Safer, smoother connectivity of people, cars and communities

**Wireless Data Communication Modules for Automotive Use**

**Making connected vehicles a reality**

**V2X (Vehicle to X) Communication Modules**
- 760MHz Module for Japan
- 5.9GHz Module for US/EU

- Supports single and dual diversity for both transmission and reception antennas
- ETSI and Wi-Fi protocol stack + security chip package also possible

**Verification using reference design with built-in module**
- Field test conducted
- FCC certification is in progress

**GNSS Module**
- High-performance positioning by dead reckoning
- DR processing is completed within the module using a built-in DR algorithm
- Sensors (gyroscope/acceleration) used for positioning by dead reckoning

**LTE Data Communication Module**
- Installed separately
- Software download
- Connects to GNSS Module
- Multimode for 2G/3G/4G (Cat4, 150Mbps)
- Module with integrated GNSS functionality available

**LTE+GNSS Module**
- Consists of GNSS and LTE modules
- Connects to GNSS Module

**Comfortable in-vehicle communication**

**Bluetooth®** Wireless LAN Modules
- Smart phone link
- Interoperability testing

**Original RF circuit design (2.4GHz/5GHz)**