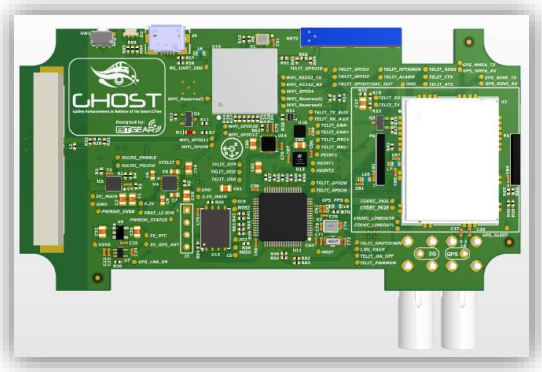
GHOST embedded platform ready

Bitgear Wireless has developed a powerful, versatile, intelligent transport embedded platform solution with accurate positioning and fast data transfer as part of the GHOST project.

The embedded platform has been sent to production at the beginning of October and these units will be utilised for the first testing campaign in second quarter of 2016.



The embedded platform can response to numerous applications in the smart city environemnt. New inertial/wireless embedded system provides fundamental needs to many of today's smart city applications and telematics embedded systems: high-speed data transfer capabilities, accurate and robust positioning using combined INS/GNSS solution, powerful processing, numerous sensors and interfaces with massive storage.

The joint usage of multiple GNSS constellations can substantially contribute to a more robust identification of a specific location due to the better availability in urban canyons thanks to additional Galileo satellites and integrity with the support of EGNOS/ EDAS used as input for Kalman filtering.

Key Features:

Processing power and storage:

- 1. ARM Cortex-A5, 8Gb of Flash. Peripherals (USART, SPI, I2C, I2S, SDIO, USB, ADC)
- 2. MCU ARM Cortex-M4, ultra low power processing solution. Peripherals (USART, SPI, I2C, I2S, SDIO, USB, ADC)
- MicroSD card in vibration resistant slot

Operating system: embedded Linux

Connectivity:

- 3G module (Telit module upgradable to 4G) with external antenna automotive connector and alternative internal high-performance 3G antenna
- Wi-Fi with internal high-performance antenna

Positioning:

- GPS/Glonass/Galileo/SBAS receiver- NMEA and Raw binary messages available at 20Hz rate
- Inertial sensors:
    - Standard GHOST IMU: Low-G accelerometers + High-G accelerometers + Rate Gyroscopes (consumer grade sensors)
    - On-demand: high performance calibrated inertial measurement unit DMU10 (Silicon Sensing)
- Pressure Sensor
- Magnetometer
- INS/GNSS coupling algorithm running on dedicated processor

Camera: Two 5MP cameras with autofocus.

Other possible applications:

- Advanced telematics services
- Car sharing services
- Vibration and dynamics measurement/characterization
- Vehicle navigation
- Sports racing measurement
- Crash testing analysis
- Advanced surveillance applications
- Real-time image analysis and processing
- Environmental monitoring (air analysis, gas monitoring) using mobile units

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