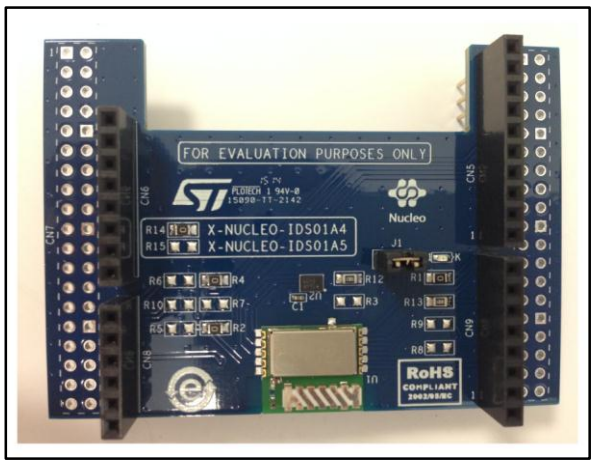
X-NUCLEO-IDS01A4

Sub-1 GHz RF expansion board based on the SPSGRF-868 module for STM32 Nucleo

Data brief



Description

The X-NUCLEO-IDS01A4 is an evaluation board based on the SPIRIT1 RF module SPSGRF-868 expansion of STM32 Nucleo boards. The SPSGRF-868 module operates in the 868 MHz ISM band and is ETSI certified. Identification of the operating frequency of the X-NUCLEO-IDS01Ax (x=4 or 5) is performed through two resistors (R14 and R15). It is compatible with the MORPHO and Arduino UNO R3 connector layout. The X-NUCLEO-IDS01A4 interfaces with the STM32 microcontroller via SPI connections and GPIO pins. The user can change some of the GPIOs by mounting or removing the resistors.

Features

- STM32 Nucleo expansion board based on the SPSGRF-868
- SPGRF-868 characteristics:
  - 868 MHz ETSI-certified module based on low power, low data-rate sub-1 GHz SPIRIT1 transceiver
  - Integrated Balun (BALF-SPI-01D3)
  - Chip antenna
- Compatible with STM32 Nucleo boards
- Equipped with Arduino UNO R3 connectors
- Scalable solution; capable of cascading multiple boards for larger systems
- Example firmware for point-to-point communication, compatible with STM32Cube firmware
- RoHS compliant

Table 1: Expansion board details

Evaluation board	Identification resistors	RF communication frequency	Description
X-NUCLEO-IDS01A4	R14 mounted, R15 not mounted	868 MHz	868 MHz RF expansion board based on ETSI certified module SPSGRF-868 for STM32 Nucleo
X-NUCLEO-IDS01A5	R14 mounted, R15 not mounted	915 MHz	915 MHz RF expansion board based on FCC certified module SPSGRF-915 for STM32 Nucleo

1 Schematic diagrams

Figure 1: X-NUCLEO-IDS01A4 circuit schematic (1 of 3)

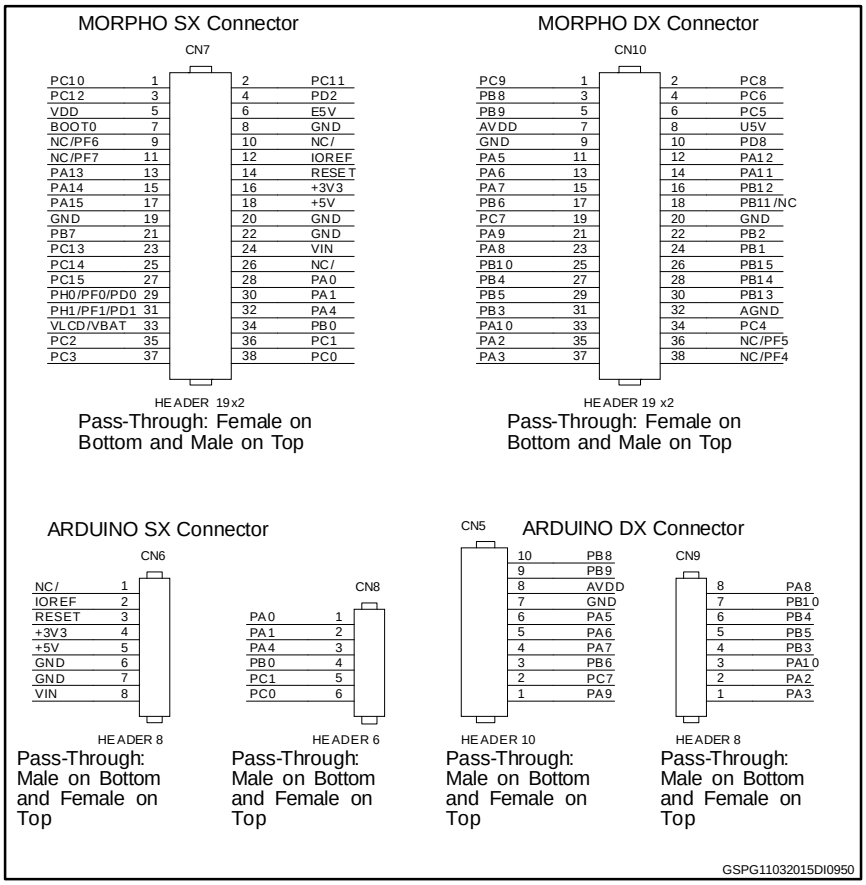


Figure 2: X-NUCLEO-IDS01A4 circuit schematic (2 of 3)

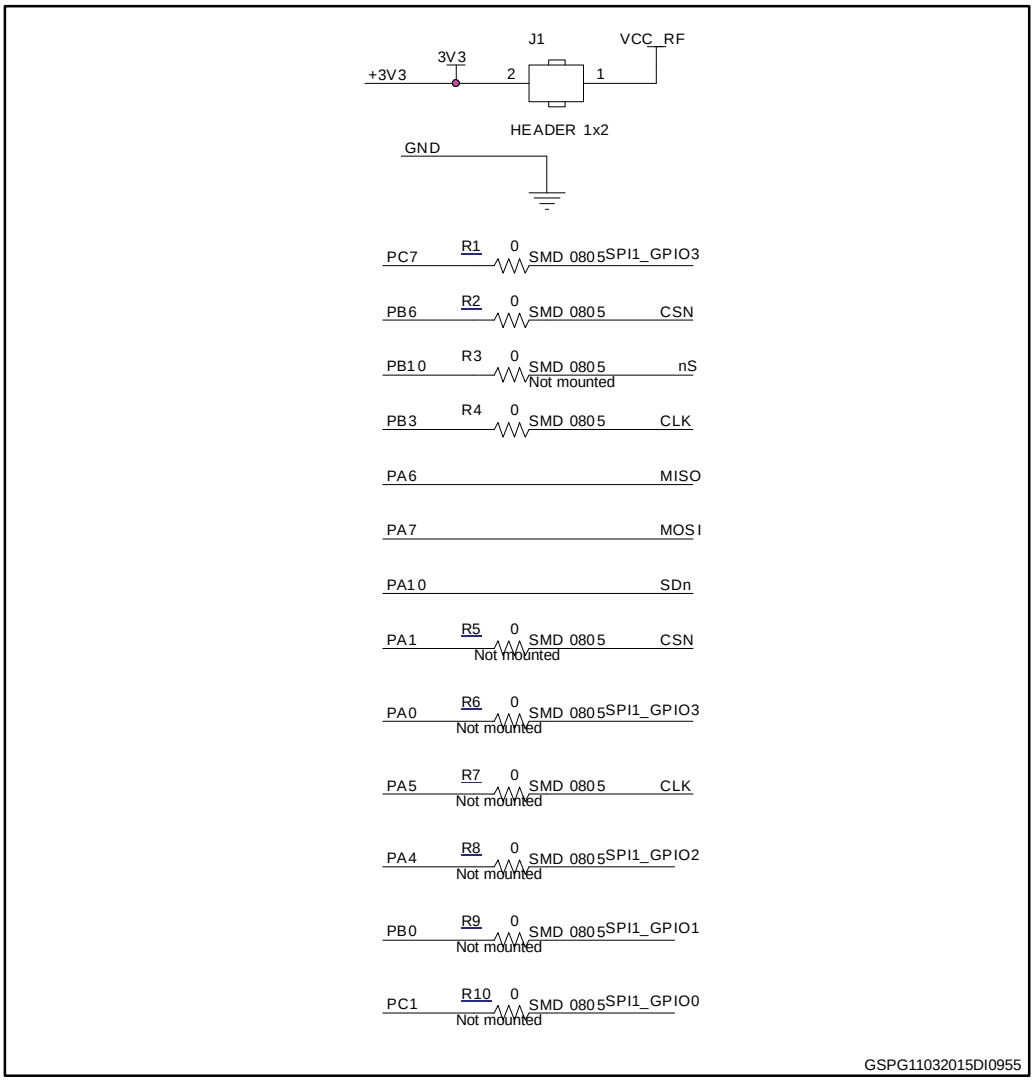
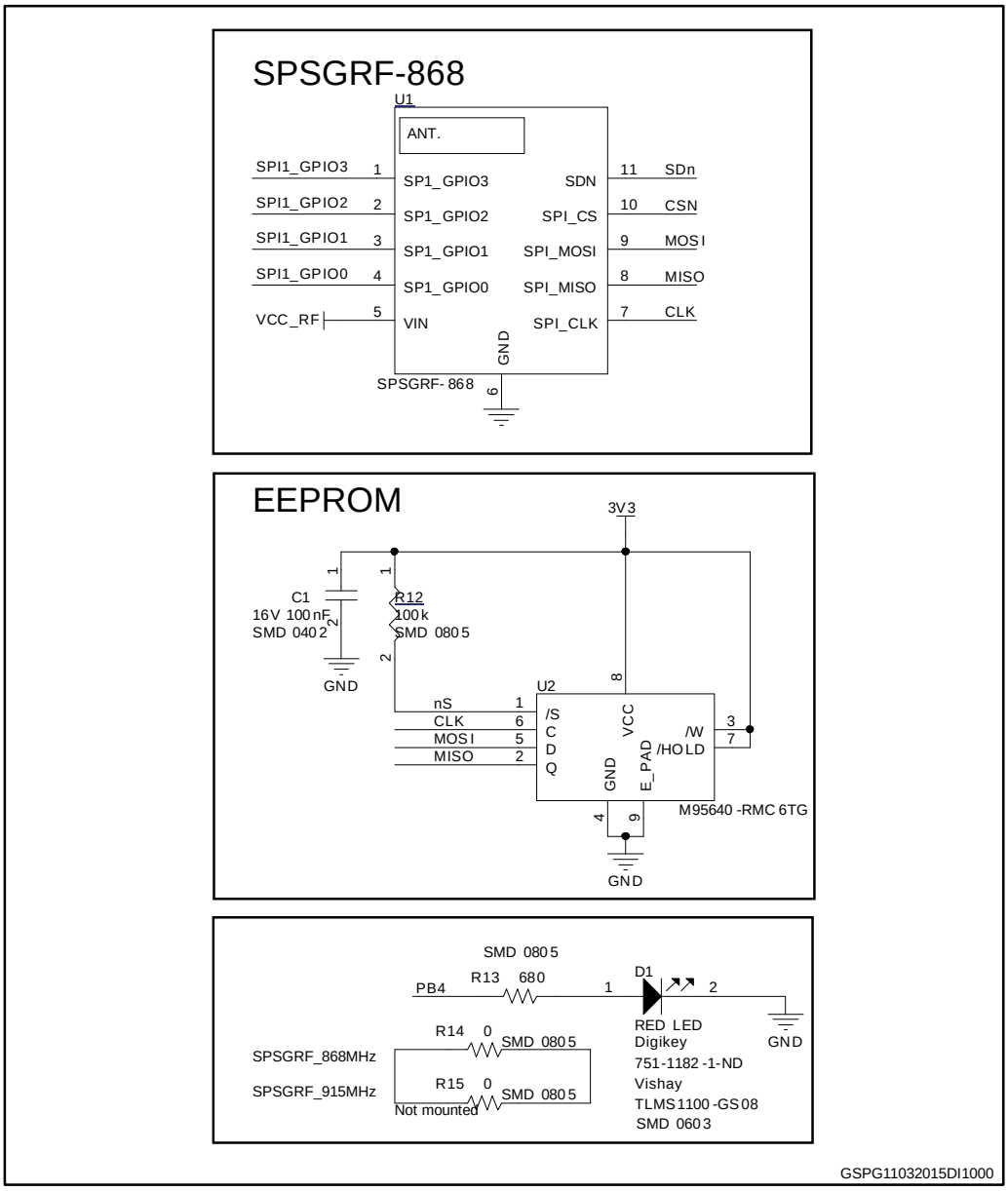


Figure 3: X-NUCLEO-IDS01A4 circuit schematic (2 of 3)



2 Revision history

Table 2: Document revision history

Date	Rev	Changes
28-Apr-2015	1	First release.
28-May-2015	2	Updated board photo on the cover page.

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