IoT Node Discovery Kit

MB1297

Table of contents

- Sheet 1: Project overview (this page)
- Sheet 2: Top
- Sheet 3: MCU 1/2
- Sheet 4: MCU 2/2
- Sheet 5: USB OTG FS
- Sheet 6: RF modules
- Sheet 7: MEMS Sensors
- Sheet 8: NFC & STSAFE
- Sheet 9: Power supply
- Sheet 10: Arduino Uno V3 connector
- Sheet 11: Peripherals
- Sheet 12: ST-Link/V2-1

Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.

Notes to generate the board layout.

Open Platform License Agreement

The Open Platform License Agreement ("Agreement") is a binding legal contract between you ("You") and STMicroelectronics International N.V. ("ST"), a company incorporated under the laws of the Netherlands acting for the purpose of this Agreement through its Swiss branch 39, Chemin du Champ des Filles, 1228 Plan-les-Ouates, Geneva, Switzerland.

By using the enclosed reference designs, schematics, PC board layouts, and documentation, in hardcopy or CAD tool file format (collectively, the "Reference Material"), You are agreeing to be bound by the terms and conditions of this Agreement. Do not use the Reference Material until You have read and agreed to these Agreement terms and conditions. The use of the Reference Material automatically implies the acceptance of the Agreement terms and conditions.

The complete Open Platform License Agreement can be found on www.st.com/opla.
<table>
<thead>
<tr>
<th>Device</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED2</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>LED3/WiFi &amp; LED4/BLE</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>LED4</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>LED5</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>ST-LINK-UART1_RX</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>ST-LINK-UART1_TX</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
<tr>
<td>STM_NRST</td>
<td>ST25DV04K-GPO, STSAFE-A110-RESET, LPS22HB_INT_DRVX_TE01, HTS221_DRVX_TE01, VL53L0X_GPIO0_EXTX_TE01, DFDSDM1_CKOUT, DFDSDM1_DATX2</td>
</tr>
</tbody>
</table>

**RF Modules Page 5/11**

**MCU1 Page 2/11**

**Arduino Connectors Page 9/11**

**RF Modules**

**MEMS Part**

**RF Modules**

**USB OTG_FS Page 4/11**

**Power part Page 8/11**

**RF Modules**
ESD PROTECTION SHOULD BE CLOSE TO THE CONNECTOR
PCB Antenna 15x15mm
See ANT7-T-M24SR-MB1255
5V PWR SELECTION FROM EXTERNAL SOURCES

5V / 800mA

From Arduino power pin

3V3 PWR

3V3 / 800mA

Open solder bridge if Discovery is supplied from +3V3 of extension connector

Jumper to measure IDD of the MCU
**RESET BUTTON**

100nF should be place close to the MCU
10pF and 1K should be place close to the button

**USER LED**

The 2 LEDs are top side

100nF should be place close to the MCU
10pF and 1K should be place close to the button

**PMOD**
ST-LINK MCU

Board Ident: PC13=0

ST-LINK UART1_TX
ST-LINK UART1_RX

ESD PROTECTION SHOULD BE CLOSE TO THE CONNECTOR

ST-LINK USB CONNECTOR

ST-LINK USB Power switch 5V / 1.2A

ST-LINK POWER 3V3 / 150mA

ST-LINK DEBUG

STLINK_LED

ST-LINK USB

Only footprint with Cable: TC2050-IDC-NL