U3   H1102NLT

TRANSF_TX+   1 TD+   TX+ 16 OBD2_TX+
TRANS_CT   2 CT
TRANSF_TX−   3 TD−   TX− 14 OBD2_TX−
                                 15
TRANSF_RX+   6 RD+   RX+ 11 OBD2_RX+
             7 CT   75 R8
TRANSF_RX−   8 RD−   RX−   9 OBD2_RX−
                                 10 75 R9 GND

49,9 Ohm 1% R1 R3 R4 R5
C1 100nf   C3 100nf   C5 100nf
GND GND GND

+3V3_STM

U5   STM32F107RCTx
                    VDD VDD VDD VDD VDDA 19 32 48 64 13

NRST   ADC1_IN0/ADC2_IN0/ETH_CRS/SYS_WKUP/TIM2_CH1/TIM2_ETR/TIM5_CH1/USART2_CTS/PA0
BOOT0   ADC1_IN1/ADC2_IN1/ETH_REF_CLK/ETH_RX_CLK/TIM2_CH2/TIM5_CH2/USART2_RTS/PA1
VBAT   ADC1_IN2/ADC2_IN2/ETH_MDIO/TIM2_CH3/TIM5_CH3/USART2_TX/PA2
              ADC1_IN3/ADC2_IN3/ETH_COL/TIM2_CH4/TIM5_CH4/USART2_RX/PA3
              ADC1_IN4/ADC2_IN4/DAC_OUT1/I2S3_WS/SPI1_NSS/SPI3_NSS/USART2_CK/PA4
              ADC1_IN5/ADC2_IN5/DAC_OUT2/SPI1_SCK/PA5
              ADC1_IN6/ADC2_IN6/SPI1_MISO/TIM1_BKIN/TIM3_CH1/PA6
              ADC1_IN7/ADC2_IN7/ETH_CRS_DV/ETH_RX_DV/SPI1_MOSI/TIM1_CH1N/TIM3_CH2/PA7
              RCC_MCO/TIM1_CH1/USART1_CK/USB_OTG_FS_SOF/PA8
              DAC_EXTI9/TIM1_CH2/USART1_TX/USB_OTG_FS_VBUS/PA9
              TIM1_CH3/USART1_RX/USB_OTG_FS_ID/PA10
              ADC1_EXTI11/ADC2_EXTI11/CAN1_RX/TIM1_CH4/USART1_CTS/USB_OTG_FS_DM/PA11
              CAN1_TX/TIM1_ETR/USART1_RTS/USB_OTG_FS_DP/PA12
              SYS_JTMS-SWDIO/PA13
              SYS_JTCK-SWCLK/PA14
              ADC1_EXTI15/ADC2_EXTI15/I2S3_WS/SPI1_NSS/SPI3_NSS/SYS_JTDI/TIM2_CH1/TIM2_ETR/PA15

PD0/RCC_OSC_IN
PD1/RCC_OSC_OUT
PD2/TIM3_ETR/UART5_RX

ETH_MDC   PC0/ADC1_IN10/ADC2_IN10   ADC1_IN8/ADC2_IN8/ETH_RXD2/TIM1_CH2N/TIM3_CH3/PB0
ETH_MII_TXD2 PC1/ADC1_IN11/ADC2_IN11/ETH_MDC   ADC1_IN9/ADC2_IN9/ETH_RXD3/TIM1_CH3N/TIM3_CH4/PB1
ETH_MII_TX_CLK PC2/ADC1_IN12/ADC2_IN12/ETH_TXD2   BOOT1/PB2
ETH_MII_RXD0 PC3/ADC1_IN13/ADC2_IN13/ETH_TX_CLK   I2S3_CK/SPI1_SCK/SPI3_SCK/SYS_JTDO/SYS_TRACESWO/TIM2_CH2/TIM3_CH3/PB3
ETH_MII_RXD1 PC4/ADC1_IN14/ADC2_IN14/ETH_RXD0   SPI1_MISO/SPI3_MISO/SYS_NJTRST/TIM3_CH1/PB4
              PC5/ADC1_IN15/ADC2_IN15/ETH_RXD1   CAN2_RX/ETH_PPS_OUT/I2C1_SMBA/I2S3_SD/SPI1_MOSI/SPI3_MOSI/TIM3_CH2/PB5
              PC6/I2S2_MCK/TIM3_CH1   CAN2_TX/I2C1_SCL/TIM4_CH1/USART1_TX/PB6
              PC7/I2S3_MCK/TIM3_CH2   I2C1_SDA/TIM4_CH2/USART1_RX/PB7
ETH_RST   PC8/TIM3_CH3   CAN1_RX/ETH_TXD3/I2C1_SCL/TIM4_CH3/PB8
              PC9/DAC_EXTI9/TIM3_CH4   CAN1_TX/DAC_EXTI9/I2C1_SDA/TIM4_CH4/PB9
EEPROM_SCK   PC10/I2S3_CK/SPI3_SCK/UART4_TX/USART3_TX   ETH_RX_ER/TIM2_CH3/USART3_TX/PB10
EEPROM_MISO   PC11/ADC1_EXTI11/ADC2_EXTI11/SPI3_MISO/UART4_RX/USART3_RX ADC1_EXTI11/ADC2_EXTI11/ETH_TX_EN/TIM2_CH4/USART3_RX/PB11
EEPROM_MOSI   PC12/I2S3_SD/SPI3_MOSI/UART5_TX/USART3_CK   CAN2_RX/ETH_TXD0/I2S2_WS/SPI2_NSS/TIM1_BKIN/USART3_CK/PB12
              PC13/RTC_OUT/RTC_TAMPER   CAN2_TX/ETH_TXD1/I2S2_CK/SPI2_SCK/TIM1_CH1N/USART3_CTS/PB13
              PC14/RCC_OSC32_IN   SPI2_MISO/TIM1_CH2N/USART3_RTS/PB14
              PC15/ADC1_EXTI15/ADC2_EXTI15/RCC_OSC32_OUT   ADC1_EXTI15/ADC2_EXTI15/I2S2_SD/SPI2_MOSI/TIM1_CH3N/PB15

VSS VSS VSS VSSA 18 31 47 63
GND

14 ETH_MII_CRS
15 ETH_MII_RX_CLK
16 ETH_MIO
17 ETH_MII_COL
21 ADC_Vbat
23 ETH_MII_RX_DV
42 USB_Vbus_STM
43
44 USB_D−
45 USB_D+
46
50 EEPROM_CS
26 ETH_MII_RXD2
27 ETH_MII_RXD3
28
56 CAN_RX
58 CAN_TX
61 ETH_MII_TXD3
30 ETH_MII_RX_ER
33 ETH_MII_TXD0
34 ETH_MII_TXD1
35
36

GND 12pf C20 12pf C21 Crystal KX−7 25MHz Q2

STM_ADC_12V
R21 R22 GND
D6 Buzzer BZ1
GND
VT1 Y2 or SS8550
R23 2k
+5V

SWD_+3V3
XP2
NOT_FITTED_SWD_Conn_01x04

U1 RTL8201CP

ETH_MII_TXD0 6 TXD0   TPTX+ 34 TRANSF_TX+
ETH_MII_TXD1 5 TXD1   TPTX− 33 TRANSF_TX−
ETH_MII_TXD2 4 TXD2   RTSET 28
ETH_MII_TXD3 3 TXD3   TPRX+ 31 TRANSF_RX+
ETH_MII_TX_EN 2 TXEN   TPRX− 30 TRANSF_RX−
ETH_MII_TX_CLK 7 TXC
ETH_MII_RXD0 21 RXD0   PHYAD0/LED0   9
ETH_MII_RXD1 20 RXD1   PHYAD1/LED1 10
ETH_MII_RXD2 19 RXD2   PHYAD2/LED2 12
ETH_MII_RXD3 18 RXD3   PHYAD3/LED3 13
ETH_MII_RX_CLK 16 RXC   PHYAD4/LED4 15
ETH_MII_RX_DV 22 RXDV
ETH_MII_COL   1 COL   DVDD0/PWFBIN 8 TRANS_CT
ETH_MII_CRS   23 CRS   PWFBOUT   32
ETH_MII_RX_ER 24 RXER   RTT3/VCTRL/NC 27
ETH_MDC   25 MDC   RESETB   42 ETH_RST
ETH_MIO   26 MDIO

+3V3_ETH 37 ANE
          38 DUPLEX
          39 SPEED
          40 RPTR/RTT2
          41 LDPS
          43 ISOLATE
          44 MII/SNIB
GND

R2 4k7

LED_Dual_CAC +3V3_ETH
LED1 K1 X2
BAT54A D3
R15 200
R6 2k 1%
R7 200
R10 4k7
R11 4k7
R12 4k7
R13 4k7
R14 4k7

Q1 Crystal KX−7 25MHz
X2 47 X1 46
C9 12pf C13 12pf
L2 4R7K
C15 22uF x 10V C18 100nf C19 100nf
L1 4R7K
C8 100nf C11 100nf C14 100nf C16 100nf C17 100nf
+3V3_ETH
GND

AVDD33 36 +3V3_ETH
DVDD33 34
DVDD33 48
AGND 29
AGND 35
DGND 11
DGND 17
DGND 45

LED_Dual_ACA 5mm RGND
R17 680
R18 680
LED2

EEPROM_CS R26 100k +3V3_EEPROM
U7
EEPROM_MISO   S   VCC 8
              Q   HOLD 7 EEPROM_SCK
              W   C   6 EEPROM_MOSI R27 100k
              VSS   D   5
M95160−WMN6TP
GND

U6 TJA1040T
CAN_TX 1 TXD   VCC 3
CAN_RX 4 RXD   CANH 7 OBD2_CAN_H R24 60
              SPLIT
              CANL 6 OBD2_CAN_L R25 60
        8 STB   GND 2
+5V_CAN
SMAJ33CA−TR D7 D8
R20 10k GND
C22 10pF
GND

XP3
OBD2_TX+   1
OBD2_TX−   2
OBD2_RX+   3
OBD2_RX−   4
OBD2_CHASSIS_GND 5
OBD2_LOGIC_GND 6
OBD2_CAN_H   7
OBD2_CAN_L   8
OBD2_ETH_ACT   9
OBD2_Vbat   10
NOT_FITTED_Conn_01x10_OBD2

XP1 USB_B
USB_Vbus 1 VBUS
USB_D+   3 D+   R16 22
USB_D−   2 D−   R19 22
             4 GND
             5 Shield
GND

OBD2_LOGIC_GND OBD2_CHASSIS_GND
GND

OBD2_Vbat
STM_ADC_12V
PWR_FLAG
D1 PMLL4148L.115
C2 220uF x 30V
C4 0.33uF
GND

U2 L7805ABD2T−TR
1 INPUT   GND_(TAB)
3 OUTPUT 4
D2 PMLL4148L.115
C6 0.1uF C7 100nF

U4 LD1117S33TR_SOT223
VI VO
GND
C10 10uF C12 4.7uF x 10V

D4 PMLL4148L.115 USB_Vbus USB_Vbus_STM
+5V +5V_CAN PWR_FLAG
D5 PMLL4148L.115 PWR_FLAG SWD_+3V3 +3V3_STM
+3V3_ETH +3V3_EEPROM
PWR_FLAG