



Quadplexer, 700-750/850/PCS/AWS-WCS, DC Sense, 4.3-10

- BTS-to-feeder and feeder-to-antenna application
- Automatic dc switching with dc sense
- Convertible mounting brackets
- New 4.3-10 connectors for improved PIM performance and size reduction

Product Classification

Product Type Quadplexer

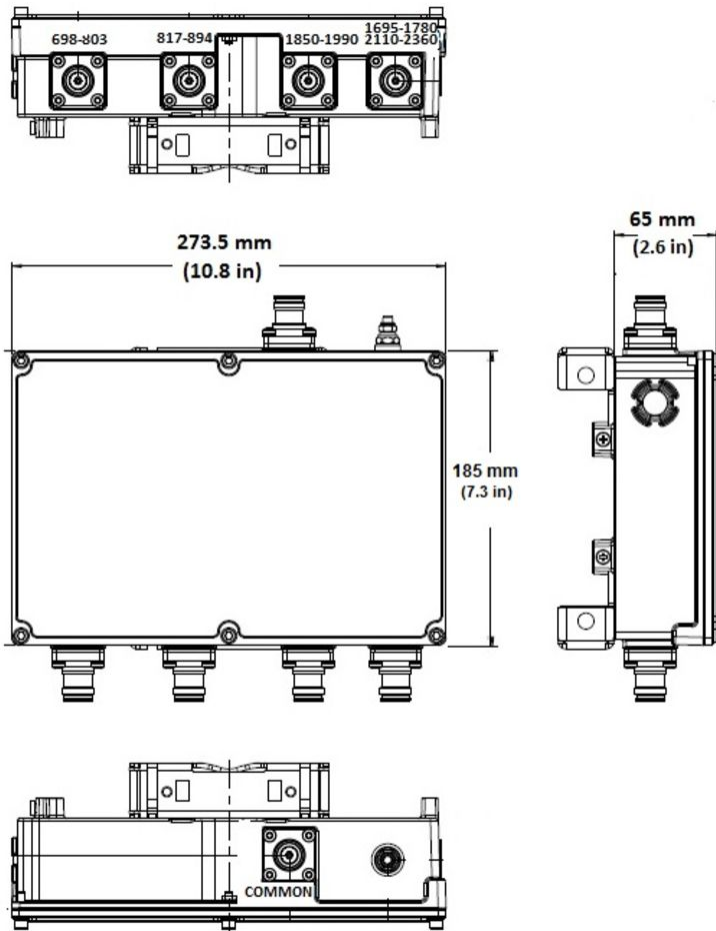
General Specifications

Product Family CBC781921W
Color Gray
Common Port Label COMMON
Modularity 1-Single
Mounting Pole | Wall
Mounting Pipe Hardware Band clamps (2)
RF Connector Interface 4.3-10 Female
RF Connector Interface Body Style Medium neck

Dimensions

Height 185 mm | 7.283 in
Width 273.5 mm | 10.768 in
Depth 65 mm | 2.559 in
Ground Screw Diameter 6 mm | 0.236 in
Mounting Pipe Diameter Range 40–160 mm

Outline Drawing



Electrical Specifications

Impedance	50 ohm
License Band, Band Pass	AWS 1700 CEL 850 LMR 750 PCS 1900 USA 700 USA 750 WCS 2300

Electrical Specifications, dc Power/Alarm

dc/AISG Pass-through Method	Auto sensing
dc/AISG Pass-through Path	See logic table
Lightning Surge Current	5 kA
Lightning Surge Current Waveform	8/20 waveform
Operating Current at Voltage	15 mA @ 12 V 15 mA @ 24 V

CBC781923-DS-43 | E14F65P01

Voltage 7–30 Vdc

Electrical Specifications, AISG

AISG Carrier 2176 KHz ± 100 ppm
Insertion Loss, maximum 1 dB
Return Loss, minimum 15 dB

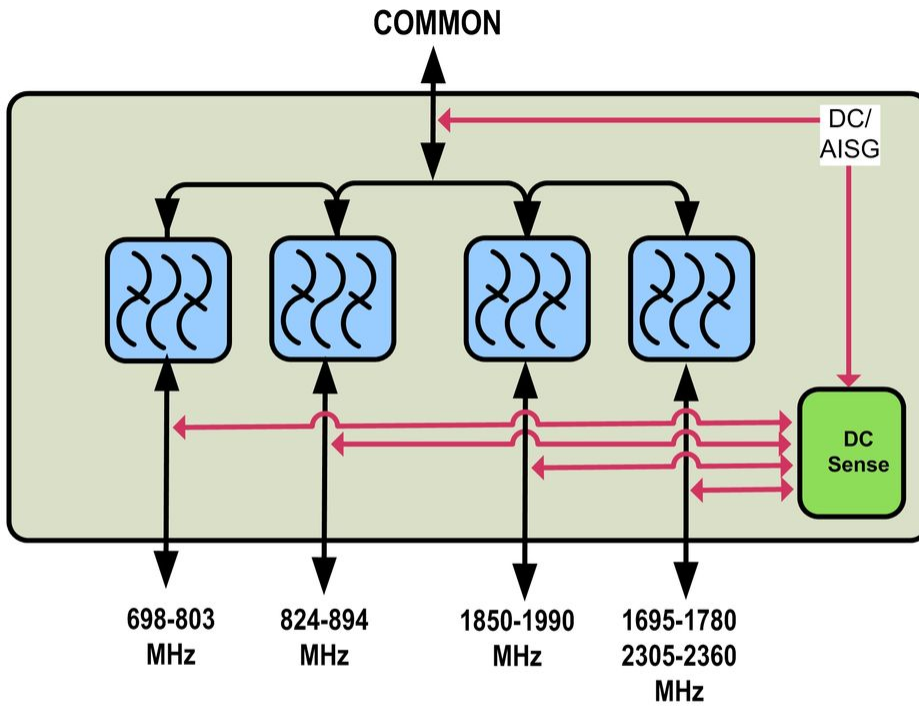
Electrical Specifications

Sub-module	1	1	1	1	1
Branch	1	2	3	4	4
Port Designation	698–803	824–894	1850–1990	AWS-WCS	AWS-WCS
License Band	[10, 15, 16]	CEL 850, Band Pass	PCS 1900, Band Pass	AWS 1700, Band Pass	WCS 2300, Band Pass

Electrical Specifications, Band Pass

Frequency Range, MHz	698–803	824–894	1850–1990	1695–1780 2110–2200	2305–2360
Insertion Loss, maximum, dB	0.5	0.5	0.5	0.5	0.4
Insertion Loss, typical, dB	0.3	0.3	0.3	0.3	0.2
Total Group Delay, maximum, ns	50	55	55	25	25
Return Loss, minimum, dB	20	20	20	20	20
Return Loss, typical, dB	22	22	22	22	22
Isolation, minimum, dB	50	50	50	50	50
Isolation, typical, dB	65	55	55	55	55
Input Power, RMS, maximum, W	200	200	200	200	200
Input Power, PEP, maximum, W	2000	2000	2000	2000	2000
3rd Order PIM, typical, dBc	-161	-161	-161	-161	
3rd Order PIM Test Method	2 x 20 W CW tones	2 x 20 W CW tones	2 x 20 W CW tones	[2, 4]	
Higher Order PIM, typical, dBc					-161
Higher Order PIM Test Method					2 x 20 W CW tones

Block Diagram



Logic Table

Combining Mode Operation (Ground Based)					
RF Ports Input Voltage					DC/AISG Path Selection
700 MHz	850 MHz	PCS	AWS/WCS	COMMON	
$7 \leq V \leq 30$	<7	<7	<7	<7	700 MHz to COMMON "ON"
<7	$7 \leq V \leq 30$	<7	<7	<7	850 MHz to COMMON "ON"
<7	<7	$7 \leq V \leq 30$	<7	<7	PCS to COMMON "ON"
<7	<7	<7	$7 \leq V \leq 30$	<7	AWS/WCS to COMMON "ON"
Any 2 or more ports active $7 \leq V \leq 30$				<7	Path selection will follow below priority: AWS (1), 700MHz (2), PCS (3), 850MHz (4)

Splitting Mode Operation (Tower Top)					
RF Ports Impedance DC (Load sensing)					DC/AISG Path Selection
700 MHz	850 MHz	PCS	AWS/WCS	COMMON	
open/load	short	short	short	$7 \leq V \leq 30$	COMMON to 700 MHz "ON"
short	open/load	short	short	$7 \leq V \leq 30$	COMMON to 850 MHz "ON"
short	short	open/load	short	$7 \leq V \leq 30$	COMMON to PCS "ON"
short	short	short	open/load	$7 \leq V \leq 30$	COMMON to AWS/WCS "ON"
Any 2 or more ports open/load impedance				$7 \leq V \leq 30$	DC/AISG will be routed to ALL ports with open/load impedance

Environmental Specifications

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Corrosion Test Method	IEC 60068-2-11, 30 days
Ingress Protection Test Method	IEC 60529:2001, IP67

Packaging and Weights

Included	Mounting hardware
Mounting Hardware Weight	0.5 kg 1.102 lb
Weight, without mounting hardware	4.4 kg 9.7 lb