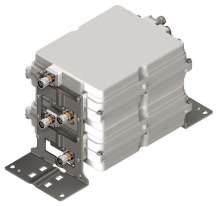
# E16S02P98



Quad Dual Band Tower Mounted Amplifier, 1800//2100 MHz, 12 dB, 4 BTS & 4 ANT ports, AISG with 1 RET connector per TMA (2 device with 2 sub-units each) with 4.3-10 connectors

- Industry leading PIM performance
- New 4.3-10 connectors for improved PIM performance and size reduction
- TMA is operating in AISG & CWA mode, Alarm Current consumption CWA mode 250 mA
- Designed to boost UP-Link Coverage and KPIs
- Quad configuration, 4x4 MIMO ready
- 4 input ports and 4 output ports

## Product Classification

| | |
|---|---|
| **Product Type** | 1-BTS:1-ANT (Uniplex) \| Tower mounted amplifier |

## General Specifications

| | |
|---|---|
| **Color** | Gray |
| **Modularity** | 2-Twin |
| **Mounting** | Pole \| Wall |
| **Mounting Pipe Hardware** | Band clamps (2) |
| **RF Connector Interface** | 4.3-10 Female |

## Dimensions

| | |
|---|---|
| **Height** | 212 mm \| 8.346 in |
| **Width** | 225 mm \| 8.858 in |
| **Depth** | 280 mm \| 11.024 in |
| **Mounting Pipe Diameter Range** | 50–120 mm |

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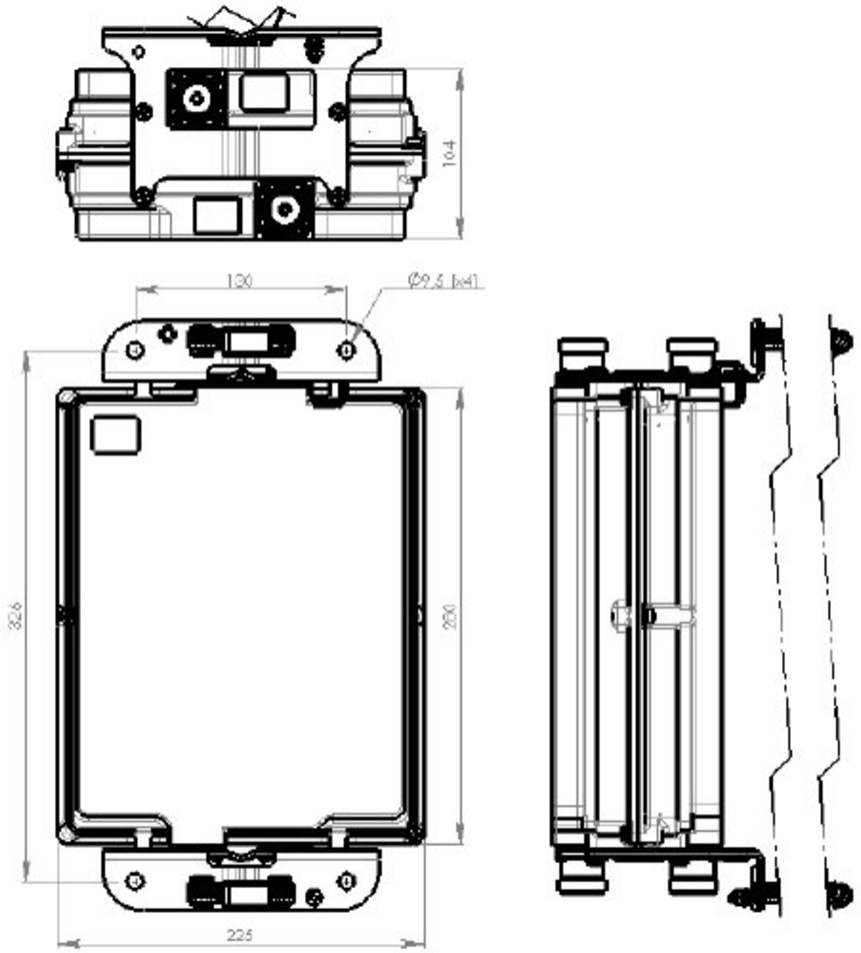
## Outline Drawing




## Electrical Specifications

| | |
|---|---|
| **License Band, LNA** | DCS 1800 \| IMT 2100 |

## Electrical Specifications, dc Power/Alarm

| | |
|---|---|
| **dc Switching/Redundancy** | Yes |
| **Lightning Surge Current** | 10 kA |
| **Lightning Surge Current Waveform** | 8/20 waveform |
| **Voltage** | 7–30 Vdc |
| **Alarm Current, CWA Mode** | 250 mA ±15 mA |

## Electrical Specifications, AISG

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| | |
|---|---|
| **AISG Connector** | 8-pin DIN Female |
| **AISG Connector Standard** | IEC 60130-9 |
| **Protocol** | AISG 2.0 |
| **Voltage, AISG Mode** | 10–30 Vdc |

## Electrical Specifications

| **Sub-module** | **1 \| 2** | **1 \| 2** |
|---|---|---|
| **Branch** | 1 | 1 |
| **Port Designation** | ANT | ANT |
| **License Band** | DCS 1800, LNA | IMT 2100, LNA |
| **Return Loss - Bypass Mode, typical, dB** | 15 | 15 |

## Electrical Specifications Rx (Uplink)

| **Frequency Range, MHz** | **1710–1785** | **1920–1980** |
|---|---|---|
| **Bandwidth, MHz** | 75 | 60 |
| **Gain, nominal, dB** | 12 | 12 |
| **Noise Figure, typical, dB** | 1.5 | 1.5 |
| **Group Delay Variation, maximum, ns** | 30 | 16 |
| **Group Delay Variation Bandwidth, MHz** | 5 | 5 |
| **Total Group Delay, maximum, ns** | 100 | 80 |
| **Return Loss, minimum, dB** | 18 | 18 |
| **Insertion Loss - Bypass Mode, typical, dB** | 2 | 2 |

## Electrical Specifications Tx (Downlink)

| **Frequency Range, MHz** | **1805–1880** | **2110–2170** |
|---|---|---|
| **Bandwidth, MHz** | 75 | 60 |
| **Insertion Loss, typical, dB** | 0.4 | 0.4 |
| **Group Delay Variation, maximum, ns** | 10 | 4 |
| **Group Delay Variation Bandwidth, MHz** | 5 | 5 |
| **Total Group Delay, maximum, ns** | 45 | 25 |
| **Return Loss, minimum, dB** | 18 | 18 |
| **Input Power, RMS, maximum, W** | 200 | 200 |
| **Input Power, PEP, maximum, W** | 2000 | 2000 |
| **3rd Order PIM, typical, dBc** | -160 | -160 |
| **3rd Order PIM Test Method** | Two +43 dBm carriers | Two +43 dBm carriers |

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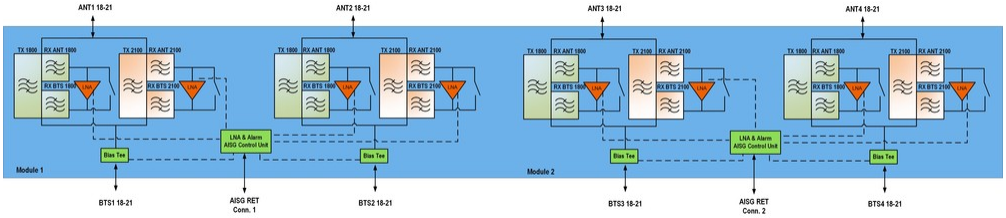
## Block Diagram




## 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 |
| **Volume** | 13.4 L |
| **Weight, net** | 15 kg \| 33.069 lb |

## Regulatory Compliance/Certifications

| Agency | Classification |
|---|---|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

## * Footnotes

| | |
|---|---|
| **License Band, LNA** | License Bands that have RxUplink amplification |