

TTA-GLG000H

GSM900 Twin MHA
Dual Duplex



Version 2.0



- Compact, low weight
- Low Noise Figure and high linearity
- Variable gain 8 to 16 dB (default 16 dB)
- Lightning protected
- AISG 2.0 and current dump compatible
- AISG connector for external RET antenna control by coaxial feeder

RF Characteristics

Downlink (TX) Path

Frequency Band	935 - 960 MHz
Insertion Loss	0.45dB max band-edge, 0.3dB typ mid-band
Return Loss, all ports	18 dB min
Group delay variation	5 ns max per 200 kHz 20 ns max per 4 MHz
EVM (BW 4 MHz)	3 % max
Continuous Average Power	200 W max.
Peak Envelope Power	1.6 kW max. (into 50 ohm load, 1.6 μ s on, 2.5% duty cycle)

Uplink (RX) Path (LNA Mode)

Frequency Band	890 - 915 MHz
Gain	Variable 8 to 16 dB (selected via AISG) Set to 16 dB at delivery
Gain variation over frequency, temperature	\pm 1 dB max.
Noise Figure	1.0 dB typical (16 dB gain)
Noise Figure at band edge over temperature	1.6 dB max (16 dB gain)
Return Loss, normal mode, all ports	18 dB min
Group delay variation	10 ns max per 200 kHz 40 ns max per 4 MHz
Input Intercept Point	+10 dBm min.
Maximum Input Power with no damage	+12 dBm max

Uplink (RX) Path (Bypass Mode)

Bypass is the default mode for each channel when not powered.	
Insertion Loss, Bypass mode	2.0 dB typical, 3.0 dB max
Return Loss, Bypass mode, all ports	12 dB min

General

Impedance	50 ohms ¹ .
Rejection of out of band signals (ANT to BTS, vs 902.5 MHz):	50-800 MHz 46 dB min 1000-2200 MHz 46 dB min 2200-2750 MHz 26 dB min
Intermodulation (2x 43 dBm Tx Carriers at BTS port)	-110 dBm max. in Rx band, IM3, ANT port

DC Power Supply, Alarm currents & AISG Control

The DC supply for the internal LNAs is provided through the BTS ports. If no DC is supplied on these ports, all uplink paths are set to Bypass mode.	
DC Supply Voltage	+8.5 to +30 V DC

Current Alarm Mode (default mode)

The MHA is configured so that each BTS port is individually powered and monitored. Each BTS port sources additional current to indicate any alarm state.	
DC Supply current, operating, per port	100 mA typ, 120 mA max (two ports powered)
DC Supply current, alarm mode, per port	180 mA (other current level can be set, contact us)

¹ Performances are expressed for all ports terminated with a 50 ohms load.

AISG mode (auto-selected on valid frames)

AISG signals can be applied to either BTS1 or BTS2 port. The MHA unit switches to AISG mode when valid frames are detected on one of the BTS ports. The MHA unit is DC powered (common feed for both channels) only from the port supplying AISG frames.

An AISG 8-pin connector is available on the unit for the control of RET antennas in daisy chain.

AISG Version	2.0 (for AISGv1.1, please contact us)
DC supply current, total, typical	55 mA at 30V, 135 mA at 12V
AISG connector current rating	< 4A peak, 2 Amp continuous, pin 6
Current window alarm backup	Yes
Field Firmware upgradeable	Yes, by AISG download

Environmental

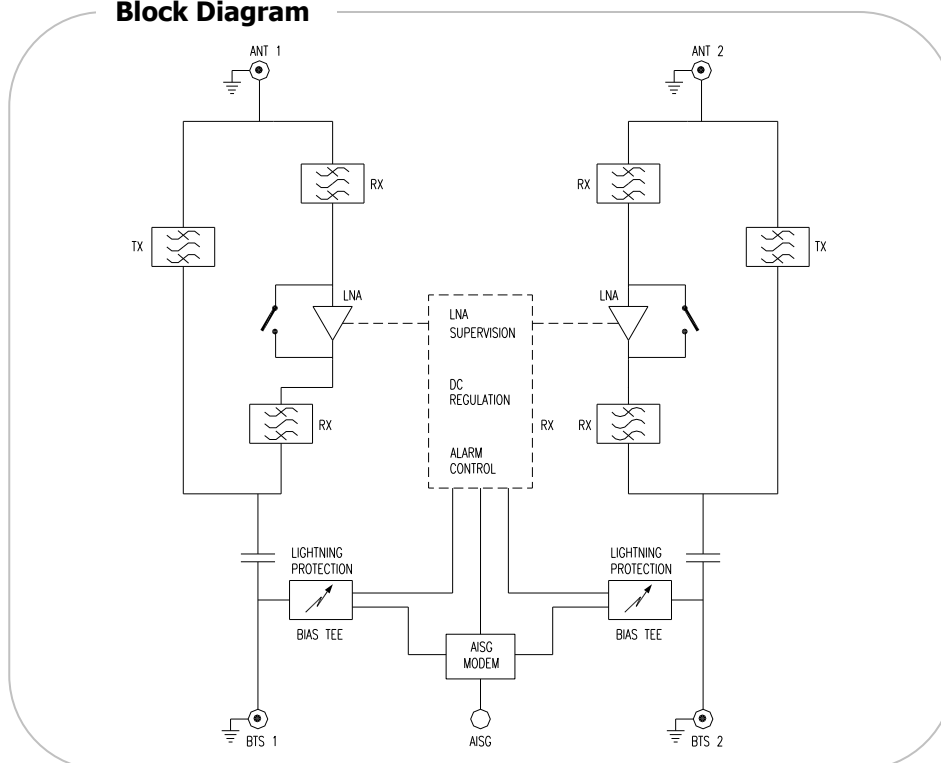
Maximum Operating Temperature Range	-40 to +60 °C
Environmental	ETS 300 019
Environmental Sealing	IP67 (EN 60529)
Altitude	2600 m max.
Lightning Protection, RF & AISG ports	IEC61312-1 RF ports: 10/350µs, +/-2kA max AISG port: 10/350µs, +/-0.5kA max
MTBF	>500,000 hours



Mechanical

Dimensions (excluding connectors and mounting bracket)	239 (W) x 217 (H) x 86 (D) mm see diagram next page
Weight	7.5 kg est.
Finish	Painted, light grey (RAL7035)
Connectors	DIN 7-16 (F) x 4 "Long Neck"
Mounting	Pole / Wall, any orientation if breather is not facing upwards. Supplied with two quick release metal clamps for 45-178 mm diameter poles.

Block Diagram



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Mechanical

