

# CBC781921W-DS | E15V90P46



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

- BTS-to-feeder and feeder-to-antenna application
- Automatic dc switching with dc sense
- Convertible mounting brackets

### OBSOLETE

This product was discontinued on: January 23, 2020

#### Replaced By:

CBC781923-DS-43  
E14F65P01

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

## Product Classification

**Product Type** Quadplexer

## General Specifications

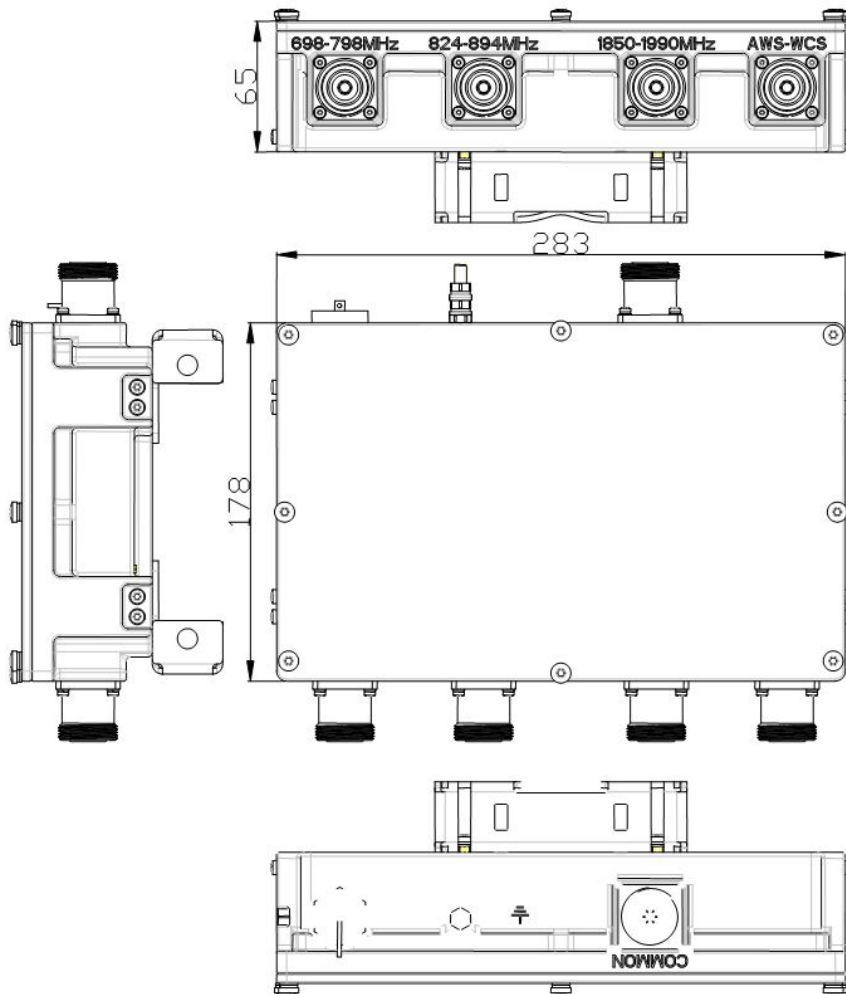
<b>Product Family</b>	CBC781921W
<b>Color</b>	Gray
<b>Common Port Label</b>	Common
<b>Data Port Interface</b>	USB
<b>Modularity</b>	1-Single
<b>Mounting</b>	Pole   Wall
<b>Mounting Pipe Hardware</b>	Band clamps (2)
<b>RF Connector Interface</b>	7-16 DIN Female
<b>RF Connector Interface Body Style</b>	Medium neck

## Dimensions

<b>Height</b>	178 mm   7.008 in
<b>Width</b>	283 mm   11.142 in
<b>Depth</b>	65 mm   2.559 in
<b>Ground Screw Diameter</b>	6 mm   0.236 in
<b>Mounting Pipe Diameter Range</b>	40–160 mm

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## Outline Drawing



## Electrical Specifications

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

## Electrical Specifications, dc Power/Alarm

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

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**Voltage** 7–30 Vdc

## Electrical Specifications, AISG

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

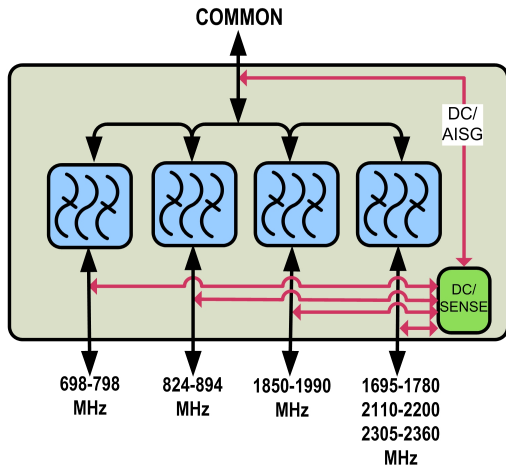
## Electrical Specifications

Sub-module	1	1	1	1	1
<b>Branch</b>	1	2	3	4	4
<b>Port Designation</b>	698–798	824–894	1850–1990	AWS-WCS	AWS-WCS
<b>License Band</b>	LMR 750, Band Pass USA 700, Band Pass USA 750, Band Pass	CEL 850, Band Pass	PCS 1900, Band Pass	AWS 1700, Band Pass	WCS 2300, Band Pass

## Electrical Specifications, Band Pass

Frequency Range, MHz	698–798	824–894	1850–1990	1695–1780 2110–2200	2305–2360
<b>Insertion Loss, maximum, dB</b>	0.5	0.5	0.5	0.5	0.4
<b>Insertion Loss, typical, dB</b>	0.3	0.3	0.3	0.3	0.2
<b>Total Group Delay, maximum, ns</b>	40	55	55	25	25
<b>Return Loss, minimum, dB</b>	20	20	20	20	20
<b>Return Loss, typical, dB</b>	22	22	22	22	22
<b>Isolation, minimum, dB</b>	50	50	50	50	50
<b>Isolation, typical, dB</b>	65	55	55	55	55
<b>Input Power, RMS, maximum, W</b>	200	200	200	200	200
<b>Input Power, PEP, maximum, W</b>	2000	2000	2000	2000	2000
<b>3rd Order PIM, typical, dBc</b>	-155	-155	-155	-155	-155
<b>3rd Order PIM Test Method</b>	2 x 20 W CW tones	2 x 20 W CW tones	2 x 20 W CW tones	1 x 20 W AWS CW tone 1 x 20 W PCS CW tone	2 x 20 W CW tones

## Block Diagram



## Logic Table

Combining Mode Operation (Bottom)					
RF Ports Input Voltage					
698 to 798 MHz	824 to 894 MHz	1850 to 1990 MHz	1695 to 2360 MHz	COMMON	DC/AISG Path Selection
$10 \leq V \leq 30$	Any Voltage	Any Voltage	<10	<10	698 to 798 MHz to COMMON "ON" 824 to 894 MHz "OFF" 1850 to 1990 MHz "OFF" 1695 to 2360 MHz "OFF" 698 to 798 MHz "OFF"
<10	$10 \leq V \leq 30$	<10	<10	<10	824 to 894 MHz to COMMON "ON" 1850 to 1990 MHz "OFF" 1695 to 2360 MHz "OFF" 698 to 798 MHz "OFF"
<10	<18	$10 \leq V \leq 30$	<10	<10	1850 to 1990 MHz to COMMON "ON" 1695 to 2360 MHz "OFF" 698 to 798 MHz "OFF" 824 to 894 MHz "OFF"
Any Voltage	Any Voltage	Any Voltage	$10 \leq V \leq 30$	<10	698 to 798 MHz "OFF" 824 to 894 MHz "OFF" 1850 to 1990 MHz "OFF" 1695 to 2360 MHz to COMMON "ON"
DC voltage is detected on multiple ports				<10	Only one port is selected based on priority 1695-2360 (Highest priority), 698 -798, 1850-1990, 824-894 (Lowest priority).

Splitting Mode Operation (Tower Top)					
RF Ports Input Voltage					
698 to 798 MHz	824 to 894 MHz	1850 to 1990 MHz	1695 to 2360 MHz	COMMON	DC/AISG Path Selection
<10	<10	<10	<10	$10 \leq V \leq 30$	698 to 798 MHz "OFF" 824 to 894 MHz "OFF" 1850 to 1990 MHz "OFF" COMMON to 1695 to 2360 MHz "ON"

## Environmental Specifications

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

## Packaging and Weights

<b>Included</b>	Mounting hardware
<b>Weight, net</b>	5.4 kg   11.905 lb