

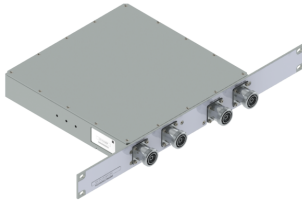


Filters & Combiners

DATA SHEET

Broadband Triplexer

TPR-192036-xxx



- Combines PCS (1850-1995), AWS (1695-2200) and WCS/BRS (2305-2690), which includes AWS 1-3 extended
- High power 60 W per port with low insertion loss
- Low intermodulation with isolation of >50 dB per band
- DC/AISG options include Smart Bias-T providing pass through on any input port
- Triplexer is 1U 19 inch rack mount fully outdoor rated and ships with a wall/pole mount bracket for mounting flexibility
- Triplexer is also available in an Outdoor model in both single and twin configurations, see model TPO-192036-xxx
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

The CCI Broadband Triplexer combines three bands, PCS (1850-1995), AWS (1695-2200) and WCS/BRS (2305-2690) onto a common port. Specifically intended for use in multi-band systems with limited feeder lines, this CCI Triplexer facilitates the addition of new technologies including LTE and new spectrum including AWS 1-3 extended to existing sites while providing a high degree of isolation between systems. Decreasing the number of feeder lines lowers tower loading, leasing and installation expenditures and the total cost to upgrade a site is significantly reduced.

The CCI 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. The outdoor model of the Triplexer offers full Remote Electrical Tilt (RET) and Tower Mount Amplifiers (TMA) capability by providing multiple options for DC and AISG 2.0 compliant pass-through.

Technical Description:

The Triplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the PCS, AWS, and WCS/BRS bands on a common feeder line. The fully weatherproof triplexer is orderable with DC block on all ports or DC and AISG signal pass-through on any of the band specific ports. When configured with pass-through the Triplexer provides power and control for TMA's & RET antennas. DC and AISG signal pass-through is available on both the rack mounted and outdoor pole mount models. The triplexer has internal multi-strike lightning protection using a multi-stage surge protection circuit.

The unit has been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Triplexer to minimize any passive intermodulation products from occurring. This unit is a 1U high 19" rack mount and is rated for IP67 so it can be deployed both indoors and out. A wall/pole mount bracket is also shipped with the unit to provide flexible mounting options. The triplexer is also available in an outdoor single or twin configuration, see model number TPO-192036-xxx. Both the rack mount and pole mount configurations are available with either 7-16 DIN or 4.3-10 connectors and are IP67 rated for outdoor use.

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.



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SPECIFICATIONS

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 | | | |
| | PCS | AWS | 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 | | |
| | | | Insertion Loss | COM to PCS | 1850 - 1995 | 0.35 dB typical, 0.5 dB maximum |
| | | | | COM to AWS | 1695 - 1780 | 0.35 dB typical, 0.5 dB maximum |
| 2110 - 2200 | 0.35 dB typical, 0.5 dB maximum | | | | | |
| COM to WCS/BRS | 2305 - 2690 | 0.35 dB typical, 0.5 dB maximum | | | | |
| Isolation | COM to PCS | 1695 - 1780 | 50 dB minimum | | | |
| | | 2110 - 2200 | 50 dB minimum | | | |
| | | 2305 - 2690 | 50 dB minimum | | | |
| | COM to AWS | 1850 - 1995 | 50 dB minimum | | | |
| | | 2305 - 2325 | 45 dB minimum | | | |
| | | 2325 - 2690 | 50 dB minimum | | | |
| | | COM to WCS/BRS | 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 per input port maximum |
| Peak Envelope Power | 1.2 kW max. (PCS, AWS), 650 W max. (WCS, BRS) |
| Intermodulation Performance | <-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands (Indoor & Outdoor) |
| DC Pass Current/AISG Pass | 3A/AISG signal (2.176 Mhz) per AISG 2.0 (Outdoor) |

Environmental Specification

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



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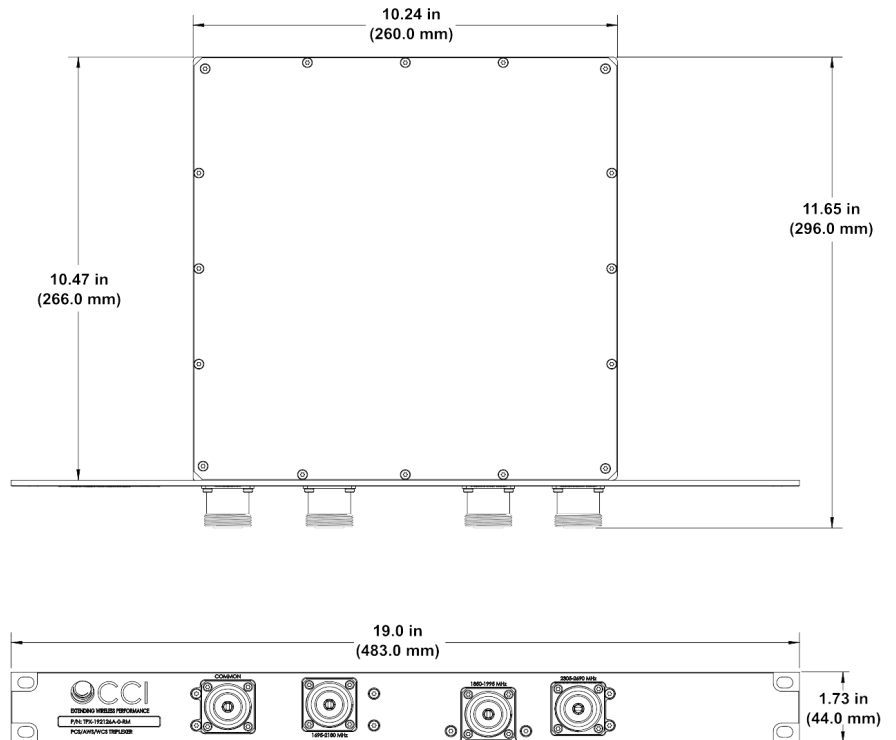
SPECIFICATIONS

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Mechanical Specification

| | |
|---|--|
| Indoor Rack Mount | |
| Connectors | 4 x 7-16 DIN female or 4 x 4.3-10 female |
| Body Dimensions | 1.73 x 10.24 x 10.47 in. (44.0 x 260.0 x 266.0 mm) |
| Overall Dimensions (7-16 DIN Connectors) | 1.73 x 19.00 x 11.65 in. (44.0 x 483.0 x 296.0 mm) |
| Overall Dimensions (4.3-10 Connectors) | 1.73 x 19.00 x 11.89 in. (44.0 x 483.0 x 302.0 mm) |
| Weight | 11.9 lbs (5.4 kg) |
| Mounting | 19 inch (483 mm) x 1U (266 mm) rack or included wall mount bracket |



Indoor Broadband Triplexer (TPX-192126A-xRM) Outline Drawing



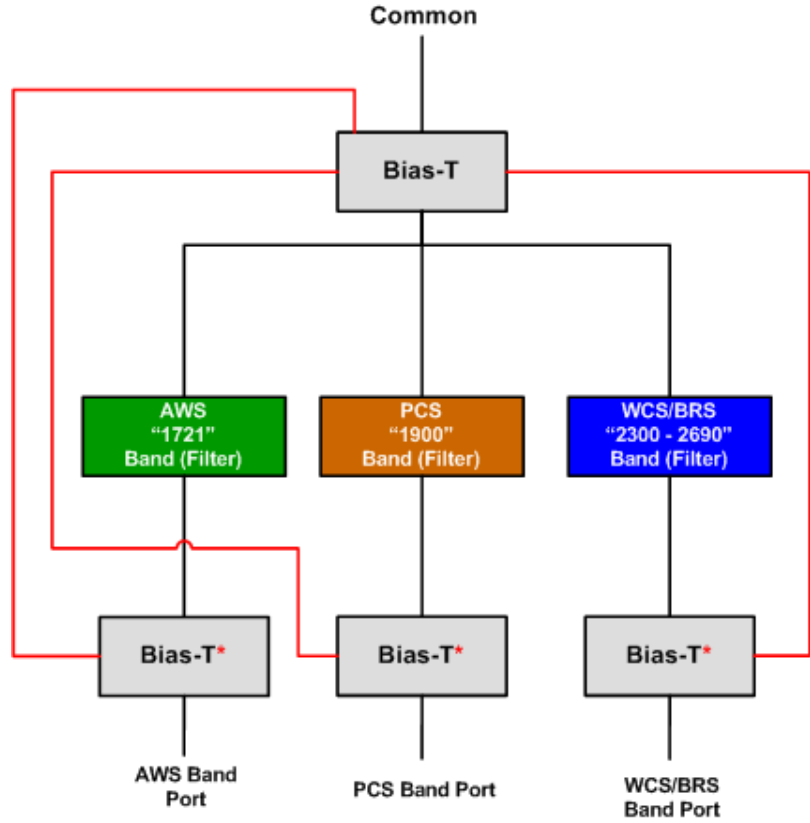
Filters & Combiners

SPECIFICATIONS

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Block Diagram



***See Ordering Options Table for specific combinations of DC/AISG Pass-Thru**

Rackmount Broadband Triplexer (TPO-192036-xxx) Block Diagram



Filters & Combiners

Broadband Triplexer

TPR-192036-xxx

STANDARDS & CERTIFICATIONS

Parts & Accessories

- TPR-192036-x-S1** 19 inch Rackmount Triplexer with 7-16 DIN connectors
- TPR-192036-x-S2** 19 inch Rackmount Triplexer with 4.3-10 connectors

| Option (-x) | Description |
|-------------|---|
| -0 | No DC/AISG Pass thru |
| -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 on PCS, WCS/BRS ports |
| -3 | DC/AISG Pass thru WCS/BRS to COMMON, DC Block on AWS, PCS ports |
| -S | DC/AISG Pass thru on any port with Smart Bias-T |

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 IP20, IP67, IP68 |

Certifications

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

