

MI-171 | KA-1000

TWIN TMA AWS/PCS DUAL BAND WITH LOW BAND BYPASS

Designed to be deployed in co-located AWS, PCS and low band systems with wideband antennas, this Tower Mounted Amplifier provides internal duplexing in all three bands with uplink gain in the high bands. A passive Tx/Rx path is provided to a low-band antenna port, thereby saving capital expenditure and tower leasing fees.

FEATURES

- Improved base station sensitivity through gain in the AWS and 1900 uplink bands
- Highly integrated unit available as a twin unit (4 antenna ports) or as a quad unit (8 antenna ports) to suit 4x4 or 8x8 MIMO systems
- Excellent noise figure performance
- Internal duplexing of 617-894MHz signals to be passed to additional ANT ports
- Internal duplexing of AWS and PCS bands
- AISG2.0 compatible
- Compact, low weight



TECHNICAL SPECIFICATIONS

BAND NAME	PCS	AWS
DOWNLINK (TX) PATH		
Passband	1930 - 1990 MHz	2110 - 2200 MHz
Insertion loss	0.5dB typical	0.3dB typical
Return loss	18dB	
Maximum input power	200W (average) / 2000W (PEP)	
Intermodulation products	-165dBc in RX band at ANT	
UPLINK (RX) PATH		
Passband	1850 - 1910 MHz	1695 - 1780 MHz
Gain	12dB +/- 1.0 dB	
Return loss	16dB	
Bypass return loss	12dB minimum	
Bypass loss	2.2dB typical	1.5dB typical
Noise figure	1.3dB typical	1.1dB typical
Output IP3	+25dBm typical	
Maximum input power with no damage	+12dBm	
LOW BAND BYPASS PATH		
Passband	617 - 894 MHz	
Insertion loss	0.2dB typical	
Return loss	18dB	
Maximum input power	200W (average) / 2000W (PEP)	
Intermodulation products	-165dBc in RX band at ANT	
ELECTRICAL		
Impedance	50Ohms	

AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)

AISG signals can be applied to the BTS ports. The TMA unit switches to AISG mode when valid frames are detected on either port. Each LNA is controlled uniquely by its sub-unit number.

DC supply voltage	+9.0V to +30V DC
AISG version	2.0
Power consumption, AISG mode	< 4W
AISG connector, current rating	IEC60130-9, 8-pin female, 1.6A

ENVIRONMENTAL

For further details of environmental compliance, please contact Kaelus.

Temperature range	-40°C to +65°C -40°F to +149°F
Ingress protection	IP67
Lightning protection	IEC61312-1, RF: ±5kA (8/20us), AISG: ±2kA (8/20us)
MTBF	>1,000,000 hours
Compliance	EMC:EN 301 489-50, ETSI EN 300 019 class 4.1E, RoHS

MECHANICAL

Feature	TWIN	QUAD
Dimensions H x D x W	344 x 258 x 58.5mm 12.87 x 10.16 x 2.3in	344 x 258 x 109mm 12.87 x 10.16 x 4.29in
Weight	6.5kg 8.82lbs	11kg 24.25lbs
Finish	Powder coated, NCS 1502-R	
Mounting	Pole/wall bracket using two metal clamps, suits 40-140mm diameter poles	

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS	AISG MODE
KA-1000-2032	TWIN, 2 in / 4 out	BASE MODEL	4.3-10 (F) 1xAISG	TWOTWO
KA-1000-4032	QUAD, 4 in / 8 out	BASE MODEL	4.3-10 (F) 2xAISG	TWOTWO
MI-17131	TWIN, 2 in / 4 out	BASE MODEL	4.3-10 (F) 1xAISG	ONETWO
MI-17132	TWIN, 2 in / 4 out	BASE MODEL	4.3-10 (F) 1xAISG	TWOTWO
MI-17141	QUAD, 4 in / 8 out	BASE MODEL	4.3-10 (F) 2xAISG	ONETWO
MI-17142	QUAD, 4 in / 8 out	BASE MODEL	4.3-10 (F) 2xAISG	TWOTWO

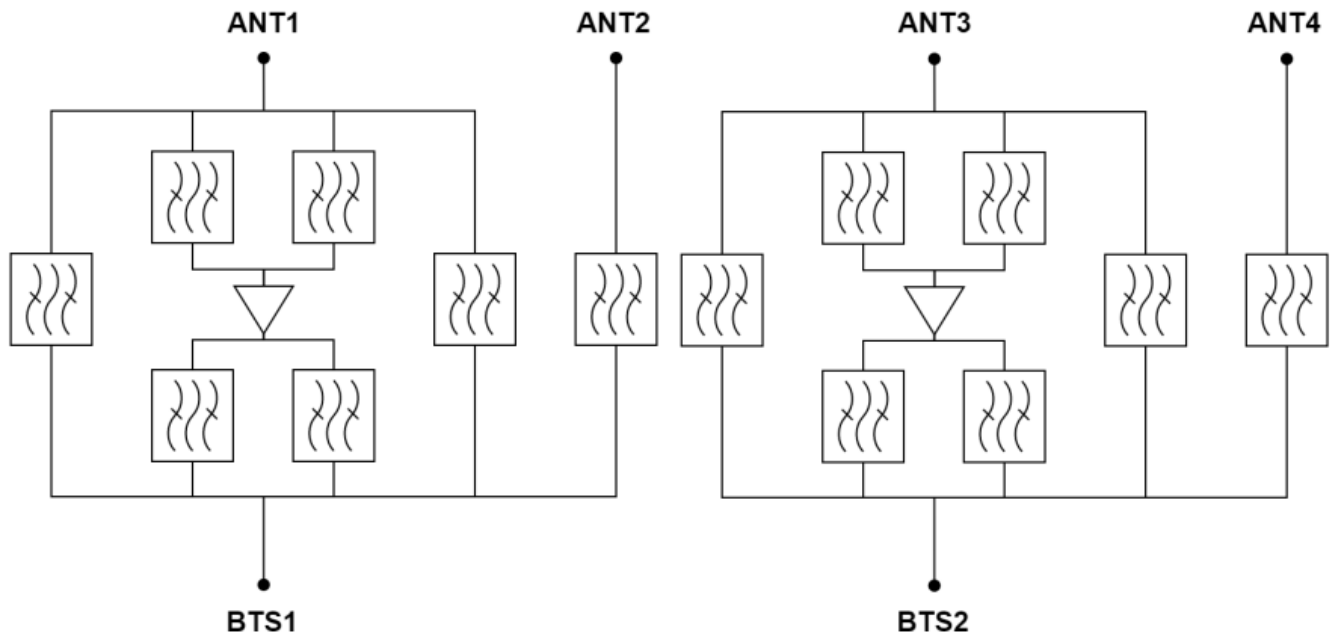
Note: in the AISG mode "ONETWO" the multi band TMA is seen as 1 logic units with 2 subunits each and it is only required to connect to one of the two BTS ports. Either port can be used.

Note: in the AISG mode "TWOTWO" the multi band TMA is seen as 2 logic units with 2 subunits each and it is only required to connect to one of the two BTS ports. Either port can be used.

ELECTRICAL BLOCK DIAGRAM

KA-1000-x032 where
 x denotes the configuration:
 x=2, Twin unit - 2 in / 4 out
 x=4, Quad unit - 4 in / 8 out

ANT1 and **ANT 3** port is AWS & 1900 band
ANT2 and **ANT 4** port is 617-894 band



MECHANICAL BLOCK DIAGRAM

