

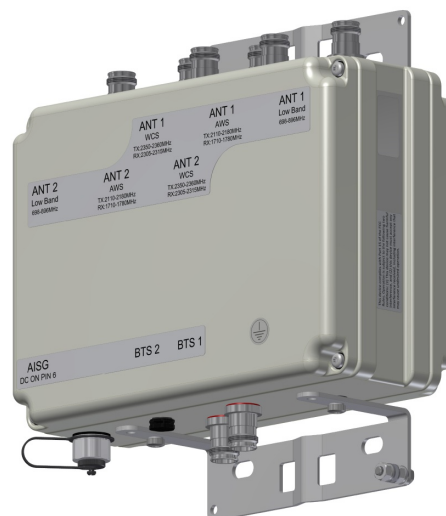
TMA2116F00V1-1

TWIN TMA AWS/WCS, LOWPASS

Designed to be deployed in co-located AWS & WCS systems with wideband antennas, the Kaelus TMA provides internal diplexing and gain in both bands while allowing 700/850 services to pass through to a separate antenna, thereby saving hardware costs

FEATURES

- Improved base station sensitivity through gain in AWS and WCS bands
- High linearity and low noise performance; Bypass provided for 700/850MHz services
- Hardware and software configuration using AISG “Personality” upload
- Fail safe bypass mode with lightning protection



TECHNICAL SPECIFICATIONS

BAND NAME	AWS	WCS
DOWNLINK		
Passband	2110 - 2180MHz	2350 - 2360MHz
Insertion loss	0.4dB typical	0.5dB typical
Return loss	18dB minimum	
Maximum input power	160W (average) / 2kW (PEP)	120W (average) / 1.2kW (PEP)
UPLINK		
Passband	1710 - 1780MHz	2305 - 2315MHz
Gain	13dB	12dB
Variable gain	3dB to 13dB in 1dB steps (controlled by AISG commands)	2dB to 12dB in 1dB steps (controlled by AISG commands)
Gain variation	±1dB maximum	
Return loss	18dB minimum operating, 12dB in bypass	
Bypass return loss	18dB minimum typical, 14dB minimum guaranteed	
Bypass loss	2.5dB typical	3.3dB typical
Noise figure	1.3dB typical	1.7dB typical
Output IP3	+30dBm typical	
Maximum input power with no damage	+12dBm maximum	
Rejection	27.5dB minimum@2324.54 - 2341.285MHz	
LOW BAND PATH		
Passband	698 - 896MHz	
Return loss	18dB minimum	
Insertion loss	0.35dB typical	
Maximum input power with no damage	200W (average) / 2kW (PEP)	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-153dBc maximum in RX band with 2 x 20 carriers	

POWER SUPPLY AND ALARM (CURRENT WINDOW ALARM MODE, DEFAULT)

Current window alarm mode (CWA) is the default TMA operating mode and can be configured to specific customer requirements. The generic personality (F00V1) is configured so that both channels are independently powered and monitored via the respective BTS port. The BTS port sinks additional current to indicate an alarm state in its uplink path. Normal operating and alarm current values are configured independently via a field-loadable personality file, Please contact Kaelus for more information.

DC supply voltage	8.5 to 30V DC, case is DC ground
DC supply	Each BTS powered individually (programmable)
DC supply current, normal mode	200 ± 20mA per port (programmable)
DC supply current, alarm mode	300 ± 30mA per port(programmable)

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

AISG signals can be applied to either BTS1 or BTS2 ports. The TMA2116FxxVx-1 unit switches to AISG mode when valid frames are detected on one of the BTS ports. Both LNAs take DC power from the port with AISG frames or, if DC is present on both ports, both channels supply equal power to the TMA2116FxxVx-1.

DC supply voltage	+8.5V to +30V DC
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	400mA @ 8.5V, 120mA @ 30V typical
AISG connector, current rating	IEC60130-9, 8-pin female , < 4A peak, 2A continuous, pin 6
Field firmware upgradable	Yes

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 maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	FCC part 15, ETSI EN 300 019 class 4.1, RoHS

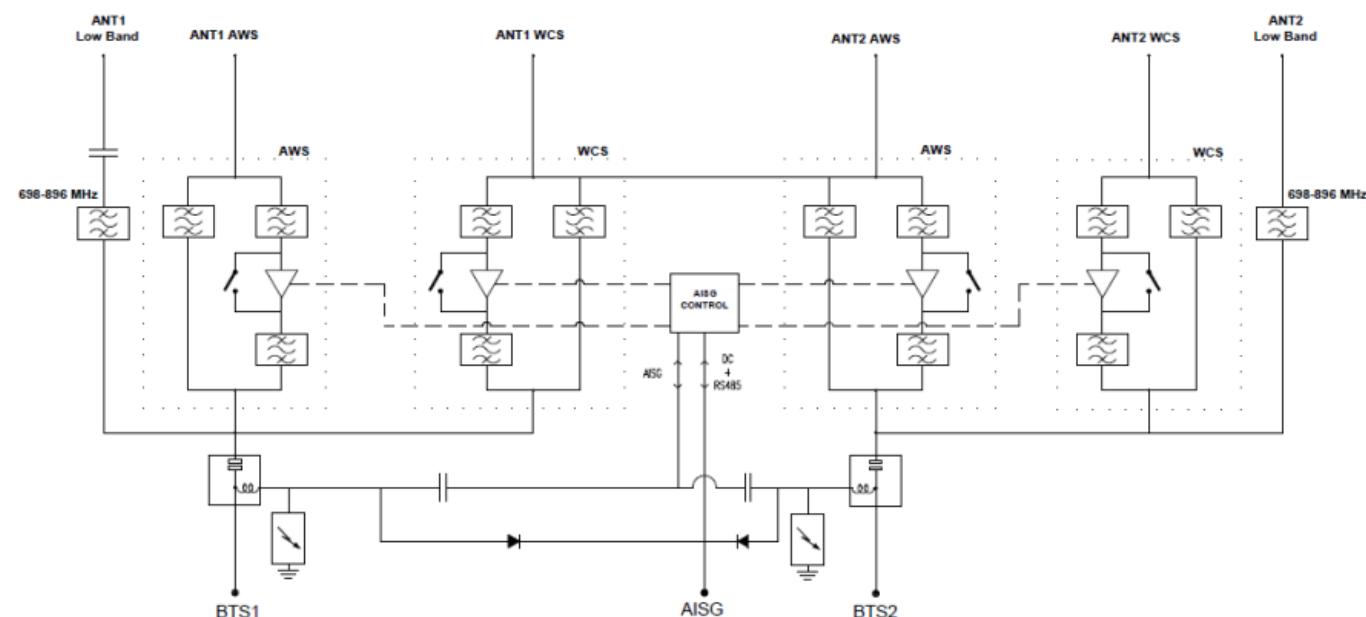
MECHANICAL

Dimensions H x D x W	300 x 215x 123mm 11.8 x 8.46 x 4.8in
Weight	11kg 24lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 8 long shank, AISG (F) x 1
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
TMA2116F00V1-1	TWIN TMA AWS/WCS, 698-896 LOWPASS, 6 ANT

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

