VCC

VCC

+3V3   +3V3

MainPowerSupply

VCC_OUT

main_power_supply.sch

MCU

V_MCU_IN   3V3_MCU_OUT   3V3

SW_1   GPIO0   GPIO7   SW_3
GPIO1   GPIO1   GPIO8   GPIO8
GPIO2   GPIO2   GPIO9   LED_R
GPIO3   GPIO3   GPIO10   LED_G
SCL   GPIO4   GPIO11   LED_B
SDA   GPIO5   GPIO12   SW_4
SW_2   GPIO6   GPIO13   GPIO13
                                           GPIO14   GPIO14
RX   RX   GPIO15   GPIO15
TX   TX   GPIO16   GPIO16
                                           GPIO17   BUZ
GPIO18 GPIO18

mcu.sch

Periphery

SW_1   SW_1   LED_R   LED_R
SW_2   SW_2   LED_G   LED_G
SW_3   SW_3   LED_B   LED_B
SW_4   SW_4
                                           BUZ   BUZ
SCL   SCL   RX   RX
SDA   SDA   TX   TX

periph.sch

	P1	
GPIO1	1	
GPIO2	2	
GPIO3	3	
GPIO8	4	
GPIO13	5	
GPIO14	6	
GPIO15	7	
GPIO16	8	
GND	9	
3V3	10	
SW_1	11	
SW_2	12	
SW_3	13	
SW_4	14	
LED_R	15	
LED_G	16	
LED_B	17	
SCL	18	
SDA	19	
BUZ	20	
3V3	21	
GND	22	

CPU_TO_PERIPH

	P2	
GND	1	
3V3	2	
SW_1	3	
SW_2	4	
SW_3	5	
SW_4	6	
LED_R	7	
LED_G	8	
LED_B	9	
SCL	10	
SDA	11	
BUZ	12	
3V3	13	
GND	14	

PERIPH_TO_MCU

GPIO18   1   GPIO18

CONN_01X01

Title: cowbus protoboard

Sheet: /MCU/
File: mcu.sch

Size: A4 — Date: 2015-07-15 — Rev: 1
KiCad E.D.A. kicad 0.201508090901+607428ubuntu14.04.1-product — Id: 2/6

U1 — STM32F030C8T6

Key nets and labels visible:
- V_MCU_IN, 3V3_MCU_OUT, VCC, +3V3, GND
- P3 / SWD connector: SWDIO, SWCLK, NRST
- C5 100n
- R1 4k7, R2 4k7, SDA, SCL, GPIO5, GPIO4
- Y1 8MHz, C1 20p, C2 20p, OSC_IN, OSC_OUT
- Y2 32,768kHz, C3 10p, C4 10p, OSC32_IN, OSC32_OUT
- radio+eeprom (radio.sch): SCK, MOSI, MISO, SCL, CSN, IRQ, CE, SDA
- PowerSupply (power_supply.sch)
- NRST, BOOT0, VBAT
- GPIO0–GPIO18, SCK, MISO, MOSI, TX, RX, SWDIO, SWCLK, IRQ, CSN, CE

VCC

VCC

VCC

+3V3

+3V3

+3V3

+3V3

+3V3

P6
CONN_01X02
1
2

C6
1u

U2
TS5204
2 VIN   VOUT 1
GND
3

C7
2u2

C8
100n

C12
100n

C13
100n

GND

GND

GND

GND

GND

GND

GND

+3V3 +3V3

C9
100n

+ C10
10u

GND GND

U3

	nRF24L01+−Module	
CE — 3 CE	VCC 2	SCK 5 — SCK
CSN — 4 CSN		MOSI 6 — MOSI
IRQ — 8 IRQ	GND 1	MISO 7 — MISO

+3V3

GND

+3V3 +3V3

C14
100n

GND GND

U4

1 A0	VCC 8	WP 7
2 A1		SCL 6 — SCL
3 A2	GND 4	SDA 5 — SDA

24C16

GND GND

VCC

VCC_OUT

globale Spannungsversorgung...
DCDC? Laderegler für Li−Ion?

+3V3 +3V3 +3V3 +3V3 +3V3 +3V3 +3V3 +3V3 +3V3 +3V3 +3V3

R4 150
R5 150
R6 150

R3 100k

SW1
SW2
SW3
SW4

SW1
SW2
SW3
SW4

D1
LED_RGB_reichelt

RCA RA
GCA GA
BCA BA
R G B

LEDs:LED_RGB_PLLC-6

P4
1
2
BUZ

C11
100n

LM75AD
8
SCL 2 SCL   Vcc   A0 7
SDA 1 SDA   A1 6
                        5
         GND   T°   N
3 OS
4

U5:SOIC-8
SMD_Packages:SOIC-8 N

Belegung
USART-
USB-Adapter:

3V3
TXD
RXD
GND
+5V

USART_DEBUG
5
4
3
2
1
P5

RX
TX

SW_1
SW_2
SW_3
SW_4

LED_R
LED_G
LED_B

BUZ

TODO: Verifizieren, ob LED-Pinbelegung
mit ausgewählter (TODO!) übereinstimmt

GND   GND   GND   GND