

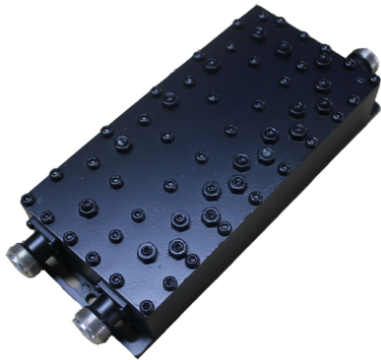


Filters & Combiners

DATA SHEET

Broadband Indoor Diplexer

DPI-3971-xxx



- Combines two frequency ranges 380-960 MHz with 1695-2200 MHz onto a single common port.
- The low band port covers 600, 700, 850 and 900 bands and the high band port covers 1800, PCS, 2100 and AWS bands.
- High power 200 W per port with low insertion loss in a small, lightweight enclosure
- Low intermodulation with isolation of >80 dB port to port
- Available twin unit configuration
- High reliability of >500K Hours MTBF and multi-strike lightning protection
- Includes wall mounting bracket and has available tray mounting options

Overview

The CCI Indoor Broadband Diplexer passes 600, 700, 850 and 900 bands covering 380-960 MHz on its low band input port and 1800, PCS, 2100 and AWS bands covering 1695-2200 MHz on its high band input port. The Diplexer combines the low band and high band signals on to a common port and is specifically intended for use in multi-band systems for Distributed Antenna Systems (DAS) or for sites with limited feeder lines. The Diplexer facilitates the addition of new technologies including LTE and new spectrum 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 significantly reduces the total cost to upgrade a site.

The Diplexer provides full band coverage for each band with low insertion loss, low Intermodulation, and high 200 W per port power handling. Excellent return loss performance delivers the best match to the antennas and base station, saving precious transmit power. The diplexer is available in a single or twin unit configuration.

Technical Description:

The CCI Indoor Broadband Diplexer consists of multiple filters and can be used as either a splitter or combiner to aggregate the 600, 700, 850 and 900 band with the 1800, PCS, 2100 and AWS bands on to a common feeder line. The Diplexer 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 Diplexer to minimize any passive intermodulation products from occurring. The Diplexer housing is constructed from machined aluminum and consists of an IP20 indoor rated enclosure. The Diplexer can be wall mounted using the included bracket or tray mounted using available accessories. The RF ports can be configured with either DIN 7-16, 4.3-10 or N-type 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

Broadband Indoor Diplexer

DPI-3971-xxx

Electrical Specification

| RF Parameters | Ports | Frequency(MHz) | Specification |
|----------------|----------------------------------|----------------|---------------|
| Return Loss | COMMON | 380 - 960 | 20 dB minimum |
| | | 1695 - 2200 | 20 dB minimum |
| | Lowband Port 600/700/850/900 | 380 - 960 | 20 dB minimum |
| | Highband Port AWS/PCS | 1695 - 2200 | 20 dB minimum |
| Insertion Loss | COMMON to Lowband Port | 380 - 960 | 0.15 maximum |
| | COMMON to Highband Port | 1695 - 2200 | 0.15 maximum |
| Isolation | Highband Port to Lowband Port | 1695 - 2200 | 80 dB minimum |
| | Lowband Port to Highband Port | 380 - 2200 | 80 dB minimum |

General Characteristics

| | |
|-----------------------------|--------------------------------------------------------------|
| Impedance | 50 ohms |
| Continuous Average Power | 200 W maximum all ports |
| Peak Envelope Power | 2 kW maximum all ports |
| Intermodulation Performance | <-117 dBm (-160 dBc) minimum, all bands at 2 x +43 dBm tones |

Environmental

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

Mechanical

| | |
|-------------------------|------------------------------------------------------------|
| Connectors, female | 3 x N-type or 3 x 7-16 DIN or 3 x 4.3-10 |
| Dimensions, single unit | 148 x 73 x 29.5 mm (5.83 x 2.87 x 1.16 in.) |
| Weight, single unit | 0.51 Kg (1.12 lbs) |
| Dimensions, twin unit | 148 x 73 x 72.5 mm (5.83 x 2.87 x 2.85 in.) |
| Weight, twin unit | 1.05 Kg (2.31 lbs) |
| Mounting | Wall mounting bracket, tray mounting accessories available |

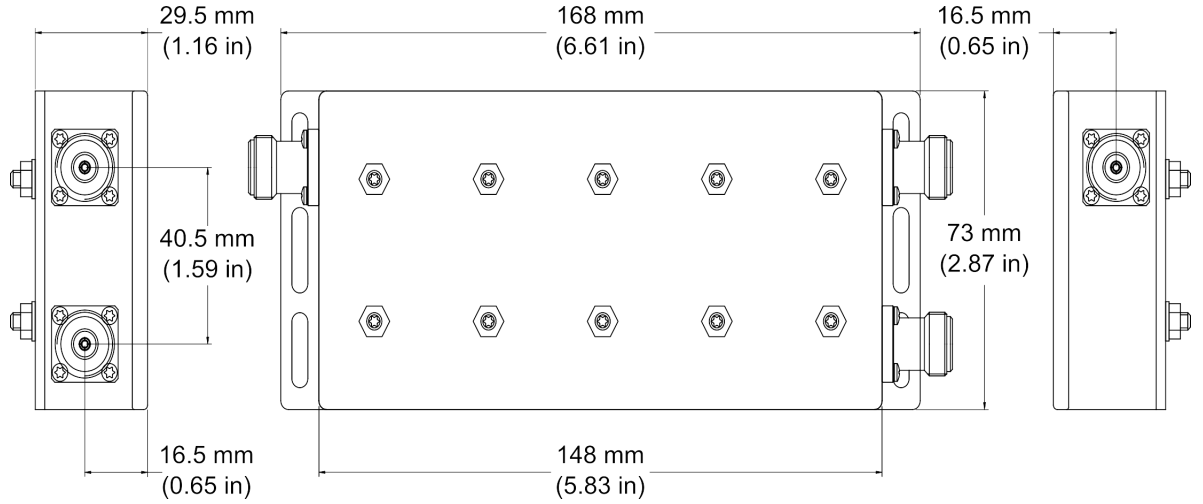


Filters & Combiners

SPECIFICATIONS

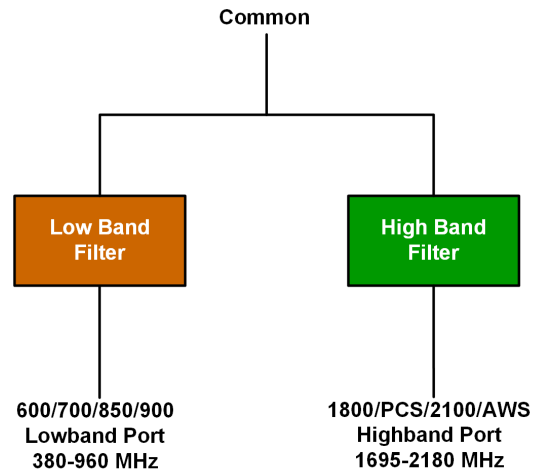
Broadband Indoor Diplexer

DPI-3971-xxx



Indoor Diplexer Outline Drawing

Block Diagram



Indoor Diplexer Block Diagram



Filters & Combiners

STANDARDS & CERTIFICATIONS

Broadband Indoor Diplexer

DPI-3971-xxx

Parts & Accessories

| | |
|----------------------|-----------------------------------------------|
| DPI-3971-0-S1 | Indoor Diplexer with 7-16 DIN connectors |
| DPI-3971-0-S2 | Indoor Diplexer with 4.3-10 connectors |
| DPI-3971-0-S3 | Indoor Diplexer with N-type connectors |
| DPI-3971-0-T1 | Indoor Twin Diplexer with 7/16 DIN connectors |
| DPI-3971-0-T2 | Indoor Twin Diplexer with 4.3-10 connectors |
| DPI-3971-0-T3 | Indoor Twin Diplexer with N-type connectors |

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, IP68 |

Certifications

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

