

Low cost, low data-rate short-range USB dongle transceiver in 868 MHz band based on the SPIRIT1

Data brief



Description

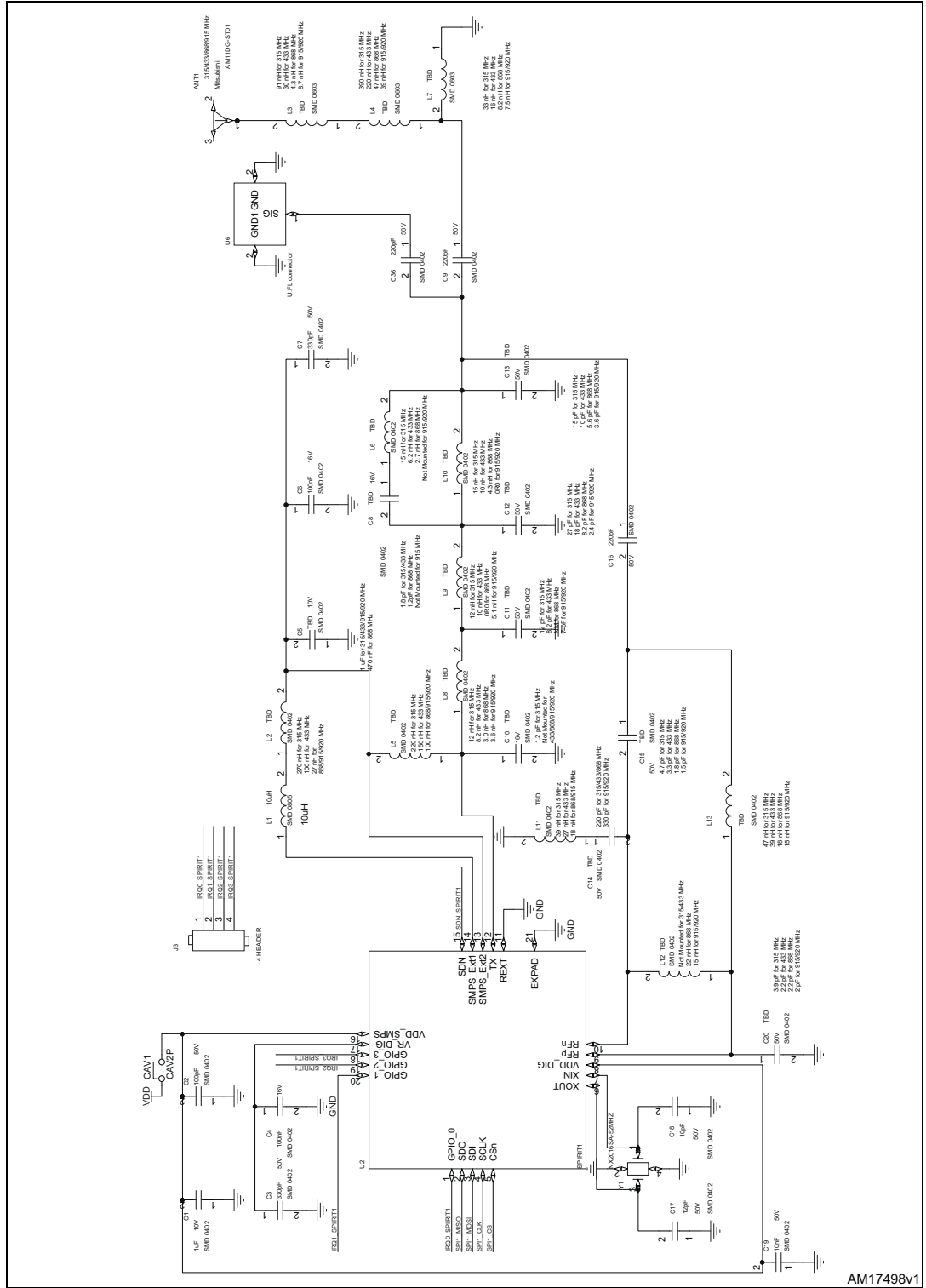
The STEVAL-IDS001V4 demonstration board is based on the SPIRIT1, which is a sub-GHz low power, low data-rate transceiver suitable for ISM bands and Wireless M-BUS. The board is equipped with an STM32L low power microcontroller to control the SPIRIT1. The board also features a USB connector for PC GUI interaction and firmware update. An optional JTAG connector (not mounted) allows the development of specific firmware on the microcontroller.

Features

- SPIRIT1 low power sub-GHz transceiver integrated in a USB dongle for direct PC connection
- External components tuned for 868 MHz band
- STM32L microcontroller
- Suitable for Wireless M-BUS systems
- Associated SPIRIT1 development kit includes: documentation, firmware for STM32L and GUI
- Optional debug connector (not mounted)
- USB interface
- Modulation schemes: 2-FSK, GFSK, MSK, GMSK, OOK, and ASK
- Air data rate: from 1 to 500 kbps
- Very low power consumption (9 mA RX and 21 mA TX at +11 dBm)
- Excellent receiver sensitivity performance (up to -118 dBm)
- Low duty cycle RX/TX operation mode
- Automatic acknowledgment, retransmission, and timeout protocol engine
- AES 128-bit encryption co-processor
- SPI interface for microcontroller
- RoHS compliant

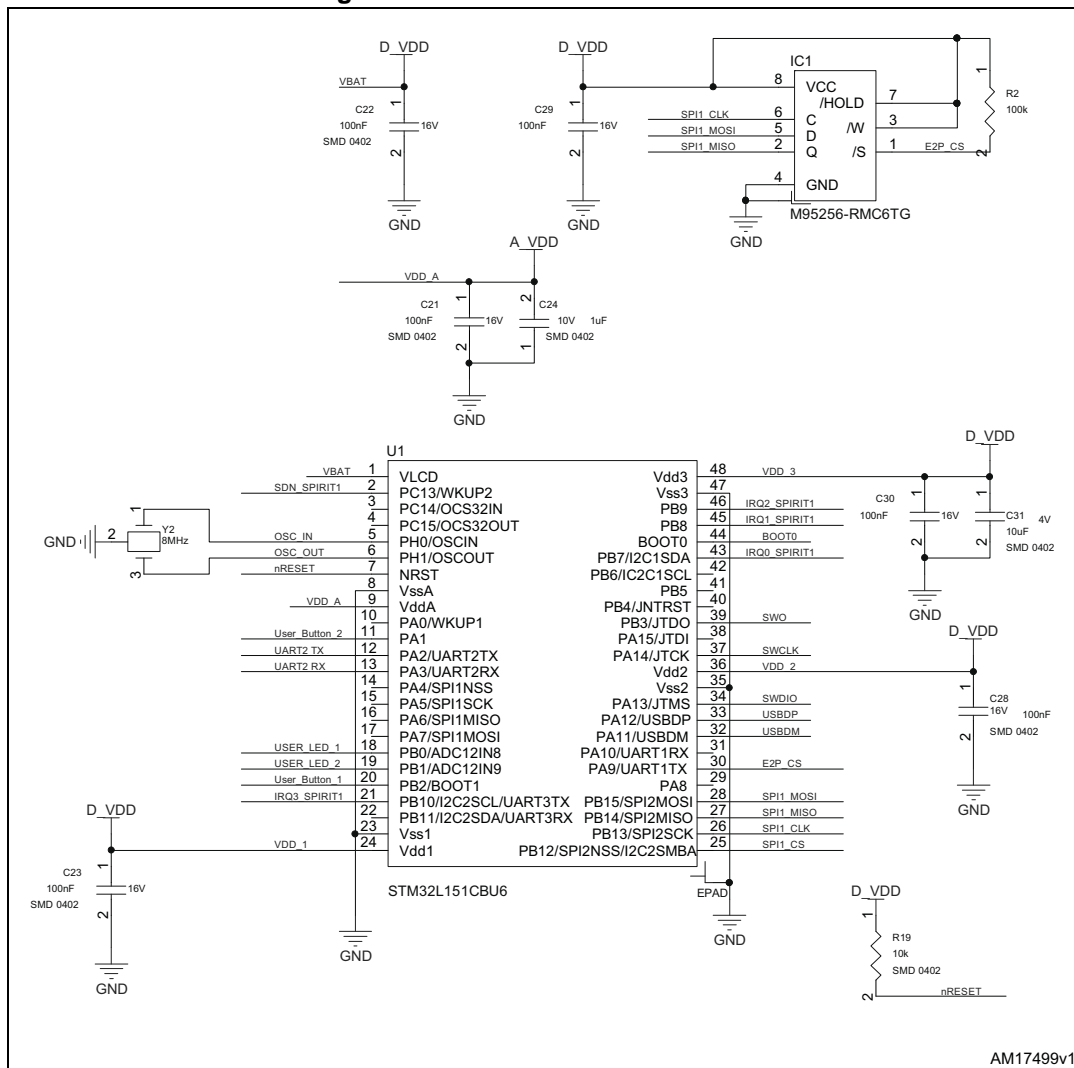
1 Schematic diagram

Figure 1. SPIRIT1 circuit schematic



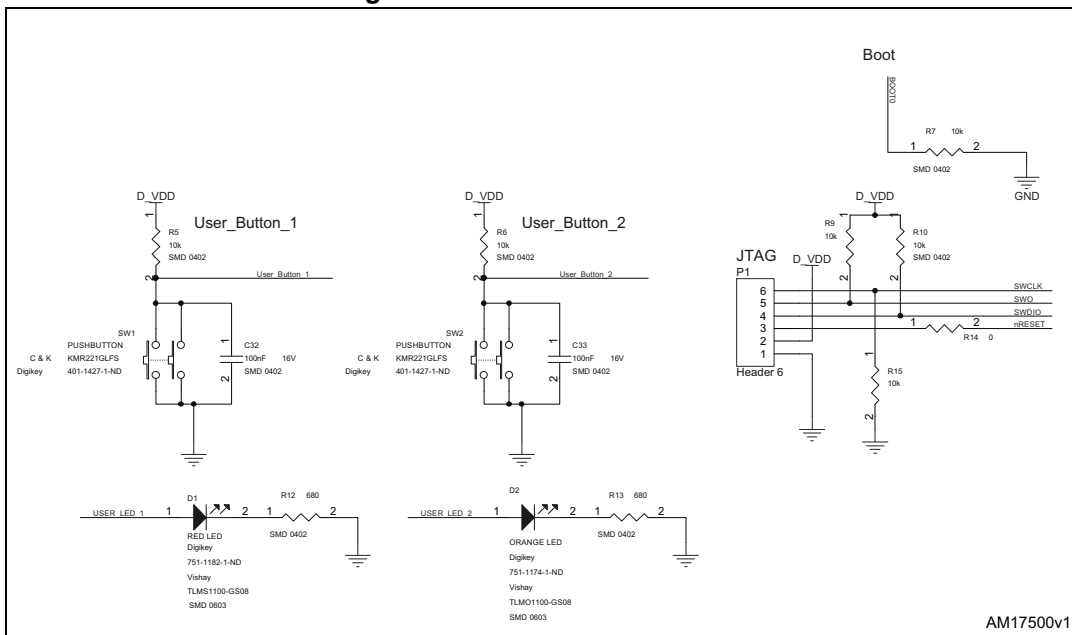
AM17498v1

Figure 2. Oscillator circuit schematic



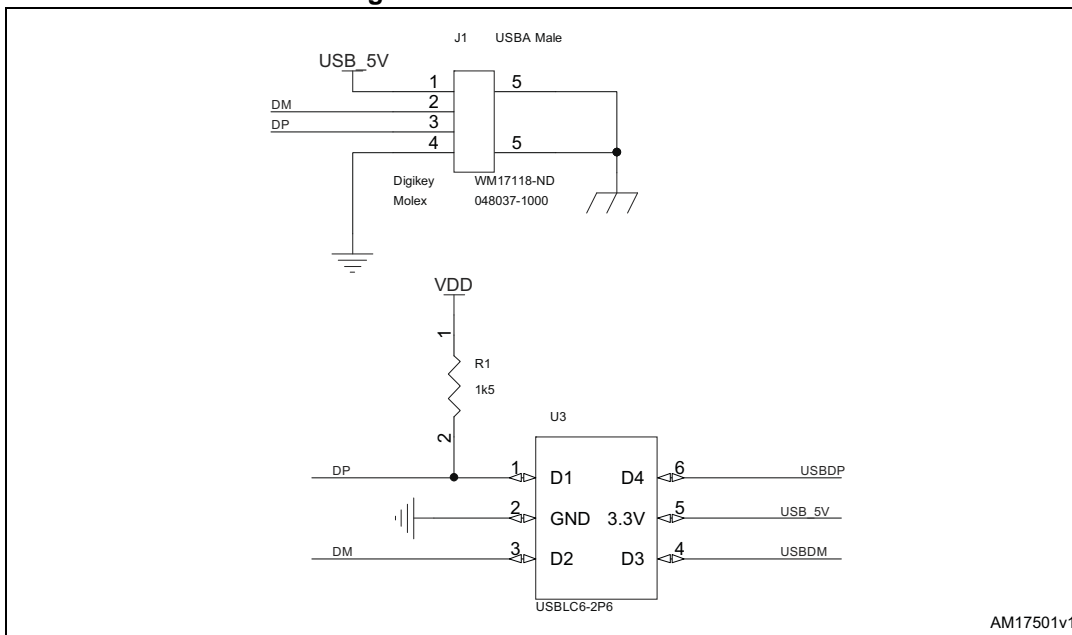
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Figure 3. SWD circuit schematic



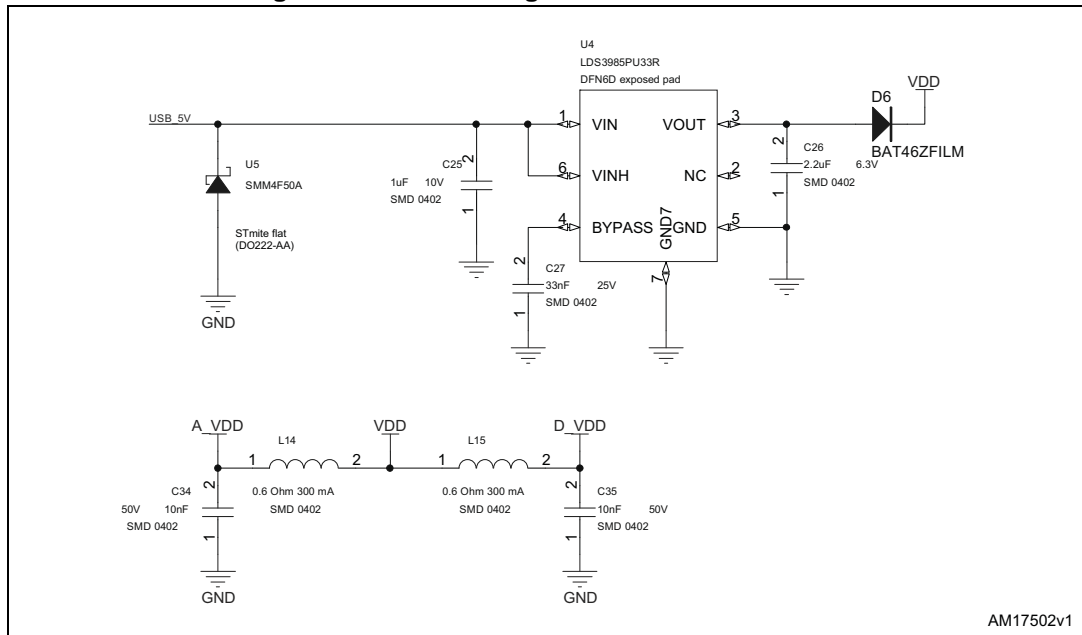
AM17500v1

Figure 4. USB circuit schematic



AM17501v1

Figure 5. Power management circuit schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Jul-2013	1	Initial release.

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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.