

Nucleo144 H7 SMPS with STLINK V3

MB1363

H7A3ZIQ

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U_MB1363_Top
MB1363_Top.SchDoc

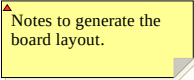


Legend

General comment such as function title, configuration, ...

Text to be added to silkscreen.

Warning text.



OPEN PLATFORM LICENSE AGREEMENT

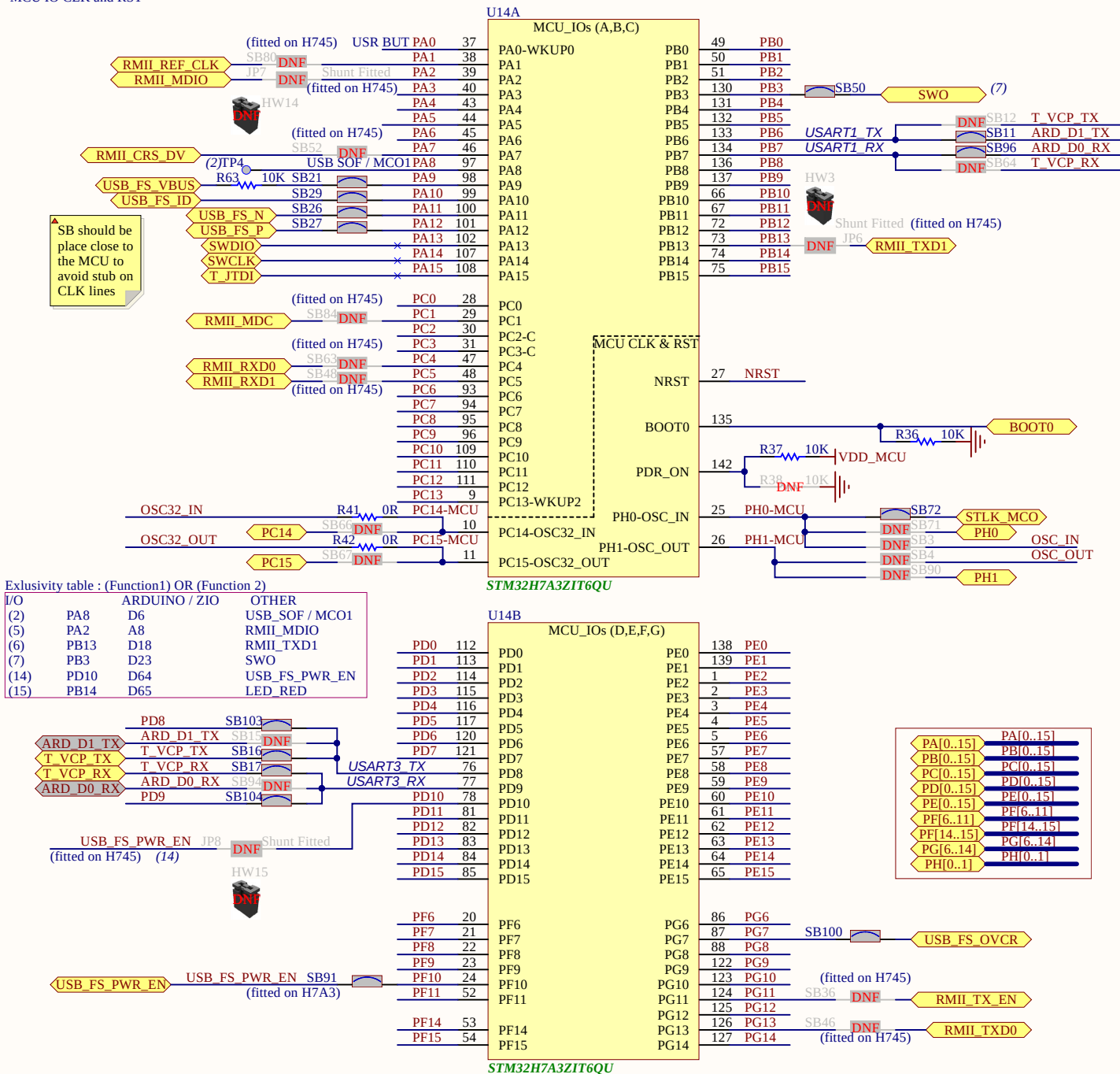
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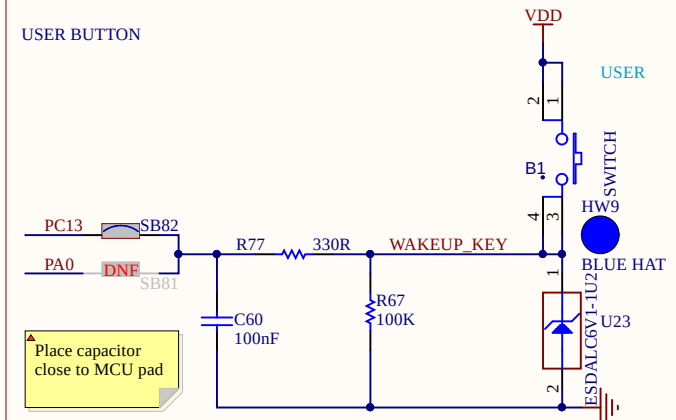
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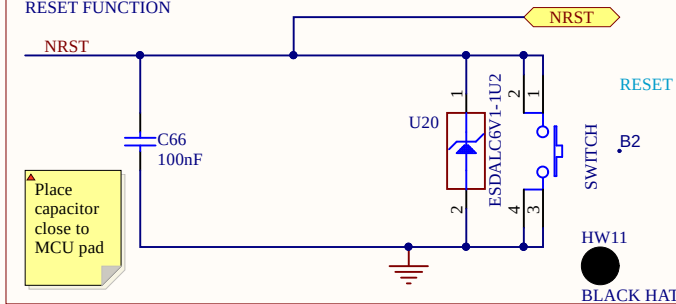
MCU IO CLK and RST



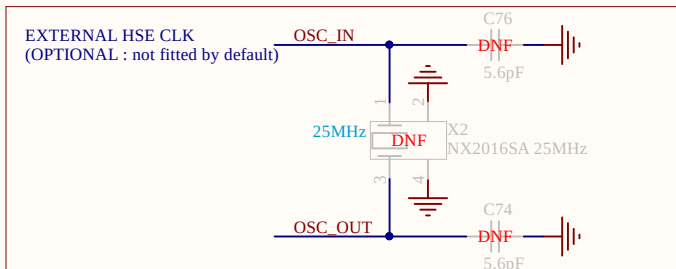
USER BUTTON



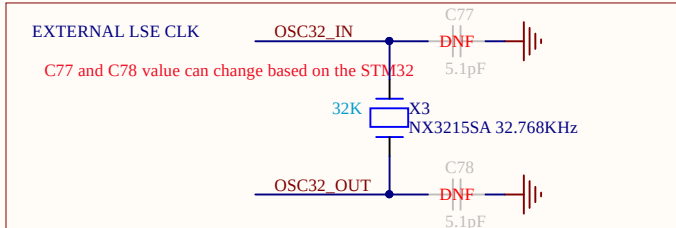
RESET FUNCTION



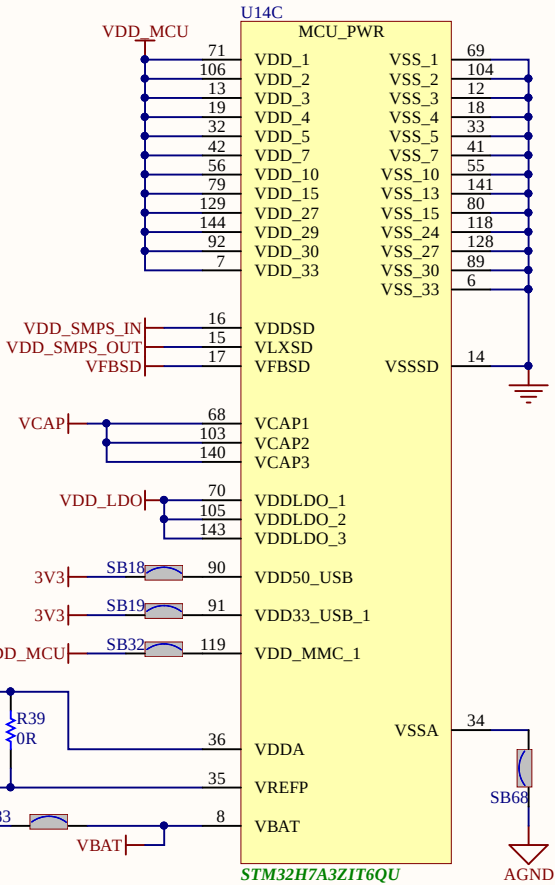
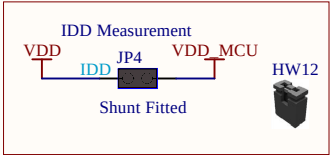
EXTERNAL HSE CLK
(OPTIONAL : not fitted)



EXTERNAL LSE CLK



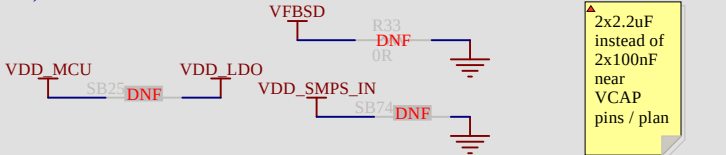
MCU PWR SUPPLIES



SMPS MCU Supply Config

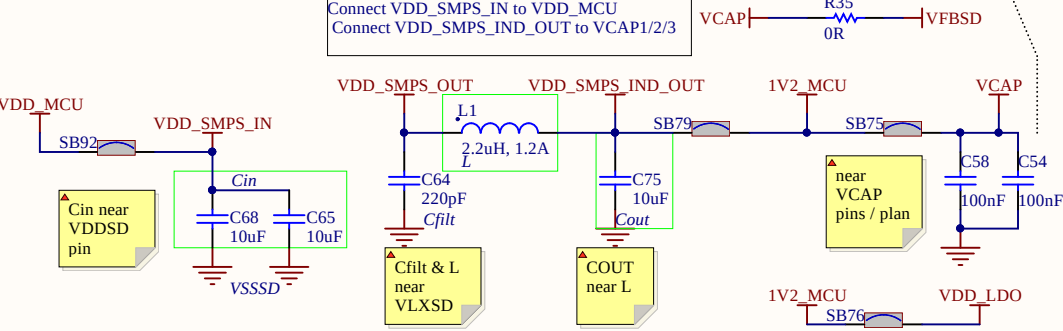
Supply Config 1 : LDO only (SMPS OFF, LDO ON)

Disconnect 3V3_SMPS_IN from 3V3_MCU
Connect 3V3_SMPS_IN to GND
Connect VDD_SMPS_IND_OUT to GND
Connect VDD_LDO to 3V3_MCU
2 x 2.2uF near VCAP plans/pins



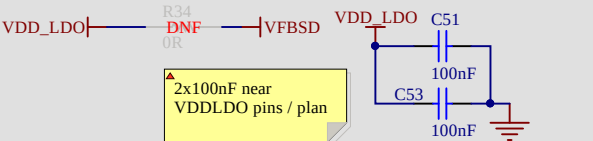
Supply Config 2 : Internal SMPS only (SMPS ON, LDO OFF)

Default config



Supply Config 3 : SMPS & LDO cascaded (SMPS & LDO ON)

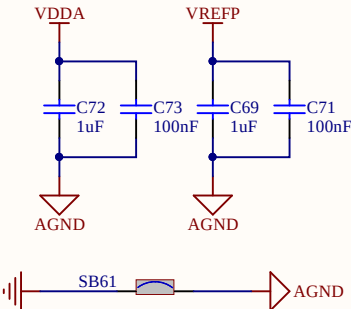
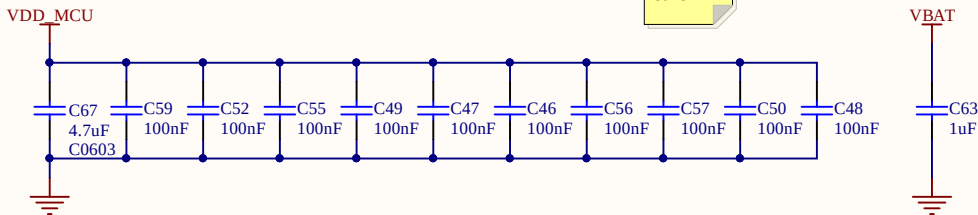
Compared to config 2 :
Disconnect VDD_SMPS_IND_OUT from VCAP
Connect VDD_SMPS_IND_OUT to VDD_LDO
Add 2x100nF near VDDLDO pins/plans
Add 2x2.2uF near VCAP pins/plans (see config 1)



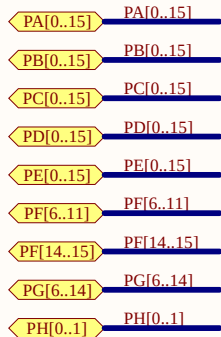
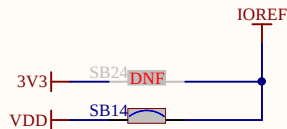
Supply Config 5 : external SMPS

Disconnect 1V2_MCU from VDD_SMPS_IND_OUT
Connect 1V2_MCU to 1V2_VOUTCORE (Connectors page)

MCU DECAPS
Ceramic capacitor (Low ESR, ESR<1ohm)



MORPHO CONNECTOR LEFT SIDE

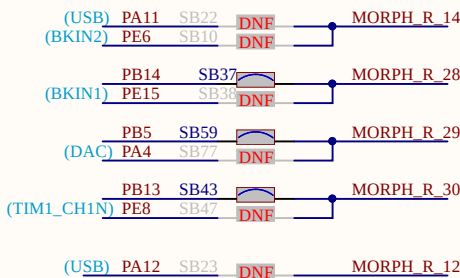


Exlusivity table : (Function1) OR (Function 2)

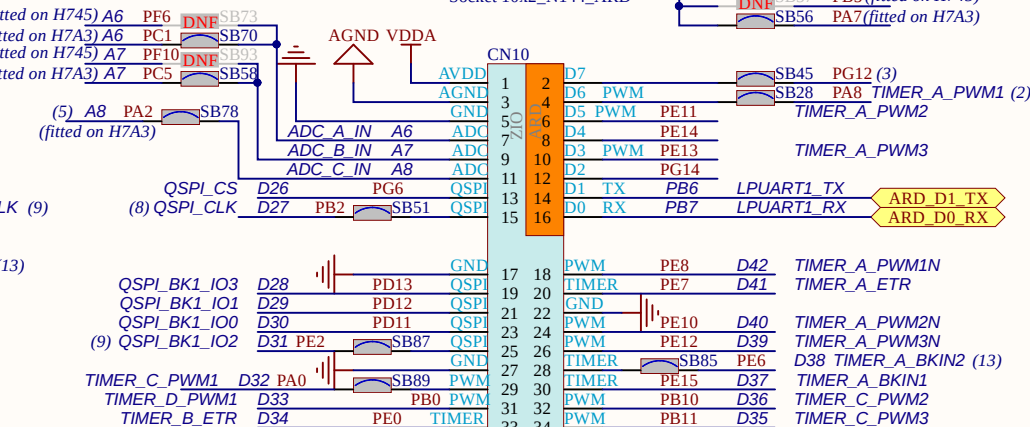
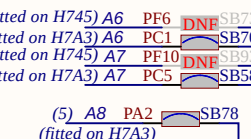
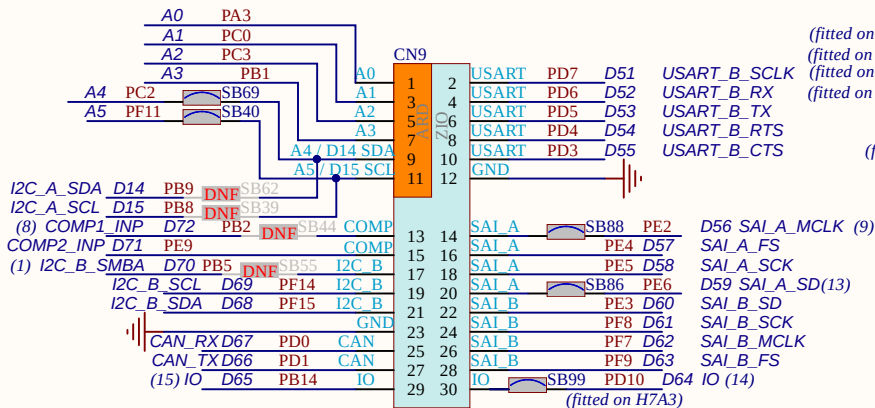
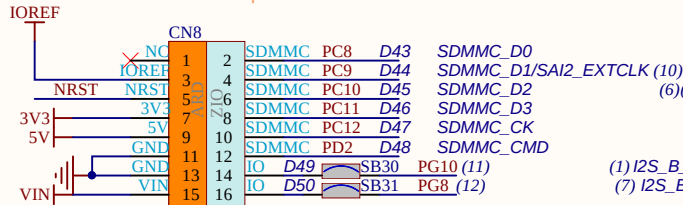
I/O	ARDUINO / ZIO	OTHER
(1)	PB5 D11 / D22 / D70	
(2)	PA8 D6	USB_SOF / MCO1
(3)	PG12 D7	SMPS_PG
(4)	PG9 D8	SMPS_EN
(5)	PA2 A8	RMI1_MDIO (H745ZI / H755ZI)
(6)	PB13 D18	RMI1_TXD1 (H745ZI / H755ZI)
(7)	PB3 D23	SWO
(8)	PB2 D27 / D72	
(9)	PE2 D31 / D56	
(10)	PC9 D44	
(11)	PG10 D49	SMPS_SW
(12)	PG8 D50	SMPS_V1
(13)	PE6 D59 / D38	
(14)	PD10 D64	USB_FS_PWR_EN (H745ZI / H755ZI)
(15)	PB14 D65	LED_RED

MORPHO CONNECTOR RIGHT SIDE

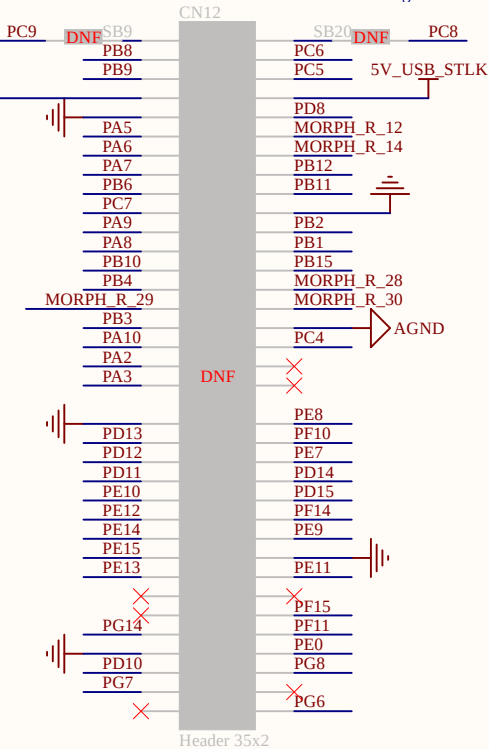
FOR X-NUCLEO-IHMXXM1 MOTOR CTRL COMPATIBILITY



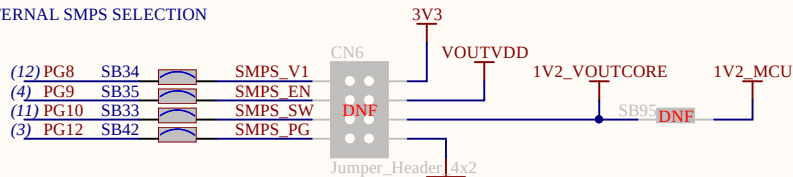
ZIO CONNECTOR ARDUINO UNO COMPATIBLE



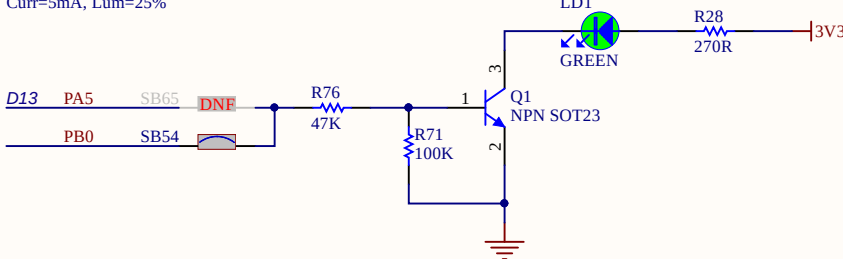
SBxx to avoid stub
of SDMMC &
USB signals



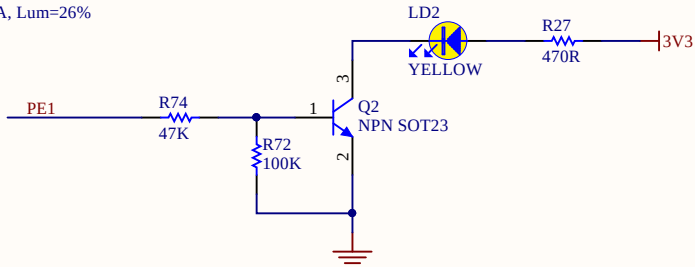
EXTERNAL SMPS SELECTION



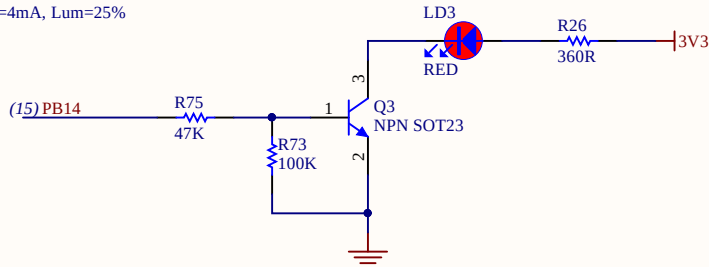
USER LED 1 : ARD_D13_LED
Curr=5mA, Lum=25%



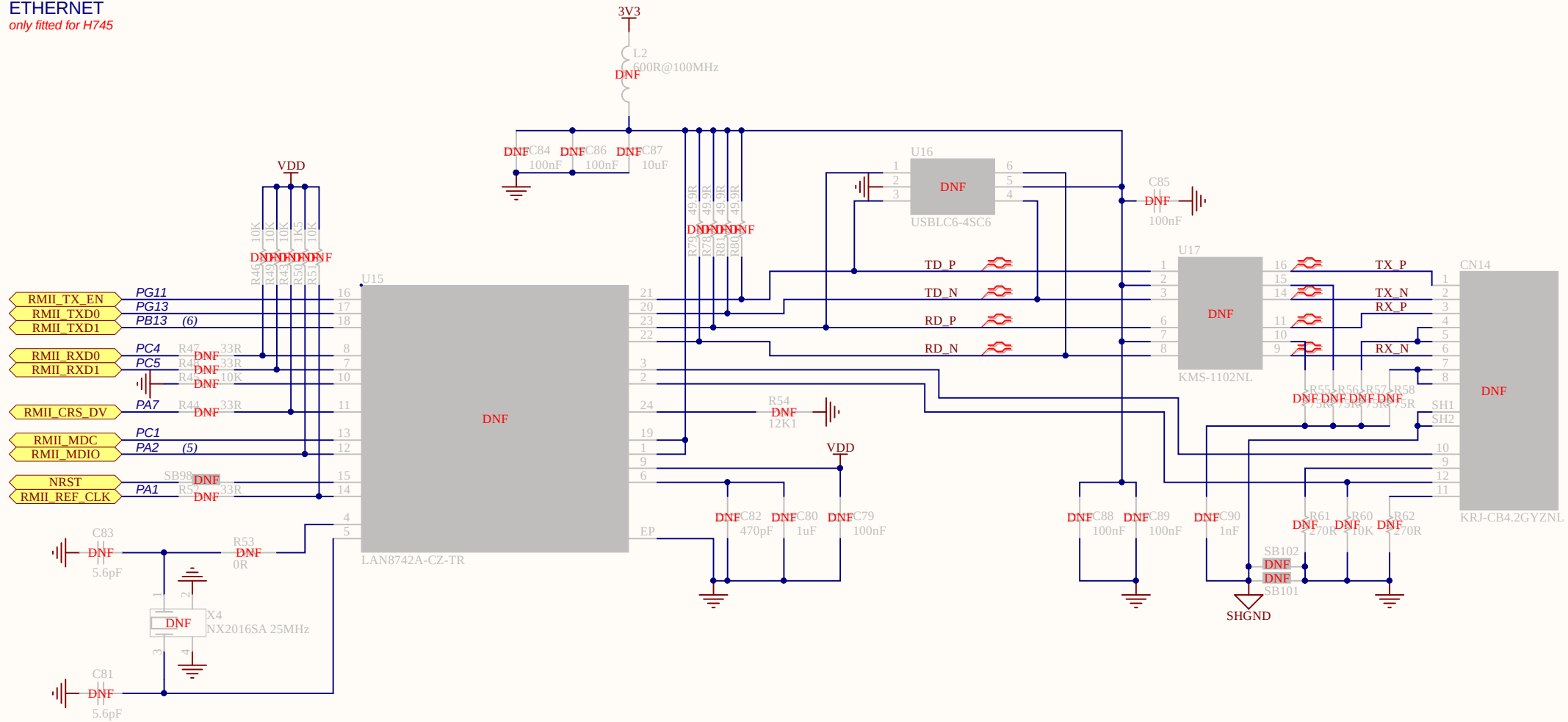
USER LED 2
Curr=3mA, Lum=26%



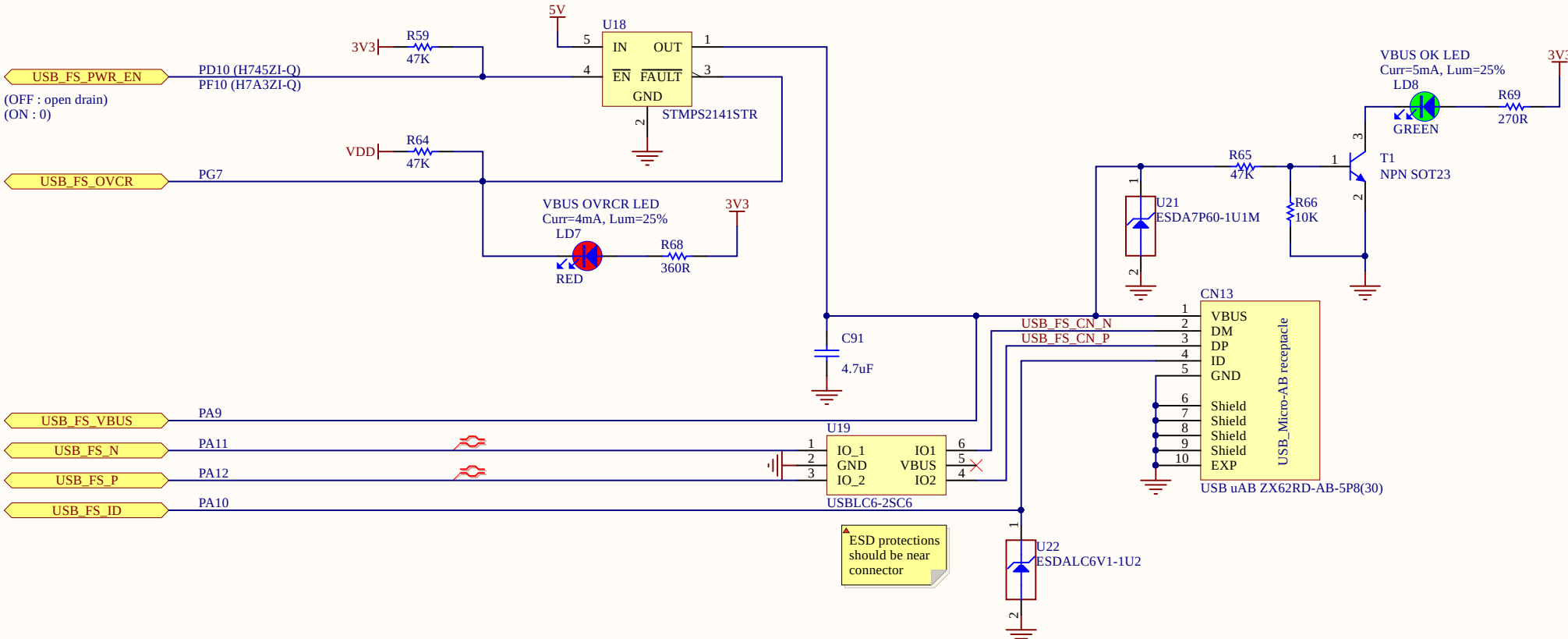
USER LED 3
Curr=4mA, Lum=25%



only fitted for H745

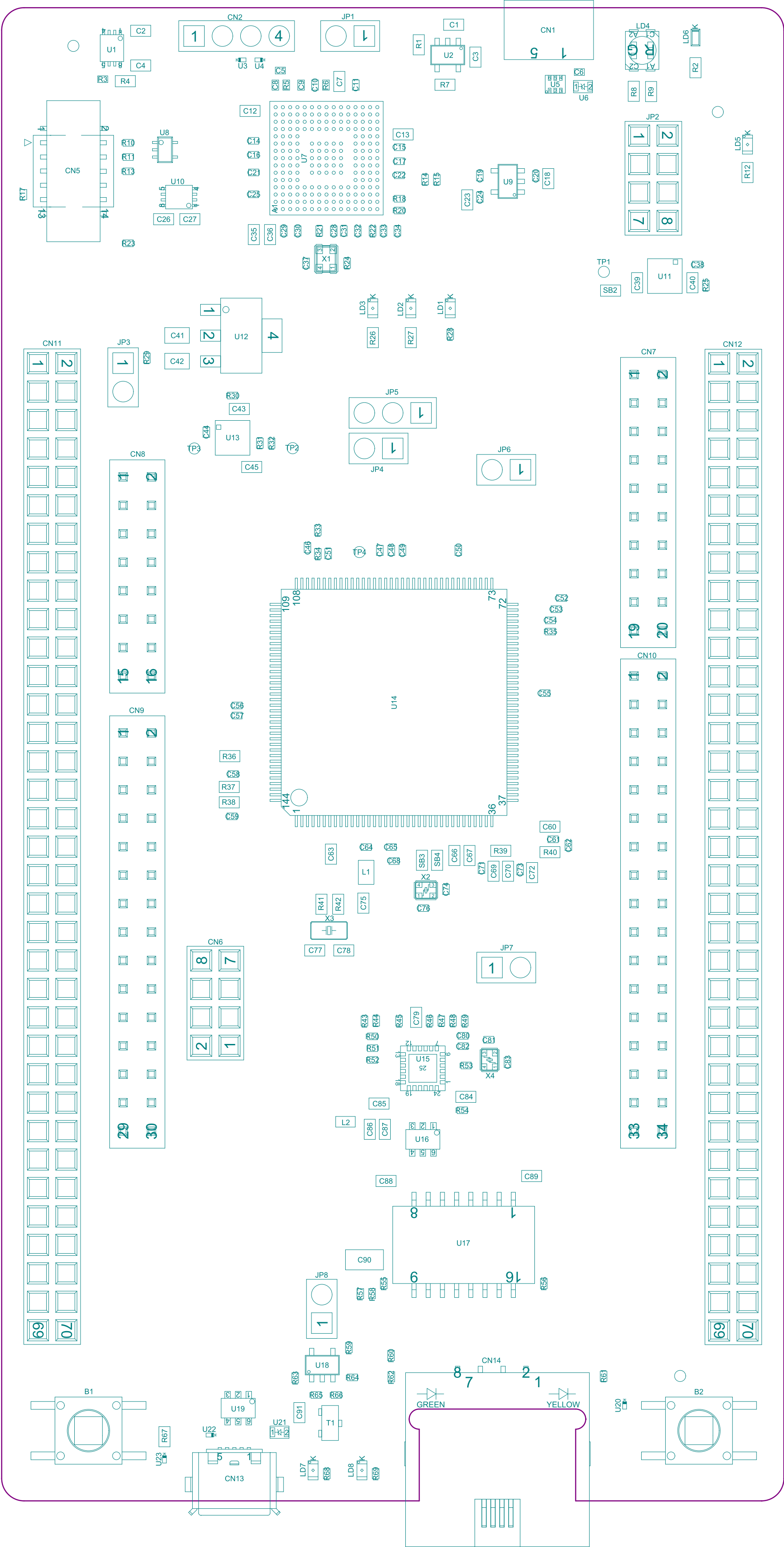


USB FS

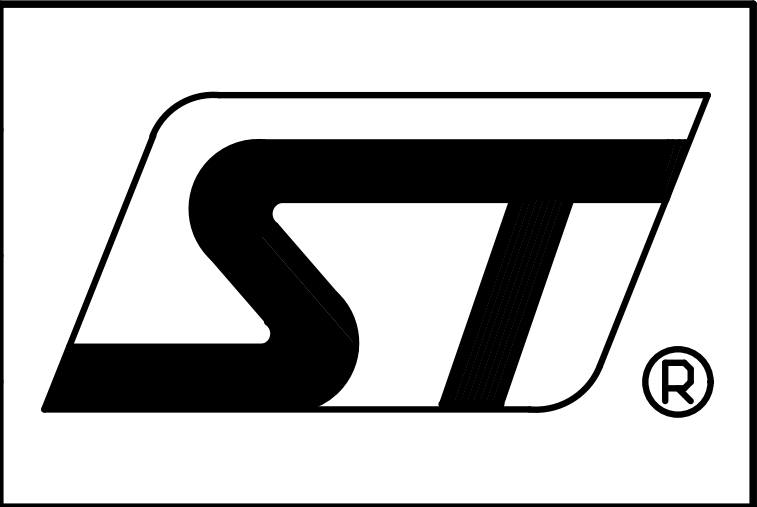


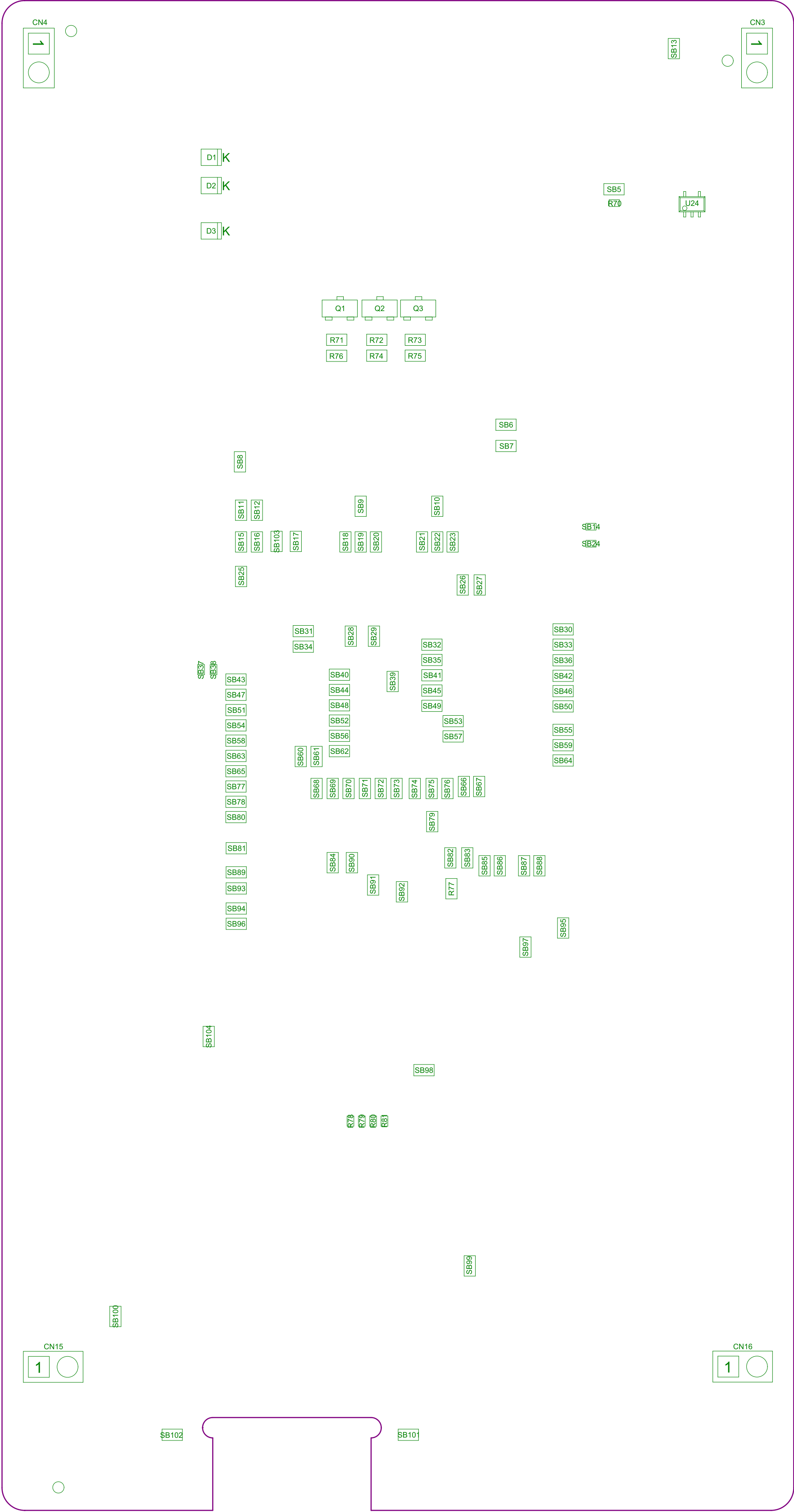
Title: USB		
Project: Nucleo144 H7 SMPS with STLINK V3		
Variant: H7A3ZIQ		
Revision: D-01		Reference: MB1363
Size: A4	Date: 24-OCT-19	Sheet: 7 of 9





Project: Nucleo144 H7 SMPS with STLINK V3	
Layer: M14-Top Assembly	Gerber: .GM14
Variant: [No Variations]	Ref: MB1363
Date: 24-OCT-19	Rev: D





Project: Nucleo144 H7 SMPS with STLINK V3

Layer: M15-Bottom Assembly

Gerber:.GM15

Variant: [No Variations]

Ref: MB1363

Date: 24-OCT-19

Rev: D

