EasyReach Solutions Pvt. Ltd.

BLE Module Configuration & User Guide

📅 **Date:** 09 Dec. 2025

📟 **Device Module:** ER-BLEV2.3 & V1.1

🔧 EasyReach BLE Module – ERBLEV2.3 & V1.1 User Guide

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1. Initial Checkpoints

Before starting the testing process, make sure:

- ✅ **Hardware Availability**: BLE Device is physically with you.
- ✅ **Device Power**: The device must be turned ON.
- ✅ **Phone Requirements**: An Android phone is needed (any version compatible).
- ✅ **Device Information**: Keep the device **Name** or **MAC ID** handy for scanning and connection.

2. Mobile App Installation

- 📲 Install **"nRF Connect"** application from the **Google Play Store**.

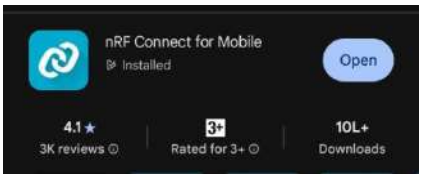

Figure 1 NRF Connect

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3. Mobile Settings Check (Before opening application)

- ✅ Ensure **Bluetooth** is ON.
- ✅ Ensure **Location Services** are ON.

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4. Scanning to ER-BLE

1. Open the **nRF Connect** application.
2. Tap the **Drop-down arrow** near the **Filter** option.

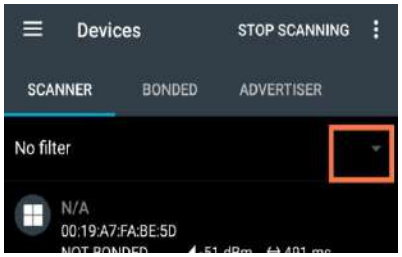


Figure 2 Filter

3. Verify and set the below Filter Settings:
   - **Type**: Any
   - **Exclude**: None
   - **RSSI**: -100 dBm

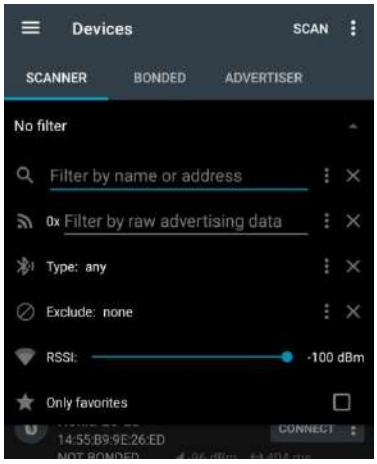
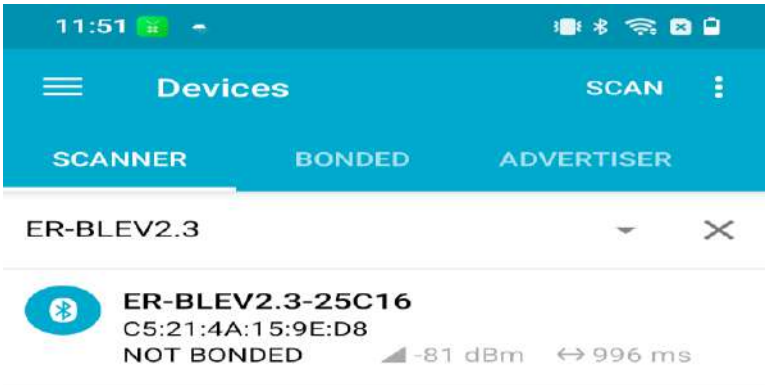


Figure 3 Filter Settings

4. In the Search bar, **enter the Device Name or MAC ID**.

Figure 4 Enter Device Name

5. Click on **Scan**.
6. Once the device appears, you can see device in **NRF** Connect as below



5. Data Decode

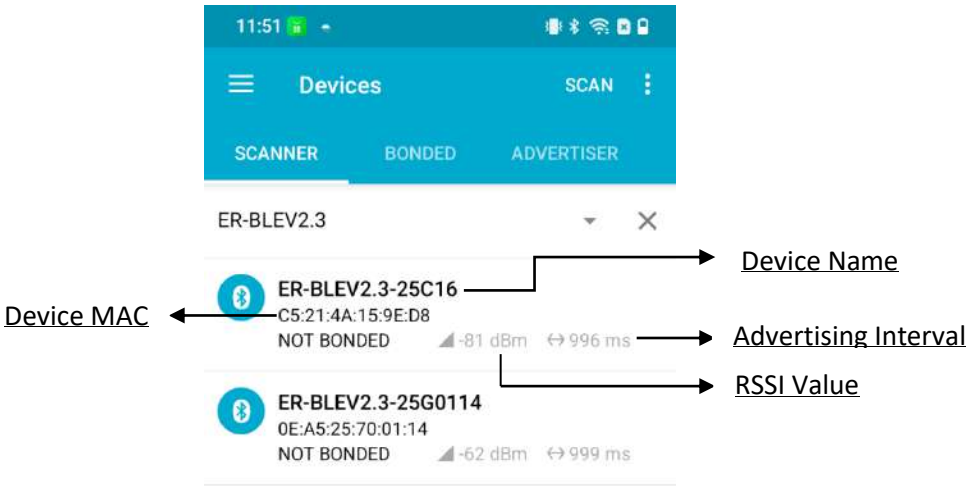


Figure 5 Scanned Devices

The screenshot below shows the results of a Bluetooth Low Energy (BLE) scan, where multiple devices broadcasting under the identifier **ER-BLEV2.3** are detected. Each device appears with a unique extended identifier suffix such as 25C16, 25G0114, 25C03, 25F0093, etc., indicating that individual units share the same firmware base but differ by unit-specific addressing or configuration.

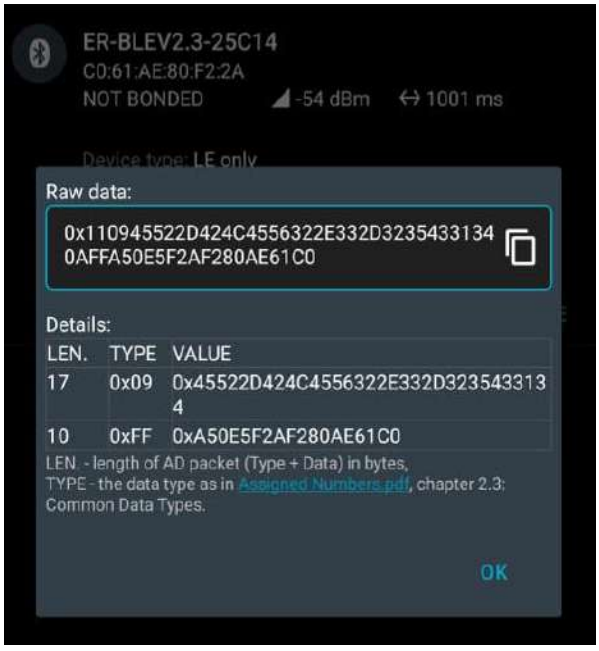


Figure 6 Raw Data picture

The received hexadecimal payload was analyzed and decoded to extract meaningful information. The central readable portion of the payload reveals the device identity or firmware reference **"ER-BLEV2.3-25C14"**, while the surrounding hex bytes appear to function as header and binary metadata. Although the ASCII content is clearly identifiable, a portion of the data remains in non-readable binary form, which is likely used for internal system handling such as checksum,

MAC information, or configuration parameters. The breakdown below presents a structured interpretation of the payload for documentation and analysis purposes.

Table 1 Decoding of payload

BLE Beacon Payload Data Structure-Total 29 bytes	
0x110945522D424C4556322E332D32354331340AFFA50E5F2AF280AE61C0	
1 byte-0x11	Length of the payload (17 bytes)
1 byte-0x09	AD type (Complete Local Name)
16 byte-0x45522D424C4556322E332D3235433134	Device name in hex, ASCII string "ER-BLEV3-25C14"
1 byte-0x0A	Line feed character used to separate different parts of the payload
1 byte-0xFF	Manufacturer Specific Data
2 byte-0xA50E	EasyReach manufacturer ID little endian "0E A5"
1 byte-0x5F	Separator for MAC ID
6 byte-0x2AF280AE61C0	MAC ID little endian "C0:61:AE:80:F2:2A"