

TTA-UMG020Z*

UMTS 2100 | Twin TMA | Dual Duplex | 60MHz BW

- Comprises two internal duplexers for 900 bypass path and one dual TMA (UMTS FDD) in a single package
- Lowest Noise Figure on the market
- Full 60 MHz uplink (Rx) bandwidth
- Useable in any orientation
- AISG 2.0 and current dump compatible (firmware upgradable)
- AISG connector for external RET antenna control by coaxial feeder
- Hardware and software configurable using AISG "personality" upload.

* Model number options: Z indicates different configurations (see next page).
 Variant: TTA-UMG120Z is described on next page.

RF Characteristics	
Downlink (TX) Path	
Frequency band	2110 -2170 MHz
Insertion Loss	0.4 dB max / 0.2 dB max across pass band
Return Loss, all ports	18 dB min (VSWR <1.3)
TX Filter rejection in RX band	50 dB min
Rejection @	
920-960 MHz	>75 dBc
1805-1880 MHz	>65 dBc
2010-2025 MHz	>25 dBc
2400-2700 MHz	>65 dBc
2700-2900 MHz	>75 dBc
Group delay variation per 5 MHz	5 ns max
Continuous Average Power	100 W max
Peak Envelope Power	1000 W max (at sea level)
Intermodulation (2x 43 dBm Tx Carriers at BTS port)	-120 dBm max. in Rx band, BTS port
Uplink (RX) Path (LNA Mode)	
Frequency Band	1920 - 1980 MHz
Gain	12 ± 1 dB
Gain variation over frequency	± 0.3 dB max
Noise Figure	1.1 dB typ., 1.4 dB max at 25°C 1.6 dB max at 60°C
Return Loss, normal mode, all ports	18 dB min (VSWR <1.3)
Rejection in RX input filter @	
2110-2170 MHz	>65 dBc
Rejection @	
920-960 MHz	>75 dBc
1805-1880 MHz	>65 dBc
2010-2025 MHz	>25 dBc
2400-2700 MHz	>65 dBc
2700-2900 MHz	>75 dBc
Group delay variation per 5 MHz	10 ns max.
Output Intercept Point	+ 18 dBm min
Maximum Input Power with no damage	+ 12 dBm
Uplink (RX) Path (Bypass Mode) Bypass is the default mode for each channel when not powered	
Insertion Loss, Bypass Mode	3.5 dB max
Return Loss, Bypass Mode, all ports	14 dB min
800 / 900 Bypass paths	
Frequency Band	800-960 MHz
Insertion Loss	0.3 dB max
Return Loss, all ports	18 dB min (VSWR <1.3)
Attenuation in 1920-1980/2110-2170MHz	45 dB min
Continuous Average Power	100 W max
Peak Envelope Power	500 W max (at sea level)
Intermodulation (2x 43 dBm Tx Carriers at BTS port)	-155 dB max. in Rx band, BTS port
DC Power Supply, Alarm currents & AISG Control	
DC Supply Voltage via BTS-RF cable	+9 to +30 V DC



Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

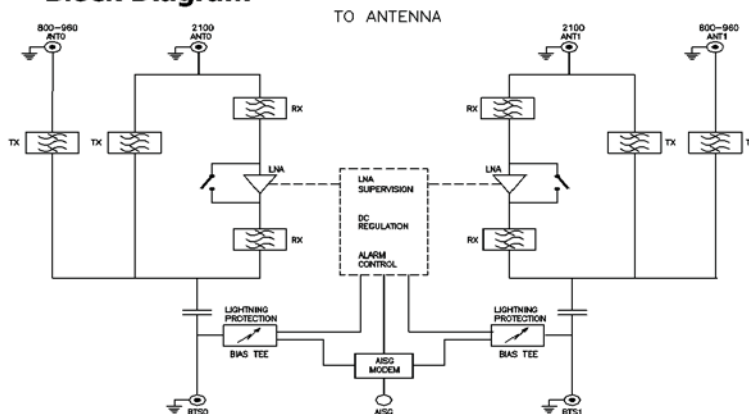
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AISG mode (auto selected on valid packets)		
AISG signals can be applied to either BTS0 or BTS1 port. The TMA unit switches to AISG mode when valid frames are detected on one of the BTS ports. The TMA unit is DC powered (common feed for both channels) only from the port supplying AISG frames.		
AISG Version	2.0	
DC supply current, total	80 mA at 30V, 175 mA at 9V typical	
AISG connector current rating	< 4A peak, 2 Amp continuous, pin 6	
Current window alarm backup	Yes	
Field Firmware upgradeable	Yes (including change to AISG 1.1)	
CurrentAlarm mode (default mode) Z suffix in model number indicates the program values. See table below.		
The TMA is configured so that each BTS port is individually powered and monitored. Each BTS port sinks additional current to indicate an alarm state.		
DC supply current port BTS0 and BTS1 operating	100 mA typ. (two ports powered)	
DC supply current, alarm mode per port	150-300 mA (programmable)	
Environmental		
Maximum Operating Temperature Range	-40 to +60 °C	-40 to +140 °F
Environmental	ETS 300 019	
Environmental Sealing	IP67 (EN 60529)	
Safety	EN 60950	
Lightning Protection	3kA, 10/350 us pulse (IEC61312)	
MTBF	>700,000 hours	
EMC	3GPP TS 25.113	
Mechanical		
Dimensions (excluding connectors and mounting bracket)	169 (W) x 278 (H) x 79 (D) mm see diagram next page	6.7 (W) x 10.9 (H) x 3.1 (D) in
Weight	7.7 kg (17.0 lbs) est	
Finish	Painted, light grey (RAL7035)	
Connectors	6 x 7/16 - EDIN Female	
Mounting	Pole / Wall, any orientation. Supplied with two metal clamps for 45-178 mm (1.8-7.0 in) diameter poles.	
Model Number Options		
Z in model number specifies the node-B type for Current Alarm purposes	Value for Z :- A K H	Alcatel-Lucent/Nortel Nokia (WMHB compatible) Huawei
Variants		
TTA-UMG120Z	No bracket. One AISG connector at bottom. Mounting by holes on the sides.	



Block Diagram

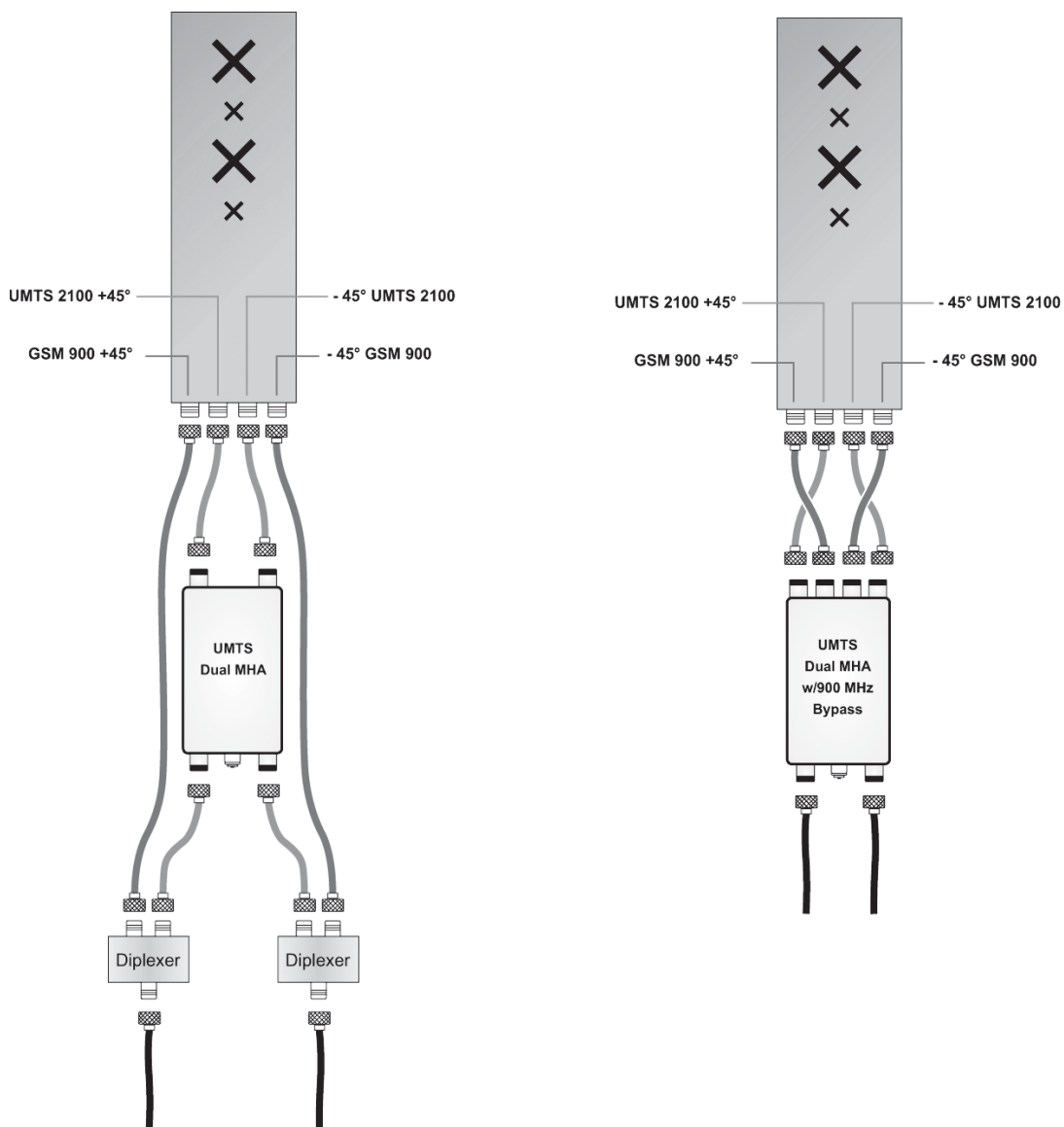


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Stand-alone Antenna XXP Dualband used for GSM900 / UMTS2100 with feeder sharing	
'classic' dual TMA deployment	with Amphenol 'duplexer TMA'
cable clutter on site	aesthetic layout, less cabling
risk for error is high	straight forward connections
mast space consuming	same size as traditional TMA
high insertion losses	eliminating insertion losses
expensive due to many devices	cost savings (TCO ¹ : -25%)



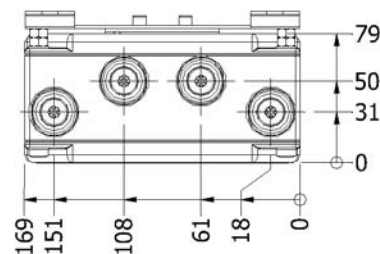
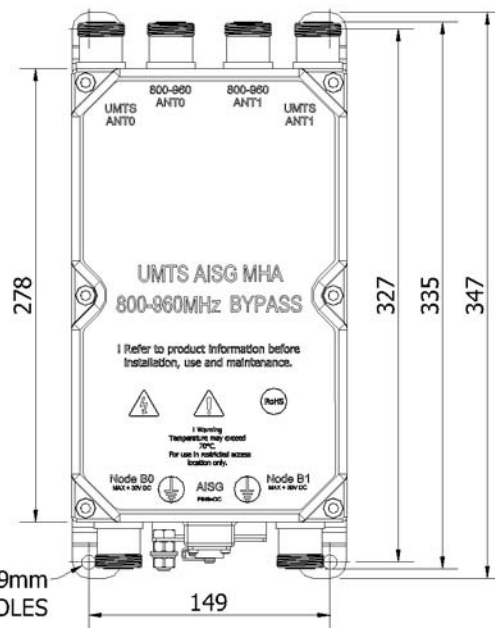
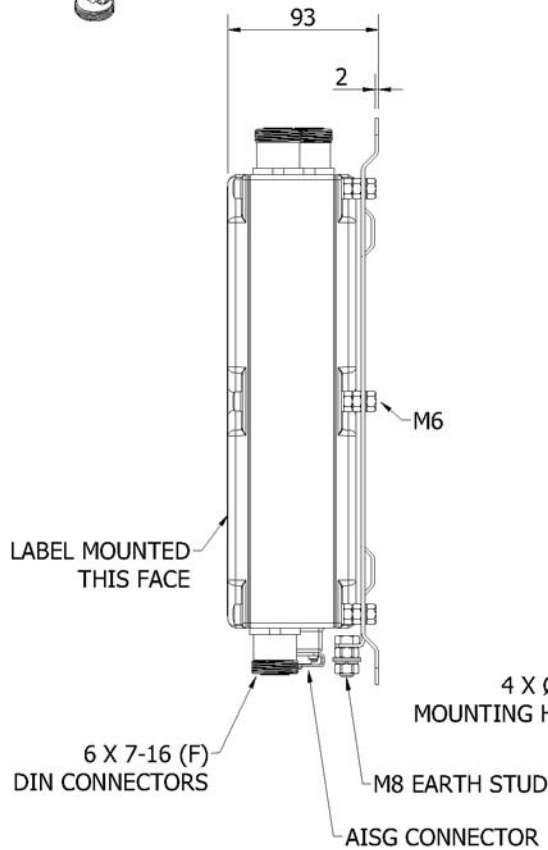
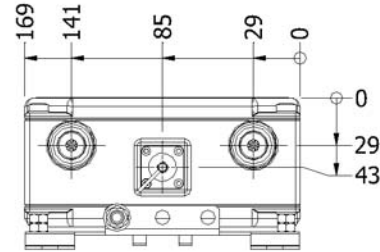
¹ TCO = Total Cost of Ownership

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Mechanical



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