Innowave

Your IoT Design Partner

Transforming ideas into amazing products

Innowave is at the leading edge of design innovations in smaller, smarter and longer-lasting connected devices. Founded in 2015 with deep knowledge of embedded systems, RF, and mechanical design, we specialize in miniaturizing circuits and products, designing products with a longer battery life, and in producing co-located multi-technology wireless devices that meet regulatory requirements.

Licensing & Modification of Innowave Designs and Intellectual Properties (IP)

Our patents are available to enhance your design's competitive advantage in the market worldwide. In addition to the company's 5 granted patents (6 others pending), the founders share over 60 US and international patents and more than 800 citations by companies including TI, Analog Devices, Cypress, Marvell, Boeing and Samsung.

PRODUCT DESIGN

Product Design Cycle:

- System architecture, hardware and software design based on customer requirements.
- Schematic and Printed Circuit Board (PCB) design using Altium Designer.
- RF and EM Simulation to ensure designs meet regulatory and performance requirements.
- Industrial and mechanical design.
- PCB and product enclosure fabrication.
- Product testing, optimization and measurement.
- Pilot production.

We drastically cut development costs with single-pass development. Our RF and digital design experts have achieved this numerous times.

Placing multiple radios and sensors close to each other, interference between the radios and the sensors will create EMC/EMI issues. Innowave has also filed patents on the method of co-locating multiple radios and sensors without creating EMC/EMI issues.

We have designed many small devices with multiple radios and sensors located in close proximity to each other and certified them with FCC, CE, PTCRB, and other international regulatory bodies.

ANTENNA DESIGN

Antenna Design Cycle:

- Antenna design and simulation to verify frequency of operation, return loss and input impedance.
- Antenna Simulation to verify antenna regulatory performance such as SAR, TRP and TIS.
- Fast antenna fabrication.
- Antenna measurement and validation.
- Pilot production.

Antenna Miniaturization

IoT developers will often find themselves in a challenging position when it comes to optimizing their products size, since miniaturization degrades an antenna's performance due to wavelength limitation.

Our patents and previous work specifically address antenna miniaturization by overcoming theoretical limitations without compromising the performance.

Services

IOT CONNECTIVITY THROUGH OUR MVNO

As an MVNO, Innowave's unmatched connectivity is a major differentiator.

Our SIM card is able to roam to multiple mobile operator networks from any country at any time, before selecting the strongest network available at any given time and location.

The signal strength of a mobile operator (e.g. AT&T, T-Mobile and others) varies based on location and time. We are independent, and without a preference for specific mobile operators.

Optimal coverage and quality of service are achieved through access to several mobile networks in every country. Our SIM instantly checks and roams to the strongest mobile network at any time and any place.

PRODUCT CERTIFICATION

Stringent regulatory requirements have the effect of weeding out most IoT developers trying to bring new products to market.

Innowave's in-house expertise in certifying co-located multi-technology wireless products by solving design issues cost effectively is a major differentiator and value proposition to our clients.

Regulatory Bodies
FCC, IC, CE, PTCRB and GCF.

Cellular Certification
(2G, 3G, LTE including NB-IoT).

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Industry Expertise

Industrial
Healthcare
Consumer
Military
Communication
Solar Energy
Satellite Communication

Having executed design work for a major LEO constellation company, we are familiar with satellite-based communication systems, design of satellite radio and satellite antennas. Testimonials of our satisfied customers can be shared upon request and signing an Mutual Non Disclosure Agreements.

IoT products require special expertise that most companies lack in-house, which explains why over 3 out of 4 companies report these projects as either failing or far exceeding budget and time constraints.
Is your business one of them?

Expertise & Innovation

Product Design

- RF Circuit Design
- Energy Harvesting Design
- Embedded System Design
- IoT Design
- Cloud Platform Design
- RF Radio & Module Design
- RF Transceiver Design
- Miniaturization of Wearable devices
- App Design

Antenna Design

Product Regulatory Certification

End-to-End IoT Connectivity (MVNO)