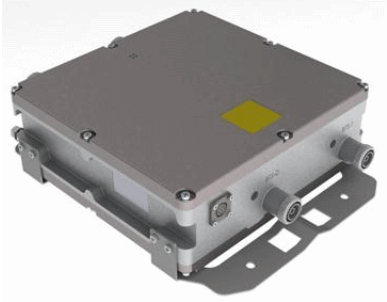
DATA SHEET

PCS Twin TMA with 850 Bypass

DTMABP0819VG12A



- Small, lightweight, twin unit
- Dual Band Dual Duplexed (PCS / Cellular w/Bypass)
- AISG 2.0 and AISG 1.1[1] compatible
- AISG TMA detects BTS port that DC voltage and AISG sampling is applied to, and automatically switches to utilize that port
- AISG TMA operates at constant power
- AISG TMA may be powered by a standard PDU
- High Linearity
- Lightning protected
- Fail-safe bypass mode
- High reliability

[1] Fully functional within the inherent limitations of AISG 1.1

Overview

CCI's Twin Dual Band (Cellular / PCS) TMA contains two dual band TMA's in a single housing. The PCS TMA is full band and fully duplexed, while the Cellular RF is bypassed and combined (Diplexed) with the PCS RF signal. 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. The TMA is also backward compatible with AISG 1.1 when used with CCI's SCU Controller (switch selectable). The TMA supports EDGE/GSM, UMTS and LTE BTS equipment. It provides a convenient package for sites upgraded to dual or quad antenna configurations. The twin TMA package reduces tower loading, leasing, and installation costs. Unit count on the tower is cut in half. An excellent match for two branch receive diversity applications using dual polarization antennas. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas.

The TMA system consists of a twin outdoor dual band tower mount unit which combine separate PCS and Cellular antennas onto a single BTS port. The PCS path of the tower unit is dual duplexed to separate the low-power uplink signals from the high-power downlink signals at the antenna port, amplifies the low-level uplink signals using an ultra-low noise amplifier (LNA), and recombines the two paths at the BTS port. The Cellular (850) path is ultra low loss and passive. Both paths are diplexed at the BTS port. The tower mount units consist of eight band-pass filters, two redundant low-noise amplifiers, 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. DC power and control is provided via the feeder cable from the BTS or a Power Distribution Unit (PDU). Optional AISG 2.0 DC power and control is provided via the feeder cable from the BTS using the AISG 2.0 and 3GPP standard. The optional AISG TMA detects which BTS port has DC Voltage/AISG Sampling applied and automatically switches to utilize that port. Additionally the AISG TMA operates at constant power when powered by an AISG 2.0 Compatible Site Control Unit, but may be powered by a "Standard Power distribution Unit. 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 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.

SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	PCS ANT	1850 - 1910	18 dB min. (15 dB bypass mode)
		1930 - 1990	18 dB min.
	BTS	1850 - 1910	18 dB min. (15 dB bypass mode)
		1930 - 1990	18 dB min.
		824 - 894	18 dB min.
	850 ANT	824 - 894	18 dB min.
Gain	PCS ANT - BTS	1850 - 1910	6 to 12 dB adjustable in 0.25 dB steps via AISG (± 1.0 dB)
Insertion Loss	PCS ANT - BTS (RX Bypass mode)	1850 - 1910	1.6 dB typ. @ 25°C, 1.8 dB @ 65°C; 2.3 dB typ. @ 25°C, 2.5 dB @ 65°C @ 1910 MHz (band edge) (± 1.0 dB)
	PCS ANT - BTS (TX)	1930 - 1990	0.4 dB typ. (±0.2dB)
	850 ANT - BTS	824 - 894	0.1 dB typ., 0.2 dB max.
Rejection	850 ANT - BTS	1850 - 1990	70 dB
	PCS ANT - BTS	824 - 894	80 dB
Noise Figure	PCS ANT - BTS	1850 - 1910	1.4 dB @ 25°C, 1.6 dB @ 65°C; 1.7 dB @ 25°C, 1.9 dB @ 65°C @ 1910 MHz (band edge)
Input Third Order Intercept Point	PCS ANT - BTS	1850 - 1910	+12 dBm min. at max. gain

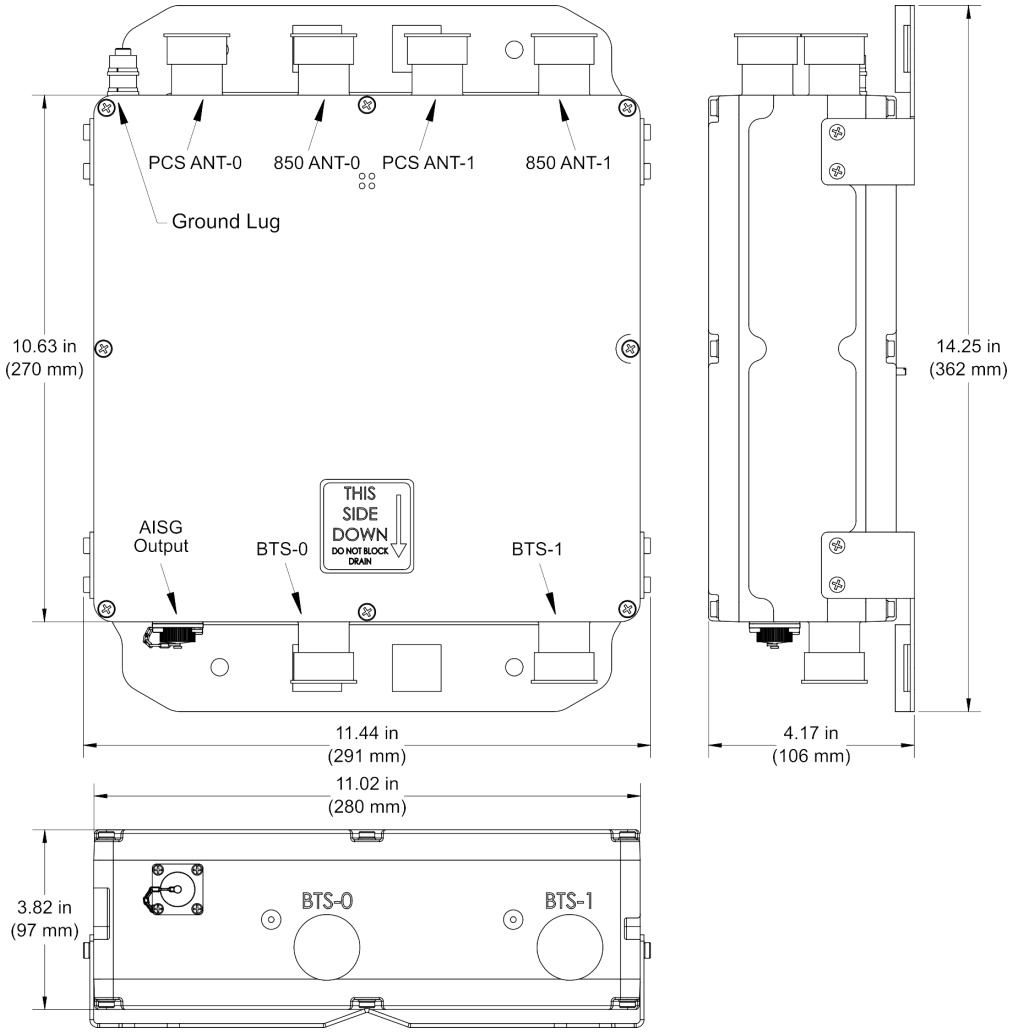
General Characteristics	
Impedance	50 ohms
Continuous Average Power	200 W max.
Peak Envelope Power	2 kW max.
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 × +43 dBm tones) all bands
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	< 2.0 W
AISG Compatability	AISG 2.0, AISG 1.1 (Functional within the limitations of AISG 1.1)
Interface to AISG Equipment	RS 485

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

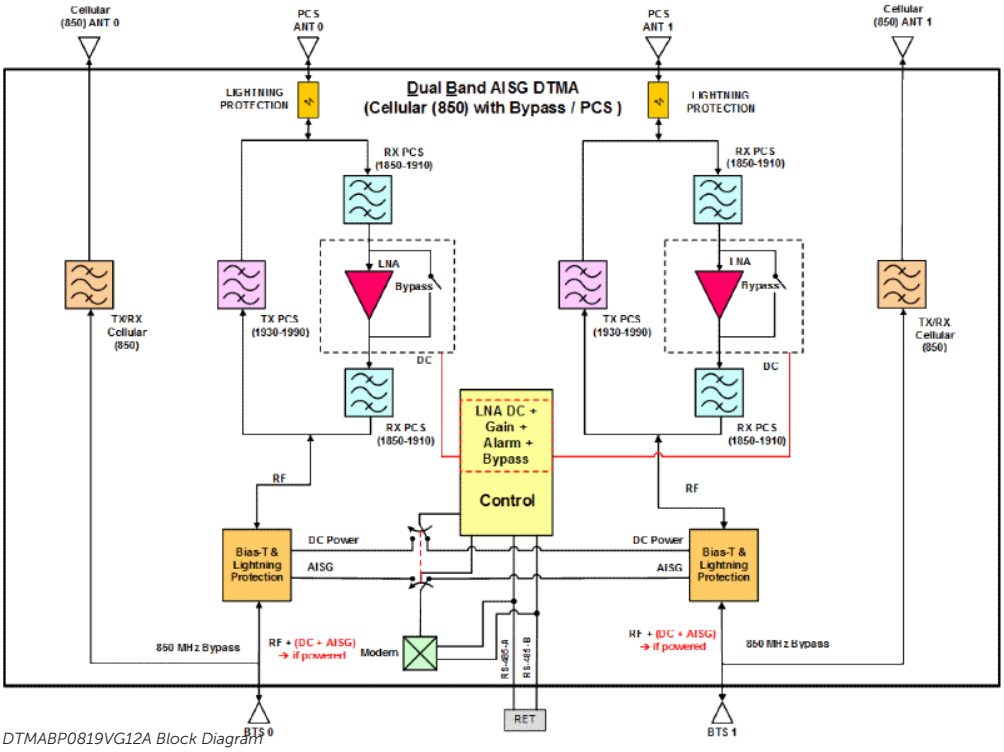
Mechanical

Connectors	6 × 7-16 DIN female(long neck), 1 × AISG
Dimensions (body only)(H×W×D)	14.25 × 11.46 × 4.17 in. (362 × 291 × 106 mm)
Weight	19.18 lbs max (8.7 kg)-with bracket
Mounting	Pole/Wall mounting bracket



DTMABP0819VG12A Outline Drawing

Block Diagram



DTMABP0819VG12A Block Diagram

ORDERING

PCS Twin TMA with 850 Bypass

DTMABP0819VG12A

Parts & Accessories

DTMABP0819VG12A	PCS Full band AISG Twin TMA with 850 Bypass

STANDARDS & CERTIFICATIONS

Certifications

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