Secure RAW data format `tbrarw`

How to use the new RAW data format `.tbrarw` (introduced in ComPort `v3.1.2`)

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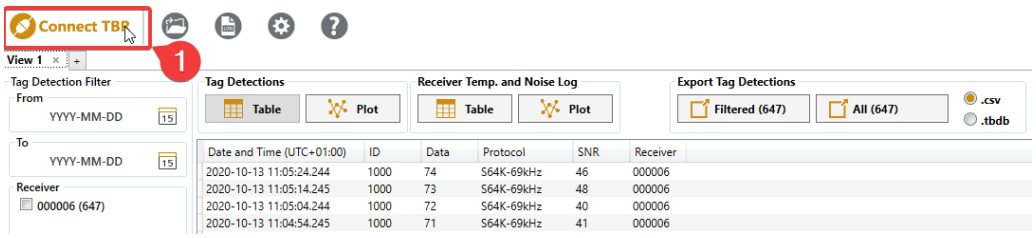
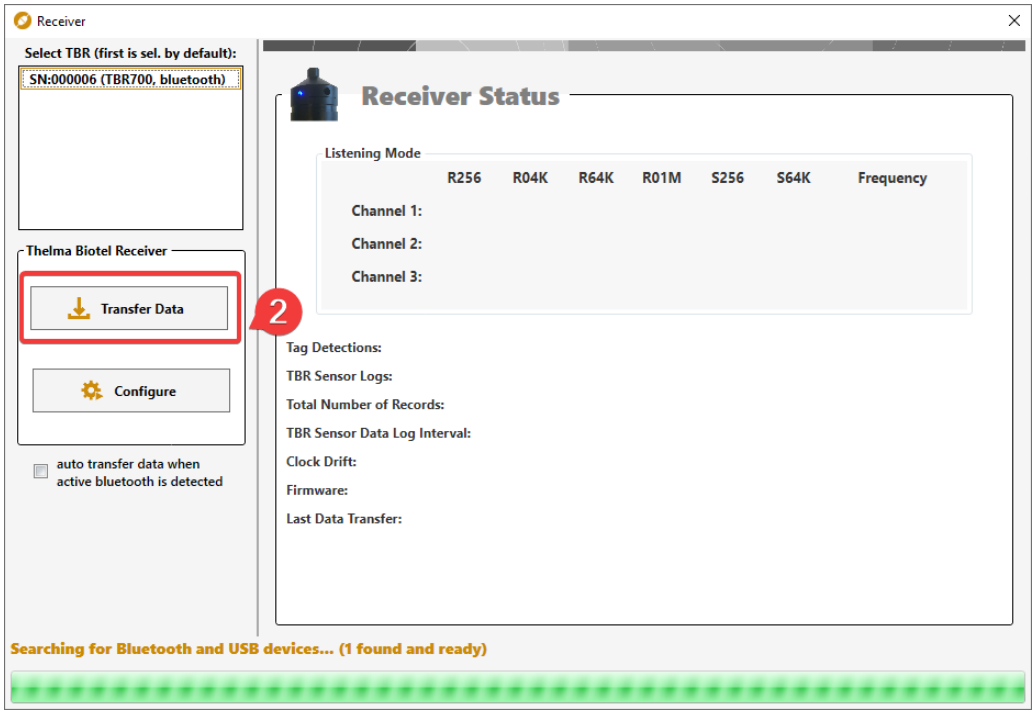
How to generate the raw data file

A `.tbrarw`-file will automatically be generated whenever a data offload from a TBR is done through ComPort. The bytes stored in the file will be directly transcribed from the memory of the TBR unit, and encoded with checksums. Within the file some metadata lines are in plain text (with checksums), and the title of the file will also contain metadata information.

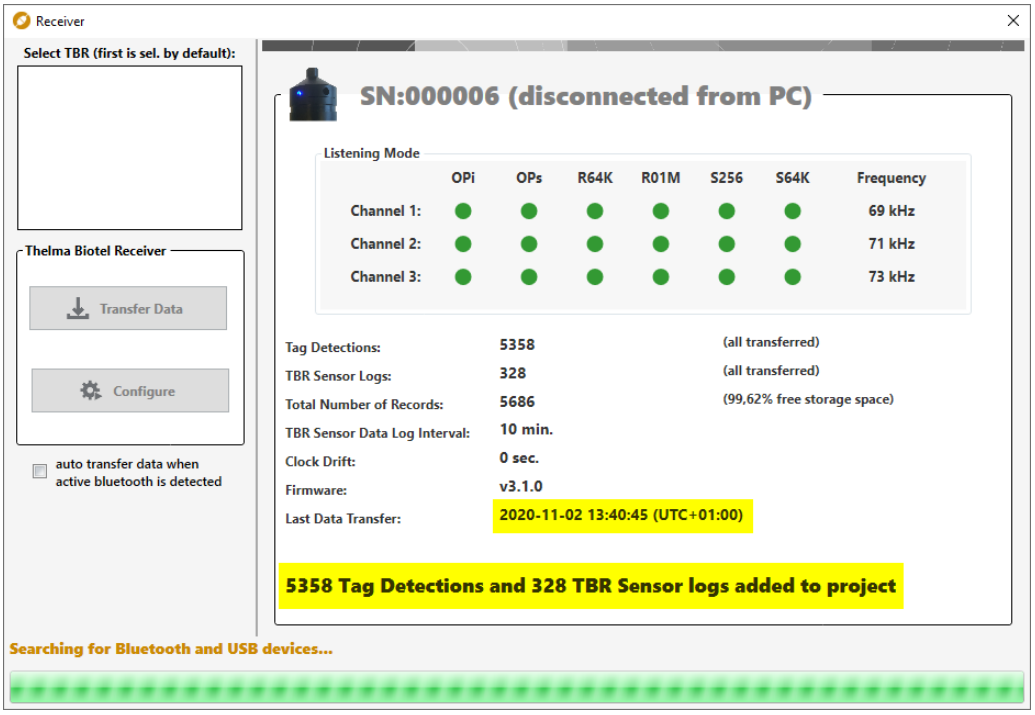
1. Connect TBR



2. Transfer data from TBR



3. Verify data transfer is complete (information no longer blank, tag detections and sensor logs added to project)



Location of the raw data file

The raw data files will always be placed in location:

`C:\Users\username\Documents\ThelmaBiotel\ComPort\ReceiverDataTransfers`

If you have OneDrive through your work account or similiar, it might be placed in:

`C:\Users\username\OneDrive - CompanyName\Documents\ComPort\ReceiverDataTransfers`

What the raw data files is used for

The RAW data in the file can be imported in ComPort projects through menu option `Options > Import Data > Receiver Memory Dump (.tbrarw)`. The main purpose of the file format, however, is to upload unchanged data to the European Tracking Network (ETN) open database. You can read more about ETN, and how to upload data here. In addition, you can read about the supported protocols here.

Structure of the raw data file

The file name is as follows:

```
dateoftransfer_serialnumber_startaddress_endaddress_fileformatversion.tbrarw
```

And the contents is as follows:

```
Date of transfer: utcdatewithtimezone [CRC:Bytes]
Serial number: serial_number [CRC:Bytes]
File format version: fileformat_version [CRC:Bytes]
Firmware: TBR_firmware_version [CRC:Bytes]
Clock drift: clock_drift_in_seconds [CRC:Bytes]
Channel_1: frequency-protocol1-protocol2-... [CRC:Bytes]
Channel_2: frequency-protocol1-protocol2-... [CRC:Bytes]
...
--------
detection 1
detection 2
...
detection n
--------
Memory start adress: address [CRC:Bytes]
Memory end adress: address [CRC:Bytes]
```

Where the detections are TBR sensor data / Tag Detection data encoded as bytes with checksums.