

Pulse is a global leader in antennas for wireless device applications. We have a uniquely far-reaching understanding of antennas and RF issues of modern mobile terminals. Combining our openness to new ideas with our extensive R&D has made us the technology leader in our field.

As the Machine to Machine (M2M) marketplace evolves from wired to wireless technologies, engineers are demanding higher performance, easy to implement antenna solutions. Pulse, with our local technical support and superior performance record, is the ideal partner for customers as they grow their Wireless M2M Solutions.

Pulse offers solutions covering frequencies from 13.6 MHz to 6 GHz covering technologies such as WLAN, WiFi, Zigbee, ISM, GPS, Cellular, LTE, GSM, UHF and VHF. Key Pulse antenna applications for Wireless M2M are Smart Metering, eHealth, Remote Monitoring, Automation and Control, Navigation, Location Based Services, Public Safety and Security

For more information on the full range of products including the feature products listed below, please visit the Product Finder on our web site at <http://productfinder.pulseeng.com/categoryList>.

Outdoor Solutions

Outdoor antennas are located outside and require more robust mechanical construction as they are exposed to environmental conditions. Pulse outdoor solutions are wind rated to 100 MPH and are IP (Ingress Protected) to IP-65 or IP-67. IP-68 is available to customer specification. Key applications include metering, mesh networks, infrastructure, small to medium base station deployments and remote monitoring.

W5012, W5010, W5001

- ISM 868 MHz, 915 MHz, 2.4 GHz, Zigbee & WLAN applications
- IP65 rated and UV protected

W5005, W5013

- High gain omnidirectional antennas
- 824-960/1710-2170 MHz
- Gain of 2 to 4 dBi
- IP-67 rated and UV Protected

External Solutions

External antennas, located outside the customer product but not subjected to outdoor weather conditions, are exposed to less hazardous environmental conditions than outdoor antennas. Pulse external antennas are offered in a variety of mounting options supporting the diverse nature of Industrial applications. These include direct connection, magnetic mount, wall bracket and integrated cable assembly.

W1088G3000

- Magnetic desktop mount antenna
- 824-960/1710-2170 MHz
- 9.84 ft (3 m) cable
- SMA or MMCX connector

SPDA24700/2700

- Cellular coverage over the LTE
- 700-900/1800-1900/2100-2700 MHz
- Swivel mount
- SMA connector

W1071

- Zigbee and WLAN applications
- 2.4-2.5 GHz
- SMA straight connector

W1920G0915

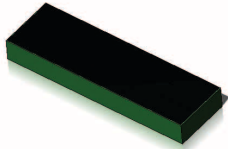
- Cellular blade antenna
- 850-960/1800-2100 MHz.
- Adhesive mount
- Multiple cable and connectors available upon request

W1900, W1910

- Penta band stubby antennas
- Less than 2" (50 mm) tall
- 850-960/1800-2100 MHz.
- Straight or right angle connections


Internal Solutions

Internal antennas connect directly to the motherboard as a board level component or via connector, thus integrating the antenna inside the final enclosure. Pulse's expertise in the mobile phone industry with integrated and multi radio solutions is key to offering a large range of high performance standard products for the industrial M2M Sector. Ceramic chip antenna information is available on the Pulse product finder. Custom product development is also available on request.



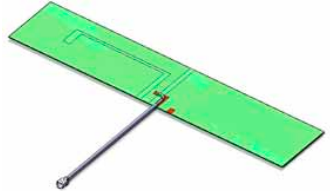
W3544A & B

- PCB hybrid Cellular antenna for SMD pick and place
- 824-960/1710-1990/1920-2170 MHz
- 1.02 x .3 x .12 inches (26 x 7.65 x 3 mm)
- Over 50% radiated efficiency




W3538B0200

- For applications requiring cellular connections with limited board space
- 824-960/1710-1990/1920-2170 MHz
- Multiple cable and connector options available
- Compatible with leading GPRS modules
- Adhesive mount



W3554

- Design for the future now with the new W3554 LTE Antenna
- PCB with Cable and Connector
- 690-960 / 1710-2700 MHz
- Over 50% radiated efficiency in all bands




W3126, W3127

- Embedded component
- 315 MHz and 433 MHz
- Featured on TI dev boards (CC11XX, SUB 1GHz series)

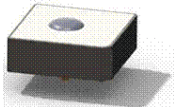
Navigation Solutions

Pulse carries a full line of GPS antennas - from ceramic chips for integrated applications to multi band solutions for mobile applications. Our GPS development competency leverages multi band technology enabling continuous GPS signal reception when the co-located communications antennas are transmitting. Originally designed for the AVL (Automatic Vehicle Location) market, Pulse GPS antennas can be customized to meet specific design requirements.



GPS Ceramic Chips

- Small footprints
- PIFA and monopole solutions



W3213

- .5 x .5 in (13 x 13 mm) GPS ceramic patch
- Special tuning options available upon request



GPSDM700/2500

- Roof mounted GPS/LTE/GSM/WIFI antenna
- 698-960/1710-2170/2300-2700/1575 MHz
- IP-65 rated and UV protected
- Outdoor application



GPSPM

- Active GPS antenna
- 1575 MHz
- Adhesive mount (dashboard or windshield)



GPSSB800/2710

- Active GPS/Cellular blade antenna
- 860-960/1710-2170/1575 MHz
- Adhesive mount
- Indoor or outdoor applications