hoopoSense Model 502B1000-1A

1 Product Description

The hoopoSense IoT device provides tracking capabilities for un-powered logistics items. The device should always be rigidly attached to various commercial logistics items such as: plastics palettes, un-motorized Ground Support Equipment (GSE) at airports, truck trailers, large garbage containers, building materials recycling containers, etc. The hoopoSense, is a low power device powered by up to four AA batteries. The device is equipped with a LoRa transceiver, a WiFi receiver, a GPS receiver, an accelerometer, a temperature sensor and an optional cellular modem. The device is packaged in an IP67 rated plastic box. The device is activated only under certain movement parameters in order to prolong the batteries life by reducing to a minimum operation time i.e. transmission time.

The device is equipped with a set of internal antennas: a pcb LoRa balanced dipole, a dual band chip ceramic antenna for the GPS/WiFi and an optional wideband LTE flat balanced dipole. The peak radiated power is +11.94 dBm. The device is capable to operate in DTS and Hybrid modes. In the hybrid mode the unit's control software selects the transmit channel in the following process: the transmit frequencies are stored in a table, the order of the table is randomized each cycle and all entries transmitted, then randomized again and transmitted again and so forth. This process insures equal average use of each frequency. The receiver in our gateways processes the respective frequency spectrum in a parallel mode, i.e. all frequency channels are monitored concurrently. The message sequences are assembled by means of an unique message sequence number. The transceiver is capable to transmit/receive on any 200 kHz channel in the 902.5 MHz to 927.5 MHz range.