



# Smart Wireless Solutions

design | prototype | serial production

IEEE 802.15.4 | sub GHz | 2.4 GHz

## Applications

- in 6LoWPAN | ZigBee | RF4CE wireless sensor networks
- smart metering
- building automation
- industrial automation
- personal sensors | health care
- logistics | transportation

## Smart wireless solutions

Wireless sensor networks provide the full comfort of wireless communication. Expensive cable installations are no longer needed. The sensor network must be easy to install, has to assure a robust and reliable communication and the separate nodes have to work battery driven over years. dresden elektronik develops and manufactures customized solutions for low-cost and low-power embedded applications in compliance with the standard IEEE 802.15.4™.

We offer consulting, support, hard- and software-development, prototyping, testing, volume production and certification services so that our customers get the entire electronic value chain all from one source.

Our team of skilled engineers supports our customers throughout their entire integration process of our wireless products into their own projects and products. Customers benefit from a wide variety of IEEE 802.15.4 radio components and well-matched development and evaluation tools. All our turn-key solutions work with either ZigBee® / 6LoWPAN / RF4CE or MAC based proprietary communication protocols.

**IEEE 802.15.4** - The standard for the wireless sensor networks IEEE 802.15.4 defines the physical and MAC layer and is the basis for ZigBee or 6LoWPAN protocols, which offer a networking solution by developing the upper layer which are not covered by the standard.

**6LoWPAN** offers a transport layer for different applications by integrating well known IP protocols into wireless sensor nodes allowing a transparent connection between wireless and existing IP networks. Each node can have a world-wide unique IP address and can be monitored online. A larger range can be achieved by using routers. We offer ready-to-use solutions which reduce the customer hard- and software development time and costs. With the 6LoWPAN Manager from dresden elektronik the user can start the wireless communication between the devices without any programming

**ZigBee** - Wireless sensor networks based on the ZigBee protocol use already pre-defined application profiles. Within those profiles the data transmission is defined down to the smallest detail and thus enables manufacturer independent communication and device interoperability. ZigBee clearly stands out in this point against other protocols. We mainly focus on the Smart Energy and Home Automation profile and show you for example how energy management in home applications can be integrated.

## Development and production

dresden elektronik's experiences range from simple peer-to-peer connections to complex wireless sensor networks. Our manufacturing area can handle more than 300,000 components per day with products tested for electrical parameters and radio performance. Our in-house test area is continuously maintained and extended by our test group, specialized in test systems and inline test equipment.



Automatic test system for testing of electrical and radio relevant parameters



### dresden elektronik

- consulting | support
- hard- | software development
- prototyping
- testing
- verification
- volume production
- certification

### components

- radio modules
- USB radio sticks
- development boards
- development kits

### tools

- Protocol-Analyzer-Software for all IEEE 802.15.4 based networks
- Thermo- and Solar-Harvester demonstrators

### solutions

- 6LoWPAN
- ZigBee
- proprietary ISM applications

## Contact

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