

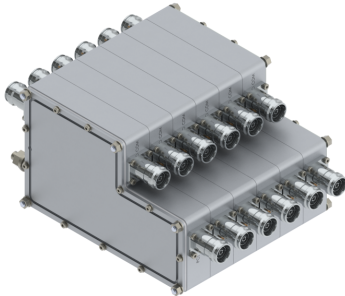


# Filters & Combiners

DATA SHEET

PCS/AWS-WCS Hex Diplexer

DPO-1973L-0-H2



- Combines the frequencies covering PCS (1850-1990 MHz) with AWS/WCS (1695-1780/2110-2360) MHz
- Ideal for 4x4 MIMO small cell deployments with 250 W per port with low insertion loss in a small, lightweight enclosure
- Low intermodulation with isolation of >35 dB port to port
- High reliability of >500K Hours MTBF
- Designed and produced to ISO 9001 certification standards
- Weatherproof outdoor enclosure (IP67) with flexible mounting options

## Overview

The CCI Outdoor Hex Diplexer passes the PCS band covering 1850-1990 MHz on each of its low band input ports and the full AWS/WCS bands covering 1695-1780 and 2110-2360 MHz on its high band input ports. Each of the four diplexers combines the low band and high band signals on to a common port and this Hex unit is specifically intended for use in multi-band small cell systems with limited physical space. The Hex Diplexer is ideal for 4x4 MIMO deployments and provides a high degree of isolation between systems. The unit's small size helps to lower loading, which can decrease leasing and installation expenditures.

The CCI Hex Diplexer provides full band performance for each band with low insertion loss, low intermodulation, and an optimal 250 W per port power handling makes it ideal for small cell applications. Excellent return loss performance delivers the best match to the antennas and base station, saving precious transmit power.

## Technical Description:

The CCI Outdoor Hex Diplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the PCS with the AWS/WCS bands on to a common line. The fully weatherproof outdoor unit provides flexible options for pole or enclosure mounting.

The unit has been designed to minimize insertion loss while maximizing isolation. Particular attention has been given to the intermodulation performance of the Diplexer to minimize any passive intermodulation products from occurring. The Hex Diplexer housing is constructed from cast aluminum and consists of an IP67 moisture proof enclosure, with IP68 immersion proof 4.3-10 connectors.

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

### PCS/AWS-WCS Hex Diplexer

DPO-1973L-0-H2

#### Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	1695 - 1780	18 dB minimum, 20 dB typical
		1850 - 1990	18 dB minimum, 20 dB typical
		2110 - 2360	18 dB minimum, 20 dB typical
	PCS	1850 - 1990	18 dB minimum, 20 dB typical
		1695 - 1780	18 dB minimum, 20 dB typical
		2110 - 2360	18 dB minimum, 20 dB typical
Insertion Loss	COMMON to PCS	1850 - 1990	0.25 dB typical
	COMMON to AWS/WCS	1695 - 1780	0.40 dB typical
		2110 - 2360	0.20 dB typical
Isolation	COMMON to PCS	1695 - 1780	35 dB minimum
		2110 - 2360	55 dB minimum
	COMMON to AWS/WCS	1850 - 1990	35 dB minimum
General Characteristics			
General Impedance	50 ohms		
Continuous Average Power	250 W maximum (input ports), 500 W maximum (Common port)		
Peak Envelope Power	2.5 kW maximum		
Intermodulation Performance	<-120 dBm (-157 dBc) at 2 x +37 dBm tones all bands		
	<-110 dBm (-153 dBc) at 2 x +43 dBm tones all bands		

#### Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	Enclosure IP67, Connectors IP68
MTBF	>500,000 hours

#### Mechanical

Model	DPO-1973L-0-H2
Modularity	Hex
Weight	15.85 lbs (7.19 Kg)
Dimensions	7.32 x 7.17 x 4.65 in. (186 x 182 x 118 mm)
Frontal Wind Load @ 150km/hour	65.0 N (14.6 lbs)
Lateral Wind Load @ 150km/hour	107.0 N (24.1 lbs)
Connectors	18 x 4.3-10 female

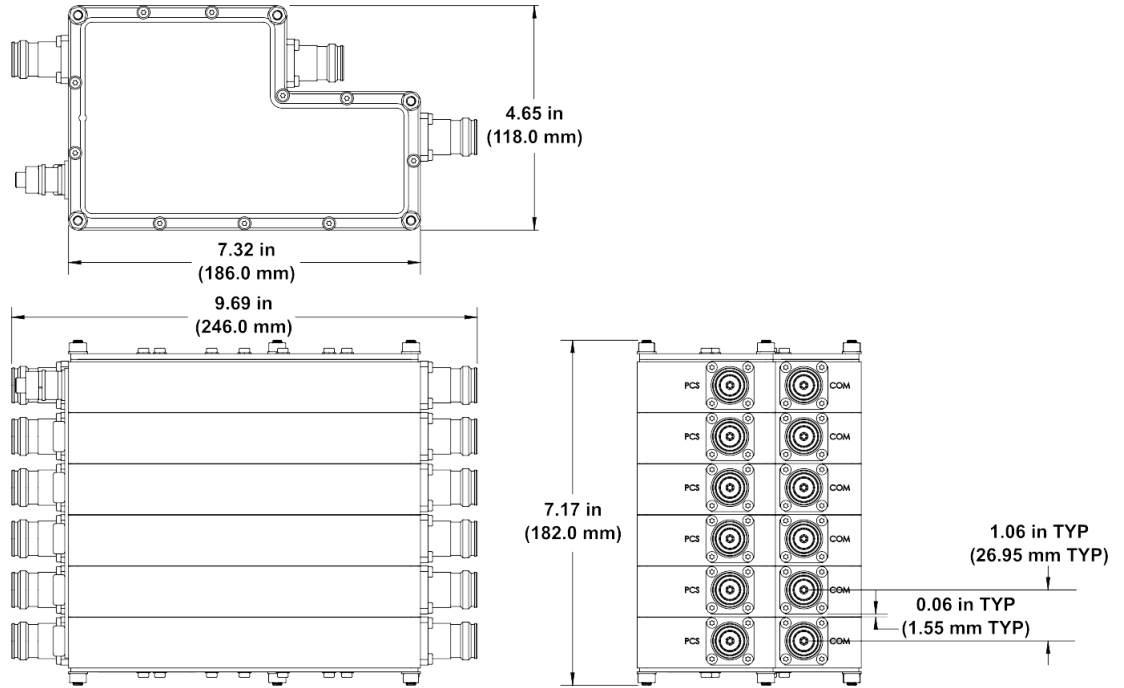


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## SPECIFICATIONS

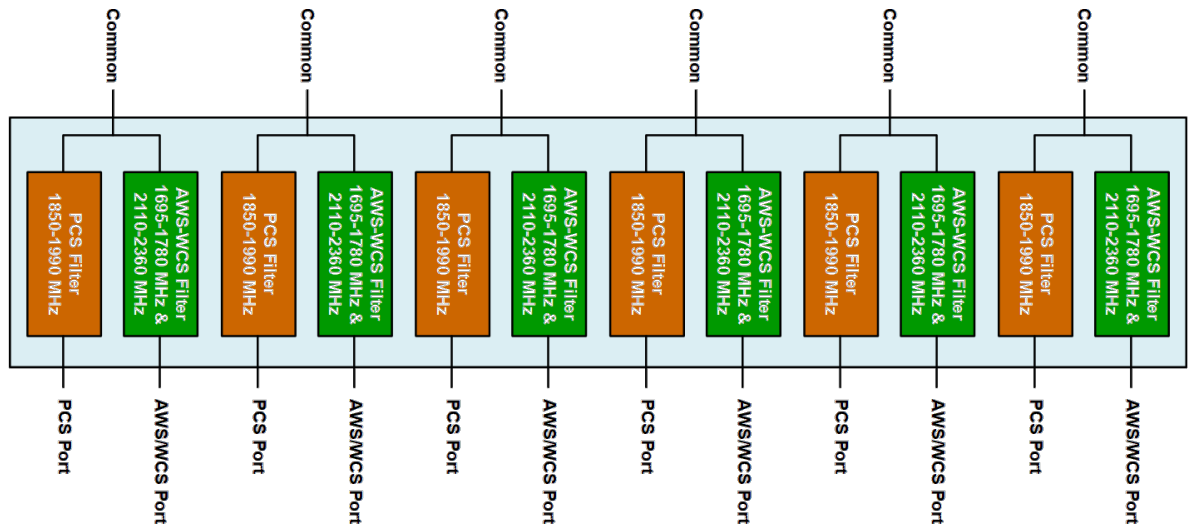
### PCS/AWS-WCS Hex Diplexer

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Outdoor Hex PCS/AWS-WCS Diplexer Outline Drawing

### Block Diagram



Outdoor Hex PCS/AWS-WCS Diplexer Block Diagram



# Filters & Combiners

## STANDARDS & CERTIFICATIONS

PCS/AWS-WCS Hex Diplexer

DPO-1973L-0-H2

### Parts & Accessories

**DPO-1973L-0-H2** PCS/AWS-WCS Hex Diplexer with 4.3-10 connectors

### Standards & Compliance

<b>Safety</b>	EN 60950-1, UL 60950-1
<b>Emission</b>	EN 55022
<b>Immunity</b>	EN 55024
<b>Environmental</b>	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

