

# Full band EGSM900 Tower Mounted Amplifier

TA-E12FS

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## Features

- Balanced LNA design and power failure bypass for high reliability
- Alarm management: DC current load simulation
- Light weight and compact design
- Salt spray resistance, IP66
- Built-in lightning protection and vented enclosure design
- EMP protection with excellent MTBF



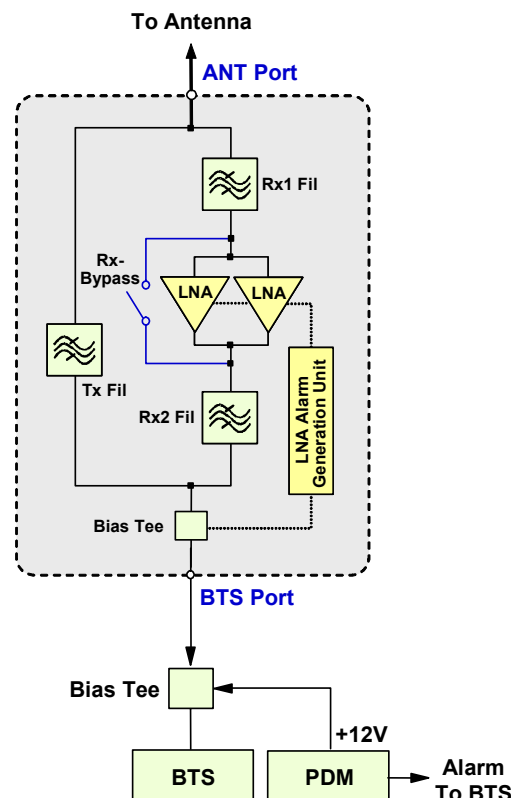
## Product Description

The TA-E12FS is an EGSM900 tower mounted amplifier designed for use with a vertical or cross-pole antenna. The unit is installed near the antenna at the tower top to improve receiver sensitivity of the base station. The usage of TA-E12FS will result in an increase of successful call attempts, reduction of call drops, maximized data transmission rate, improved call quality and extended handset talk time. Quality improvements will lead to increased traffic volume and user satisfaction, hence increasing network revenue. It is recommended for use in new network roll-outs to minimize base station count, or for upgrading of existing base stations to improve signal quality and drop call performance.

The TA-E12FS comprises high quality band-pass filters, low noise amplifiers (LNA), bias tee, lightning protection and by-pass circuitries. The LNA bypass circuitry is activated when the DC supply is switched off or when there is a fault in the system.

Power is supplied via external bias tees that connect between the TA-E12FS and the PDM. Each PDM is constructed into a 19" 1U form factor, and can provide power for up to six units of TA-E12FS.

## Typical Application Block Diagram



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TA-E12FS



## Technical Specifications

Electrical - Uplink		
Frequency Range	MHz	880-915
Bandwidth	MHz	35
System Gain	dB	12 ± 1
Noise Figure	dB	≤ 1.8 (typ. 1.4)
Pass Band Ripple	dB	≤ 1.0
Insertion Loss in By-pass Mode	dB	≤ 1.9
Output 3 <sup>rd</sup> Order Intercept Point (OIP3)	dBm	≥ 22
Return loss	Active Mode	≥ 18
	Bypass Mode	≥ 14
Group Delay	ns	≤ 200
Alarm Management	Operation	≥ 230 (Minor Alarm)
	By-pass Mode	≥ 330 (Major Alarm)
Electrical - Downlink		
Frequency Range	MHz	925-960
Bandwidth	MHz	35
Insertion Loss	dB	≤ 0.6
Return Loss	dB	≥ 18
Absolute Maximum RF Input Power	dBm	52 (CW); 59 (Peak)
Inter-modulation Products in RX Band	dBm	≤ -110 (2 TX carriers at +43dBm)
Group Delay	ns	≤ 70
Power, Mechanical & Environmental		
Operating Voltage	V	+10 to +15
Operating Current	mA	120 @+12V
Power Consume	W	≤ 1.5
Dimensions, LxWxH (excluding connectors & mounting brackets)	mm(in)	252x180x61 (9.9x7.1x2.4)
Weight	kg(lb)	≤ 3.5 (7.7)
Mounting		Wall mounting: with 4 screws
		Mast mounting: with clamp set
Connector Type		7/16 DIN-Female
Enclosure Color		Light Grey
Enclosure Material		Aluminum
Operating Temperature	°C	-40 to +65
Operating Humidity	%	≤ 95
EMC		ETS 300 342-3
Lightning Protection		Comply with IEC 61000-4-5; 8kA, 8/20μs
Environmental Class		IP66
MTBF	hr	> 1,000,000

Note: Measurements taken at room temperature, unless otherwise stated.

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