

# TMA2040F00V1-1

## TWIN TMA 850

The Kaelus twin 850MHz TMA has been designed to operate in any 850MHz cellular network and provides excellent noise figure performance.



### FEATURES

- Dual duplex twin TMA providing improved base station sensitivity through excellent noise performance, high linearity and variable gain
- Hardware and software configuration using AISG “personality” upload
- High reliability with full lightning protection and a fail-safe bypass mode
- AISG and current dump compatible
- Small light weight and easy to install

### TECHNICAL SPECIFICATIONS

DOWNLINK (TX) PATH	
Passband	869 - 894MHz
Bandwidth	25MHz
Return loss	18dB minimum
Insertion loss	0.3dB typical
EVM	3% maximum
Group delay variation	20ns maximum (4MHz)
Maximum input power with no damage	200W (average) / 2kW (PEP)
UPLINK (RX) PATH	
Passband	824 - 849MHz
Bandwidth	25MHz
Nominal gain	Variable 8dB to 16dB (selected via AISG, default 16dB)
Gain variation over frequency, temperature	±1dB maximum
Noise figure	1.0dB typical @ 12dB gain
Return loss	18dB minimum, 12dB minimum in bypass mode
Insertion loss	2.0dB typical in bypass mode
Group delay variation	40ns maximum (4MHz)
Maximum input power with no damage	+12dBm maximum
Input intercept point	+8dBm minimum
ELECTRICAL	
Impedance	50ohms
Intermodulation products	-153dBc maximum at antenna ports, 2 x 43dBm TX carriers
REJECTION	
50 - 750MHz	46dB minimum
1000 - 2200MHz	46dB minimum

<b>POWER SUPPLY AND ALARM (CURRENT WINDOW ALARM MODE, DEFAULT)</b>	
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, contact Kaelus for more information.	
DC supply voltage	8.5V to 30V DC
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	180mA typical

<b>AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)</b>	
AISG signals can be applied to either BTS port. The TMA unit switches to AISG mode when valid frames are detected on one of the ports. The TMA unit is DC powered only from the BTS port supplying the AISG frames.	
DC supply voltage	+8.5V 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, < 4A peak, 2A continuous, pin 6
Field firmware upgradable	Yes

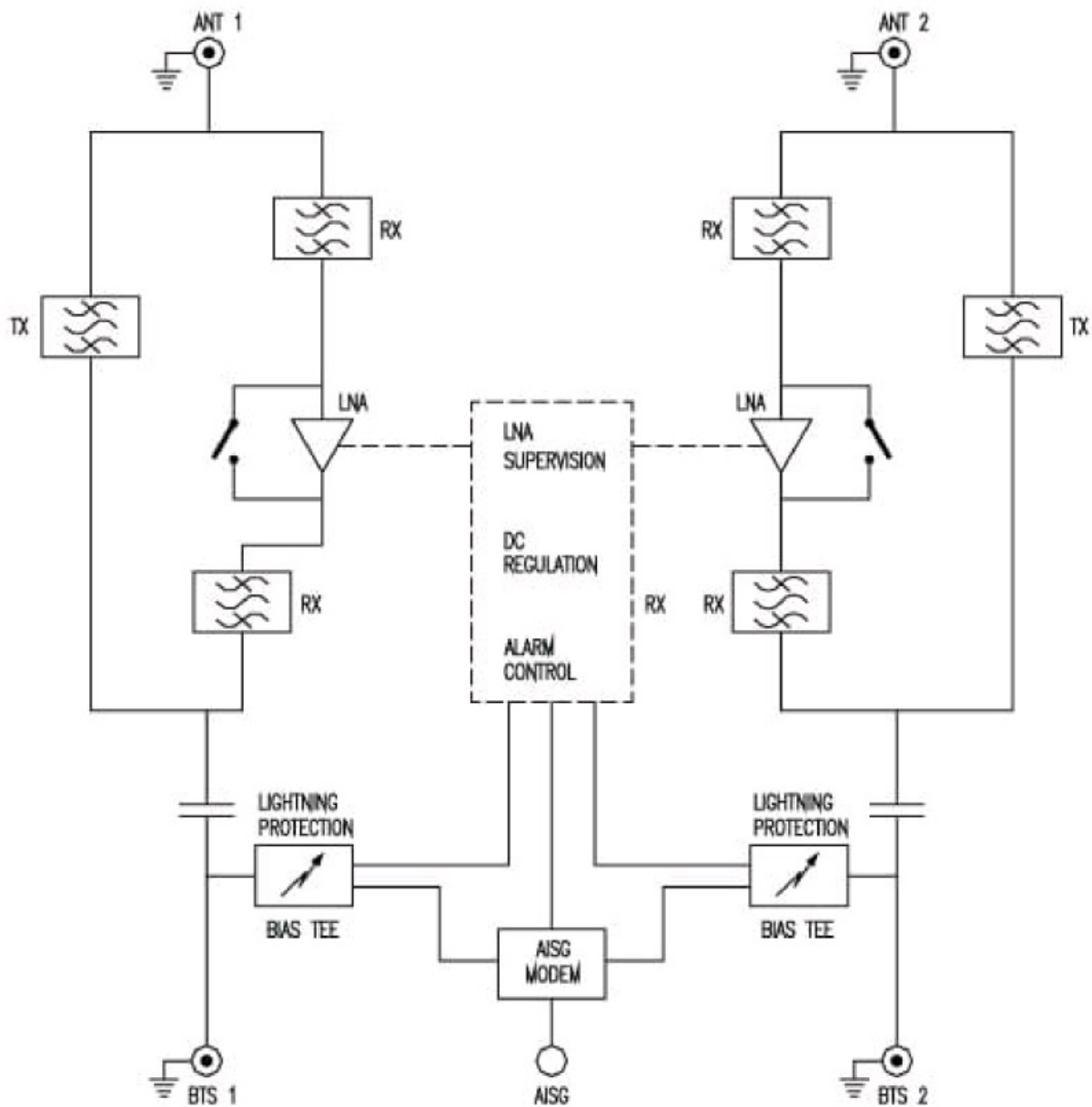
<b>ENVIRONMENTAL</b>	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40° to +65°C   -40° to +149°F
Ingress protection	IP67
Altitude	2,000m   6,561ft
Lightning protection	IEC61312-1, RF: ±2kA maximum (10/350us) AISG: ±2kA maximum (8/20us)
MTBF	>1,000,000 (hours)
Compliance	EMC:EN301 489, ETSI EN 300 019 class 4.1, RoHS

<b>MECHANICAL</b>	
Dimensions H x D x W	217 x 239 x 86mm   8.54 x 9.41 x 3.38in
Weight	7.5kg   16.53lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 4 long shank
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
xx Denotes customized CWA configuration	
TMA2040F00V1-1	Twin TMA, 850MHz full band, with AISG configured with generic CWA configuration
TMA2040FxxV1-1	Twin TMA, 850MHz full band, with AISG
TMA2040F02V1-1	Twin TMA, 850MHz full band, Kaelus TMA0004 replacement personality

**ELECTRICAL BLOCK DIAGRAM**



MECHANICAL BLOCK DIAGRAM

