



Amplifiers

DATA SHEET

AWS and AWS-3 Twin TMA

DTMA1721AVG14A



- Small, lightweight, twin unit with 8-14 dB of adjustable gain
- Supports the extended AWS band including AWS-3 (1710-1780 and 2110-2180)
- AISG 2.0 and 3GPP compliant
- Dual duplexed and high linearity
- High reliability of >500K Hours MTBF and multi-strike lightning protection

Overview

CCI's Twin TMA contains two TMA's in a single housing. Each TMA is fully duplexed and supports the extended AWS band including AWS-3 covering 1710 - 1780 MHz and 2110 - 2180 MHz. 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 and supports CDMA, 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.

Technical Description:

The TMA system consists of a twin outdoor tower mount unit with two antenna inputs. 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 six band-pass filters, four redundant low-noise amplifiers, bypass failure circuitry, and bias tee's which are all housed in an IP67 moisture proof enclosure and 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. CCI amplifier products are designed and produced to ISO 9001 certification standards for reliability and quality at our state-of-the-art engineering and manufacturing facilities.



Amplifiers

SPECIFICATIONS

AWS and AWS-3 Twin TMA

DTMA1721AVG14A

Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	ANT	1710 - 1780	18 dB min. (15 dB bypass mode)
		2110 - 2180	18 dB min.
	BTS	1710 - 1780	18 dB min. (15 dB bypass mode)
		2110 - 2180	18 dB min.
Gain	ANT - BTS	1710 - 1780	8 to 14 dB adjustable in 0.25 dB steps via AISG (± 0.5 dB)
Insertion Loss	ANT - BTS (RX Bypass mode)	1710 - 1780	1.1 dB typ. @ 25°C, 1.3 dB @ 65°C (± 0.05 dB)
	ANT - BTS (TX)	2110 - 2180	0.15 dB typ. ± 0.05 dB passband ripple
Noise Figure	ANT - BTS	1710 - 1780	1.3 dB typ. @ 25°C, 1.5 dB @ 65°C
Input 3rd Order Intercept Point	ANT - BTS	1710 - 1780	+12 dBm min. at max. gain

General Characteristics

Impedance	50 ohms
Continuous Average Power	500 W max.
Peak Envelope Power	5 kW max.
Intermodulation Performance	<-110 dBm (-153 dBc) typical all bands, 2 x +43 dBm carriers
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	< 2.0 W

Environmental

Operating Temperature	-40 °C to +65 °C
Ingress Protection	IP67
MTBF	>500,000 hours
Lightning Protection	8/20us, ± 10 KA max, 10 strikes each per IEC61000-4-5

Mechanical

Connectors	4 x 7-16 DIN female, 1 x AISG
Dimensions, enclosure	8.1 x 5.85 x 2.6 in. (206 x 149 x 66 mm)
Dimensions, with bracket	11.6 x 7.1 x 3.1 in. (295 x 180 x 79 mm)
Weight, without bracket	8.0 lbs (3.6 kg)
Weight, with bracket	9.0 lbs (4.1 kg)
Mounting	Pole/Wall mounting bracket

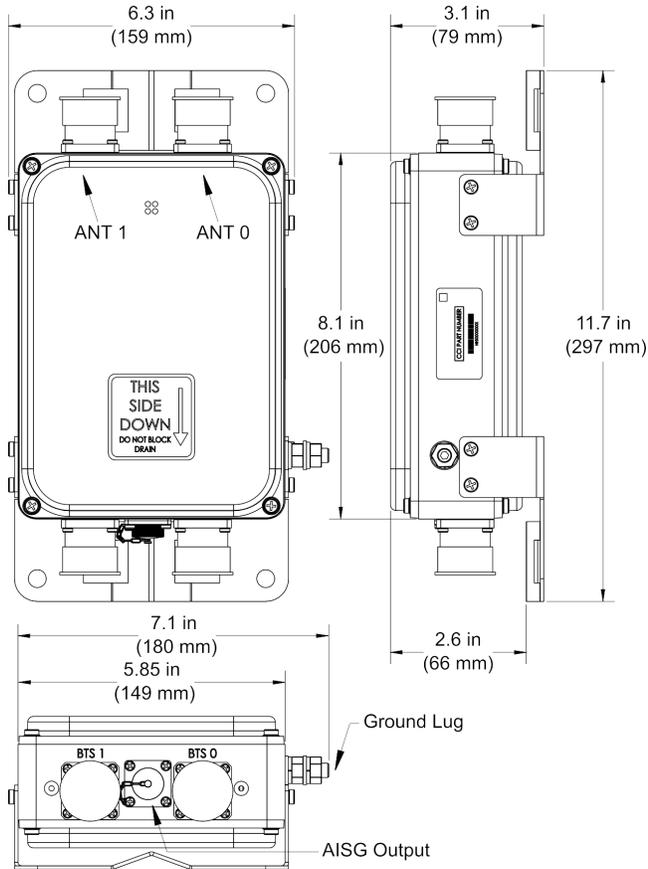


Amplifiers

SPECIFICATIONS

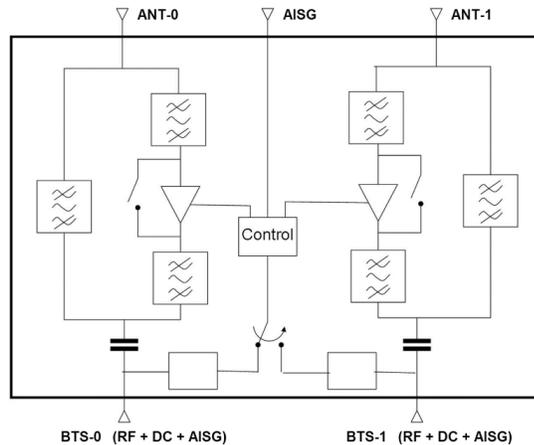
AWS and AWS-3 Twin TMA

DTMA1721AVG14A



DTMA1721AVG14A Outline Drawing

Block Diagram



DTMA1721AVG14A Block Diagram



Amplifiers

STANDARDS & CERTIFICATIONS

AWS and AWS-3 Twin TMA

DTMA1721AVG14A

Parts & Accessories

DTMA1721AVG14A AWS and AWS-3 Band AISG Twin TMA

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, IEC61000-4-5, GR-63-CORE 4.3.1, EN 60529 IP65, IP68

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001

