

How to capture BLE broadcasting service ID

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Introduction

In order to capture the BLE broadcast service ID we need to use the [Advanced Beacon Mode](#), this feature is available in the base firmware of Teltonika Telematics device. For these instructions, we have 4 steps to follow [Parsing](#), [Device Configuration](#), [Beacon Capturing Configuration](#), and [Verifying BLE data](#).

Parsing

1. You need to capture the raw data of your FMB device. To capture the BLE RAW data, you can look for any mobile or desktop application that is capable of capturing BLE RAW data.

FMB BLE RAW DATA

0x0201021209464D433133305F373338393939325F4C4503031010020A00

2. Next is to parse the FMB BLE RAW DATA according to the Teltonika data protocol.

Unparsed FMB BLE RAW DATA received in hexadecimal stream

0x0201021209464D433133305F373338393939325F4C4503031010020A00

BLE Data Packet Part

Manufacturer ID

HEX Code Part

02 01 02

1209

Additional Information

46 4D 43 31 33 30 5F 37 33 38 39 39 39 32 5F

4C 45

03 03

BLE ID

10 10

020A00

Device Configuration

To enable the advanced beacon mode, please follow the steps below.

1. Go to System from the **Data Protocol** select **Codec 8 extended**.

2. Go to Bluetooth® from the **General** go to **BT Radio** select **Enable (hidden)/Enable (visible)**.
3. Go to Bluetooth® 4.0 from the **Common settings** go to **Non Stop Scan** select **Enable**.
4. Go to Beacon list from the **Beacon detection** select **All** , and from the **Beacon mode** select **Advanced**.
5. You may now create your own Beacon Capturing Configuration.

The screenshot shows the Teltonika Configurator interface for device FMC130. The top navigation bar includes buttons for 'Load from device', 'Save to device', 'Update firmware', 'Reset configuration', 'Load from file', 'Save to file', 'Read records', and 'Reboot device'. The main content area is divided into several sections:

- Device Info:**

Device Name	Last Start Time	Power Voltage	Ext Storage (used/total)	Battery Voltage
FMC130	5/15/2023 8:32:27 AM	14965 mV	9 / 122 MB Format	4243 mV
Firmware Version	RTC Time	Device IMEI	Device Uptime	Internal Battery Status
03.28.07 Rev:03	5/16/2023 10:48:56 AM	863069057389992	1.02:16:29	Not Charging 0%
- GNSS Info:**
 - GNSS Status:**

Module Status	GNSS Packets
ON	94617
Fix Status	Fix Time
No fix	00:00:00
 - Location:**

Latitude/Longitude	Altitude	HDOP
0, 0	0	0
Speed	Angle	PDOP
0 km/h.	0°	0
 - Satellites:**

Visible		In use	
GPS	GLONASS	GPS	GLONASS
0	0	0	0
BeiDou	Galileo	BeiDou	Galileo
0	0	0	0
IRNSS		IRNSS	
0		0	
Total In View		Total In Use	
0		0	

Beacon Capturing Configuration

Creating a beacon capturing configuration is based on the parsing details of the FMB device RAW data. To learn more about advanced beacon mode configuration please click [here](#). Now let's start creating the configuration, to begin please follow the steps below

1. Look on the parsing details.
2. Fill all the necessary information that is needed for Beacon Capturing Configuration.



- **Name** - This is the name of your Beacon Capturing Configuration.
- **Manufacturer ID** - **02 01 02** - It consists of 4 Bytes (8 bits) and it is required to fill in the table the full ID of 4 Bytes so the value will become **02 01 02 00**
- **Manufacturer ID Offset**- 0 byte.
- **Manufacturer ID Size** - 3 bytes
- **Beacon ID Offset** - 24 bytes
- **Beacon ID Size** - 2 bytes
- **Additional Information Offset** - 5 bytes

- **Additional Information Data Size** - 18 bytes

After that, your configuration should look like the image below.



3. To verify if your configuration is correct go to **Device Status** check the **Beacon info** and verify the data in the **Visible Beacons**.



Captured BLE ID using Teltonika Configurator

Parameter Value	Description
FMB	Name of your configuration
1010	BLE broadcasting service ID
464D433133305F373338393939325F4C45	Additional Information or the Bluetooth® Local Name

Note: 464D433133305F373338393939325F4C45 - once converted to ASCII it will be equal to Local Bluetooth® Name - FMC130_7389992_LE

Verifying BLE data

Advance Beacon mode RAW data is available in [AVL ID 548](#).

- For parsing example please click [here](#).
- We can also use the Teltonika Data Parser to check manually the raw data coming from the server.

Enter data:

```
00000000000007E8E0100000188239F8D63000000000000000000000000000022400010000000000000000102240051011B0001D90
10210100212464D4D3133305F323336323831345F4C4503170001AF0212464D433133305F363631373239325F4C45021B0001AA0102600D0212
7500021831B147673C61B6ED04888D7A7CE8010000F151
```

TCP UDP Decode

Name	Size	Value	Hex Value
▲ TCP AVL Data Packet	var		
Preamble	4	0	00-00-00-00
AVL Data Length	4	126	00-00-00-7E
▲ Data	var		
Codec ID	1	142	8E
AVL Data Count	1	1	01
▲ AVL Data	var		
Timestamp	8	5/16/2023 8:13:59 AM	00-00-01-88-23-9F-8D-63
Priority	1	0	00
▲ GPS Element	15		
Longitude	4	0	00-00-00-00
Latitude	4	0	00-00-00-00
Altitude	2	0	00-00
Angle	2	0	00-00
Satellites	1	0	00
Speed	2	0	00-00
▲ I/O Element	var		
Event ID	2	548	02-24
Element count	2	1	00-01
1b Element count	2	0	00-00
2b Element count	2	0	00-00
4b Element count	2	0	00-00
8b Element count	2	0	00-00
Xb Element count	2	1	00-01
ID	2	548	02-24
Value	81		01-1B-00-01-D9-01-02-10-10-02-12-46
AVL Data Count	1	1	01
Crc	4	61777	00-00-F1-51

Showing AVL ID 548 using Teltonika Data Parser