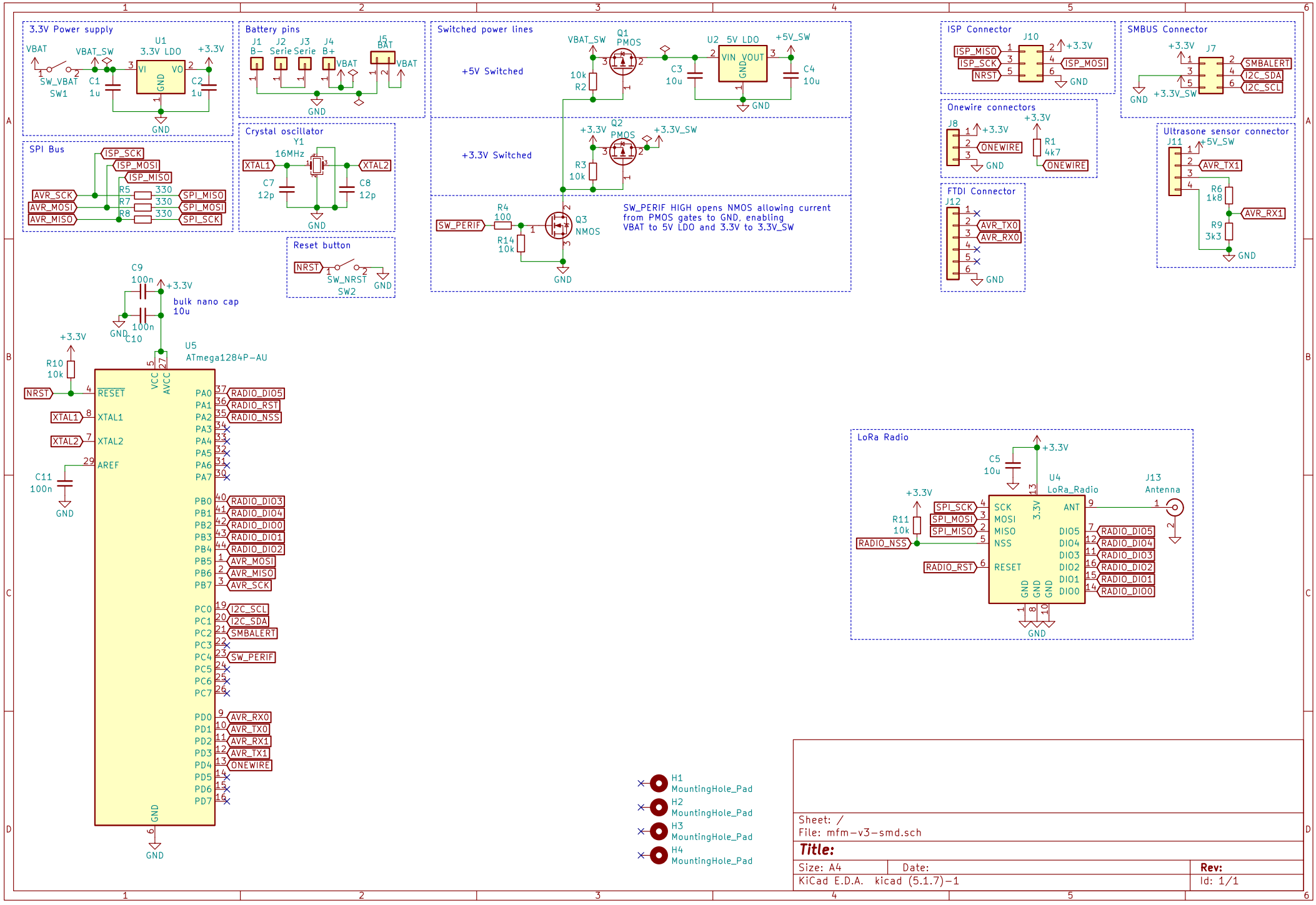
3.3V Power supply
VBAT
VBAT_SW
SW_VBAT
SW1
U1
3.3V LDO
VI
VO
GND
+3.3V
C1
1u
C2
1u
Battery pins
J1
B−
J2
Serie
J3
Serie
J4
B+
J5
BAT
VBAT
Switched power lines
+5V Switched
VBAT_SW
Q1
PMOS
10k
R2
C3
10u
U2
5V LDO
VIN
VOUT
+5V_SW
C4
10u
+3.3V Switched
+3.3V
Q2
PMOS
+3.3V_SW
R3
10k
SW_PERIF HIGH opens NMOS allowing current
from PMOS gates to GND, enabling
VBAT to 5V LDO and 3.3V to 3.3V_SW
SW_PERIF
R4
100
R14
10k
Q3
NMOS
ISP Connector
J10
ISP_MISO
ISP_SCK
NRST
ISP_MOSI
SMBUS Connector
J7
SMBALERT
I2C_SDA
I2C_SCL
+3.3V_SW
Onewire connectors
J8
ONEWIRE
R1
4k7
FTDI Connector
J12
AVR_TX0
AVR_RX0
Ultrasone sensor connector
J11
+5V_SW
AVR_TX1
R6
1k8
AVR_RX1
R9
3k3
Crystal oscillator
Y1
16MHz
XTAL1
XTAL2
C7
12p
C8
12p
SPI Bus
ISP_SCK
ISP_MOSI
ISP_MISO
AVR_SCK
AVR_MOSI
AVR_MISO
R5
330
R7
330
R8
330
SPI_MISO
SPI_MOSI
SPI_SCK
Reset button
NRST
SW_NRST
SW2
C9
100n
bulk nano cap
10u
C10
100n
R10
10k
U5
ATmega1284P−AU
RESET
XTAL1
XTAL2
AREF
VCC
AVCC
C11
100n
PA0 RADIO_DIO5
PA1 RADIO_RST
PA2 RADIO_NSS
PB0 RADIO_DIO3
PB1 RADIO_DIO4
PB2 RADIO_DIO0
PB3 RADIO_DIO1
PB4 RADIO_DIO2
PB5 AVR_MOSI
PB6 AVR_MISO
PB7 AVR_SCK
PC0 I2C_SCL
PC1 I2C_SDA
PC2 SMBALERT
PC4 SW_PERIF
PD0 AVR_RX0
PD1 AVR_TX0
PD2 AVR_RX1
PD3 AVR_TX1
PD4 ONEWIRE
LoRa Radio
C5
10u
U4
LoRa_Radio
J13
Antenna
R11
10k
SCK
MOSI
MISO
NSS
RESET
3.3V
ANT
DIO5
DIO4
DIO3
DIO2
DIO1
DIO0
SPI_SCK
SPI_MOSI
SPI_MISO
RADIO_NSS
RADIO_RST
H1
MountingHole_Pad
H2
MountingHole_Pad
H3
MountingHole_Pad
H4
MountingHole_Pad
Sheet: /
File: mfm−v3−smd.sch
Title:
Size: A4
Date:
Rev:
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