How to use X-NUCLEO-IDB04A1 (BlueNRG evaboard) + NUCLEO-L053R8 and BlueNRG APP for Android and iOS (Apple)

BlueNRG X-Nucleo-IDB04A1 and NUCLEO-L053R8 resources BlueNRG DK 1.6.0 BlueNRG_V2.0_draft_CubeL0_141014 – SW resource for STM32L0xx MCU Plug the X-NUCLEO-IDB04A1 on NUCLEO-L053R8 Install the SensorDemoProject.bin on NUCLEO-L053R8 Install the APP on ANDROID end/or on iOS (APPLE) SensorDemoProject source code

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BlueNRG X-Nucleo-IDB04A1 and NUCLEO-L053R8 resources

The resources of X-Nucleo-IDB04A1 are here.

Details:

- BlueNRG IC
- BALF-NRG-01D3 integrated balun
- 16 MHz Crystal
- 32kHz Crystal for sleep mode management
- PCB meander antenna
- UFL connector not mounted by default
- Power consumption monitoring

The resources of NUCLEO-L053R8 are here.

Details:

- STM32[™] microcontroller with LQFP64 package
- Two types of extension resources
 - Arduino Uno Revision 3 connectivity
 - STMicroelectronics Morpho extension pin headers for full access to all STM32 I/Os
- mbed-enabled (mbed.org)
- On-board ST-LINK/V2-1 debugger/programmer with SWD connector selection-mode switch to use the kit as a standalone ST-LINK/V2-1
- Flexible board power supply
 - USB VBUS or external source(3.3 V, 5 V, 7 12 V)
 - Power management access point
- Three LEDs

USB communication (LD1), user LED (LD2), power LED (LD3)

- Two push buttons: USER and RESET
- USB re-enumeration capability: three different interfaces supported on USB Virtual Com port
 - Mass storage Debug port
- Supported by wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs

BlueNRG DK 1.6.0 that is here

First install on your PC the application software setup of BlueNRG DK 1.6.0 that is here.

BlueNRG_V2.0_draft_CubeL0_141014 - SW resource for STM32L0xx MCU

Second unzip the install the: BlueNRG_V2.0_draft_CubeL0_141014.7z

Plug the X-NUCLEO-IDB04A1 on NUCLEO-L053R8

See below.



Install the SensorDemoProject.bin on NUCLEO-L053R8

Install on NUCLEO-L053R8 the: SensorDemoProject.bin that is here: C:\...\BlueNRG_V2.0_draft_CubeL0_141014\Projects\STM32L053R8-Nucleo\Applications\Bluetooth_LE\SensorDemo\Bin See below.



For install on the **NUCLEO-L053R8** the **SensorDemoProject.bin** use the: **ST-LINK_UTILITY** that is <u>here</u>.

Connect the NUCLEO_L053R8 to PC and run the ST-LINK_UTILITY. Press on the plug icon (1), you must see in the Device information box, the name of the MCU (2).

See below. 5 STM32 ST-LINK Utility - • × File Edit View Target ST-LINK External Loader Help 🖴 🖥 👹 🐨 🖉 🚿 SWV 2 Memory displa1 Device Information Device STM32L0xx 64k Address: 0x08000000 - Size: 0x3354 Data Width: 32 bits 👻 Device ID 0x417 Revision ID Rev Z Device Memory @ 0x08000000 : File : SensorDemoProject.bin Flash size 64KBytes Target memory, Address range: [0x08000000 0x08003354] LiveUpdate ASCII C Address 0 4 8 0x08000000 20000A78 08003221 0800310D 0800310F x...!2...1...1.. 0x08000010 00000000 00000000 00000000 00000000 0x08000020 00000000 00000000 00000000 080031131.. 0x08000030 08003115 00000000 08003117 08003119 .1....1...1.. 0x08000040 08002373 0800237F 080031FF 0800320B s # . . [] # . . ÿ 1 . . . 2 . . q 2 . . ! 1 . . s 2 . . + 1 . . 0x08000050 08003271 08003121 08003273 0800312B 0x08000060 08003275 08003277 08003279 0800327B u 2 . . w 2 . . y 2 . . { 2 . . 0x08000070 0800327D 0800327F 00000000 08003281 08003283 0x08000080 00000000 00000000 00000000 f 2 ۰. Þ 03:08:29 : ST-LINK SN : 066BFF555656785087024216 03:08:29 : ST-LINK Firmware version : V2J22M5 33:08:29 : Some Connected via SWD.
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 33:08:29 : Connection mode : Connect Under Reset. wer mode enabled : Debug in Lo 03:08:29 : Device flash Size : 64KBytes 03:08:29 : Device flash Size : 64KBytes Device ID:0x417 Debug in Low Power mode enabled. Core State : Live Update Disabled **INDEX**

STM32 ST-LINK Utility				
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03:08:29 : Debug in Low Power mode enabled.								
03:08:29 : Device flash Size : 64KBytes								
03:08:29 : Device family :STM32L0xx 64k								
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03:26:11 : VerificationOK								
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You must see the sentences that are in the red box below.

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Install the APP on ANDROID end/or on iOS (APPLE)

For **ANDROID** search the BlueNRG APP in the <u>GOOGLE PLAY</u> store and install it, see the red box below.



For iOS (Apple) enter in App Store and search BlueNRG and install it.

Run the APP, press the **blue button** present on the NUCLEO-L053R8 board you must see the **STM-Cube icon** that **rotate** of one step at any pressure of the blue button. See below

ATTENTION:

The BlueNRG request the Bluetooth 4.x on your SmartPhone or Tablet.



SensorDemoProject source code

The SensorDemoProject source code is here: C:\...\BlueNRG_V2.0_draft_CubeL0_141014\Projects\STM32L053R8-Nucleo\Applications\Bluetooth_LE\SensorDemo

The project is ready to use in: KEIL IAR ATOLLIC

And it is also present a readme.txt

See below.

Name	
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📗 Src	
STM32L0xx_EWARM	
STM32L0xx_MDK-ARM	
STM32L0xx_TrueSTUDIO	
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