

Fraunhofer Institute for Integrated Circuits IIS
Division Engineering of Adaptive Systems EAS

WIRELESS NETWORK ANALYZER



In industrial automation, wireless communication systems offer key advantages over wired solutions. Flexible positioning of the wireless nodes opens up greater flexibility, for instance for connecting HMIs, movable machine parts or mobile subsystems. For this purpose, wireless technologies, such as WLAN and Bluetooth, are mainly being used. However, co-located wireless networks, varying wireless propagation conditions, increased application requirements or misconfigurations can cause transmission problems. In order to avoid these issues, wireless networks and their environments have to be analyzed and documented during commissioning and certification. In addition, regular network status checkups as well as in-depth analyses during inspection and maintenance are required for reliable operations.

By using the Wireless Network Analyzer of Fraunhofer IIS/EAS you can easily analyze your industrial wireless networks in real time. The analyzer examines the traffic of all wireless links and calculates various quality parameters for each connection. These provide insights into the link quality, stability, transmission reserves and existing transmission problems within your network. At the same time, the causes of transmission errors, such as range problems, mutual interferences between neighbouring wireless systems, configuration and hardware problems can be identified.

Your Benefits

- Convenient and fast inspection of industrial wireless networks
- Time and cost savings in terms of integration, commissioning, inspection and maintenance of wireless systems
- Overview of the condition and stability of your wireless networks
- Identification of transmission problems and their causes
- Quick troubleshooting, even in complex situations
- Prevention of system failures through early detection of potential interference sources
- Smart exploitation of available transmission reserves

Features

- Measurement based real-time analysis of conventional WLAN and Siemens IWLAN systems
- Topological representation of all wireless networks, including connected Ethernet nodes
- Overview of various quality parameters of each link via time charts (e.g. transmission quality, utilization and stability, reception power)
- Simultaneous analysis of multiple connections
- User-friendly touch screen operations
- Possible extensions with additional wireless standards (e.g. Bluetooth or Bluetooth LE) and further analyses (e.g. roaming, dual channel)



About us

The Fraunhofer Institute for Integrated Circuits IIS is one of the world's leading research institutions for microelectronic and information technology systems and services. At the division Engineering of Adaptive Systems EAS, researchers are working on the efficient realization of intelligent systems. In addition to the functionally safe and reliable system and circuit design, the main areas of work also include novel approaches to sensor technology, big data analysis and the control of complex automation processes. Tailored to the current and future requirements of the economy, adaptive and robust technological solutions, especially in the areas mobility and industrial automation, are developed.

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