



ANTENNA SERVICES TESTING, INTEGRATION AND DESIGN SERVICES

Test House | Systems House | Software House

SERVICES FOR MAXIMUM ANTENNA PERFORMANCE

Wireless technologies are of growing importance for a large variety of products. The integration of wireless connectivity into traditionally non-wireless or newly created devices can support interesting additional features.

However, the path from a brilliant product idea to a successful end-product is sometimes stonier than expected.

The complexities faced by manufacturers when trying to integrate off-the-shelf antennas into their products are often underestimated. Depending on a number of aspects such as technology, housing, shielding, cable routing etc., embedding an antenna into your product often becomes a surprisingly difficult and time-consuming task.

COMPLEXITIES OF ANTENNA INTEGRATION

Integrating antennas into short range devices that support technologies like Bluetooth®, WLAN, or WiMAX is comparatively straightforward.

However, complications often arise when more than one frequency band needs to be supported and/or longer distances have to be bridged. The lower the frequencies are, the stronger the interaction of antennas with their environment becomes. As a result, embedded antennas supporting for example frequency bands below 1 GHz must be specifically designed when integrated into handheld-sized devices.

The following aspects need to be considered regarding antenna design and integration:

- Supported frequency bands
- Available space for antennas
- Distance to other electronic components
- Housing
- Mechanics
- Shielding
- Regulatory and certification demands

To achieve the best possible results, our antenna design services should be introduced at a very early stage in the R&D process. Once we have fully understood the design of your product, we develop an antenna that ideally matches your needs.

ANTENNA TEST SERVICES

The necessary assessment processes during the R&D phase can take place in our state-of-the-art antenna test facilities. Achieving accurate and reliable measurements of the effectiveness and functional performance of antennas is not a simple task and requires sophisticated test equipment and test methods. 7Layers, a worldwide group of test and service centers for wireless connectivity, is competent in dealing with these demanding requirements. All our accredited, high-tech laboratories are continuously updated in order to satisfy the latest antenna testing requirements of the wireless industry.

Our antenna experts have years of experience with wireless technologies, antenna design, manufacturing and market access procedures. This provides an ideal combination for bringing your product to market as quickly as possible.

IMPROVING ANTENNA PERFORMANCE

Is your off-the-shelf external antenna matched to your PCB size? Contrary to an often asserted statement: size matters! Since there is really no "50-Ohm-match-all-situations antenna" (unless you have it positioned via cable several meters away), all antennas have been initially designed for a specific size of the attached PCB or shielded box. Especially for multiband antennas, usage in a different environment can result in reduced performance. At 7Layers, we can offer you a „select the best antenna“ service for a very reasonable price.

ANTENNA DESIGN SERVICES

7Layers can provide you with a tailored embedded antenna. Our staff includes former Siemens mobile phone antenna engineers and we have experience with multiband embedded antennas for all kinds of applications: from medical device operating from 400 MHz onwards to circular polarized antennas up to 6 GHz as well as LTE antennas.

ANTENNA CERTIFICATION TESTS

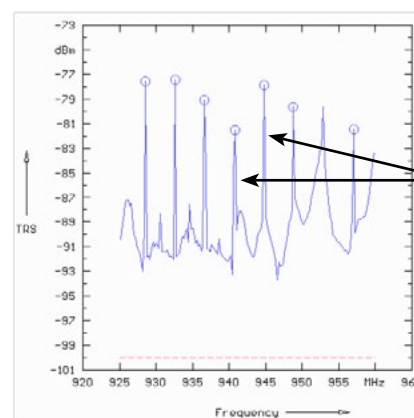
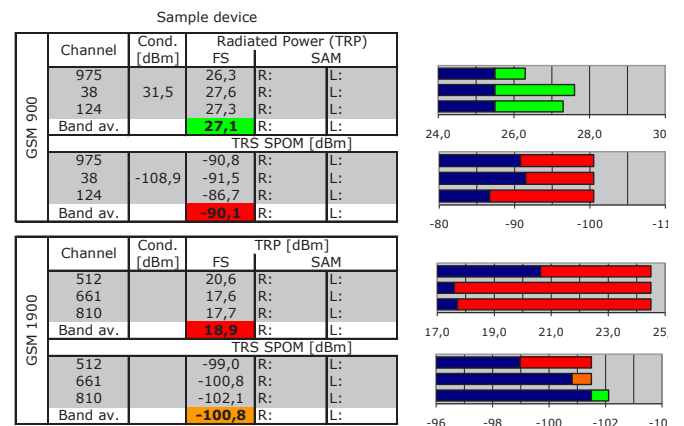
We have all certified OTA test equipment available, covering CTIA, PCTRB, 3GPP, GCF, Vodafone, Telekom, Apple, Verizon and other test specifications.

ANTENNA DEVELOPMENT TESTS

We have test equipment and test software available that goes beyond that of a classical test house, providing you with the capabilities of an R&D laboratory.

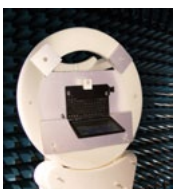
ADDITIONAL SERVICES

7Layers has the experience and knowledge to reduce electromagnetic noise interacting with the RF part and vice versa. Humming noise and de-sensitization (self-interference) are issues we can offer solutions for.



Value for your R&D

- How good is your device - relative to a typical mobile phone?
- What would a network provider say?



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