

# TMAT1921XB68-21A | E15Z01P39



Tower Mounted Amplifier, Twin Diplexed PCS/AWS 1–4, 555–894 MHz bypass with AISG

## OBSOLETE

This product was discontinued on: February 19, 2019

### Replaced By:

TMAT1921B68-21-43 Tower Mounted Amplifier, Twin Diplexed PCS/AWS 1–4, 555–894 MHz bypass 4.3-10  
E14R00P09

## Product Classification

**Product Type** 1-BTS:2-ANT (Diplex) | Tower mounted amplifier

## General Specifications

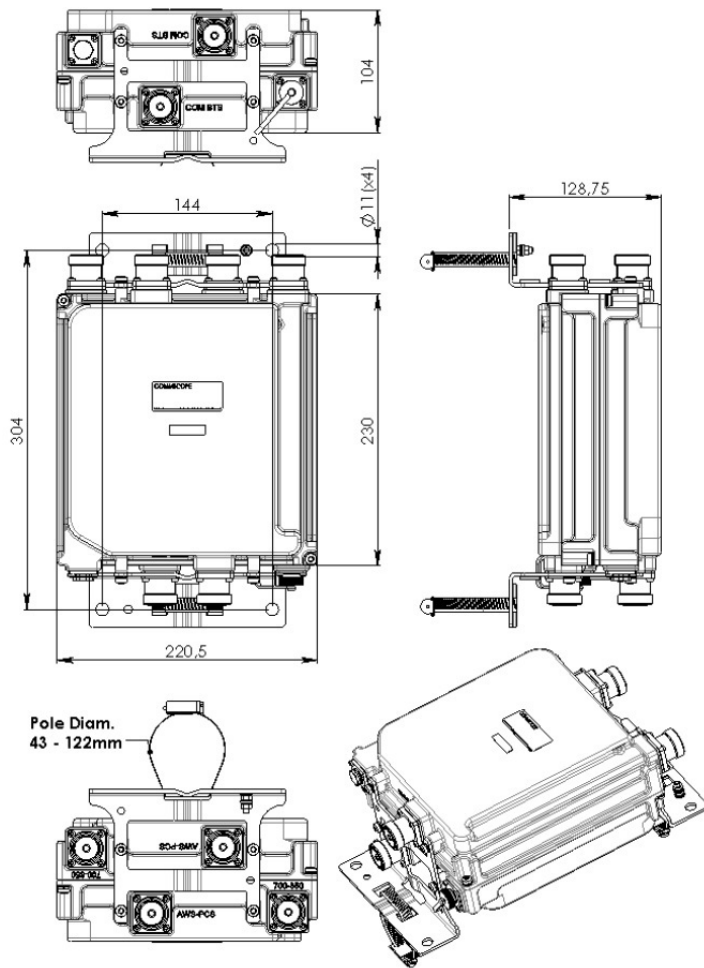
**Color** Gray  
**Modularity** 2-Twin  
**Mounting** Pole | Wall  
**Mounting Pipe Hardware** Band clamps (2)  
**RF Connector Interface** 7-16 DIN Female  
**RF Connector Interface Body Style** Long neck

## Dimensions

**Height** 230 mm | 9.055 in  
**Width** 220.5 mm | 8.681 in  
**Depth** 104 mm | 4.094 in  
**Ground Screw Diameter** 6 mm | 0.236 in  
**Mounting Pipe Diameter Range** 40–160 mm

## Outline Drawing

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## Electrical Specifications

<b>License Band, Band Pass</b>	APT 700   CEL 850   EDD 800   LMR 750   LMR 800   USA 700   USA 750
<b>License Band, LNA</b>	AWS 1700   PCS 1900

## 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>	240 mA @ 12 V
<b>Voltage</b>	7–30 Vdc
<b>Voltage, CWA Mode</b>	10–18 Vdc
<b>Alarm Current, CWA Mode</b>	30–170 mA @ 10–18 V

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## Electrical Specifications, AISG

<b>AISG Carrier</b>	2.176 MHz ± 100 ppm
<b>AISG Connector</b>	8-pin DIN Female
<b>AISG Connector Standard</b>	IEC 60130-9
<b>Default Protocol</b>	AISG 2.0
<b>Protocol</b>	AISG 1.1   AISG 2.0
<b>Voltage, AISG Mode</b>	10–30 Vdc

## Electrical Specifications

<b>Sub-module</b>	<b>1   2</b>	<b>1   2</b>	<b>1   2</b>
<b>Branch</b>	1	2	3
<b>Port Designation</b>	555–894	AWS–PCS	AWS–PCS
<b>AISG 2.0 Device Subunit</b>		E25A01P02 2/4	E25A01P02 1/3
<b>License Band</b>	APT 700, Band Pass CEL 850, Band Pass EDD 800, Band Pass LMR 750, Band Pass LMR 800, Band Pass USA 750, Band Pass	AWS 1700, LNA	PCS 1900, LNA
<b>Return Loss, typical, dB</b>		22	22
<b>Return Loss - Bypass Mode, typical, dB</b>		16	16
<b>TX Band Rejection, minimum, dB</b>		60	60

## Electrical Specifications Rx (Uplink)

<b>Frequency Range, MHz</b>	<b>1695–1780</b>	<b>1850–1910</b>
<b>Bandwidth, MHz</b>	85	60
<b>Gain, nominal, dB</b>	12	12
<b>Gain Tolerance, dB</b>	±1.0	±1.0
<b>Noise Figure, typical, dB</b>	1	1.3
<b>Total Group Delay, maximum, ns</b>	80	150
<b>Insertion Loss - Bypass Mode, typical, dB</b>	1.3	2.2

## Electrical Specifications Tx (Downlink)

<b>Frequency Range, MHz</b>	<b>2110–2200</b>	<b>1930–1990</b>
<b>Bandwidth, MHz</b>	90	60
<b>Insertion Loss, typical, dB</b>	0.3	0.45

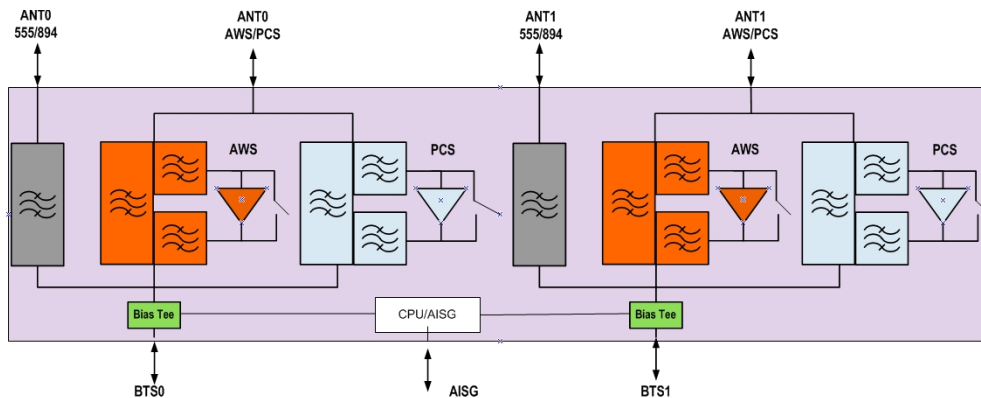
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<b>Total Group Delay, maximum, ns</b>	15	50
<b>Return Loss, typical, dB</b>	22	22
<b>RX Band Rejection, minimum, dB</b>	55	45
<b>Input Power, RMS, maximum, W</b>	200	200
<b>Input Power, PEP, maximum, W</b>	3000	3000
<b>3rd Order PIM, typical, dBc</b>	-155	-155
<b>3rd Order PIM Test Method</b>	1 x 20 W AWS CW tone 1 x 20 W PCS CW tone	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>Insertion Loss, typical, dB</b>	0.1
<b>Total Group Delay, maximum, ns</b>	8
<b>Return Loss, typical, dB</b>	22
<b>Isolation, minimum, dB</b>	60
<b>Input Power, RMS, maximum, W</b>	200
<b>Input Power, PEP, maximum, W</b>	3000
<b>3rd Order PIM, typical, dBc</b>	-155
<b>3rd Order PIM Test Method</b>	2 x 20 W CW tones

## Block Diagram



## Material Specifications

**Finish** Painted

## Environmental Specifications

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

**Relative Humidity** Up to 100%

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

## Packaging and Weights

**Included** Mounting hardware

**Weight, net** 8 kg | 17.637 lb

## \* Footnotes

**License Band, Band Pass** License Bands that are to be passed through with no amplification

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