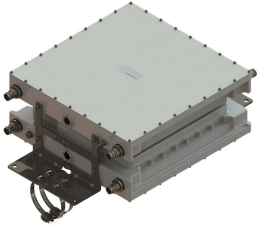


# TD-850B-LTE78-43 | E14Z00P06

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## Twin In-band Diplexer 850 MHz, DC Sense

- Enables LTE carrier to share the RF path with other CDMA/EVDO services
- LTE port supports the use of dual band 700/850 radios or diplexed radio ports
- CDMA port supports carriers F1(384), F2(425), F3(466) and F8(770/777)
- Optimized for 5MHz LTE carrier on B-Block CH 2585 and 10MHz LTE carrier on A-Block CH 2460
- Narrow guard band to maximize utilization of licensed spectrum

## Product Classification

**Product Type** Diplexer

## General Specifications

**Application** Indoor | Outdoor

**Antenna Interface** 4.3-10 Female

**Connector Interface Style** Long neck

## Dimensions

**Height** 392 mm | 15.433 in

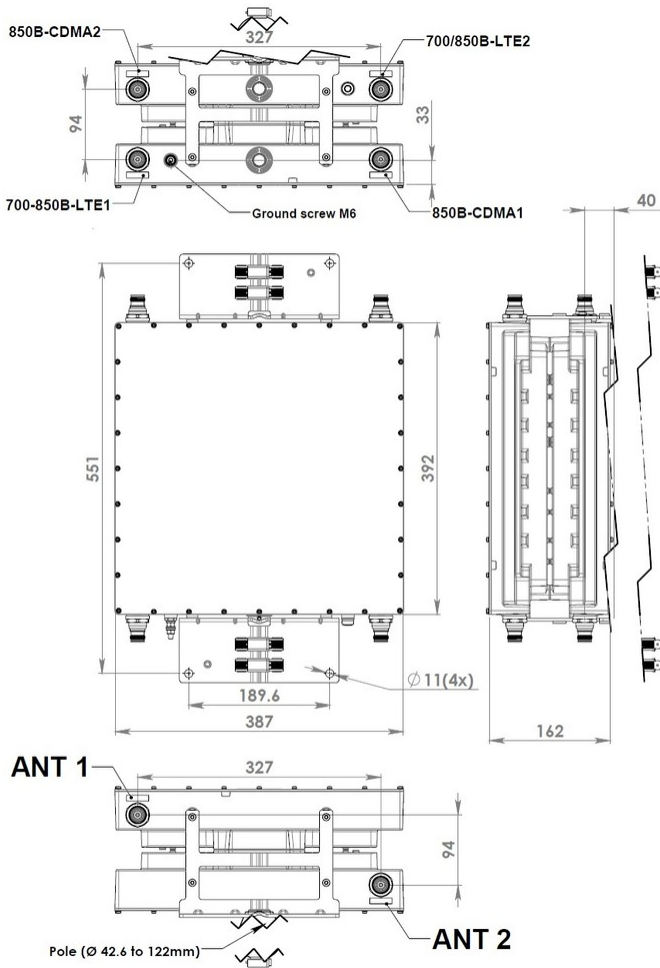
**Width** 387 mm | 15.236 in

**Depth** 162 mm | 6.378 in

**Ground Screw Diameter** 6 mm | 0.236 in

## Outline Drawing

# TD-850B-LTE78-43 | E14Z00P06



## Electrical Specifications

|   |                      |
|---|----------------------|
| <b>5th Order IMD Test Method</b>        | Two +43 dBm carriers |
| <b>5th Order IMD, maximum</b>           | -161 dBc             |
| <b>Lightning Surge Current</b>          | 10 kA                |
| <b>Lightning Surge Current Waveform</b> | 8/20 waveform        |

## Electrical Specifications, Rx (Uplink)

|                                   |   |
|-----------------------------------|---|
| <b>Frequency Band</b>             | 777 – 787 MHz   825.5 – 834.5 MHz   840.25 - 844.75 MHz |
| <b>Return Loss, minimum</b>       | 18 dB   |
| <b>Isolation, minimum</b>         | 28 dB   |
| <b>Port Designation</b>           | 700/850 LTE   |
| <b>Total Group Delay, maximum</b> | 320 ns  |

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## Electrical Specifications 2, Rx (Uplink)

|                                   |   |
|-----------------------------------|---|
| <b>Frequency Band</b>             | 835.905 – 839.595 MHz   847.485 - 848.925 MHz |
| <b>Isolation, minimum</b>         | 28 dB   |
| <b>Port Designation</b>           | 850B CDMA                                     |
| <b>Total Group Delay, maximum</b> | 320 ns  |
| <b>Return Loss, minimum</b>       | 18 dB   |

## Electrical Specifications, Tx (Downlink)

|                                   |  |
|-----------------------------------|--|
| <b>Frequency Band</b>             | 746 – 756 MHz   870.5 – 879.75 MHz   885.25 - 889.75 MHz |
| <b>Isolation, minimum</b>         | 28 dB  |
| <b>Input Power, PEP, maximum</b>  | 1500 W   |
| <b>Input Power, RMS, maximum</b>  | 120 W  |
| <b>Total Group Delay, maximum</b> | 320 ns   |
| <b>Return Loss, minimum</b>       | 18 dB  |

## Electrical Specifications 2, Tx (Downlink)

|                                   |   |
|-----------------------------------|---|
| <b>Frequency Band</b>             | 880.905 – 884.595 MHz   892.485 - 893.925 MHz |
| <b>Input Power, PEP, maximum</b>  | 1500 W  |
| <b>Input Power, RMS, maximum</b>  | 120 W   |
| <b>Isolation, minimum</b>         | 28 dB   |
| <b>Return Loss, minimum</b>       | 18 dB   |
| <b>Total Group Delay, maximum</b> | 320 ns  |

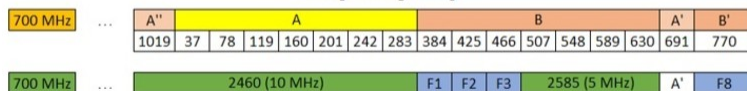
## Electrical Performance

### Insertion Loss Specifications

| 850B-CDMA TO ANTENNA PORT |                    | 700/850AB-LTE TO ANTENNA PORT |                    |
|---------------------------|--------------------|-------------------------------|--------------------|
| Channels                  | Specification (dB) | Channels                      | Specification (dB) |
| 384, 425, 770, 777*       | 1.2 max            | 700 LTE                       | 0.15 max           |
| 466*                      | 1.5 max            | 850 LTE 2585, 2460*           | 0.9 max            |

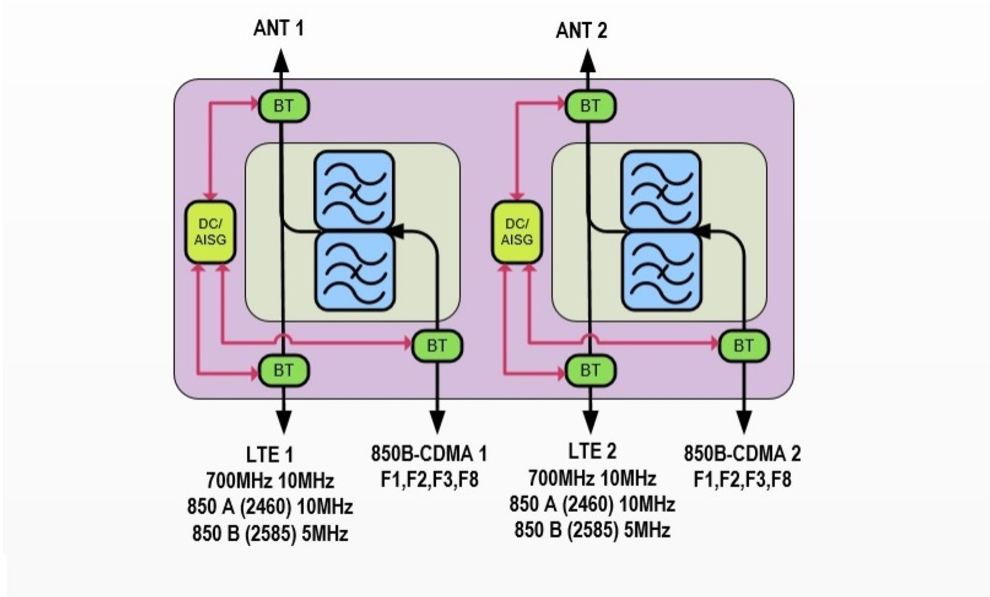
\* Specifications are for the average of the freq. band

### Frequency Map



|        |               |
|--------|---------------|
| Legend | Port 1 (LTE)  |
|        | Port 2 (CDMA) |
|        | Guard Band    |

## Block Diagram



## Logic Table

| DC input voltage   |                    | ANT Port   |
|--------------------|--------------------|--|
| LTE Port           | CDMA Port          | DC/AISG path selection                                 |
| <7                 | <7                 | All Ports OFF  |
| $7 \leq V \leq 30$ | <7                 | <b>LTE Port to ANT Port ON</b><br>CDMA Port to ANT OFF |
| <7                 | $7 \leq V \leq 30$ | LTE Port to ANT Port OFF<br><b>CDMA Port to ANT ON</b> |
| $7 \leq V \leq 30$ | $7 \leq V \leq 30$ | All Ports OFF  |

## Environmental Specifications

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

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

## Packaging and Weights

**Included** Brackets

**Weight, net** 24 kg | 52.911 lb

## Regulatory Compliance/Certifications

# TD-850B-LTE78-43 | E14Z00P06

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**Agency**

CHINA-ROHS  
ROHS  
UK-ROHS

**Classification**

Above maximum concentration value  
Compliant/Exempted  
Compliant/Exempted

