

Dual motor drive control stage based on the STM32F415ZG microcontroller

Data brief

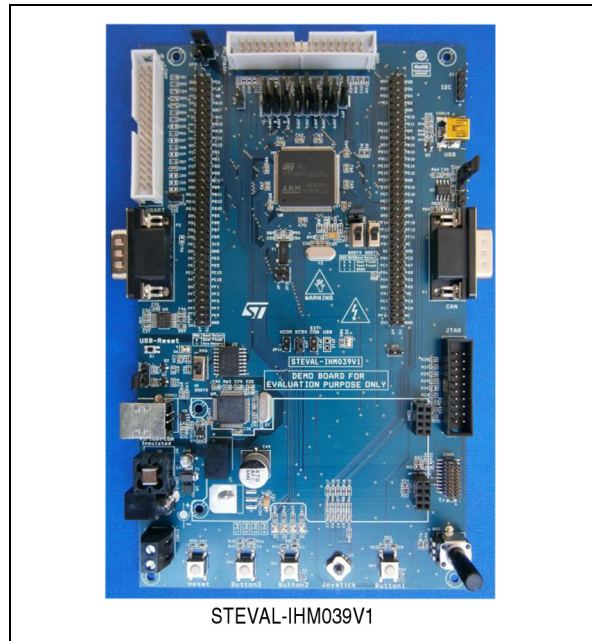
Features

- Two fully featured MC connectors for interfacing with any of the possible STMicroelectronics's evaluation power boards
- JTAG, SWD and trace debug support
- Mini-USB connector for isolated virtual COM port
- USB 2.0 full speed connection
- 240 x 320 TFT color LCD
- Joystick with 4 LEDs and 4-direction control and selector
- Reset plus three user buttons
- Five 5 V power supply sources: 2-way screw connector, power jack,
- 2 USB connectors (one isolated)
- Boot from user Flash or system memory
- CAN 2.0 A/B compliant connection
- I²C connection
- RS-232 channel with RTS/CTS handshake support
- Extension connectors for daughterboard or wrapping area board
- RoHS compliant

Description

The STEVAL-IHM039V1 demonstration board is a control stage based on STMicroelectronics's ARM™ Cortex™-M4 core-based STM32F415ZGT6 microcontroller featuring single and dual motor control.

It can be used together with the STM32 PMSM single/dual FOC SDK v3.2 and two of the possible STMicroelectronics's evaluation power boards provided with MC connectors for a complete dual

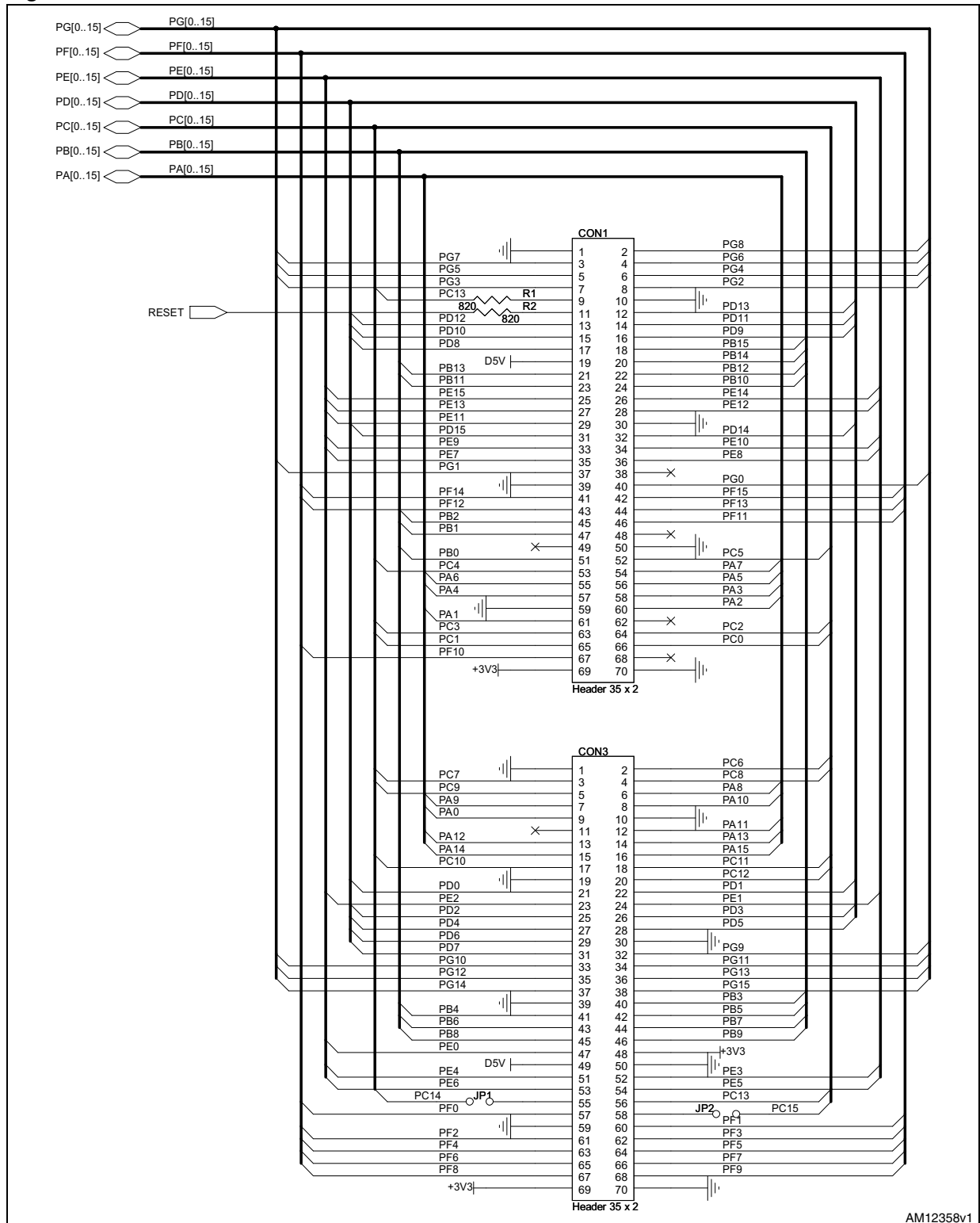


motor control evaluation and development platform.

With dedicated hardware features, the STEVAL-IHM039V1 demonstration board is designed to help developers to evaluate ST devices and to develop their own applications.

1 Schematic diagram

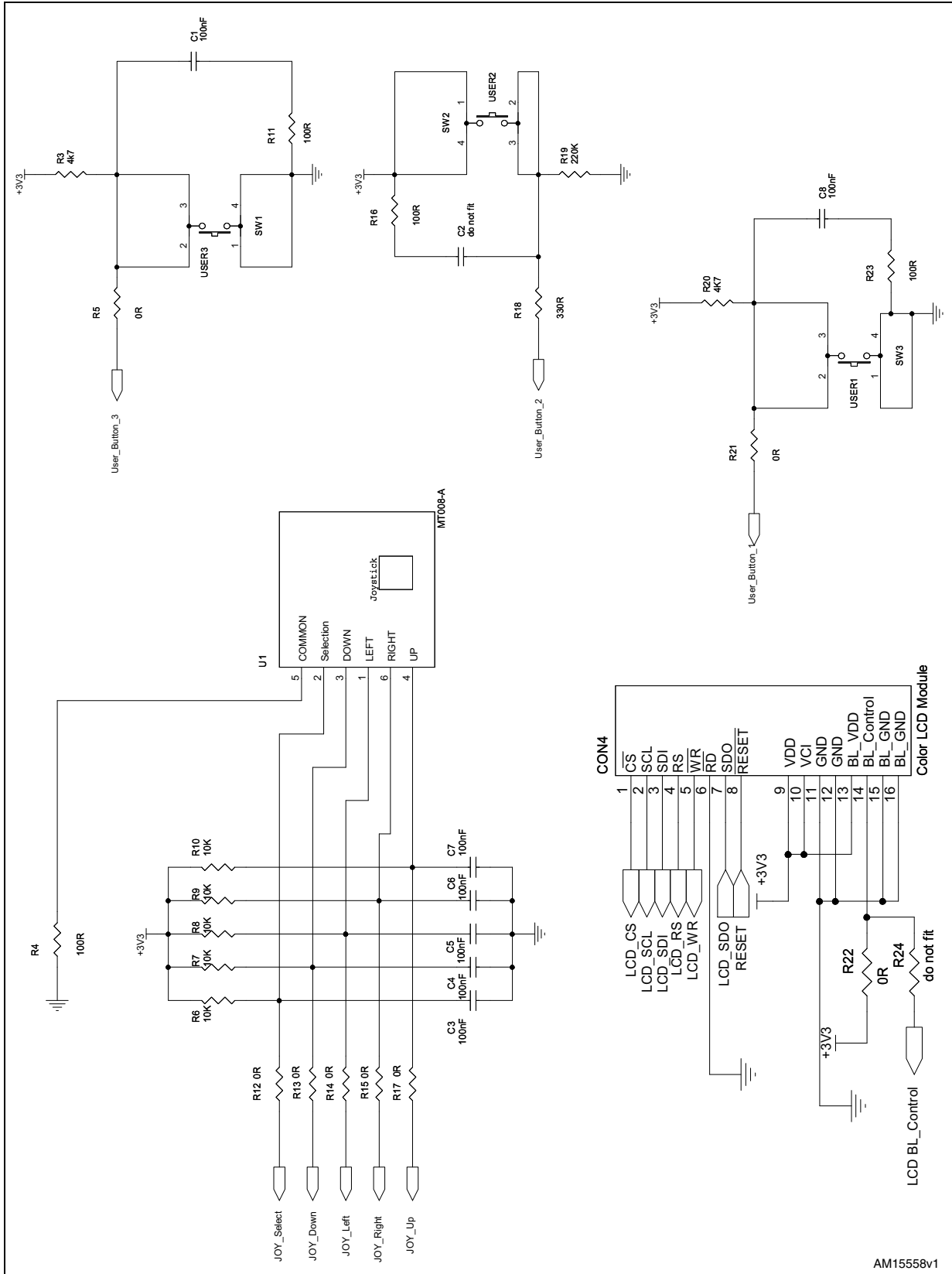
Figure 1. Extension & I2C_IOS Connectors



AM12358v1



Figure 2. Joystick button and LCD



AM15558v1

Figure 3. JTAG SWD and trace

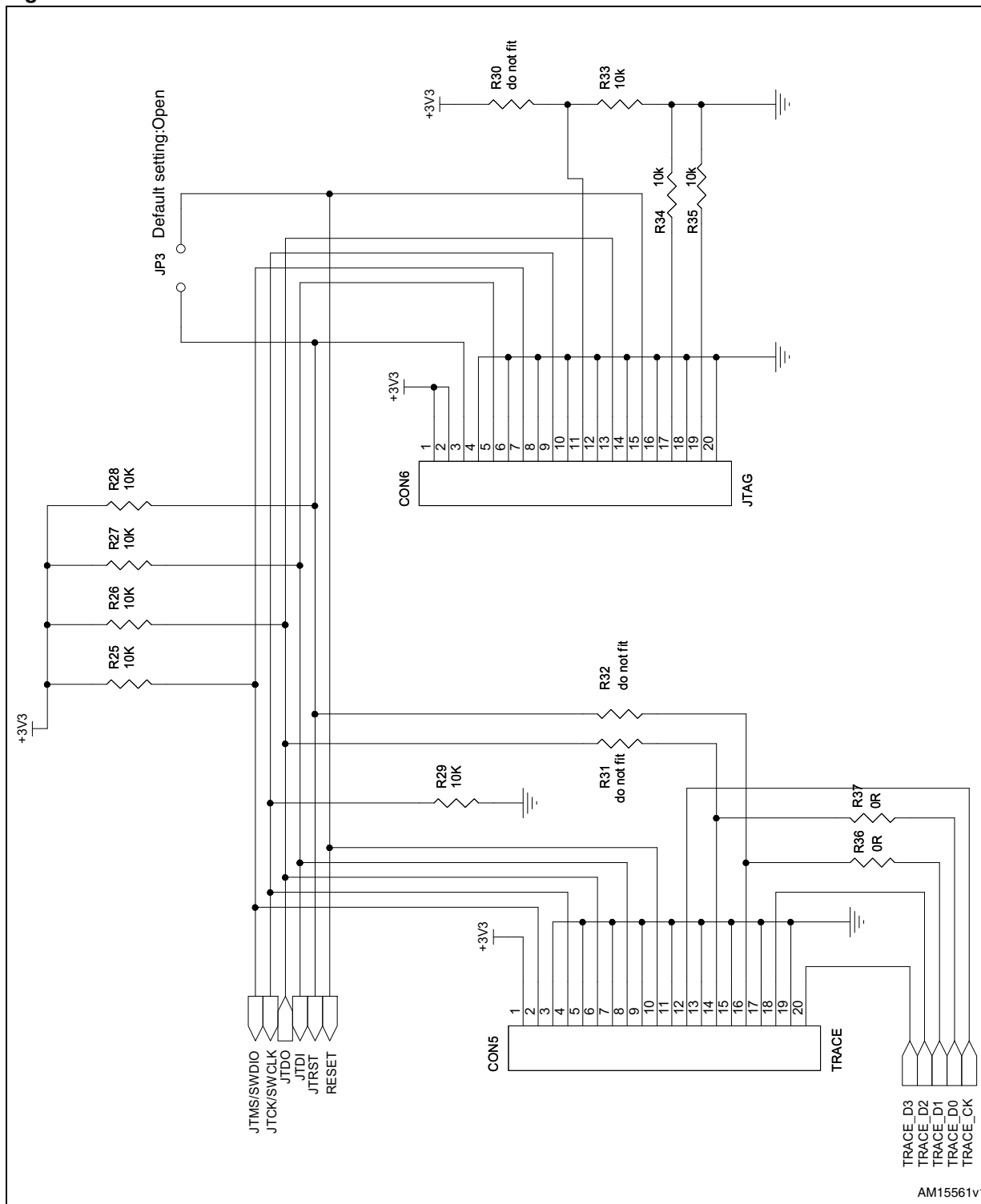
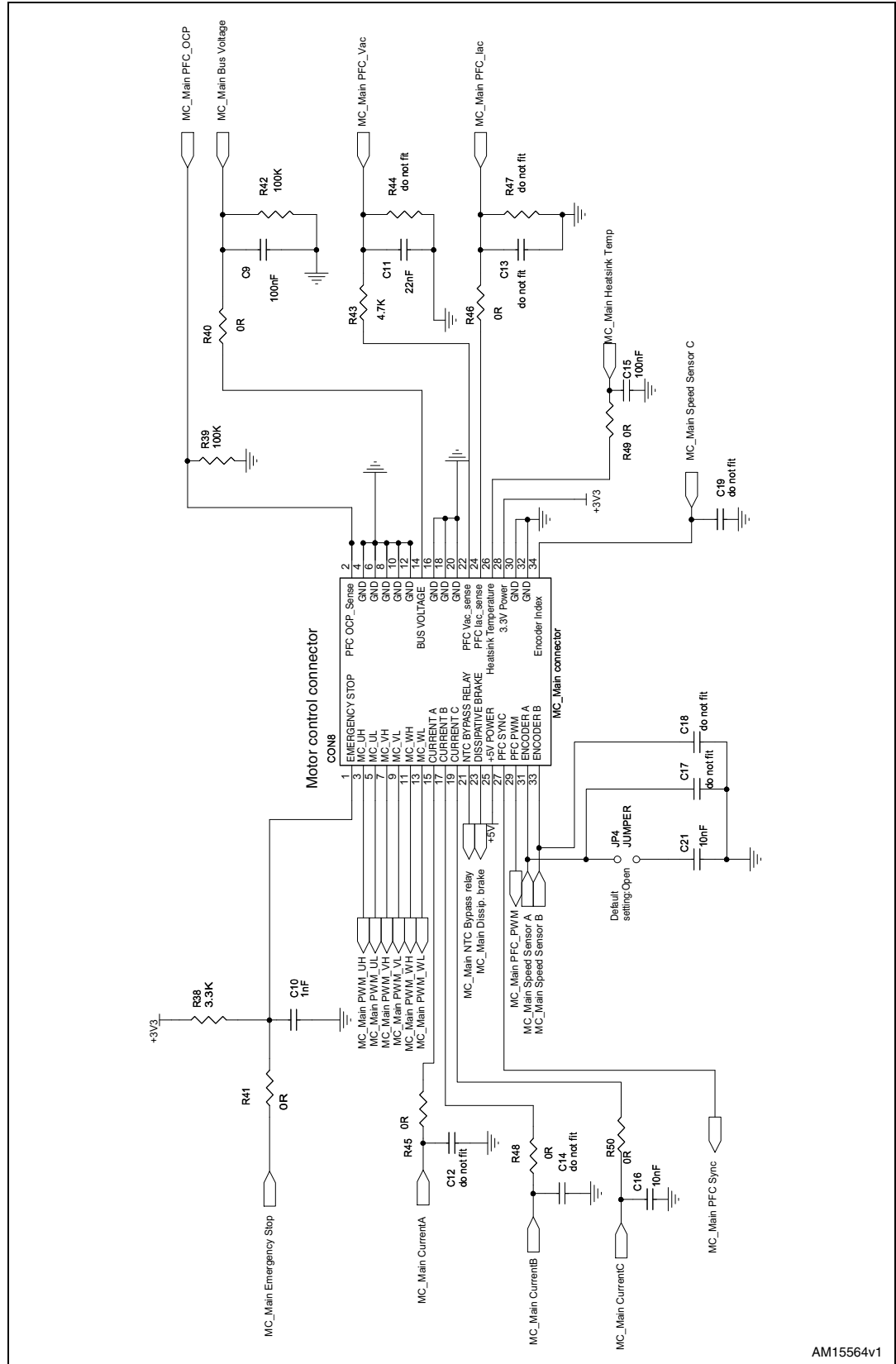
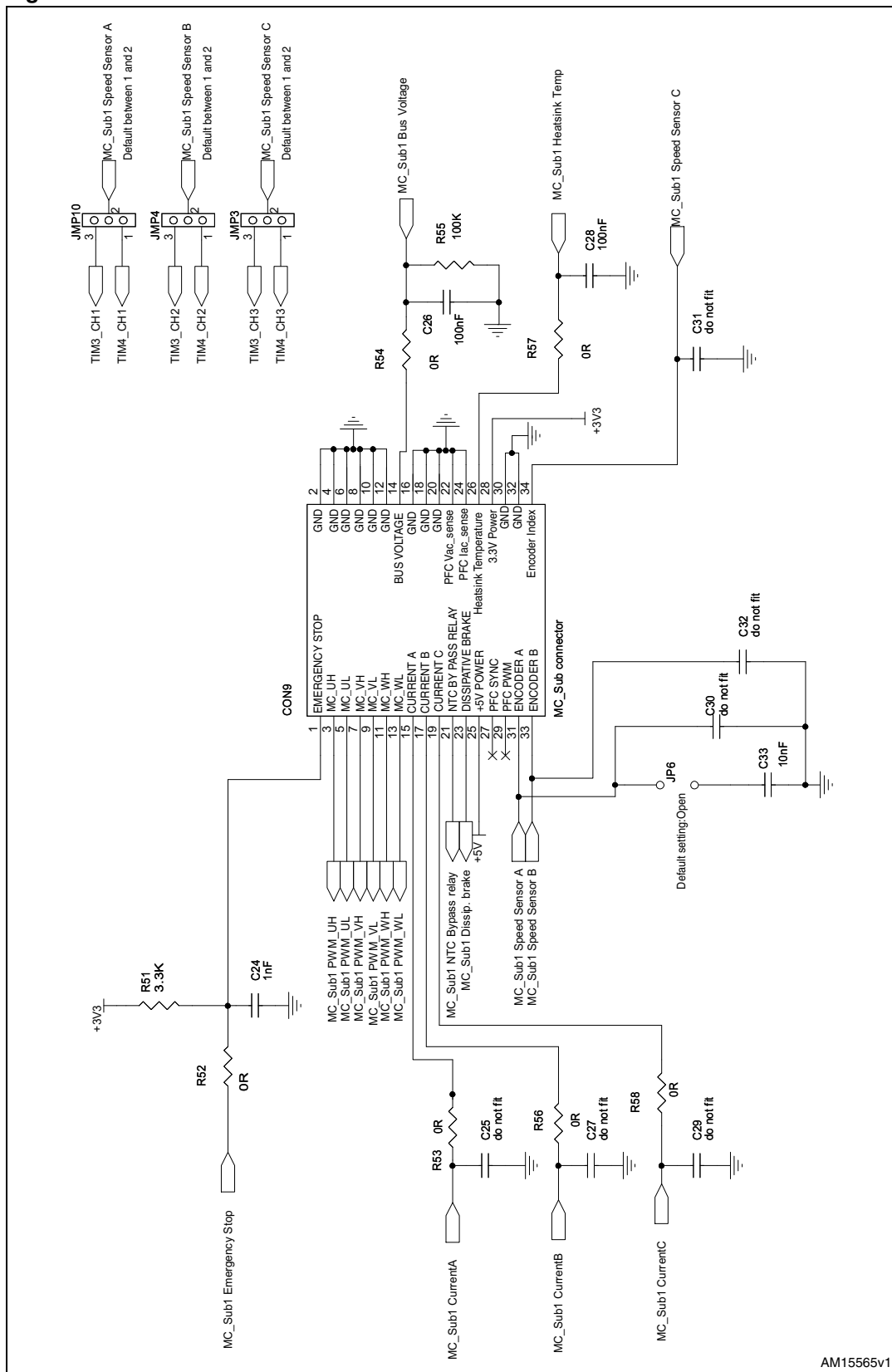


Figure 4. MC connector MAI



AM15564v1

Figure 5. MC connector SUB1



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Figure 6. Peripheral (1 of 2)

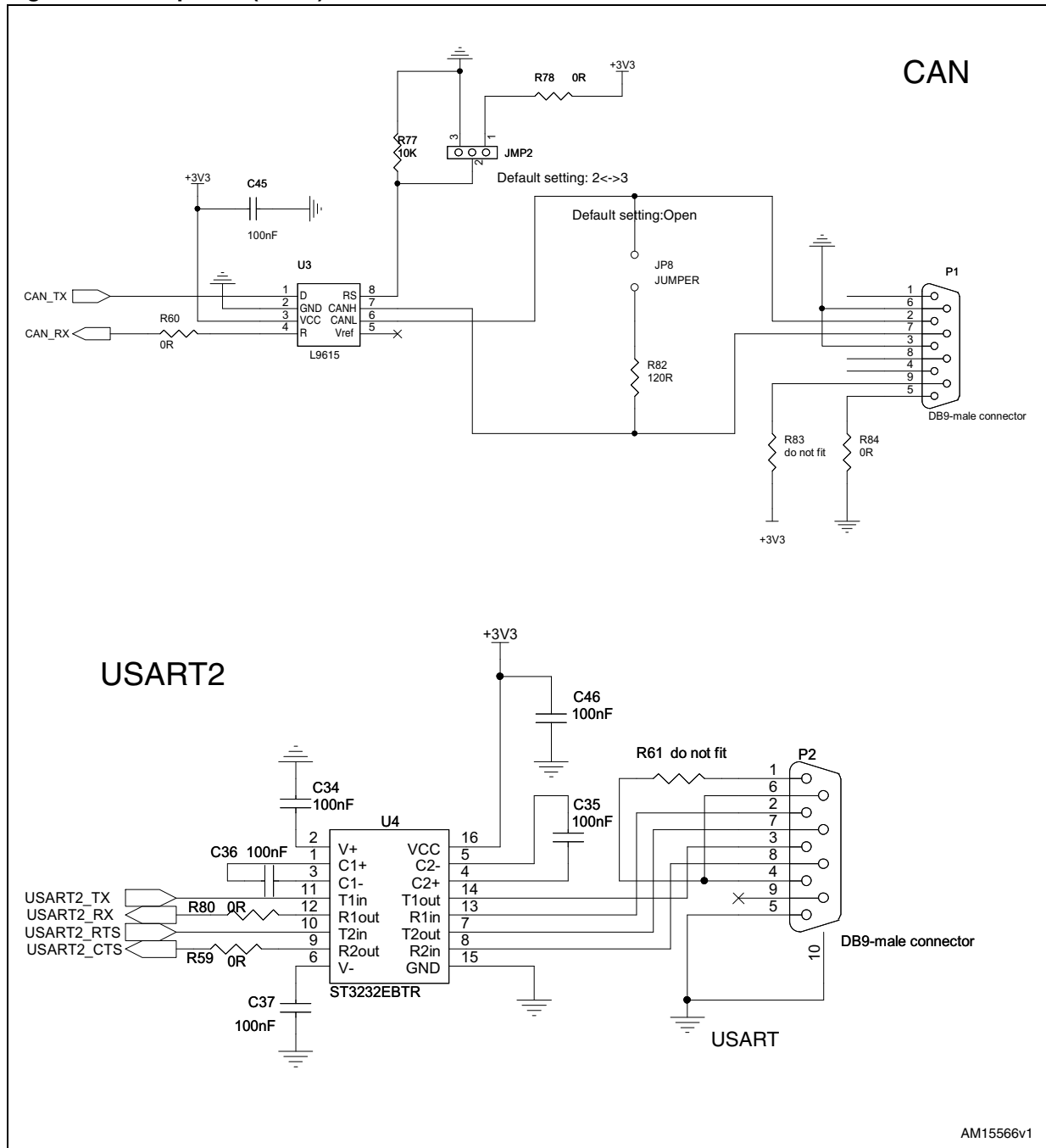
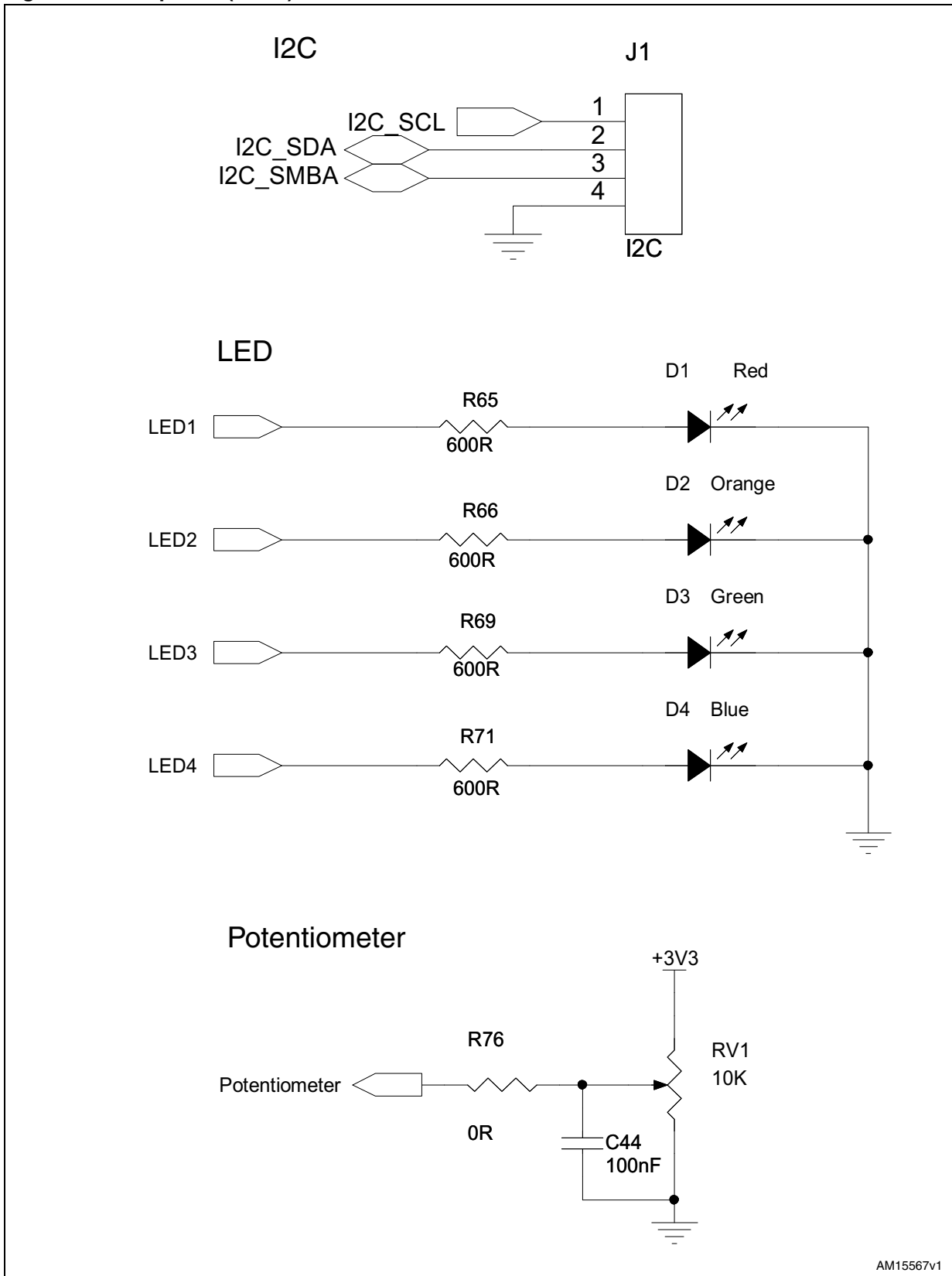


Figure 7. Peripheral (2 of 2)



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Figure 8. Power (1 of 2)

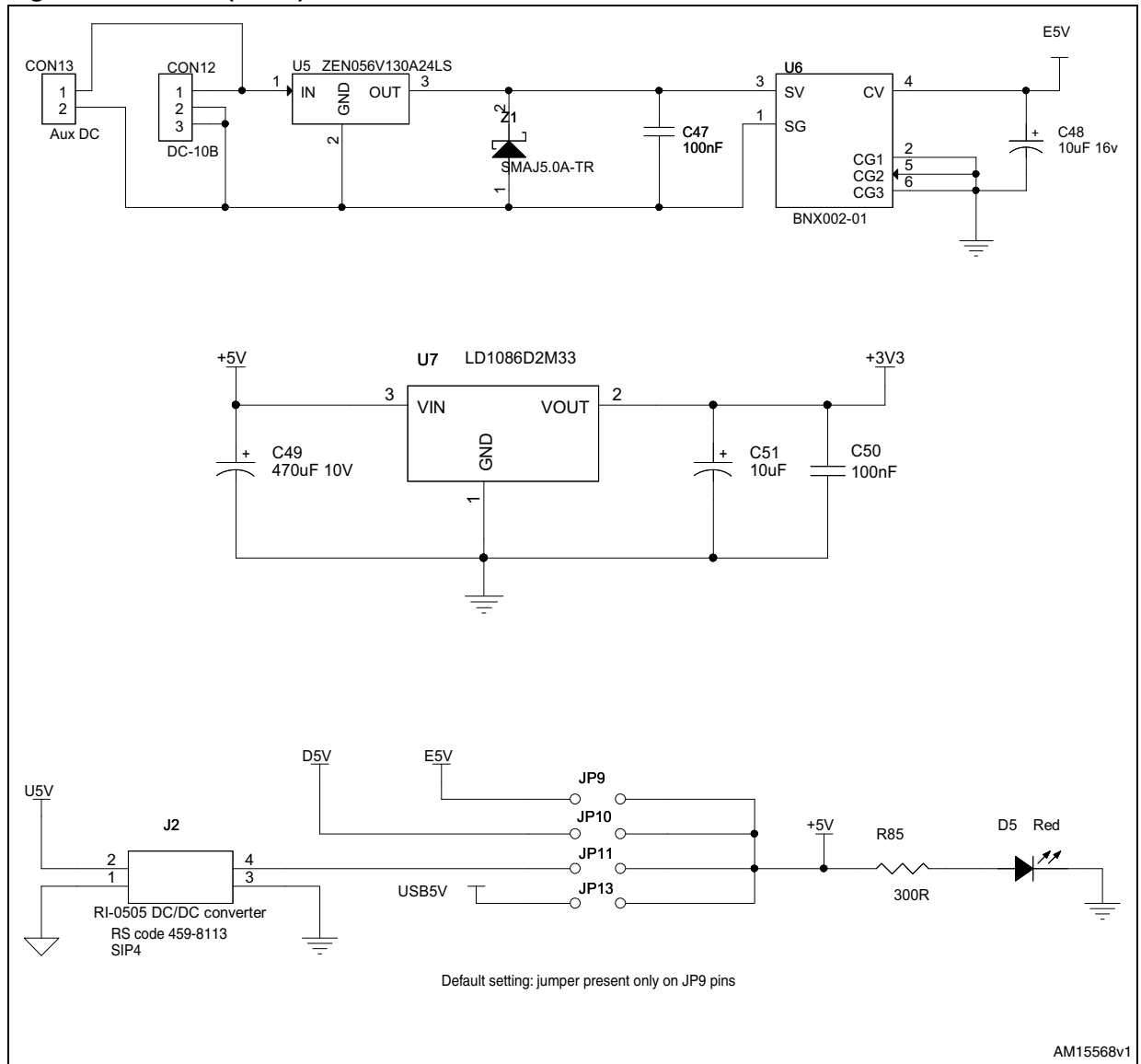
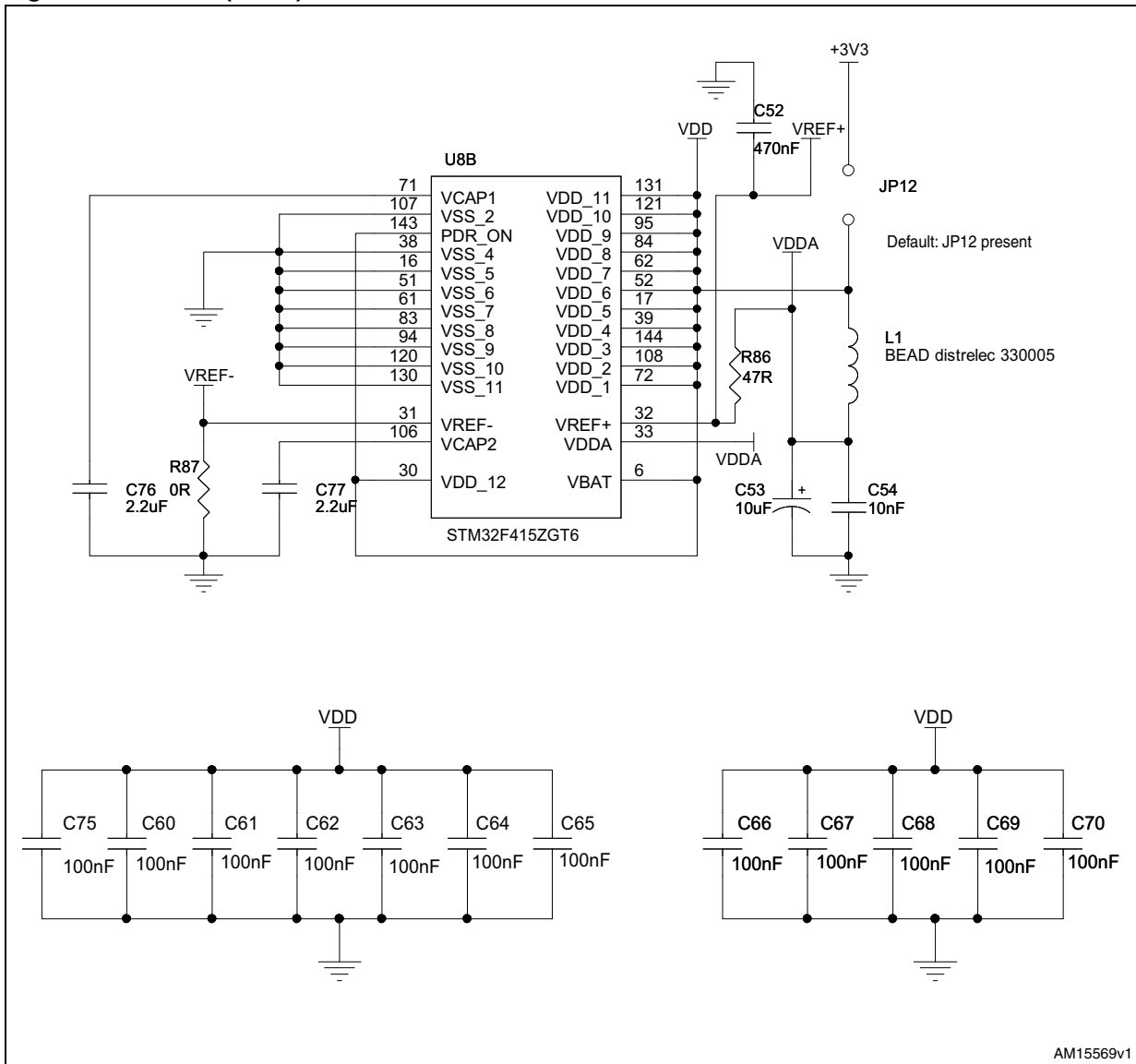
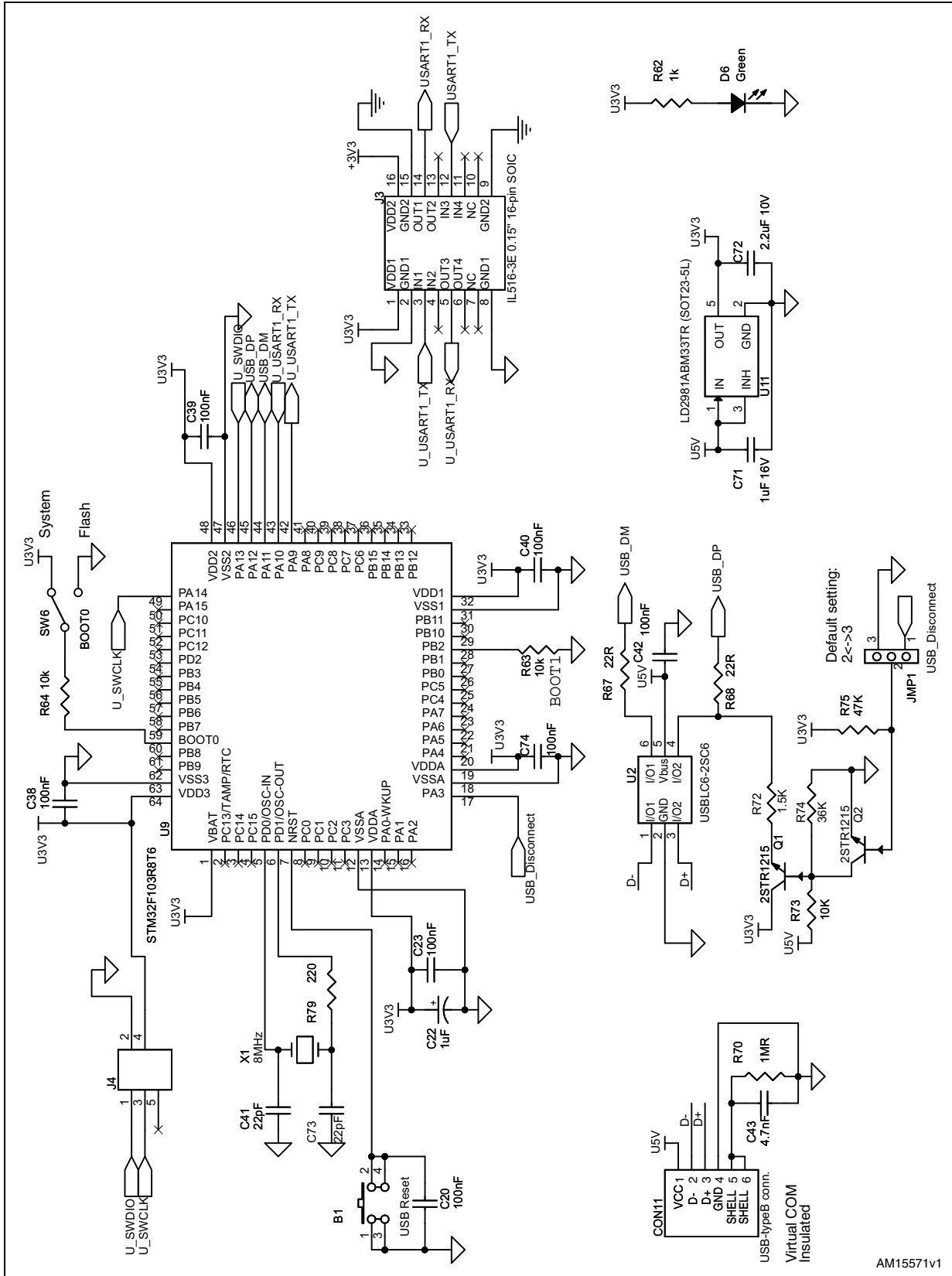


Figure 9. Power (2 of 2)



AM15569v1

Figure 11. Virtual COM



2 Revision history

Table 1. Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 16-Jan-2013 | 1 | Initial release. |

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