

PrecisionWave Signal Analyzer

The broadcast measurement and analysis solution

PrecisionWave is presenting a high-performance solution to analyze the signals of broadcasting networks. The measurement and investigation tool for analogue and digital broadcasting – PrecisionWave Signal Analyzer– is a powerful and complete system to assist through any phase of radio network planning, realization and maintenance, as well as in the quality assurance. Radio frequency (RF) and quality of service (QoS) measurements can be done quickly and seamlessly for various broadcast technologies.

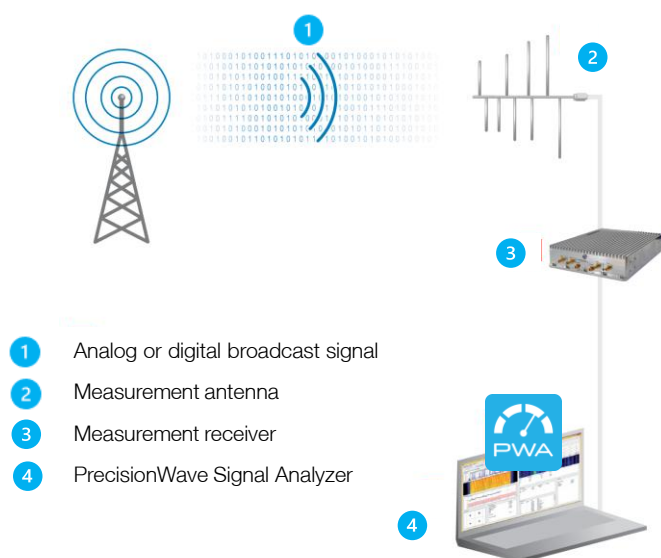
I/Q-data comes from a suitable test receiver. Demodulation, channel decoding and measurement of all relevant parameters, as well as generation of statistics and graphics, are performed by the PrecisionWave Signal Analyzer software. Advanced digital signal processing algorithms allow robust and precise measurements, both in stationary and mobile environments.

Advanced digital signal processing algorithms

The PrecisionWave Signal Analyzer follows strictly the concept of SDR (Software Defined Radio). Input are high quality I/Q-data of a suitable test receiver. Synchronisation, channel equalisation, demodulation, channel decoding and measurements of all relevant parameters as well as generation of statistics and graphics are accomplished in software starting with complex base-band samples. Advanced digital signal processing algorithms allow robust and precise measurements both in stationary and mobile environments and are independent from any manufacturer-specific codes. For that reason, the software is able to measure e.g. the special factor “coverage margin”.

Optimized for mobile applications

In particular the PrecisionWave Signal Analyzer is optimised for mobile measurements. The sampling rate allows measurement ground speeds similar to those known from mobile networks. The current configuration supports all variations of the broadcast technologies as listed below. The modularity of the measurement schemes implemented in software-defined radio provides maximum flexibility, and allows different measurements with one hardware. Together with flexible statistical and geographical post-processing software and a user-friendly interface, radio frequency (RF) and quality of service (QoS) measurements can be carried out quickly and seamlessly for every technology.



- ▶ RF Level and QoS
- ▶ Spectrum
- ▶ Constellation
- ▶ Channel impulse response
- ▶ Waterfall diagramm
- ▶ and many more

PrecisionWave Signal Analyzer – Overview

System Setup and Hardware

The PrecisionWave Signal Analyzer system setup requires a basic software module. PrecisionWave Signal Analyzer is hardware independent. The following RF frontend receivers are supported:

- ▶ PrecisionWave BR-VBI (more info in sep. ProductBrief)
- ▶ Narda Signal Shark with option Vita 49
- ▶ IZT R3000



PWA - Measure

All listed broadcast technologies can be measured in parallel with one hardware. Mobile measurements on one hand, and stationary, monitored or long term measurements on the other hand, are possible with facultative free definable trigger parameters. Radiation pattern and height profile can be separately analyzed for each transmitter. The latest feature is a combined LTE & DVB-T measurement.

- ▶ FM (more info in sep. ProductBrief)
- ▶ DAB/DAB+ (more info in sep. ProductBrief)
- ▶ DxB Scanner (more info in sep. ProductBrief)
- ▶ DRM/DRM+
- ▶ DVB-T (more info in sep. ProductBrief)
- ▶ DVB-T2 (more info in sep. ProductBrief)
- ▶ LTE Scanner (more info in sep. ProductBrief)
- ▶ CoverageMeasure (more info in sep. ProductBrief)
- ▶ ATSCMeasure (more info in sep. ProductBrief)



PWA - Analyze

The measured data can either be replayed, reviewed or post processed. All parameters related to each point can be displayed in combination with our topographic map tool, which is made for broadcast visualization. The post processing of the raw data can be done with different configurations.

- ▶ Replay

PWA - Export

Creates TAB separated files to visualize the measurement with all parameters individually. Allows import in any geographic information system (GIS) such as MapInfo, ArcView or even GoogleEarth.

- ▶ Export

Software Support Service

PrecisionWave offers support contracts which may include software maintenance and updates, as well as operational support. One year of support is included when purchasing.