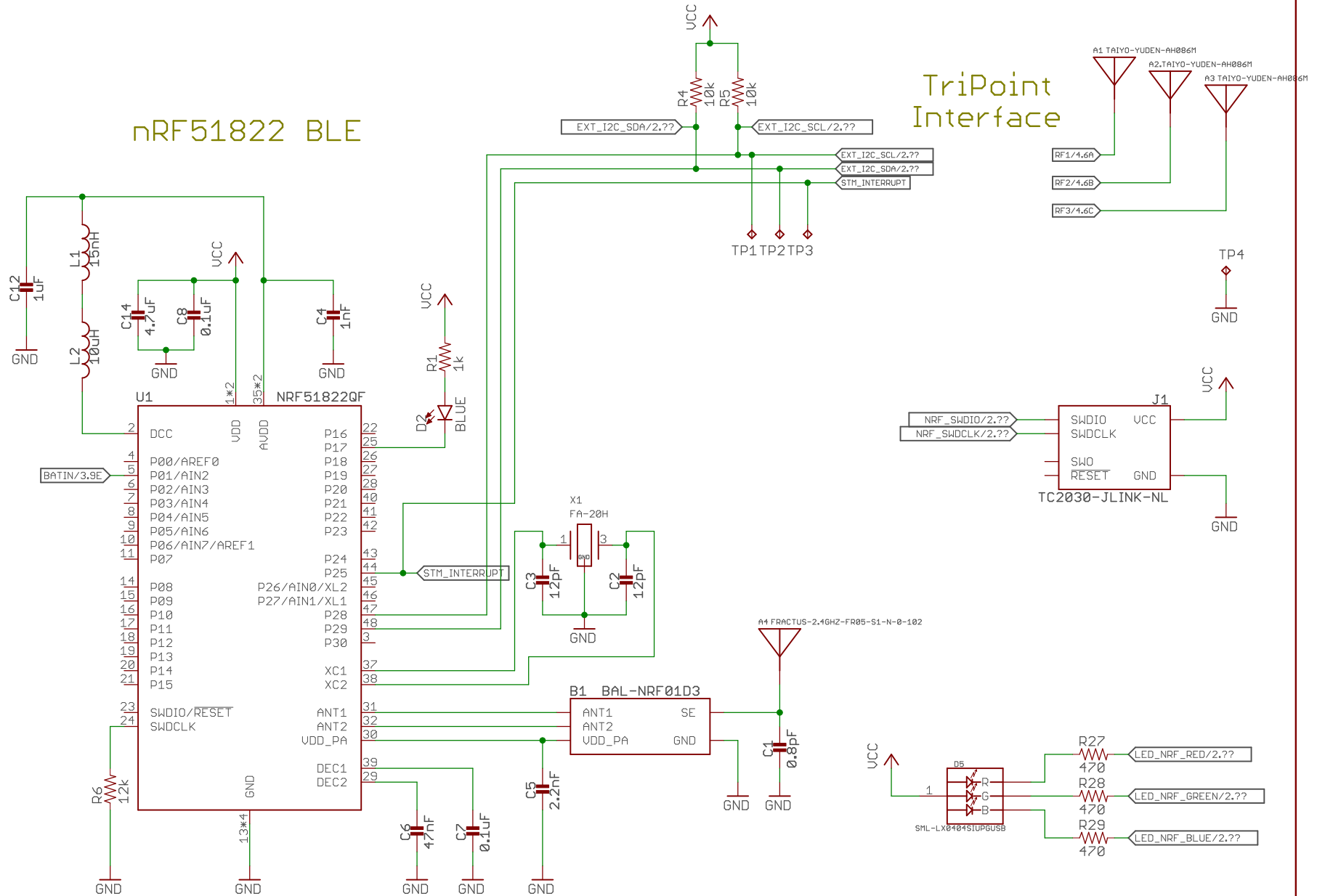


# nRF51822 BLE



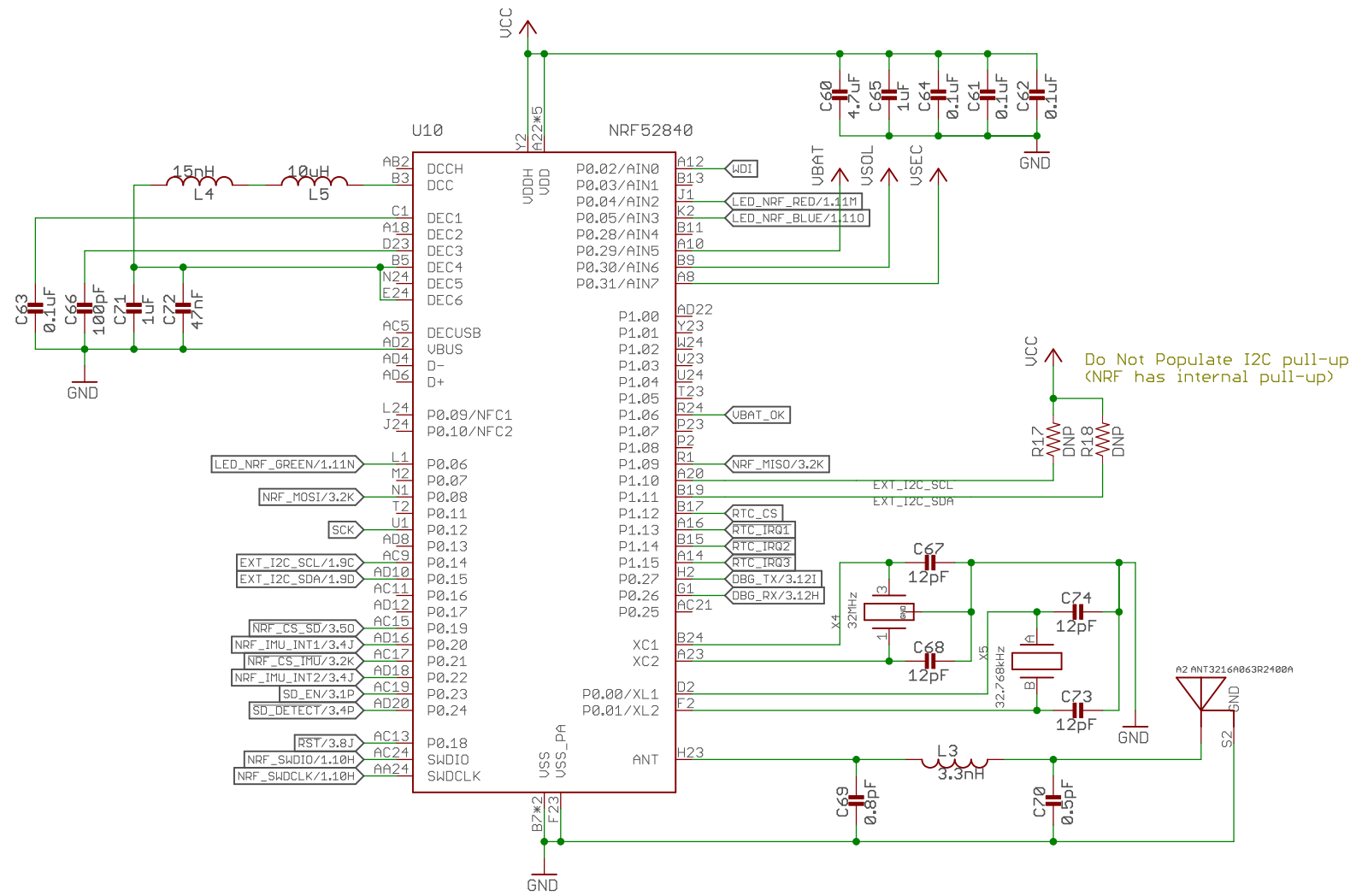
TriTag

Author: Andreas Biri

Date: 14.07.18 16:39

REV:  
C

Sheet: 1/5



## Power Supply and Charging

The schematic diagram illustrates the power supply and charging circuit for the DW1000 module. It features the following components and connections:

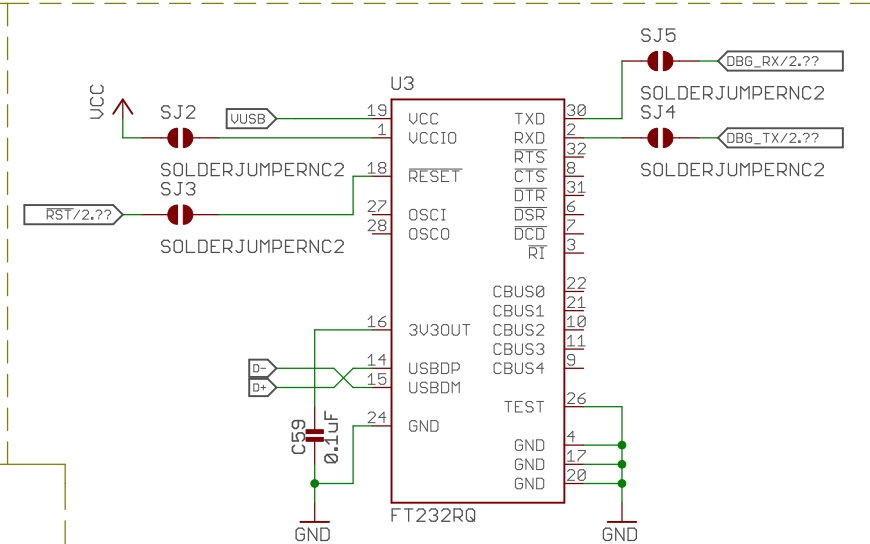
- Micro-USB Connector (J3):** Labeled MICRO\_USB\_B\_HIROSE\_ZX62-B-5PA(11), it provides +5V, D-, D+, ID, and GND pins.
- Capacitor C13:** A 1µF capacitor connected between the +5V pin of J3 and GND.
- Charging Indicator:** A green LED (D1) in series with a 1kΩ resistor (R2) is connected between the +5V line and the UDD/1 pin of the MCP73831.
- MCP73831 (U2):** A charging controller IC with pins for UDD/1, UDD/2, UBAT/3, UBAT/4, NC, PROG, STAT, and VSS/GND.
- Battery Connections:** The UBAT/3 and UBAT/4 pins are connected to the positive and negative terminals of the battery, respectively. The PROG pin is connected to GND through a 2kΩ 1% resistor (R3).
- Battery Protection:** A 10MΩ resistor (R8) and a 2.2MΩ resistor (R7) are connected between the battery positive terminal and the BATTIN/1,2I pin. A 0.1µF capacitor (C9) is connected between this pin and GND.
- MAX8887EZK33+T (U4):** A precision centration and monitoring IC with IN, OUT, SHDN, BP, and GND pins.
- Capacitors:** A 4.7µF capacitor (C10) is connected between the IN pin and GND. A 10nF capacitor (C15) is connected between the BP pin and GND. A 4.7µF capacitor (C11) is connected between the OUT pin and GND.
- Power Output:** The OUT pin of U4 provides the VCC supply to the DW1000 module.
- Notes:**
  - A note indicates that the battery must be a stable LiD battery for the DW1000.
  - Another note specifies that U4 must be a stable LD0 for the DW1000.

## Accelerometer

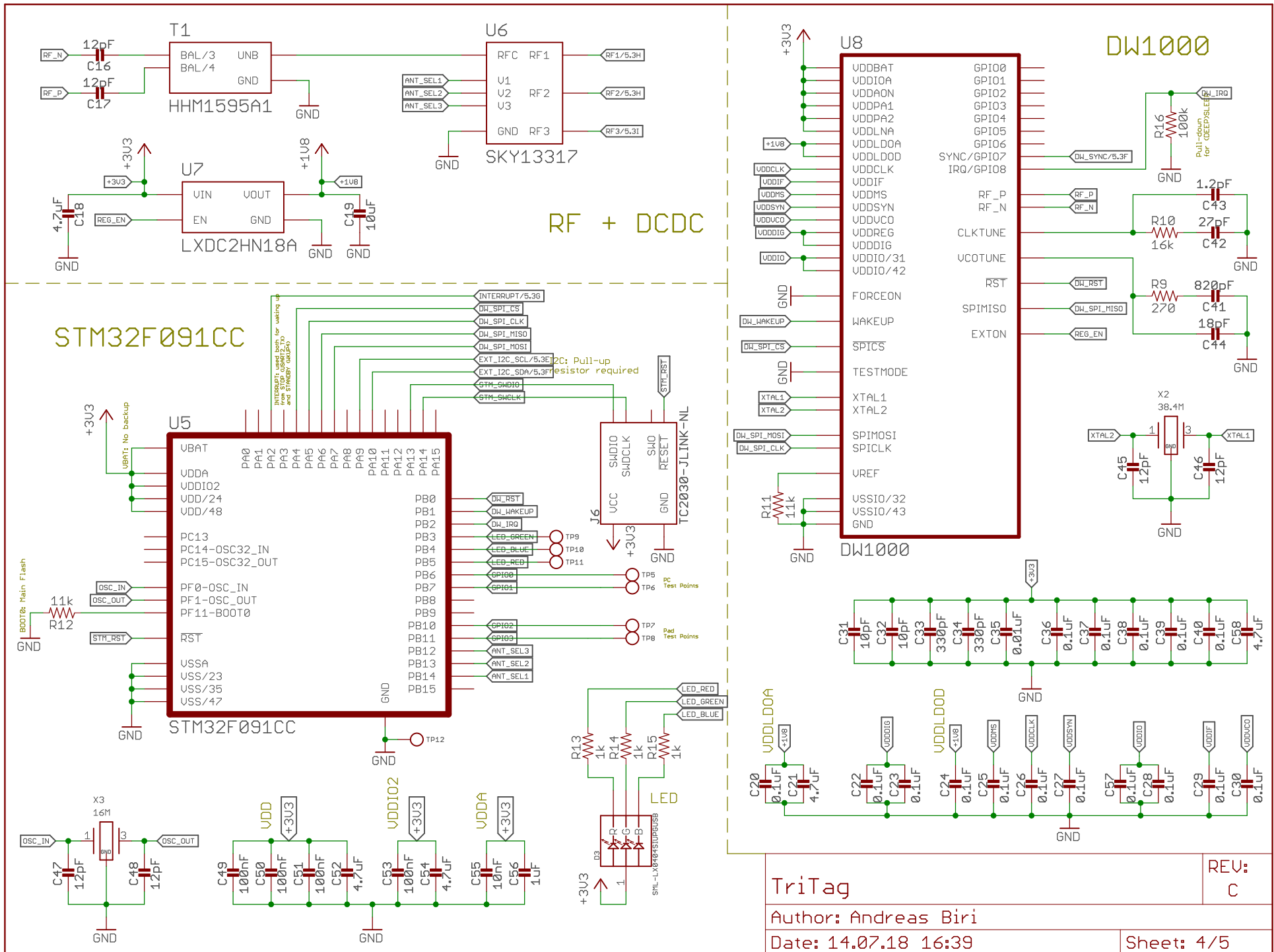
# SD Card Adapter

The schematic diagram illustrates the internal circuitry of an SD Card Adapter. Key components include:

- U12 (SIP32510):** A voltage regulator with pins VLOAD, USUPP, EN, and GND. It is connected to a 4.7uF capacitor (C7) and a 100k resistor (R19).
- Resistors:** R19 (100k), R20 (100k), R21 (10k), R22 (10k), and R23 (10k).
- Capacitor:** C7 (4.7uF).
- Connectors:** J7 (SD Card Connector) with pins 4 (VCC), 7 (DATA0/MISO), 8 (DATA1/RSU), 1 (DATA2/NC), 2 (DATA3-CD/CS\_N), 3 (CMD/MOSI), 5 (CLK), 6\*5 (GND), and a CARD\_INSERTED signal.
- Labels:** UCC, GND, SD\_EN/2.??, NRF\_MISO/2.??, NRF\_CS\_SD/2.??, NRF\_MOSI/2.??, NRF\_SCK, and CON\_MICRO\_SDDM3AT-SF-PEJM5.



TriTag	REV: C
Author: Andreas Biri	
Date: 14.07.18 16:39	Sheet: 3/5



# EXTERNAL SIGNALS

The following signals must be integrated into all designs using the design block:

— EXT\_I2C\_SCL/4.5G  
— EXT\_I2C\_SDA/4.5G

Note: Additional I2C pull-up resistors required

— DW\_SYNC/4.11C  
— INTERRUPT/4.5F

— RF1/4.6A  
— RF2/4.6B  
— RF3/4.6C

TriTag		REV: C
Author: Andreas Biri		
Date: 14.07.18 16:39		Sheet: 5/5