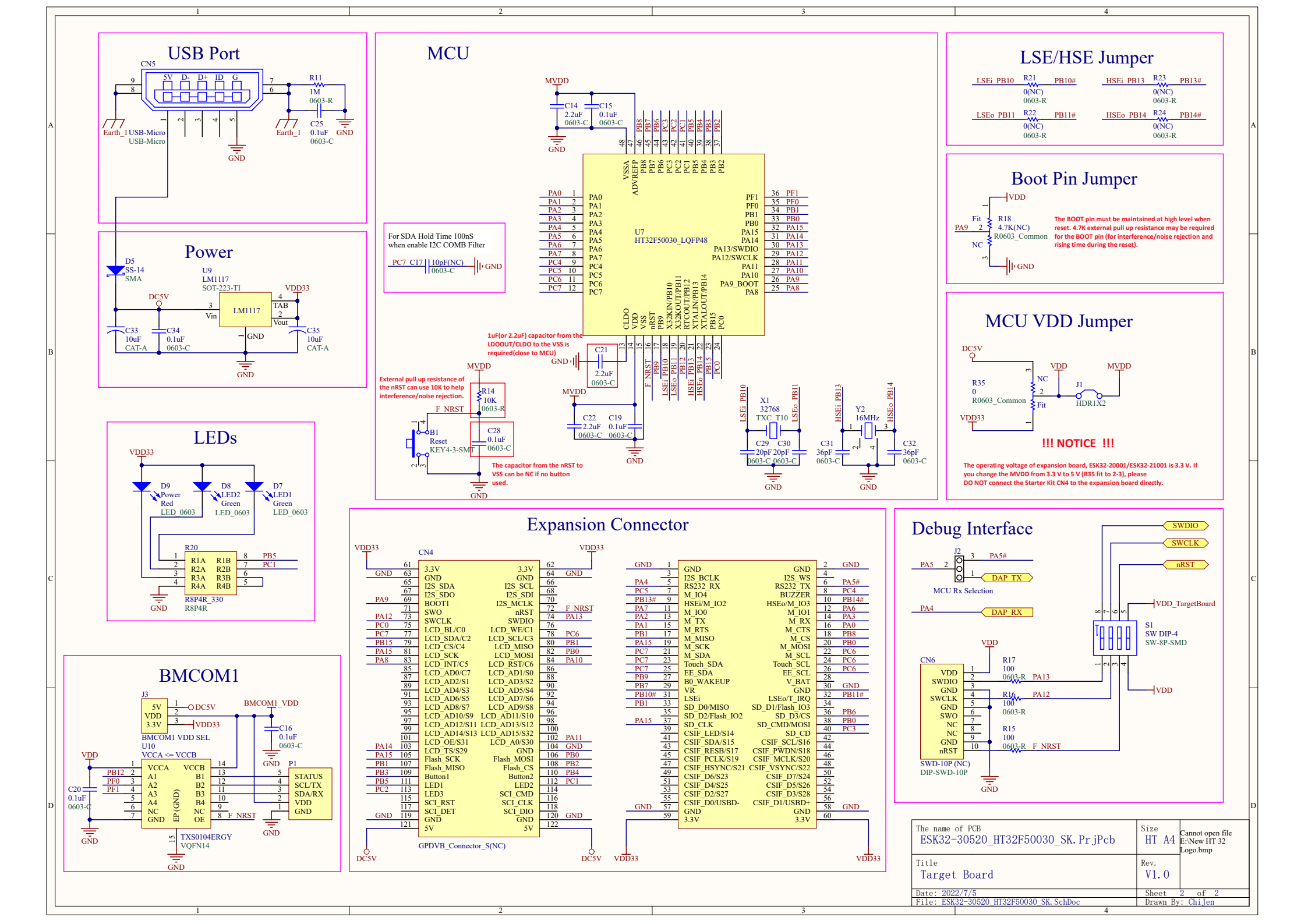
USB Port
CN5
5V D- D+ ID G
R11 1M 0603-R
C25 0.1uF 0603-C
Earth_1 USB-Micro
GND
Power
D5 SS-14 SMA
U9 LM1117 SOT-223-TI
DC5V
VDD33
LM1117
Vin
TAB
Vout
C33 10uF CAT-A
C34 0.1uF 0603-C
C35 10uF CAT-A
LEDs
VDD33
D9 Power Red LED_0603
D8 LED2 Green LED_0603
D7 LED1 Green LED_0603
R20
R1A R1B R2A R2B R3A R3B R4A R4B
PB5
PC1
R8P4R_330
R8P4R
BMCOM1
J3
5V VDD 3.3V
DC5V
VDD33
BMCOM1_VDD
BMCOM1 VDD SEL
U10
VCCA <= VCCB
VCCA A1 A2 A3 A4 NC GND
VCCB B1 B2 B3 B4 NC OE
EP (GND)
F_NRST
C16 0.1uF 0603-C
C20 0.1uF 0603-C
P1
STATUS SCL/TX SDA/RX VDD GND
TXS0104ERGY VQFN14
MCU
MVDD
C14 2.2uF 0603-C
C15 0.1uF 0603-C
U7 HT32F50030_LQFP48
For SDA Hold Time 100nS when enable I2C COMB Filter
PC7_C17 10pF(NC) 0603-C
1uF(or 2.2uF) capacitor from the LDOOUT/CLDO to the VSS is required(close to MCU)
C21 2.2uF 0603-C
External pull up resistance of the nRST can use 10K to help interference/noise rejection.
R14 10K 0603-R
F_NRST
B1 Reset KEY4-3-SMT
C28 0.1uF 0603-C
The capacitor from the nRST to VSS can be NC if no button used.
C22 2.2uF 0603-C
C19 0.1uF 0603-C
X1 32768 TXC_T10
C29 20pF 0603-C
C30 20pF 0603-C
Y2 16MHz
C31 36pF 0603-C
C32 36pF 0603-C
LSE/HSE Jumper
LSEi_PB10 R21 0(NC) 0603-R PB10#
LSEo_PB11 R22 0(NC) 0603-R PB11#
HSEi_PB13 R23 0(NC) 0603-R PB13#
HSEo_PB14 R24 0(NC) 0603-R PB14#
Boot Pin Jumper
VDD
Fit
PA9
R18 4.7K(NC) R0603_Common
NC
GND
The BOOT pin must be maintained at high level when reset. 4.7K external pull up resistance may be required for the BOOT pin (for interference/noise rejection and rising time during the reset).
MCU VDD Jumper
DC5V
R35 0 R0603_Common
NC
Fit
VDD
MVDD
J1 HDR1X2
VDD33
!!! NOTICE !!!
The operating voltage of expansion board, ESK32-20001/ESK32-21001 is 3.3 V. If you change the MVDD from 3.3 V to 5 V (R35 fit to 2-3), please DO NOT connect the Starter Kit CN4 to the expansion board directly.
Expansion Connector
CN4
3.3V GND I2S_SDA I2S_SDO BOOT1 SWO SWCLK LCD_BL/C0 LCD_SDA/C2 LCD_CS/C4 LCD_SCK LCD_INT/C5 LCD_AD0/C7 LCD_AD2/S1 LCD_AD4/S3 LCD_AD6/S5 LCD_AD8/S7 LCD_AD10/S9 LCD_AD12/S11 LCD_AD14/S13 LCD_OE/S31 LCD_TS/S29 Flash_SCK Flash_MISO Button1 LED1 LED3 SCI_RST SCI_DET GND 5V
3.3V GND I2S_SCL I2S_SDI I2S_MCLK nRST SWDIO LCD_WE/C1 LCD_SCL/C3 LCD_MISO LCD_MOSI LCD_RST/C6 LCD_AD1/S0 LCD_AD3/S2 LCD_AD5/S4 LCD_AD7/S6 LCD_AD9/S8 LCD_AD11/S10 LCD_AD13/S12 LCD_AD15/S32 LCD_A0/S30 GND Flash_MOSI Flash_CS Button2 LED2 SCI_CMD SCI_CLK SCI_DIO GND 5V
GPDVB_Connector_S(NC)
GND I2S_BCLK RS232_RX M_IO4 HSEi/M_IO2 M_IO0 M_TX M_RTS M_MISO M_SCK M_SDA Touch_SDA EE_SDA B0_WAKEUP VR LSEi SD_D0/MISO SD_D2/Flash_IO2 SD_CLK CSIF_LED/S14 CSIF_SDA/S15 CSIF_RESB/S17 CSIF_PCLK/S19 CSIF_HSYNC/S21 CSIF_D6/S23 CSIF_D4/S25 CSIF_D2/S27 CSIF_D0/USBD- GND 3.3V
GND I2S_WS RS232_TX BUZZER HSEo/M_IO3 M_IO1 M_RX M_CTS M_CS M_MOSI M_SCL Touch_SCL EE_SCL V_BAT GND LSEo/T_IRQ SD_D1/Flash_IO3 SD_D3/CS SD_CMD/MOSI SD_CD CSIF_SCL/S16 CSIF_PWDN/S18 CSIF_MCLK/S20 CSIF_VSYNC/S22 CSIF_D7/S24 CSIF_D5/S26 CSIF_D3/S28 CSIF_D1/USBD+ GND 3.3V
Debug Interface
J2
PA5
PA5#
DAP_TX
MCU Rx Selection
PA4
DAP_RX
SWDIO
SWCLK
nRST
VDD_TargetBoard
S1 SW DIP-4 SW-8P-SMD
CN6
VDD SWDIO SWCLK GND SWO NC NC GND nRST
R17 100 0603-R PA13
R16 100 0603-R PA12
R15 100 0603-R F_NRST
SWD-10P (NC) DIP-SWD-10P
The name of PCB ESK32-30520_HT32F50030_SK.PrjPcb
Size HT A4
Cannot open file E:\New HT 32 Logo.bmp
Title Target Board
Rev. V1.0
Date: 2022/7/5
Sheet 2 of 2
File: ESK32-30520_HT32F50030_SK.SchDoc
Drawn By: Chi_Jen