Diplexer PCS/AWS+WCS, dc Sense, 4.3-10

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

### Product Classification

**Product Type**

Diplexer

### General Specifications

**Product Family**

CBC1923

**Color**

Gray

**Common Port Label**

Common

**Modularity**

1-Single

**RF Connector Interface**

4.3-10 Female

**RF Connector Interface Body Style**

Long neck

### Dimensions

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>176.5 mm</td>
<td>140 mm</td>
<td>63.5 mm</td>
</tr>
<tr>
<td><strong>Ground Screw Diameter</strong></td>
<td>6 mm</td>
<td>0.236 in</td>
<td></td>
</tr>
</tbody>
</table>
Outline Drawing

Electrical Specifications

**Impedance**  
50 ohm

**License Band, Band Pass**  
AWS 1700  |  PCS 1900  |  TDD 1900  |  WCS 2300

Electrical Specifications, Common Port

**Composite Power, RMS**  
250 W

Electrical Specifications, dc Power/Alarm

**dc/AISG Pass-through Method**  
Auto sensing

**dc/AISG Pass-through Path**  
See logic table

**Lightning Surge Current**  
10 kA
Lightning Surge Current Waveform 8/20 waveform
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
Branch 1 2
Port Designation PCS AWS-WCS
License Band PCS 1900, Band Pass AWS 1700, Band Pass
WCS 2300, Band Pass

Electrical Specifications, Band Pass

Frequency Range, MHz 1850–1995 1695–1780
2110–2200 2305–2360

Insertion Loss, typical, dB 0.2 0.2
Total Group Delay, typical, ns 13 12
Return Loss, typical, dB 22 22
Isolation, typical, dB 58 53
Input Power, RMS, maximum, W 200 200
Input Power, PEP, maximum, W 2000 2000
3rd Order PIM, minimum, dBc -161
3rd Order PIM Test Method 2 x 20 W CW tones
Higher Order PIM, minimum, dBc -161
Higher Order PIM Test Method 2 x 20 W CW tones

Block Diagram
Logic Table

<table>
<thead>
<tr>
<th>Combining Mode Operation (Ground Based)</th>
<th>RF Ports Input DC Voltage</th>
<th>DC/AISG Path Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PCS</td>
<td>AWS/WCS</td>
</tr>
<tr>
<td>7 ≤ V ≤ 30</td>
<td>&lt;7</td>
<td>&lt;7</td>
</tr>
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<td>&lt;7</td>
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<td>7 ≤ V ≤ 30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Splitting Mode Operation (Tower Top)</th>
<th>RF Ports Impedance DC (Load sensing)</th>
<th>DC/AISG Path Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PCS</td>
<td>AWS/WCS</td>
</tr>
<tr>
<td>open/load</td>
<td>short</td>
<td>open/load</td>
</tr>
<tr>
<td>short</td>
<td>open/load</td>
<td>7 ≤ V ≤ 30</td>
</tr>
<tr>
<td>open/load</td>
<td>open/load</td>
<td>7 ≤ V ≤ 30</td>
</tr>
<tr>
<td>short</td>
<td>short</td>
<td>7 ≤ V ≤ 30</td>
</tr>
</tbody>
</table>

Material Specifications

Finish

Painted

Mechanical Specifications

Wind Loading @ Velocity, frontal

31.0 N @ 150 km/h (7.0 lbf @ 150 km/h)

Wind Loading @ Velocity, lateral

6.0 N @ 150 km/h (1.3 lbf @ 150 km/h)

Environmental Specifications

Operating Temperature

-40 °C to +65 °C (-40 °F to +149 °F)

Relative Humidity

Up to 100%

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

Volume

1.5 L

Weight, without mounting hardware

2.2 kg | 4.85 lb