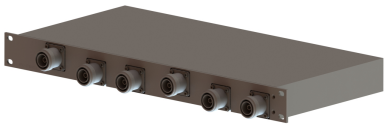
DATA SHEET

Spectrum Sharing 6 Port 1800 Combiner

PFC-1718-6xx



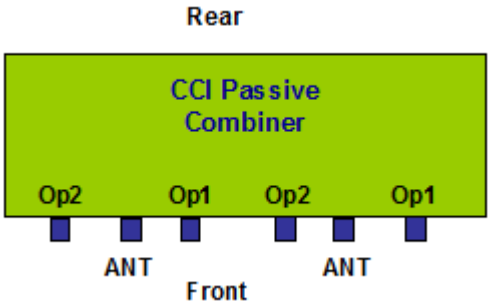
- Combines two Base Station Outputs in the 1800 band onto a Single Feeder Low Loss Combining
- Full Transmit and Receive Combining typ. 0.6 dB loss
- Narrow Guard Band
- High Reliability Design
- High Power Handling
- Excellent Filter Response
- Temperature Stable
- Fully Passive
- Low Intermodulation
- 19" Rack Mount
- 6 Port

Overview

CCI's Low Loss fully integrated Filter-Combiner combines two operators or two technologies (eg GSM and LTE) on sub-bands of the 1800 band onto a single feeder without the insertion loss normally associated with passive combiners. The unit is fully passive and delivers a matched low insertion loss solution for the sharing of common feeder lines and antennas. The unit is a totally passive low loss filter and no power is required. DC pass is provided as an option if required. The input ports will sense the DC signal and enable DC to pass through to the antenna port. The unit is housed in a single rack-mounted 19" by 1U assembly and can be used with other CCI products for further sector enhancement. Outdoor packaging can be provided. Typical deployment uses a single 6 port unit per sector, enabling Tx/Rx from both operator BTS ports to combine onto 2 main feeder lines.

Technical Description:

Internal duplexers deliver signal to independent Tx and Rx filter combiners, enabling a high level of control and performance to maintain good isolation while minimizing insertion loss. Stages are kept to a minimum to maximize power and efficiency. Transmit paths are fully isolated from Receive paths to prevent intermodulation products.



SPECIFICATIONS

Spectrum Sharing 6 Port 1800 Combiner

PFC-1718-6xx

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	COMMON	OP 1 RX/TX	18 dB minimum, 20 dB typical
		OP 2 RX/TX	18 dB minimum, 20 dB typical
	RX/TX 0	OP 1 RX/TX	18 dB minimum, 20 dB typical
	RX/TX 1	OP2 RX/TX	18 dB minimum, 20 dB typical
Insertion Loss Guardband < 1.5 MHz	RX/TX 0 to COMMON	OP 1 RX & OP 2 RX	1.8 dB maximum
	RX/TX 1 to COMMON	OP 1 TX & OP 2 TX	1.8 dB maximum
Insertion Loss Guardband ≥ 1.5 MHz & ≤ 5.0 MHz	RX/TX 0 to COMMON (except PFC-1718-679)	OP 1 RX & OP 2 RX	1.55 dB maximum
	RX/TX 0 to COMMON (PFC-1718-679 only)	OP 1 RX & OP 2 RX	1.85 dB maximum
	RX/TX 1 to COMMON (except PFC-1718-679)	OP 1 TX & OP 2 TX	1.55 dB maximum
	RX/TX 1 to COMMON (PFC-1718-679 only)	OP 1 TX & OP 2 TX	1.85 dB maximum
Insertion Loss Guardband ≥ 10 MHz	RX/TX 0 to COMMON	OP 1 RX & OP 2 RX	0.9 dB maximum (-664 & -070), 0.6 dB maximum (-622 & -639)
	RX/TX 1 to COMMON	OP 1 TX & OP 2 TX	0.9 dB maximum (-664 & -070), 0.6 dB maximum (-622 & -639)
Isolation Guardband < 1.5 MHz	RX/TX 0 to RX/TX 1	OP 1 RX & OP 2 RX	22 dB minimum 25 dB typical
	RX/TX 0 to RX/TX 1	OP 1 TX & OP 2 TX	22 dB minimum, 25 dB typical
Isolation Guardband ≥ 1.5 MHz & ≤ 5.0 MHz	RX/TX 0 to RX/TX 1	OP 1 RX & OP 2 RX	25 dB minimum, 27 dB typical
	RX/TX 0 to RX/TX 1	OP 1 TX & OP 2 TX	25 dB minimum, 27 dB typical
Isolation Guardband ≥ 10 MHz	RX/TX 0 to RX/TX 1	OP 1 RX & OP 2 RX	30 dB minimum, 32 dB typical
	RX/TX 0 to RX/TX 1	OP 1 TX & OP 2 TX	30 dB minimum, 32 dB typical
	*See chart below for OP 1 RX/TX and OP 2 RX/TX frequencies		

Model number	OP 1 (Operator 1) RX (MHz)	OP 1 (Operator 1) TX (MHz)	Guardband (MHz)	OP 2 (Operator 2) RX (MHz)	OP 2 (Operator 2) TX (MHz)
PFC-1718-075	1710.1 - 1733.8	1805.1 - 1828.8	2.6	1736.4 - 1760.1	1831.4 - 1855.1
PFC-1718-622	1735.1 - 1747.1	1830.1 - 1842.1	13.0	1760.1 - 1772.1	1855.1 - 1867.1
PFC-1718-638	1710.2 - 1735.0	1805.2 - 1830.0	25.2	1760.2 - 1785.0	1855.2 - 1880.0
PFC-1718-639	1722.8 - 1734.6	1817.8 - 1829.6	25.6	1760.2 - 1772.0	1855.2 - 1867.0
PFC-1718-664	1722.7 - 1734.7	1817.7 - 1829.7	13.2	1747.9 - 1759.9	1842.9 - 1854.9
PFC-1718-070	1710.0 - 1730.0	1805.0 - 1825.0	20.0	1750.0 - 1760.0	1845.0 - 1855.0
PFC-1718-671	1748.0 - 1757.7	1843.0 - 1852.7	2.6	1760.3 - 1772.3	1855.3 - 1867.3
PFC-1718-672	1747.9 - 1759.9	1842.9 - 1854.9	2.4	1762.3 - 1772.3	1857.3 - 1867.3
PFC-1718-674	1760.4 - 1766.5	1855.4 - 1861.5	1.0	1767.5 - 1772.5	1862.5 - 1867.5
PFC-1718-675	1710.0 - 1735.0	1805.0 - 1830.0	5.0	1740.0 - 1785.0	1835.0 - 1880.0
PFC-1718-676	1710.2 - 1735.0	1805.2 - 1830.0	2.8	1737.8 - 1785.0	1832.8 - 1880.0
PFC-1718-677	1735.1 - 1760.1	1830.1 - 1855.1	2.6	1762.7 - 1785.0	1857.7 - 1880.0
PFC-1718-678	1724.9 - 1747.4	1819.9 - 1842.4	5.0	1752.4 - 1784.9	1847.4 - 1879.9
PFC-1718-679	1724.9 - 1748.6	1819.9 - 1843.6	2.6	1751.2 - 1784.9	1846.2 - 1879.9

Contact sales for additional operator frequency combinations, unit is factory settable with guard band ≥ 1.0 MHz and ≤ 31.6 MHz

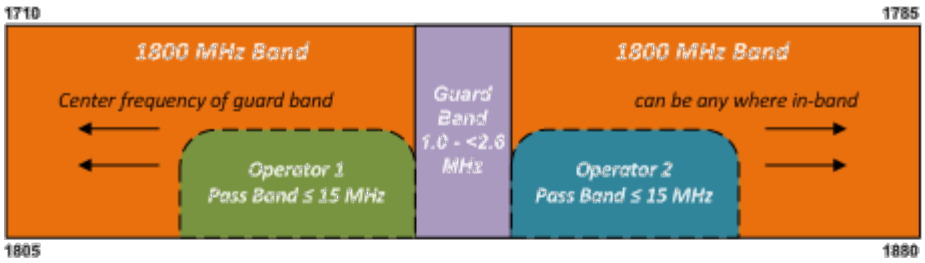
SPECIFICATIONS

Spectrum Sharing 6 Port 1800 Combiner

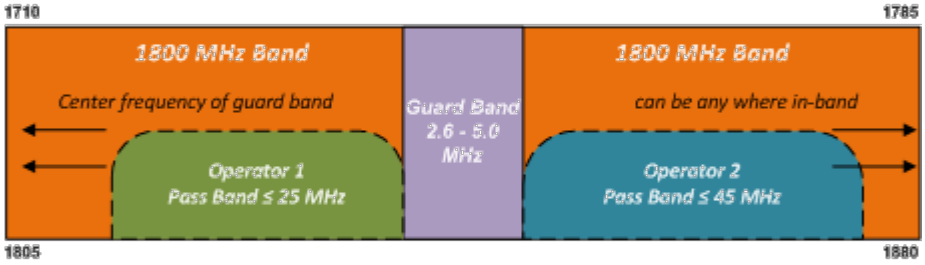
PFC-1718-6xx

General Characteristics	
Impedance	50 ohms
Continuous Average Power	100 W max. (Input ports)
	300 W max. (Common port)
Peak Envelope Power	2 kW max. (all ports)
Intermodulation Performance	<-117 dBm (-160 dBc) typical (2 x +43 dBm tones) all bands
DC/AISG Pass any port to Common Port	5A/AISG signal (2.176 MHz) per AISG 2.0 (See ordering options for details)???

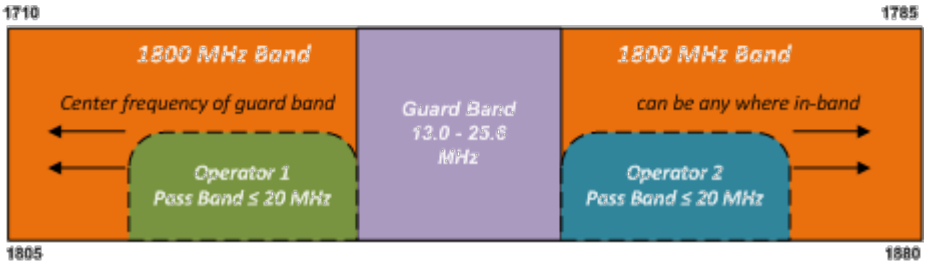
PFC-1718-6xx 1800 MHz Spectrum Sharing Combiner Band Plans



Guard band 1.0-<2.6 MHz, total bandwidth of passbands & guard band is ≤31.6 MHz



Guard band 2.6-5.0 MHz, total bandwidth of passbands & guard band is ≤75.0 MHZ



Guard band 13.0-25.6 MHz, total bandwidth of passbands & guard band is ≤50.0 MHz

SPECIFICATIONS

Spectrum Sharing 6 Port 1800 Combiner

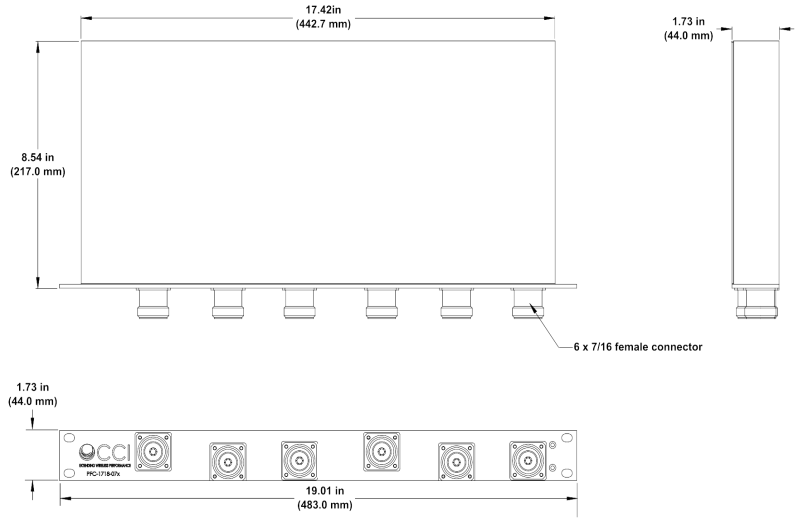
PFC-1718-6xx

Environmental

Operating Temperature	-10˚C to +65˚C
Enclosure	Indoor (IP20 minimum)
Humidity	5% - 95%
MTBF	>500,000 hours
Lightning Protection	8/20us, ±10KA max, 10 strikes per IEC61000-4-5

Mechanical

Connectors	6 x 7-16 DIN female
Dimensions(body only)(HxWxD)	8.54 x 17.42 x 1.73 in. (217.0 x 442.7 x 44.0 mm)
Dimensions (with rack mount+Conn)(HxWxD)	8.54x 19.01 x 1.73 in. (217.0 x 483.0 x 44.0 mm)
Weight with brackets	19.8 lbs (9 kg)
Mounting	Rack Mount



PFC-1718-xxx 1800 MHz Spectrum Sharing Combiner Outline Drawing

SPECIFICATIONS

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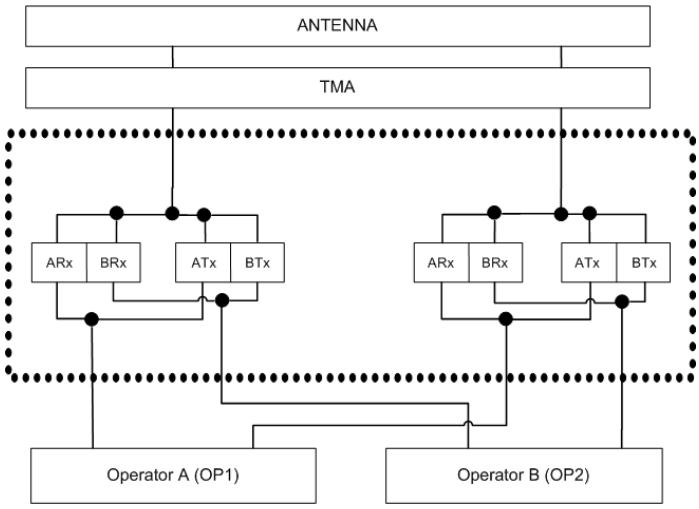
Block Diagram



PFC-1718-xxx 1800 MHz Spectrum Sharing Combiner Typical Application / Block Diagram

STANDARDS & CERTIFICATIONS

Spectrum Sharing 6 Port 1800 Combiner

PFC-1718-6xx

Parts & Accessories

PFC-1718-6xx	Spectrum Sharing 1800 MHz Rack Mount Combiner with Smart Bias-Tee and 7/16 connectors
	*See chart below for specific Model Numbers and the associated OP 1 RX/TX and OP 2 RX/TX frequencies

Model number	OP 1 (Operator 1)		Guardband	OP 2 (Operator 2)	
	RX (MHz)	TX (MHz)	(MHz)	RX (MHz)	TX (MHz)
PFC-1718-075	1710.1 - 1733.8	1805.1 - 1828.8	2.6	1736.4 - 1760.1	1831.4 - 1855.1
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PFC-1718-664	1722.7 - 1734.7	1817.7 - 1829.7	13.2	1747.9 - 1759.9	1842.9 - 1854.9
PFC-1718-070	1710.0 - 1730.0	1805.0 - 1825.0	20.0	1750.0 - 1760.0	1845.0 - 1855.0
PFC-1718-671	1748.0 - 1757.7	1843.0 - 1852.7	2.6	1760.3 - 1772.3	1855.3 - 1867.3
PFC-1718-672	1747.9 - 1759.9	1842.9 - 1854.9	2.4	1762.3 - 1772.3	1857.3 - 1867.3
PFC-1718-674	1760.4 - 1766.5	1855.4 - 1861.5	1.0	1767.5 - 1772.5	1862.5 - 1867.5
PFC-1718-675	1710.0 - 1735.0	1805.0 - 1830.0	5.0	1740.0 - 1785.0	1835.0 - 1880.0
PFC-1718-676	1710.2 - 1735.0	1805.2 - 1830.0	2.8	1737.8 - 1785.0	1832.8 - 1880.0
PFC-1718-677	1735.1 - 1760.1	1830.1 - 1855.1	2.6	1762.7 - 1785.0	1857.7 - 1880.0
PFC-1718-678	1724.9 - 1747.4	1819.9 - 1842.4	5.0	1752.4 - 1784.9	1847.9 - 1879.9
PFC-1718-679	1724.9 - 1748.6	1819.9 - 1843.6	2.6	1751.2 - 1784.9	1846.2 - 1879.9
	Contact sales for additional operator frequency combinations, unit is factory settable with guard band ≥ 1.0 MHz and ≤ 31.6 MHz				

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