

TMAT192123B68-31 | E14R00P33



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

- New Triple-band TMA for PCS, AWS 1-4 and WCS in a compact twin form factor
- Low frequency bypass of 617-894 MHz covers Band 14 public safety operating frequencies
- Significantly reduces complexity of tower top architectures
- Also available in a quad configuration to support 4 x 4 requirements
- New 4.3-10 connectors for improved PIM performance and size reduction
- Support DC/AISG antenna Auto-forward

Product Classification

Product Type 1-BTS:3-ANT (Triplex) | 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 238 mm | 9.37 in

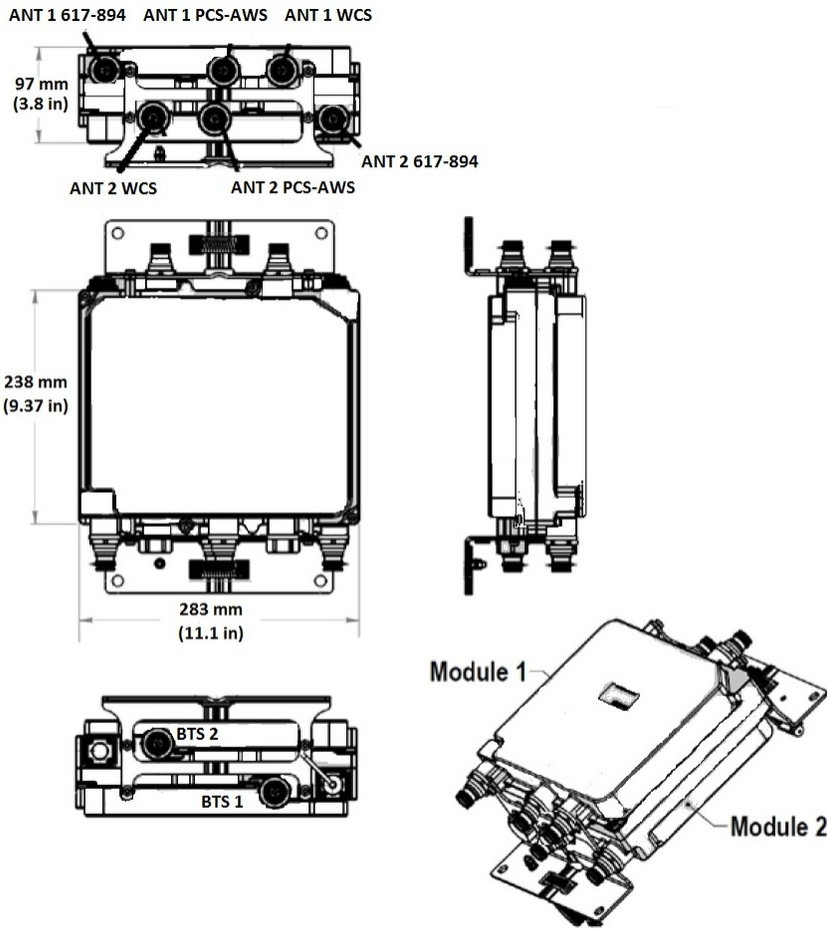
Width 283 mm | 11.142 in

Depth 97 mm | 3.819 in

Ground Screw Diameter 6 mm | 0.236 in

Mounting Pipe Diameter Range 40-160 mm

Outline Drawing



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 WCS 2300

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	160mA @ 24V
Voltage	7-30 Vdc

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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	1 2
Branch	1	2	2	3
Port Designation	617–894	AWS–PCS	AWS-PCS	WCS
AISG 2.0 Device Subunit		E14R00P33 2/5	E14R00P33 3/6	E14R00P33 1/4
License Band	CEL 850, Band Pass USA 750, Band Pass	AWS 1700, LNA	PCS 1900, LNA	WCS 2300, LNA
Return Loss, typical, dB		20	22	22
Return Loss - Bypass Mode, typical, dB		18	18	18

Electrical Specifications Rx (Uplink)

Frequency Range, MHz	1695–1780	1850–1910	2305–2315
Bandwidth, MHz	85	60	10
Gain, nominal, dB	12.5	12.5	13
Gain Tolerance, dB	±1.5	±1.5	±1
Noise Figure, typical, dB	1.1	1.3	1.8
Total Group Delay, maximum, ns	50	150	130
Insertion Loss - Bypass Mode, typical, dB	1.4	2.3	2.8

Electrical Specifications Tx (Downlink)

Frequency Range, MHz	2110–2200	1930–1990	2350–2360
Bandwidth, MHz	90	60	10
Insertion Loss, typical, dB	0.3	0.4	0.5
Total Group Delay, maximum, ns	20	50	50
Return Loss, typical, dB	20	22	22
Input Power, RMS, maximum, W	200	200	150
Input Power, PEP, maximum, W	2000	2000	1500

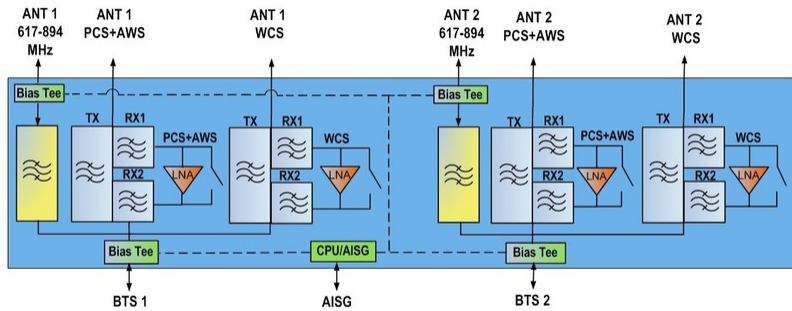
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3rd Order PIM, typical, dBc	-155	-155	-155
3rd Order PIM Test Method	1 x 20 W AWS CW tone 1 x 20 W PCS CW tone	2 x 20 W CW tones	2 x 20 W CW tones

Electrical Specifications, Band Pass

Frequency Range, MHz	617-894
Insertion Loss, typical, dB	0.1
Total Group Delay, typical, ns	4
Return Loss, typical, dB	22
Isolation, typical, dB	50
Input Power, RMS, maximum, W	200
Input Power, PEP, maximum, W	2000
3rd Order PIM, typical, dBc	-155
3rd Order PIM Test Method	2 x 20 W CW tones

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

Mounting Hardware Weight 1 kg | 2.205 lb

Weight, without mounting hardware 9.4 kg | 20.723 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted



* Footnotes

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

License Band, LNA License Bands that have RxUplink amplification