

USB Virtual COM Port

mit USB-to-UART Chip

This circuit diagram shows the connection of a USB-to-UART chip (U3: MCP2200-I/SS) to a USB connector (J1) and an SWD connector (J2). The chip is powered by a +5V supply through a 1uF capacitor (C20). The USB connector provides VBUS, D+, D-, and GND. The SWD connector provides SWD_TX, SWD_RX, and +3V3. The chip's pins are connected as follows: N_CTS (13) to SWD_RX, OSC1 (2) to +3V3, N_RST (4) to SWD_TX, RX (12) to SWD_TX, TX (11) to SWD_TX, GP0/SSPND (16) to LED11 (GREEN), GP1/USBCFG (15) to LED12 (RED), GP2 (9), GP3 (14), GP4 (8), GP5 (7), GP6/RXLED (6), and GP7/TXLED (5) are connected to the SWD_TX line. The VSS (20) pin is connected to GND. A crystal (C19) is connected to the OSC1 and OSC2 pins.

mit USB des STM

This circuit diagram shows the connection of the STM32 USB peripheral to a USB connector (J2). The USB connector provides VBUS, D+, D-, and GND. The STM32 USB peripheral is connected to the USB connector through a USB-to-UART chip (U4: TPD3E001DRLR). The chip's pins are connected as follows: IO3 (4) to VBUS, IO2 (2) to D+, IO1 (1) to D-, and GND (3) to GND. The VCC (5) pin is connected to +5V. The chip is powered by a +5V supply through a 100k resistor (R26). The USB connector also provides a SHIELD1*3 pin, which is connected to GND. The chip's pins are connected to the STM32 USB peripheral as follows: D- (D-) to D-, D+ (D+) to D+, ID (ID) to ID, and GND (GND) to GND. The chip's pins are connected to the STM32 USB peripheral as follows: D- (D-) to D-, D+ (D+) to D+, ID (ID) to ID, and GND (GND) to GND. The chip's pins are connected to the STM32 USB peripheral as follows: D- (D-) to D-, D+ (D+) to D+, ID (ID) to ID, and GND (GND) to GND.

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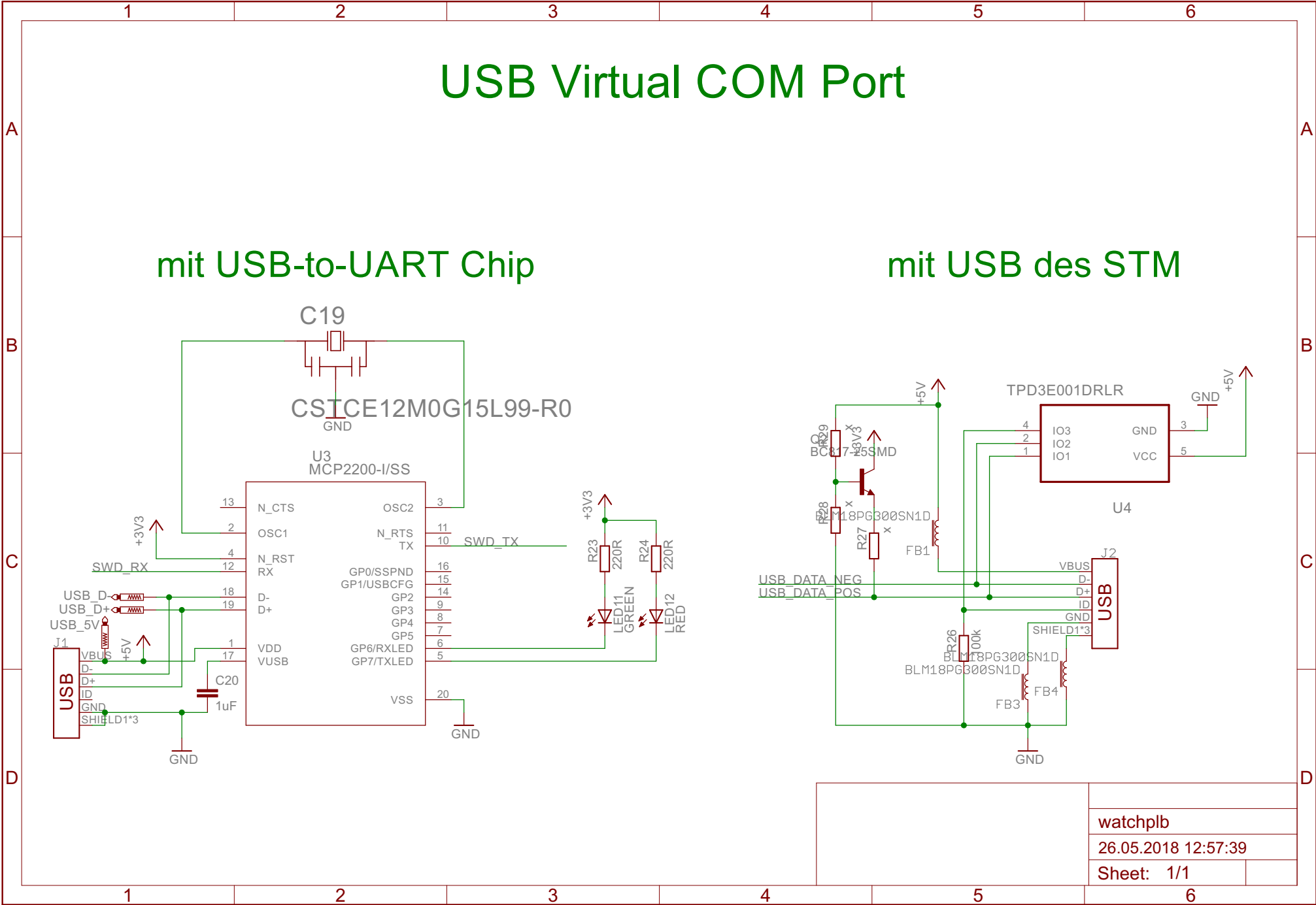
mit USB-to-UART Chip

This circuit diagram shows the connection of a USB-to-UART chip (U3: MCP2200-I/SS) to a USB port (J1) and a UART interface. The chip is powered by a +5V supply (VDD/VUSB) and ground (VSS). It has two status LEDs: a green LED (LED11) for TX and a red LED (LED12) for RX. The UART interface is connected to SWD_TX and SWD_RX pins. A USB connector (J1) provides VBUS (+5V), D+, D-, and GND. A USB-to-UART chip (U3: MCP2200-I/SS) is connected to the USB lines and the UART pins. The chip's VDD/VUSB pin is connected to the +5V supply, and its VSS pin is connected to ground. The chip's N_CTS, OSC1, N_RST, RX, D-, D+, GP0/SSPND, GP1/USBCFG, GP2, GP3, GP4, GP5, GP6/RXLED, and GP7/TXLED pins are connected to the appropriate signals. The TX and RX pins are connected to the SWD_TX and SWD_RX pins. The chip's N_CTS, OSC1, N_RST, RX, D-, D+, GP0/SSPND, GP1/USBCFG, GP2, GP3, GP4, GP5, GP6/RXLED, and GP7/TXLED pins are connected to the appropriate signals. The TX and RX pins are connected to the SWD_TX and SWD_RX pins. A USB connector (J1) provides VBUS (+5V), D+, D-, and GND. A USB-to-UART chip (U3: MCP2200-I/SS) is connected to the USB lines and the UART pins. The chip's VDD/VUSB pin is connected to the +5V supply, and its VSS pin is connected to ground. The chip's N_CTS, OSC1, N_RST, RX, D-, D+, GP0/SSPND, GP1/USBCFG, GP2, GP3, GP4, GP5, GP6/RXLED, and GP7/TXLED pins are connected to the appropriate signals. The TX and RX pins are connected to the SWD_TX and SWD_RX pins.

mit USB des STM

This circuit diagram shows the connection of the STM32's built-in USB to a USB port (J2). The STM32 is powered by a +5V supply (VDD/VUSB) and ground (VSS). It has two status LEDs: a green LED (LED11) for TX and a red LED (LED12) for RX. The USB interface is connected to USB_DATA_NEG and USB_DATA_POS pins. A USB connector (J2) provides VBUS (+5V), D+, D-, and GND. A USB-to-UART chip (U4: TPD3E001DRLR) is connected to the USB lines and the UART pins. The chip's VDD/VUSB pin is connected to the +5V supply, and its VSS pin is connected to ground. The chip's N_CTS, OSC1, N_RST, RX, D-, D+, GP0/SSPND, GP1/USBCFG, GP2, GP3, GP4, GP5, GP6/RXLED, and GP7/TXLED pins are connected to the appropriate signals. The TX and RX pins are connected to the SWD_TX and SWD_RX pins. A USB connector (J2) provides VBUS (+5V), D+, D-, and GND. A USB-to-UART chip (U4: TPD3E001DRLR) is connected to the USB lines and the UART pins. The chip's VDD/VUSB pin is connected to the +5V supply, and its VSS pin is connected to ground. The chip's N_CTS, OSC1, N_RST, RX, D-, D+, GP0/SSPND, GP1/USBCFG, GP2, GP3, GP4, GP5, GP6/RXLED, and GP7/TXLED pins are connected to the appropriate signals. The TX and RX pins are connected to the SWD_TX and SWD_RX pins.

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mit USB-to-UART Chip

This circuit diagram shows the connection of a USB-to-UART chip (U3: MCP2200-I/SS) to a USB connector (J1) and an SWD connector (J2). The chip is powered by +3V3 and +5V. It has two status LEDs: a green LED (LED11) and a red LED (LED12). The SWD interface is connected to the chip's TX and RX pins.

Components:

- U3: MCP2200-I/SS
- J1: USB connector
- J2: SWD connector
- C19: 10kΩ pull-up resistor
- C20: 1μF capacitor
- R23, R24: 220Ω resistors for LEDs

Connections:

- USB D- to J1 pin 1, USB D+ to J1 pin 2, USB 5V to J1 pin 3, GND to J1 pin 4.
- USB D- to U3 pin 18, USB D+ to U3 pin 19, USB 5V to U3 pin 17, GND to U3 pin 20.
- +3V3 to U3 pin 13, +5V to U3 pin 17.
- OSC1 to U3 pin 2, OSC2 to U3 pin 3.
- N_RTS to U3 pin 11, N_CT to U3 pin 13.
- N_RST to U3 pin 12, RX to U3 pin 16.
- GP0/SSPND to U3 pin 15, GP1/USBCFG to U3 pin 14.
- GP2 to U3 pin 9, GP3 to U3 pin 8, GP4 to U3 pin 7, GP5 to U3 pin 6.
- GP6/RXLED to U3 pin 5, GP7/TXLED to U3 pin 4.
- VSS to U3 pin 20, GND to U3 pin 20.
- LED11 (GREEN) to U3 pin 11, LED12 (RED) to U3 pin 12.
- SWD_TX to U3 pin 10, SWD_RX to U3 pin 12.

mit USB des STM

This circuit diagram shows the connection of the STM32 USB peripheral to a USB connector (J2). The peripheral is powered by +5V and has two status LEDs: a green LED (LED11) and a red LED (LED12). The USB interface is connected to the peripheral's D- and D+ pins.

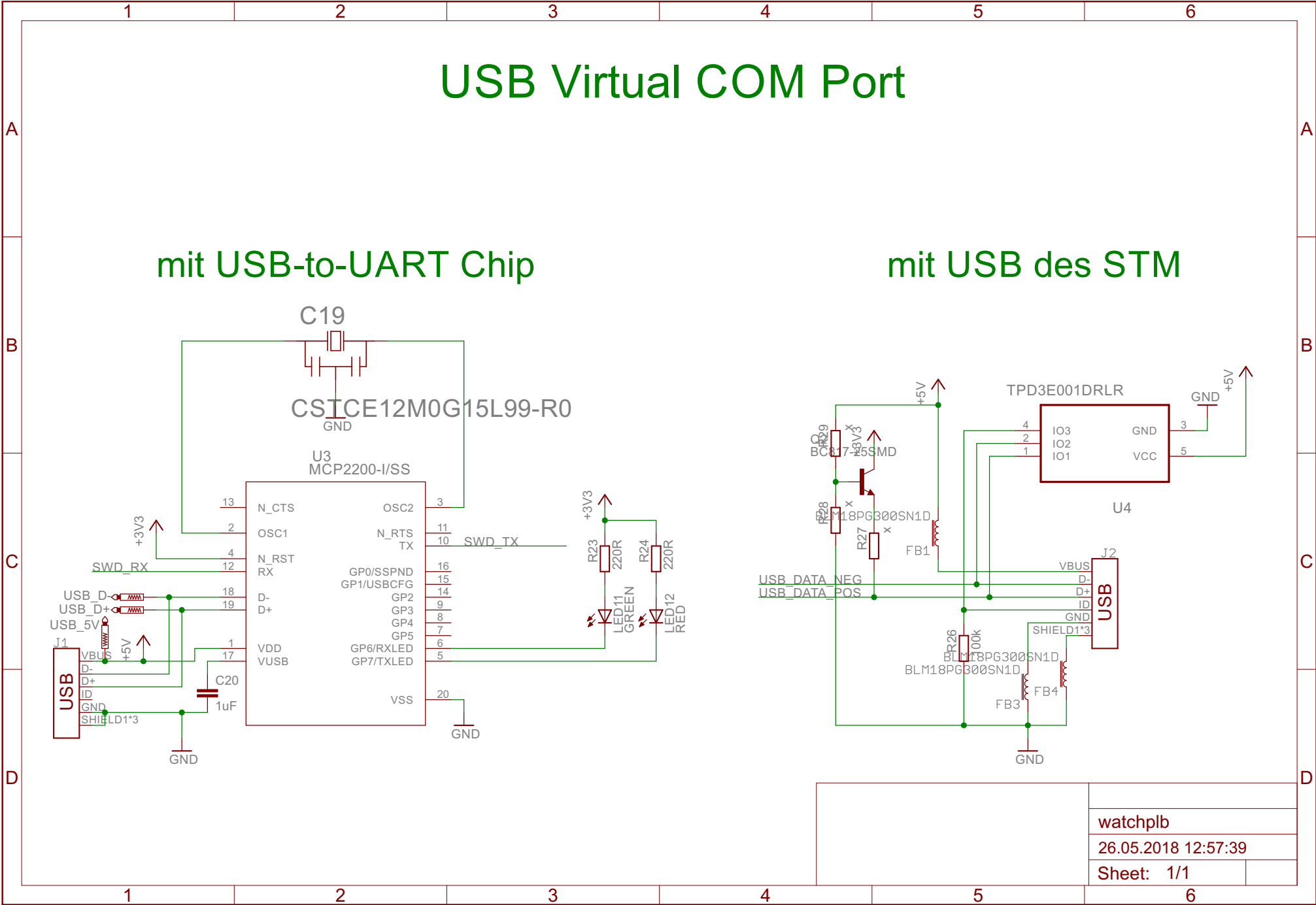
Components:

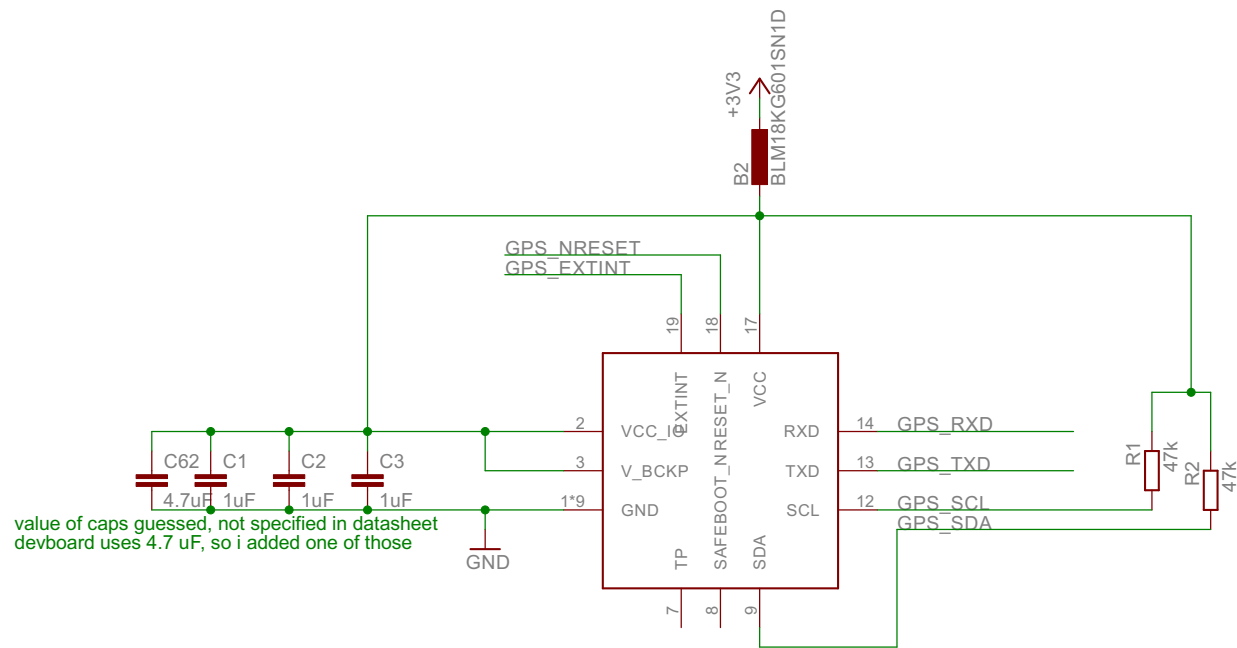
- U4: TPD3E001DRLR
- J2: USB connector
- R26: 100kΩ resistor
- R27, R28: 220Ω resistors for LEDs
- FB1, FB3, FB4: 100nF capacitors

Connections:

- USB D- to J2 pin 1, USB D+ to J2 pin 2, USB 5V to J2 pin 3, GND to J2 pin 4.
- USB D- to U4 pin 1, USB D+ to U4 pin 2, USB 5V to U4 pin 3, GND to U4 pin 4.
- +5V to U4 pin 1, +5V to U4 pin 2.
- OSC1 to U4 pin 1, OSC2 to U4 pin 2.
- N_RTS to U4 pin 11, N_CT to U4 pin 13.
- N_RST to U4 pin 12, RX to U4 pin 16.
- GP0/SSPND to U4 pin 15, GP1/USBCFG to U4 pin 14.
- GP2 to U4 pin 9, GP3 to U4 pin 8, GP4 to U4 pin 7, GP5 to U4 pin 6.
- GP6/RXLED to U4 pin 5, GP7/TXLED to U4 pin 4.
- VSS to U4 pin 20, GND to U4 pin 20.
- LED11 (GREEN) to U4 pin 11, LED12 (RED) to U4 pin 12.
- SWD_TX to U4 pin 10, SWD_RX to U4 pin 12.

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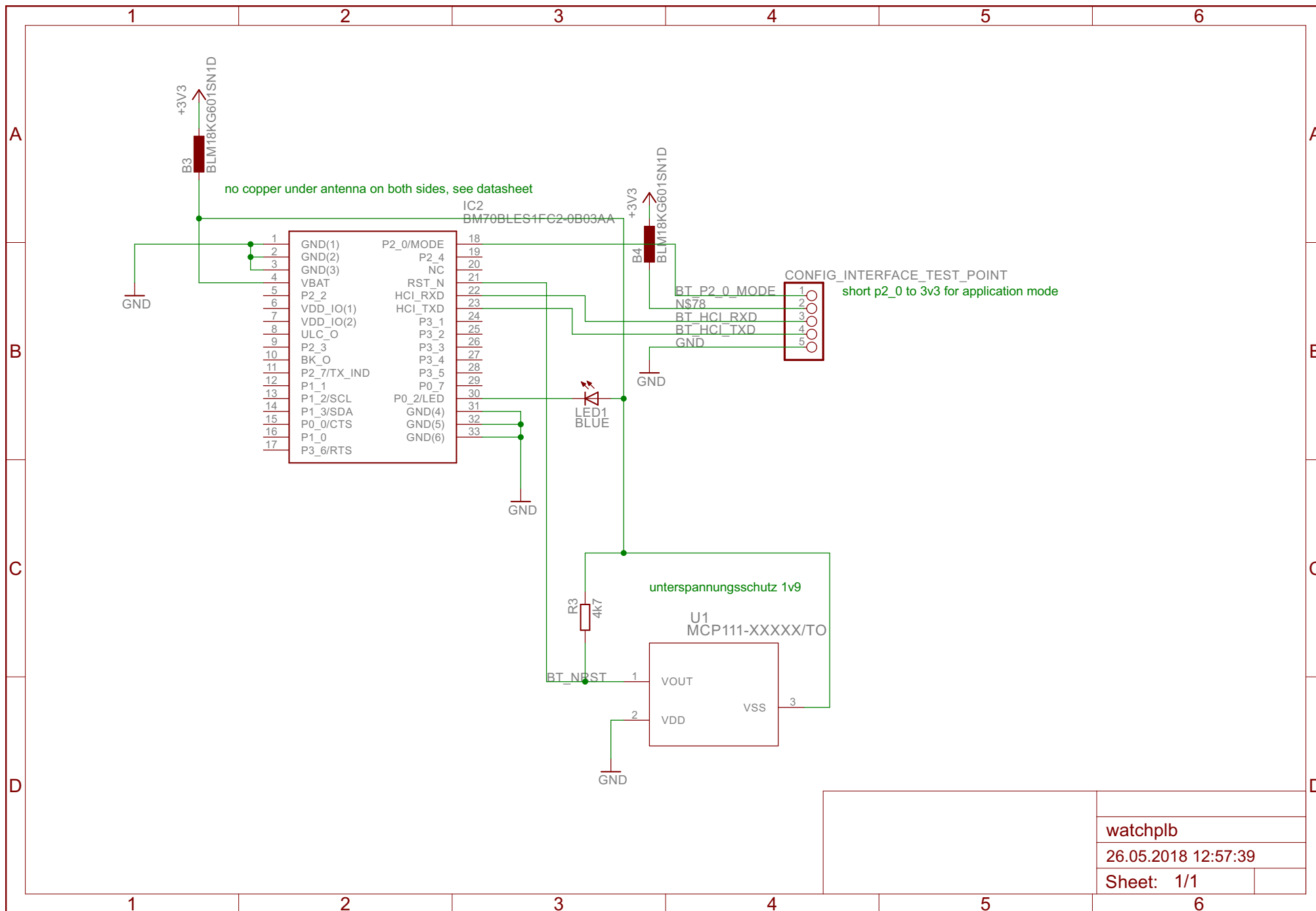


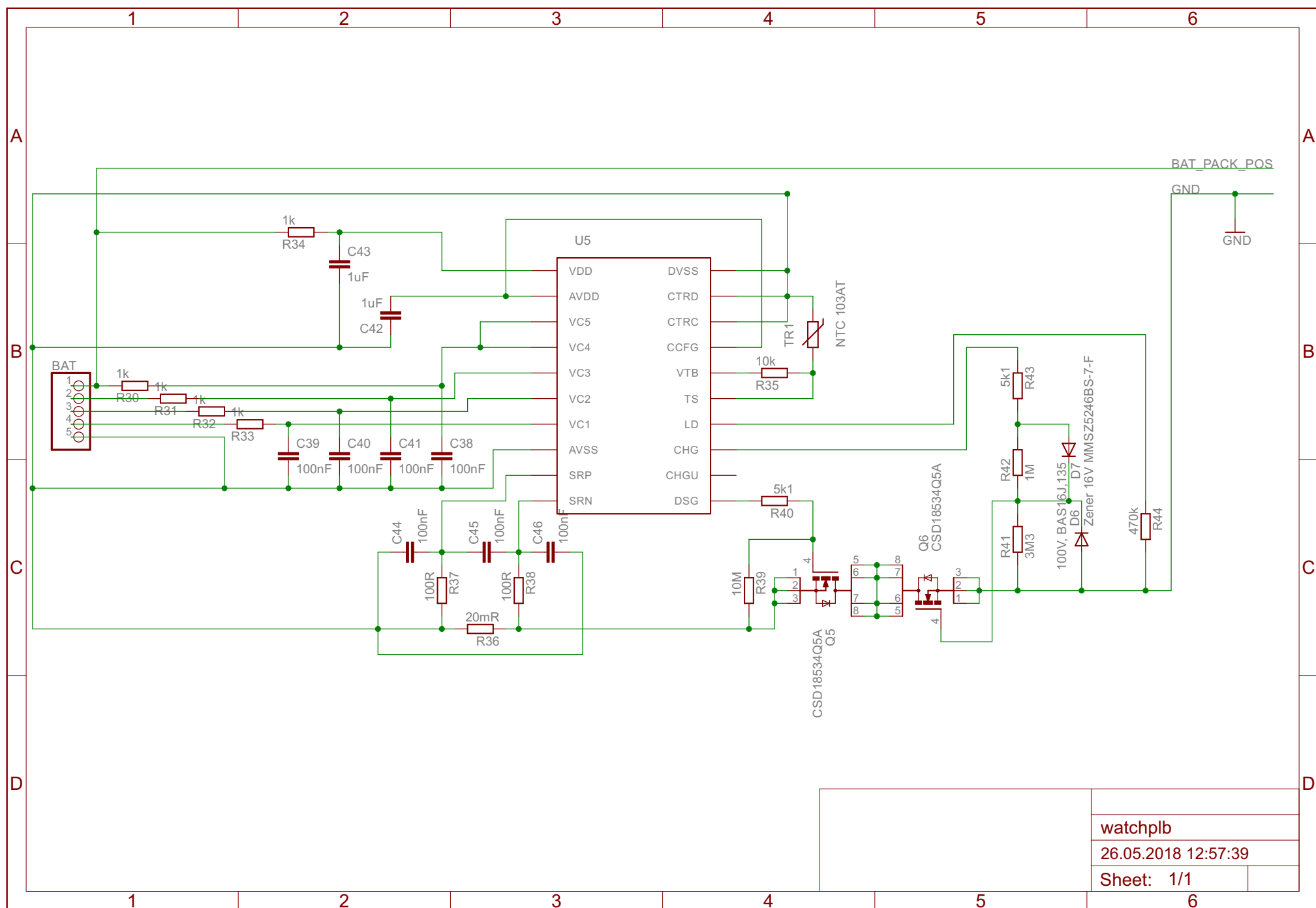
Module alone on this side, check Hardware Integration manual for Layout Suggestions

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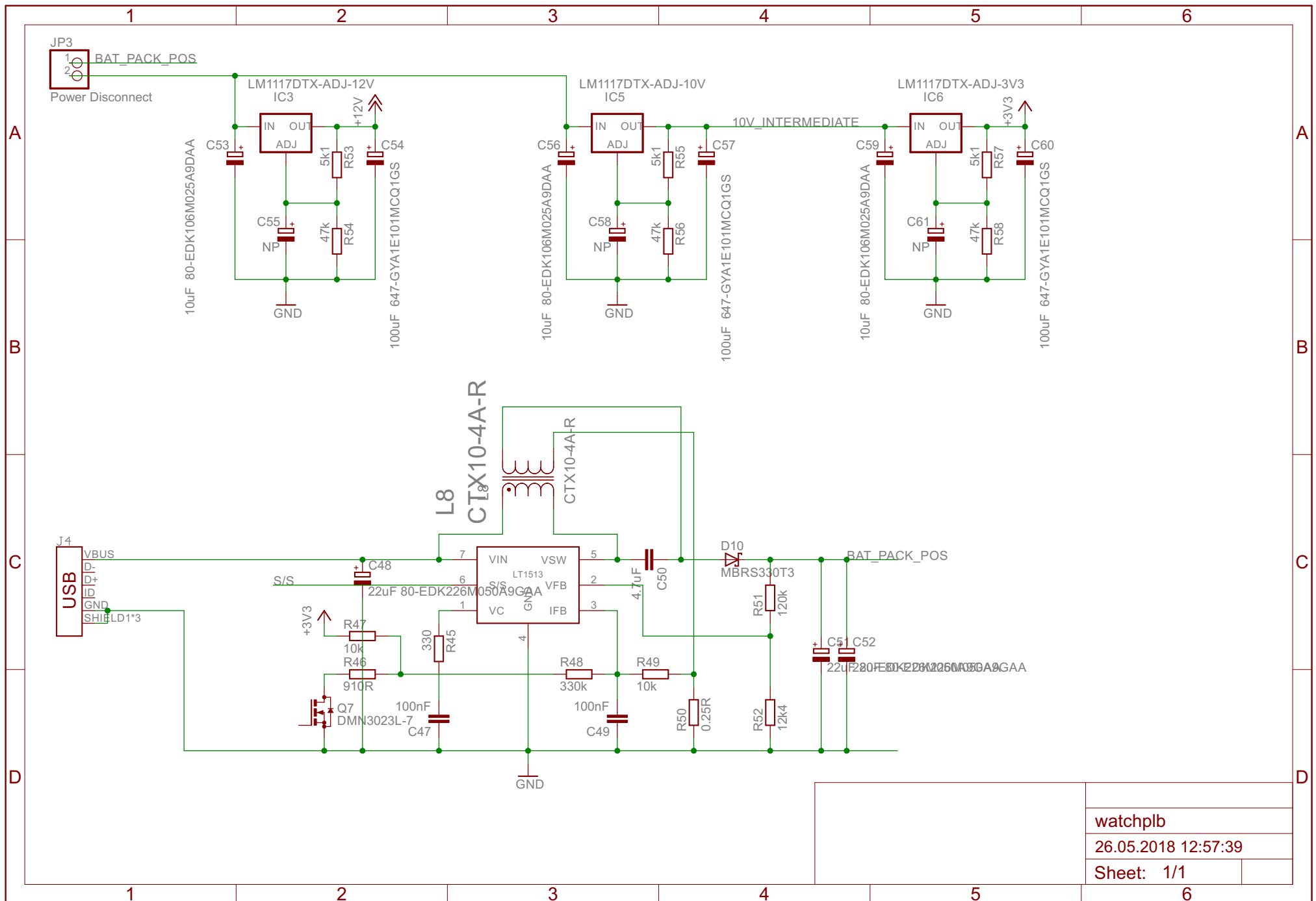


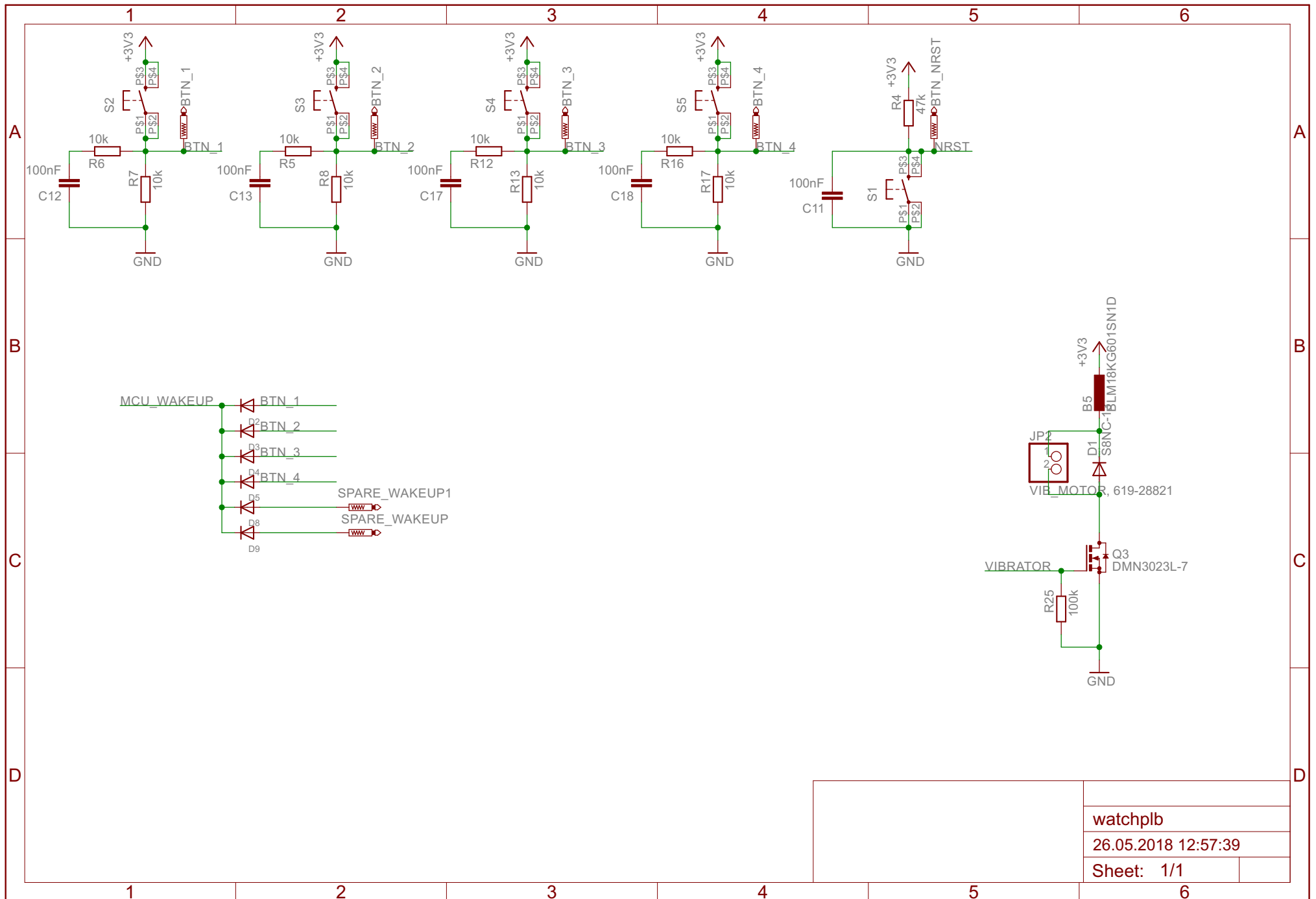


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