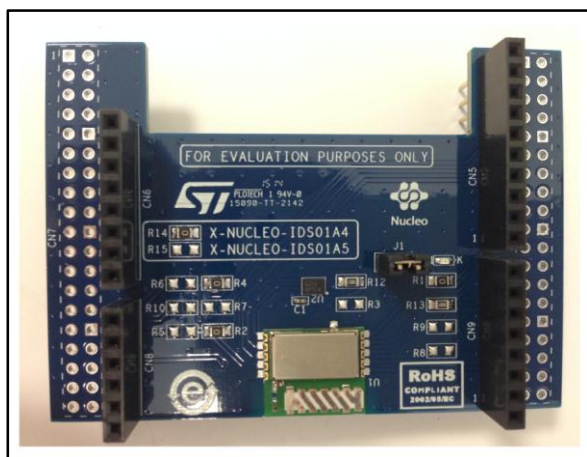


Sub-1 GHz RF expansion board based on the SPSGRF-868 module for STM32 Nucleo

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
- SPSGRF-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)

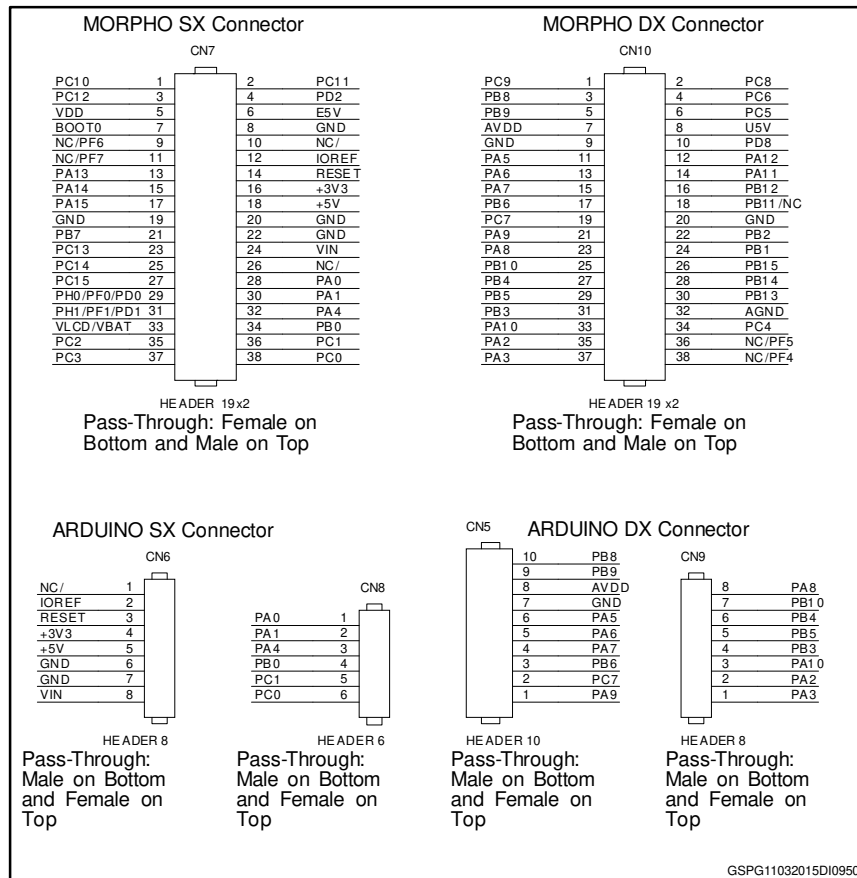


Figure 2: X-NUCLEO-IDS01A4 circuit schematic (2 of 3)

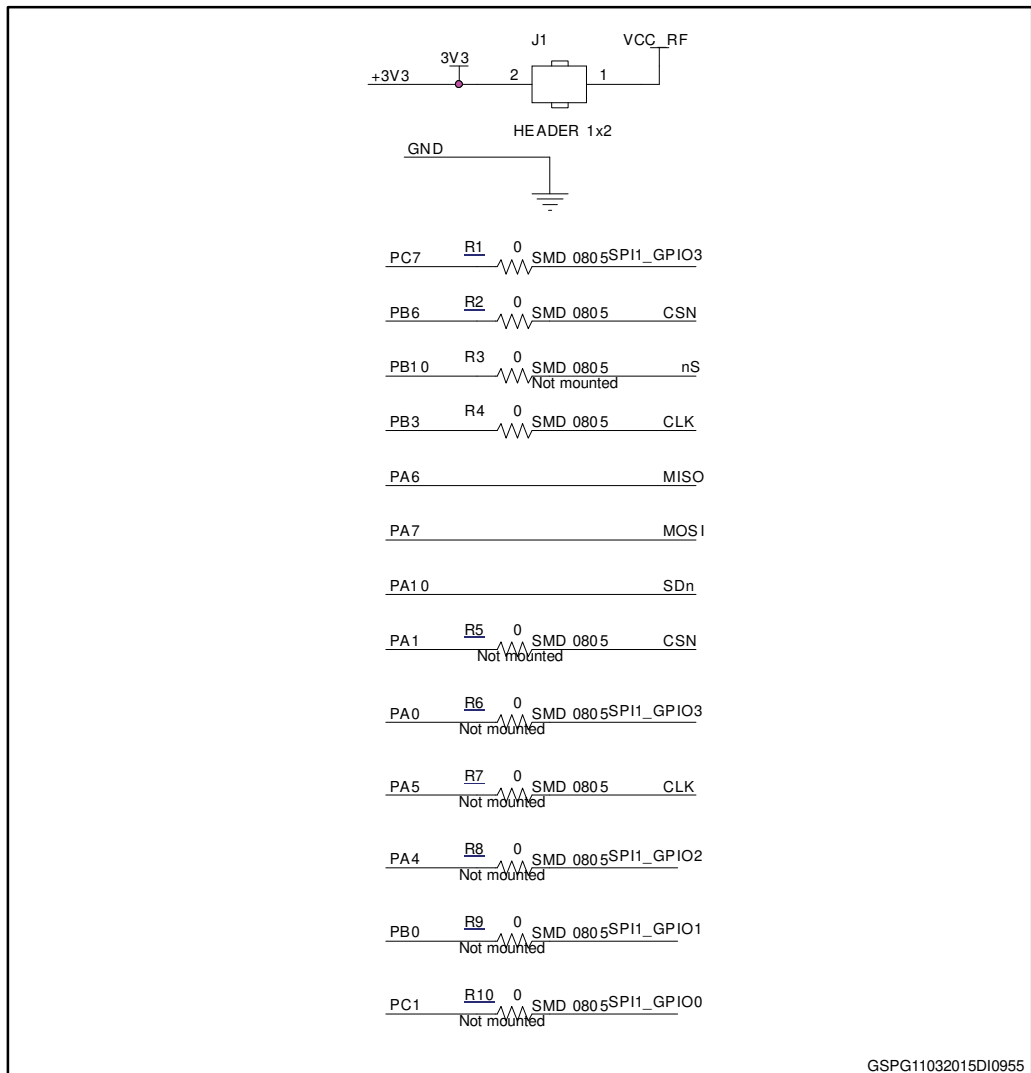
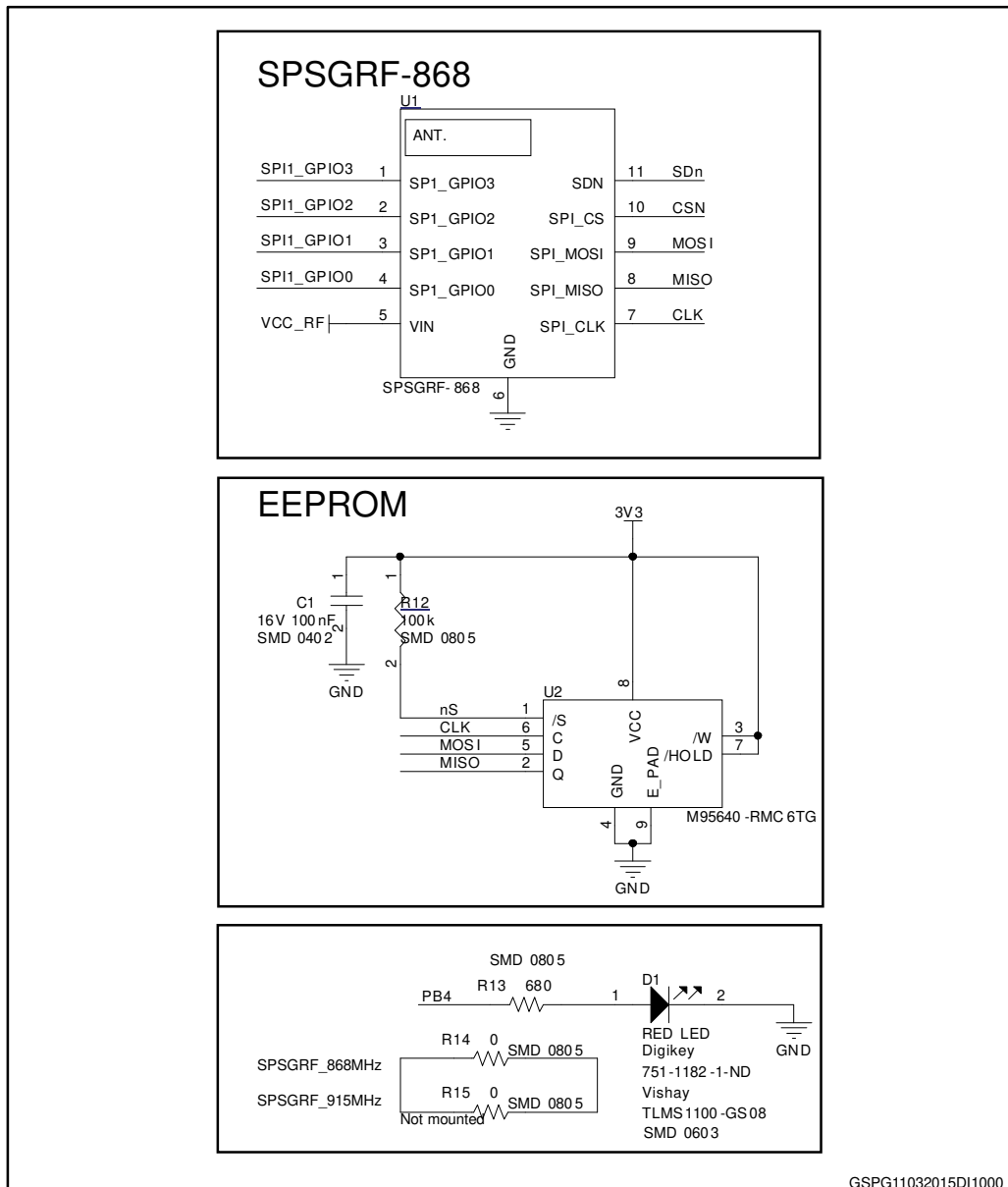


Figure 3: X-NUCLEO-IDS01A4 circuit schematic (2 of 3)



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.

IMPORTANT NOTICE – PLEASE READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgement.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of Purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2015 STMicroelectronics – All rights reserved