Service. GSM jamming detection

User Manual

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Necessary tools, devices, materials

1. Galileosky 7.0 or Galileosky Base Block tracking device (hereinafter - tracking device)
   The detailed tutorial on how to configure and set the tracking device can be found at the link https://galileosky.com/podderzhka/dokumentacziya.html

2. A computer running Windows with the installed service software for configuration of Galileosky tracking devices - "Configurator". We recommend you to install the latest version of the service software from our site https://galileosky.com/podderzhka/programmyi.html
General Information

Galileosky tracking devices are able to detect GSM jamming. This functionality shows the presence of critical interference in the GSM radio-frequency band. Interferences can be both continuous and impulsive. The presence of these interferences means either entrance to the area with GSM devices prohibition or usage of suppressing GSM signal devices by unfair drivers.

Thanks to this functionality a user gets a number of useful options, for example:

1. automatic notification of the traffic controller about the GSM jamming at any point of the route via SMS or other message. SMS will be sent after successful network connection. (It can be done by the means of Easy Logic algorithms. To learn more about the technology, please follow the link https://galileosky.com/products/easylogic.html);
2. getting information about GSM jamming from the Configurator diagnostic messages.

GSM jamming function is available for Galileosky 7.0 and Galileosky Base Block tracking devices with firmware version 19.4 or later, as well as in Configurator version 4.16.21 or later.
GSM jamming detection

Using Galileosky 7.0 and Galileosky Base Block tracking devices, which were produced in December 2017 or later, you can find information about GSM jamming in "Diagnostics" tab of the Configurator. Example of diagnostic message about absence of GSM jamming is given in Picture 1.

Example of diagnostic message about absence of GSM jamming is given in Picture 2.

Example of diagnostic message about GSM jamming detection is given in Picture 3.

Using Galileosky 7.0 tracking devices, which were produced before December 2017, interferences can be detected indirectly in "Diagnostics" tab of the Configurator. Example of diagnostic message is given in Picture 3.

The diapason of CSQ variable is from 0 till 31, where 0 is absence of GSM signal and 31 is a stable reception of the signal.

The value of CSQ: 22.0 means that the level of received signal corresponds to stable reception.
Example of diagnostic message about absence of GSM signal is given in Picture 4. The value of CSQ: 0,0 informs about the absence of GSM-signal.

There is another message in "Diagnostics" tab of the Configurator to detect interferences for Galileosky Base Block tracking devices, which were produces before 2017. Example of diagnostic message is given in Picture 5 (Pic. 5).
Ways to process the information about the GSM jamming by means of Easy Logic

There is an opportunity to receive and process the information about GSM jamming by means of Easy Logic algorithms.

Algorithm can be set to display the diagnostic message, send the SMS, save a point etc.

A fragment of a simple algorithm, which set to show a diagnostic message about the presence or absence of interferences and inform traffic controller via SMS is given in Picture 6.

As we can see from the algorithm, while the tracking device is in the area with stable GSM signal, the diagnostic message «signal=OK» is shown once a second. The example of received information is shown in Picture 7.
If GSM jamming is detected by the tracking device the diagnostic message «signal=BAD» is shown. Example of shown information is given in Picture 8.

Then the point with the coordinates, where the GSM signal was lost, is saved in the archive. As soon as the tracking device leaves the area of interference, it will send SMS to the traffic controller.
Displaying of GSM jamming in the Monitoring Software

Using the standard function of GSM jamming detection it is possible to find out the reason for lack of data transmission. This information is sent to the Monitoring Software in the format of Galileosky protocol. The name of the tag, its number and description are shown in Picture 9 of this manual.

In case the Monitoring Software does not support parsing of specified tag, it is necessary for Software vendor to modify the software. A full description of the Galileosky Protocol is available for download at the link https://galileosky.com/podderzhka/dokumentacziya.html

RSA “Galileosky”, LLC produces satellite monitoring equipment for GPS and GLONASS real time vehicles monitoring. The tracking devices determine the mobile object location recording the time and route as points with geographical coordinates and send the data to the server to be further processed and sent to the traffic controller panel.

In addition, a number of other vehicle parameters are recorded: the state of analog and discrete inputs of the tracking device and the state of digital interfaces.

The tracking devices can be used in any vehicle.