



## TSA-4G

Fully integrated signal analyzer for  
planning, design and verification  
of digital object radio systems

# TABLET MEASURING SYSTEM TSA-4G

The TSA-4G is a fully integrated signal analyzer for the planning, design and verification of digital indoor communication systems. Various frequency bands can be recorded with the device and indicated in a map. The system's strengths lie in the area of the official radio standard TETRA, as the design takes into account the specifications of the BDBOS, so that almost any measuring task described can be carried out conveniently.

Even complex radio measurements are no problem thanks to the easy handling of the TSA-4G! In-depth analyses are also possible in order to safely integrate critical network elements, such as air interface repeaters, into the BDBOS network.

## EXTENSIVE MEASURING POSSIBILITIES

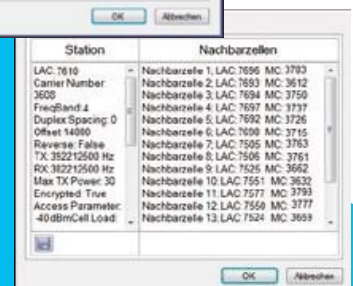
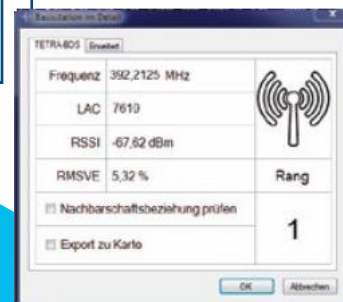
- Field strength measurement of all authorities' channels in the 2m and 70cm band
- Multi-channel measurement possible in all bands
- Special trigger mode for detecting TETRA DMO repeater beacons
- Evaluation of error rates of received TETRA signals
- Time-referenced measurement for e.g. tunnel radio measurements
- Calibrated frequency considerations to ensure durable readings
- Maximum bandwidth of 5 MHz for common authorities' services

## PERFORMANCE FEATURES TSA-4G

- Luminosity 10.1" WUXGA display
- Capacitive 10-Finger Multi-Touch Screen + Digitizer
- Waterproof and dustproof (IP65)
- Up to 14 hours of battery life
- Lightweight design - weight: approx. 1.1 kg
- Fully integrated measuring receiver
- Usable format of the building plans: JPG, BMP, PDF
- Intuitive marking of measuring points by clicking on your own position in the building plan
- Convenient evaluation of the measurement results by windows-based software

## DECODE UNENCRYPTED TETRA DATA

- Unique assignment of the received frequency of a base station via the network parameters: Mobile Country Code MCC, Mobile Network Code MNC and Location Area Code LAC
- Prediction of hand-over behavior of mobile radios by cell parameters: Short Reselection Threshold SRT, Short Reselection Hysteresis SRH, Fast Reselection Threshold FRT and Fast Reselection Hysteresis FRH
- Evaluation of the transmitted adjacent relationships, as well as visualization of those in the panoramic measurement

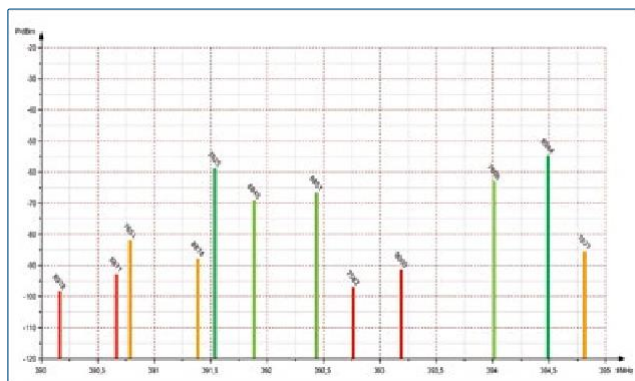


## SUPPLY MEASUREMENT - WITH JUST ONE CLICK!

The intuitive user interface allows the configuration of supply measurements in the shortest possible time. With just one click, all configured channels can be indicated in the plan.

» Supply measurement, efficient and fast

The evaluation can also be done comfortably via the Export Manager. In addition to the size of the measuring points, text fields and threshold scales can be displayed so that post-processing in a text processing program becomes superfluous.

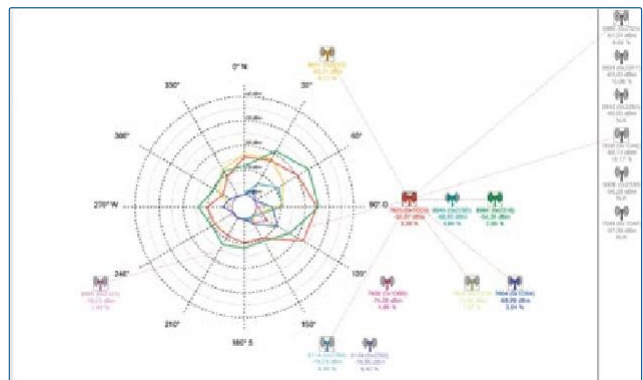
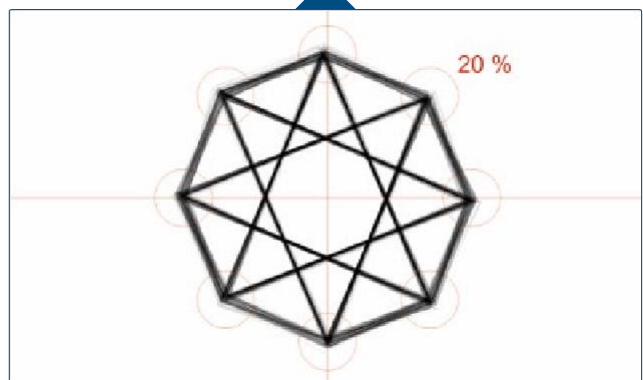


## TETRA SPECTRAL SCAN

The system scans the downlink spectrum of the frequencies approved by the German authorities. All channel services are recognized, decoded and displayed in a Cartesian coordinate system. A simple click on the bar, which represents field strength and frequency, visualizes in-depth system information. In addition to the access parameters of the base station, there is also a list of adjacent channels.

## SIGNAL QUALITY OBSERVATION

With the constellation diagram conclusions can be drawn regarding the properties of the transmission channel. Potential interference areas such as overlap zones are visualized. Based on the modulation quality, it is possible to differentiate between useful signal and interference carrier. In addition, multipath propagation can be evaluated using critical system components such as e.g. air interface repeater.



## PANORAMIC MEASUREMENT

With the help of the TSA-4G, an overview of the geographic location of all base stations can be generated and the ideal donor cell can be found through the user-friendly ranking system. The relationships of all receivable base stations can be displayed with one click. The affiliation is displayed clearly, directly in the diagram, in order to be able to plan smooth hand-over behavior in the effective operation of the object radio systems.



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