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

Height
176.5 mm  |  6.949 in

Width
140 mm  |  5.512 in

Depth
63.5 mm  |  2.5 in

Ground Screw Diameter
6 mm  |  0.236 in
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

<table>
<thead>
<tr>
<th>Frequency Range, MHz</th>
<th>1850–1995</th>
<th>1695–1780</th>
</tr>
</thead>
<tbody>
<tr>
<td>2110–2200</td>
<td>2305–2360</td>
<td></td>
</tr>
<tr>
<td>Insertion Loss, typical, dB</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Total Group Delay, typical, ns</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Return Loss, typical, dB</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Isolation, typical, dB</td>
<td>58</td>
<td>53</td>
</tr>
<tr>
<td>Input Power, RMS, maximum, W</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Input Power, PEP, maximum, W</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>3rd Order PIM, minimum, dBc</td>
<td>-161</td>
<td></td>
</tr>
<tr>
<td>3rd Order PIM Test Method</td>
<td>2 x 20 W CW tones</td>
<td></td>
</tr>
<tr>
<td>Higher Order PIM, minimum, dBc</td>
<td>-161</td>
<td></td>
</tr>
<tr>
<td>Higher Order PIM Test Method</td>
<td>2 x 20 W CW tones</td>
<td></td>
</tr>
</tbody>
</table>

Block Diagram
### Logic Table

<table>
<thead>
<tr>
<th>RF Ports Input DC Voltage</th>
<th>DC/AISG Path Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
<td>AWS/WCS</td>
</tr>
<tr>
<td>7 ≤ V ≤ 30</td>
<td>&lt;7</td>
</tr>
<tr>
<td>&lt;7</td>
<td>7 ≤ V ≤ 30</td>
</tr>
<tr>
<td>7 ≤ V ≤ 30</td>
<td>&lt;7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RF Ports Impedance DC (Load sensing)</th>
<th>DC/AISG Path Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCS</td>
<td>AWS/WCS</td>
</tr>
<tr>
<td>open/load</td>
<td>short</td>
</tr>
<tr>
<td>short</td>
<td>open/load</td>
</tr>
<tr>
<td>open/load</td>
<td>open/load</td>
</tr>
<tr>
<td>short</td>
<td>short</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