

# E14F15P11



Single Quadplexer 700-800//900//1800//2100-2600 MHz, (DC Smart Bypass), with 4.3-10 connectors

- Industry leading PIM performance
- Designed for network modernization application, introduction of LTE700 and LTE800 on existing site
- New 4.3-10 connectors for improved PIM performance and size reduction
- Suitable for feeders cables reduction
- DC/AISG SMART bypass functionality

## Product Classification

**Product Type** Quadplexer

## General Specifications

**Product Family** CBC791826

**Color** Gray

**Common Port Label** COM

**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** 263 mm | 10.354 in

**Width** 328 mm | 12.913 in

**Depth** 64 mm | 2.52 in

**Mounting Pipe Diameter Range** 42.6–122 mm

## Electrical Specifications

**Impedance** 50 ohm

**License Band, Band Pass** APT 700 | CEL 900 | DCS 1800 | EDD 800 | IMT 2100 | IMT 2600

## Electrical Specifications, dc Power/Alarm

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

# E14F15P11

|   |                 |
|---|-----------------|
| <b>dc/AISG Pass-through Path</b>        | See logic table |
| <b>dc/AISG Pass-through, combiner</b>   | dc Sensing      |
| <b>Lightning Surge Current</b>          | 5 kA            |
| <b>Lightning Surge Current Waveform</b> | 8/20 waveform   |

## Electrical Specifications, AISG

|                                |                        |
|--------------------------------|------------------------|
| <b>AISG Carrier</b>            | 2176 KHz $\pm$ 100 ppm |
| <b>Insertion Loss, maximum</b> | 0.5 dB                 |
| <b>Return Loss, minimum</b>    | 10 dB                  |

## Electrical Specifications

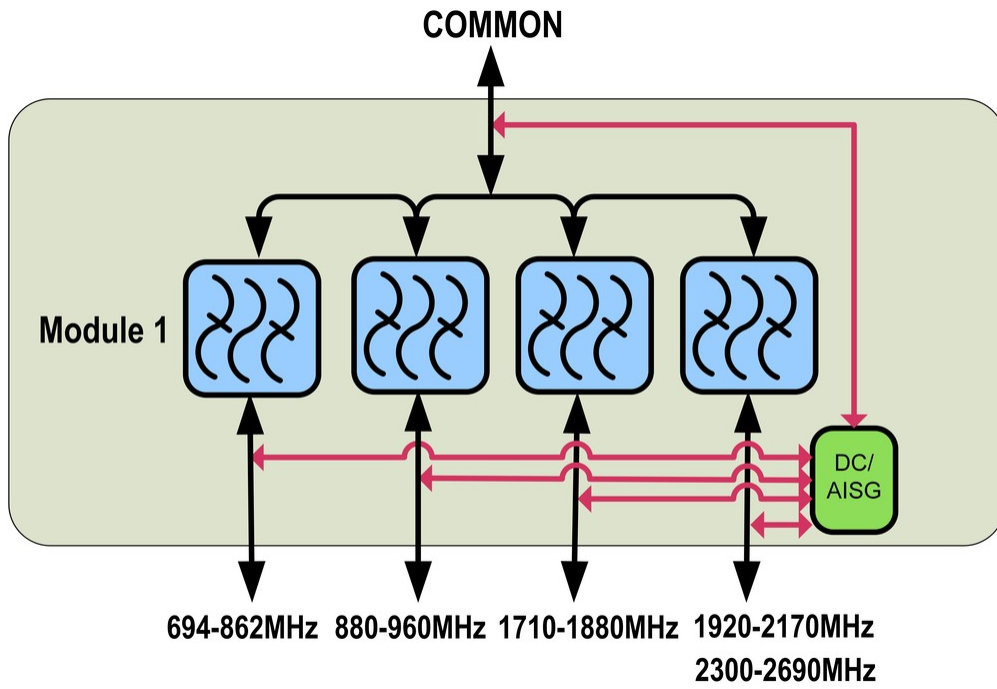
| <b>Sub-module</b>       | <b>1   2</b>                             | <b>1   2</b>       | <b>1   2</b>        | <b>1   2</b>                               |
|-------------------------|--|--------------------|---------------------|--|
| <b>Branch</b>           | 1  | 2                  | 3                   | 4  |
| <b>Port Designation</b> | DD2-800                                  | 900                | 1800                | 21-23-26                                   |
| <b>License Band</b>     | APT 700, Band Pass<br>EDD 800, Band Pass | CEL 900, Band Pass | DCS 1800, Band Pass | IMT 2100, Band Pass<br>IMT 2600, Band Pass |

## Electrical Specifications, Band Pass

| <b>Frequency Range, MHz</b>         | <b>694–862</b>       | <b>880–960</b>       | <b>1710–1880</b>     | <b>1920–2170<br/>2300–2690</b> |
|-------------------------------------|----------------------|----------------------|----------------------|--------------------------------|
| <b>Insertion Loss, typical, dB</b>  | 0.3                  | 0.3                  | 0.25                 | 0.25                           |
| <b>Return Loss, typical, dB</b>     | 22                   | 22                   | 22                   | 22                             |
| <b>Isolation, minimum, dB</b>       | 50                   | 50                   | 50                   | 50                             |
| <b>Input Power, RMS, maximum, W</b> | 300                  | 300                  | 300                  | 300                            |
| <b>Input Power, PEP, maximum, W</b> | 3000                 | 3000                 | 3000                 | 3000                           |
| <b>3rd Order PIM, typical, dBc</b>  | -160                 | -160                 | -160                 | -160                           |
| <b>3rd Order PIM Test Method</b>    | Two +43 dBm carriers | Two +43 dBm carriers | Two +43 dBm carriers | Two +43 dBm carriers           |

## Block Diagram

# E14F15P11



# E14F15P11

## Logic Table

| COMBINER Mode: One of four Ports (1-4) is selected to the COM port |               |                |                |             |                 |     |                |                |             |                 |                |                |             |                 |
|--|---------------|----------------|----------------|-------------|-----------------|-----|----------------|----------------|-------------|-----------------|----------------|----------------|-------------|-----------------|
| MODE   | COM           | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 | COM | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 |
| COMBINER Mode  | Input Voltage |                |                |             | Selected Port   |     |                |                | Led         |                 |                |                |             |                 |
|  | <7V           | <7V            | <7V            | <7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | off            | off            | off         | Green           |
|  | <7V           | <7V            | <7V            | >7V         | <7V             | ON  | OFF            | OFF            | ON          | OFF             | off            | off            | Green       | off             |
|  | <7V           | <7V            | >7V            | <7V         | <7V             | ON  | OFF            | ON             | OFF         | OFF             | off            | Green          | off         | off             |
|  | <7V           | >7V            | <7V            | <7V         | <7V             | ON  | ON             | OFF            | OFF         | OFF             | Green          | off            | off         | off             |
|  | <7V           | <7V            | <7V            | >7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | off            | off            | Red         | Green           |
|  | <7V           | <7V            | >7V            | <7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | off            | Red            | off         | Green           |
|  | <7V           | <7V            | >7V            | >7V         | <7V             | ON  | OFF            | ON             | OFF         | OFF             | off            | Green          | Red         | off             |
|  | <7V           | <7V            | >7V            | >7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | off            | Red            | Red         | Green           |
|  | <7V           | <7V            | <7V            | <7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | Red            | off            | off         | Green           |
|  | <7V           | >7V            | <7V            | >7V         | <7V             | ON  | ON             | OFF            | OFF         | OFF             | Green          | off            | Red         | off             |
|  | <7V           | >7V            | <7V            | >7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | Red            | off            | Red         | Green           |
|  | <7V           | >7V            | >7V            | <7V         | <7V             | ON  | ON             | OFF            | OFF         | OFF             | Green          | Red            | off         | off             |
|  | <7V           | >7V            | >7V            | <7V         | >7V             | ON  | OFF            | OFF            | OFF         | ON              | Red            | Red            | off         | Green           |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |
| <7V  | >7V           | >7V            | >7V            | <7V         | ON              | ON  | OFF            | OFF            | OFF         | Green           | Red            | Red            | off         |                 |

Note: LED indication is referred to normal (no alarm state)

| SPLITTER Mode: COM Port is split to Ports (1-4) with valid impedance |   |                |                |             |                 |     |                |                |             |                 |                |                |             |                 |
|--|---|----------------|----------------|-------------|-----------------|-----|----------------|----------------|-------------|-----------------|----------------|----------------|-------------|-----------------|
| MODE   | COM   | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 | COM | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 | PORT 1 694-862 | PORT 2 880-960 | PORT 3 1800 | PORT 4 21-23-26 |
| SPLITTER Mode  | DC Port Impedance Ports 1,2,3,4 Voltage <7V |                |                |             | Selected Port   |     |                |                | Led         |                 |                |                |             |                 |
|  | >7V   | short          | short          | short       | open/load       | ON  | OFF            | OFF            | OFF         | ON              | OFF            | OFF            | OFF         | Green           |
|  | >7V   | short          | short          | open/load   | short           | ON  | OFF            | OFF            | ON          | OFF             | OFF            | OFF            | Green       | OFF             |
|  | >7V   | short          | short          | open/load   | open/load       | ON  | OFF            | OFF            | ON          | ON              | OFF            | OFF            | Green*      | Green*          |
|  | >7V   | short          | open/load      | short       | short           | ON  | OFF            | ON             | OFF         | OFF             | OFF            | Green          | OFF         | OFF             |
|  | >7V   | short          | open/load      | short       | open/load       | ON  | OFF            | ON             | OFF         | ON              | OFF            | Green*         | OFF         | Green*          |
|  | >7V   | short          | open/load      | open/load   | short           | ON  | OFF            | ON             | OFF         | ON              | OFF            | Green*         | Green*      | OFF             |
|  | >7V   | short          | open/load      | open/load   | open/load       | ON  | OFF            | ON             | ON          | ON              | OFF            | Green*         | Green*      | Green*          |
|  | >7V   | open/load      | short          | short       | short           | ON  | ON             | OFF            | OFF         | OFF             | Green          | OFF            | OFF         | OFF             |
|  | >7V   | open/load      | short          | short       | open/load       | ON  | ON             | OFF            | OFF         | ON              | Green*         | OFF            | OFF         | Green*          |
|  | >7V   | open/load      | short          | open/load   | short           | ON  | ON             | OFF            | ON          | OFF             | Green*         | OFF            | Green*      | OFF             |
|  | >7V   | open/load      | short          | open/load   | open/load       | ON  | ON             | OFF            | ON          | ON              | Green*         | OFF            | Green*      | Green*          |
|  | >7V   | open/load      | open/load      | short       | short           | ON  | ON             | ON             | OFF         | OFF             | Green*         | Green*         | OFF         | OFF             |
|  | >7V   | open/load      | open/load      | short       | short           | ON  | ON             | ON             | OFF         | ON              | Green*         | Green*         | OFF         | Green*          |
| >7V  | open/load                                   | open/load      | open/load      | short       | ON              | ON  | ON             | ON             | OFF         | Green*          | Green*         | Green*         | OFF         |                 |
| >7V  | open/load                                   | open/load      | open/load      | open/load   | ON              | ON  | ON             | ON             | ON          | Green*          | Green*         | Green*         | Green*      |                 |
| >7V  | short                                       | short          | short          | short       | ON              | OFF | OFF            | OFF            | OFF         | OFF             | OFF            | OFF            | OFF         |                 |

\*If the input voltage is from 7V to 19V, the green LEDs will be on one at a time, each for 2 seconds indicating DC voltage is available at the RF port corresponding to the LED Green lighted

Alternating LEDs is merely a mechanism to save power consumption.

## Mechanical Specifications

**Wind Speed, maximum** 216 km/h | 134.216 mph

## Environmental Specifications

**Operating Temperature** -40 °C to +65 °C (-40 °F to +149 °F)

**Relative Humidity** 15%-100%

**Corrosion Test Method** IEC 60068-2-11, 30 days

**Ingress Protection Test Method** IEC 60529:2001, IP67

**Vibration Test Method** IEC 60068-2-6

## Packaging and Weights

**Included** Mounting hardware

# E14F15P11

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|  |                    |
|--|--------------------|
| <b>Volume</b>                            | 5.5 L              |
| <b>Weight, net</b>                       | 6.6 kg   14.55 lb  |
| <b>Weight, without mounting hardware</b> | 5.2 kg   11.464 lb |