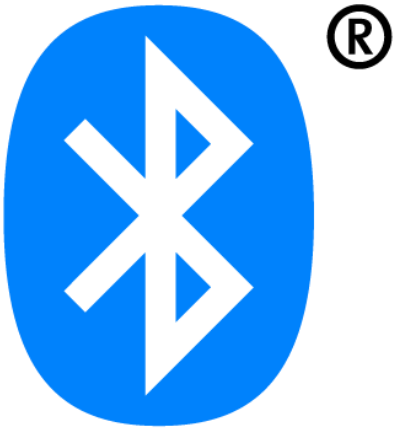
BLUE RANGE USER GUIDE

Bluetooth Low Energy



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1 GENERAL INFORMATION ABOUT BLUETOOTH LOW ENERGY

Bluetooth Low Energy technology is also called **LE** or **BLE Bluetooth**. This technology appeared in 2010 with the release of version 4.0 of the Bluetooth Core Specification.

Bluetooth Low Energy is an alternative to "classic Bluetooth". By "classic Bluetooth", we mean all versions of Bluetooth released before Core Specification 4.0.

Low Energy Bluetooth technology operates in the free band **ISM 2.4 GHz**. This technology relies on a **frequency hopping radio**. 40 physical channels are allocated and separated from each other by 2 MHz and used according to the FDMA. Three of them consist in **advertising channels** (they might be considered as signalization) and all the others are data channels. In contrast, conventional Bluetooth uses 80 channels separated from each other by 1 MHz.

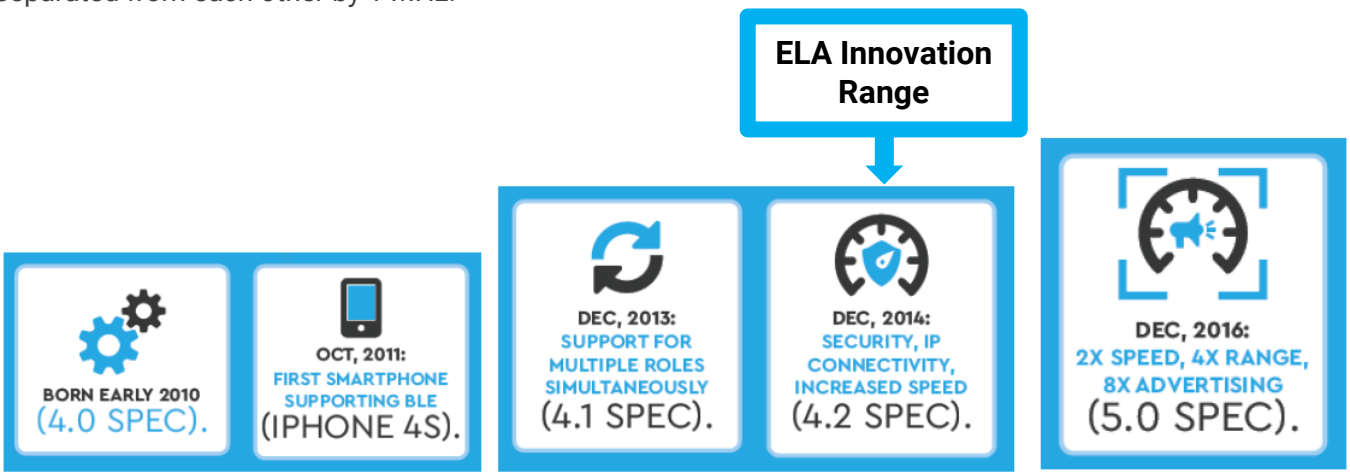


Figure 1: Evolution of Bluetooth Low Energy versions

2 BLUETOOTH LOW ENERGY REFERENCES

Bluetooth SIG is the current standard in terms of information and specifications.

The **Bluetooth Special Interest Group**, known as **SIG**, is the body that oversees the development of Bluetooth specifications, manages the various technology qualification processes and grants the needed licenses of the Bluetooth brand and technology to manufacturers.

Bluetooth SIG website	https://www.bluetooth.com/bluetooth-technology
BLE Specification	https://www.bluetooth.com/specifications
BLE Services and features	https://www.bluetooth.com/specifications/gatt

3 BLUETOOTH LOW ENERGY PRODUCTS BY ELA INNOVATION

Blue PUCK **ID**
Reference IDF25240

Blue PUCK **T**
Reference IDF25241

Blue PUCK **RHT**
Reference IDF25242

Blue PUCK **MAG**
Reference IDF25243

Blue PUCK **MOV**
Reference IDF25244

Blue COIN **ID**
Reference IDF10240

Blue COIN **T**
Reference IDF10241

Blue COIN **MAG**
Reference IDF10243

Blue COIN **MOV**
Reference IDF10244

Blue SLIM **ID**
Reference IDF03240

4 BLUE RANGE OPERATIONS BY ELA INNOVATION

4.1. REGULAR OPERATING MODE

Advertising mode

Frames are disseminated through "**Advertising**". Packets are sent periodically at a configurable recurrence comprised within the [0.1s; 10s] interval.

User data size is of 29 bytes. Data is sent according to tags (Identifier or Sensor).

See chapter 5 BLE FRAME SPECIFICATION BY ELA INNOVATION for more information on data sent in "Advertising" mode.

In some particular cases, a "**Scan Response**" frame may follow the "Advertising" frame:

- Battery level below 15%: battery level service available in the Scan Response section.
- A 15-character "Name" added in iBeacon or Eddystone UID format: "Complete Local Name" available in the "Scan Response" section.

Connected Mode

The BLUE product range by ELA Innovation uses several functions in "Connected Mode".

- In this case, a link is set up between two devices and only these devices can communicate and exchange with each other.
- You may establish a connection using a smartphone or a mobile application, or with a PC equipped with the ELA, "Device Manager" application (provided you activated Bluetooth or connected a BLE dongle to the PC).
- In "Connected Mode", "**Advertising**" **stops by default**.

List of **applicable commands** in "Connected Mode":

COMMANDS	*ACTIONS*	*RELATED PRODUCTS*
LED_ON	Switch on the LED	Blue PUCK ID Blue COIN ID
LED_OFF	Turn the LED off	Blue PUCK ID Blue COIN ID
BUZZ_ON	Activate buzzer	*Available soon*
BUZZ_OFF	Deactivate buzzer	*Available soon*
L	Download log values	Blue PUCK T - Blue PUCK RHT - Blue PUCK MAG - Blue PUCK MOV Blue COIN T - Blue COIN MAG - Blue COIN MOV
RST	Reset log values	Blue PUCK T - Blue PUCK RHT - Blue PUCK MAG - Blue PUCK MOV Blue COIN T - Blue COIN MAG - Blue COIN MOV

4.2. SPECIFIC OPERATING MODES: MAG & MOV

Both **MAG** and **MOV** formats provide the **fast event frame functionality**.

- This frame sends data to a **faster recurrence** (equal to one tenth of the advertising tag recurrence set in NFC). Data contained in this frame is the same as that contained in the simple advertising frame, but its recurrence varies.

- **Fast frames** appear during a period equal to the advertising period, and with a recurrence equal to one tenth of it. Thus, there are **10 frames**.

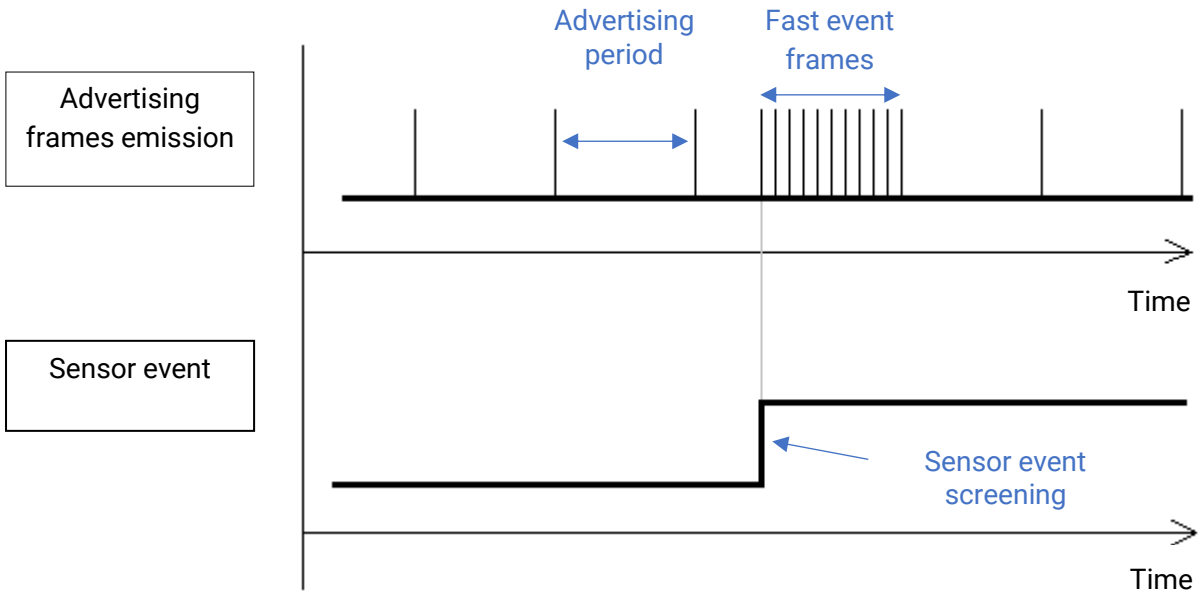


Figure 2: Demonstration diagram of fast event frames used during an event.

These **fast frames** emission takes place at each sensor event

- For **MAG format**: With each new magnet detection state (present and absent)
- For **MOV format**: At the beginning and end of each movement (depending on the submitted threshold)

4.3. BLE TAGS SCANNING

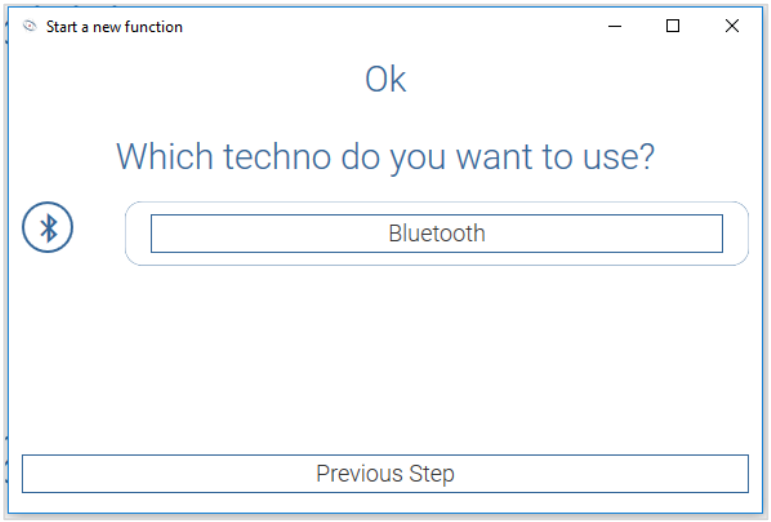
1. **Enable Bluetooth** or connect a Bluetooth device to your PC

2. Launch the "**Device Manager**" desktop application

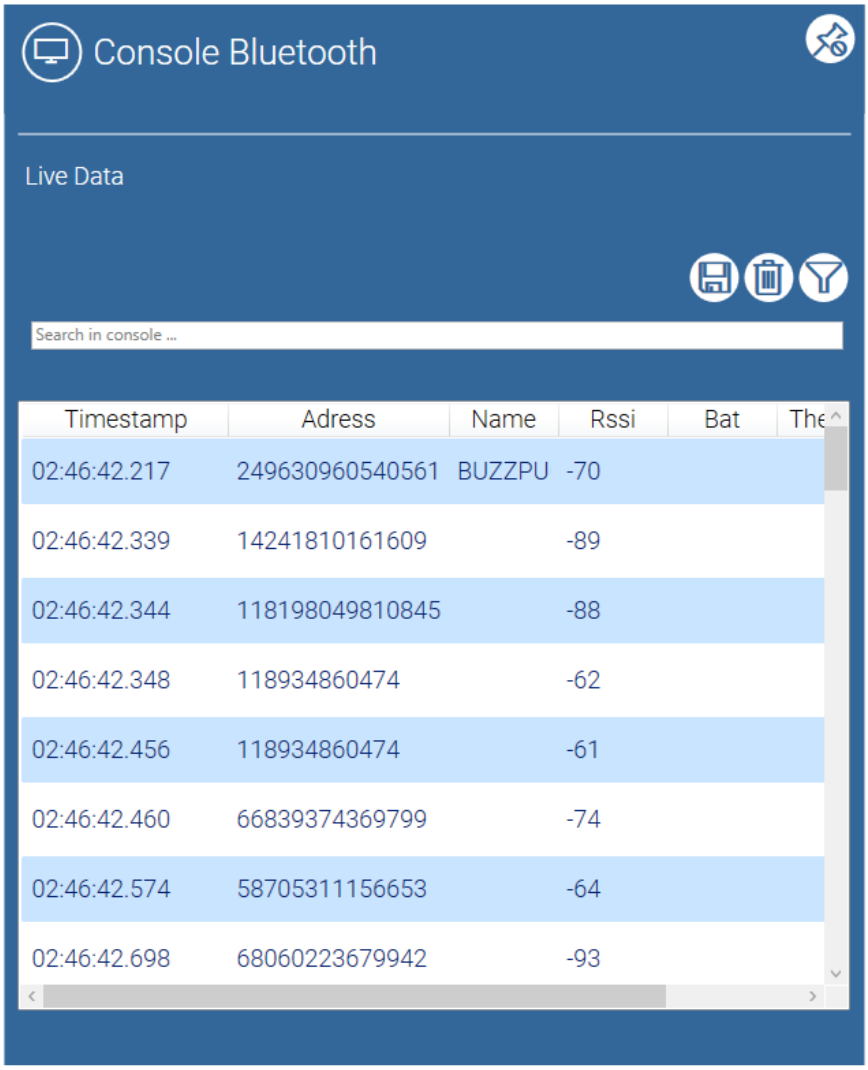
3. Start the **"Bluetooth" widget**

4. Start the **BLE device search**

5. **Click** on the found device



6. Start the **Bluetooth console** 

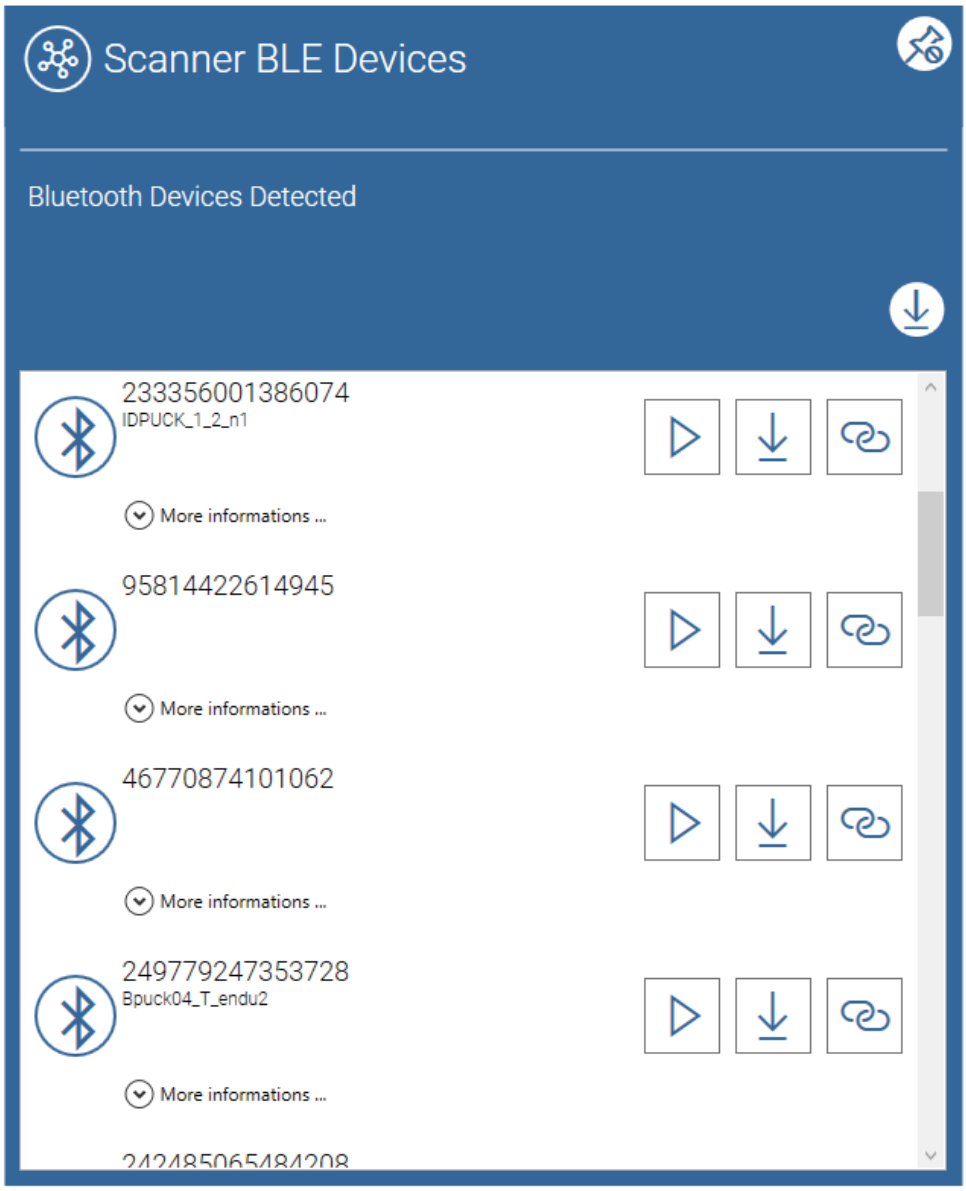


 : export list as a *.csv file

 : delete console

 : apply filter at column level

7. Start **device scanner** 



4.4. CONNECTION TO A BLE ELA INNOVATION TAG

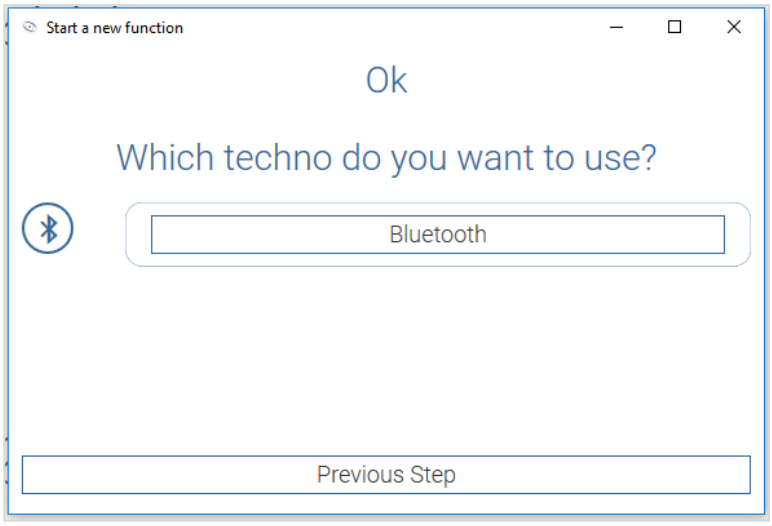
1. Enable Bluetooth or connect a Bluetooth device to your PC

2. Start the "**Device Manager"** desktop application

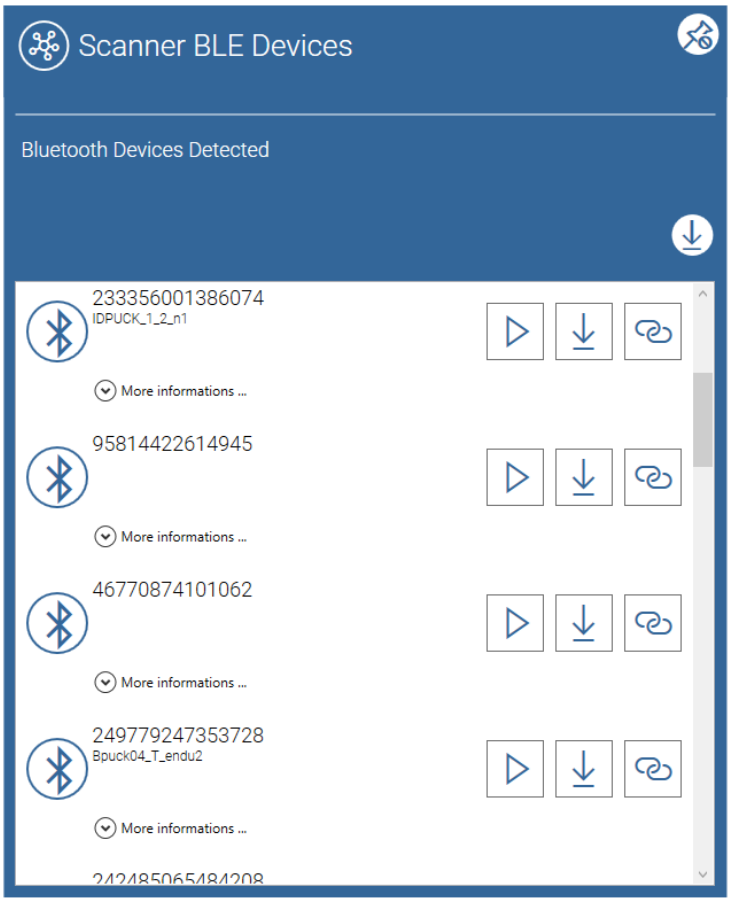
3. Start the **"Bluetooth" widget**

4. Start the **BLE device search**

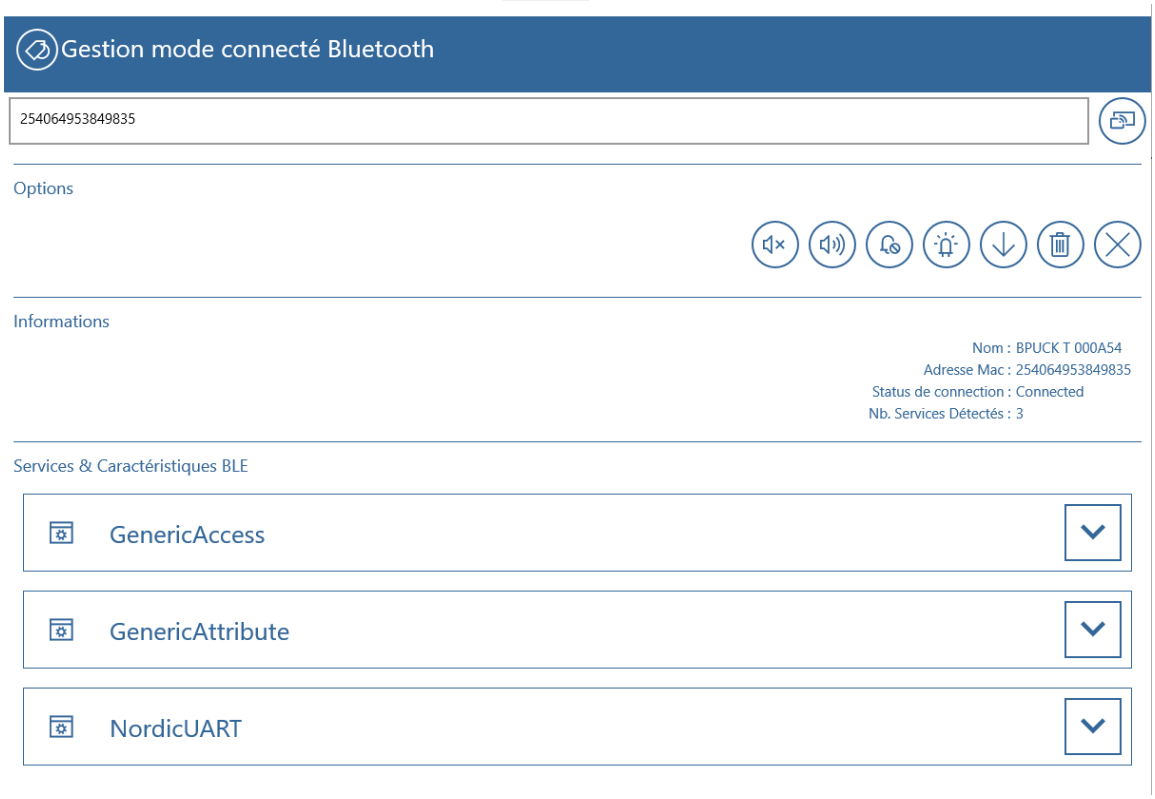
5. Click on the found device



6. Start the **object scanner**



7. Click on the "**Connection**" pictogram



- **Options:** Commands applicable to the tag (see next page for more information about the use of commands)
- **Information**: Name - Mac Address - Connection Status - Available Services
- **BLE Services and Features**: Details of services and tag characteristics

Use of "**Commands**"

PICTOGRAMS	*COMMANDS*	*ACTIONS*
	LED_ON	Switch on the LED (Flashing)
	LED_OFF	Turn the LED off
	BUZZ_ON	Start buzzer (repeated beep)
	BUZZ_OFF	Stop buzzer
	L	Download log values
	RST	Reset log values

- **LED & BUZZER Commands**

Due to battery life constraints, you cannot used LED and Buzzer commands at the same time.

- **Download log values**

The "L" command downloads the recorded log values. To display detailed data sorted by sensor type, please **find the application notes** on the Download area.

5 BLE ELA INNOVATION FRAMES SPECIFICATION

BLE FRAMES – v0.3 version

		Frames formats - BLE Identifier – v0.3 version		
		ELA ID	**iBeacon (locked for edition)**	**Eddystone (locked for edition)**
Needed space in Octets	**1**	Length: 2	Length: 2	Length: 2
	2	Type: 0x01	Type: 0x01	Type: 0x01
	3	Data: 0x04	Data: 0x04	Data: 0x06
	4	Length: 4	Length: 26	Length: 3
	5	Type: 0x16	Type: 0xFF	Type: 0x03
	6	Battery service: 0x0F	Company Id: 0x00	EDDYSTONE UUID: 0xAA
	7	Battery service: 0x18	Company Id: 0x4C	EDDYSTONE_UUID: 0xFE
	8	Battery data	Beacon type: 0x02	Length: 23
	9	Length: 16	Data size: 0x15	Type: 0x16
	10	Type: 0x09	UUID	EDDYSTONE UUID: 0xAA
	11	Nom	UUID	EDDYSTONE UUID: 0xFE
	12	Nom	UUID	Frame Type UID: 0x00
	13	Nom	UUID	Tx Power at 0m
	14	Nom	UUID	NID
	15	Nom	UUID	NID
	16	Nom	UUID	NID
	17	Nom	UUID	NID
	18	Nom	UUID	NID
	19	Nom	UUID	NID
	20	Nom	UUID	NID
	21	Nom	UUID	NID
	22	Nom	UUID	NID
	23	Nom	UUID	NID
	24	Nom	UUID	BID
	25	Nom	UUID	BID
	26	Free	Major Value	BID
	27	Free	Major Value	BID
	28	Free	Minor Value	BID
	29	Free	Minor Value	BID
	30	Free	TX Power at 1m	Reserved
	31	Free	Free	Reserved

Example of a received ELA ID frame:

Raw data:

0x02010404160F186410095055434B4
944454C41494E4E4F5631

Details:

LEN.	TYPE	VALUE
2	0x01	0x04
4	0x16	0x0F1864
16	0x09	0x5055434B4944454C41494E4E4F5631

		Frames formats - BLE Sensors ELA – v0.3 version				
		ELA T	**ELA RHT**	**ELA MAG**	**ELA MOV**	**ELA ANG**
Space needed in Octets	**1**	Length: 2	Not implemented	Not implemented	Not implemented	Not implemented
	2	Type: 0x01				
	3	Data: 0x04				
	4	Length: 4				
	5	Type: 0x16				
	6	Battery service: 0x0F				
	7	Battery service: 0x18				
	8	Battery data				
	9	Length: 5				
	10	Type: 0x16				
	11	Temperature service: 0x09				
	12	Temperature service: 0x18				
	13	T° LSB Data				
	14	T° MSB Data				
	15	Length: 16				
	16	Type: 0x09				
	17	Name				
	18	Name				
	19	Name				
	20	Name				
	21	Name				
	22	Name				
	23	Name				
	24	Name				
	25	Name				
	26	Name				
	27	Name				
	28	Name				
	29	Name				
	30	Name				
	31	Name				

Example of a received ELA T frame:

Raw data:

0x02010404160F186405160918340A1
0095055434B54454C41494E4E4F5631
32

Details:

LEN.	TYPE	VALUE
2	0x01	0x04
4	0x16	0x0F1864
5	0x16	0x0918340A
16	0x09	0x5055434B54454C41494E4E4F563132

BLE Frames - v0.7 version

		Frames formats - BLE Identifier – v0.7 version		
		ELA ID	**iBeacon**	**Eddystone**
Space needed in Octets	**1**	Length: 2	Length: 2	Length: 2
	2	Type: 0x01	Type: 0x01	Type: 0x01
	3	Data: 0x06	Data: 0x04	Data: 0x06
	4	Length: 16	Length: 26	Length: 3
	5	Type: 0x09	Type 0xFF	Type: 0x03
	6	Name	Company Id: 0x00	EDDYSTONE UUID: 0xAA
	7	Name	Company Id: 0x4C	EDDYSTONE_UUID: 0xFE
	8	Name	Beacon Type: 0x02	Length: 23
	9	Name	Data size: 0x15	Type: 0x16
	10	Name	UUID	EDDYSTONE UUID: 0xAA
	11	Name	UUID	EDDYSTONE UUID: 0xFE
	12	Name	UUID	Frame Type UID: 0x00
	13	Name	UUID	Tx Power at 0m
	14	Name	UUID	NID
	15	Name	UUID	NID
	16	Name	UUID	NID
	17	Name	UUID	NID
	18	Name	UUID	NID
	19	Name	UUID	NID
	20	Name	UUID	NID
	21	Free	UUID	NID
	22	Free	UUID	NID
	23	Free	UUID	NID
	24	Free	UUID	BID
	25	Free	UUID	BID
	26	Free	Major Value	BID
	27	Free	Major Value	BID
	28	Free	Minor Value	BID
	29	Free	Minor Value	BID
	30	Free	TX Power at 1m	Reserved
	31	Free	Free	Reserved

- When battery capacity falls **below 15%**, the battery service is transmitted in both **ELA ID and ELA T** frames at the same position as in the v 0.3 soft frame.
  (See next page example for ELA T format).

- The "Advertising" BLE frame is followed by a "**Scan Response**" frame that contains the **128-bit UART NORDIC Service called NUS**.
  This service enables you to send a command to the tag or to receive data (see document AN Temperature Sensor Data logger BLE 01A EN.pdf).

- There is no need to consider this service, and you may skip the "Scan Response" frame.

		Frames formats - BLE Sensors ELA – v0.7 version				
		ELA T	**ELA RHT**	**ELA MAG**	**ELA MOV**	**ELA ANG**
Needed space in Octets	**1**	Length: 2	Not implemented	Not implemented	Not implemented	Not implemented
	2	Type: 0x01				
	3	Data: 0x06				
	4	Length: 5				
	5	Type: 0x16				
	6	T° Carac: 0x6E				
	7	T° Carac: 0x2A				
	8	T° LSB Data				
	9	T° MSB Data				
	10	Length: 16				
	11	Type: 0x09				
	12	Name				
	13	Name				
	14	Name				
	15	Name				
	16	Name				
	17	Name				
	18	Name				
	19	Name				
	20	Name				
	21	Name				
	22	Name				
	23	Name				
	24	Name				
	25	Name				
	26	Name				
	27	Free				
	28	Free				
	29	Free				
	30	Free				
	31	Free				

Example of a received ELA T frame:

Raw data:

0x02010605166E2A7F0A1009424C55455055434B54383030413132 11079ECADC240EE5A9E093F3A3B50100406E

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2A7F0A
16	0x09	0x424C55455055434B54383030413132
17	0x07	0x9ECADC240EE5A9E093F3A3B50100406E

Example of a received ELA T frame with 2% battery:

Raw data:

0x02010605166E2A9E0A04160F18021009424C55455055434B54383030413132 11079ECADC240EE5A9E093F3A3B50100406E

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2A9E0A
4	0x16	0x0F1802
16	0x09	0x424C55455055434B54383030413132
17	0x07	0x9ECADC240EE5A9E093F3A3B50100406E

BLE Frames – v0.8 version

		Frames formats BLE Identifier - v0.8 version		
		ELA ID	**iBeacon**	**Eddystone**
Needed space in Octets	**1**	Length: 2	Length: 2	Length: 2
	2	Type: 0x01	Type: 0x01	Type: 0x01
	3	Data: 0x04	Data: 0x04	Data: 0x06
	4	Length: 16	Length: 26	Length: 3
	5	Type: 0x09	Type: 0xFF	Type: 0x03
	6	Name	Company Id: 0x00	EDDYSTONE UUID: 0xAA
	7	Name	Company Id: 0x4C	EDDYSTONE_UUID: 0xFE
	8	Name	Type Beacon: 0x02	Length: 23
	9	Name	Data size: 0x15	Type: 0x16
	10	Name	UUID	EDDYSTONE UUID: 0xAA
	11	Name	UUID	EDDYSTONE UUID: 0xFE
	12	Name	UUID	Frame Type UID: 0x00
	13	Name	UUID	Tx Power at 0m
	14	Name	UUID	NID
	15	Name	UUID	NID
	16	Name	UUID	NID
	17	Name	UUID	NID
	18	Name	UUID	NID
	19	Name	UUID	NID
	20	Name	UUID	NID
	21	Free	UUID	NID
	22	Free	UUID	NID
	23	Free	UUID	NID
	24	Free	UUID	BID
	25	Free	UUID	BID
	26	Free	Major Value	BID
	27	Free	Major Value	BID
	28	Free	Minor Value	BID
	29	Free	Minor Value	BID
	30	Free	TX Power at 1m	Reserved
	31	Free	Free	Reserved

- When battery capacity falls below **15%**, the battery service is transmitted in both **ELA ID and ELA T frames** at the same position as in the v 0.3 soft frame. (See next page example for ELA T format).
- The "Advertising" BLE frame is followed by a "**Scan Response**" frame that contains the **128-bit UART NORDIC** Service called **NUS**.
  - This service enables you to send a command to the tag or to receive data (see document AN Temperature Sensor Datalogger BLE 01A EN.pdf).
  - There is no need to consider this service, and you may skip the "Scan Response" frame.

		Frames formats - BLE Sensors ELA - v0.8 version				
		ELA T	**ELA RHT**	**ELA MAG**	**ELA MOV**	**ELA ANG**
Needed space in Octets	**1**	Length: 2	Not implemented	Not implemented	Not implemented	Not implemented
	2	Type: 0x01				
	3	Data: 0x06				
	4	Length: 5				
	5	Type: 0x16				
	6	T° Carac: 0x6E				
	7	T° Carac: 0x2A				
	8	Data T° LSB				
	9	Data T° MSB				
	10	Length: 16				
	11	Type: 0x09				
	12	Name				
	13	Name				
	14	Name				
	15	Name				
	16	Name				
	17	Name				
	18	Name				
	19	Name				
	20	Name				
	21	Name				
	22	Name				
	23	Name				
	24	Name				
	25	Name				
	26	Name				
	27	Free				
	28	Free				
	29	Free				
	30	Free				
	31	Free				

Example of a received ELA T frame:

Raw data:

0x02010605166E2A7F0A1009424C55455055434B543830304131321 3211079ECADC240EE5A9E093F3A3B50100406E

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2A7F0A
16	0x09	0x424C55455055434B54383030413132
17	0x07	0x9ECADC240EE5A9E093F3A3B50100406E

Example of a received ELA T frame with 2% battery:

Raw data:

0x02010605166E2A9E0A04160F18021009424C55455055434B543830304131 3211079ECADC240EE5A9E093F3A3B5 0100406E

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2A9E0A
4	0x16	0x0F1802
16	0x09	0x424C55455055434B54383030413132
17	0x07	0x9ECADC240EE5A9E093F3A3B50100406E

BLE Frames - v1.0.0 version

	Frames Formats - BLE Identifier - v1.0.0 version			
		ELA ID	**iBeacon**	**Eddystone**
Needed size in Octets	**1**	Length: 2	Length: 2	Length: 2
	2	Type: 0x01	Type: 0x01	Type: 0x01
	3	Data: 0x06	Data: 0x04	Data: 0x06
	4	Length: 16	Length: 26	Length: 3
	5	Type: 0x09	Type: 0xFF	Type: 0x03
	6	Name	Company Id: 0x00	EDDYSTONE UUID: 0xAA
	7	Name	Company Id: 0x4C	EDDYSTONE_UUID: 0xFE
	8	Name	Beacon Type: 0x02	Length: 23
	9	Name	Data size: 0x15	Type: 0x16
	10	Name	UUID	EDDYSTONE UUID: 0xAA
	11	Name	UUID	EDDYSTONE UUID: 0xFE
	12	Name	UUID	Frame Type UID: 0x00
	13	Name	UUID	Tx Power at 0m
	14	Name	UUID	NID
	15	Name	UUID	NID
	16	Name	UUID	NID
	17	Name	UUID	NID
	18	Name	UUID	NID
	19	Name	UUID	NID
	20	Name	UUID	NID
	21	Free	UUID	NID
	22	Free	UUID	NID
	23	Free	UUID	NID
	24	Free	UUID	BID
	25	Free	UUID	BID
	26	Free	Major Value	BID
	27	Free	Major Value	BID
	28	Free	Minor Value	BID
	29	Free	Minor Value	BID
	30	Free	TX Power at 1m	Reserved
	31	Free	Free	Reserved

- When battery capacity falls below **15%**, the battery service is disseminated in the "**Scan Response**" frame.
- The "Scan Response" does not send the UART NORDIC Service anymore.

		Frames formats - BLE Sensors ELA - v1.0.0 version				
		ELA T	**ELA RHT**	**ELA MAG**	**ELA MOV**	**ELA ANG**
Needed space in Octets	**1**	Length: 2	Length: 2	Length: 2	Length: 2	Length: 2
	2	Type: 0x01	Type: 0x01	Type: 0x01	Type: 0x01	Type: 0x01
	3	Data: 0x06	Data: 0x06	Data: 0x06	Data: 0x06	Data: 0x06
	4	Length: 5	Length: 5	Length: 5	Length: 5	Length: 9
	5	Type: 0x16	Type: 0x16	Type: 0x16	Type: 0x16	Type: 0x16
	6	T° Carac: 0x6E	T° Carac: 0x6E	Alert Carac: 0x06	Alert Carac: 0x06	ANG Carac: 0xA1
	7	T° Carac: 0x2A	T° Carac: 0x2A	Alert Carac: 0x2A	Alert Carac: 0x2A	ANG Carac: 0x2A
	8	Data T° LSB	Data T° LSB	MOV LSB Data	MOV LSB Data	axe X LSB Data
	9	Data T° MSB	Data T° MSB	MOV LSB Data	MOV LSB Data	axe X MSB Data
	10	Length: 16	Length: 4	Length: 16	Length: 16	axe Y LSB Data
	11	Type: 0x09	Type: 0x16	Type: 0x09	Type: 0x09	axe Y MSB Data
	12	Name	RH Carac: 0x6F	Name	Name	axe Z LSB Data
	13	Name	RH Carac: 0x2A	Name	Name	axe Z MSB Data
	14	Name	Data RH	Name	Name	Length: 16
	15	Name	Length: 16	Name	Name	Type: 0x09
	16	Name	Type: 0x09	Name	Name	Name
	17	Name	Name	Name	Name	Name
	18	Name	Name	Name	Name	Name
	19	Name	Name	Name	Name	Name
	20	Name	Name	Name	Name	Name
	21	Name	Name	Name	Name	Name
	22	Name	Name	Name	Name	Name
	23	Name	Name	Name	Name	Name
	24	Name	Name	Name	Name	Name
	25	Name	Name	Name	Name	Name
	26	Name	Name	Name	Name	Name
	27	Free	Name	Free	Free	Name
	28	Free	Name	Free	Free	Name
	29	Free	Name	Free	Free	Name
	30	Free	Name	Free	Free	Name
	31	Free	Name	Free	Free	Free

Example of a received ELA T frame:

Raw data:

0x02010605166E2AAB0A1009425055434B53543830304131324E41

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2AAB0A
16	0x09	0x425055434B53543830304131324E41

Example of a received ELA RHT frame:

Raw data:

0x02010605166E2A5E0A04166F2A301009425055434B53543830304131324E41

Details:

LEN.	TYPE	VALUE
2	0x01	0x06
5	0x16	0x6E2A5E0A
4	0x16	0x6F2A30
16	0x09	0x425055434B53543830304131324E41

6 SETTINGS

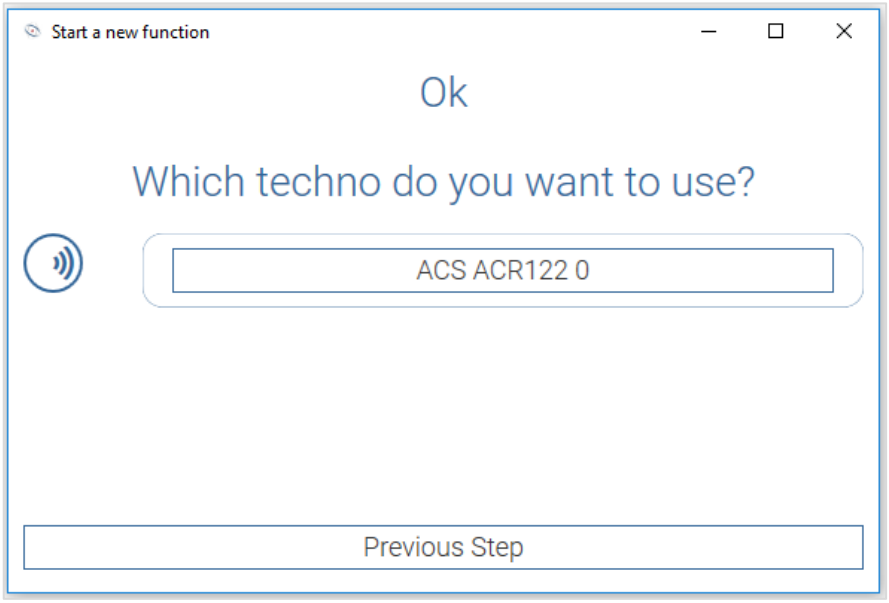
6.1. DESKTOP SETTINGS

1. **Connect a NFC reader** to your desktop (example: NFC R/W 01 - ref. ACIOM177)

2. Start the "**Device Manager**" of your desktop

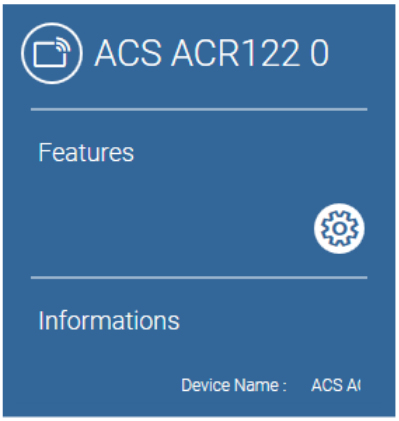
3. Start the **"NFC" widget**

4. Choose the available **NFC reader** by **clicking** on the button 

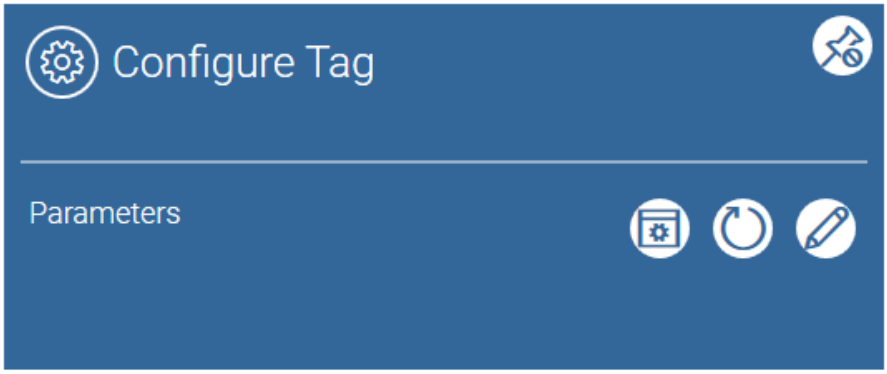


5. Place the tag on the NFC reader

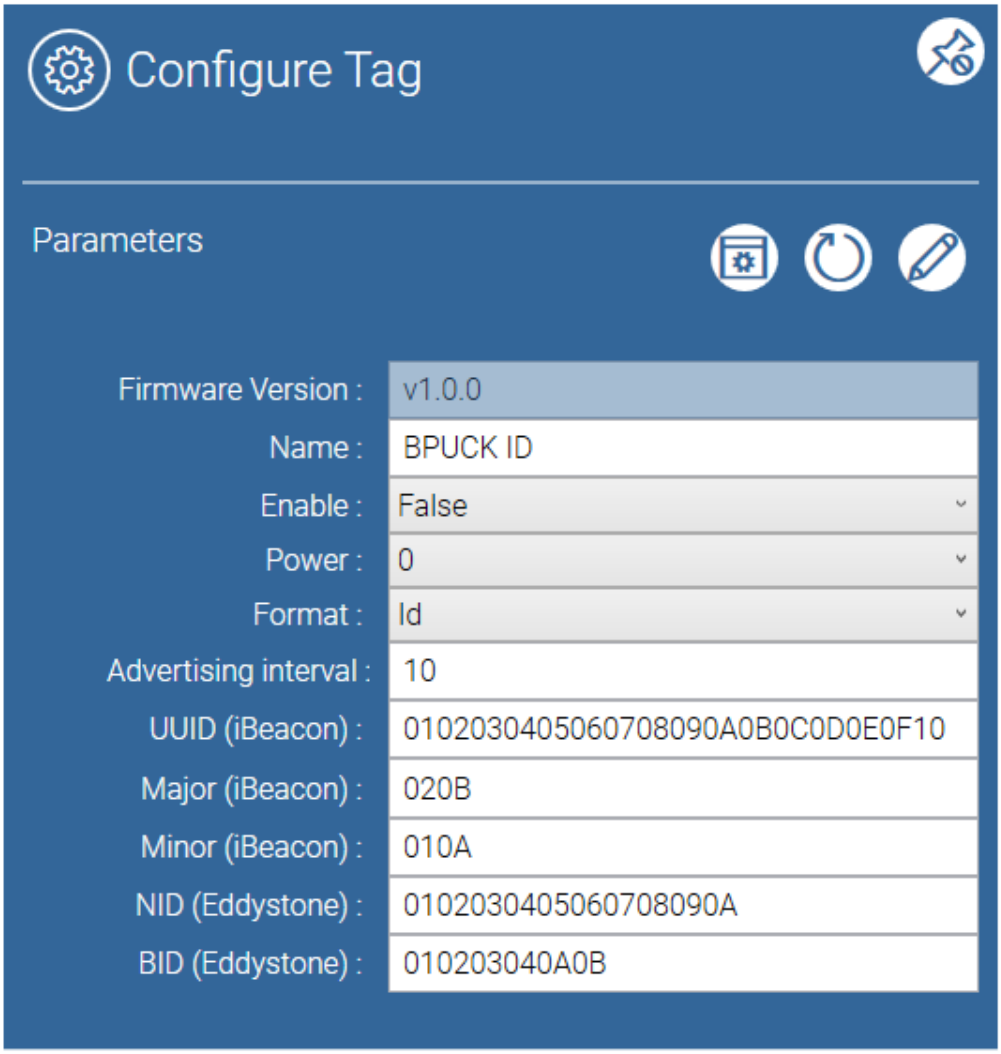
6. Click on the "**Configuration**" pictogram 



7. Click on "**Refresh**" 



6.1.1. *Identifier format*



 : Display factory settings

 : Reading parameters

 : Writing parameters

Information on fields available for the Identifier format	
Name	maximum 15 characters [0-9; A-Z; a-z; SPACE] e.g.: **BluePuck ID8004**
Activity	False / True
Power	[-40, -20, -16, -12, -8, -4, 0, 3, 4] dBm
Format	["Id" - "iBeacon" - "Eddystone"] : available identifier formats
Transmission interval	[0.1 secondes - 10 secondes] : time in seconds
UUID (iBeacon)	maximum 32 characters [0-9; A-F] e.g.: 0102030405060708090A0B0C0D0E0F10
Major (iBeacon)	maximum 4 characters [0-9; A-F] e.g.: 01AF
Minor (iBeacon)	maximum 4 characters [0-9; A-F] e.g.: D4A6
NID (Eddystone)	maximum 20 characters [0-9; A-F] e.g.: 01020304050607080 90A
BID (Eddystone)	maximum 12 characters [0-9; A-F] e.g.: 010203040A0B

Description of owner formats such as Apple (iBeacon) and Google (Eddystone)

iBeacon

- Tags settings available in iBeacon format
- Compliance with Apple specific data such as:

  Flags – Length – Type - Company ID - Beacon Type - Proximity UUID - Major - Minor

- You can add an additional "Name", send it in the "Scan Response" BLE frame and configure it in the "Name" field from the Device Manager
- Specification: https://developer.apple.com/ibeacon/

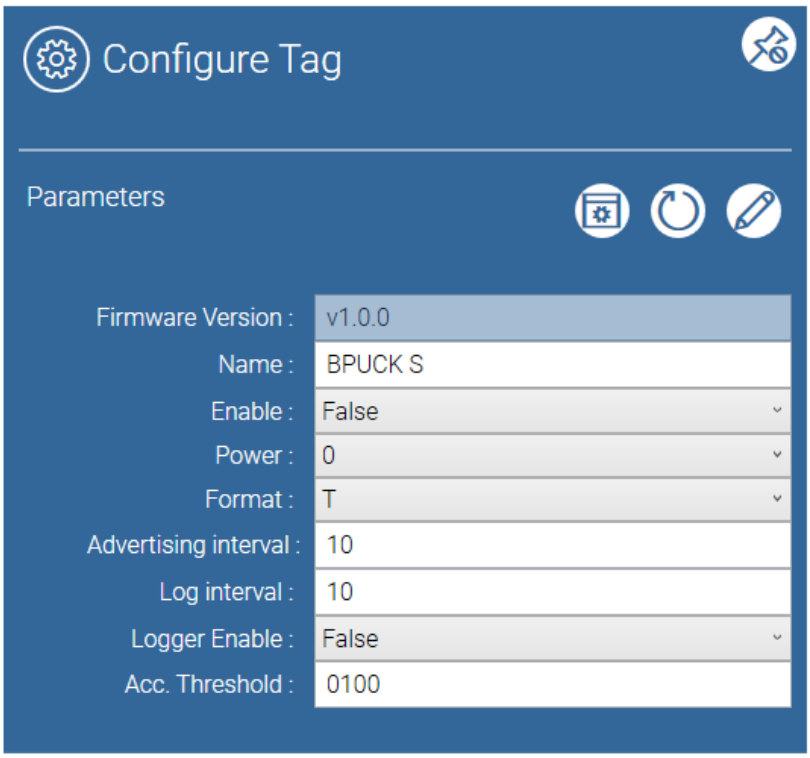
Eddystone

- Tags settings available in Eddystone UID format
- Compliance with specific Google Data Eddystone UID format such as:

  A unique, static ID with a 10-byte Namespace component and a 6-byte Instance component

- You may add an additional "Name", send it in the "Scan Response" BLE frame and configure it in the "Name" field
- Specification: https://developers.google.com/beacons/overview

6.1.2. Sensor format



: Display factory settings

: Reading parameters

: Writing parameters

Information on fields available for the Identifier format	
Name	maximum 15 characters [0-9; A-Z; a-z; SPACE] e.g.: **BluePuck T80042**
Activity	False / True
Power	[-40, -20, -16, -12, -8, -4, 0, 3, 4] dBm
Format	["Id", "T", "RHT", "MAG", "MOV","ANG"]: identifier and sensors formats
Transmission interval	[0.1seconds - 10 seconds]: time in seconds
Log interval	[10 seconds – 86 400 seconds (24h)]: time in seconds
Active Logger	False / True
Acceleration threshold	[0000-FFFF]: setting used in MOV (Motion Detection Threshold) format

6.2 SMARTPHONE SETTINGS

6.2.1. Identifier format

6.2.2. Sensor format

6.3. SETTINGS RESTRICTIONS

6.3.1. Restrictions applying to the “name” field

Following restriction rules apply to the "**Name**" field of the tag:

- Name must include **less than or up to 15 characters**
- Name **should not contain special characters** (but rather only letters and numbers)
- Name **should not be one of the following words**:
  - EN
  - Power
  - Format
  - Name
  - LogEN
  - AdvRec
  - LogRec
  - UUID
  - Major
  - Minor
  - NID
  - BID
  - AccThres

6.3.2. Datalogger restrictions

- If the "**Logger Enabled**" **field** of the NFC settings located under the device manager is **disabled**, the **tag reboots** and you will **lose all registered data** contained in the data logger.
- **Data** is automatically deleted from the tag memory when you **download** it from the data logger.
- If you proceed to a **complete re-setting** of the tag by NFC, **data** contained in the **data logger is erased** from the tag memory.

6.3.3. Connected Mode Restrictions

- You may **set the tag via NFC ONLY** if the tag is not connected.

  In connected mode, you will get the following warning message:

  "Entering NFC field! Disconnect the TAG to enable NFC update."

- Provided you have reset the tag in connected mode, written settings will not apply.
  You first have to disconnect from the tag and then rewrite the settings.

6.3.4. Other restrictions

- **iBeacon format**

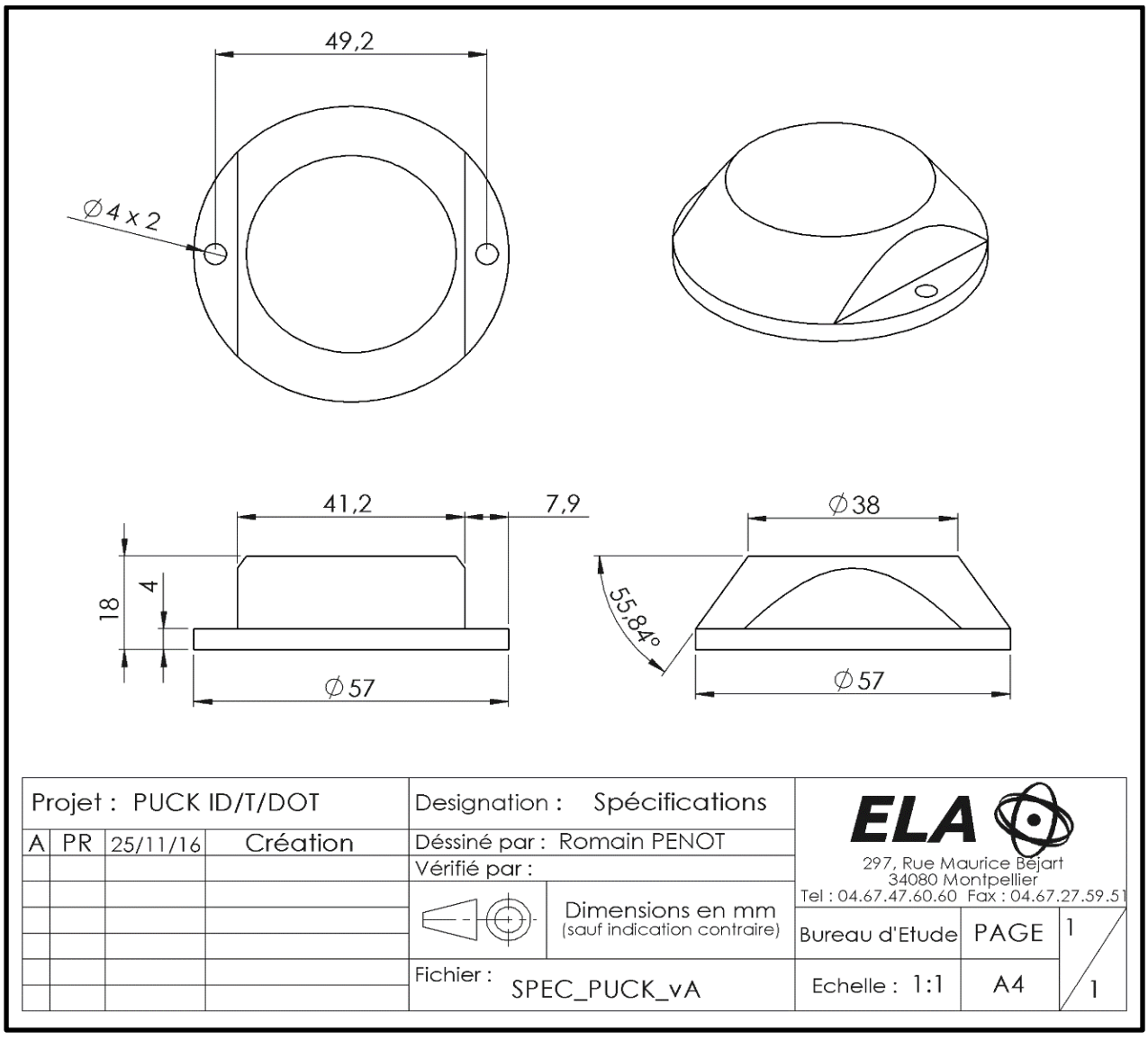
  - You must fill in the complete UUID field of the iBeacon format: 32 characters ([0-9]; [A-F]).
  - You must fill in the complete Major field of the iBeacon format: 4 characters ([0-9]; [A-F]).
  - You must fill in the complete Minor field of the iBeacon format: 4 characters ([0-9]; [A-F]).

- **Eddystone format**

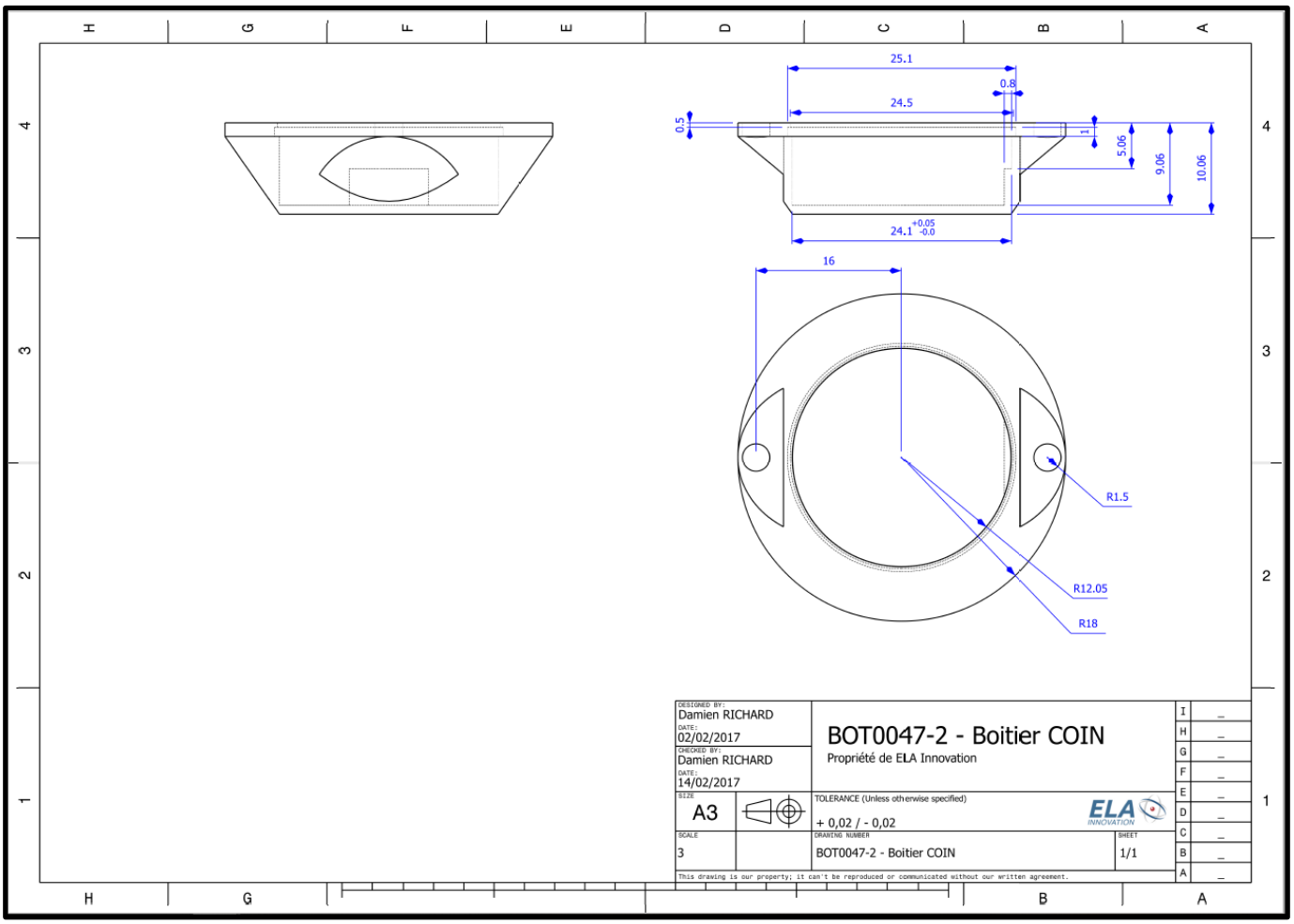
  - You must fill in the complete NID field of the Eddystone format: 20 characters ([0-9]; [A-F]).
  - You must fill in the complete BID field of the Eddystone format: 12 characters ([0-9]; [A-F]).

7 MECHANICAL SPECIFICATIONS

PUCK device



COIN device



SLIM device

8 SALES REFERENCES

PRODUCT	REFERENCE	DESCRIPTION
Blue PUCK ID	IDF25240	Tag Bluetooth PUCK Format with Identifier Option – iBeacon – Eddystone
Blue PUCK T	IDF25241	Tag Bluetooth PUCK Format with temperature sensor option
Blue PUCK RHT	IDF25242	Tag Bluetooth PUCK Format with humidity and temperature sensor option
Blue PUCK MAG	IDF25243	Tag Bluetooth PUCK Format with magnetic sensor option
Blue PUCK MOV	IDF25244	Tag Bluetooth PUCK Format with motion sensor option
Blue PUCK ID Wirepas	IDF25440	Tag MESH Wirepas with Identifier option
Blue COIN ID	IDF10240	Tag Bluetooth Format COIN with Identifier option – iBeacon – Eddystone
Blue COIN T	IDF10241	Tag Bluetooth COIN Format with temperature sensor option
Blue COIN MAG	IDF10243	Tag Bluetooth COIN Format with magnetic sensor option
Blue COIN MOV	IDF10244	Tag Bluetooth COIN Format with motion sensor option
Blue SLIM ID	IDF03240	Tag Bluetooth SLIM Format with Identifier option– iBeacon – Eddystone

9 NORMS & STANDARDS

- EC Mark

- FCC Mark

- IC Mark

- RoHS Certification

- Bluetooth 4.2

Bluetooth 4.0 – Bluetooth 4.1 Compatible