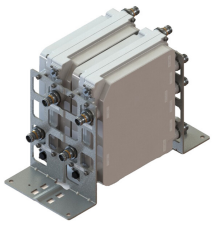
TMAQ192123B68-31 | E14R00P34



Tower Mounted Amplifier,Quad 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

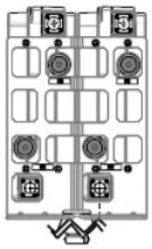
Color	Gray
Modularity	4-Quad
Mounting	Pole | Wall
Mounting Pipe Hardware	Band clamps (2)
RF Connector Interface	4.3-10 Female

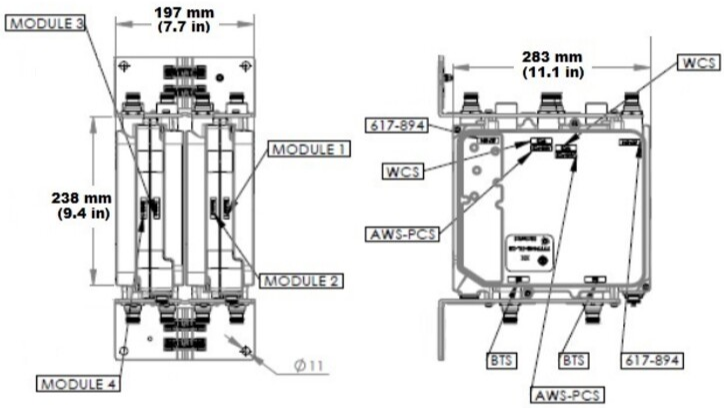
Dimensions

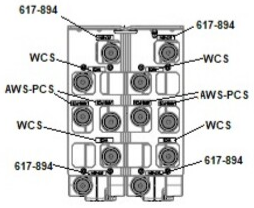
Height	238 mm | 9.37 in
Width	197 mm | 7.756 in
Depth	283 mm | 11.142 in
Ground Screw Diameter	6 mm | 0.236 in
Mounting Pipe Diameter Range	40–160 mm

Outline Drawing

TMAQ192123B68-31 | E14ROOP34







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

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	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)

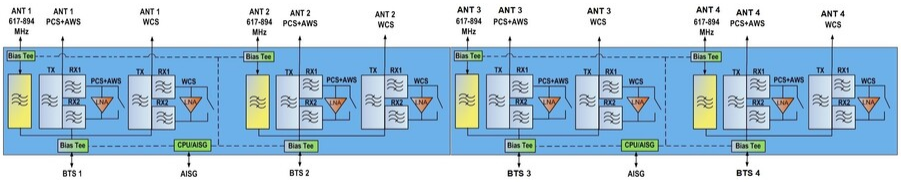
Frequency Range, MHz	**2110–2200**	**1930–1990**	**2350–2360**
Bandwidth, MHz	90	60	10
Insertion Loss, typical, dB	0.3	0.4	0.5
Total Group Delay, maximum, ns	20	50	50
Return Loss, typical, dB	20	22	22
Input Power, RMS, maximum, W	200	200	150
Input Power, PEP, maximum, W	2000	2000	1500
3rd Order PIM, typical, dBc	-155	-155	-155
3rd Order PIM Test Method	1 x 20 W AWS CW tone	2 x 20 W CW tones	2 x 20 W CW tones

1 x 20 W PCS CW tone

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	2.6 kg | 5.732 lb
Weight, without mounting hardware	19.55 kg | 43.1 lb

Regulatory Compliance/Certifications

Agency	**Classification**

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

* 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