X-STM32MP-EVG1CB

Data brief

X-STM32MP expansion board for NFC gateway applications

The picture shown is for illustration purpose only.
Actual product may vary depending on buyer's selection and availability.

Product summary	
X-STM32MP expansion board for NFC gateway applications	X-STM32MP-EVG1CB
STM32 MPU OpenSTLinux software package for X-STM32MP-EVG1CB	X-LINUX-EVG1
Discovery kit with STM32MP157F MPU	STM32MP157F-DK2
Discovery kit with STM32MP135F MPU	STM32MP135F-DK
Discovery kit with STM32MP257F MPU	STM32MP257F-DK
Applications	NFC / RFID Point of sales EV charging - DC fast charging stations

Features

- ST25R3916B NFC card reader IC
- 4 general-purpose LEDs and 1 key for user interface
- LSM6DSV16X accelerometer and gyroscope sensors with Qvar for proximity and touch detection
- LED1202 LED driver with 4 RGB LEDs
- STMod+ connector
- STSAFE-A110 secure element for authentication
- M24M01-R EEPROM to load charging profiles
- M24C32-R EEPROM for automatic GPIO and driver setup
- ESDALC5-1BM2 bidirectional
- Single-line TVS diodes
- STBB1-AXX buck-boost DC-DC converter
- 4 general-purpose LEDs, 1 power LED, and 1 switch for user interface
- Compatible with STM32MP157F-DK2, STM32MP135F-DK, STM32MP257F-DK, and Raspberry Pi's GPIO connector

Description

The X-STM32MP-EVG1CB is an STM32 MPU expansion board with ST25R3916B NFC reader IC representing the contactless part of a payment terminal.

The expansion board hosts various key components: LSM6DSV16X IMU with Qvar, LED1202 LED driver to control onboard RGB LEDs, STSAFE-A110 secure element, and two EEPROMs to store user data and autoconfiguration.

The X-STM32MP-EVG1CB interfaces with the STM32MP microprocessor via 40-pin GPIO connector pins using I_2C, UART, SPI, and GPIO connections for various components. It is compatible with STM32MP157F-DK2, STM32MP135F-DK, STM32MP257F-DK, and Raspberry Pi's GPIO connector layout.

The ST25R3916B features high RF output power to directly drive antennas at high efficiency. It is designed to operate from a wide power supply range (2.6 to 5.5 V from -40 °C to +105 °C, 2.4 to 5.5 V from -20 °C to +105 °C), and a wide peripheral I/O voltage range (from 1.65 to 5.5 V).

The LSM6DSV16X is an accelerometer and gyroscope with Qvar for proximity & touch detection.

The board has a 20-Pin STMod+ connector for LTE module using the ISO7816 protocol.

It also integrates STSAFE-A110 secure element for authentication during payments.

The LED1202 LED driver is present with four RGB LEDs for an enhanced user interface.

1 Schematic diagrams

Notice: These schematics are for illustration purpose only. Actual product may vary depending on buyer's selection and availability.

Figure 1. X-STM32MP-EVG1CB circuit schematic (1 of 11)

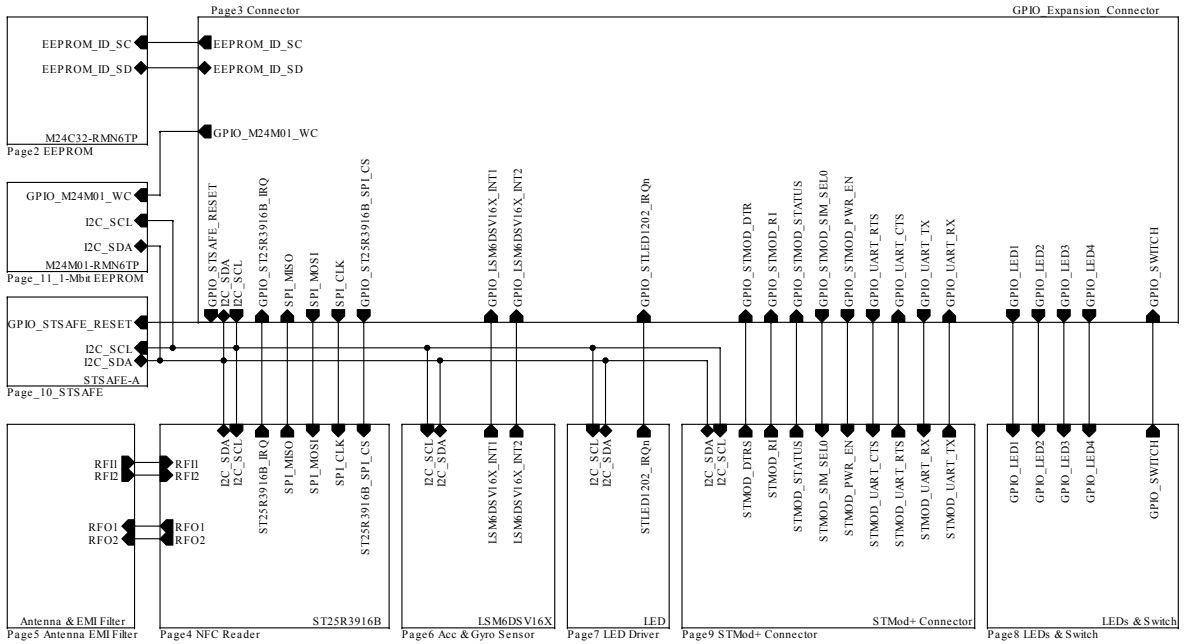


Figure 2. X-STM32MP-EVG1CB circuit schematic (2 of 11)

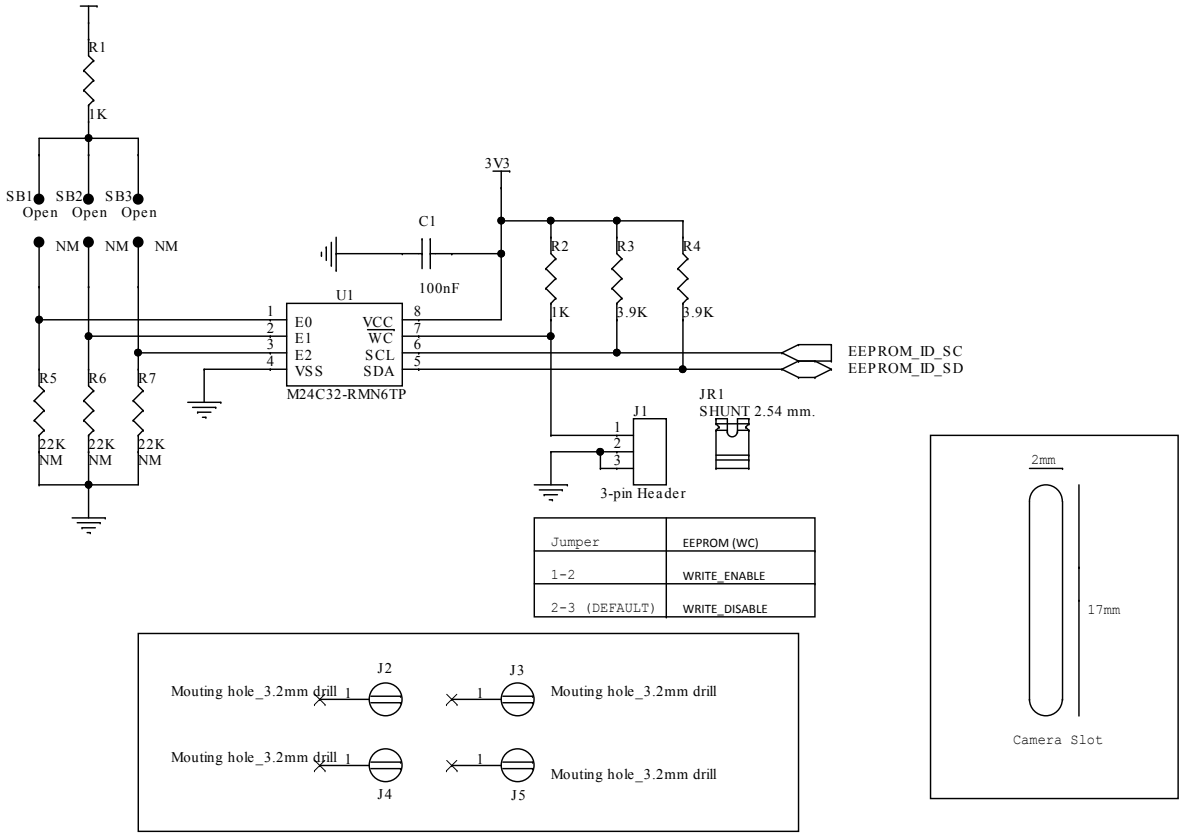


Figure 3. X-STM32MP-EVG1CB circuit schematic (3 of 11)

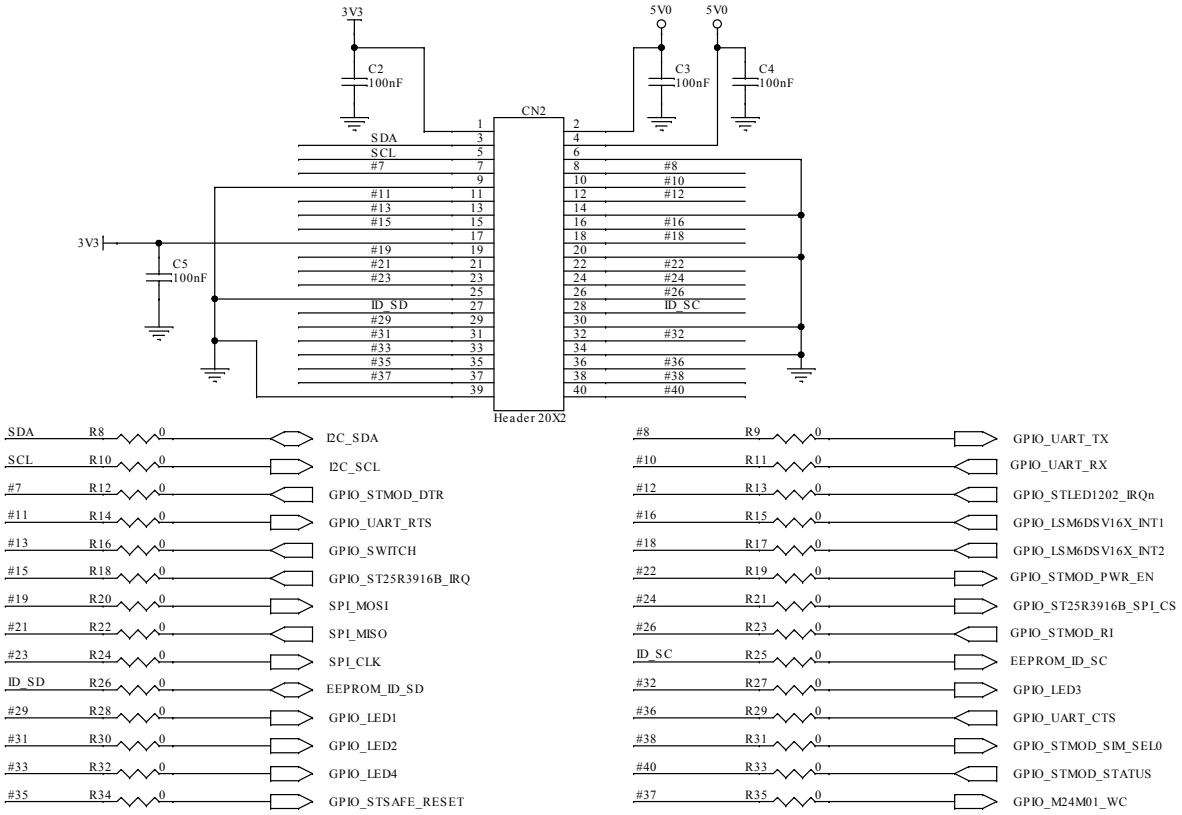


Figure 4. X-STM32MP-EVG1CB circuit schematic (4 of 11)

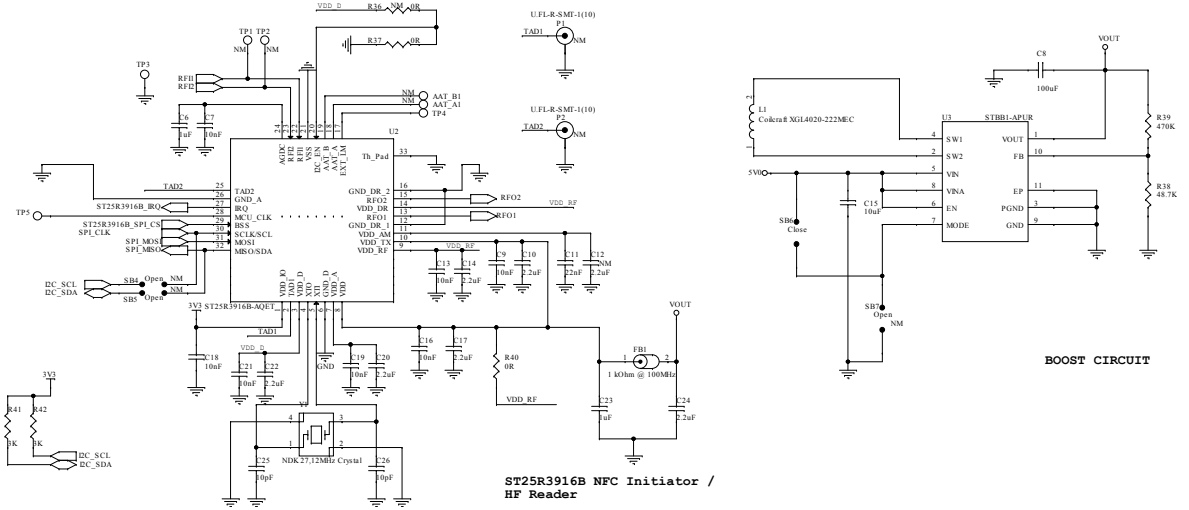
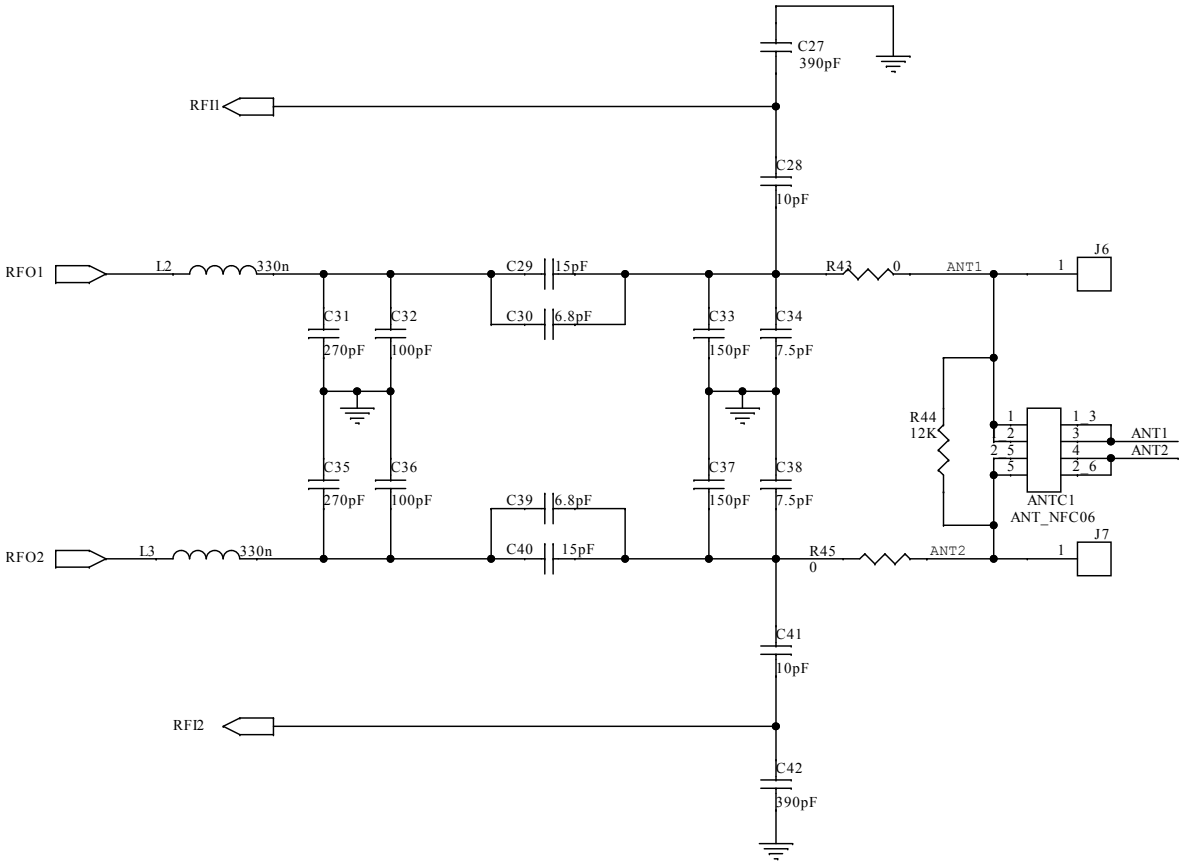
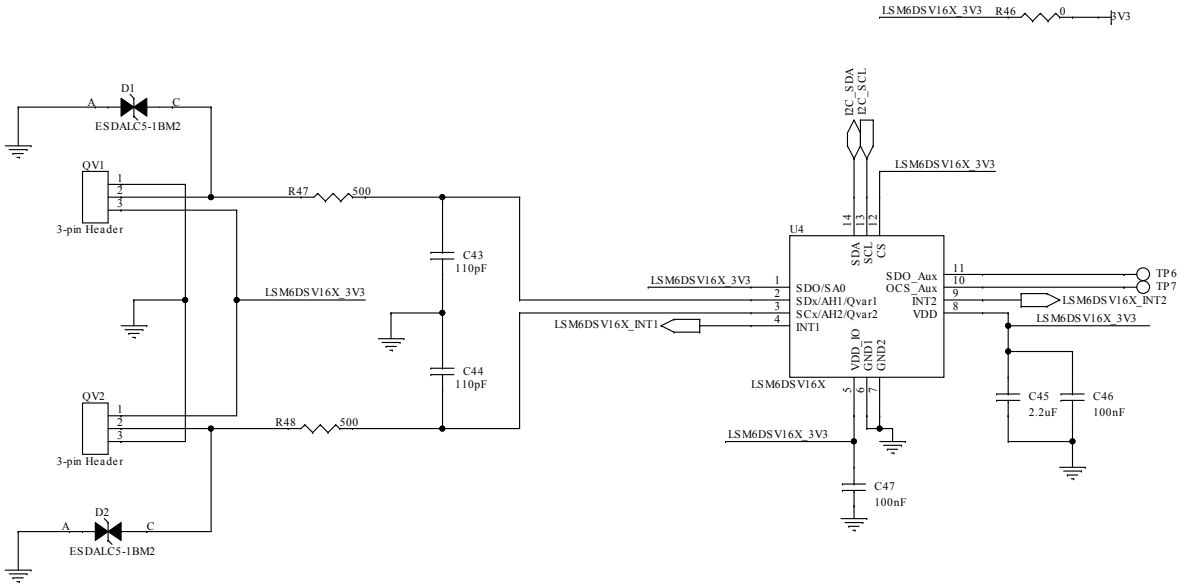


Figure 5. **X-STM32MP-EVG1CB circuit schematic (5 of 11)**



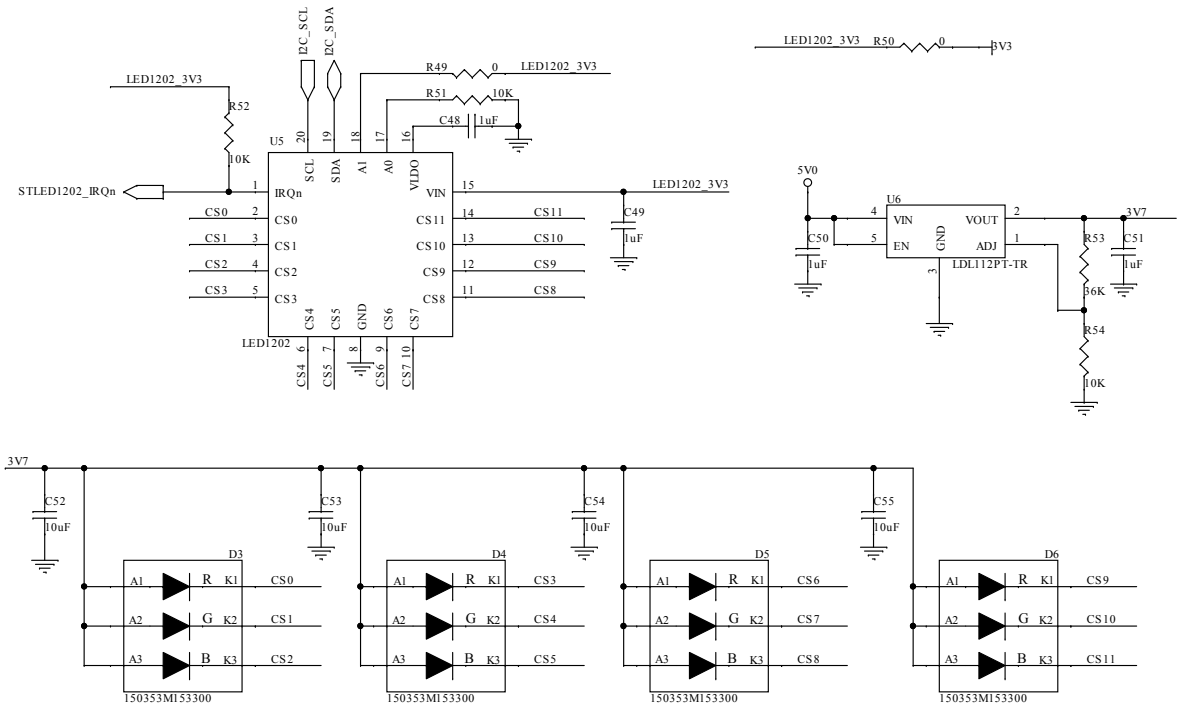
Antenna Circuit incl. EMI Filter and Matching

Figure 6. X-STM32MP-EVG1CB circuit schematic (6 of 11)



Accelerometer and Gyroscope Sensor

Figure 7. **X-STM32MP-EVG1CB circuit schematic (7 of 11)**



LED Driver & RGB LEDs

Figure 8. **X-STM32MP-EVG1CB circuit schematic (8 of 11)**

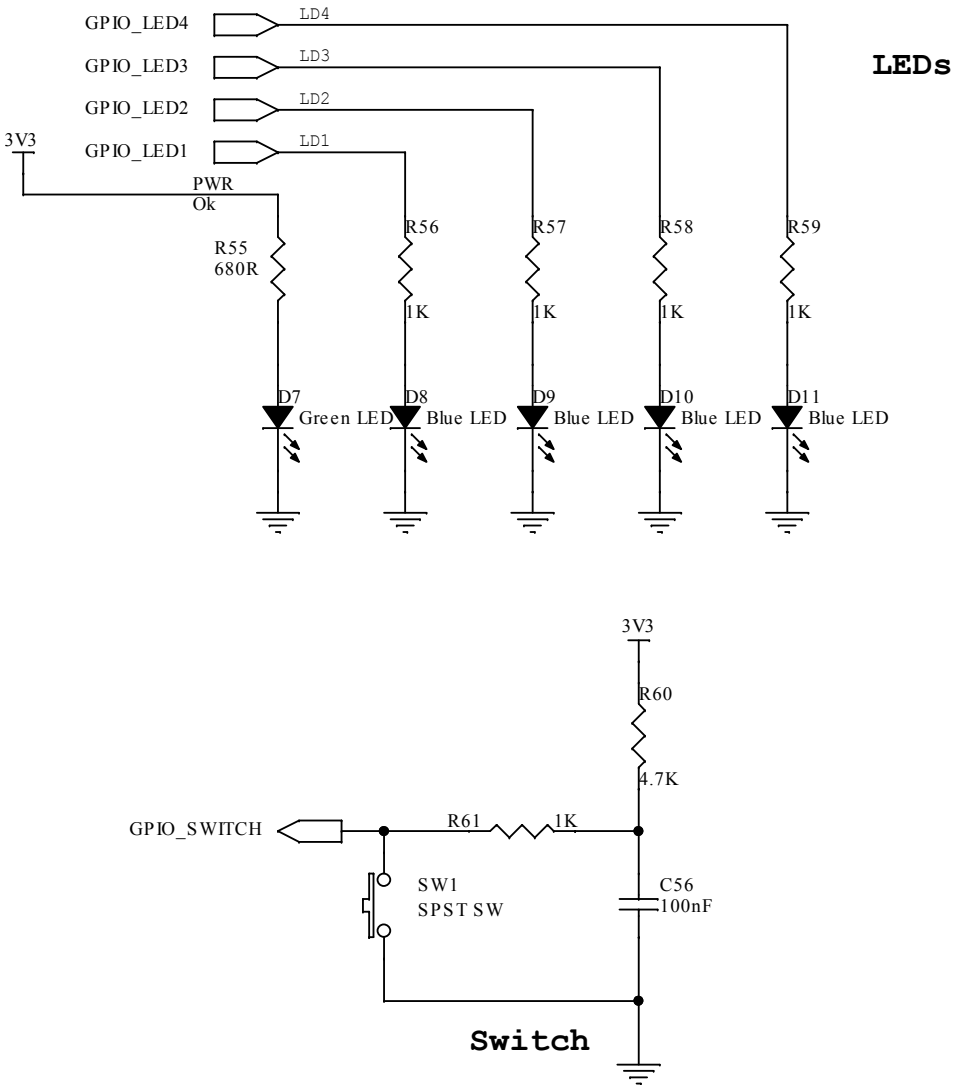


Figure 9. X-STM32MP-EVG1CB circuit schematic (9 of 11)

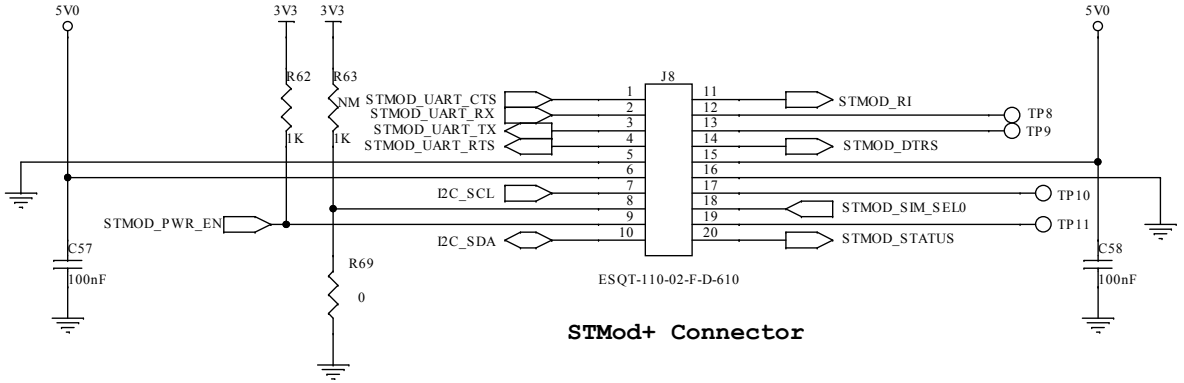


Figure 10. X-STM32MP-EVG1CB circuit schematic (10 of 11)

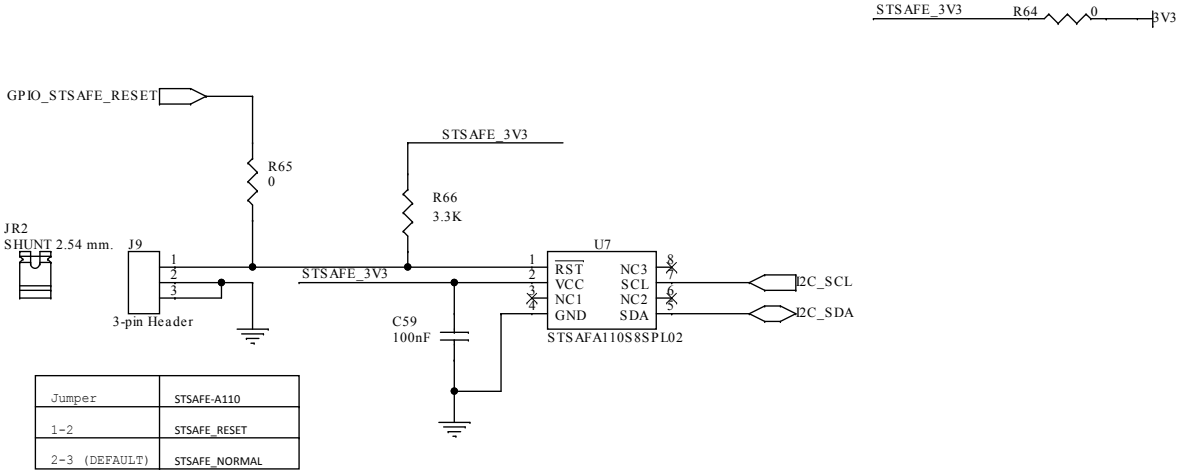
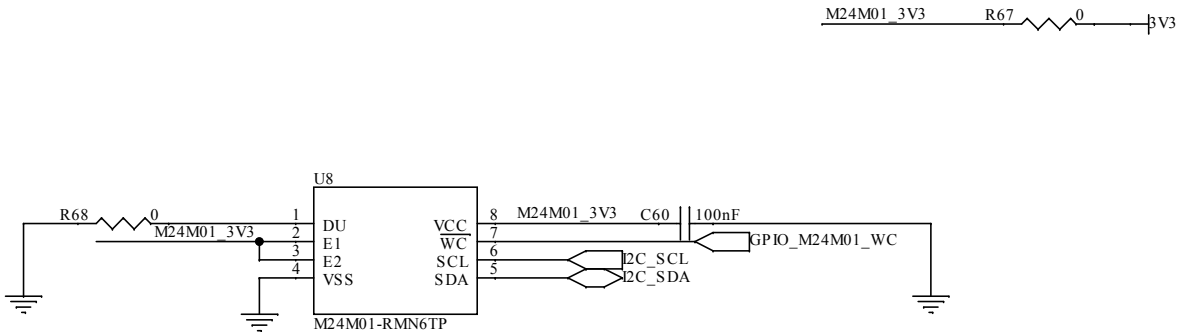
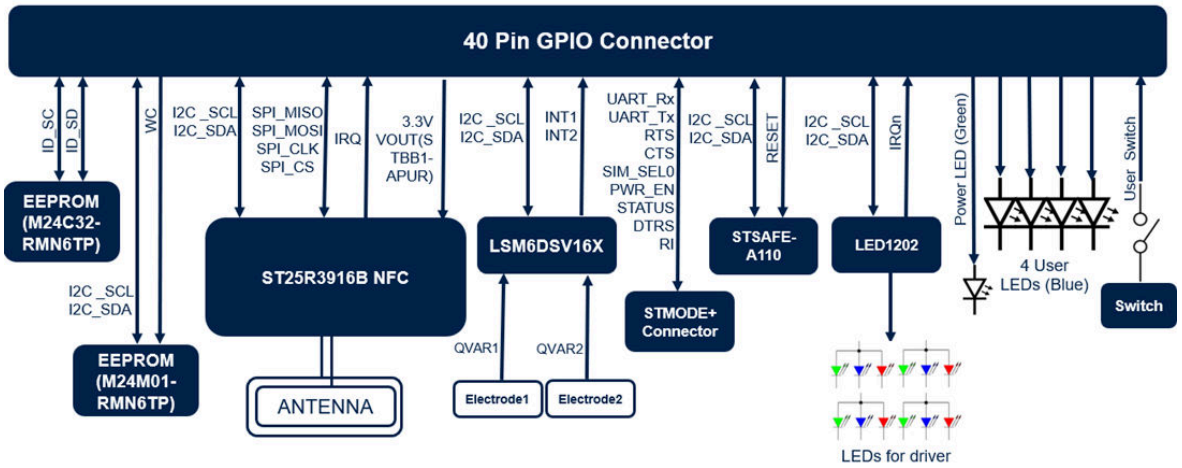


Figure 11. **X-STM32MP-EVG1CB circuit schematic (11 of 11)**



2 GPIO connector

Figure 12. **GPIO connector**



3 Custom evaluation boards information

Notice: *These evaluation boards are custom designed and built, in small quantities, according to specific requests from customers and are destined for evaluation and testing of ST products in a research and development setting. Please contact ST to provide your specific requests and get your custom built board(s).*

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
19-Nov-2025	1	Initial release.