

Infrastructure Test System

TM500 GSM Load Tester



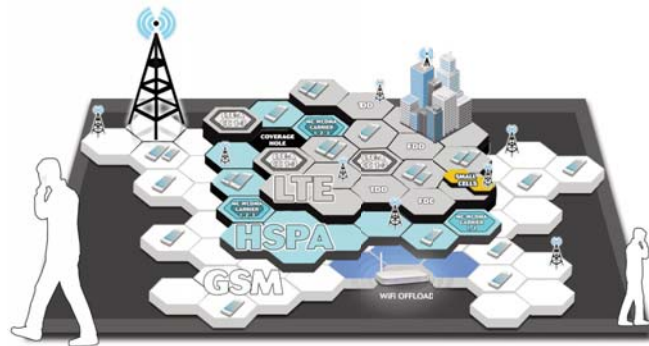
Feature Highlights

- GSM network load simulator
- Support for fully loading up to 12 TRX per unit
- Emulation of CS Voice and SMS traffic
- Reporting of Layer 3 Key Performance Indicators
- Uses the Common E500 GUI
- Customizable traffic model campaigns and MS behavior
- Fully integrated with the E500 Load Test Product Family
- Supports all major GSM bands
 - GSM850, GSM900 (PGSM and EGSM), GSM1800, GSM1900
- Supports remote access and multiple users
- Based on E500 Hardware platform supporting all 3GPP RATs

The TM500 GSM Load Tester is designed to assist in the characterization of BTS and mobile network performance under variable traffic conditions in a controlled and repeatable lab-based environment. The system and the supplied software enables Network Capacity Engineers to replicate real-world scenarios in the lab to benchmark BTS capacity, identify and overcome network faults, and test network performance under load and stress conditions.

GSM is an established radio access technology and GSM networks are now ubiquitous. In a Multi-RAT environment, such an omnipresent radio access technology cannot be ignored. This is the reason

why the TM500 GSM load tester was developed. The TM500 Load tester was developed with the Multi-RAT network in mind. In combination with the LTE and WCDMA testers, the TM500 GSM Load Tester will enable users to replicate their live network conditions as close as possible in the lab for validating performance.



The TM500 GSM Load Tester is a high capacity loading solution supporting up to 12 TRXs and three cells per unit. It also offers scalability if testing needs to push capacity to the limits. The addition of the latest enhancements in the GSM roadmap like VAMOS provide an additional boost to the number of mobiles that can be supported. VAMOS doubles the capacity of the GSM network. The TM500 Load Tester enables this high capacity environment to be replicated in the lab.

Applications

The TM500 GSM Load Tester is suitable for multiple applications:

- Feature testing
- System level testing
- Performance testing
- Stress testing
- Inter-RAT testing

Scalable Next-Generation Architecture

The TM500 Platform C is the latest hardware platform for the TM500 products. Featuring a scalable MicroTCA architecture and the latest DSP cards and with software support available for LTE FDD and TD-LTE in addition to GSM, WCDMA and HSPA testing, it is the best solution for current or future test mobile needs.

Expert Support

The TM500 product options are offered with a comprehensive world-wide support package. Members of Aeroflex's Field Application Engineering team are available to provide on-site and email support to help get the most out of your investment in the TM500.

SPECIFICATION

3GPP SPECIFICATION

Specification Version

3GPP Release 10 (June 2012)

Operational Modes

GSM circuit-switched Voice

UE Capabilities

Full rate speech (TCH/FS)

Enhanced full rate Speech (TCH/EFS)

Adaptive multi rate (TCH/AFS)

Adaptive Multi Rate WB (TCH/WFS)

Half Rate Speech (TCH/HS)

Adaptive Multi rate (TCH/AHS)

RF SPECIFICATION

TM500 GSM test systems are designed for cabled operation. The specification below relates to the use of Module 200 with external splitter and 30-dB attenuator.

TM500 Receiver (Downlink)	
Sensitivity (for each carrier) for 10 dB SNR	-70 dBm
Maximum signal level (for the combined power of all carriers)	+18 dBm
Maximum signal level (for each carrier, total 12 carriers)	+7 dBm
Damage level (total PEAK signal power of all carriers)	+30 dBm
TM500 Transmitter (Uplink)	
Maximum uplink power (for the combined power of all carriers)	+7.9 dBm
Maximum uplink power (for each carrier, total 12 carriers)	-3 dBm
Minimum uplink power (for the combined power of all carriers)	-60 dBm
Minimum uplink power (for each carrier, total 12 carriers)	[-70] dBm
Maximum reverse power (peak)	+30 dBm

External Components for Module 200 in GSM Load Tester

2-Way splitter

Mini-Circuits ZAPD-20-S+

Rx Fixed attenuator (30 dB)

Mini-Circuits VAT-30+

VERSION, OPTIONS AND ACCESSORIES

Product Code	Description
TM501-C	TM500 Platform C hardware
TK599-C	Multi-band Radio Card
TG601-C	TM500-C GERAN Capacity 1 Cell Baseline 12 TRX

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