

Twin TMA AWS/WCS with 555-894 Bypass, 4.3-10 connectors

**This product will be discontinued on: March 30, 2024**

**Replaced By:**

TMAT192123B68-31 E14R00P33 Tower Mounted Amplifier, Twin Configuration PCS/AWS 1-4 WCS, 617-894 MHz bypass 4.3-10

## Product Classification

**Product Type** Tower mounted amplifier

## General Specifications

**RF Connector Interface** 4.3-10 Female

**RF Connector Interface Body Style** Long neck

## Dimensions

**Height** 247 mm | 9.724 in

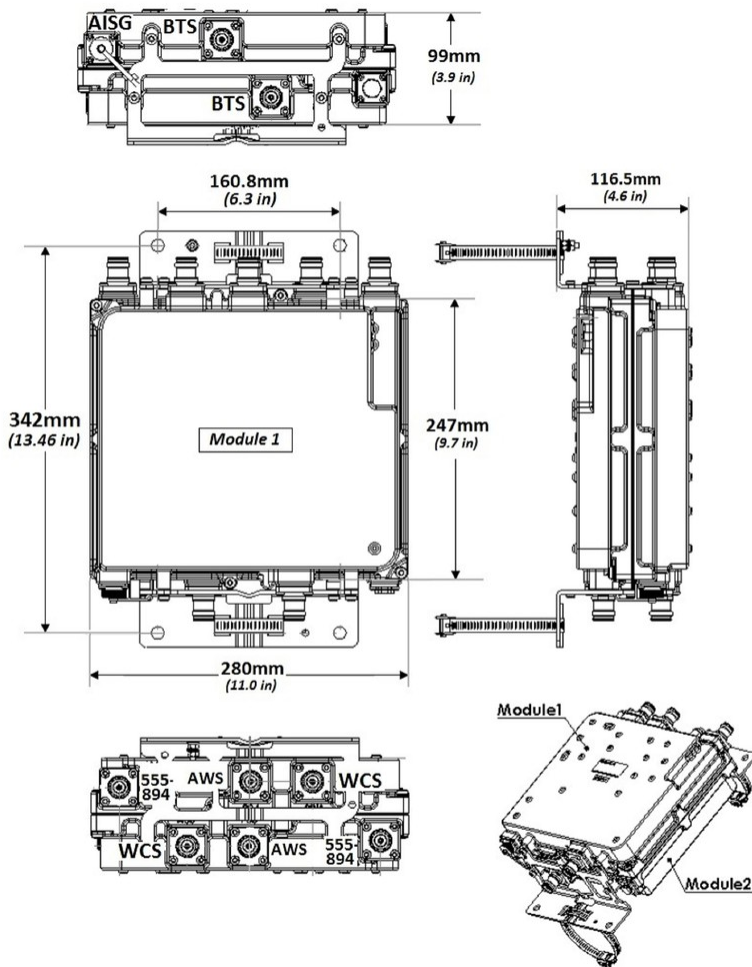
**Width** 280 mm | 11.024 in

**Depth** 99 mm | 3.898 in

**Ground Screw Diameter** 5 mm | 0.197 in

# TMAT21X23B68-31-43 | E14R00P04

## Outline Drawing



## Electrical Specifications

<b>License Band, Band Pass</b>	CEL 850   USA 700   USA 750
<b>License Band, LNA</b>	AWS 1700   AWS 2000   WCS 2300

## Electrical Specifications, dc Power/Alarm

<b>dc Switching/Redundancy</b>	Yes
<b>Lightning Surge Current</b>	10 kA
<b>Lightning Surge Current Waveform</b>	8/20 waveform
<b>Operating Current at Voltage</b>	210 mA @ 12 Vdc
<b>Voltage, CWA Mode</b>	10–18 Vdc

# TMAT21X23B68-31-43 | E14R00P04

**Alarm Current, CWA Mode** 150 mA +/- 10 mA (10-18 VDC)

## Electrical Specifications, AISG

**AISG Carrier** 2.176 MHz ± 100 ppm  
**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	1   2
<b>Branch</b>	1	2	3
<b>Port Designation</b>	ANT 555-894	ANT AWS	ANT WCS
<b>AISG 2.0 Device Subunit</b>		E25A01P12 1/3	E25A01P12 2/4
<b>License Band</b>	CEL 850, Band Pass USA 700, Band Pass USA 750, Band Pass	AWS 1700, LNA	WCS 2300, LNA
<b>Return Loss, typical, dB</b>		20	21
<b>Return Loss - Bypass Mode, typical, dB</b>		18	18

## Electrical Specifications Rx (Uplink)

	1695–1780	2305–2315
<b>Frequency Range, MHz</b>		
<b>Gain, nominal, dB</b>	13	13
<b>Noise Figure, typical, dB</b>	1.4	1.8
<b>Total Group Delay, maximum, ns</b>	80	150
<b>Insertion Loss - Bypass Mode, typical, dB</b>	2.2	3

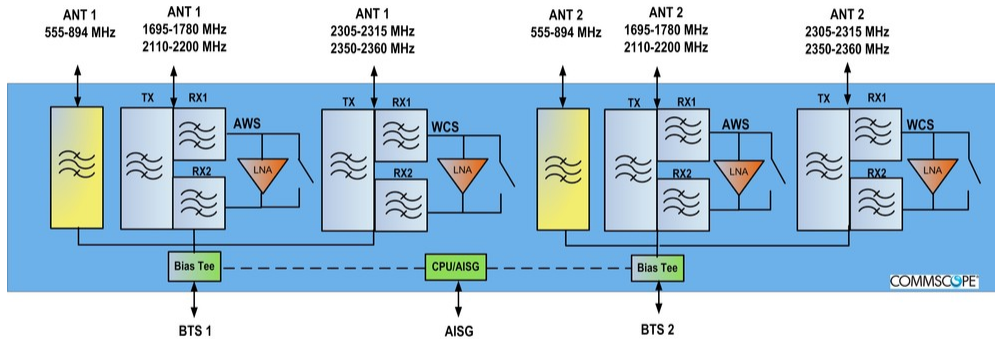
## Electrical Specifications Tx (Downlink)

	2110–2200	2350–2360
<b>Frequency Range, MHz</b>		
<b>Insertion Loss, typical, dB</b>	0.25	0.5
<b>Total Group Delay, maximum, ns</b>	15	50
<b>Return Loss, typical, dB</b>	22	22
<b>Input Power, RMS, maximum, W</b>	200	200
<b>Input Power, PEP, maximum, W</b>	2000	2000
<b>Higher Order PIM, maximum, dBc</b>	-153	-153
<b>Higher Order PIM Test Method</b>	2 x 20 W CW tones	2 x 20 W CW tones

## Electrical Specifications, Band Pass

<b>Frequency Range, MHz</b>	<b>555-894</b>
<b>Insertion Loss, maximum, dB</b>	0.2
<b>Return Loss, minimum, dB</b>	20
<b>Isolation, minimum, dB</b>	60
<b>Input Power, RMS, maximum, W</b>	200
<b>Input Power, PEP, maximum, W</b>	2000
<b>3rd Order PIM, maximum, dBc</b>	-153
<b>3rd Order PIM Test Method</b>	2 x 20 W CW tones

## Block Diagram



## Environmental Specifications

<b>Operating Temperature</b>	-40 °C to +65 °C (-40 °F to +149 °F)
<b>Relative Humidity</b>	Up to 100%
<b>Corrosion Test Method</b>	IEC 60068-2-11, 30 days
<b>Ingress Protection Test Method</b>	IEC 60529:2001, IP67

## Packaging and Weights

<b>Mounting Hardware Weight</b>	0.7 kg   1.543 lb
<b>Weight, without mounting hardware</b>	9.6 kg   21.164 lb

## \* Footnotes

<b>License Band, Band Pass</b>	License Bands that are to be passed through with no amplification
<b>License Band, LNA</b>	License Bands that have RxUplink amplification