Operational Description for Telematic Tracking System called SAT RC 09

The product is a vehicle tracking system use to follow the vehicle and to allow the recovery of the vehicle in case of stolen, theft or after crash. the product is fitted on the vehicle by means a 3 wires connection, to simplify the installation on all the vehicle range. The harness is provided with all the wires black, to know the wire to be use a number is placed on the part that will be sliced before connection. The product contains a Jasper SIM card to manage only M2M service, to manage the data transmitted the SOC (Security Operational Center) is needed.

The system is used to count the mileage of the vehicle the system contains a GPS localizing system to know the positions and to send this information, periodically, to the operating centre. Information are related to time, positioning and this information are matched with the area to know road type, highway, urban ecc.th scope is to provide insurance service at the user.

The PCB is build around a single motherboard, two layers of components, that contains the functions to manage, tracking, communications, tilt sensor.
The communication with the operating centre, to collect data, is based on GPRS communication .
The internal modem is a TELIT GE864 Quad Band module the system is managed from an internal microcontroller M32C87A. from Renesas, that manage all the I/O, tilt sensor, and the user interface as well. The frequencies of the main clock is 10 MHz, an additional quartz for with EEPROM external memory of 256 bytes.
The microprocessor is equipped with hardware and software watchdog;
The product is for vehicle application, the power supply is the 12 Volt DC provided from the main battery.
The product contains an internal battery backup pack, 7,2 V NiCd, to allow the functionality of the system to avoid manipulation or frauds.
The products is provide with 2 antennas, one for the GPS receiver and one for the GPRS bi-directional communication.
The GPRS antenna gains is from 0~0.5 dBi @ 880 – 960 MHz from 0.5 ~ 1 dBi @ 1710 – 1990 MHz.
The system is installed in the vehicle by the dealer or by the authorized centre and it is completely invisible at the end user.
No operating manual is provided because the user do not use the product but the system is use for the vehicle tracking.
The product is provided only with the installation instruction.
Safety and reliability

The following points outline the safety and reliability factors which have been considered in the design of the units.

- Reverse polarity protection of the unit
- Load dump protection
- All the connections, except antennas, are on AMP MQS 18 poles connector;
- Built-in Hardware watch-dog for microprocessor to prevent any lock-up
- PCB with large ground plate to get better rejection to electromagnetic disturbance

INPUT

Permanent 12 V power supply (+30)
Ignition (+15)
Power negative supply (-31)

GPRS antenna and GPS antenna are connected with Fkra connectors with secondary lock.