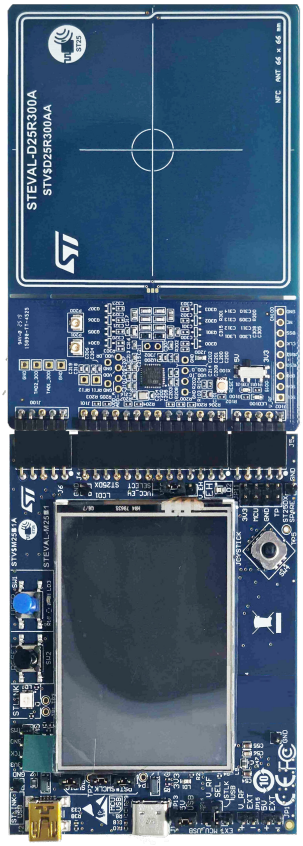
STEVAL-25R300KA

Data brief

Discovery kit for the ST25R300 high performance NFC universal device and EMVCo reader



Features

- NFC Forum NFC-A, NFC-B, NFC-F, and NFC-V poller
- NFC Forum NFC-A, NFC-F listener
- Support for all five NFC Forum tag types in reader mode
- NFC Forum type 3 Tag (NFC-F) host card emulation
- NFC Forum type 4A Tag (NFC-A) host card emulation
- Integrated inductive sensing system for low-power detection of tag presence using I and Q measurement
- Dynamic power output (DPO) controls the field strength to stay within given limits (software feature)
- User selectable and automatic gain control
- Serial peripheral interface (SPI) up to 10 Mb/s

Description

The STEVAL-25R300KA kit allows the user to evaluate the features and capabilities of the ST25R devices, which are a series of high-performance HF readers.

The kit comes with application notes, software applications, drivers, bill of materials (BOM), board schematics, Gerber files, and firmware binaries.

The STEVAL-25R300KA consists of two boards: STEVAL-M25B1 and STEVAL-D25R300A.

The STEVAL-M25B1 is a microprocessor motherboard, which embeds a 32-bit Arm Cortex™-M4 CPU with an FPU high-performance microcontroller.

This board is powered through the USB. It is based on an STM32L476 microcontroller and includes: an ST-LINK embedded debug tool interface, a 2.4” TFT LCD, LEDs, push buttons (reset and user), a mini USB debug connector, a user-dedicated USB Type-C® connector for USB 2.0, features for ST NFC tag boards not used with the ST25R HF reader series.

The STEVAL-D25R300A is a daughter board, which embeds the ST25R300 highly integrated HF reader/NFC initiator/NFC target IC with an antenna etched on the PCB and the related tuning circuit.

Product summary	
Discovery kit for the ST25R300 high performance NFC universal device and EMVCo reader	STEVAL-25R300KA
High-end NFC reader for NFC charging, payment and consumer applications	ST25R300-AQET
Applications	NFC / RFID

1 Schematic diagrams

Figure 1. STEVAL-M25B1 main board circuit schematic (1 of 9)

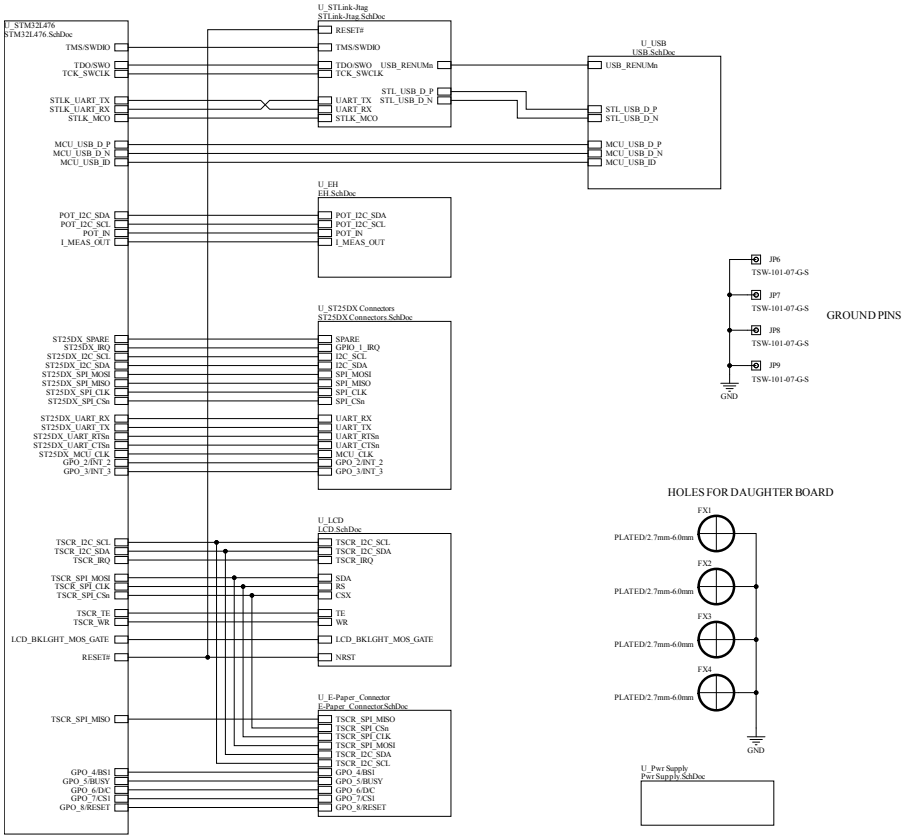


Figure 2. STEVAL-M25B1 main board circuit schematic (2 of 9)

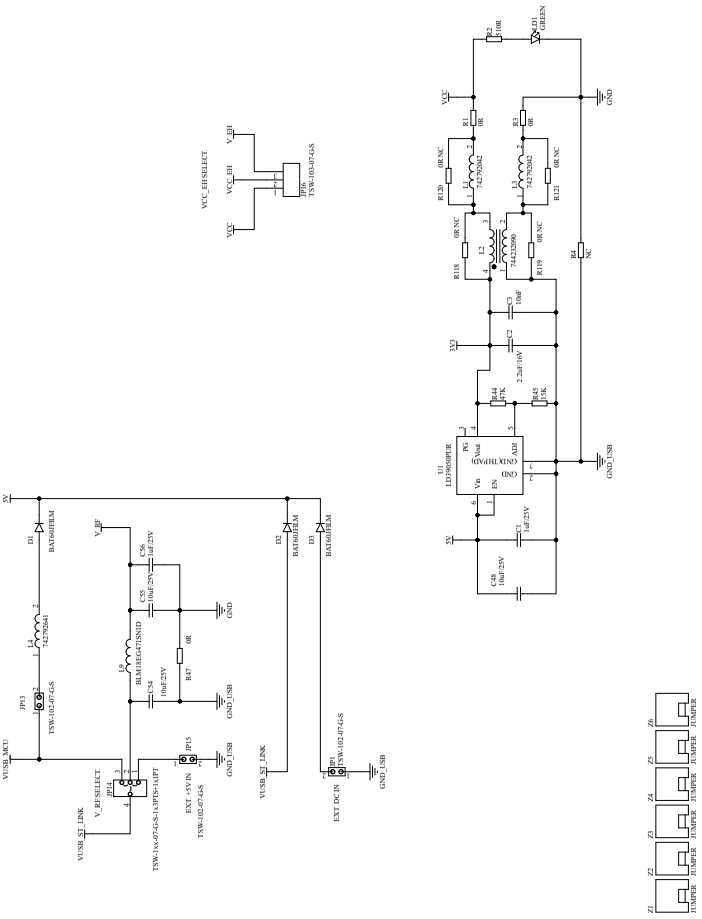


Figure 3. STEVAL-M25B1 main board circuit schematic (3 of 9)

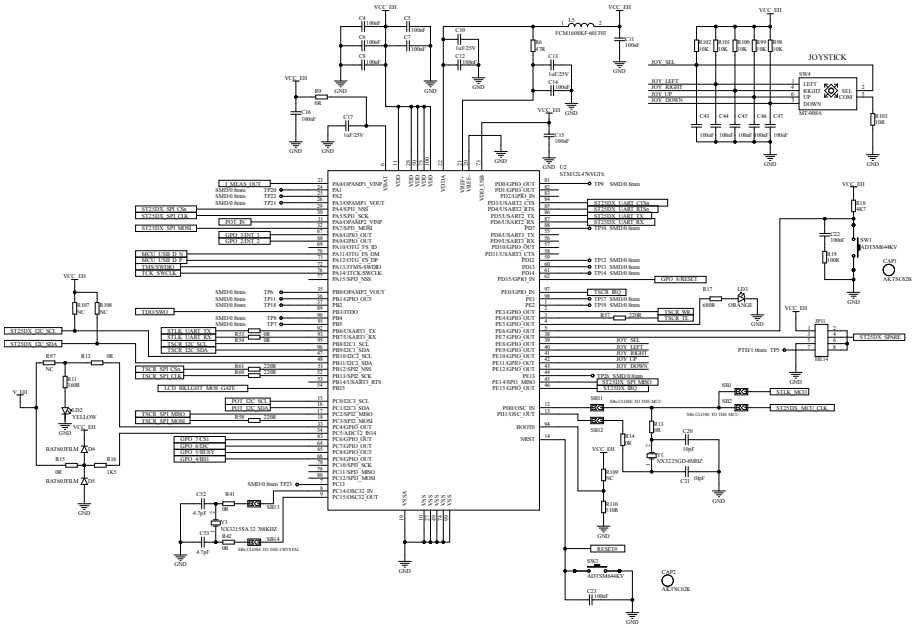


Figure 4. STEVAL-M25B1 main board circuit schematic (4 of 9)

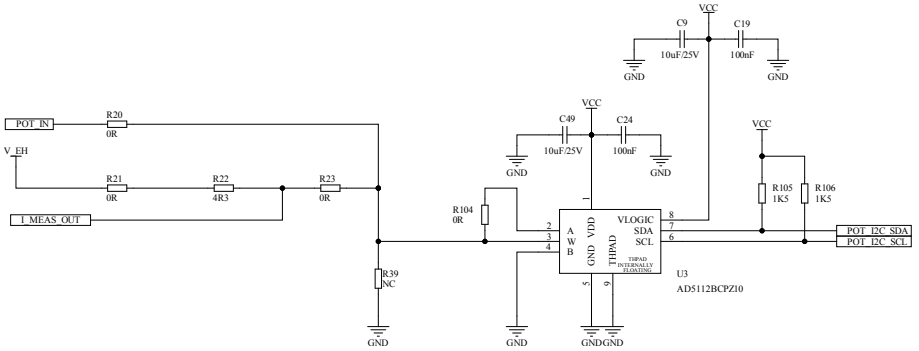


Figure 5. STEVAL-M25B1 main board circuit schematic (5 of 9)

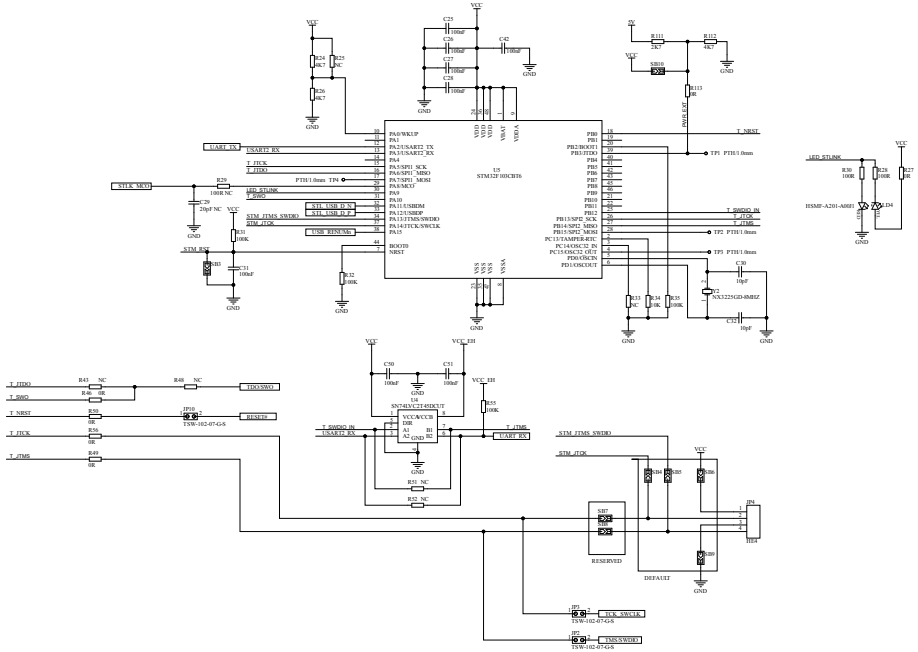


Figure 6. STEVAL-M25B1 main board circuit schematic (6 of 9)

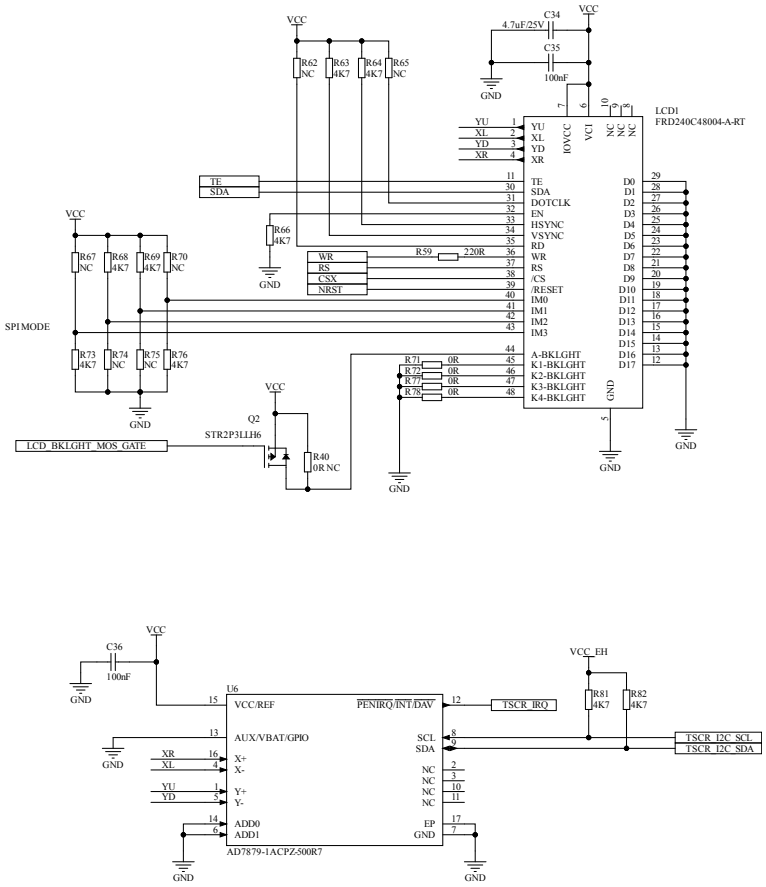


Figure 7. STEVAL-M25B1 main board circuit schematic (7 of 9)

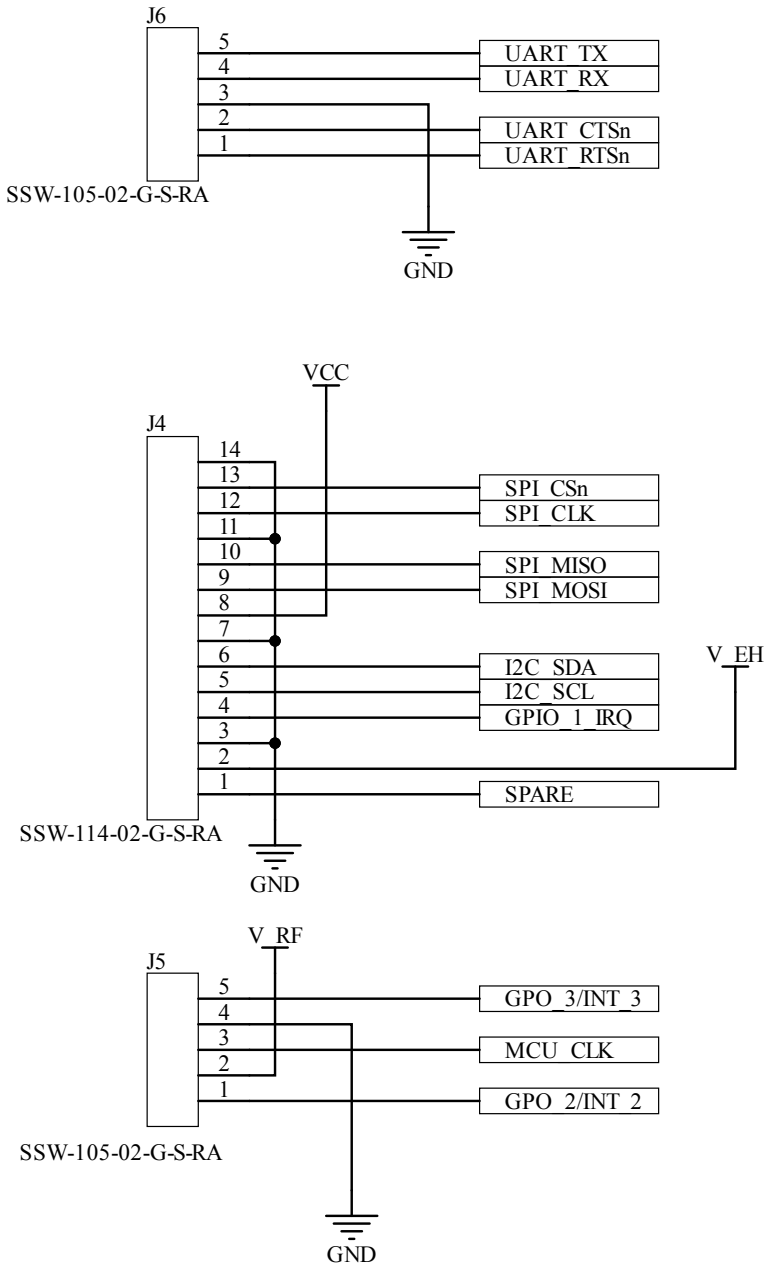


Figure 8. STEVAL-M25B1 main board circuit schematic (8 of 9)

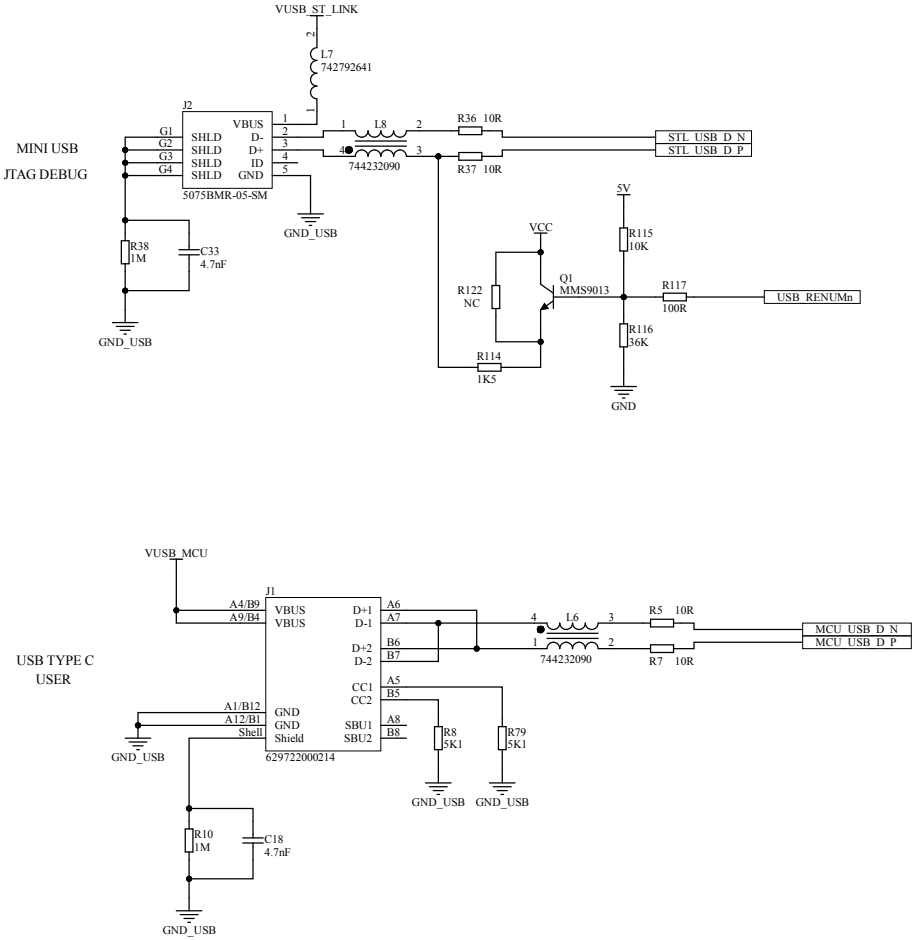


Figure 9. STEVAL-M25B1 main board circuit schematic (9 of 9)

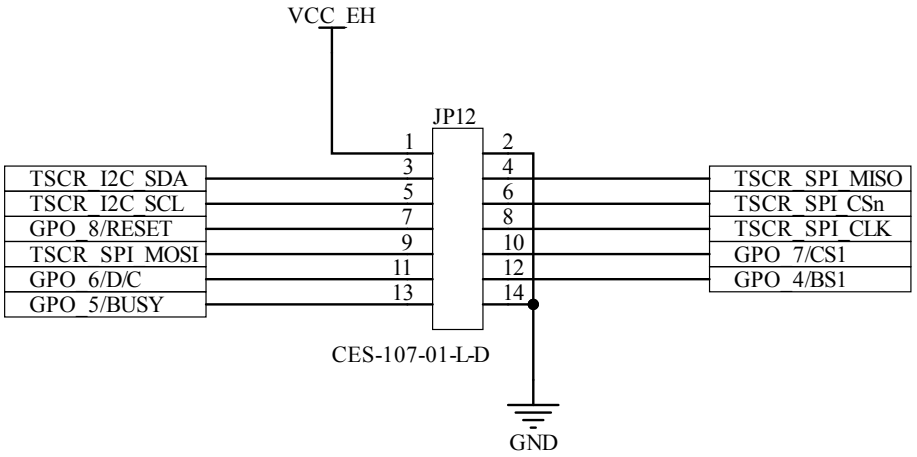


Figure 10. STEVAL-D25R300A reader expansion board circuit schematic (1 of 3)

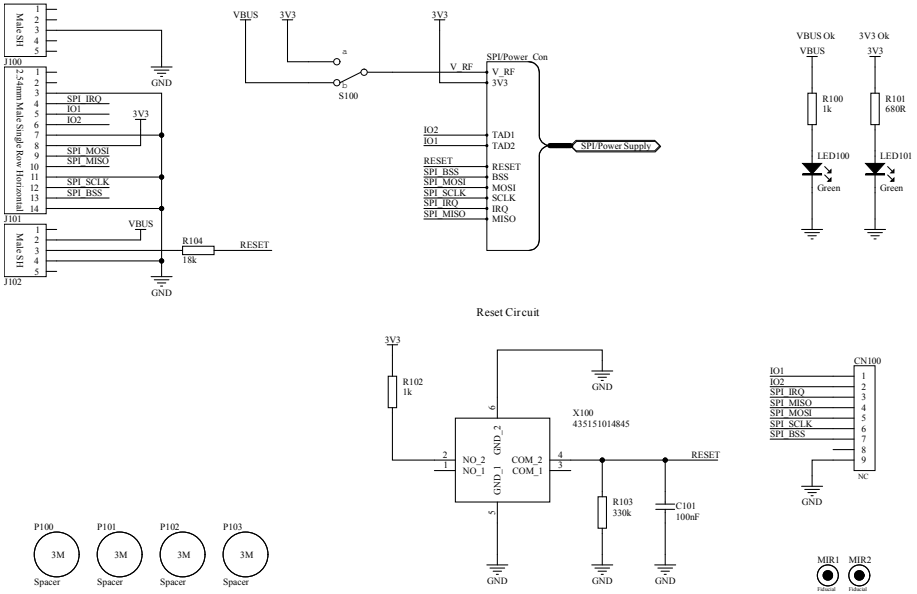


Figure 11. STEVAL-D25R300A reader expansion board circuit schematic (2 of 3)

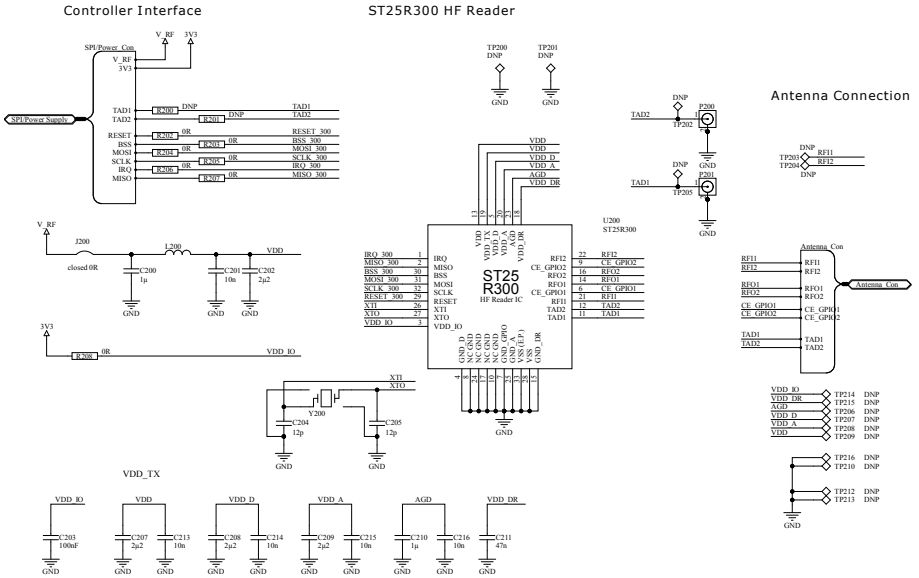
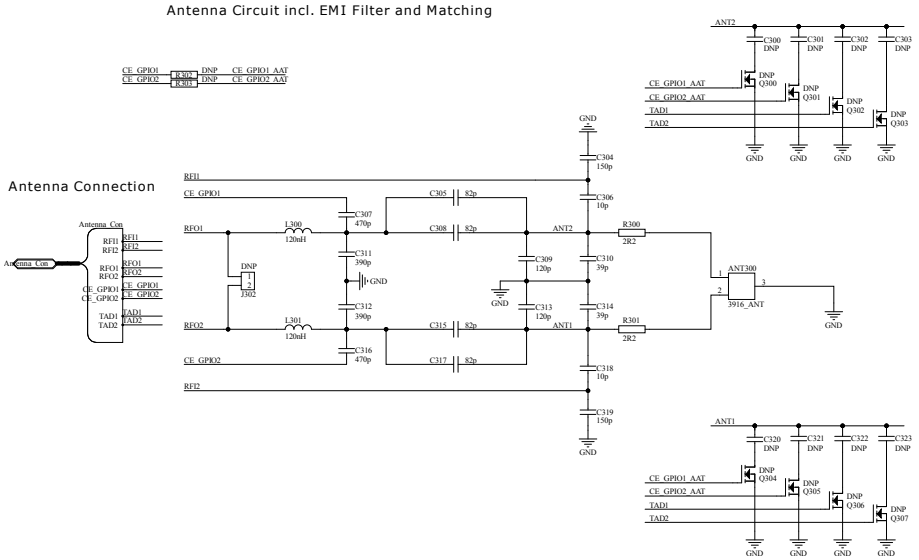


Figure 12. STEVAL-D25R300A reader expansion board circuit schematic (3 of 3)



2 Kit versions

Table 1. STEVAL-25R300KA versions

PCB version	Schematic diagrams	Bill of materials
STV$25R300KAA (1)	STV$25R300KAA schematic diagrams	STV$25R300KAA bill of materials

1. *This code identifies the STEVAL-25R300KA evaluation kit first version. The kit consists of a main board STEVAL-M25B1 whose version is identified by the code STV$M25B1A and a reader expansion board STEVAL-D25R300 whose version is identified by the code STEVAL$D25R300A.*

Revision history

Table 2. **Document revision history**

Date	Revision	Changes
05-Mar-2025	1	Initial release.
01-Jul-2025	2	Updated cover image.

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