How to capture ELA Beacon internal battery voltage?

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Contents

Disclaimer

If you are not using Bluetooth®, **please consider turning it off** or **change Bluetooth® PIN** to remove potential risks.

If you are using Bluetooth® we strongly recommend **using AES encryption** for enhanced security.

General Information

First thing you have to know before configuring a sensor is data protocol. For detailed ELA description about Bluetooth® frame specifications please refer [here.](#) To enable internal battery voltage in the scan response frame, battery voltage presence must be configured in the NFC memory using ELA's Device Manager Mobile application. although take into account that either voltage value or low percentage can be configured. There is no option for both parameters to select.

In order to capture ELA battery information, it is required to use *Beacon Capturing Configuration* table which is added from 03.27.07.Rev.00 firmware version or above. For more detailed information about *Beacon Capturing Configuration* please refer [here](#).

Broadcasting information can be classified into two main sections: Advertisement and scan response. In Scan Response frame, bytes 6 and 7 are listed as LSB and MSB, meaning that byte 7 should be calculated first and byte 6 second. Example: AC0B ->0BAC; 0BAC(hex) -> 2988(dec)*0.001 multiplier. Gives 2.988V internal battery voltage.

Notes:

- Only sensors that are v3.0 support this functionality.
- ELA devices have *Power supply 3 VDC – Internal lithium battery.*
- Scan response comes after advertisement packet.

Examples of ELA sensor whole packet capturing

Name	Manufacturer ID	Manufacturer ID Offset	Manufacturer ID Size	Beacon ID Offset	Beacon ID Size	Additional Data Offset	Additional Data Size	Beacon ID source
iBeacon	4C000000	5	2	9	20	0	70	Beacon ID
Eddystone	AAFE0000	9	2	13	16	0	70	Beacon ID
ID	02010600	0	3	5	10	0	70	Beacon ID

Examples of ELA sensor internal battery voltage capturing

Name	Manufacturer ID	Manufacturer ID Offset	Manufacturer ID Size	Beacon ID Offset	Beacon ID Size	Additional Data Offset	Additional Data Size	Beacon ID source
iBeacon	4C000000	5	2	9	20	35	2	Beacon ID
Eddystone	AAFE0000	9	2	13	16	36	2	Beacon ID
ID	02010600	0	3	5	10	19	2	Beacon ID

Examples of ELA sensor internal battery voltage percentage capturing

Name	Manufacturer ID	Manufacturer ID Offset	Manufacturer ID Size	Beacon ID Offset	Beacon ID Size	Additional Data Offset	Additional Data Size	Beacon ID source
ID	02010600	0	3	5	11	19	1	Beacon ID