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# Triotrace Test System



## TTS-TRM-3aT USB

Approved GSM Test  
Technology

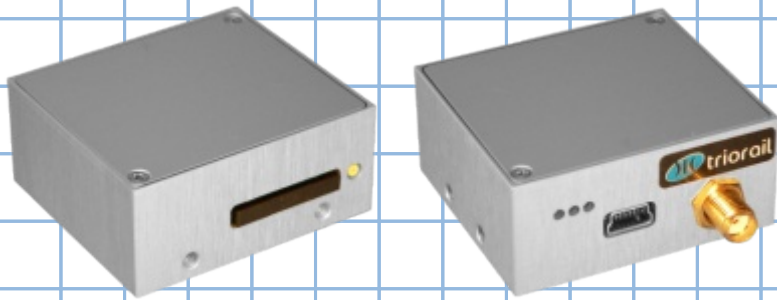
Datasheet

# TTS-TRM-3aT USB

The TTS-TRM-3aT USB is a high performance test system with ASCII features for observing and testing GSM networks. Due to long standing product experience and innovative technologies this professional ASCII device is a smart gear for GSM measurements.

## Technical Data

- Dimensions 45 x 40 x 20 mm (L x W x H)  
(not including the antenna connector)
- Weight 70 g
- Power consumption Inrush current 900mA
- Temperature range -20°C to +55°C



## Data Services

- GPRS class 10 max. 86 kbps (downlink)
- PBCCH support
- Coding scheme CS 1-4
- CSD data transmission  
Up to 14.4 kbps  
Non transparent mode  
Transparent mode

## Interfaces

- USB Interface (USB Mini B connector)
- AT commands via USB CDC ACM interface
- Digital audio via USB
- Voltage supply via USB
- Antenna connector (SMA)
- 3 Status LEDs
- Miniature SIM card holder

## ASCII Features

- VGCS (Voice Group Call Service)
- VBS (Voice Broadcast Service)
- UUS1 (User-to-User Signalling type 1)
- eMLPP (Enhanced Multi-Level Precedence and Preemption)

## System / Standards

- Quad-band GSM-R / EGSM 900 / GSM 1800 / GSM 1900
- GSM Phase 2 / Phase 2+
- GPRS multi-slot class 10
- Mobile station class B
- Output power  
Class 4 (2 W) for GSM-R / EGSM 900  
Class 1 (1 W) for GSM 1800 / GSM 1900

## Specifications for Voice

- Triple-rate codec for HR, FR, EFR
- Adaptive multi-rate (AMR)  
for non ASCII tests supported

## Triotrace PC Application

- Trace log recording
- Online / offline protocol analysis



## EIRENE Features

- FN supported (Functional Number)
- PFN supported (Presentation Functional Number)
- REC supported (Railway Emergency Call)

## TTS Features\*

- Two serial ports over USB for simultaneous trace information and data transfer (CSD/GPRS) or AT cellular commands
- Monitoring and Quality of Service information for GSM/GPRS
- GSM/GPRS forcing functions  
Channel  
Band  
Voice codec
- Scanning capabilities  
Single ARFCN  
Set of frequencies  
Complete band

## ETCS L2 Features

The ETCS L2 test extension is available as optional feature. The additional data sheet 'TTS Extension ETCS L2' provides more details.

\* compatible with TTS-S55 software interface