EMBEDDED ANTENNAS

Custom Integral Solutions for Enterprise Wireless, IoT, and Industrie 4.0

In the age of smartphones and the Internet of Things (IoT), every device needs an antenna that can provide reliable connectivity. That’s why PCTEL’s integral antennas are designed, tested, and manufactured to meet each specific device’s performance requirements. We do more than provide antennas. We work closely with our customers to ensure radio system performance for performance critical broadband, IoT, and industrial applications.
PCTEL can manage all of your design, testing, and certification support needs. We have designed and manufactured antennas for industry leaders and radio manufacturers for more than 15 years, with leadership in areas such as high rejection GNSS and multi-band antenna technology. Since 2009, we’ve shipped over 2 million embedded antennas. We are also experts in radio design, manufacturing, and calibration, as evidenced by our industry-leading SeeGull® flex scanning receiver line. In total, we have 30 U.S. antenna patents granted.

**WIRELESS PROTOCOLS**

- Wi-Fi
- Cellular (GSM/UMTS/LTE)
- Bluetooth
- 802.15.4
- UNB (Ultra-Narrow Band)
- Near-Field Communications (NFC)
- Z-Wave
- Zigbee
- LPWAN (Weightless, LoRaWAN)
- VHF/UHF

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Wi-Fi Access Point with Integral Antenna
*Image courtesy of Aruba Networks*

Custom Designed LTE Antennas in Specialized Housing
*Image courtesy of Sentient Energy, Inc.*

Worker Protection System (WPS) with Integral Antennas
*Image courtesy of Metrom Rail*
PCTEL takes a system performance approach to antenna and radio design. We work with you to understand the critical antenna characteristics that will drive total system performance. Our engineers have access to fully equipped, state-of-the-art design facilities in Bloomingdale, IL, USA and Beijing, China. We use a Stage-Gate development model with dedicated project management support. We also offer rapid design prototyping, and testing in-house, so projects can proceed on our customers’ schedules. Our highly efficient design process results in custom integral solutions that meet your platform’s specific needs.

**IN-HOUSE DESIGN TOOLS**

- Two Satimo SG 24 near-field test ranges
- ETS-Lindgren tapered antenna test chamber
- CST and IE3D E-Field design software
- Microwave Office® circuit analysis
- Inventor® and SOLIDWORKS mechanical design tools
- In-house environmental test lab
- Fortus 3D printing/radome prototyping
- FARO® Edge laser scanner for highly precise measurements
- Mold-Man™ 8000 molding machine
- Manncorp™ SMT line
PCTEL provides manufacturing, supply chain integration, and post-sales support. Our team can provide all the manufacturing and support you need—or integrate our processes smoothly with contract manufacturers to ensure quality control and timely delivery. We have a globally distributed workforce, with manufacturing and design facilities in the United States and China.

**FACILITIES AND PROCESSES**

- 4,600 m² (50,000 sq. ft) factory in Bloomingdale, IL, USA
- 4,600 m² (50,000 sq. ft.) factory in Tianjin, China
- LEAN manufacturing
- RMA automation and integration
- ISO9001: 2008 registered for the design, manufacture, and sales of antenna products for the communications industry
- ISO14001 ready
- All products are RoHS and REACH compliant