

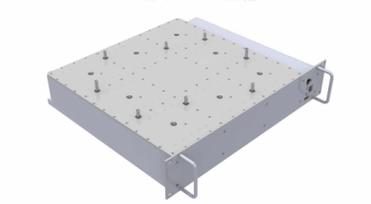


Filters & Combiners

DATA SHEET

Low Loss Combiner

LLC-850C-IN



- Combines Technologies onto a Single Feed Line
- Low Loss Combining
- Narrow Guard Band
- High Reliability Design
- High Power Handling
- Cascadable for higher levels of combining
- Excellent Filter Response
- Occupies only 2U of Rack Space
- Built-In Software
- Control via Ethernet TCP/IP
- DC Block
- Tx/Rx (Duplex) Bandstop Port
- Tx Only Bandpass Port
- Critical & Non-Critical Alarm Status LED's

Overview

CCI's Remote Tunable Narrow Guard Band Filter-Combiner (LLC) combines Cellular Band signals onto a single feeder without the insertion loss normally associated with passive combiners. This new highly compact model reduces the guard band requirement to only 500KHz, restoring lost spectrum associated with previous units. A precisely matched filter which is wide enough for three (3) CDMA carriers allows the carriers to be positioned anywhere in the band and provides high rejection of unwanted spurious emissions and noise. Transmit paths are fully isolated to prevent intermodulation products. Note that any technology (including GSM/UMTS, GSM/CDMA, CDMA/CDMA, CDMA/UMTS or UMTS/UMTS) can be combined when utilizing this LLC. However, please note that there is a model specifically for use with CDMA carriers, and is better suited for combining CDMA and other technologies. Multiple units can be cascaded for deployment of additional channels. When not tuning, no power is required, effectively becoming a pure passive low-loss filter combiner. Control is via TCP/IP or Ethernet requiring only a web browser. All software is resident internally, no extra software or controller is required. Note that the Bandpass port "only" passes Tx signals, but the Bandstop port is fully duplexed and passes Tx/Rx signals. The unit is housed in a single rack-mounted 19" by 2U assembly and can be used with CCI SCPA's for further feeder line reduction.



Filters & Combiners

Low Loss Combiner

LLC-850C-IN

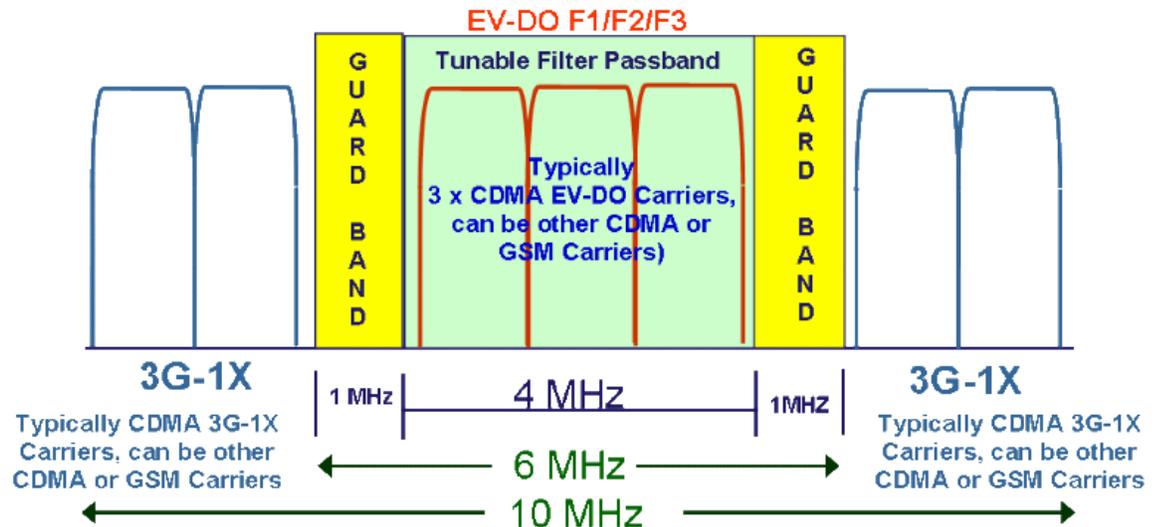
SPECIFICATIONS

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	Bandstop TX/RX	869 - 894	18 dB min.
	Bandpass TX Only	869 - 894	18 dB min.
	ANT	869 - 894	18 dB min.
Insertion Loss	Bandstop TX/RX to ANT	869 to (fc - 2.0) (fc + 2.0) to 894	0.5 dB typ. 0.5 dB typ.
	Bandpass TX Only to ANT	(fc - 2.0) to (fc + 2.0)	0.5 dB typ.
Isolation	Bandstop TX/RX to	869 to (fc - 2.0)	≥ 45 dB typ.
	Bandpass TX Only	(fc - 2.0) to (fc + 2.0)	≥ 27 dB typ.
		(fc + 2.0) to 894	≥ 45 dB typ.
Tuning Range	Any 4 MHz segment (center frequency - fc) in 869 - 894 MHz		

General Characteristics

Impedance	50 ohms
Guard Band	1 MHz each side of passband
Group Delay variation	50 nS typ.
Continuous Average Power	500 W max. (all ports)
Peak Envelope Power	2 kW max. (all ports)
IMD	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands





Filters & Combiners

SPECIFICATIONS

Low Loss Combiner

LLC-850C-IN

Environmental

Operating Temperature	0° C to +55° C
Enclosure	Indoor
Lightning Protection	Surge > 30 KA, 20 KA Mult, Res. Pulse < 250 uJ

Mechanical

Connectors	3 x 7-16 DIN female
Data Connection	RJ45 Ethernet
Alarm Connection	6 pin Molex connector (4.2 mm)
Power Connection	2 pin Molex connector (4.2 mm)
DC Power Requirement	2A @ +24VDC (only required when tuning)
DC Voltage	±18 to ±76 VDC
Dimensions (incl. connectors)(HxWxD)	3.5 x 19 x 16.995 in. (88.9 x 482.6 x 431.67 mm)
Dimensions (incl. connectors and handles)(HxWxD)	3.5 x 19 x 18.175 in. (88.9 x 482.6 x 461.65 mm)
Weight	28.5 lbs (12.9 kg)

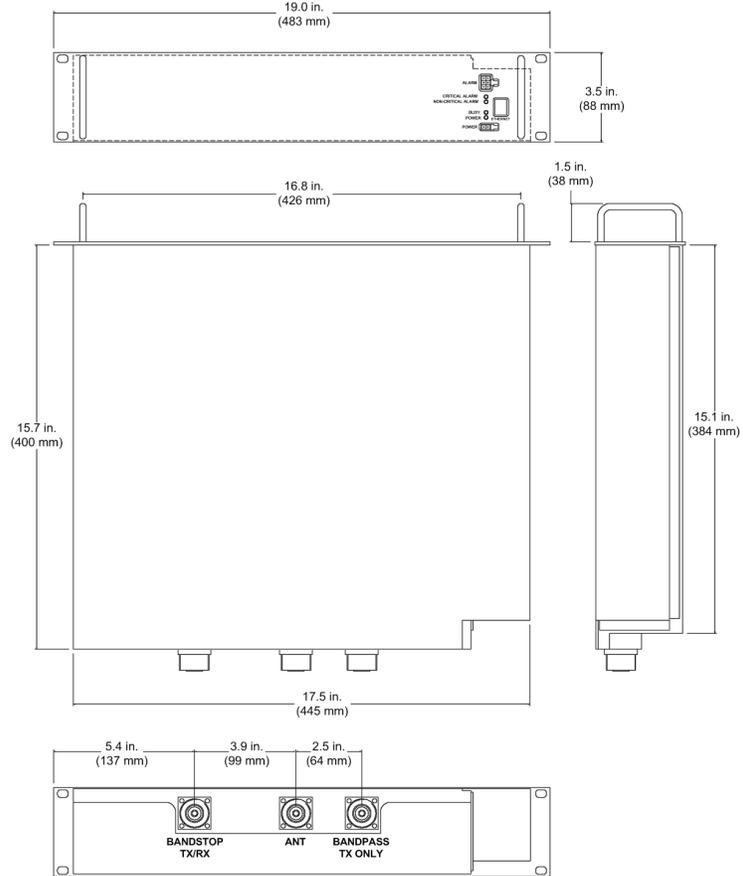


Filters & Combiners

SPECIFICATIONS

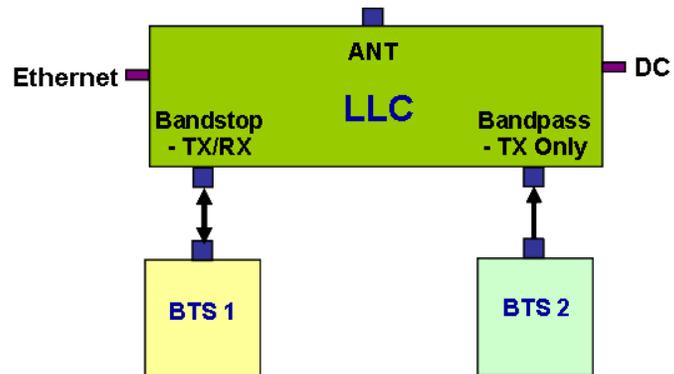
Low Loss Combiner

LLC-850C-IN



Low Loss Combiner Outline Drawing

Block Diagram



Low Loss Combiner Block Diagram



Filters & Combiners

ORDERING

Low Loss Combiner

LLC-850C-IN

Parts & Accessories

LLC-850C-IN 850 Band CDMA Narrow Guard Band Tunable LLC



Filters & Combiners

STANDARDS &
CERTIFICATIONS

Low Loss Combiner

LLC-850C-IN

Certifications

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