

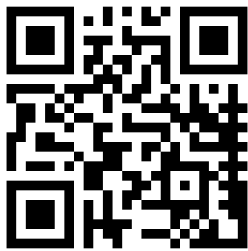


THE DATASHEET OF STEVAL-STLKT01V1

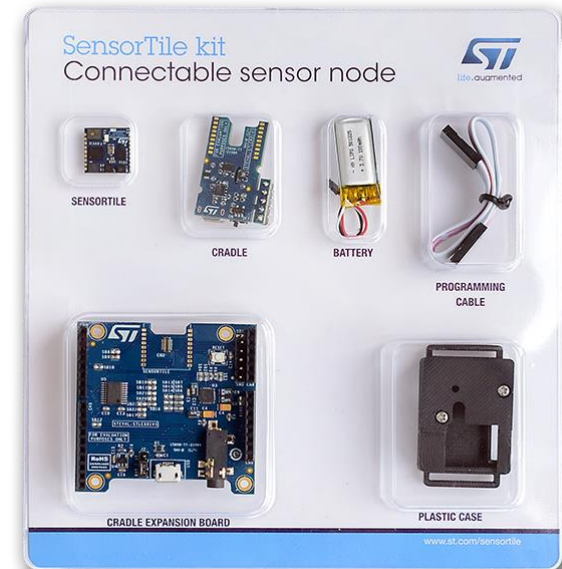


Quick Start Guide

SensorTile Kit - STEVAL-STLKT01V1



www.st.com/sensortile



- **SensorTile platform overview**
 - SensorTile – STEVAL-STLCS01V1
 - SensorTile Cradle – STEVAL-STLCR01V1
 - SensorTile Expansion Cradle – STEVAL-STLCX01V1
- **SensorTile Programming/Debugging**
- **First Setup: Running the pre-loaded demo**
 - With the Expansion Cradle
 - With the Cradle
- **Start your own Design**
 - With the Expansion Cradle
 - With the Cradle

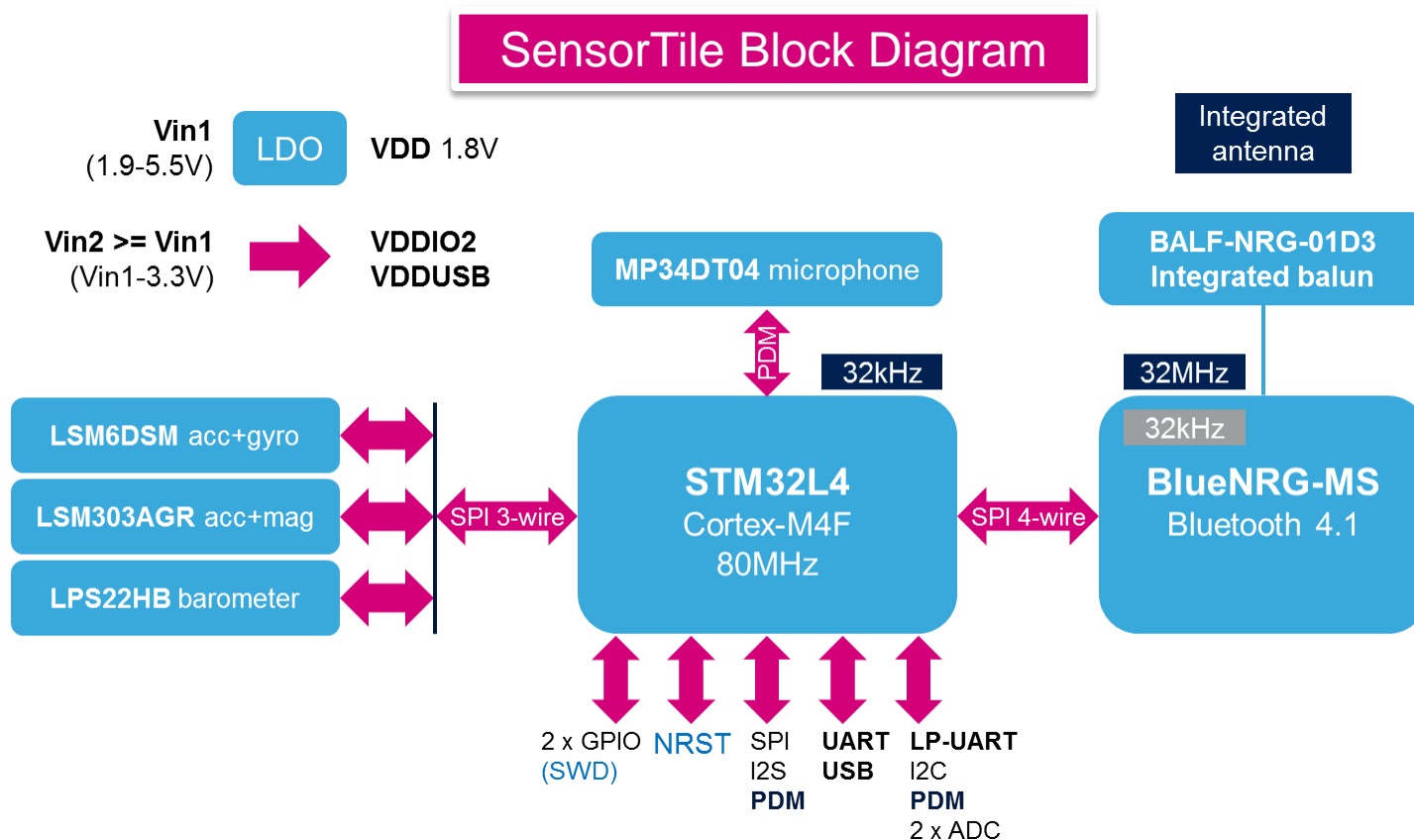
SensorTile Platform

Hardware overview

3

STEVAL-STLKT01V1 Hardware Description

- STEVAL-STLKT01V1 is the development kit for the SensorTile board (STEVAL-STLCS01V1), a highly Integrated Development Platform with a broad range of functionalities aiming to improve system design cycle and accelerate delivery of results
- Two host boards are also provided as part of the kit, both featuring SWD programming interface



SensorTile Core System

SensorTile Core System: STEVAL-STLCS01V1

MP34DT04

Microphone
64 dB SNR, 120 dB SPL

STM32L476

Cortex-M4
Up to 100DMIPS 80MHz
100uA/MHz@24MHz in run mode

LSM6DSM

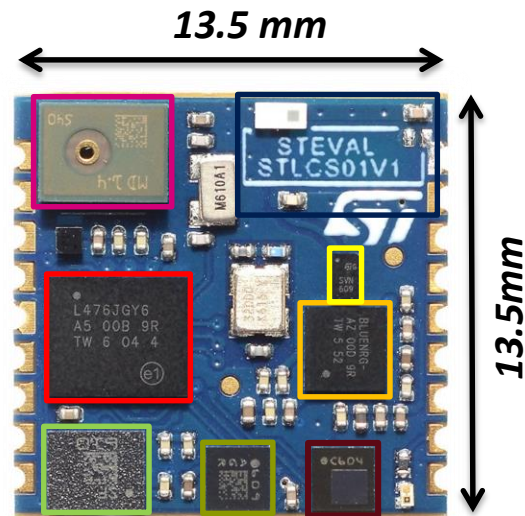
3DAcc+3DGyro
0.65 mA @ 1.6kHz – 9 μ A @ 12.5Hz

LSM303AGR

3DAcc+3DMag
200 μ A @ 20 Hz (HR mode)
Accel/Mag independent
power down mode

LPS22HB

Barometer
1-75 Hz, 3-12 μ A @ 1Hz

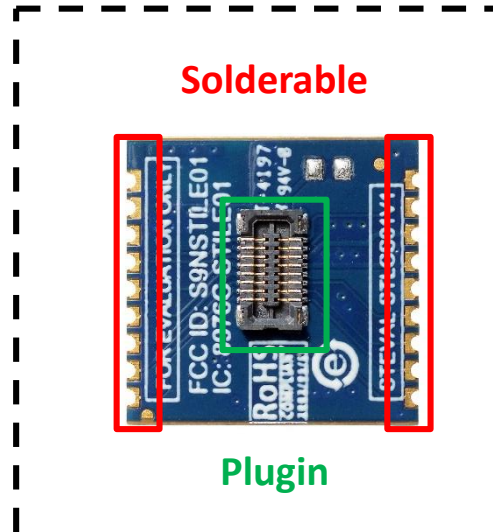


Antenna
Clearance Area

Balun Filter

BlueNRG-MS

Bluetooth low-energy
Concurrent master/slave BT4.1



SensorTile Cradle: STLCR01V1

TOP VIEW

SensorTile Footprint

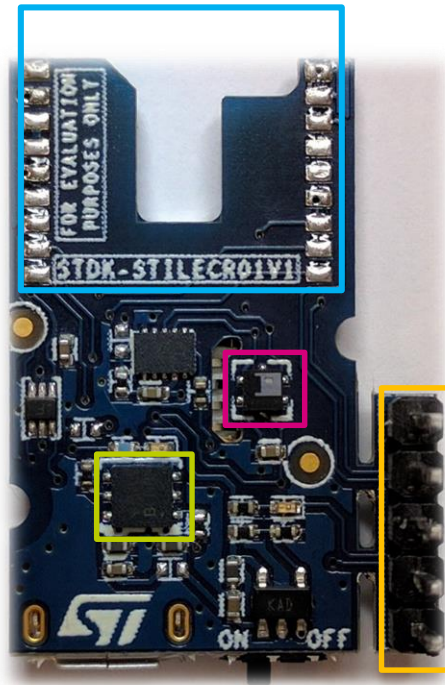
Solderable

HTS221

Humidity and Temperature sensor

STBC08

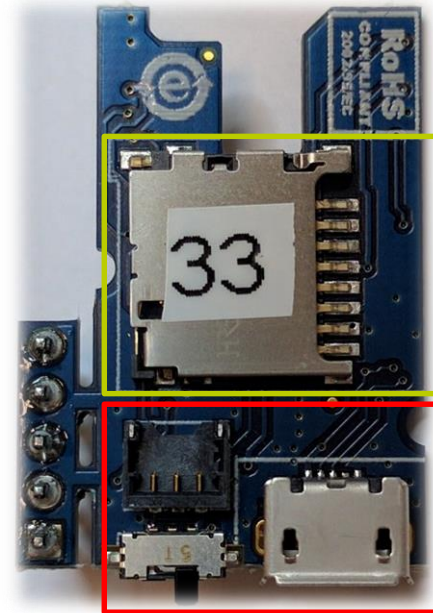
Li-Ion Battery charger with thermal regulation



SWD

SWD programming interface

BOTTOM VIEW



Micro-SD Card slot

Micro USB ON/OFF switch Battery Plug

SensorTile Expansion Cradle

SensorTile Expansion Cradle: STLCX01V1

SensorTile Footprint

ST2378ETTR

8-Bit Level Translator
3.3 V ↔ 1.8 V

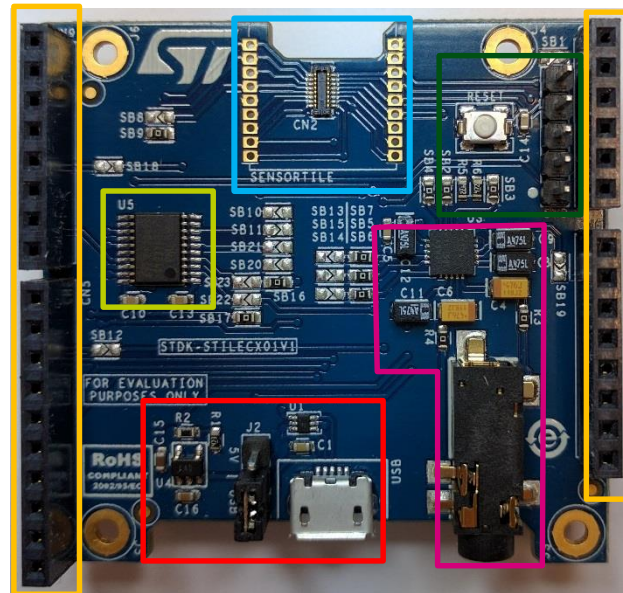
SWD & Reset

SWD programming interface
and reset button

Arduino Connector

Audio DAC
&
3.5 mm jack

Micro USB
&
3.3 V Regulator

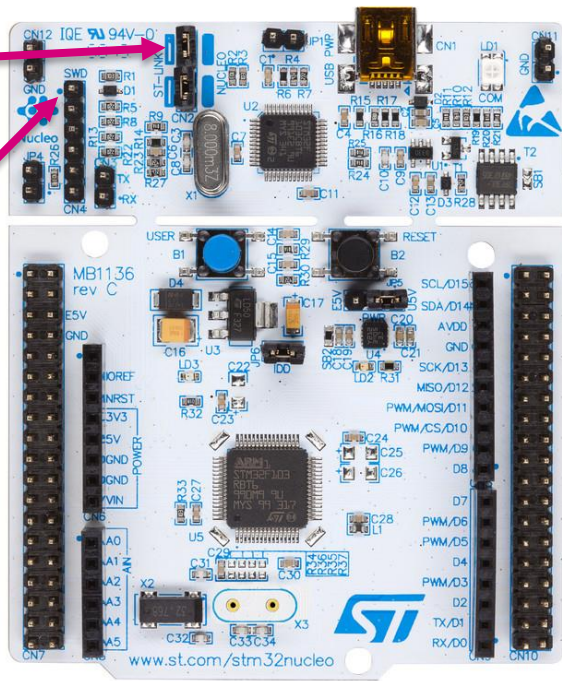


SensorTile Programming/Debugging [1/2]

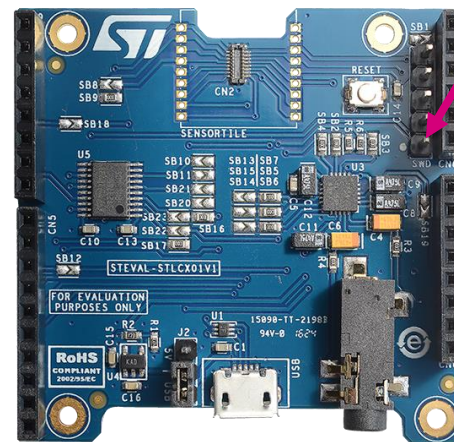
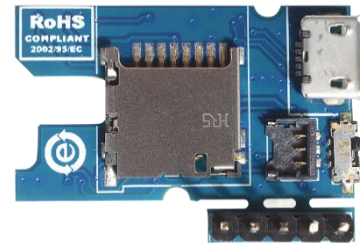
- Connect an external ST-Link to the cradles SWD connectors. A 5 pin flat cable is provided within the SensorTile Kit package
 - The easiest way is to get an STM32-Nucleo board which includes an ST-Link V2.1
 - Remove CN2 Jumpers from the Nucleo Board
 - Connect the SWD interfaces using the provided cable

CN2
Remove
Jumpers

SWD
(Pin1)



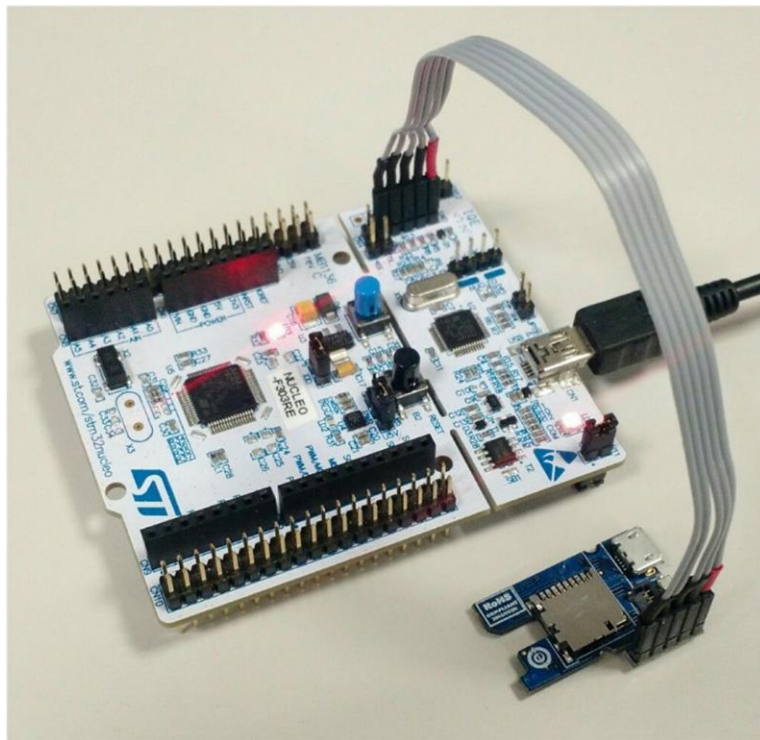
SWD
(Pin1)



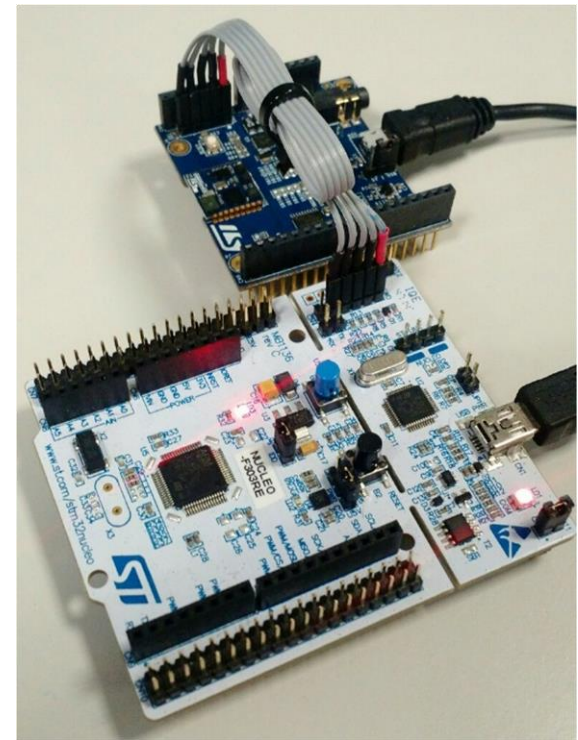
SensorTile Programming/Debugging

[2/2]

SensorTile Programming with Cradle



SensorTile Programming with Expansion Cradle



First Setup with the Expansion Cradle

Running the pre-loaded demo

9

[1/2]

HW

- SensorTile Core System (**STEVAL-STLCS01V1**)
- SensorTile Expansion Cradle (**STLCX01V1**)
- Android™ or iOS™ device
- USB type A to Micro-B USB cable for SensorTile power supply



Micro USB cable

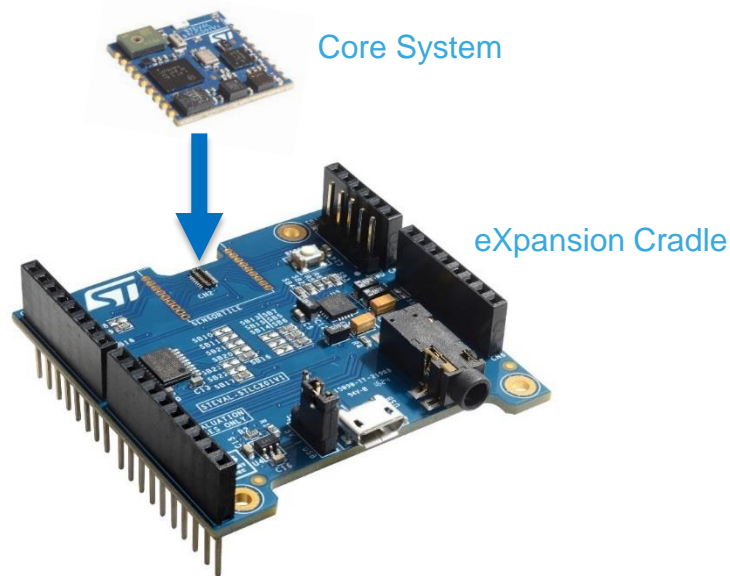
SW App (Android or iOS)

- ST BlueMS app (available on Play store and Apple store)

ST BlueMS App



www.st.com/bluems



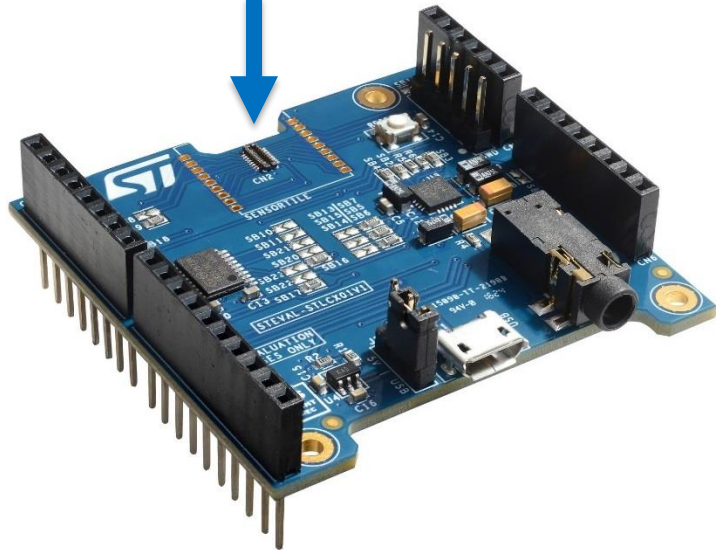
Smartphone

First Setup with the Expansion Cradle

Running the pre-loaded demo

[2/2]

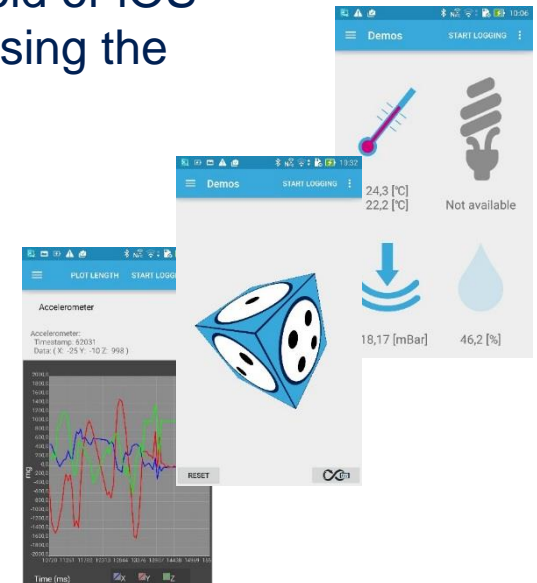
Plug the SensorTile Core System on the Expansion Cradle.



Power it via USB



Connect to your Android or iOS smartphone or tablet using the BlueMS app



First Setup with the Cradle

Running the pre-loaded demo

11

[1/2]

HW

- SensorTile Core System (**STEVAL-STLCS01V1**)
- SensorTile Cradle (**STLCR01V1**)
- SensorTile Battery
- SensorTile Plastic Box
- Android™ or iOS™ device
- [optional] USB type A to Micro-B USB cable for battery charging

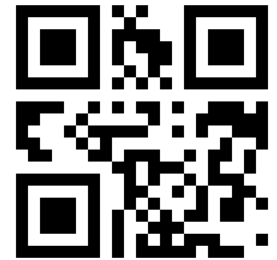
Micro USB cable



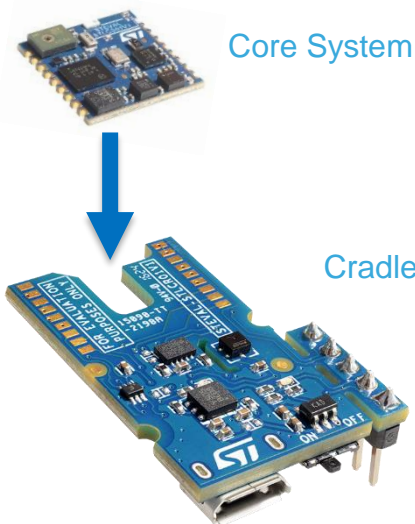
SW App (Android or iOS)

- ST BlueMS app (available on Play store and Apple store)

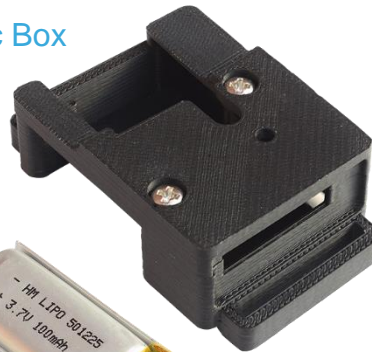
ST BlueMS App



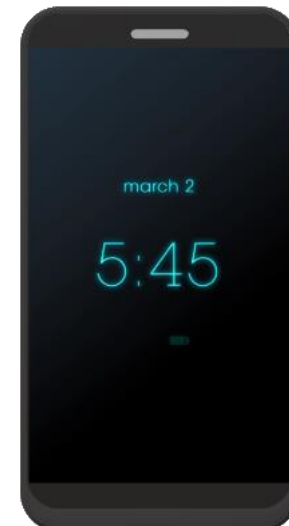
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Plastic Box



Battery



Smartphone

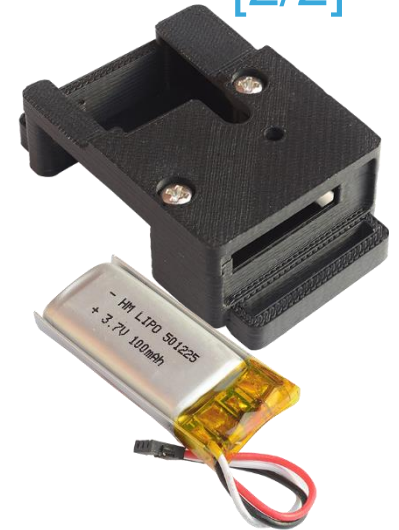
First Setup with the Cradle

Running the pre-loaded demo

[2/2]

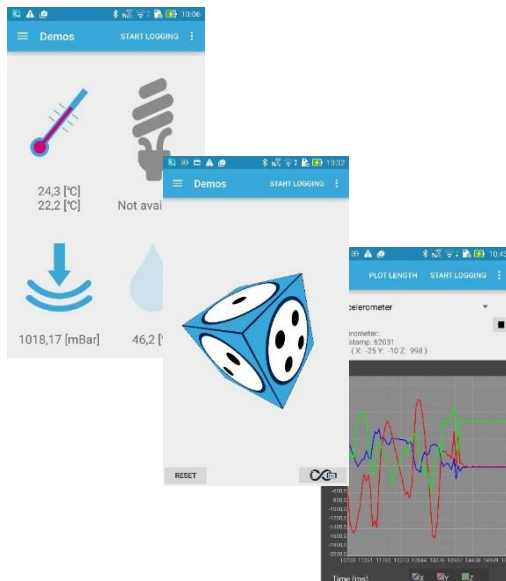


Solder the SensorTile Core System to the Cradle.



Plug the battery, protect it with the plastic cover

Turn it ON using the switch



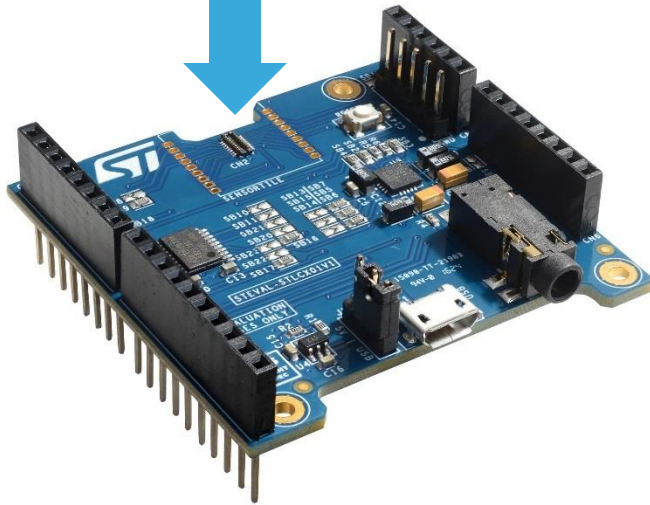
Connect to your Android or iOS smartphone or tablet using the BlueMS app



Start your own design With the expansion Cradle



Plug the SensorTile Core System on the expansion Cradle.



Connect with your development environment

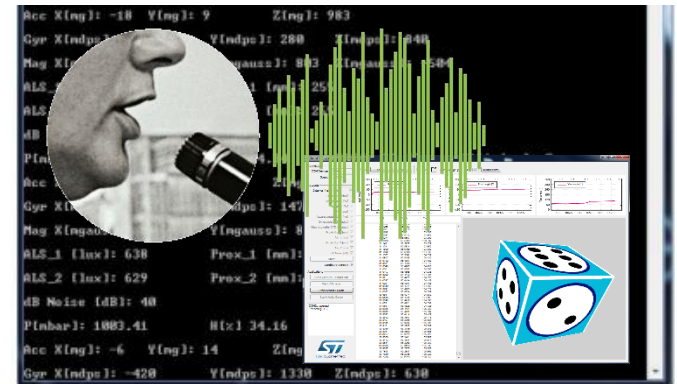


```
1 # my_trapped.c
2 # Simple program showing use of emp_trapped
3 #include <stdio.h>
4 #include <string.h>
5
6 #define MAX_CMD_LEN 1024
7 #define MAX_CMD_LEN 1024
8 #define MAX_CMD_LEN 1024
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10 #define MAX_CMD_LEN 1024
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27 #define MAX_CMD_LEN 1024
```

Open the USB starter project on your PC
STSW-STLKT01

Compile & Run the USB Audio or DataLog example application

Design your custom application



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- ⊖ [STMicroelectronics Information](#)

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