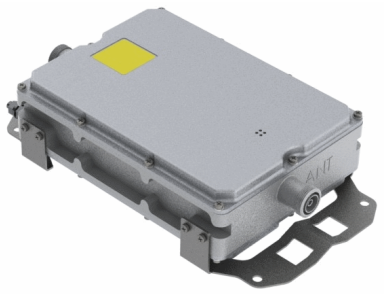
DATA SHEET

Dual Band (AWS/PCS) TMA

TMADB1721VG12A



- Small, lightweight, twin unit
- Dual-Band Dual Duplexed (AWS/PCS)
- Independent Gain Control
- High Linearity
- Lightning protected
- Fail-safe bypass mode
- High reliability

Overview

CCI's Dual Band (AWS/PCS) TMA contains one PCS and one AWS Low Noise Amplifier (LNA) which are fully duplexed to a single BTS input port and a single Antenna output port. High linearity and low noise improves the uplink sensitivity and the receive performance of base stations. The TMA supports all signal modulation formats including CDMA, EDGE/GSM, UMTS and LTE. The TMA is ideally suited for sites upgraded to dual-band using the existing infrastructure. The TMA allows the sharing of feeder lines for both AWS and PCS bands thus reducing tower loading, leasing, and installation costs. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas.

Technical Description:

The TMA system consists of a outdoor dual band tower mount unit which provides low noise amplification of both PCS and AWS signals from a common antenna port to a common BTS port. Both the AWS and PCS paths are dual duplexed to separate the low-power uplink signals from the high-power downlink signals at the antenna port. The PCS and AWS Rx signals are amplified with dedicated ultra-low noise HEMT LNA's with independent adjustable gain control for each band. The tower mount unit consists of six band-pass filters, two redundant low-noise amplifiers with independent gain control, bypass failure circuitry, and bias tee's 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. AISG 2.0 DC power and control is provided via the feeder cable from the BTS using the AISG 2.0 and 3GPP standard. Additionally, the AISG TMA operates at constant power when powered by an AISG 2.0 compatible Site Control Unit (SCU), but may also be powered by a standard Power Distribution Unit (PDU). A separate AISG connector is also provided to allow direct AISG connection or "Daisy Chaining" to multiple AISG products at the top of the tower.
An optional 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.

SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	ANT	1710 - 1755	18 dB min. (15 dB bypass mode)
		2110 - 2155	18 dB min.
		1850 - 1910	18 dB min. (15 dB bypass mode)
		1930 - 1990	18 dB min.
	BTS	1710 - 1755	18 dB min. (15 dB bypass mode)
		2110 - 2155	18 dB min.
		1850 - 1910	18 dB min. (15 dB bypass mode)
		1930 - 1990	18 dB min.
Gain	ANT - BTS	1710 - 1755	6 to 12 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
		1850 - 1910	6 to 12 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
Insertion Loss	ANT - BTS (RX Bypass mode)	1710 - 1755	1.1 typ. dB @25°C, 1.3 dB @65°C (± 0.05 dB)
		1850 - 1910	1.6 typ. dB @25°C, 1.8 dB @65°C (± 1.0 dB)
	ANT - BTS (TX)	2110 - 2155	0.25 dB typ. (± 0.05 dB)
		1930 - 1990	0.4 dB typ. (± 0.2 dB)
Noise Figure	ANT - BTS	1710 - 1755	1.3 dB typ. @ 25°C, 1.5 dB @ 65°C
		1850 - 1910	1.4 dB typ. @ 25°C, 1.6 dB @ 65°C
Input Third Order Intercept Point	ANT - BTS	1710 - 1755	+12 dBm min. at max. gain
		1850 - 1910	+12 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	< 2.0 W

Environmental

Operating Temperature	-40˚C to +65˚C
Enclosure	IP65 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ±2KA max, 10 strikes each per IEC61000-4-5

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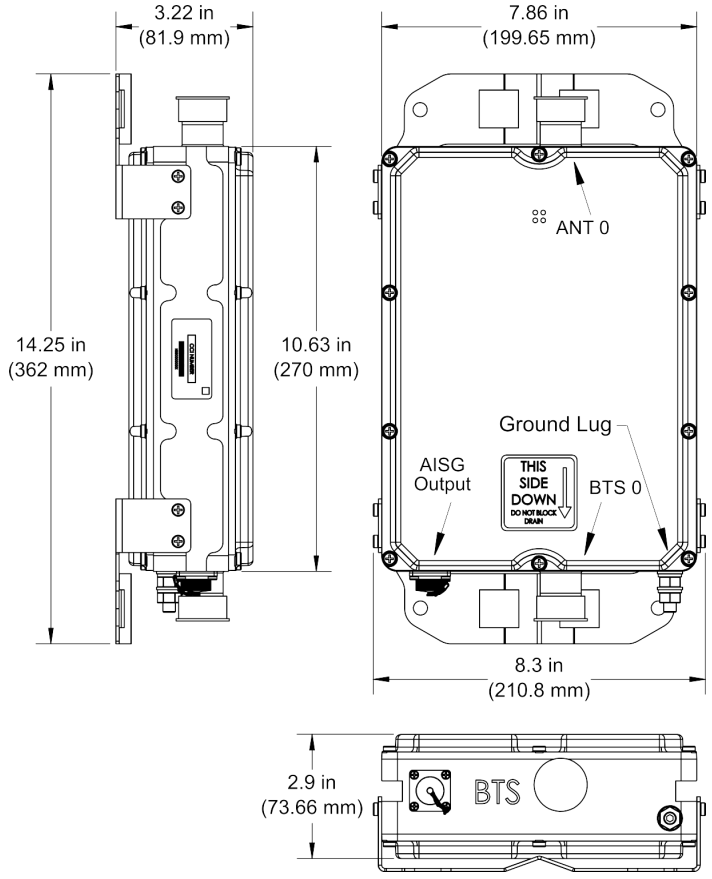
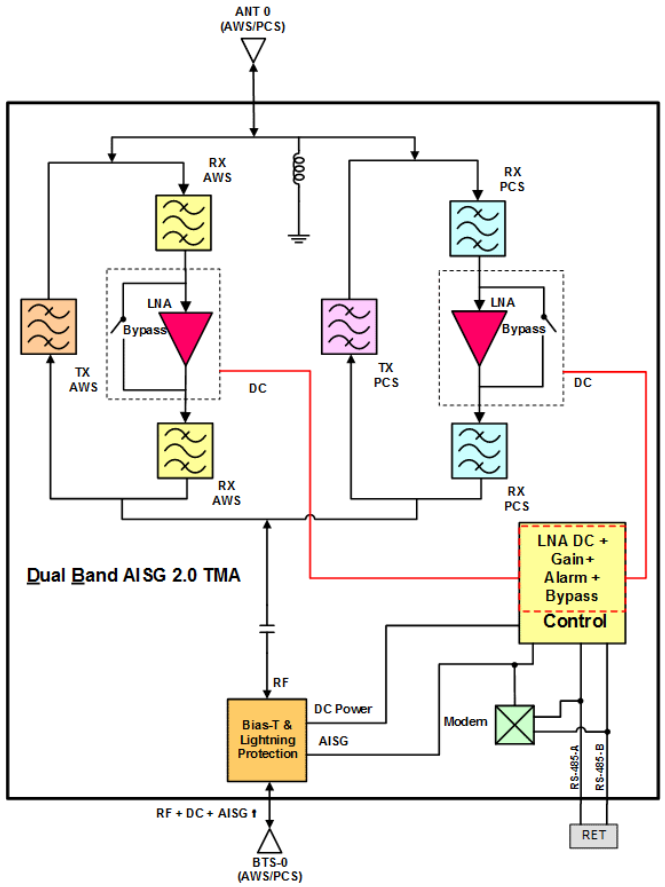
Mechanical

Connectors	2 x 7-16 DIN female 1 x AISG
Dimensions (w/o connectors or brackets)(HxWxD)	10.63 x 7.86 x 2.90 in. (270 x 199.65 x 73.66 mm)
Dimensions (with brackets)(HxWxD)	14.25 x 8.30 x 3.22 in. (362 x 210.8 x 89.1 mm)
Weight	13.3 lbs (6.1 kg)-with bracket
Mounting	Pole/Wall mounting bracket



TMADB1721VG12A Outline Drawing

Block Diagram



TMADB1721VG12A Block Diagram

Parts & Accessories

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STANDARDS & CERTIFICATIONS

Certifications

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