MCU

+3V3
R2 10k
NRST
NRST 7
OSC_IN   PH0 5
OSC_OUT   PH1 6
BOOT0   PH3 44
R1 10k

PA_EN   PC13 2
PA_TX_EN PC14 3
PA_RX_EN PC15 4

SX_CS   PB0 18
THERM   PB1 20
SX_DIO2   PB3 39
SX_DIO3   PB4 40
SX_RESET PB5 41

CAN_RX   PB7 43
CAN_TX   PB8 45

LED_TX   PB10 25
LED_RX   PB12 26
          PB13 27
          PB14 28
          PB15

VCAP   22
VSS 23
VSSA 8
U1
STM32U575CGTx

+3V3
VBAT 1
VDD 24
VDD 36
VDD 48
VDDA 9

PA0 10   UART_CTS
PA1 11   UART_RTS
PA2 12   UART_TX
PA3 13   UART_RX
PA4 14
PA5 15   SCK
PA6 16   MISO
PA7 17   MOSI
PA8 29
PA9 30
PA10 31
PA11 32 USB_D_N
PA12 33 USB_D_P
PA13 34 SW_DIO
PA14 37 SW_CLK
PA15 38 SX_BUSY

+3V3
C2 4u7   C4 4u7   C25 4u7   C29 4u7

H4
R15 1M   R16 1M   R17 1M   R8 1M

Y1 48MHz
OSC_IN   OSC_OUT
C3 14p   C5 14p

C1 4u7

Transceiver

+3V3 FB1 +3.3VA
BLM18KG102SN1D

50ohm
RF_IO
SX_CS

IC1 SX1281IMLTRT
C9 10n
C6 100n
DCC_FB
SX_RESET

VR_PA 1   SCK_RTSN 18 SCK
VDD_IN 2   MOSI_RX 17   MOSI
NRESET 3   MISO_TX 16   MISO
XTA 4   VBAT 15
GND_1 5   DCC_SW 14
XTB 6   GND_2 13

Y2 52MHz
C21 13p   C22 13p

+3.3VA
C10 100n

BUSY 7   DIO1 8 DIO2 9 DIO3 10 VBAT_IO 11 DCC_FB 12

+3V3
SX_BUSY
SX_DIO1
SX_DIO2
SX_DIO3
DCC_FB

C8 100n   C7 470n

PROGRAMMING
jst_sh 6   +3V3
1
2
3 SW_CLK
4 SW_DIO
5 BOOT0
6 NRST

CAN
J4 jst gh 4   VCC
1
2 CAN_H
3 CAN_L
4

D8 SZNUP2105L
VCC
VCC

D7 SZNUP2105L
UART_CTS
UART_RTS

J5 jst gh 6   VCC
1
2 UART_RX
3 UART_TX
4 UART_RTS
5 UART_CTS
6

D6 SZNUP2105L
UART_TX
UART_RX

CAN
U4 TPS7A2450DBVR
VCC   +5V
IN OUT
EN GND
C30 1u   C31 1u

D5 SZNUP2105L
CAN_H
CAN_L

USB in -> 5.2v
diode drop -> 4.9v
ldo drop -> 4.7v

+5V
IC3 TJA1462AT_OZ
CAN_TX   TXD   STB
GND   CANH CAN_H
VCC   CANL CAN_L
CAN_RX   RXD   VIO   +3V3
R18 120
JP1
CAN_H   CAN_L

Status
LED_TX   LED_RX   +3V3
D1 tx   D2 rx
R11 330 R12 330

Frontend

+3.3VA
C13 4u7 C14 4u7 C15 10p C16 10p
R3 10k
THERM
TH1
NTCG203NH103JT1

+3.3VA
U2 TPS7A20285PDBVR   2.85 really
IN OUT   +2V8
C11 1u   EN GND   C12 1u

+2V8
C19 100n C20 100n
+2V8
+3.3VA

IC2 SKY65383-11
R14 10k
PA_EN 1   CSD
PA_TX_EN 2 CTX
PA_RX_EN 4 CRX
RF_IO 5   TR
6   GND_1
7   GND_2
           GND_3

GND_15 21
GND_14 20
GND_13 19
GND_12 18
GND_11 17
GND_10 16
ANT 15

VCC2 8 GND_4 9 GND_5 10 GND_6 11 GND_7 12 GND_8 13 GND_9 14

+3.3VA
C17 10p C18 100n

J2 Conn_Coaxial
50ohm
R4 0   R7 0
AE1 inverted F
FL1 RFBPF2012080AC2T00
IN OUT
GND GND
50 Ohm   50ohm

POWER MANAGEMENT

SS/TR controls rise time. Can be left open

VCC
PS1 TPSM82901SISR
FB/VSET open to select 3.3v

C23 10u C24 10u
VIN_1 1   FB/VSET 7
VIN_2 2   SW/NC 8
EN 3   VOUT_1 9
MODE/S-CONF 4 VOUT_2 10
SS/TR 5   GND 11
PG 6

FB2 BLM18KG102SN1D   +3V3
3v3_raw
C26 22u C27 22u

R6 26k1
C28 4u7

Mode R set to 26k1 for
2.5MHz
Auto pwm
Auto efficiency
set voltage

C24 and C26 have recommened part numbers

USB
J3 USB_C_Receptacle_USB2.0
VCC
VBUS A4 VBUS
D4 MBR1020VL
CC1 A5
CC2 B5
R9 5k1
R10 5k1
D- A7
D- B7   USB_ESD_N
D+ A6
D+ B6   USB_ESD_P
SHIELD
GND
SBU1 A8
SBU2 B8
S1
R5 1M
A1

90ohm_d
USB_ESD_N   USB_D_N
VBUS
U3 USBLC6-2SC6
USB_ESD_P   USB_D_P
90ohm_d