

Sub-1 GHz RF expansion board based on SPSGRF-915 module for STM32 Nucleo

Data brief



Description

The X-NUCLEO-IDS01A5 is an evaluation board based on SPIRIT1 RF module SPSGRF-915 to allow expansion of STM32 Nucleo boards. The SPSGRF-915 module operates in the 915 MHz ISM band and is FCC certified (FCC ID: S9NSPSGRF) and IC certified (IC:8976C-SPSGRF). 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 ST Morpho and Arduino UNO R3 connector layout. The X-NUCLEO-IDS01A5 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-915
- X-NUCLEO-IDS01A5 contains FCC and IC certified module SPSGRF-915 (FCC ID: S9NSPSGRF and IC: 8976C-SPSGRF)
- SPSGRF-915:
 - 915 MHz FCC and IC certified module based on low-power, low-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; can cascade multiple boards for larger systems
- Example firmware for point-to-point communication, compatible with STM32Cube firmware
- RoHS compliant

Table 1: Expansion board details

Evaluation boards	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 and IC certified module SPSGRF-915 for STM32 Nucleo

1 Formal notices

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The X-NUCLEO-IDS01A5 contains IC certified module SPBTLE-RF (IC:8976C-SPSGRF).

2 Schematic diagrams

Figure 1: X-NUCLEO-IDS01A5 circuit schematic (1 of 3)

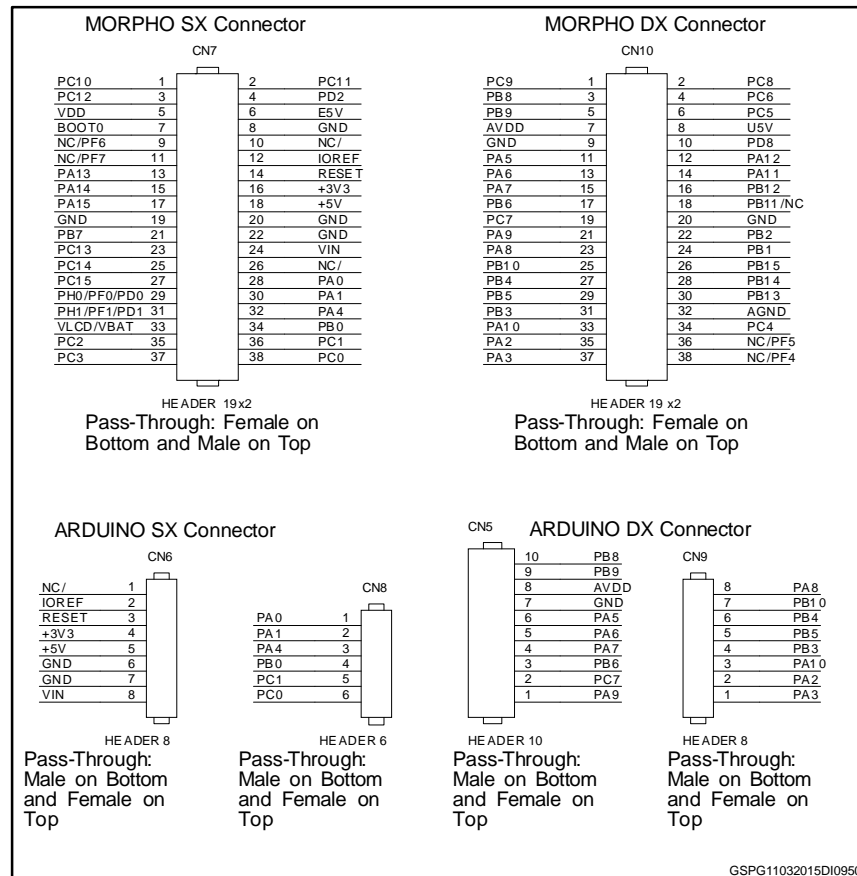


Figure 2: X-NUCLEO-IDS01A5 circuit schematic (2 of 3)

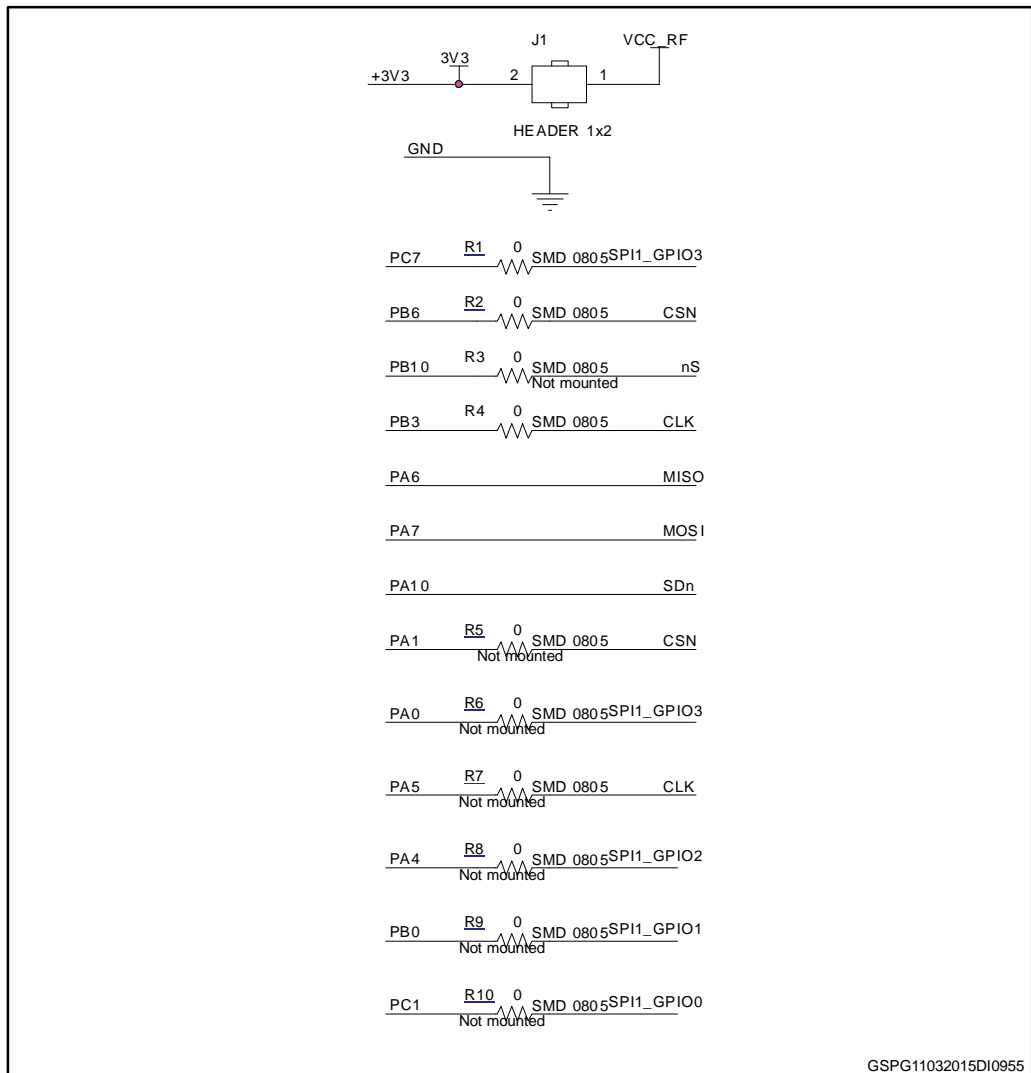
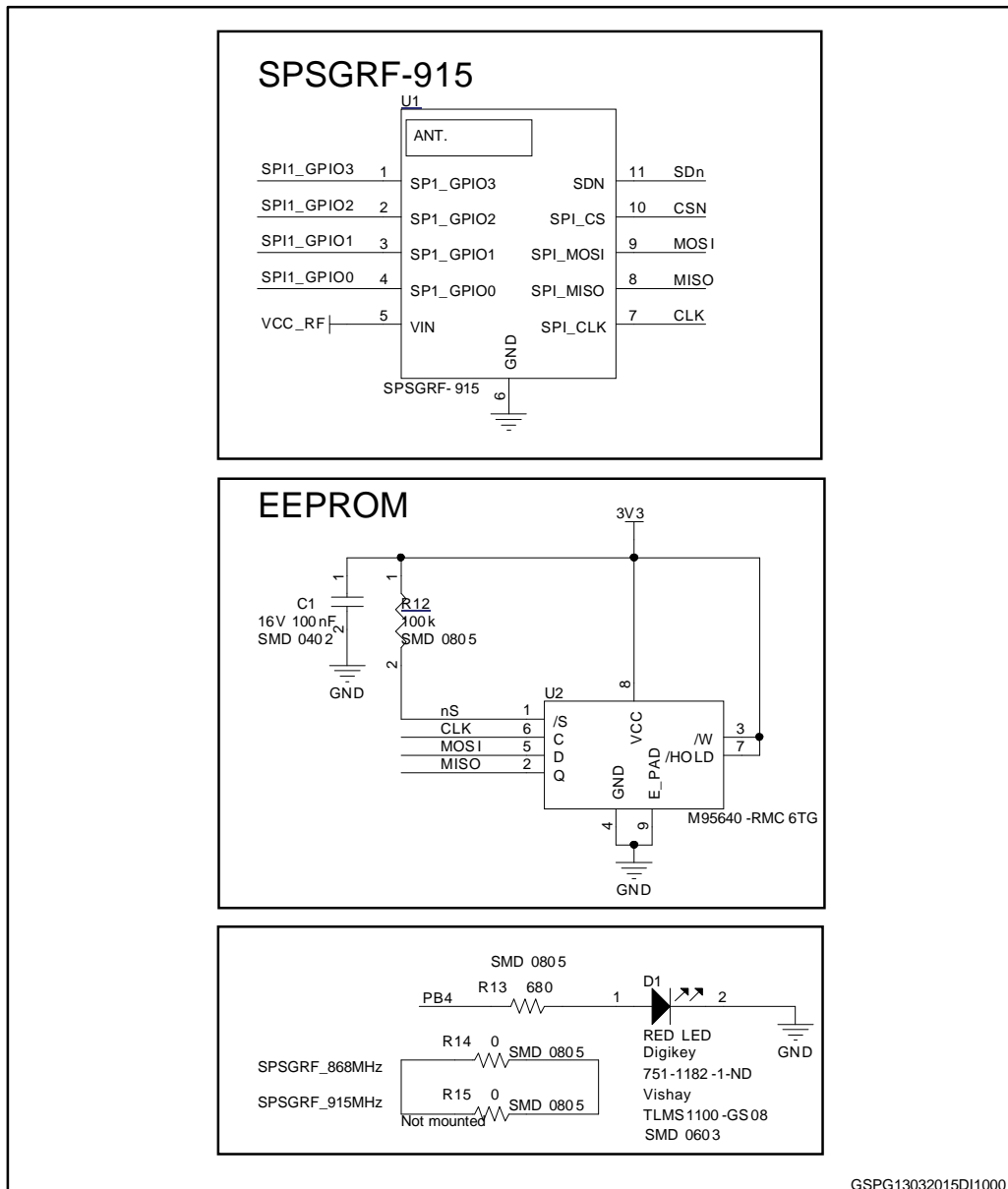


Figure 3: X-NUCLEO-IDS01A5 circuit schematic (3 of 3)



GSPG13032015DI1000

3 Revision history

Table 2: Document revision history

Date	Rev	Changes
29-Apr-2015	1	First release.
28-May-2015	2	Updated board photo on the cover page.
23-Jun-2015	3	Added section: Formal Notices Required by the Industry Canada ("IC").

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