

# CBC781921W-DS | E15V90P46

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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

## Product Classification

**Product Type** Quadplexer

## General Specifications

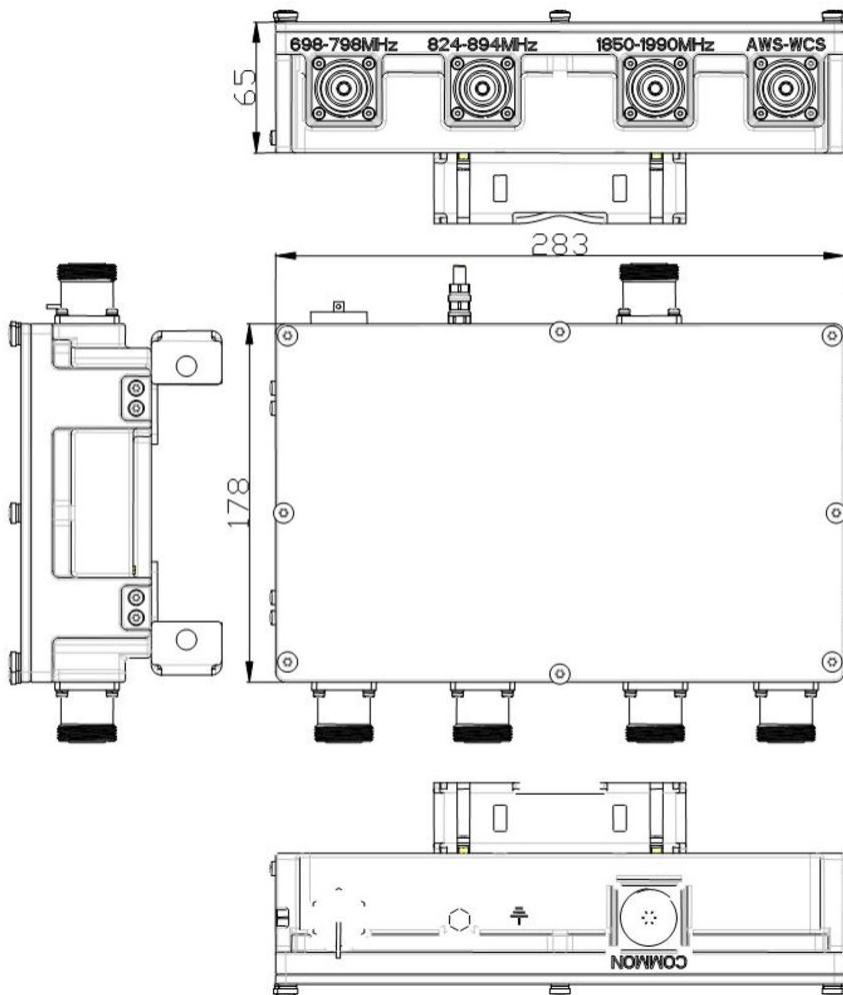
**Product Family** CBC781921W  
**Color** Gray  
**Common Port Label** COMMON  
**Data Port Interface** USB  
**Modularity** 1-Single  
**Mounting** Pole | Wall  
**Mounting Pipe Hardware** Band clamps (2)  
**RF Connector Interface** 7-16 DIN Female  
**RF Connector Interface Body Style** Medium neck

## Dimensions

**Height** 178 mm | 7.008 in  
**Width** 283 mm | 11.142 in  
**Depth** 65 mm | 2.559 in  
**Ground Screw Diameter** 6 mm | 0.236 in  
**Mounting Pipe Diameter** 40–160 mm

## Outline Drawing

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## Electrical Specifications

**Impedance** 50 ohm

## 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  
**Voltage** 7–30 Vdc

## Electrical Specifications, AISG

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

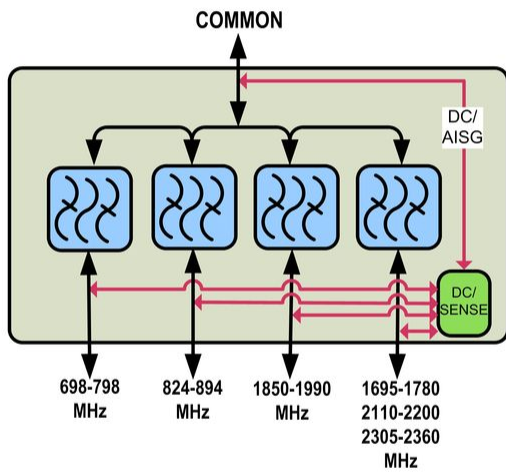
## Electrical Specifications

<b>Sub-module</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Branch</b>	1	2	3	4
<b>Port Designation</b>	698–798	824–894	1850–1990	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	WCS 2300, Band Pass AWS 1700, Band Pass

## Electrical Specifications, Band Pass

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

## 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	<b>698 to 798 MHz to COMMON "ON"</b> 824 to 894 MHz "OFF" 1850 to 1990 MHz "OFF" 1695 to 2360 MHz "OFF"
<10	$10 \leq V \leq 30$	<10	<10	<10	<b>824 to 894 MHz to COMMON "ON"</b> 1850 to 1990 MHz "OFF" 1695 to 2360 MHz "OFF"
<10	<18	$10 \leq V \leq 30$	<10	<10	698 to 798 MHz "OFF" <b>824 to 894 MHz to COMMON "ON"</b> <b>1850 to 1990 MHz to COMMON "ON"</b> 1695 to 2360 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" <b>1695 to 2360 MHz to COMMON "ON"</b>
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" <b>COMMON to 1695 to 2360 MHz "ON"</b>

## 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