 dB
- Available configurations include a rack or wall mount for indoor and pole or wall mount for outdoor
- High reliability of >500K Hours MTBF

Overview

The CCI Broadband Quadplexer combines the Tx/Rx signals PCS, AWS, WCS/BRS and 3300-5925 band onto a common port. Specifically intended for use in multiband systems with limited feeder lines, this CCI Quadplexer facilitates the addition of new technologies including LTE and new spectrum including CBRS, LAA, and AWS 1-3 Extended to existing sites. The Quadplexer provides a minimum of 50 dB of isolation between each of the individual frequency ranges. By reducing the number of feeder lines, the cost to upgrade a site (tower loading, leasing and installation costs) is reduced.

The CCI Quadplexer 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 antennas and base station, saving precious transmit power. The Quadplexer is fully outdoor rated and can be pole or wall mounted with an optional outdoor configuration.

Technical Description:

The Outdoor Broadband Quadplexer Combiner consists of multiple filters to combine (or divide) full band PCS, AWS, WCS/BRS and 3300-5925 MHz signals. 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 are terminated in 4.3-10 connectors. The fully weatherproof unit can be optionally configured with wall/pole brackets.

The filters have been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Broadband Quadplexer to minimize any passive intermodulation products from occurring. The Quadplexer is IP67 rated and suitable for use outdoors.

CCI filter and combiner products are designed and produced to ISO 9001 certification standards for reliability and quality at our state-of-the-art engineering and manufacturing facilities.



Filters & Combiners

SPECIFICATIONS

Broadband Quadplexer Combiner

QPO-19203630-XXX

Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification	
Return Loss	Common	1850 - 1995	18 dB minimum, 20 dB typical	
		1695 - 1780	18 dB minimum, 20 dB typical	
		2110 - 2200	18 dB minimum, 20 dB typical	
		2305 - 2690	18 dB minimum, 20 dB typical	
		3300 - 5925	18 dB minimum, 20 dB typical	
		PCS	1850 - 1995	18 dB minimum, 20 dB typical
		AWS	1695 - 1780	18 dB minimum, 20 dB typical
			2110 - 2200	18 dB minimum, 20 dB typical
		WCS/BRS	2305 - 2690	18 dB minimum, 20 dB typical
		High Band	3300 - 5925	18 dB minimum, 20 dB typical
Insertion Loss	COM to PCS	1850 - 1995	0.25 dB typical, 0.40 dB maximum	
	COM to AWS	1695 - 1780	0.30 dB typical, 0.40 dB maximum	
		2110 - 2200	0.30 dB typical, 0.40 dB maximum	
	COM to WCS/BRS	2305 - 2690	0.35 dB typical, 0.65 dB maximum	
	COM to High Band	3300 - 5925	0.25 dB typical, 0.30 dB maximum	
Isolation	COM to PCS	1695 - 1780	50 dB minimum	
		2110 - 2200	50 dB minimum	
		2305 - 2690	50 dB minimum	
		3300 - 5925	50 dB minimum	
	COM to AWS	1850 - 1995	50 dB minimum	
		2305 - 2690	50 dB minimum	
		3300 - 5925	50 dB minimum	
	COM to WCS/BRS	1850 - 1995	50 dB minimum	
		1695 - 1780	50 dB minimum	
		2110 - 2180	50 dB minimum	
		2180 - 2200	45 dB minimum	
		3300 - 5925	50 dB minimum	
	COM to High Band	1850 - 1995	50 dB minimum	
1695 - 1780		50 dB minimum		
2110 - 2200		50 dB minimum		
2305 - 2690		50 dB minimum		

General Characteristics

Impedance	50 ohms
Continuous Average Power	60 W maximum per input port
Peak Envelope Power	1.2 kW max. (PCS/AWS), 650 W max. (WCS/BRS/High Band)
Intermodulation Performance(all ports)	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
DC Pass Current/AISG Pass	3A/AISG signal (2.176 MHz) per AISG 2.0 (on PCS, AWS and WCS/BRS ports only)



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QPO-19203630-XXX

Environmental Specification

Operating Temperature	-40 °C to +65 °C
Enclosure & Connectors	IP67 (indoor/outdoor)
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	5 x 4.3-10 female		
Body Dimensions	1.73 x 11.5 x 8.98 in. (44.0 x 292.0 x 228.0 mm)		
Overall Dimensions	1.73 x 19.00 x 10.16 in. (44.0 x 483.0 x 258.0 mm)		
Weight	11.2 lbs (5.1 kg)		
Mounting	19 inch (483 mm) x 1U (266 mm) rack or included wall mount bracket		
Outdoor Pole Mount			
	Single	Twin	Quad
Connectors	5 x 4.3-10 female	10 x 4.3-10 female	20 x 4.3-10 female
Body Dimensions	1.7 x 11.5 x 8.98 in. (43.0 x 292.0 x 228.0 mm)	3.7 x 11.5 x 8.98 in. (94.0 x 292.0 x 228.0 mm)	7.0 x 11.5 x 8.98 in. (178.0 x 292.0 x 228.0 mm)
Overall Dimensions	2.32 x 11.5 x 12.56 in. (59.0 x 292.0 x 319.0 mm)	4.09 x 11.5 x 12.56 in. (104.0 x 292.0 x 319.0 mm)	7.32 x 11.5 x 12.56 in. (186.0 x 292.0 x 319.0 mm)
Weight (no Bracket)	12.4 lbs (5.7 kg)	22.9 lbs (10.4 kg)	43.7 lbs (19.9 kg)
Frontal Wind Load @ 150 km/hour	270.0 N	270.0 N	270.0 N
Lateral Wind Load @ 150 km/hour	35.0 N	66.0 N	130.0 N
Mounting	Pole/Wall Mount		

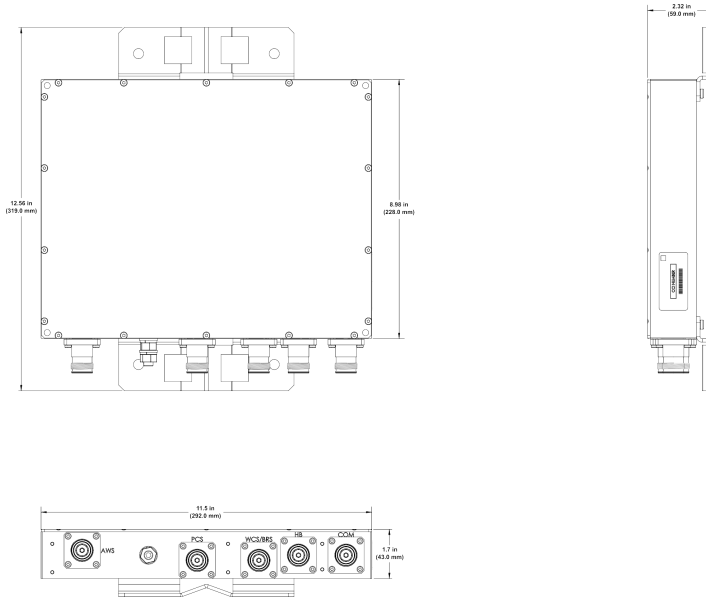


Filters & Combiners

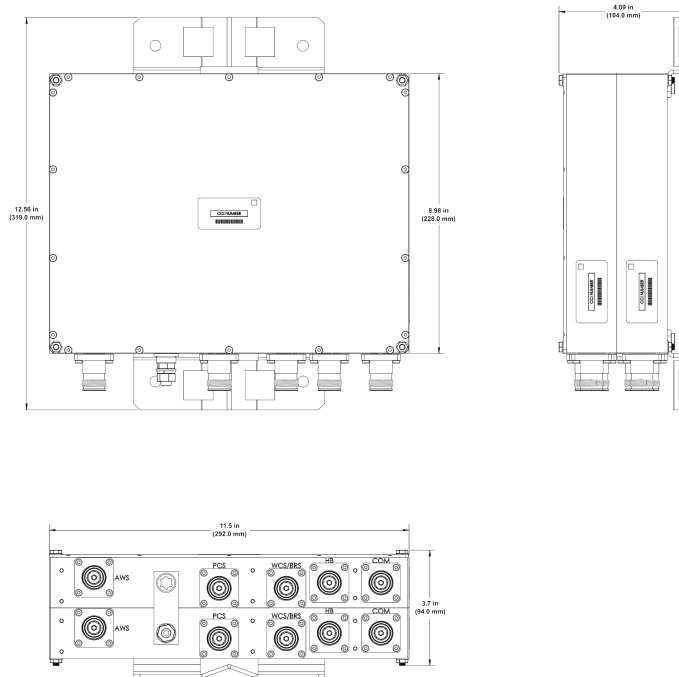
SPECIFICATIONS

Broadband Quadplexer Combiner

QPO-19203630-XXX



Broadband Outdoor Single QPO-19203630 Quadplexer Outline Drawing



Broadband Outdoor Twin QPO-19203630 Quadplexer Outline Drawing

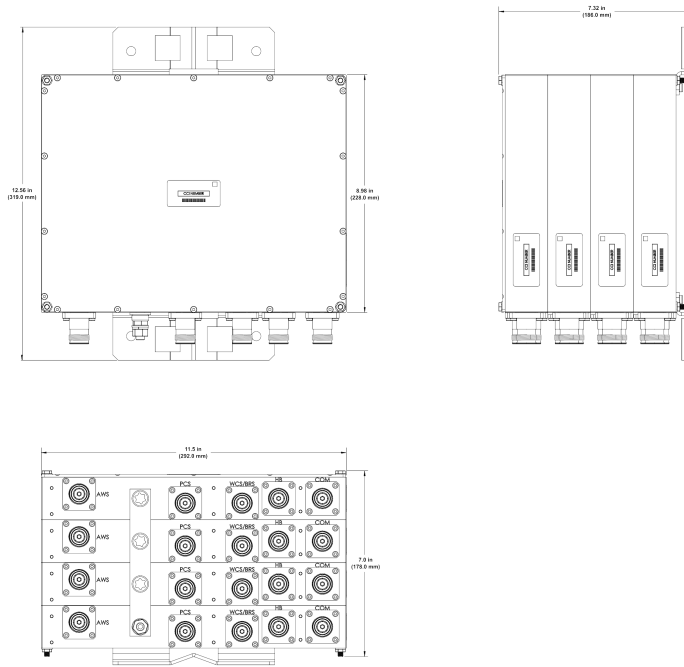


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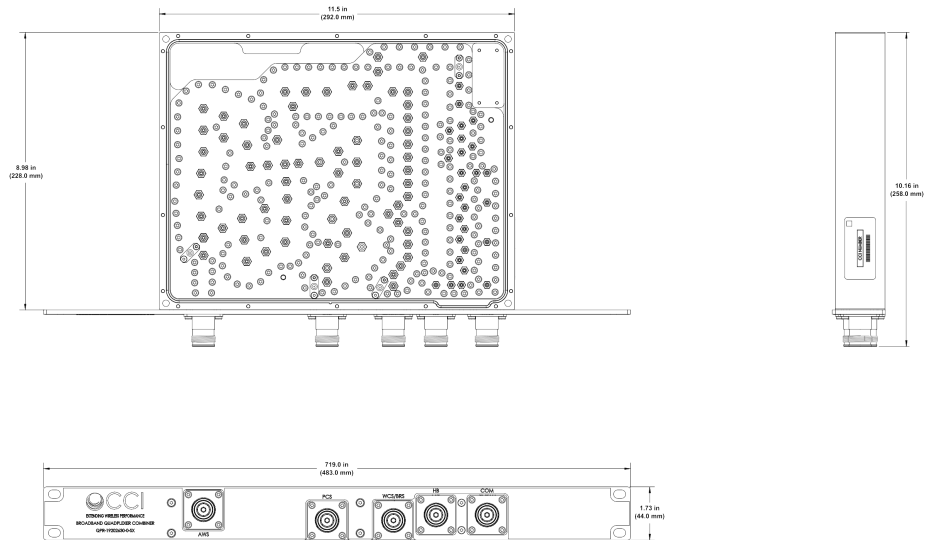
SPECIFICATIONS

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Broadband Outdoor Quad QPO-19203630 Quadplexer Outline Drawing



Broadband Rackmount QPR-19203630 Quadplexer Outline Drawing



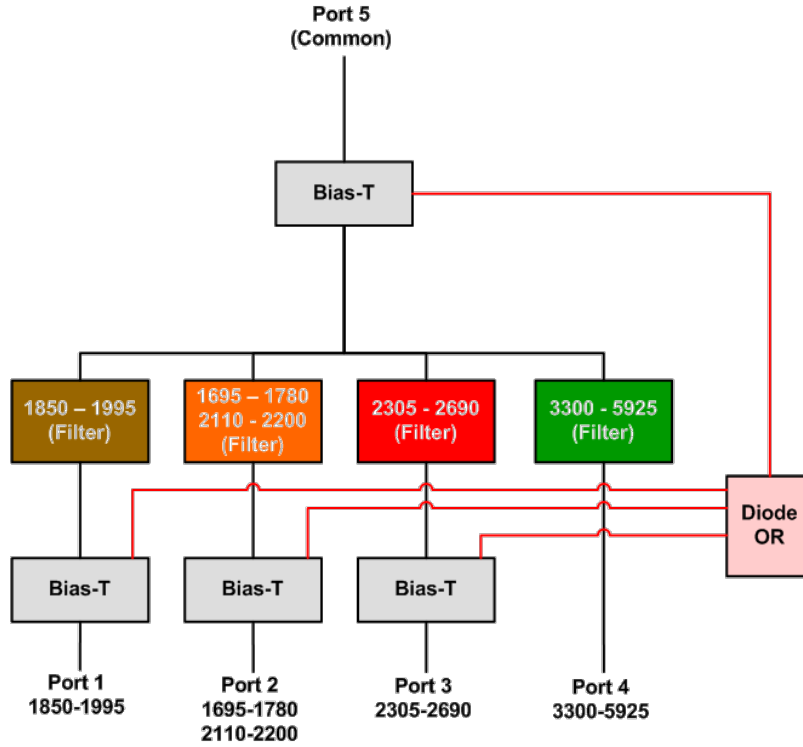
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Block Diagram



Broadband QPO-19203630 or QPR-19203630 Quadplexer Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

Broadband Quadplexer Combiner

QPO-19203630-XXX

Parts & Accessories

QPO-19203630-x-S1	Single Broadband Outdoor Quadplexer with 7/16 connectors
QPO-19203630-x-S2	Single Broadband Outdoor Quadplexer with 4.3-10 connectors
QPO-19203630-x-T1	Twin Broadband Outdoor Quadplexer with 7/16 connectors
QPO-19203630-x-T2	Twin Broadband Outdoor Quadplexer with 4.3-10 connectors
QPO-19203630-x-Q1	Quad Broadband Outdoor Quadplexer with 7/16 connectors
QPO-19203630-x-Q2	Quad Broadband Outdoor Quadplexer with 4.3-10 connectors
QPR-19203630-x-S1	Single Broadband Rackmount Quadplexer with 7/16 connectors
QPR-19203630-x-S2	Single Broadband Rackmount Quadplexer with 4.3-10 connectors

Option (-x)	Description
-S	Smart Bias-T, DC/AISG Pass through on either port
-0	No DC/AISG Pass through

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 IP67, IP68

Certifications

Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001

