Testing of SIGFOX jamming resistance

Three types of jammers were used during the test, one hand-held GSM jammer and two high performance jammers with active cooling, all-in-one, multi-band for jamming of GPS, GSM/GPRS, LTE, 3G, 4G, Lojack USA, WIFI, Bluetooth, 433MHz, 868Mhz

- CDMA: 850-894MHz
- GSM: 925-960MHz
- DCS&PCS: 1805-1990MHz
- 3G: 2110-2170MHz
- GPS: 1570-1580MHz
- WIFI: 2400-2500MHz
- 4GLTE: 790-826MHz
- 4GWIMAX: 2496-2690MHz
- 433MHz, 868MHz

The test duration was 30 minutes from **11:25 to 11:55**

11:25-11:35 hand-held for GSM
11:35-11:45 high-performance Multi-band 1
11:45-11:50 high-performance Multi-band 2
11:50-11:55 high-performance 1+2 simultaneously

TRACKER CHIPFOX was in close proximity to the jammers for the duration of the testing.
Record of the number of position messages transmitted in the Sigfox network

The transmission interval for the TEST was set at 2 minutes.

11:25-11:35 the position was received 2x including GPS, the hand-held jammer was only for the GSM band

11:35-11:55 GPS disrupted upon use of the high-performance multi-band jammers, the ATLAS positions were transmitted

The GSM network was completely unavailable for the entire duration of the test up to a distance of approx. 70 metres from the car in which the jammers were located
The jammers used are available on the Internet and are normally used in spite of their high price (approx. 1000 EUR) for instance, by professional car thieves to jam GPS locators that transmit positioning data via the GSM network.

SIGFOX communication uses the Ultra Narrow Band and short data pulses. Each message only takes up 100Hz bandwidth and each message is transmitted 3x. This ensures high resistance to jamming. Not even jamming of the BTS affects the delivery of the message, the device broadcasts the message and it is received by all the BTS within reach.

**It was not possible to jam the broadcast during the practical tests.**