STEVAL-IDB007V1M

Evaluation platform based on the SPBTLE-1S module

Features

- Bluetooth® SMART board with the SPBTLE-1S certified module based on the BlueNRG-1 Bluetooth low energy system-on-chip
- Associated BlueNRG-1 development kit SW package including firmware and documentation
- Up to +5 dBm available output power
- Bluetooth® low energy v4.2 compliant, supports master, slave and simultaneous master-and-slave roles
- Integrated balun which integrates a matching network and harmonics filter
- SMA connector for antenna or measuring equipment
- 3 user LEDs
- 2 user buttons
- 3D digital accelerometer and 3D digital gyroscope
- MEMS pressure sensor with embedded temperature sensor
- Battery holder
- JTAG debug connector
- USB to serial bridge for providing I/O channel with the BlueNRG-1 device
- Jumper for measuring current for BlueNRG-1 only
- RoHS compliant

Description

The STEVAL-IDB007V1M evaluation platform is based on the SPBTLE-1S, BlueNRG-1 SoC ICs, low power Bluetooth® smart system on chip, compliant with the Bluetooth® v4.2 specification and supporting master, slave and simultaneous master-and-slave roles.

The STEVAL-IDB007V1M also provides a set of hardware resources for a wide range of application scenarios: sensor data (accelerometer, pressure and temperature sensors), remote control (buttons and LEDs) and debug message management via USB virtual COM.

Three power options are available (USB only, battery only and external power supply + USB) for high application development and testing flexibility.
Figure 1: STEVAL-IDB007V1M - arduino connectors

ARDUINO CONNECTORS

Figure 2: STEVAL-IDB007V1M - JTAG

JTAG

ST Link: 3.0 - 3.6 V, 5 V tolerant
IAR J-Link: 1.2 - 3.6 V, 5 V tolerant
Male Connector
2x10 HDR straight
RS 473-8282

Figure 3: STEVAL-IDB007V1M - SPBTLE-1S module
Figure 4: STEVAL-IDB007V1M - power management, sensors
Figure 5: STEVAL-IDB007V1M - buttons and LEDs
Figure 6: STEVAL-IDB007V1M - micro

Microcontroller: STM32L151CBU6

- 128 kbyte flash
- 16 kbyte RAM
- UFQFPN48 7x7 package

Key Components:
- VLCD
- OSC_IN
- NRST
- VDD

Connectors:
- UART1: RX, TX
- SPI: CS, CLK, IN, OUT

Capacitors and Resistors:
- C35, C36, C37, C38, C39, C40, C41
- R47, R51

Miscellaneous:
- X1: 18MHz
- JP3: 1-2SEL, 3-4SEL
- RESET

Legend:
- VDD
- VDD1, VDD2
- GND
- 100n_0402, 1µ_0402
Figure 7: STEVAL-IDB007V1M - USB, level translator, JTAG for micro

**USB**

- USB 5V
- USBDP
- USBDM
- R44
- 0_0402
- CN5
- VDD
- D\(^{-}\)
- D\(^{+}\)
- ID
- GND
- NC
- GND

**LEVEL TRANSLATOR**

- TXD
- SPI\_CS1/RXQ
- R48
- 0_0402
- R49
- 0_0402
- DIOT
- 0_0402
- VBLUE
- U10
- VI
- Vcc
- VDD
- RXD
- TXD1
- PB2
- ST2378E
- 10k_0402
- OE

**JTAG FOR MICRO**

- JTDI
- JTMS
- JTCK
- Gnd
- OE
- R50
- 10k_0402
- Male Connector 2x5
Figure 8: STEVAL-IDB007V1M - EEPROM

1-2SEL=3-4SEL=H => SPI CONNECTED TO THE BLUENRG-1
1-2SEL=3-4SEL=L => SPI NOT CONNECTED TO THE BLUENRG-1
# Revision history

Table 1: Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
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<tbody>
<tr>
<td>26-Jul-2017</td>
<td>1</td>
<td>Initial release.</td>
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