TY-DTMAE900-12-CWA Twin TMA

1 Application

The TYCC TY-DTMAE900-12-CWA Twin TMA is a full band Tower Mounted Amplifier (TMA). The deployment of the small size, weight TMA System will provide enhanced coverage and improved up-link signal quality. Appropriate for new rollouts by optimizing coverage with a reduced number of BTSs or as an upgrade to existing BTSs for enhancing the existing coverage.

Full Band TMA facilitates simplified logistics, especially when the frequency bands are scattered. The unit comprises of high performance filters, dual balanced high linearity low noise amplifiers with circuits for active bias, supervision, alarms and lightning protection circuit. The TYCC TMA design with all active components integrated within the filter body provides an extremely reliable, compact and lightweight TMA solution. The vented enclosure design is employed to prevent the effect of condensation, thereby guaranteeing long, reliable, maintenance-free service in all environmental conditions. These TMAs offer an easy to install, maintenance free, cost effective solution for coverage enhancement and increased quality in mobile communication networks.

Figure 1 TY-DTMAE900-12-CWA Twin TMA

2 Features

2.1 Compact, low weight, Duplex and full EGSM900 band.

2.2 Very low noise figure design contributes much to improve Base Station receiving sensitivity, expanding the existing coverage.

2.3 Amplify uplink receiving signal level, compensate the RF cable loss and improve weak signal coverage.

2.4 Increase successful call rates, reduce dropped calls, maximize data transmission rate, improve call quality and therefore extend handset battery life.

2.5 Low down handset RF power output, decrease uplink signal interface and clean the RF environment.

2.6 Fail-safe bypass mode.

2.7 High reliability.

2.8 Lighting protected.

2.9 Ideal for X-Pol systems

2.10 AISG1.1 optional

3 TECHNICAL CHARACTERISTICS

3.1 RX Channel

Frequency Band	880～915MHz
Band Width	35MHz
Gain	12dB±1
Gain Variation over frequency	±0.6 dB max.
Input Intercept Point	12dBm min
Input -1dB compression point	3dBm min
Noise Figure	1.5dB typ
Noise Figure Max, Band edge and temperature	1.8dB max.
Return Loss, normal mode, all ports	18dB min.
Return Loss, Bypass mode, all ports	14dB min.
Rejection of The filter in front of LNA	≥71dB @925~960MHz
Group Delay variation	45 ns max over any 5MHz in Rx band.
Maximum Input Power with no damage	<12 dBm
Insertion Loss, Bypass mode	2.8 dB max.
Impedance	50Ω

3.2 TX Channel

Frequency Band	925～960MHz
Band Width	35MHz
Insertion Loss	0.6 dB typ., 0.80 dB max.
Return Loss, all ports	18dB min
Rejection TX-RX(The TX filter reject RX band)	≥42dB
Group Delay variation	Group delay ripple over any 5MHz in Tx band. ≤45ns
Continuous Average Power	200 W max.
Peak Envelope Power	1.6kW max
Intermodulation, 2x 43 dBm Tx Carriers at BTS port	-110 dBm max. in RX band

3.3 Power Supply and Alarm

DC Supply Voltage	via RF cable at BTS port, +10 to +15 V DC
DC supply current, normal mode	110 mA typ. at 12V DC
DC supply current, alarm mode	200 to 250 mA at 12V DC
DC supply insertion	via RF cable at BTS port

3.6 Environmental

Operating Temperature Range	-40 to +65ºC
Environmental Sealing - Housing	IP66 Ventilated
Environmental Sealing - Connectors	IP67
Enclosure Color	Light Grey
Enclosure Material	Aluminum
EMC/ESD Reference Standard	ETSI EN 301 489-1
ESD Immunity	IEC 61000-4-2, criteria B.
Radiation Immunity	IEC 61000-4-3, criteria A.
Conducted Immunity, EFT	IEC 61000-4-4, criteria B.
Conducted Immunity, .15-80MHz	IEC 61000-4-6, criteria A.
Voltage Dip Immunity	IEC61000-4-11, criteria B.
Lightning Protection, RF ports	±10 kA, 8/20 µs max. shield to body, to IEC61000-4-5; ±8 kA, 8/20 µs max. centre pin to body, to IEC61000-4-5 performance criteria B.
MTBF	>500,000 hours

3.7 Mechanical

Dimensions	311 (H) x 281 (W) x 73 (D) mm
Weight	9.5 kg
Connectors	DIN 7-16 (F) x 4 long shank
Mounting	Vertical, Pole / Wall

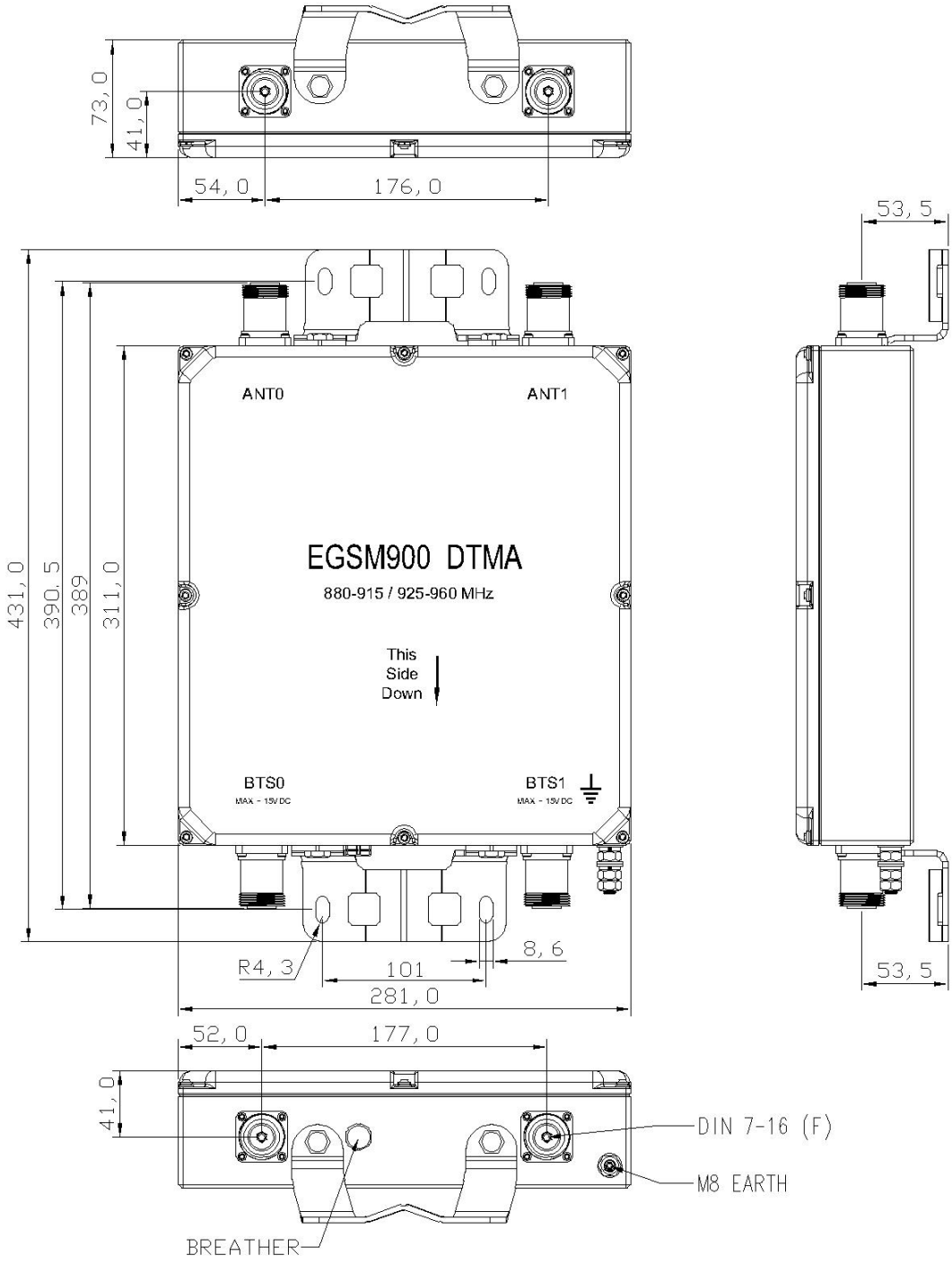

Figure 2 TY-DTMAE900-12-CWA Dimension