

# TTRF2, THE SMART GATEWAY MODULE

For non-powered  
asset tracking



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**Why TTRF2?** Unique long lasting IoT device with extreme low power consumption module, adaptive power management and multi-protocol platform. It supports high-tech protocols like Bluetooth 5.0, Bluetooth mesh, Zigbee and 2.4 GHz proprietary stacks of the Cortex M4 module.

## FEATURES

- Primary non-rechargeable and rechargeable lithium-ion battery
- Up to 10 years battery life
- Latest GPS/GLONASS/BeiDou/Galileo/ technology for positioning
- LTE Cat M1/ LTE NB / EGPRS
- Long Range Bluetooth 5.0 / ZigBee / 2.4 Ghz / CyFi communication with external sensors
- Real Time tracking
- Protocols: TCP/UDP
- Customized firmware configuration via USB and remote update with FOTA
- Motion and temperature sensor
- Temperature controlled range of peak power consumption

## INTERFACE

- Long Range Bluetooth 5.0 / ZigBee / 2.4 GHz connection
- CyFi™ Low-Power RF 2.4 GHz
- 4x digital input, 2x analog input & 2x Open-Collector Outputs
- 1-wire Protocol
- Supports OBD protocols: J1708/1587, J1939 CAN Bus, J1979 CAN Bus, ISO 15765
- USB port & Serial port RS485
- 3.3V DC Output Pin
- Power supply: (+8V - +30V) DC
- Internal GSM and GPS antennas
- 3-axis Accelerometer
- 4 Status LEDs
- Temperature range: -40°C to +85°C



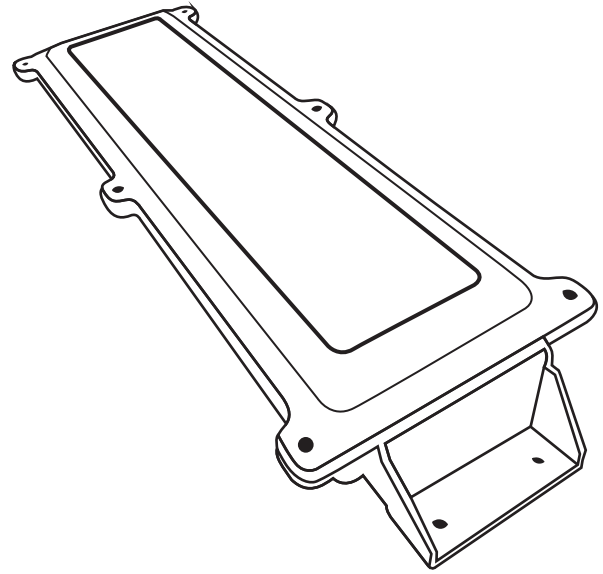
## CELLUAR MODULE CERTIFICATIONS

- Certified to FCC, IC, MIC, KCC, and NCC radio regulations
- Certification: FCC/PTCRB LTE Modem Certification

# ENVIRONMENTAL PROTECTION

The module is installed at the outside frame of the container or the trailer. It can be attached to the trailer chassis as well. The packaging box is made from very resilient and robust design IP67 compliant, with special mixture of plastic and microfiber materials. It passed HALT testing overcoming **humidity, shock** and **vibrations**.

The sophisticated design of the box is keeping the **operating temperature inside** at optimal protecting the processor of overheating, independent from the environment and provides long lasting UV protection.



# SENSORS - OPTIONAL

- Standard Hubodometer® - Stemco
- Aeris SmartSense® Tire Monitor - Stemco
- AirBat RF® DAS Automatic Tire Pressure Monitoring System - Stemco
- Cargo Temperature Sensor
- Fuel Level Sensor
- Door Sensor
- Cargo Load Sensor
- Proximity Sensor

# ELECTRICAL SPECIFICATIONS

## Power Consumption

- <15uAh in sleep mode
- <200 mAh in normal active mode

## 2 Types of Batteries

- Primary non-rechargeable battery: with capacity up to 48Ah
- Rechargeable battery: with capacity up to 6.6Ah
- Life span up to 10 years