Flat Roof antennas
Multifrequency antennas module

Benefits:

- Future vehicles will require more services and antennas for the autonomous driving systems

  - **Ficosa Flat Roof antennas Modules** allows multiple antenna to be integrated in the same roof module

  - No visible impact improves car’s aesthetical image and aerodynamic penetration

  - Installation process for all antennas is reduced to a single module assembly
Flat Roof antennas
Multifrequency antennas module

Technical Advantage:

- Module variants are customized depending on vehicle services and configurations

High Frequency module

*Estimated dimensions: 654 x 84 (mm)

Broadcast module

*Estimated dimensions: 880 x 260 (mm)
Flat Roof antennas
Multifrequency antennas module

Applications:

- **Antennas module** is designed for optimal signals reception
- Each module works on all models belonging to a single platform
Benefits:

- Adds several connectivity services in a single technological platform.
- Modular architecture to early deploy most innovative technologies.
- Physical platform to test in vehicle and shorten the time-to-market.
Technical Advantages:

- Central CPU with **modular stick connections**
- NAD LTE-A Cat16 for V2N, V2C and UU
- C-V2X stand alone stick for PC5 direct communication for V2V and V2I
- Precise Point Positioning (PPP) technology to provide data with precision on cm level
Carcom
Technological Platform

Application:
V2X Systems
C-V2X and 802.11p On Board Units

Benefits:

- Intelligent Transport System aims to provide innovative services relating to different modes of transport and traffic management for more informed and safer users.

- **Ficosa V2X On board Units** supplies the vehicle with a low latency V2X communication either using DSRC or C-V2X technology.

- **Ficosa’s expertise on antennas design** increases the ranges of signal reception with an optimize antenna adaptation as well as compensates cable length loose.
V2X Systems

C-V2X and 802.11p On Board Units

Technical Advantages:

- Module variants are customized depending on vehicle services and configurations
- **Ficosa modules** follow the IEEE 8011.p as well as 3GPP standards
V2X Systems

C-V2X and 802.11p On Board Units

Applications:

- V2X use cases increase safety and security for vehicles and pedestrians of future cities
- Technology that drives us to a Level 5 autonomous driving
- Ficosa’s systems architecture allows migrating services from one to another platform
Telematix

From Low Cost 3G to LTE-A product variants

Benefits:

- **Low end version TCU’s** specially designed for ERA-GLONASS and eCALL regulation compliant have been deployed since 2006

- Evolution of mobile communication drives us to include advanced safety, security and infotainment applications in the vehicle based on **scalable designs**
Telematix

From Low Cost 3G to LTE-A product variants

Technical Advantages:

- LTE & LTE-A connectivity
- WiFi, USB and Ethernet communication ports
- Firmware and software remotely updated Over-The-Air
- Low power design: ON, Sleep & Deep Sleep mode
- Backup battery for security and safety services
- Integrated antennas ensures continuous communication even in case of crash
Application:

- Ficosa TCU's with vehicle position, CAN bus connection, accelerometer and others, offer the opportunity to implement a wide range of services for final users and OEMs: diagnostics, maintenance, emergency call, telemetry, remote control, etc.