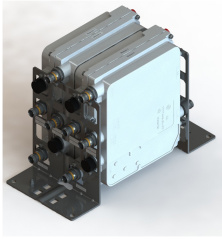


TMAQ192123B68-21 | E14R00P32



Tower Mounted Amplifier, Quad Duplexed PCS/AWS/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
- Quad configuration, 4x4 MIMO ready
- New 4.3-10 connectors for improved PIM performance and size reduction
- Support DC/AISG antenna Auto-forward

Product Classification

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

General Specifications

Color Gray

Modularity 4-Quad

Mounting Pole | Wall

Mounting Pipe Hardware Band clamps (2)

RF Connector Interface 4.3-10 Female

Dimensions

Height 238 mm | 9.37 in

Width 197 mm | 7.756 in

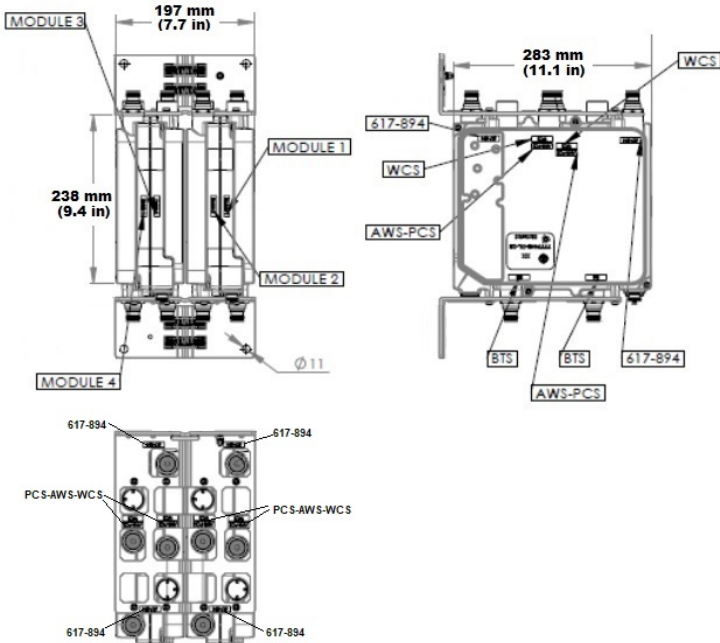
Depth 283 mm | 11.142 in

Ground Screw Diameter 6 mm | 0.236 in

Mounting Pipe Diameter Range 40–160 mm

Outline Drawing

TMAQ192123B68-21 | E14R00P32



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

Electrical Specifications, AISG

TMAQ192123B68-21 | E14R00P32

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 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Branch	1	2	2	2
Port Designation	617–894	AWS–PCS	AWS-PCS	WCS
AISG 2.0 Device Subunit		E14R00P31 2/5	E14R00P31 3/6	E14R00P31 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)

	1695–1780	1850–1910	2305–2315
Frequency Range, MHz			
Bandwidth, MHz	85	60	10
Gain, nominal, dB	12.5	12.5	13
Gain Tolerance, dB	±1.5	±1.5	±1.0
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)

	2110–2200	1930–1990	2350–2360
Frequency Range, MHz			
Bandwidth, MHz	90	60	10
Insertion Loss, typical, dB	0.3	0.5	0.6
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
3rd Order PIM, typical, dBc	-155	-155	
3rd Order PIM Test Method	1 x 20 W AWS CW tone	2 x 20 W CW tones	

TMAQ192123B68-21 | E14R00P32

1 x 20 W PCS CW tone

Higher Order PIM, typical, dBc

-155

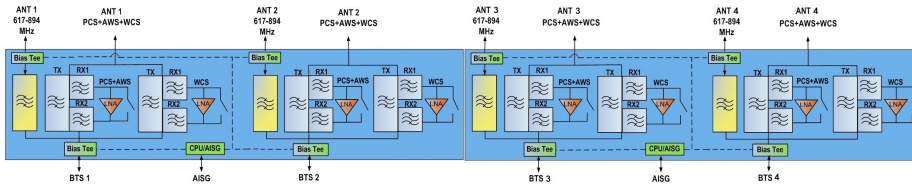
Higher Order PIM Test Method

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
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 2.6 kg | 5.732 lb

Weight, without mounting hardware 19.5 kg | 42.99 lb

* Footnotes

TMAQ192123B68-21 | E14R00P32

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

License Band, LNA License Bands that have RxUplink amplification