Operational Description – Lok8u NuM8

NuM8 is a wrist worn child tracking device. It utilises GPS and GSM technology, both of which are modular within the device.

GPS – eRide miniRide Opus one 32 channel GPS/AGPS receiver Module. This is used to locate the device.

GSM – Wavecom WMP100 Quad band modem.

The antenna for GPS is a Sarantel Geo helix design. GSM antenna is our own quad band design. The device can be woken out of idle state by either receiving a GPRS data packet or a SMS.

Modes

In all modes the device boots up onto the GSM network and goes to an idle mode to conserve battery life.

Idle Mode – This is used if the device is not needed to be located, it will stay in this mode until the battery has been consumed or turned off. In idle mode the device operates in GPRS packet mode only, this allows the device to stay registered with the network and the carrier does not remain on.

WRU – This allows the device to be located, on receiving the command it will carry out a GPS lookup and report back its position to the server and then return to idle mode. When sending a position we are sending 21 bytes of data which fits within a single GPRS time slot of 570 microseconds.

Live Track – In live track the device can be configured to automatically return a position every 2, 5, 10, 15 or 30 minutes. The data transmitted is exactly the same as a WRU request, except the device carries it out automatically. The time period between position lookup the device returns to idle mode.

Safe Zone – This mode checks that the device is within a pre-determined area. It holds the area in its own memory and compares this to the position lookup it carries out. If the position is within the pre-determined zone then the position is not sent to the server. If however it is outside of this zone then the position is sent to the server the same way as the WRU request. It can be configured to check its position every 2, 5, 10, 15 or 30 minutes. The time period between position lookup the device returns to idle mode.