

TMA2104

TWIN TMA 2300, LOWPASS

Designed to be deployed in 2300MHz WCS Band, the Kaelus TMA2104 provides gain at the 2300MHz uplink band while allowing 700/850 services to pass through to a low-band antenna. This saves OPEX, CAPEX and gives excellent system performance as well as full AISG capabilities.

FEATURES

- Improved base station sensitivity through gain in 2300MHz bands
- High linearity and low noise performance
- Bypass provided for 700/850 MHz services
- Hardware and software configuration using AISG "Personality" upload
- Fail safe bypass mode with lightning protection



TECHNICAL SPECIFICATIONS

2300MHZ DOWNLINK (TX) PATH	
Passband	2350 - 2360MHz
Return loss	18dB minimum
Insertion loss	0.5dB typical
Maximum input power with no damage	120W (average) / 1.2kW (PEP)
Intermodulation @ antenna ports	-153dBc maximum in RX band with 2 x 20W carriers
2300MHZ UPLINK AWS (TX) PATH	
Passband	2305 - 2315MHz
Nominal gain	12dB
Gain variation over frequency, temperature	± 1dB maximum
Noise figure	1.7dB typical
Return loss	18dB minimum operating, 15dB minimum in bypass mode
Bypass loss	3.3dB typical
Output IP3	+30dBm typical
Maximum input power with no damage	12dBm maximum
Rejection Rx in 2324.54 - 2341.285MHz	27.5dB minimum
Rejection Rx in 698 - 2170MHz	75dB minimum
LOW BAND PATH	
Passband	698 - 894MHz
Return loss	18dB minimum
Insertion loss	0.35dB typical
Maximum input power with no damage	200W (average) / 2kW (PEP)
Intermodulation @ antenna ports	-153dBc maximum in RX band with 2 x 20W carriers
ELECTRICAL	
Impedance	50ohms

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	8.5V to 30V DC, case is DC ground
DC supply	Each BTS powered individually (programmable)
DC supply current, normal mode	100 ± 20mA per port (programmable)
DC supply current, alarm mode programmable range	180 ± 30mA per port

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

AISG signals can be applied to either BTS1 or BTS2 ports. The TMA2104FxxVx-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 TMA2104FxxVx-1.

DC supply voltage	+8V to +30V DC
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	215mA @ 8.5V, 70mA @ 30V typical
AISG connector, current rating	IEC60130-9, 8-pin female, < 4A peak, 2A continuous, pin 6
Field firmware upgradable	Yes
AISG pass through to antenna port	Yes (optional)

ENVIRONMENTAL

For further details of environmental compliance, please contact Kaelus.

Temperature range	-40° to +65°C -40° to +149°F
Ingress protection	IP67
Altitude	2,000m 6,561ft
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

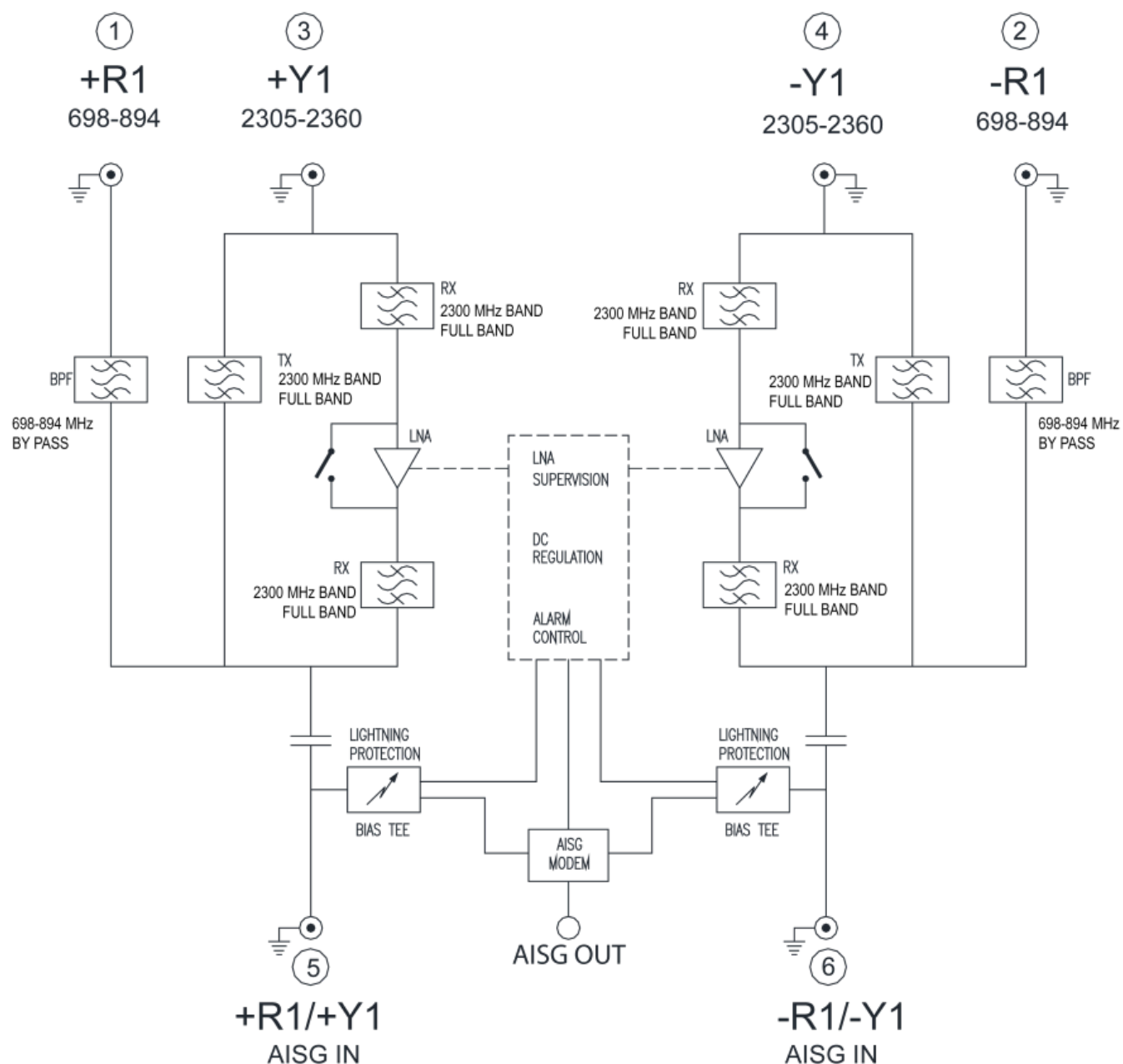
MECHANICAL

Dimensions H x D x W	220 x 200 x 104mm 8.7 x 7.9 x 4.1in (excluding brackets and connectors)
Weight	7.7kg 17lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 6 long shank, AISG (F) x 1
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
TMA2104F00V1-1	TWIN 2 in / 4 out	Generic CWA configuration	DIN 7-16 (F)
TMA2104F00V1-2	Quad 4 in / 8 out	Generic CWA configuration	DIN 7-16 (F)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

