

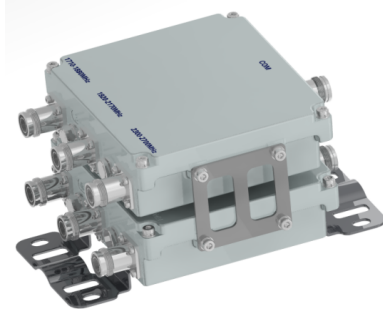


Filters & Combiners

DATA SHEET

Broadband Triplexer

TPO-182236-xxx



- Combines DCS (1710-1880), UMTS 2100 (1920-2170) and 2300/2600 (2300-2700) bands
- High power 200 W per port with low insertion loss
- Low intermodulation with isolation of >50 dB per band
- Optional DC and AISG 2.0 pass through on customer specified band
- Triplexer includes outdoor pole/wall mount bracket
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

The CCI Broadband Triplexer combines three bands, DCS (1710-1880), UMTS 2100 (1920-2170) and 2300/2600 band (2300-2700) 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 LTE 2600 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 Triplexer offers the option of 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 DCS, UMTS 2100, and 2300/2600 bands on a common feeder line. The fully weatherproof tower mount outdoor 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 not available on the indoor rack mounted model. 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. The Triplexer can be pole or wall mounted with the included bracket and the unit body is rated for IP68. All RF ports are either DIN 7-16 or optionally 4.3-10 connectors, both of which are IP68 rated. 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	1710 - 1880	20 dB minimum	
		1920 - 2170	20 dB minimum	
		2300 - 2700	20 dB minimum	
	DCS	1710 - 1880	20 dB minimum	
		UMTS 2100	1920 - 2170	20 dB minimum
		LTE Band	2300 - 2700	20 dB minimum
Insertion Loss	COM to DCS	1710 - 1880	0.4 dB typical, 0.5 dB maximum	
	COM to UMTS 2100	1920 - 2170	0.4 dB typical, 0.5 dB maximum	
	COM to LTE Band	2300 - 2700	0.4 dB typical, 0.5 dB maximum	
Isolation	COM to DCS	1920 - 2170	50 dB minimum	
		2300 - 2700	50 dB minimum	
	COM to UMTS 2100	1710 - 1880	50 dB minimum	
		2300 - 2700	50 dB minimum	
	COM to LTE Band	1710 - 1880	50 dB minimum	
		1920 - 2170	50 dB minimum	

General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W per input port
Peak Envelope Power	2 kW maximum at COMMON
Intermodulation Performance	<-117 dBm (-160 dBc) typical all bands, 2x +43 dBm carriers
DC Pass Current/AISG Pass	3A/AISG signal (2.176 Mhz) per AISG 2.0 on specified port see ordering options

Environmental Specification

Operating Temperature	-20 °C to +60 °C
Relative Humidity	5% - 95%
Ingress Protection	IP68
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes per IEC61000-4-5

Mechanical Specification

Model	TPO-182236-S-Sx	TPO-182236-S-Tx
Modularity	Single	Twin
Weight with brackets	2.3 Kg	4.8 Kg
Dimensions with brackets	237.0x 169.0 x 63.5 mm	237.0 x 169.0 x 117.5mm
Dimensions enclosure only	146.0 x 169.0 x 48.5 mm - per Diplexer	
Connectors	4.3-10 or 7-16 female x 4 per Diplexer	
Mounting	Pole/Wall mounting bracket	

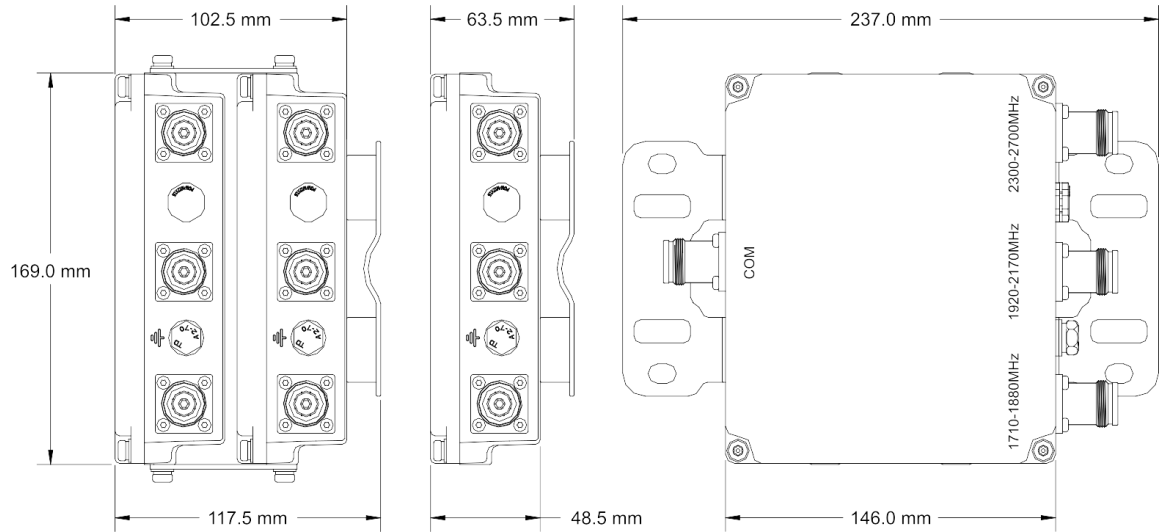


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SPECIFICATIONS

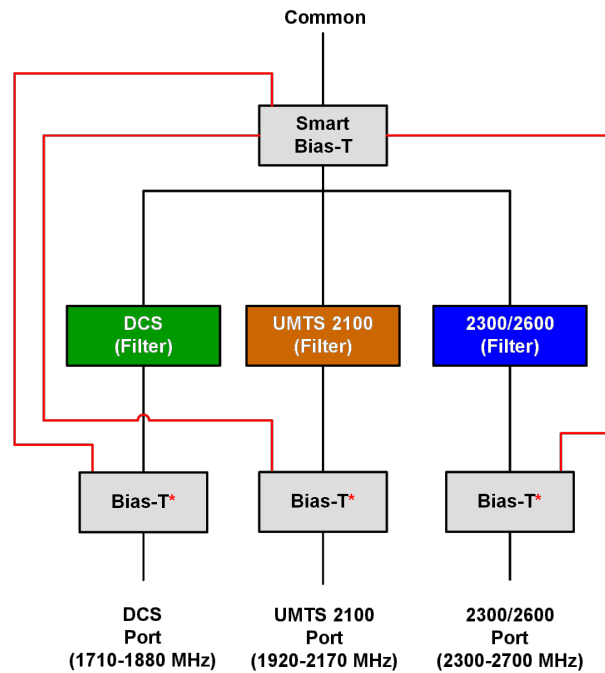
Broadband Triplexer

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Outdoor Broadband Triplexer Outline Drawing

Block Diagram



Outdoor Broadband Triplexer Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

Broadband Triplexer

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Parts & Accessories

TPO-182236-x-S1	Outdoor Triplexer with 7/16 DIN connectors
TPO-182236-x-S2	Outdoor Triplexer with 4.3-10 connectors
TPO-182236-x-T1	Outdoor Twin Triplexer with 7/16 DIN connectors
TPO-182236-x-T2	Outdoor Twin Triplexer with 4.3-10 connectors

Option (-x)	Description
-0	No DC/AISG pass through
-1	DC/AISG pass through DCS to COMMON, DC Block on all other input ports
-2	DC/AISG pass through UMTS 2100 to COMMON, DC Block on all other input ports
-3	DC/AISG pass through LTE 2600 to COMMON, DC Block on all other input ports
-S	Smart Bias-T, DC/AISG pass through on any single 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 IP67, IP68

Certifications

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

