

RF Power Monitoring System

Protect your investment

Failsafe RF power monitoring and control with up to 100 power sensors operating in parallel.

Typical broadcasting antenna.



Your task

You are the operator of a regional or nationwide network of sound or TV broadcast transmitters. During the transmission of a major international sports event, a network transmitter or other vital component in the signal transmission chain fails due to overload, wear or mismatch. The consequence: Millions of viewers miss the decisive minutes of the sports event and — even worse — your reputation as a reliable media partner suffers long-term damage.

Experience has shown that such a signal failure causes major damage, but not the worst damage. Antenna overloading might also cause a fire to break out, which could damage or even destroy the entire transmitter system. The result would be long-term network outage and the destruction of your investment. The financial loss would be incalculable.

T&M solution

By contrast, the costs of preventing this horror scenario are very easy to calculate. The R&S®TS4506 RF power monitoring system helps ensure that network components do not fail. A dense network of power sensors, distributed across all transmitter sites, reliably monitors the transmission system's vital operating parameters in realtime.

The R&S®TS4506 RF power monitoring system, which is networked, controlled and programmed via a simple web interface, not only ensures the smooth operation of your valuable investments, it also minimizes life cycle costs.

A site- and system-specific warning and signaling system indicates when maintenance and repair is necessary. Additional functional modules allow you to adapt and expand the system to meet your present and future requirements.

Application

The decentralized system is based on the unique measurement capabilities of the R&S®NRP-Zxx RF power sensors. These sensors can simultaneously monitor all RF modules in transmitter and signal distribution systems. Via the built-in USB interface, their measurement results can be recorded on an appropriate storage medium for analysis.

The data of all connected sensors can be queried and analyzed from a central computer over a web interface. Using the simple network management protocol (SNMP), customizable alarm messages and functions are provided.

The measurement results are displayed via a web GUI. Different display formats are available (history, trend, average, max./min. value, etc.) and can be configured in line with customer requirements. Additional I/O channels make it possible to activate interlock circuits for amplifier switchoff in order to protect personnel, e.g. during maintenance work.

The universal application range of the R&S®TS4506 RF in all types of systems that output RF power is enhanced by its compatibility with various operating systems (Windows and Linux).

Modular and reliable

- ▮ A single controller enables the connection of more than 100 R&S®NRP RF power sensors via USB hubs
- ▮ Power measurements can be performed using either a Windows controller or a Linux embedded system
- ▮ Digital I/O modules can be added to the measurement controller to provide interfaces for various system response applications, e.g. alarm reporting (opening the "transmitter interlock loop") or input monitoring.
- ▮ For data logging, power value displays and remote access, a separate Windows-based controller including web service and SNMP agent can be offered
- ▮ The system layout is scalable and existing configurations can be upgraded easily
- ▮ The use of standard components makes it possible to continuously adapt the system's performance to the state of the art

Dynamic range, accuracy and speed

- ▮ All R&S®NRP RF power sensors can be used
- ▮ Unique R&S®Smart Sensor Technology™ ^{1), 2)} means average power can be measured with an uncertainty of < 0.1 dB within a level range of -40 dBm up to +10 dBm irrespective of the modulation type
- ▮ Excellent measurement stability can reduce cost of ownership
- ▮ The very long calibration intervals (typ. two years) substantially contribute to the reduction of life cycle costs

Your Rohde & Schwarz sales partner will be glad to help you find the optimum solution.

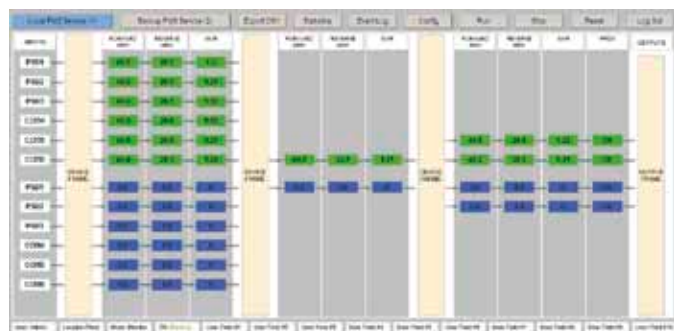
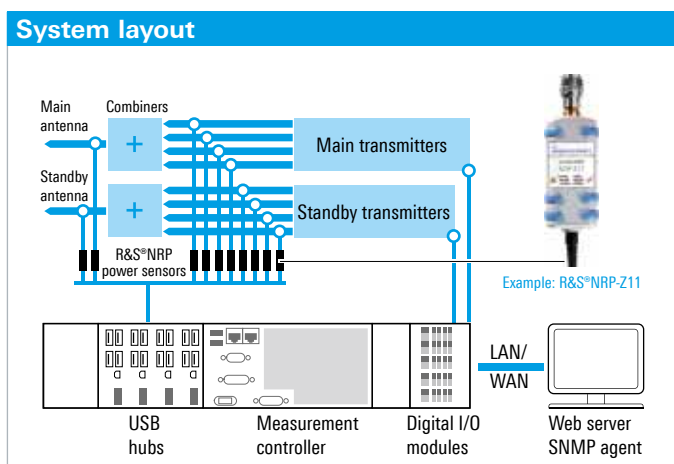
To find your nearest Rohde & Schwarz representative, visit www.sales.rohde-schwarz.com

See also

www.rohde-schwarz.com/product/nrpz

¹⁾ For further information refer to the R&S®NRP-Zxx data sheet (PD 5213.5539.22).

²⁾ The R&S®Smart Sensor Technology™ is an indispensable prerequisite for the above uncertainty and level range and can be used with the R&S®NRP-Z11/-Z21/-Z22/-Z23/-Z24/-Z31/-Z211/-Z221 power sensors.



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