

# Goverage Analyzer



## TETRA Coverage Analyzer





### TTS-2000 - TETRA Site Survey Test Set / TETRA Network Analyzer

The TTS-2000 is a complete TETRA Site Survey Test Device to take measures of the RSSI Field Strength of the TETRA carrier as well as all reported neighbour cells. The data is stored as a -dBm value together with the location coordinates, bit error rate, antenna gain or attenuation value, and the RSSI values from all reported neighbour cells.

Additional (Option) a TETRA Spectrum Scanner and a TETRA Base Station Network Monitor is available. As graphical user interface, an Apple Mini iPad - that can be easily installed on the car windshield - is used for measuring, configuration as well as for parameter setting and for the device calibration.

During the measuring process that is done once per second (or distance depending), all relevant TETRA parameters like RSSI, LAC, Channel Number and coordinates are shown on the iPad in big, well readable numbers.

The device can be operated using a mains power supply, a car power connector, or for several hours with the internal rechargeable battery. And once the measuring process is completed, the csv data can be sent with just a finger tip to any M-Mail address.

Users who do not want to send their mission critical data over the internet can use the E-Mail Server Tool that is part of the TTS-2000 package.

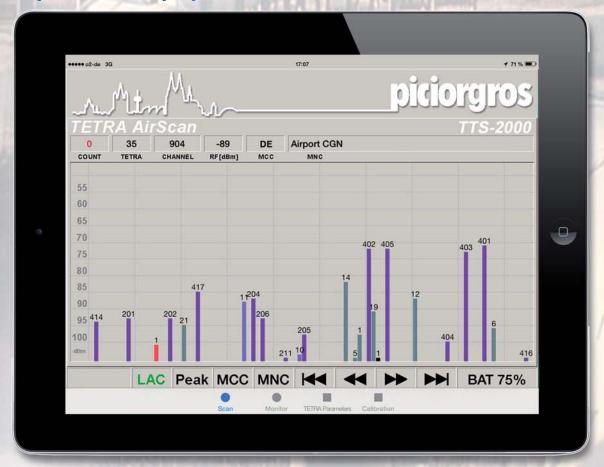
With the powerful Google Maps based "CoverMap" application the user can view the data as graphical coverage overview on a PC or process it with his own Excel application. He also can simulate certain conditions like switching off Base Stations or setting –dBm levels to check his network in extreme conditions.

The TTS-2000 is installed in a small Pelicase box of only about 24 \* 11 \* 19 cm and can be used in a car or - due to its very light weight - is also ideal for hand carry measuring.

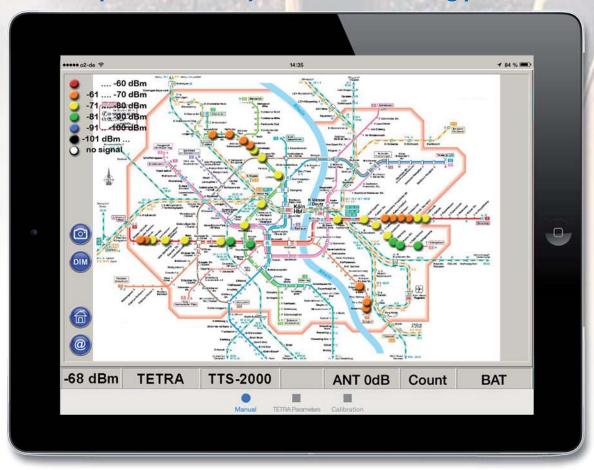
### **TTS-2000**

- Coverage Test
- Manual Test
- Neighbour Cells
- Sysinfo Display
- Spectrum Scanner
- Network Monitor
- Data Recorder

## **Spectrum Display Mode shows all TETRA Channels**



## User Map with manually selected measuring points





## System Features:

## **Technical Information**

#### Type of Device:

TETRA RSSI and Coverage Analyzer Manual (offline) Scanning (option) TETRA Spectrum Scanner (option) TETRA Base Station Monitor (option)

#### **Operating Voltage:**

12 Volt DC +/- 20%
Power Supply Adapter 110 - 240 Volt AC
Car Charger Cable
Internal rechargable Battery
Auto Power Off function

#### **Average Power Consumption:**

P <= 5 Watt

#### **Operating Temperature:**

-20 deg C to +50 deg C

#### **Enclosure:**

Pelicase Box

#### **Dimensions:**

about 240 mm \* 110 mm \* 190 mm

#### Frequency Range:

350-370 MHz 370-400 MHz 400-430 MHz 450-470 MHz 806-870 MHz

#### Sustainability:

Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS) compliant

#### iPad:

iPad Mini with 16 GB of Memory RSSI Scanning App pre installed Updatable via the APP store Apple ID required

## **Application Information**

#### RSSI Scanning (Included in the TTS-2000 Package):

Automatic recording on distance (every x meters)
Automatic recording on time (every y Seconds)
Coloured -dBm value for better indication
Drive Screen with Coordinates Display
Drive Screen with Neighbour Cell Display
Records Datestamp, Timestamp, Coordinates,
BER, LAC, TETRA Channel Number
Online map on the iPad

#### E-Mail Server (included in the TTS-2000 Package):

E-Mail Server to directly send the recorded data from the iPad to a PC w/o using the Internet

#### CoverMap Software (included in the TTS-2000 Package):

Display all RSSI with LAC list Switch off single / multiple TETRA Cells On Mouse Over displays all Cell parameter Multiple analysis options

#### Manual Scanning (Option):

Can be used where GPS is not available Single Finger touch starts the measurement

#### Spectrum Scanner (Option):

Display all TETRA Carrier in Spectrum Analyzer mode Individual Colour for each TETRA Network (MNC)
Display the number of Carriers per network Indicating the -dBm Level per channel
Clear Text for the Country Code (world wide)
Clear text for the Network Code (if available)
Show / Suppress the selected Network (NMC)
Show / Suppress only Networks with the selected
Country Code (MCC)
Peak Level search
Step Forward, Step Backward Function
GoTo First, Last Carrier Function

#### TETRA Base Station Monitor (Option):

Uses the MCC and MNC filter of the Spectrum Scanner Long term carrier test: Scans the Frequency and displays the min/max RSSI of each TETRA Carrier Records all channels that drops below a predefined delta dBm value





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