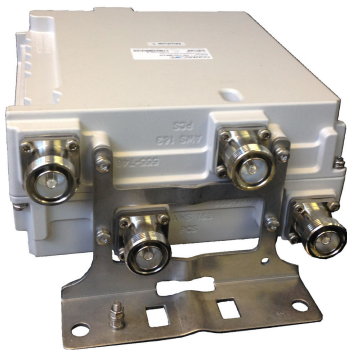


# TMATDB1921B78IDA-V | E15Z01P23



Tower Mounted Amplifier, Twin Diplexed PCS/AWS 1, 698–894 MHz bypass with AISG and Variable Gain

**OBSOLETE**

This product was discontinued on: December 1, 2019

**Replaced By:**

TMAT1921XB68-21AV E15Z01P38	Tower Mounted Amplifier, Twin Diplexed PCS/AWS 1–4, 555–894 MHz bypass with AISG and Variable Gain
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## Product Classification

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

## General Specifications

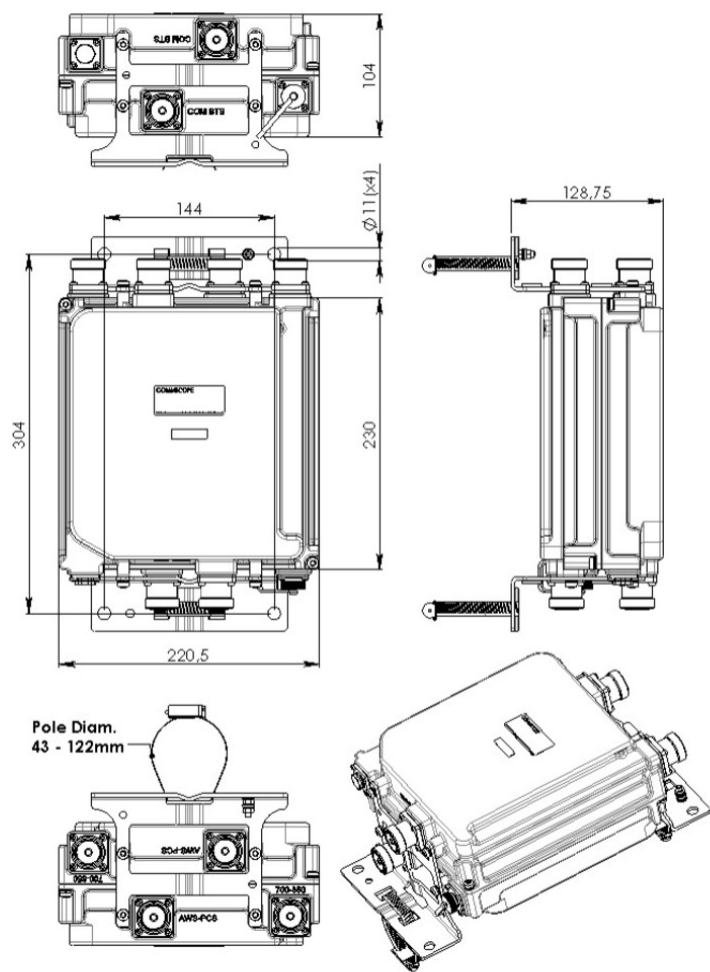
<b>Color</b>	Gray
<b>Modularity</b>	2-Twin
<b>Mounting</b>	Pole   Wall
<b>Mounting Pipe Hardware</b>	Band clamps (2)
<b>RF Connector Interface</b>	7-16 DIN Female
<b>RF Connector Interface Body Style</b>	Long neck

## Dimensions

<b>Height</b>	230 mm   9.055 in
<b>Width</b>	220.5 mm   8.681 in
<b>Depth</b>	104 mm   4.094 in
<b>Ground Screw Diameter</b>	6 mm   0.236 in
<b>Mounting Pipe Diameter Range</b>	40–160 mm

## Outline Drawing

# TMATDB1921B78IDA-V | E15Z01P23



## Electrical Specifications

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

## Electrical Specifications, dc Power/Alarm

dc Switching/Redundancy	Yes
Lightning Surge Current	10 kA
Lightning Surge Current Waveform	8/20 waveform
Operating Current at Voltage	240 mA @ 12 V
Voltage	7–30 Vdc
Voltage, CWA Mode	10–18 Vdc
Alarm Current, CWA Mode	30–170 mA @ 10–18 V

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## Electrical Specifications, AISG

<b>AISG Carrier</b>	2.176 MHz $\pm$ 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>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, typical, dB</b>		24	24
<b>Return Loss at 8 dB, typical, dB</b>		22	22
<b>Return Loss at 4 dB, typical, dB</b>		20	20
<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>1710–1755</b>	<b>1850–1910</b>
<b>Gain, nominal, dB</b>	12	12
<b>Gain Tolerance, dB</b>	$\pm 1.0$	$\pm 1.0$
<b>Gain Adjustment Range, dB</b>	4–12	4–12
<b>Noise Figure, typical, dB</b>	1.3	1.3
<b>Noise Figure at 8 dB, typical, dB</b>	1.6	1.7
<b>Noise Figure at 4 dB, typical, dB</b>	2.1	2.1
<b>Total Group Delay, maximum, ns</b>	80	150
<b>Insertion Loss - Bypass Mode, typical, dB</b>	1.7	2.2

## Electrical Specifications Tx (Downlink)

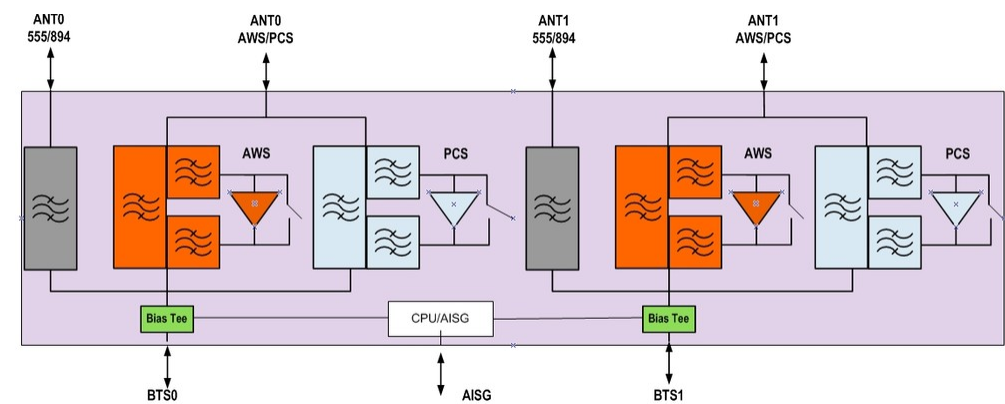
# TMATDB1921B78IDA-V | E15Z01P23

Frequency Range, MHz	2110–2155	1930–1990
Insertion Loss, typical, dB	0.15	0.45
Total Group Delay, maximum, ns	15	50
Return Loss, typical, dB	22	22
RX Band Rejection, minimum, dB	55	45
Input Power, RMS, maximum, W	200	200
Input Power, PEP, maximum, W	3000	3000
3rd Order PIM, maximum, dBc		-153
3rd Order PIM, typical, dBc	-153	-153
3rd Order PIM Test Method	One +43 dBm AWS carrier One +43 dBm PCS carrier	2 x 20 W CW tones

## Electrical Specifications, Band Pass

Frequency Range, MHz	698–894
Insertion Loss, maximum, dB	0.2
Insertion Loss, typical, dB	0.1
Total Group Delay, maximum, ns	8
Return Loss, typical, dB	22
Isolation, minimum, dB	60
Input Power, RMS, maximum, W	200
Input Power, PEP, maximum, W	3000
3rd Order PIM, typical, dBc	-153
3rd Order PIM Test Method	Two +43 dBm carriers

## Block Diagram



## Material Specifications

**Finish** Painted

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
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