Product Specifications

TMAT192123B68-21 | E14R00P31

Tower Mounted Amplifier,Twin Diplexed 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
- Also available in a quad configuration to support 4 x 4 requirements
- New 4.3-10 connectors for improved PIM performance and size reduction

General Specifications

Product Type	1-BTS:2-ANT (Diplex)
Modularity	2-Twin
Includes	Mounting hardware

Electrical Specifications

Sub-module	1 | 2	1 | 2	1 | 2	1 | 2
Branch	1	2	2	2
Port Designation	617–894	AWS–PCS	AWS–PCS	WCS
AISG 2.0 Device Subunit		E14R00P31 1/4	E14R00P31 2/5	E14R00P31 3/6
License Band	CEL 850, Band Pass USA 750, Band Pass	AWS 1700, LNA	PCS 1900, LNA	WCS 2300, LNA

Electrical Specifications Rx (Uplink)

Frequency Range	1695–1780 MHz	1850–1910 MHz	2305–2315 MHz
Bandwidth	85.00 MHz	60.00 MHz	10.00 MHz
Gain, nominal	12.5 dB	12.5 dB	13.0 dB
Gain Tolerance	±1.5 dB	±1.5 dB	±1.0 dB
Noise Figure, typical	1.1 dB	1.3 dB	1.8 dB
Total Group Delay, maximum	50 ns	150 ns	130 ns
Return Loss, typical	20 dB	22 dB	22 dB
Insertion Loss - Bypass Mode, typical	1.4 dB	2.3 dB	2.8 dB
Return Loss - Bypass Mode, typical	18 dB	18 dB	18 dB

Electrical Specifications Tx (Downlink)

Frequency Range	2110–2200 MHz	1930–1990 MHz	2350–2360 MHz
Bandwidth	90.00 MHz	60.00 MHz	10.00 MHz
Insertion Loss, typical	0.30 dB	0.50 dB	0.60 dB
Total Group Delay, maximum	20 ns	50 ns	50 ns
Return Loss, typical	20 dB	22 dB	22 dB
Input Power, RMS, maximum	200 W	200 W	150 W
Input Power, PEP, maximum	2000 W	2000 W	1500 W
3rd Order PIM, typical	-155 dBc	-155 dBc	

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	
Higher Order PIM, typical			-155 dBc
Higher Order PIM Test Method			2 x 20 W CW tones

Electrical Specifications, Band Pass

Frequency Range	617–894 MHz
Insertion Loss, typical	0.10 dB
Total Group Delay, typical	4 ns
Return Loss, typical	22 dB
Input Power, RMS, maximum	200 W
Input Power, PEP, maximum	2000 W
3rd Order PIM, typical	-155 dBc
3rd Order PIM Test Method	2 x 20 W CW tones

Product Classification

Product Type	Tower mounted amplifier

AISG Electrical Specifications

Voltage, AISG Mode	10–30 Vdc
Protocol	AISG 2.0
AISG Carrier	2.176 MHz ± 100 ppm
AISG Connector	8-pin DIN Female
AISG Connector Standard	IEC 60130-9

dc Power/Alarm Electrical Specifications

Voltage	7–30 Vdc
dc Switching/Redundancy	Yes
Operating Current at Voltage	160mA @ 24V
Lightning Surge Current	10 kA
Lightning Surge Current Waveform	8/20 waveform

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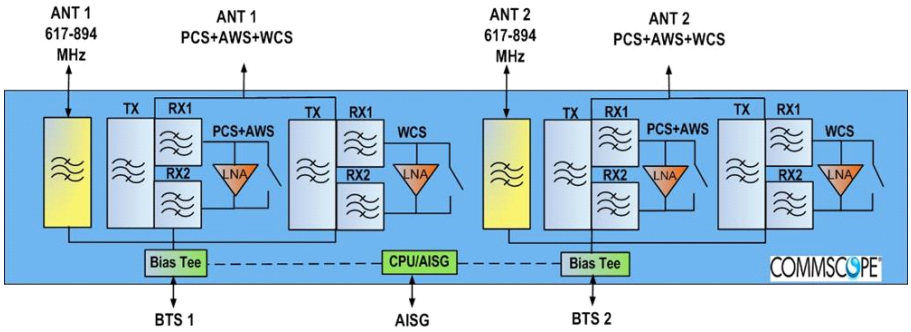
Block Diagram



Mechanical Specifications

RF Connector Interface	4.3-10 Female
Ground Screw Diameter	6.00 mm
Color	Gray
Finish	Painted
Mount Type	Pole | Wall
Mounting Pipe Diameter	40–160 mm
Mounting Pipe Hardware	Band clamps (2)

Dimensions

Height	283.0 mm | 11.1 in
Width	238.0 mm | 9.4 in
Depth	97.0 mm | 3.8 in
Weight, without mounting hardware	9.4 kg | 20.7 lb
Mounting Hardware Weight	1.0 kg | 2.2 lb

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

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Outline Drawing