

TMA2050

TWIN TMA 900

Designed to be used at co-located 850MHz and 900MHz sites, the Kaelus TMA2050 provides rejection of the 850MHz downlink frequencies while amplifying the 900MHz thereby removing the need for external 900MHz filtering.

FEATURES

- Part band GSM900 with rejection below 890MHz, ideal for co-located 900 and 850MHz networks
- Twin 900MHz TMA unit with high linearity and low noise figure performance
- Hardware and software configuration using AISG personality upload
- High reliability with lightning protection and bypass mode



TECHNICAL SPECIFICATIONS

DOWNLINK (TX) PATH	
Passband	943 - 960MHz
Bandwidth	Up to 17MHz tuned anywhere within 935 - 960MHz
Return loss	18dB minimum
Insertion loss	0.35dB typical
EVM	2% typical / 5% maximum in any 4MHz
Group delay variation	5ns maximum per 200kHz, 20ns maximum per 4MHz
Maximum input power with no damage	200W (average) / 2kW (PEP)
UPLINK (RX) PATH	
Passband	898 - 915 MHz
Bandwidth	17MHz tuned anywhere within 890 - 915MHz
Nominal gain	13 ± 1dB
Gain variation over frequency, temperature	±0.45dB maximum
Noise figure	1.1dB typical
Return loss	18dB minimum, 12dB minimum bypass mode
Insertion loss	2.5dB typical bypass mode
EVM	in any 4MHz 2% typical / 5% maximum (902 - 915MHz) 6% typical / 10% maximum (898 - 902MHz)
Group delay variation	20ns maximum per 200kHz, 100ns maximum per 4MHz
Output IP3	+10dBm minimum (3rd order)
Maximum input power with no damage	<12dBm
REJECTION	
ANT to BTS, vs 902.5MHz, F00V1	
50 - 890MHz	50dBc minimum
922.5 - 932.5MHz	30dBc minimum
1000 - 2200MHz	30dBc minimum
ELECTRICAL	
Impedance	50ohms
Intermodulation products	-153dBc maximum at antenna ports, BTS port with 2 x 43dBm TX 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 using a personality file. The TMA2050F00V1 is configured so that both channels are powered and monitored via the BTS1 port. The BTS1 port consumes different current to indicate an alarm state in either uplink path. Normal operating and alarm current values are configured independently and are alterable via a field-loadable personality file. Please contact Kaelus for more information.

DC supply voltage	+8.5V to +30V DC
DC supply voltage via BTS-RF cable	BTS1 (F00V1: BTS2 does not support DC)
DC supply current, normal mode	250mA typical
DC supply current, alarm mode	135mA (LNA1), 195mA (LNA2) (typical)

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

AISG signals must be applied to BTS1 port. The TMA switches to AISG mode when valid frames are detected on BTS 1 port. If DC is present on BTS2 port then no current is drawn on BTS2 port.

AISG version	2.0 (1.1 optional)
Supply current, AISG mode	55mA at 30V, 120mA at 12V typical
Voltage drop, BTS to AISG port	1.1 V maximum
AISG connector, current rating	IEC60130-9, 8-pin female, < 4A peak, 2A continuous, pin 6
Field firmware upgradable	Yes by AISG download

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 8,530ft maximum
Lightning protection	IEC61312-1, RF: ±5kA maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	>1,000,000 (hours)
Compliance	EMC:EN301 489

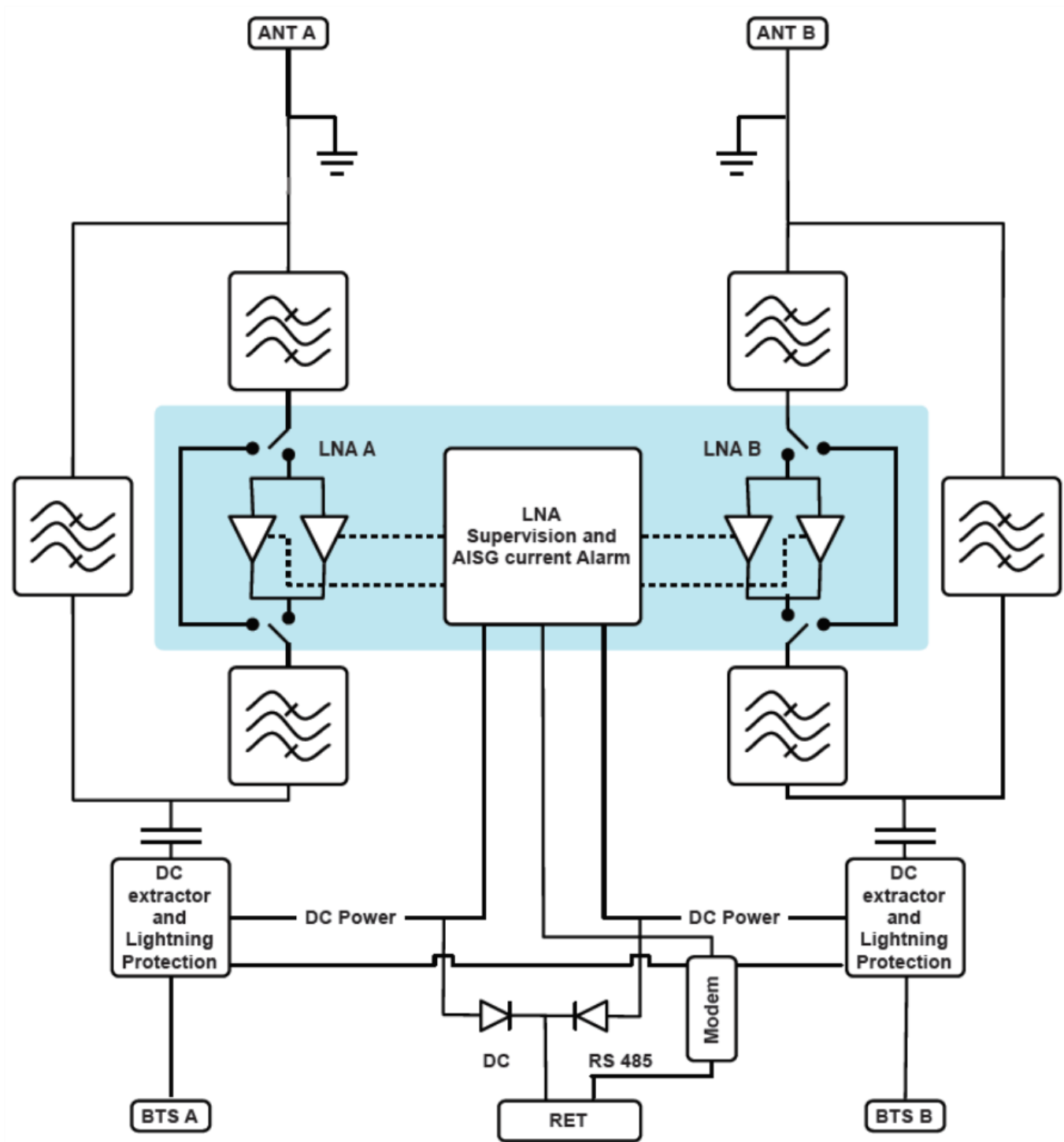
MECHANICAL

Dimensions H x D x W	331 x 300 x 86mm 13 x 11.8 x 3.38in (excluding brackets and connectors)
Weight	10.5kg 23.1lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 4 long neck
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
Contact Kaelus for options.			
TMA2050F00V1-1	TWIN 2 in / 2 out	DC on BTS1 only	DIN 7-16 (F)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

