



Amplifiers

850 MHz Full-Band TMA with SMR Rejection

TMA850SVG24A

DATA SHEET



- Adjustable Gain - 16 to 24 dB
- SMR Channel Filtering
- Single unit
- AISG 2.0 compliant
- Dual duplexed
- High Linearity
- Lightning protected
- High reliability
- Full 25 MHz AMPS band

Overview

Communication Components, Inc. Single Tower-Top Masthead Amplifier (TMA) provides a TMA with SMR channel filtering and AISG control in a single housing. The TMA is full 850MHz band and fully duplexed. High linearity improves the uplink sensitivity and the receive performance of base stations. The TMA is fully compliant with the latest AISG 2.0 specification, backward compatible with DC PDU's and supports CDMA, EDGE/GSM and UMTS BTS equipment. It provides a convenient package to improve site Noise figure. The single TMA package reduces tower loading, leasing, and installation costs. Unit count on the tower is cut in half. SMR filtering is built into the unit to protect against adjacent SMR signals.

Technical Description:

The TMA system consists of an outdoor tower mount unit with integrated AISG sampling from the feeder line. The tower mount unit is dual duplexed to separate the low-power uplink signal from the high-power downlink signal at the antenna port, amplifies the low-level uplink signal using an ultra-low noise amplifier (LNA), and recombines the two paths at the BTS port. The tower mount units consist of three band-pass filters, two redundant low-noise amplifiers, bypass failure circuitry, and bias tee which are all housed in an IP65 moisture proof enclosure, with IP68 Immersion proof connectors suited to long-life masthead mounting. The unit provides protection against lightning strikes via a multi-stage surge protection circuit. DC power and control is provided via the feeder cable from the BTS using the AISG 2.0 and 3GPP standard. A separate AISG connector is also provided to allow direct AISG connection or "Daisy Chaining" multiple AISG products at the top of the tower.

An optional indoor site control unit (SCU) is available to power up to 32 AISG modules per sector and to provide all the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75" x 19" rack and contains dual redundant power supplies capable of being "hot swapped" that provide a regulated DC supply voltage on the RF coax for the tower mount amplifiers.



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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	ANT	824 - 849	19 dB min. (16 dB bypass mode)
		869 - 894	19 dB min.
	BTS	824 - 849	19 dB min. (16 dB bypass mode)
		869 - 894	19 dB min.
Gain	ANT - BTS	824 - 849	16 to 24 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
Insertion Loss	ANT - BTS (RX Bypass mode)	824 - 849	1.4 dB typ. @ 25°C, 1.6 dB typ. @ 65°C (± 1.6 dB)
	ANT - BTS (TX)	869 - 894	0.4 dB typ. (± 0.15 dB)
Rejection	ANT - BTS	851 - 854	> 30 dB
Noise Figure	ANT - BTS	824 - 849	1.4 dB typ. @ 25°C, 1.7 typ. dB @ 65°C; 3.2 max. @ 65°C @ 849 MHz (band edge)
Input Third Order Intercept Point	ANT - BTS	824 - 849	0 dBm min. at max. gain

General Characteristics

Impedance	50 ohms
Continuous Average Power	200 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	< 3.6 W

Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	IP65 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ± 2 KA max per IEC61000-4-5



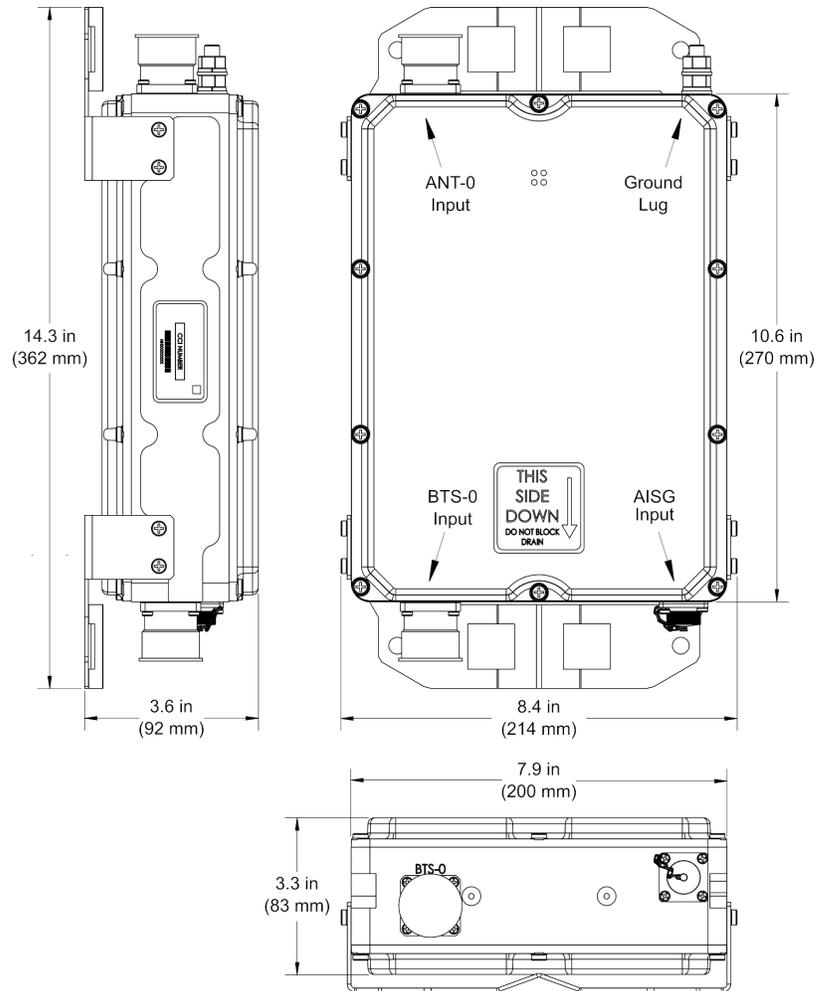
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Mechanical

Connectors	2 x 7-16 DIN female 1 x AISG
Dimensions (w/o connectors or brackets)(HxWxD)	10.6 x 7.9 x 3.3 in. (270 x 200 x 83.2 mm)
Dimensions (with brackets)(HxWxD)	14.25 x 8.4 x 3.6 in. (362 x 213.8 x 92.4 mm)
Weight	13.4 lbs (6.1 kg)-without bracket; 14.2 lbs (6.5 kg)-with bracket
Mounting	Pole/Wall mounting bracket



TMA850SVG24A Outline Drawing

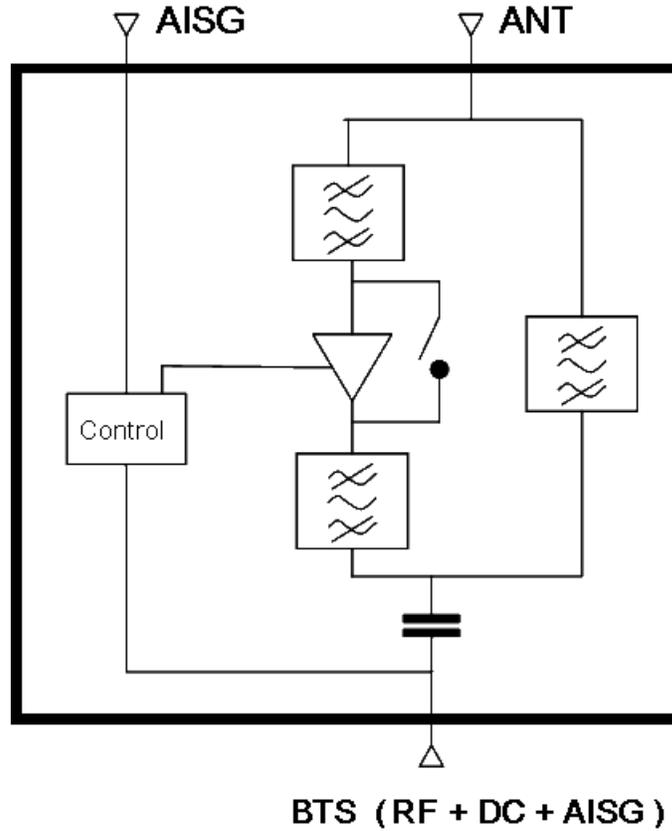


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Block Diagram



TMA850SVG24A Block Diagram



Amplifiers

ORDERING 850 MHz Full-Band TMA with SMR Rejection

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Parts & Accessories

TMA850SVG24A 850 PCS Full band TMA with SMR Rejection



Amplifiers

STANDARDS &
CERTIFICATIONS

850 MHz Full-Band TMA with SMR Rejection

TMA850SVG24A

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US

