

TMA2053F03V2-4

TWIN TMA 1800/2100

Designed to be deployed in co-located 1800 & 2100MHz systems with wideband antennas, the Kaelus TMA2053 provides internal diplexing and gain in both bands, thereby saving hardware costs.

FEATURES

- Improved base station sensitivity through gain in the 1800 and 2100 uplink bands
- Hardware & software configuration using AISG “personality” upload
- Excellent noise figure performance
- Internal diplexing of 1800 and 2100MHz bands
- AISG2.0 compatible
- Compact, low weight



TECHNICAL SPECIFICATIONS

BAND NAME	1800	2100
DOWNLINK		
Passband	1805 - 1880MHz	2110 - 2170MHz
Insertion loss	0.6dB typical	0.4dB typical
Return loss	18dB minimum (VSWR <1.3:1)	18dB minimum
Maximum input power	200W (average) / 2kW (PEP)	120W (average) / 2kW (PEP)
Intermodulation products	-153dBc maximum (3rd order) in RX band with 2 x 20W carriers	-163dBc maximum, (7th order) in RX band with 2 x 20W carriers
UPLINK		
Passband	1710 - 1785MHz	1920 - 1980MHz
Gain	12dB	
Gain variation	±1dB maximum	
Return loss	18dB minimum	
Bypass return loss	12dB	
Bypass loss	2.5dB typical	2.9dB typical
Noise figure	1.25dB typical	1.35dB typical
Output IP3	+24dBm minimum	+30dBm typical
Maximum input power with no damage	+12dBm	
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 (F03V2) personality is configured so that when DC power is applied to either BTS port, all LNAs are switched on. Power can also be applied to both BTS ports however current will only be drawn from the BTS1 port in this instance. 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	7.5V to 30V DC, case is DC ground via BTS-RF cable	
DC supply voltage via BTS-RF cable	DC power can be applied to either port DC power to be drawn from one BTS port only DC applied to both BTS ports power will only be drawn from BTS1	
DC supply current, normal mode	250 ± 15mA per port	
DC supply current, alarm mode	300 ± 20mA per port	

POWER CONSUMPTION		
CWA Operating Mode	BTS1	BTS2
Normal (all LNAs OK)	10-18VDC @ 250mA	0V
Normal (all LNAs OK)	0V	10-18VDC @ 250mA
Normal (all LNAs OK)	10-18VDC @ 250mA	10-18VDC @ <10mA
Alarm (any LNA fault)	10-18VDC @ 300mA	0V
Alarm (any LNA fault)	0V	10-18VDC @ 300mA
Alarm (any LNA fault)	10-18VDC @ 300mA	10-18VDC @ <10mA

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 and responds as two devices, each with 2 subunits. 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 TMA.	
DC supply voltage	10V to 30V DC
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	210mA @ 10V, 75mA @ 30V typical
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

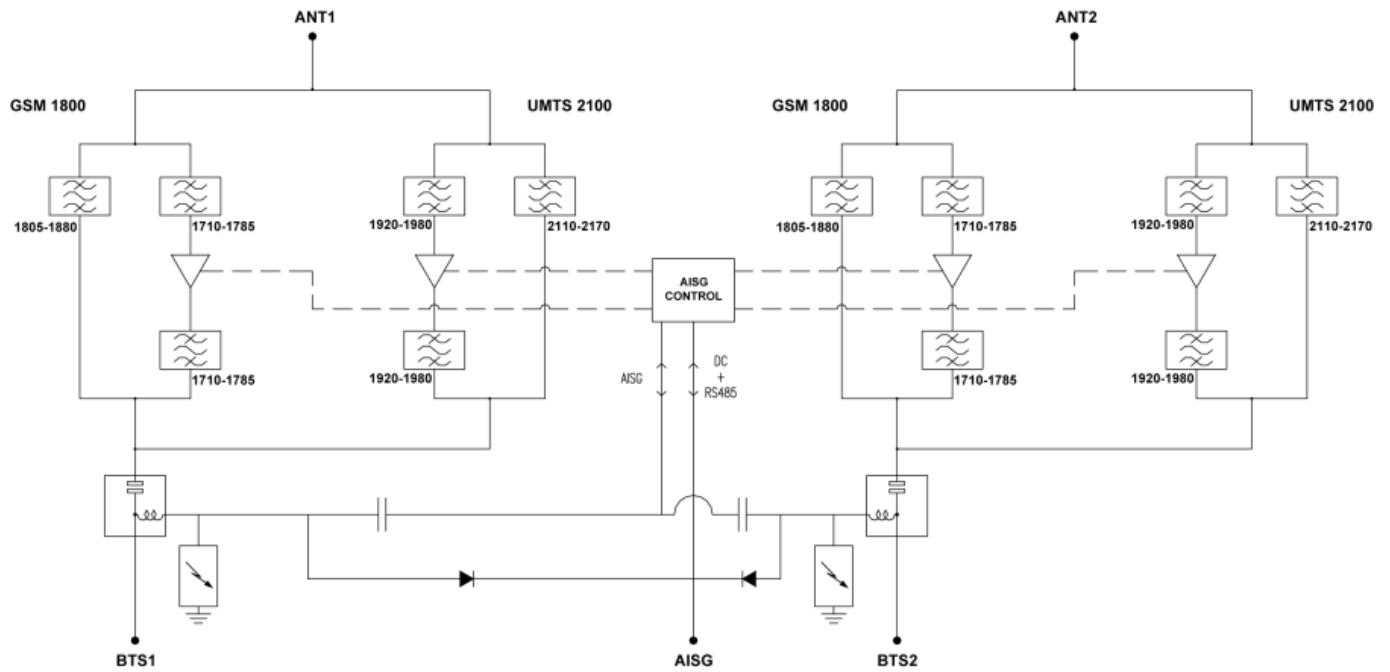
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40°C to +65°C -40°F to +155°F
Ingress protection	IP67
Lightning protection	IEC61312-1, RF: ±5kA maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	EMC:EN301 489, ingress ETSI EN 300 019 class 4.1, RoHS

MECHANICAL	
Dimensions H x D x W	168 x 300 x 93mm 6.61 x 11.81 x 3.66in (excluding brackets and connectors)
Weight	7.9kg 17.4lbs
Finish	Powder coated, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 4 long neck or 4.3-10 (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
Kaelus TMAs can be uploaded with customer specific CWA configuration, customer specific firmware (FW) and a custom bracket (BKT). Please contact Kaelus for more information.			
TMA2053F00V1-1	TWIN 2 in / 2 out	Configured with generic personality	DIN 7-16 (F)
TMA2053F03V2-4	TWIN 2 in / 2 out	CUSTOM CWA, BKT	DIN 7-16 (F)
TMA2053F03V3-4C	TWIN 2 in / 2 out	CUSTOM CWA, BKT, FW	DIN 7-16 (F)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

