

Features

- Extends uplink cell coverage.
- Minimizes effects of feeder loss on uplink performance.
- Light weight and compact design.
- Low noise figure increase BTS receiver sensitivity for better voice quality and reduced dropped call.
- Balanced LNA design and power failure bypass for high reliability.
- Alarm reporting to Power Management & Control (PMC) unit.
- EMP protected with excellent MTBF.
- 7/16 DIN connectors for superior intermod performance.
- All connectors are located at the bottom for superior water protection.

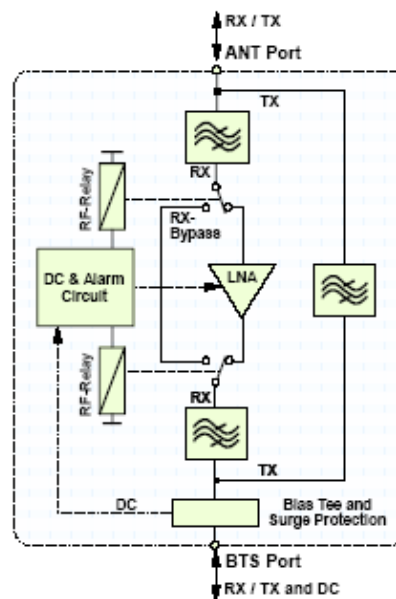


Product Description

The TLA-9001 is an E-GSM900 tower-mounted amplifier (TMA) that provides uplink amplification. The TMA unit is installed near the antenna at the tower top to improve the receive sensitivity of the base station. The usage of TMAs will result in increase of successful call attempts, reduction of call drops, maximized data transmission rate, improved call quality and extended handset battery life. Quality improvements will lead to increased traffic volume and user satisfaction, hence increasing network revenue. It is recommended for use in new roll-outs to minimize base station count and upgrading existing base stations to improve signal quality and drop call performance.

The system comprises of high quality band-pass filters, low noise amplifier (LNA), current extractor for DC supply via feeder cable, lightning protection circuitry and by-pass circuitry. Comba's TMAs are designed to be installed outdoor in towers or on walls close to the antenna. The LNA bypass circuitry is activated when the DC supply is switched off or when there is a fault in the system.

Block Diagram



Technical Specifications

Electrical

Uplink:

Frequency Range - [MHz]	
- GSM900	890 - 915
- EGSM	880 - 915
Max. System Gain - [dB]	12 ± 1
Gain Adjustment Range - [dB]	0-6 ± 0.5
Passband Ripple, p-p - [dB]	≤ 1.5
Noise Figure - [dB]	≤ 1.8 (typ. ≤ 1.6)
Insertion Loss, By-pass mode - [dB]	≤ 1.6
Input Intercept Point (IIP3) - [dBm]	≥ +10
Tx-band rejection, relative to gain level - [dB]	≥ 90
Max. RF Input Power - [dBm]	+13
System Group Delay - [µsec]	≤ 0.1
VSWR	≤ 1.3

Downlink:

Frequency Range - [MHz]	
- GSM900	935 - 960
- EGSM	925 - 960
Tx Insertion Loss - [dB]	≤ 0.5
Max. RF Input Power - [dBm]	+52
Rx-rejection - [dB]	>45
Intermodulation, IM3 - [dBm]	≤ -110
(2 × 43dBm carriers, in Tx band)	
VSWR	
- Normal Operation	≤ 1.3
- By-pass Mode	≤ 1.4
Impedance - [Ω]	50

Power, Mechanical, Environmental

Supply voltage, fed via the RF cable	+12 VDC @110mA
Dimensions, L × W × H - [mm]	277 × 176 × 152
Housing Material	Aluminum
Housing Colour	Grey Anodised, RAL877
Weight - [kg]	6.4
Connector Type	2x 7/16 DIN Female
Mounting	Plate and V-Bracket in Galvanized steel
Operating Temperature - [°C]	-40 to +55
Operating Humidity - [%]	≤ 95
Lightning Protection	ETS 300 342-2
MTBF - [hrs]	> 50,000
Environmental Class	IP65

Mechanical Outline Drawing

