Getting Started with the BT710 Contact Tracer

Quick Start Guide *v1.0*

1 Introduction

The BT710 Contact Tracer is a Bluetooth proximity sensor that is based on Nordic Semiconductor's nRF52833 chipset. The BT710 scans for other nearby BT710 units then, subject to how the parameters are configured within the sensor, it generates alarms and log proximity data from other remotes.

2 Prerequisites

The following are required to get started with the BT710 Contact Tracer:

- Install the BT710 smartphone app from the Android or iOS app store
- One 450-00122-K1 BT710

3 Sentrius BT710 - Kit

3.1 Contents

The kit example used is the Sentrius BT710 Sensor with clip kit, part number 450-00122-K1.

Included within the kit is one BT710 Contact Tracer.

Figure 1: Kit contents

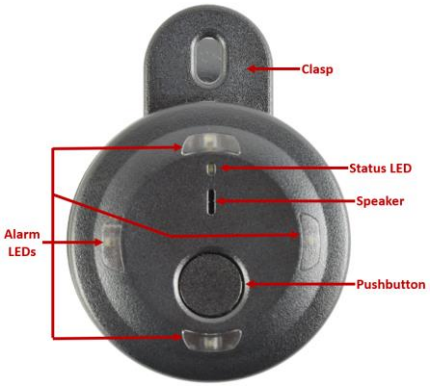

Figure 2: Front view

Figure 3: Rear view

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4 USING THE BT710

4.1 Powering Up

The BT710 ships with an installed CR2477 battery and operates in a low power mode (shipment mode). To wake the BT710 from shipment mode, press and hold the pushbutton (see Figure 2) for five seconds until the alarm LEDs turn on and a speaker tone is generated. The BT710 will also briefly vibrate and flash the status LED green. The BT710 is now in active mode and operating with factory default settings.

If the BT710 does not sense motion for a certain amount time, it enters non-active mode followed by power save mode. For more details on these modes, please refer to the User Guide Sentrius BT710.

To check the battery level, press and hold the pushbutton for three seconds. The alarm LEDs (see Figure 2) turn on to indicate approximate battery level:

Four LEDs	75-100% battery life remaining
Three LEDs	50-75% battery life remaining
Two LEDs	25-50% battery life remaining
One LEDs	0-25% battery life remaining

Notice that the status LED (see Figure 2) is flashing yellow. This means the BT710's internal clock is waiting to be set, either by the BT710 mobile app, a nearby gateway, or a nearby BT710 that already has an internal clock set.

To ensure the internal clock is set, follow the steps defined in the following section.

4.2 BT710 Mobile App

4.2.1 Connecting with the Mobile App

To connect with the mobile app, follow these steps:

1. Launch the BT710 mobile app.
2. Tap ***FIND BT710 DEVICE*** ().

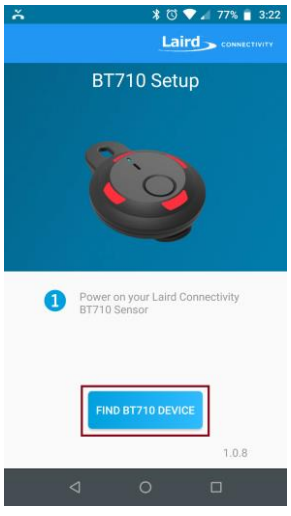

Figure 4: Mobile app home screen

The app should list all nearby BT710 Contact Tracers (e.g. BT710-xxxx).

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3. To connect, tap the device ID. Once connected. the internal clock on the BT710 is set.

Note: Whenever the BT710 is connected to a smartphone all tracking features are disabled.

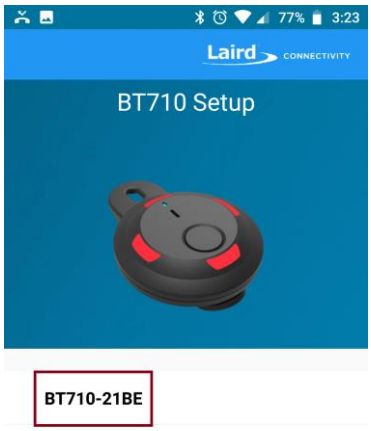

Figure 5: Scan results

Once connected, you should see four tabs at the bottom on the screen: ***SETTINGS***, ***LOGGING***, ***ALARMS*** and ***FIRMWARE***.

4.2.2 Settings

The Settings tab allows users to define the BT710's scanning interval and duration alongside motion sensing parameters. These determine the mode (Active, Non-Active and Power Save) with each mode allowing for power saving measures to be defined.

Also available in this tab is the option to change the BT710 Tx power, along with some battery and antenna configurable parameters. For full details of all parameters on this tab, please refer to the User Guide Sentrius BT710.

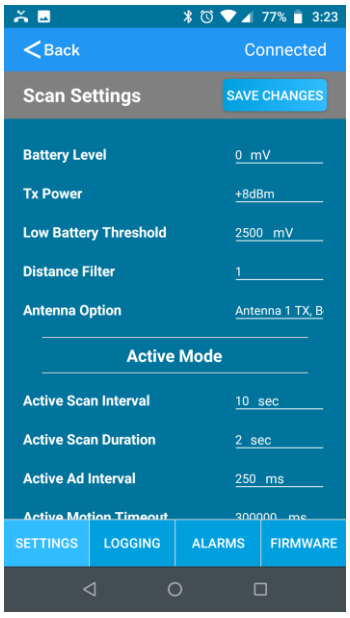

Figure 6: Settings tab

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4.2.3 Logging

The Logging tab allows users to set parameters which define how/when the BT710 should log proximity data (e.g. logging interval, threshold). For full details of all parameters on this tab, please refer to the User Guide Sentrius BT710.

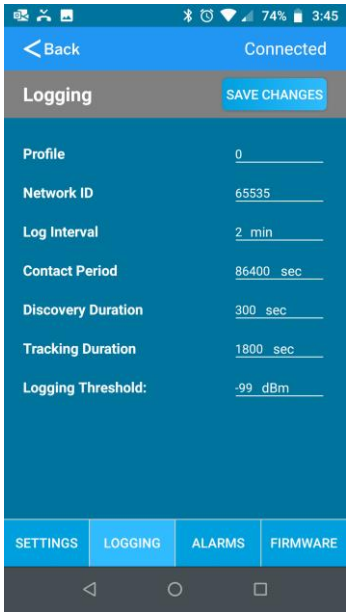

Figure 7: Logging tab

4.2.4 Alarms

The Alarms tab allows users to define the parameters on the BT710 which control the alarm notifications and generate a variety of visual, audible and haptic alarms. For a more detailed look into these parameters and how to configure them, please refer to the User Guide Sentrius BT710.

As shown by the concentric circles below, the BT710 has three ranges that can be used to trigger an alarm: A, B, and C. If a nearby BT710 is detected within one of these ranges, an alarm is triggered. You can increase and decrease the range by dragging the letters A, B, or C (i.e. make the circles smaller or bigger) on the mobile app. These ranges correspond to an RSSI detection level measured in dBm. The lower the number (i.e. the more negative the value) the greater the range.

Note: Alarm ranges are locked to have a minimum separation of 4vdBm.

Each range has two proximity alarm options:

- **Proximity Alarm 1:** This alarm factory defaults to three seconds. If the BT710 detects a nearby BT710 for three seconds, it triggers an alarm and it continues to generate that alarm while the nearby BT710 is in range.
- **Proximity Alarm 2:** This alarm factory defaults to 300 seconds. If the BT710 detects a nearby BT710 for 300 seconds, the generated alarm changes from Proximity Alarm 1 to Proximity Alarm 2.

LOG, the outer most circle is the RSSI level used for logging proximity data. This value can also be set on the ***LOGGING*** tab.

Note: The alarm ranges can never be greater than the logging range.

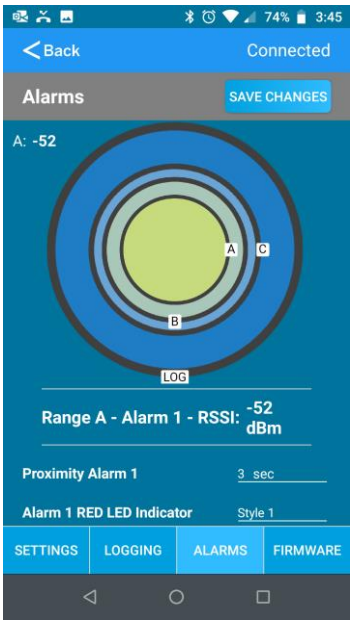

Figure 8: Alarms tab

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4.2.5 FIRMWARE

Use this tab to update the firmware of the BT710. To initiate an update, select the latest firmware version available, assuming it's a greater number than the Current Version as defined on the same screen, then tap ***BEGIN***.

Note: A firmware update does not reset the BT710 to factory default settings.

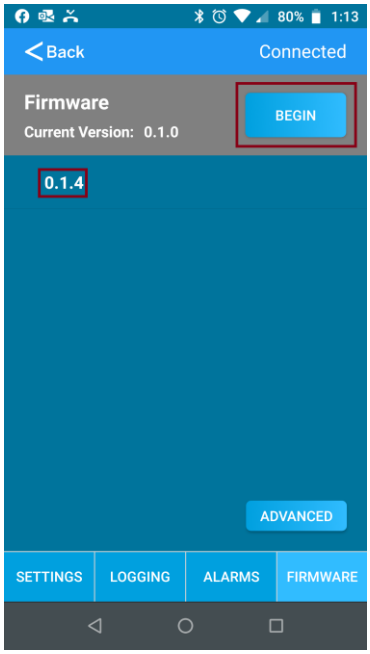

Figure 9: Firmware tab

The tab also displays update progress.

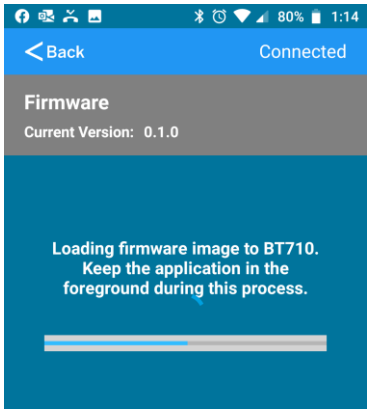

Figure 10: Firmware update progress

The BT710 is then reset and disconnected.

After reset, it reconnects and reports the new firmware version. Tap ***OK*** to finish the update.

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4.3 Factory Reset

To factory reset the BT710, start with the BT710 in Active mode. Press and hold the pushbutton until the status LED blinks yellow (approximately 10 seconds) and then release. The BT710 status LED lights red briefly, followed by a reset cycle, and then go into Active mode.

4.4 Replacing the Battery

The BT710 requires a CR2477 3-Volt lithium battery. The battery door (see Figure 3) is under the clasp on the backside of the BT710. To open, turn the battery door counterclockwise. A coin may be used to aid in removal.

Note: When the battery is replaced, the BT710 goes into Shipment mode. The internal clock setting is not retained and must be set again as explained in the ***Connecting with the Mobile App*** section.

4.5 Care and Maintenance

The BT710 can be cleaned with a mild, non-abrasive detergent. The BT710 is not IP-rated/waterproof, so do not immerse it in water or cleaning fluids.

4.6 FAQs

- Does the proximity algorithm only work between BT710 to BT710 tags?
  - Yes. We currently only support Laird Connectivity Bluetooth devices.
- Does the BT710 have the ability to read body temperature and, based on that reading, does it then send an alarm of high reading?
  - No. The BT710 is not able to record body temperature.
- Is the BT710 programmable?
  - Yes. Various parameters can be programmed via the Mobile app and with customer specific firmware during the time of manufacturing based on meeting MOQ requirements.
- What is the battery life of the BT710 tracer?
  - Battery lifetime depends on the settings used for recording latency and user alerts. Typically, battery lifetimes range between one month (very low latency) and one year.
- How much memory is inside the BT710 tag? If I don't check into the gateway, how long will it take to fill the tag up?
  - The BT710 can log over 1000 events.
- What happens to the contacts as they exceed 350 log entries in a 24-hour contact period? FIFO or other?
  - *When the BT710 log is full, it replaces existing entries in a FIFO manner, overwriting the oldest entries with the most recent entries as more entries are captured.*

5 Revision History

Version	Date	Notes	Author	Approver
1.0	12 December 2020	Initial Release	Ferdie Brillantes	Chris Boorman

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