Operational Description

The AVL Reader consists of two RF modules for communication, the first is the High Frequency module interconnected to the µP via SPI channel, the HF module provides operational frequency (transmit/receive) at 916.5MHz, it is FSK modulated with 40KHz deviation and 16KHz data, the HF used for continuous communication with the tanker sensors (programmed electronic seals with active RF) in order to secure real time remote monitoring of the tanker truck access points.

Typically, the HF receiver is always opened for burst messages coming from the sensors in order to obtain continuously "listening". In Tx mode-the AVL Reader interrogates the sensors for their ID, status and user data every 15min. It writes information into the sensors and retrieves logged information (events) into its EEPROM.

For short-range communication (optional for management and configuration use) the AVL Reader uses *Low-frequency Channel: Transmit/Receive at 125 KHz, AM modulated with 4KHz data rate

The µP is interconnected with two serial communication interfaces, it uses dual RS232 port in addition to one RS485 port for communicating with other devices of the Tanker Truck Monitoring System (TTMS).

The I/O module provides one external interrupt input (active low, isolated) as well as three isolated outputs for general purpose. Equipped with back-up battery the AVL Reader ensures continuous operation and support of the essential features in case the power supply from the vehicle is interrupted