

TMA2147 | MI-161

TWIN TMA 700

Designed to be deployed with 700MHz systems, this Tower Mounted Amplifier enhances cell uplink coverage through improved system noise figure, thereby saving operational and capital expenditure.

FEATURES

- Designed as a part band TMA with a 35MHz bandwidth, several tuning options are available. Refer to the ordering information table for details
- Improved base station sensitivity through gain in the 700 uplink bands
- Excellent noise figure performance
- AISG2.0 compatible
- Compact, low weight



TECHNICAL SPECIFICATIONS

BAND NAME		700
DOWNLINK		
Passband	758 - 788MHz (MI-161x3, TMA2147F01Vx-1) 773 - 803MHz (MI-161x2, TMA2147F11Vx-1) 758-793MHz (MI-161x1, TMA2147V21Vx-1)	
Insertion loss	0.35dB typical	
Return loss	20dB typical, 18dB minimum	
Maximum input power	100W (average) / 1000W (PEP)	
Intermodulation products	-160dBc in RX band at ANT	
UPLINK		
Passband	703 - 733MHz (MI-161x3, TMA2147F01Vx-1) 718 - 748MHz (MI-161x2, TMA2147F11Vx-1) 703-738MHz (MI-161x1, TMA2147V21Vx-1)	
Gain	12dB	
Return loss	16dB minimum	
Bypass return loss	12dB minimum	
Bypass loss	1.5dB typical	
Noise figure	1.3dB typical	
Output IP3	+25dBm typical	
Maximum input power with no damage	+12dBm	
Rejection	25dB minimum at 698 MHz	
ELECTRICAL		
Impedance	50Ohms	
AISG MODE OF OPERATION (AUTO SELECTED ON VALID AISG 2.0 FRAMES)		
AISG signals can be applied to the BTS ports. The TMA unit switches to AISG mode when valid frames are detected on either port. Each LNA is controlled uniquely by its sub-unit number.		
DC supply voltage	+9.0V to +30V DC	
AISG version	2.0	
Power consumption, AISG mode	<2W	
AISG connector, current rating	IEC60130-9, 8-pin female	

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 (8/20us), AISG: ±2kA common mode (8/20us)
MTBF	>1,000,000 hours
Compliance	EMC: EN 301 489-50 Safety: EN 62368-1 Operation: ETSI EN 300 019 class 4.1E Storage: ETS 300 019-1-1 class 1.3E Transport: ETS 300 019-1-2 class 2.3 RoHS

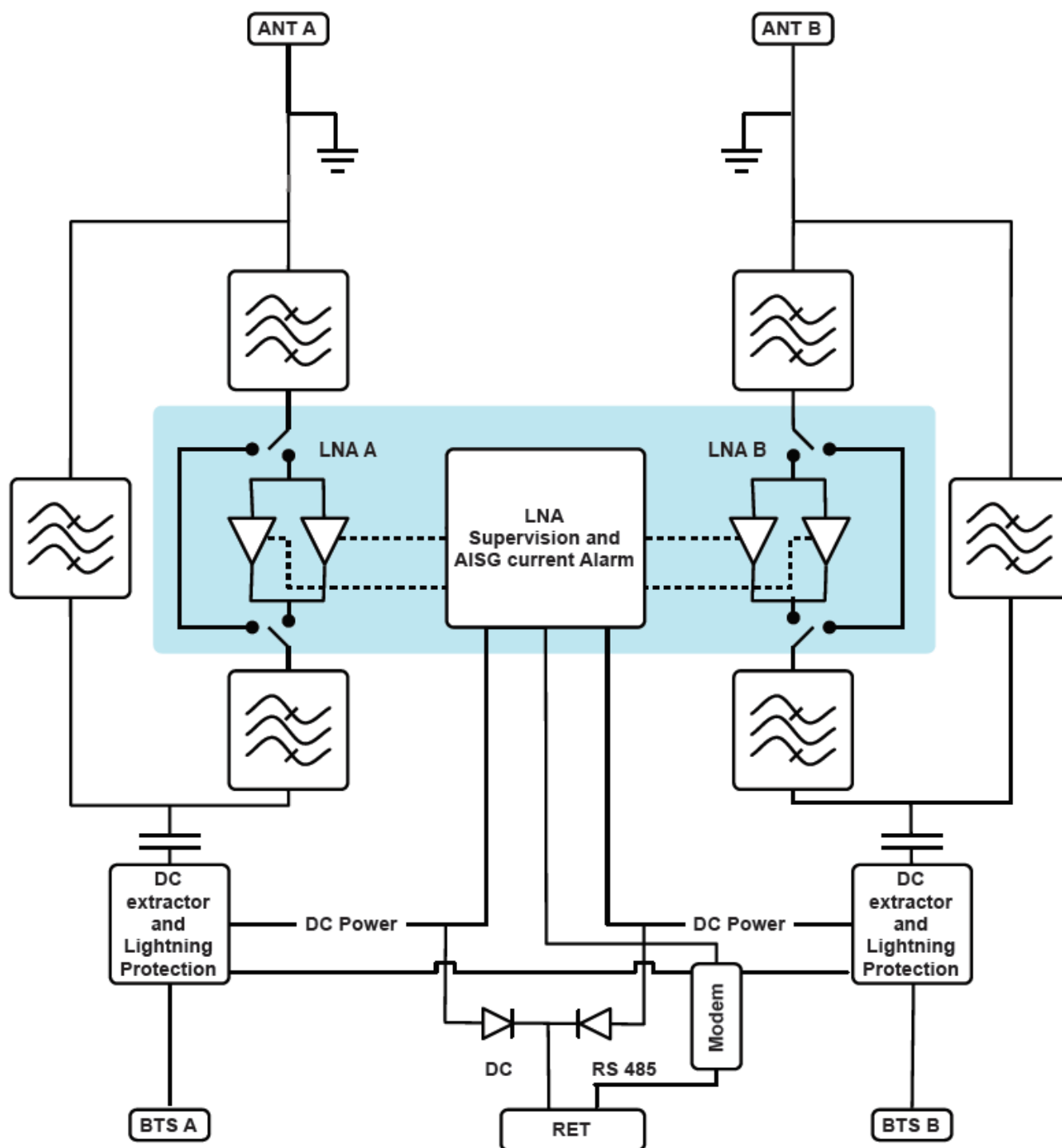
MECHANICAL	
Dimensions H x D x W	231 x 246 x 82mm 9.09 x 9.69 x 3.23in (excluding brackets and connectors)
Weight	6.5kg 14.33lbs
Finish	Powder coated, NCS 1502-R
Connectors	DIN 7-16 (F) long neck or 4.3-10 (F) long neck (see ordering information) AISG (F)
Mounting	Pole/wall bracket using two metal clamps, suits 40-140mm diameter poles

SHIPPING INFORMATION	
Carton size	370 x 300 x 180mm
Gross weight (including packaging)	6.6kg

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS	AISG MODE
TMA2147F01V1-1	TWIN, 2 in / 2 out	D/L: 758-788MHz U/L: 703-733MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
TMA2147F01V2-1	TWIN, 2 in / 2 out	D/L: 758-788MHz U/L: 703-733MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section
TMA2147F11V1-1	TWIN, 2 in / 2 out	D/L: 773-803MHz U/L: 718-748MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
TMA2147F11V2-1	TWIN, 2 in / 2 out	D/L: 773-803MHz U/L: 718-748MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section
TMA2147F21V1-1	TWIN, 2 in / 2 out	D/L: 758-793MHz U/L: 703-738MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
TMA2147F21V2-1	TWIN, 2 in / 2 out	D/L: 758-793MHz U/L: 703-738MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section
MI-16133	TWIN, 2 in / 2 out	D/L: 758-788MHz U/L: 703-733MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
MI-16103	TWIN, 2 in / 2 out	D/L: 758-788MHz U/L: 703-733MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section
MI-16132	TWIN, 2 in / 2 out	D/L: 773-803MHz U/L: 718-748MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
MI-16102	TWIN, 2 in / 2 out	D/L: 773-803MHz U/L: 718-748MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section
MI-16131	TWIN, 2 in / 2 out	D/L: 758-793MHz U/L: 703-738MHz	4.3-10 (F)	Refer to AISG MODE OF OPERATION section
MI-16101	TWIN, 2 in / 2 out	D/L: 758-793MHz U/L: 703-738MHz	7-16 (F)	Refer to AISG MODE OF OPERATION section

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

