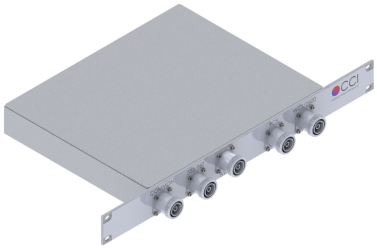
DATA SHEET

Broadband Quadplexer Combiner

QPR-69192036-xxx



- The Rackmount Quadplexer combines 600/700/850/900 bands (555-960 MHz), PCS (1850-1995 MHz), AWS (1695-1780/2110-2200 MHz) and WCS/BRS (2305-2690 MHz) onto a common port.
- High power 200 W per port with low insertion loss
- Low intermodulation with isolation of >50 dB port to port
- Available single unit configuration
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Lightweight outdoor rated rackmount enclosure is supplied with with pole/wall mount bracket for optional installation

Overview

The CCI Rackmount Broadband Quadplexer combines 555-960 MHz (Low Band), PCS, AWS and WCS/BRS band Basestation Tx/Rx signals onto a common port. Specifically intended for use in quad band systems with limited feeder lines, the CCI Quadplexer model QPR-69192036-xxx facilitates the addition of new technologies including LTE and new spectrum including AWS-3 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 (leasing and installation costs) is reduced.

The CCI Rackmount Broadband 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 Rackmount Quadplexer is fully outdoor rated and can be pole or wall mounted with an optional outdoor configuration.

Technical Description:

The Rackmount Broadband Quadplexer Combiner consists of multiple filters to combine (or divide) full band 555-960 MHz (Low Band), PCS, AWS and WCS/BRS signals. This 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 or 7-16 connectors. The fully weatherproof unit can be optionally configured with wall/pole brackets. 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 Diplexer to minimize any passive intermodulation products from occurring. The Quadplexer enclosure and connectors are fully 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.

SPECIFICATIONS

Broadband Quadplexer Combiner

QPR-69192036-xxx

Electrical Specification

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	Common	555 - 960	18 dB minimum, 20 dB typical
		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
	Low Band	555 - 960	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
Insertion Loss	COM to Low Band	555 - 960	0.1 dB maximum
	COM to PCS	1850 - 1995	0.25 dB typical, 0.35 dB maximum
	COM to AWS	1695 - 1780	0.25 dB typical, 0.35 dB maximum
		2110 - 2200	0.20 dB typical, 0.35 dB maximum
	COM to WCS/BRS	2305 - 2690	0.25 dB typical, 0.35 dB maximum
Rejection	COM to Low Band	1850 - 1995	50 dB minimum
		1695 - 1780	50 dB minimum
		2110 - 2200	50 dB minimum
		2305 - 2690	50 dB minimum
	COM to PCS	555 - 960	50 dB minimum
		1695 - 1780	50 dB minimum
		2110 - 2180	50 dB minimum
		2180 - 2200	45 dB minimum
		2305 - 2690	50 dB minimum
	COM to AWS	555 - 960	50 dB minimum
		1850 - 1995	50 dB minimum
		2305 - 2690	50 dB minimum
	COM to WCS/BRS	555 - 960	50 dB minimum
		1850 - 1995	50 dB minimum
		1695 - 1780	50 dB minimum
		2110 - 2200	50 dB minimum

General Characteristics	
Impedance	50 ohms
Continuous Average Power	60 W maximum per input port
Peak Envelope Power	1.2 kW maximum per input port, excluding WCS/BRS port which is 650 W
Intermodulation Performance(all ports)	<-117 dBm (-160 dBc) typical (2 × +43 dBm tones) all bands
DC Pass Current/AISG Pass	Not applicable

Environmental Specification

Operating Temperature	-40˚C to +65˚C
Ingress Protection	IP67 (Indoor-Outdoor)
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes each, IEC61000-4-5

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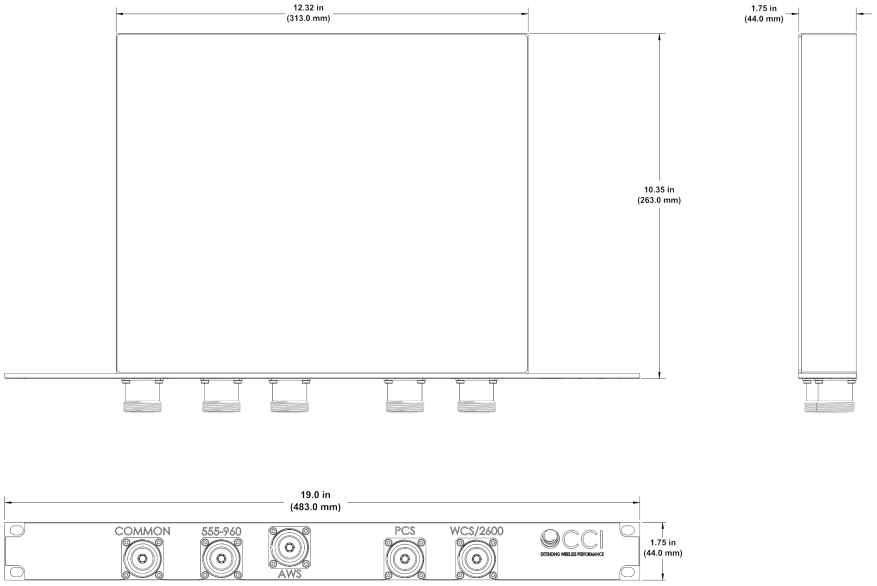
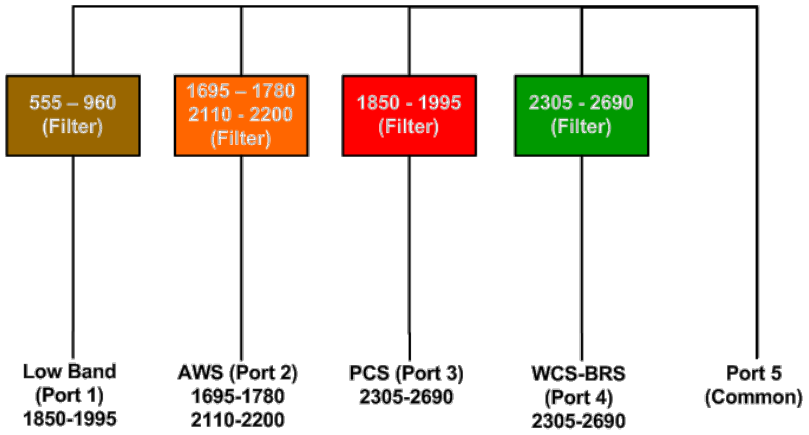
Mechanical Specification

Model	Single
Connectors	5 x 4.3-10 female (or 7-16 female)
Housing Dimensions	12.32 x 10.35 x 1.75 in. (313.0 x 263.0 x 44.0 mm)
Dimensions w/Bracket	19.0 x 10.35 x 1.75 in. (483.0 x 263.0 x 44.0 mm)
Weight	15.0 lbs (6.8 kg)



Outdoor Broadband Quadraplexer Outline Drawing

Block Diagram



Rackmount Broadband Quadraplexer Block Diagram

STANDARDS & CERTIFICATIONS

Broadband Quadplexer Combiner

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Parts & Accessories

QPR-69192036-0-S1	Outdoor Rated Rackmount Quadplexer with 7-16 connectors and No DC/AISG Pass-Through
QPR-69192036-0-S2	Outdoor Rated Rackmount Quadplexer with 4.3-10 connectors and 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