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.

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 an 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.

For off-the-shelf antennas we offer antenna integration, tuning and optimization support.

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

Off-the-shelf external antennas have to match the chosen PCB size. 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. We also support your antenna integration processes and offer antenna tuning for optimized performance.

ANTENNA DESIGN SERVICES

7Layers can provide you with a tailored embedded antenna. Our antenna engineers have experience with multiband embedded antennas for all kinds of applications: From antenna design for MICS (medical implant communications systems) 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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UK       + 44.755.722.9114
Spain    + 34.634.507.296
Israel   + 972.3.6450756
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