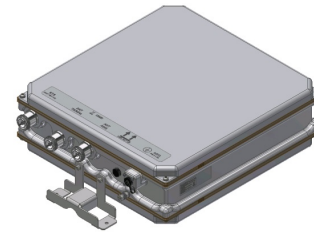


# TMA2042F1V1-1

## TMA 700/AWS

Designed to be used at co-located 700MHz and AWS sites, the Kaelus TMA2042 provides internal diplexing of the two bands. Costly external diplexers and feeders are no longer required, resulting in decreased hardware costs, environmental impact and tower licensing fees.



### FEATURES

- LTE ready
- AISG 2.0 compatible, fully software upgradable
- Improved base station sensitivity through gain in both the 700 MHz and AWS uplink bands
- Excellent noise figure performance
- Full lightning protection and fail safe bypass mode

### TECHNICAL SPECIFICATIONS

BAND NAME	700MHZ	AWS
<b>DOWNLINK</b>		
Passband	728 - 746MHz	2110 - 2170MHz
Insertion loss	0.4dB maximum, 0.3dB typical	0.4dB maximum, 0.25dB typical
Return loss	18dB minimum	
Maximum input power	500W (average) / 5kW (PEP)	
<b>UPLINK</b>		
Passband	698 - 716MHz nominal 699.25 - 714.75MHz	1710 - 1770MHz
Gain	12dB minimum	
Return loss	18dB minimum	
Bypass return loss	15dB minimum	
Bypass loss	3dB maximum over temperature range 1.7dB typical mid band at 25°C	3dB maximum over temperature range 2dB typical mid band at 25°C
Noise figure	2.1dB maximum 1.2dB typical mid band at 25°C	2dB maximum over temperature range 1.1dB typical mid band at 25°C
Output IP3	+22dBm minimum, +26dBm typical	
Maximum input power with no damage	+12dBm	
<b>UPLINK REJECTION</b>		
Rejection in TX band	80dB minimum	
Rejection @ 1700MHz	40dBc minimum	25dBc minimum
Rejection @ 716.2MHz	40dBc minimum	25dBc minimum
Rejection @ 697.8MHz	40dBc minimum	25dBc minimum
<b>ELECTRICAL</b>		
Impedance	50 Ohms	
Intermodulation products	-155dBc maximum at antenna port with 2 x 20W carriers	

GENERAL SPECIFICATIONS, MEASURED OVER 180KHZ WITHIN THE PASS BAND	
Phase linearity variation, 700MHz band	2° maximum, 0.7° typical Uplink 0.2° typical Downlink
Phase linearity variation, AWS band	1° maximum, 0.2° typical Uplink 0.2° typical Downlink
Group delay variation, 700MHz band	70ns maximum, 50ns typical Uplink 5ns maximum, 1ns typical Downlink
Group delay variation, AWS band	5ns maximum, 0.8ns typical
Amplitude variation, 700MHz band	0.35dB maximum, 0.2dB typical
Amplitude variation, AWS band	0.2dB maximum, 0.01dB typical

POWER SUPPLY AND ALARM (CURRENT WINDOW ALARM MODE, DEFAULT)	
CWA mode is the default TMA operating mode. The BTS port sinks additional current to indicate an alarm state.	
DC supply voltage	7.5V to 30V DC, case is DC ground
DC supply	Through BTS connector
DC supply current, normal mode	200 ± 20mA
DC supply current, alarm mode	300 ± 30mA

POWER CONSUMPTION	
Normal operation	1.5W @ 7.5V, 6.0W @ 30V typical
Alarm mode	4.5W @ 15V typical

AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)	
AISG signals can be applied to either BTS port. The TMA 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.	
AISG version	2.0 (1.1 optional)
Supply current, AISG mode	200mA @ 7.5V, 65mA @ 30V typical
Voltage drop, BTS to AISG port	0.2V maximum at 2A
Power consumption, AISG mode	1.5W @ 7.5V, 2W @ 30V typical
AISG connector, current rating	IEC60130-9, 8-pin female, < 4A peak, 2A continuous, pin 6

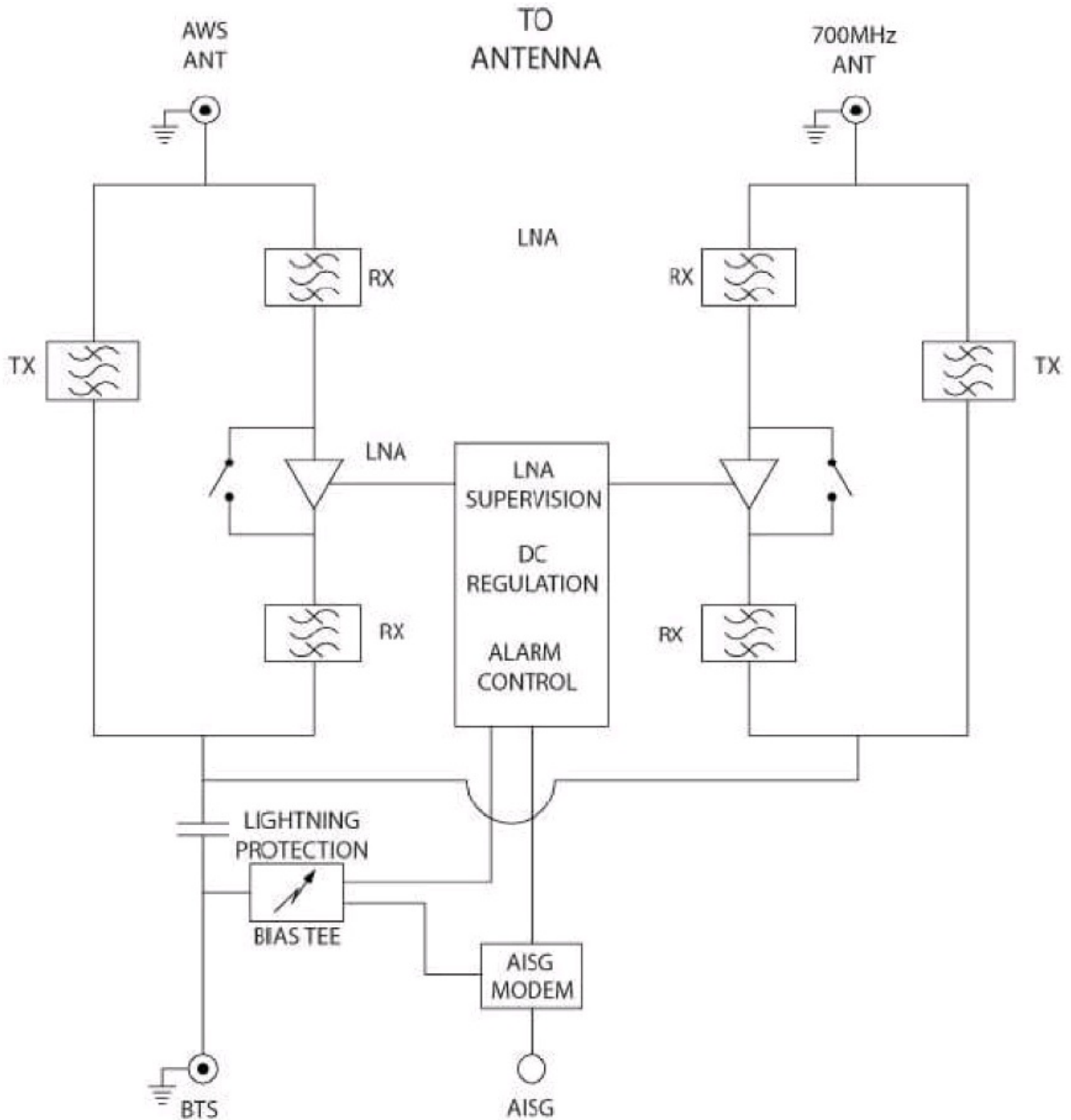
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-40° to +65°C   -40° to +149°F
Ingress protection	IP67
Lightning protection	IEC61312-1, RF: ±5kA maximum (8/20us), AISG: ±2kA maximum (8/20us)
MTBF	>700,000 (hours)
Compliance	FCC part 15, ETSI EN 300 019 class 4.1, RoHS

MECHANICAL	
Dimensions H x D x W	400 x 111 x 380mm   15.7 x 4.37 x 14.96in
Weight	15kg   33lbs
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 3 long neck
Mounting	Pole/wall bracket supplied with two metal clamps 45-178mm diameter poles

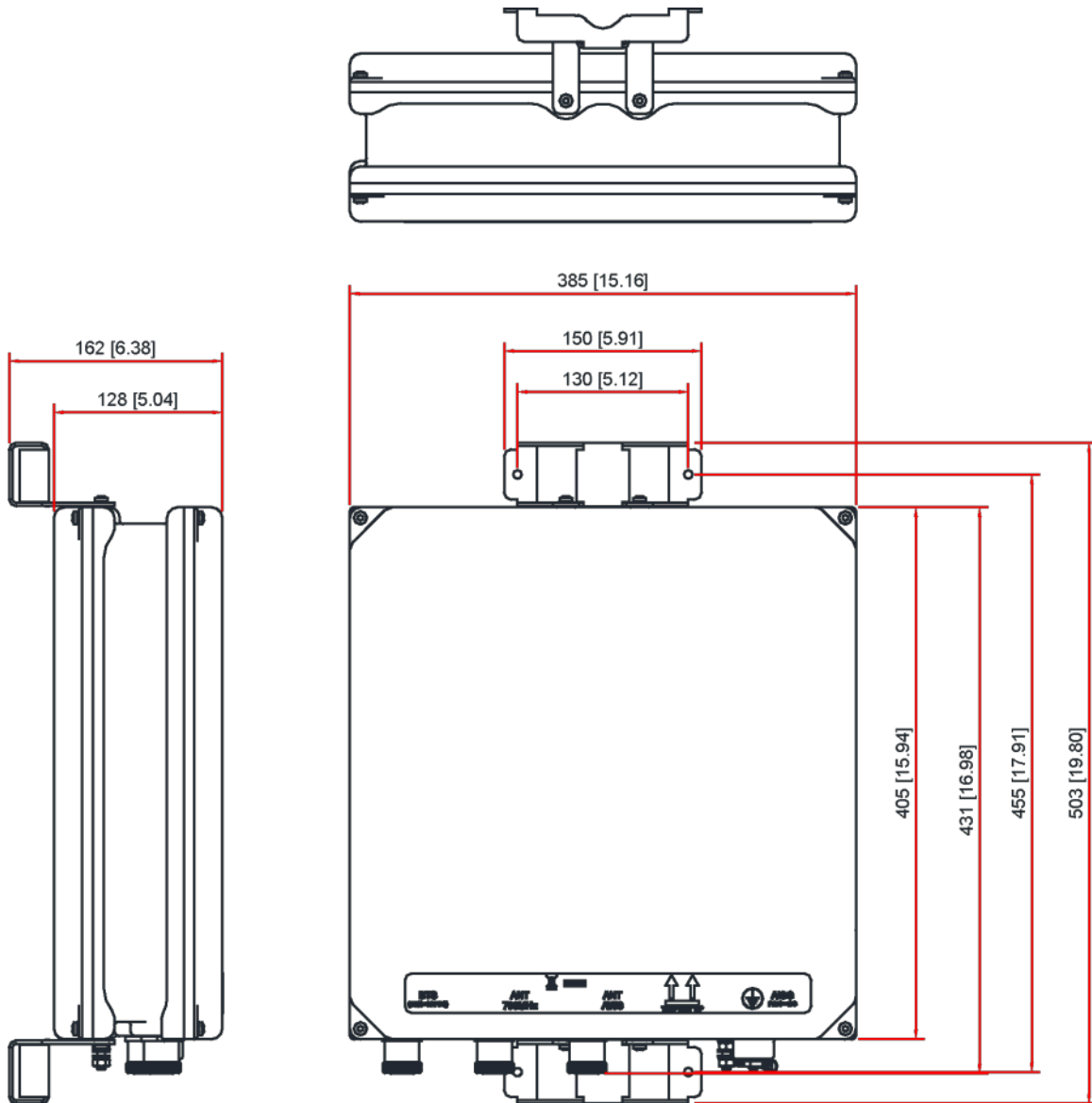
## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
TMA2042F1V1-1	Dual Band 700/AWS single TMA, single mounting bracket

ELECTRICAL BLOCK DIAGRAM



**MECHANICAL BLOCK DIAGRAM**



THIRD ANGLE PROJECTION

mm(INCH)

