

# TMAT1921B78-21A | E15Z01P33



Tower Mounted Amplifier, Twin Dplexed PCS/AWS TMA with 700-800 by-pass

## OBSOLETE

This product was discontinued on: January 18, 2019

### Replaced By:

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

## Product Classification

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

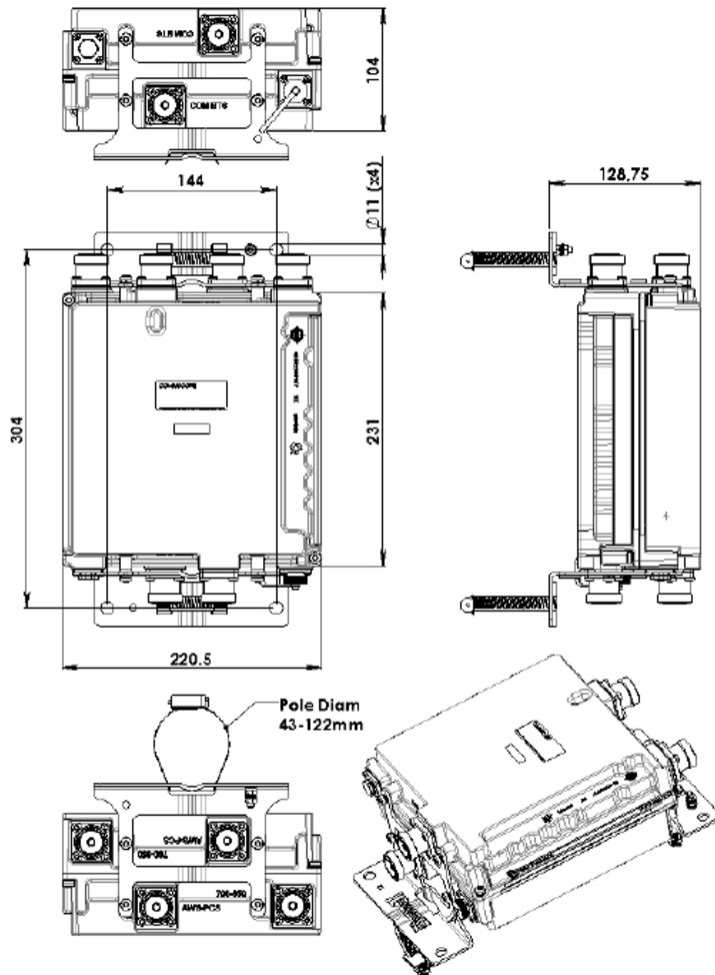
## General Specifications

**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** Medium 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



## 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

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

## 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>	700–850	AWS–PCS	AWS–PCS
<b>AISG 2.0 Device Subunit</b>		E15Z01P33 2/4	E15Z01P33 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 700, Band Pass USA 750, Band Pass	AWS 1700, LNA	PCS 1900, LNA
<b>Return Loss - Bypass Mode, typical, dB</b>		16	16
<b>TX Band Rejection, minimum, dB</b>		60	60

## Electrical Specifications Rx (Uplink)

	<b>1710–1755</b>	<b>1850–1910</b>
<b>Frequency Range, MHz</b>		
<b>Bandwidth, MHz</b>	45	60
<b>Gain, nominal, dB</b>	12	12
<b>Gain Tolerance, dB</b>	±1.0	±1.0
<b>Noise Figure, typical, dB</b>	1.3	1.3
<b>Total Group Delay, maximum, ns</b>	80	150
<b>Return Loss, minimum, dB</b>	18	18
<b>Insertion Loss - Bypass Mode, typical, dB</b>	1.7	2.2

## Electrical Specifications Tx (Downlink)

<b>Frequency Range, MHz</b>	<b>2110–2155</b>	<b>1930–1990</b>
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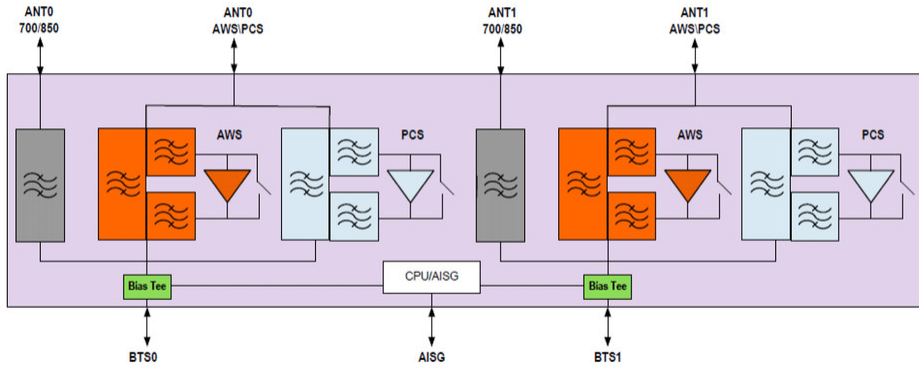
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<b>Bandwidth, MHz</b>	45	60
<b>Insertion Loss, typical, dB</b>	0.15	0.45
<b>Total Group Delay, maximum, ns</b>	15	50
<b>Return Loss, minimum, dB</b>	20	20
<b>RX Band Rejection, minimum, dB</b>	55	45
<b>Input Power, RMS, maximum, W</b>	200	200
<b>Input Power, PEP, maximum, W</b>	3000	3000
<b>3rd Order PIM, typical, dBc</b>	-153	-153
<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>698-894</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, minimum, dB</b>	20
<b>Return Loss, typical, dB</b>	24
<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>	-153
<b>3rd Order PIM Test Method</b>	2 x 20 W CW tones

## Block Diagram



## Material Specifications

**Finish** Painted

## Mechanical Specifications

**Wind Speed, maximum** 241 km/h | 149.75 mph

## Environmental Specifications

**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

**Mounting Hardware Weight** 0.6 kg | 1.323 lb

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

**Weight, without mounting hardware** 6.7 kg | 14.771 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