

TMA2036

TWIN TMA 1800

A full band 1800MHz tower mounted amplifier with good noise figure performance, the Kaelus TMA2036 improves uplink gain thereby increasing site coverage and capacity in cellular networks.

FEATURES

- Full band 1800MHz
- High linearity and low noise performance
- Fail safe bypass mode with lightning protection
- AISG and current dump compatible hardware and software configuration using AISG “personality” upload



TECHNICAL SPECIFICATIONS

DOWNLINK (TX) PATH	
Passband	1805 - 1880MHz
Return loss	18dB minimum (VSWR <1.3:1)
Insertion loss	0.6dB typical
Group delay variation	5ns maximum (200kHz) 30ns maximum (4MHz)
Maximum input power with no damage	150W (average) / 1.5kW (PEP)
UPLINK (RX) PATH	
Passband	1710 - 1785MHz
Nominal gain	12dB typical
Gain variation over frequency, temperature	±1dB maximum
Noise figure	1.2dB typical
Return loss	18dB minimum operating, 14dB minimum in bypass
Bypass loss	2dB typical
Group delay variation	5ns maximum (200kHz) 30ns maximum (4MHz)
Output IP3	+30dBm typical
ELECTRICAL	
Impedance	50ohms
Intermodulation products	-153dBc maximum at antenna port, 2 x 20W 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 and are alterable via a field-loadable personality file.	
DC supply voltage	+8V to +30V DC, negative ground
DC supply voltage via BTS-RF cable	Each BTS port powered individually (programmable)
DC supply current, normal mode	100mA typical, 120mA maximum (programmable with two BTS ports powered)
DC supply current, alarm mode	200mA typ per port (programmable)
DC supply current, alarm mode programmable range	150-250mA, with 100mA normal operating current

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

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

DC supply voltage	+8V to +30V DC
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	55mA at 30V, 135mA at 12V
Voltage drop, BTS to AISG port	1.5V maximum at 2A
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° to +65°C -40° to +149°F
Ingress protection	IP67
Altitude	2,600m 8,530.2ft max
Lightning protection	IEC61312-1, RF: ±5kA maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	1.000,000 (hours)
Compliance	EMC:EN301 489, ETSI EN 300 019 class 4.1, RoHS

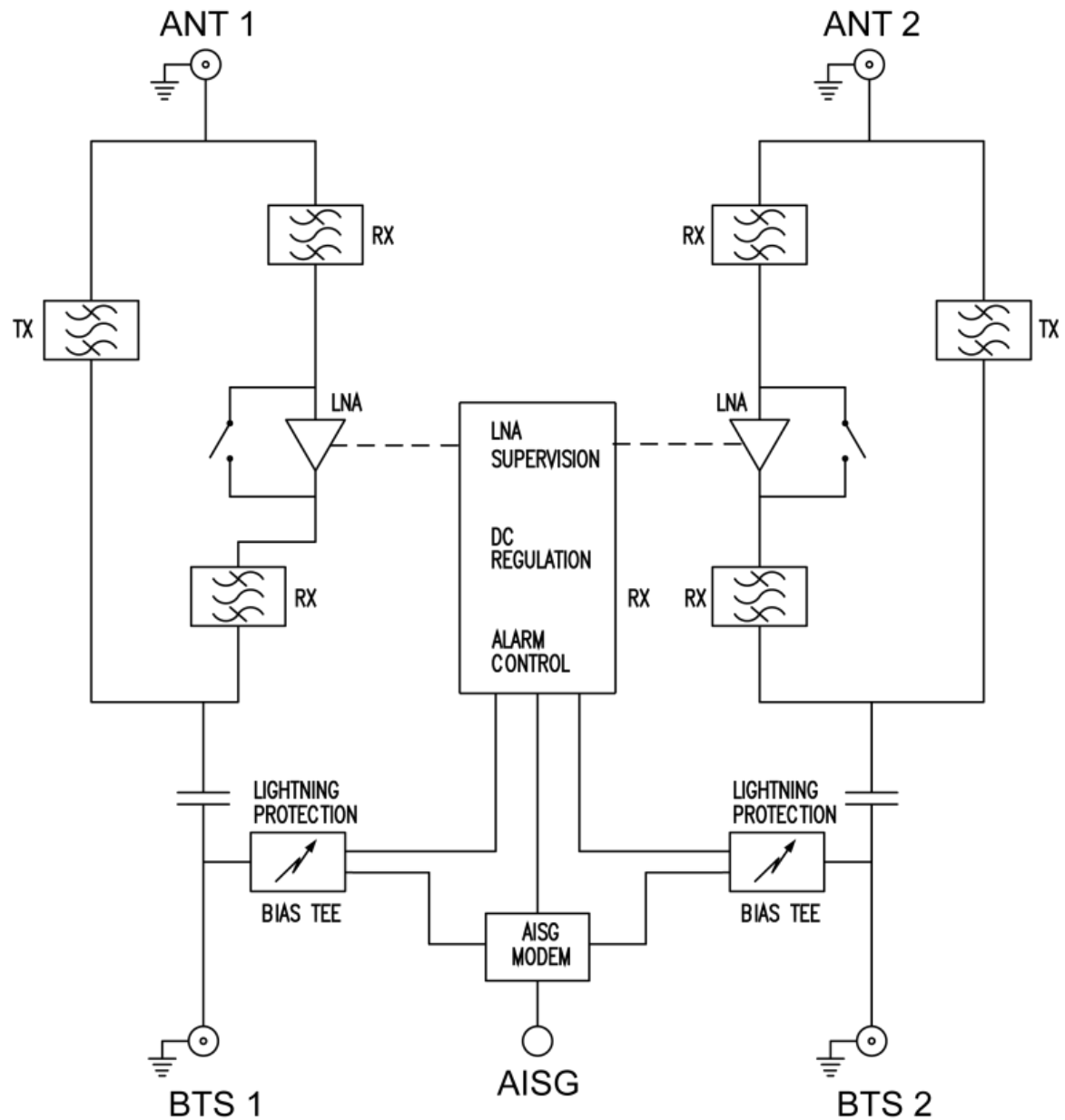
MECHANICAL

Dimensions H x D x W	270 x 73 x 200mm 10.63 x 2.87 x 7.87in (excluding connector and mounting bracket)
Weight	6kg 13.2lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 4 long neck, 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
xx Denotes customized CWA configurations			
TMA2036F00V1-1	TWIN, 2 in / 2 out	Generic CWA configuration	DIN 7-16 (F)
TMA2036FxxV1-1	TWIN, 2 in / 2 out	BASE MODEL	DIN 7-16 (F)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

