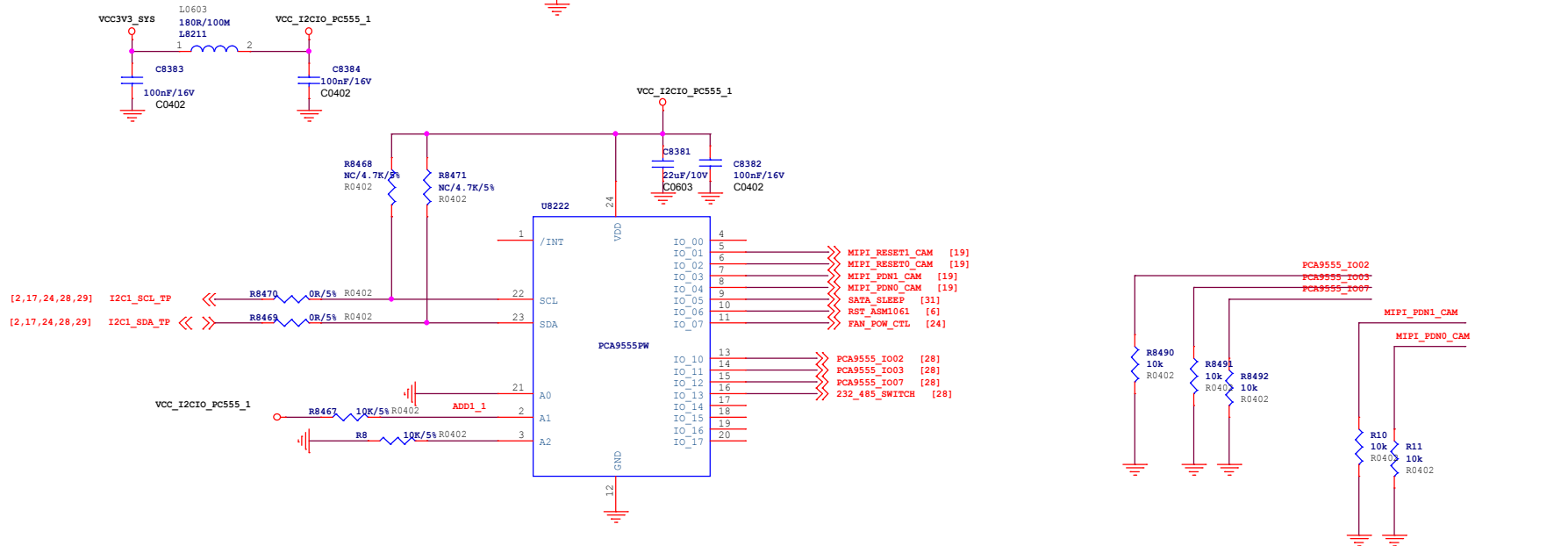
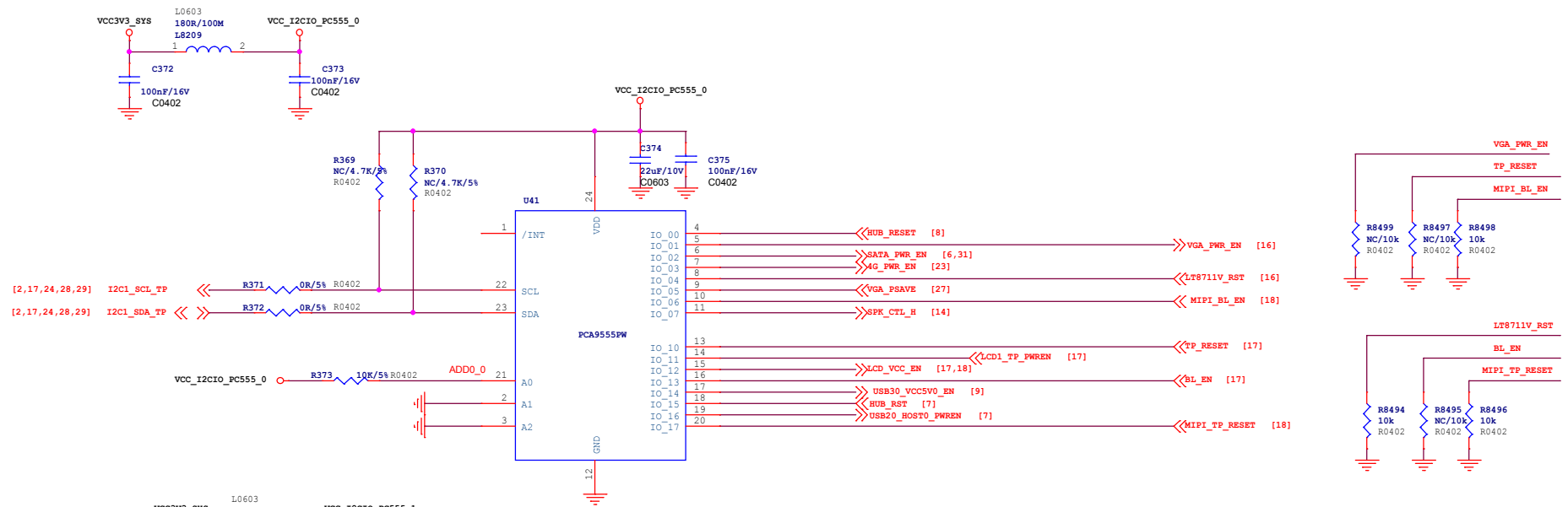

		www.t-firefly.com	
Title: mark/hole/shell			
File: MB-Q-RK3568ITX			REV: V1.0
Create Date: Monday, May 18, 2020		Page Num: 29	
Modify Date: Thursday, May 19, 2022		Page Total: 31	

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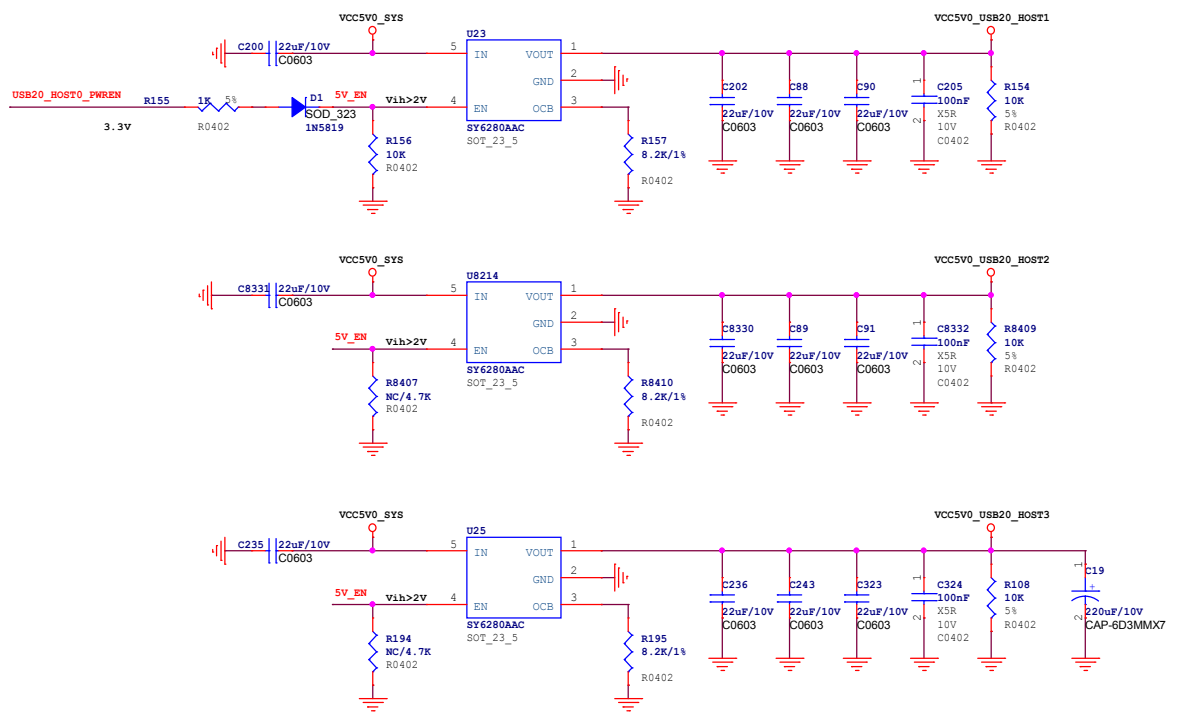
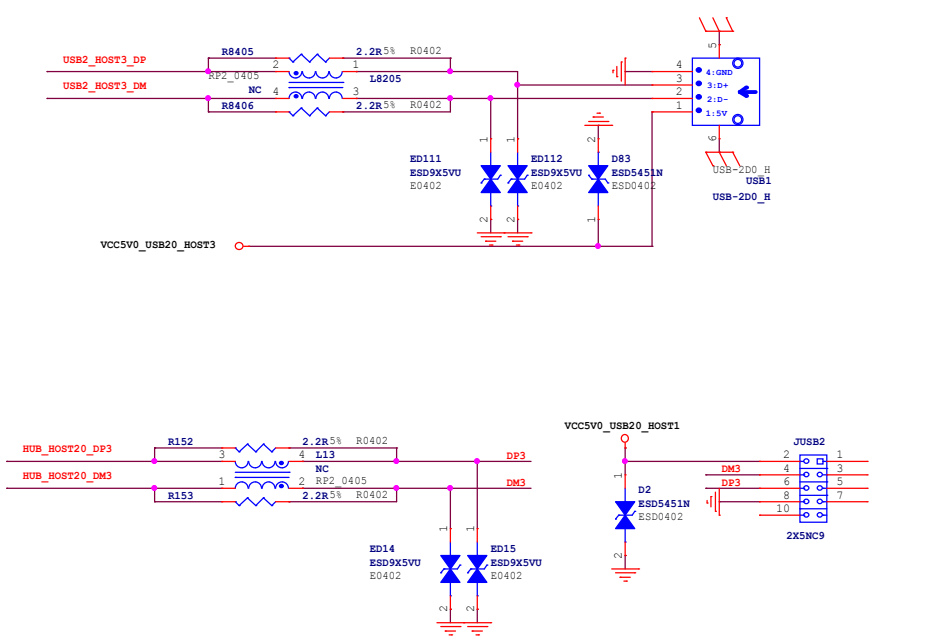
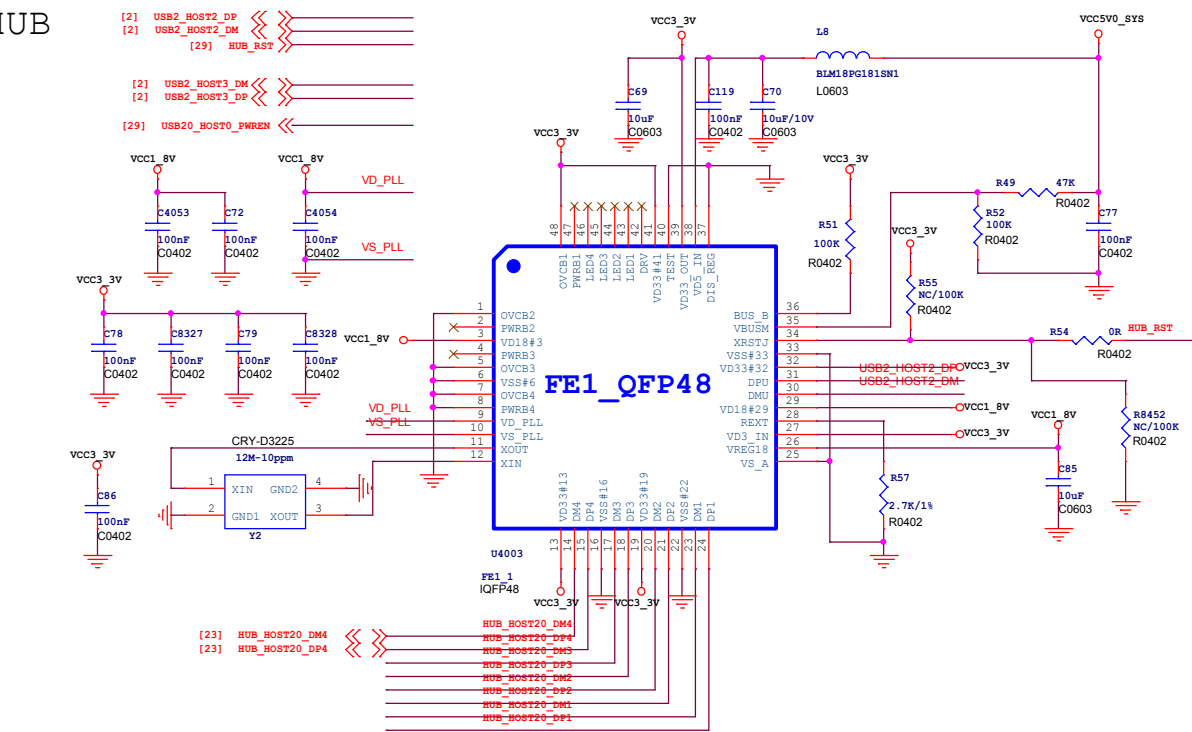
Title: I2C TO GPIO


File: MB-Q-RK3568ITX REV: V1.0

Create Date: Tuesday, December 21, 2021 Page Num: 29

Modify Date: Thursday, May 19, 2022 Page Total: 31

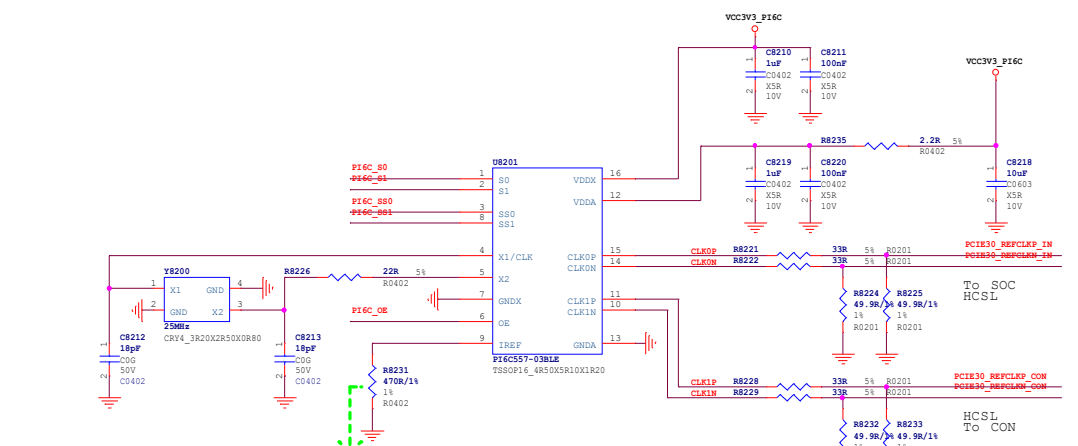
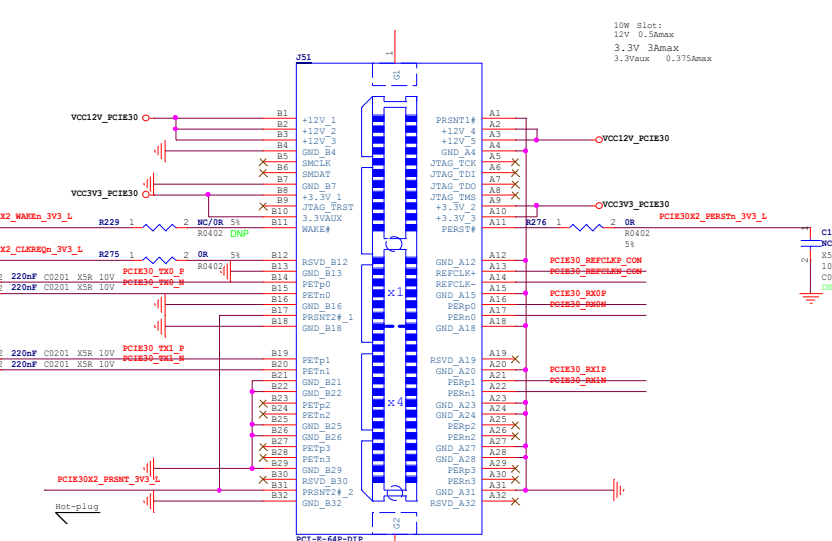
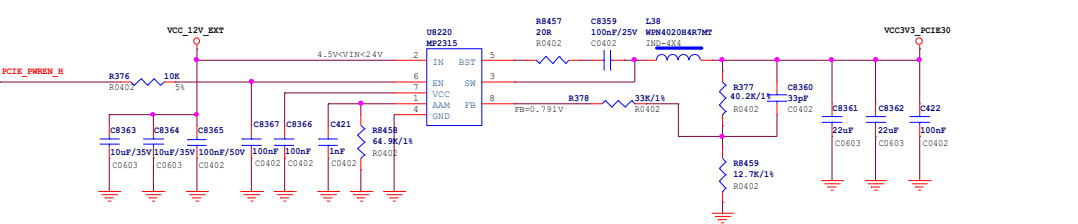
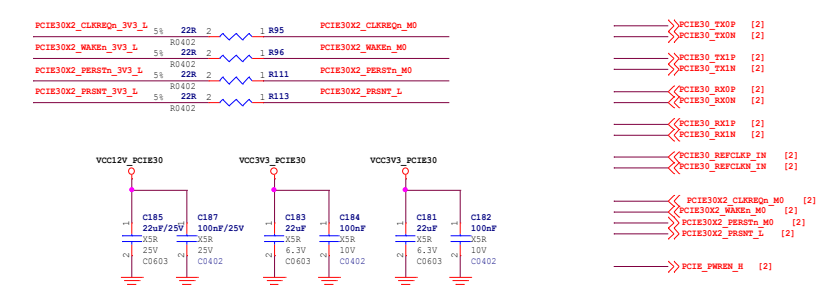
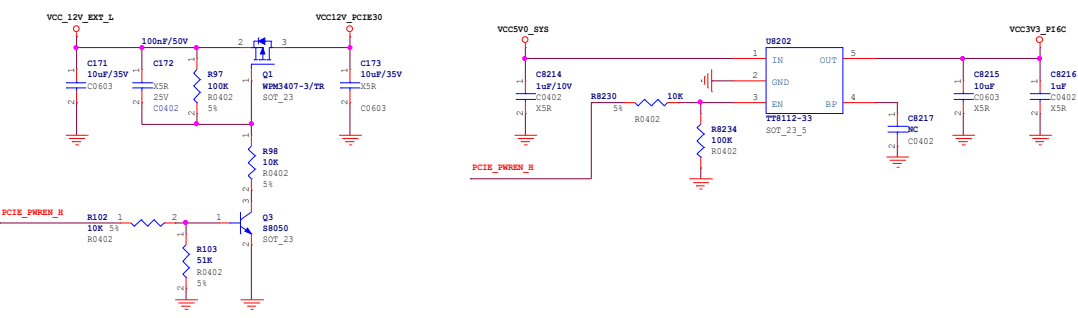
HUB





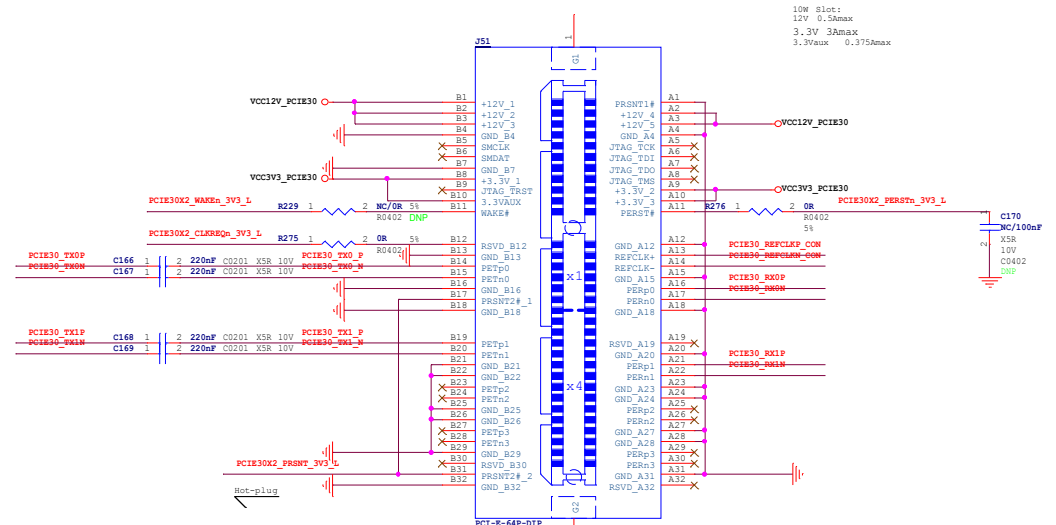
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Title: USB2.0 HUB/Port		REV: V1.0	
File: MB-Q-RK3568ITX			
Create Date: Thursday, December 02, 2021	Page Num: 7		
Modify Date: Thursday, May 19, 2022	Page Total: 31		



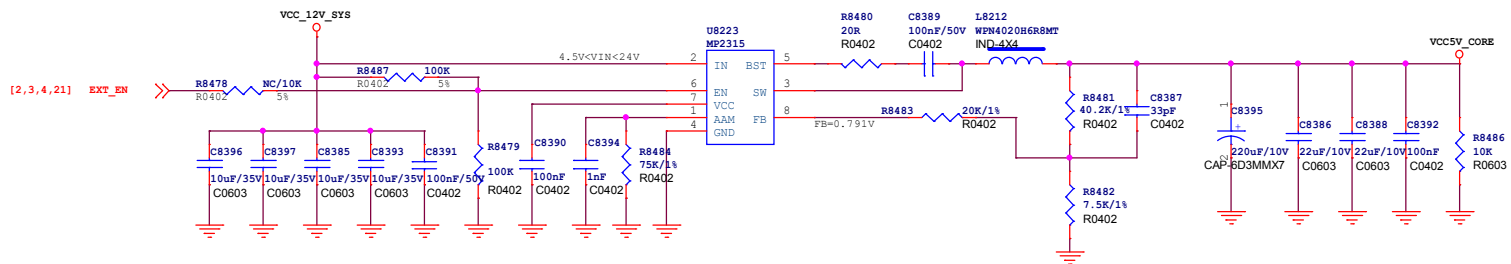
If board target trace impedance is 50ohm then R = 475ohm providing an IREF of 2.32 mA . The output current (IOH) is 6 * IREF . 6x2.32x50=696mV

VCC3V3_P16C	R8216	10K 5%	R0402	PI6C_S0	PI6C_S1	Out Freq
						0
						100MHz
VCC3V3_P16C	R8217	10K 5%	R0402	PI6C_S80	PI6C_S81	Spread %
						No Spread
						-0.5
						-1.0
VCC3V3_P16C	R8223	10K 5%	R0402	PI6C_S0	PI6C_S80	Spread %
						No Spread

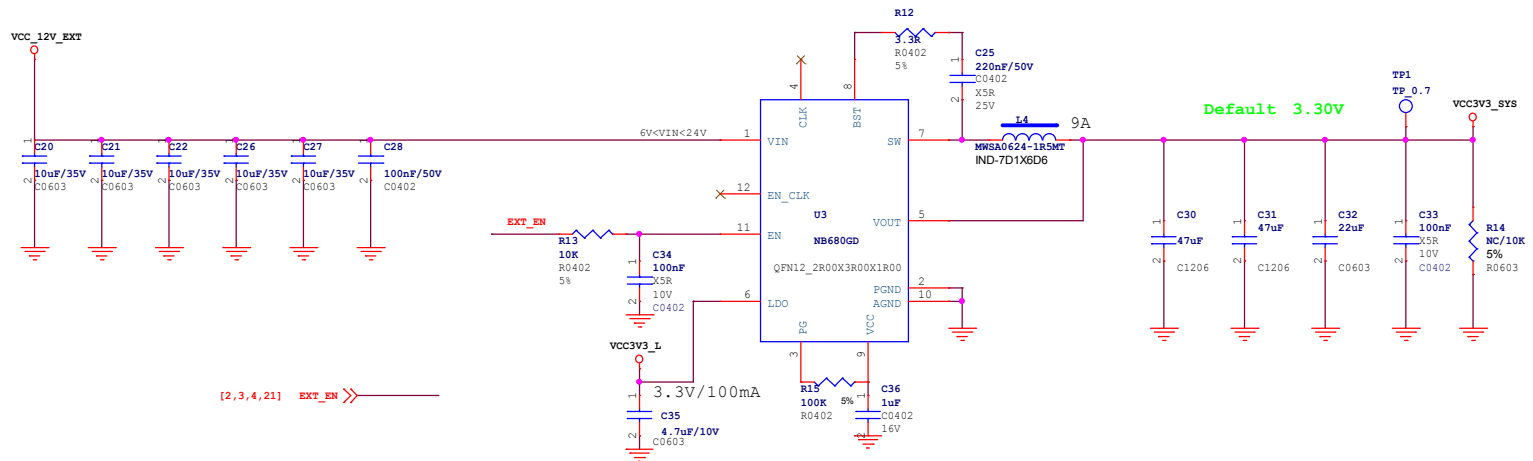



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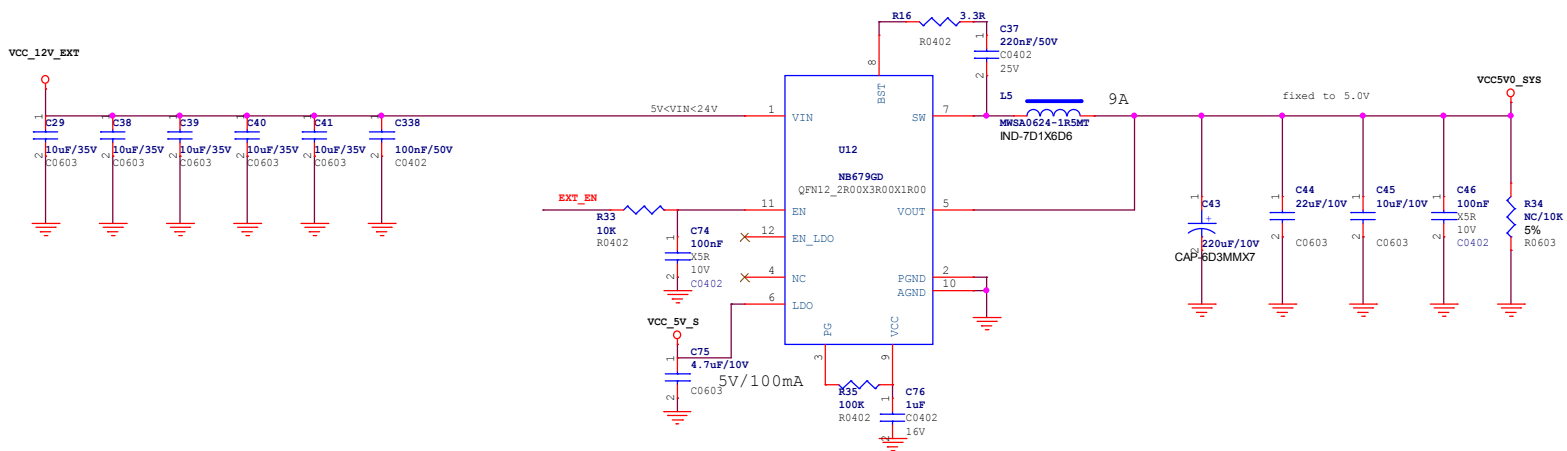
Title: PCIe Slot	
File: MB-Q-RK3568ITX	
Create Date: Tuesday, May 11, 2021	Page Num: 5
Modify Date: Thursday, May 19, 2022	Page Total: 31




VCC5V_CORE



VCC3V3_SYS

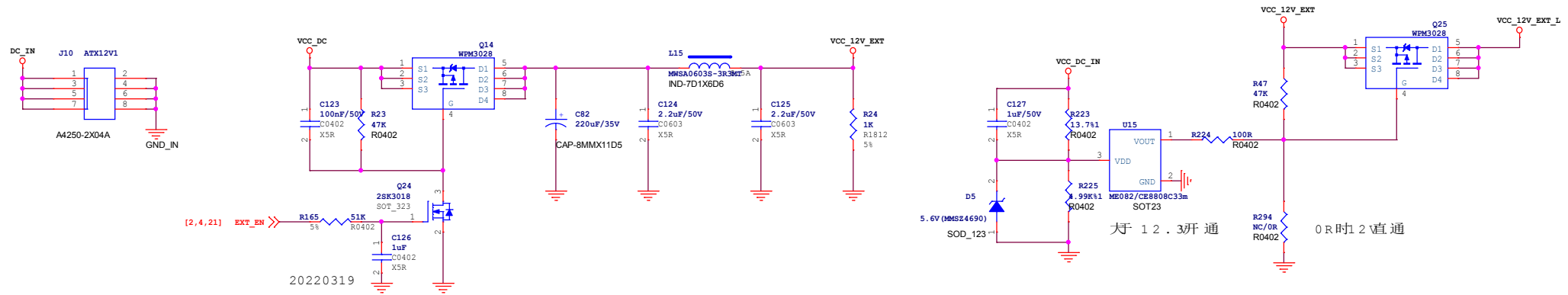
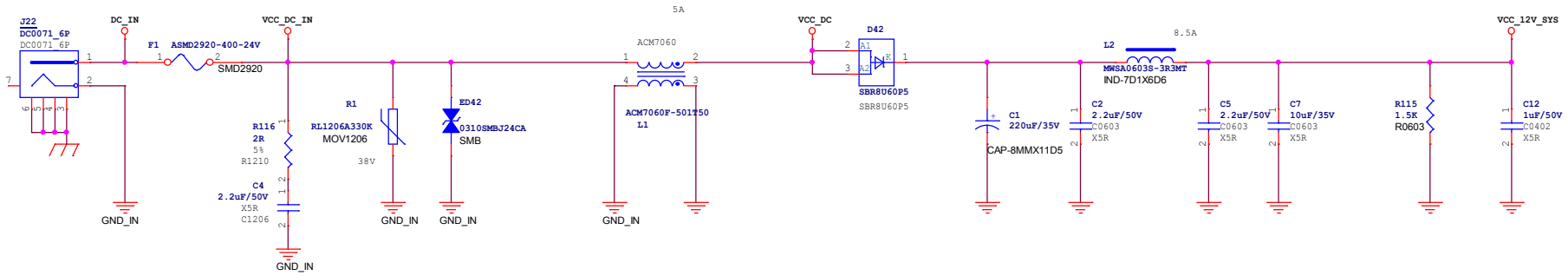



VCC5V0_SYS


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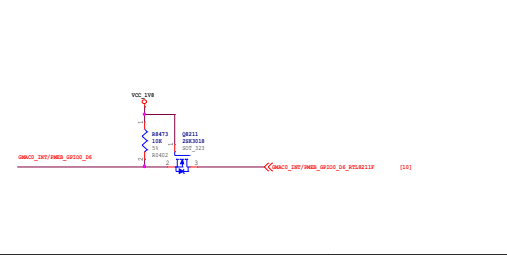
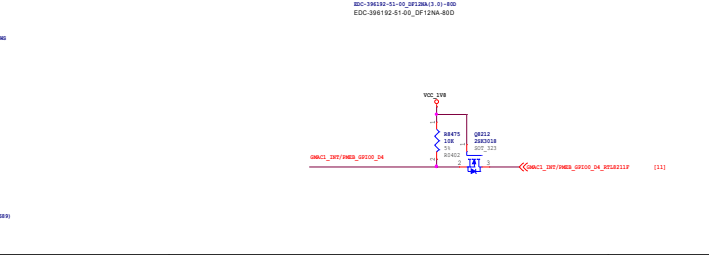
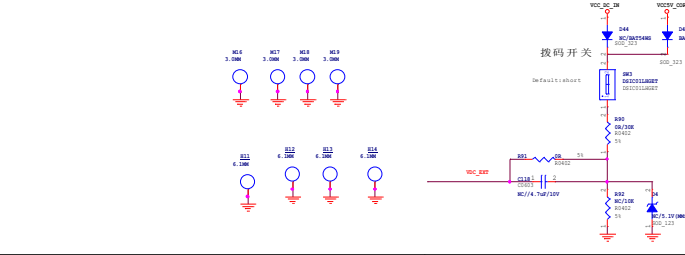
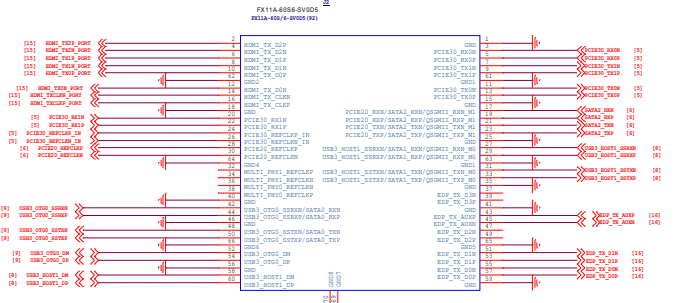
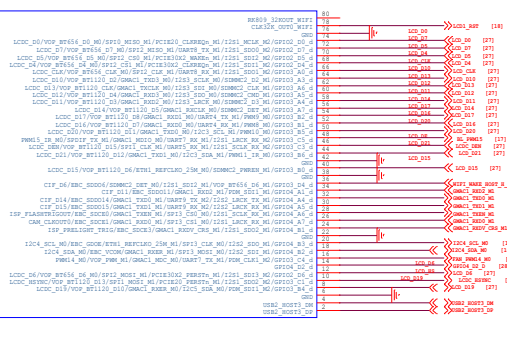
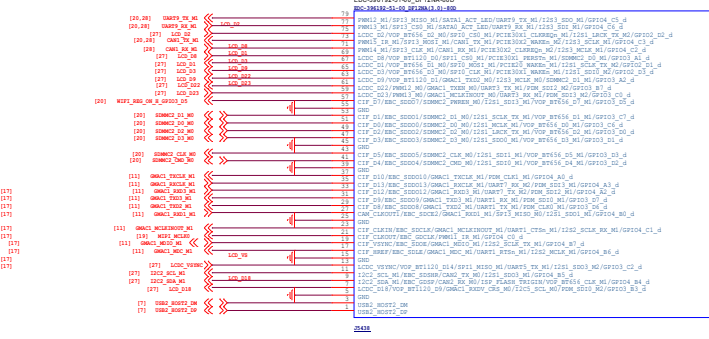
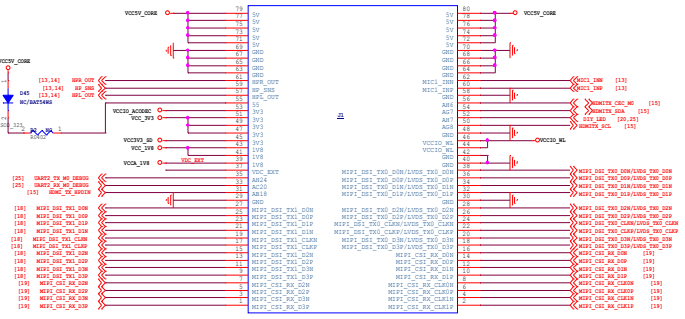
Title: SYSTEM POWER	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Monday, May 10, 2021	Page Num: 4
Modify Date: Thursday, May 19, 2022	Page Total: 31

DC_IN




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Title: POWER IN	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Monday, May 10, 2021	Page Num: 3
Modify Date: Thursday, May 19, 2022	Page Total: 31



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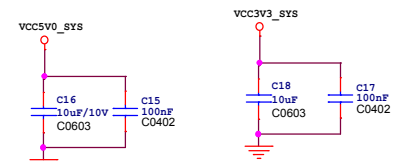
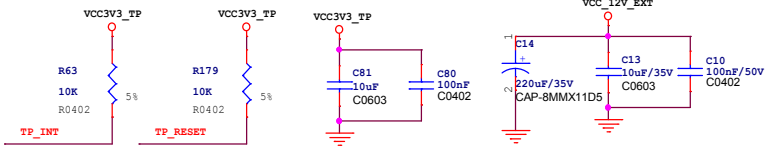
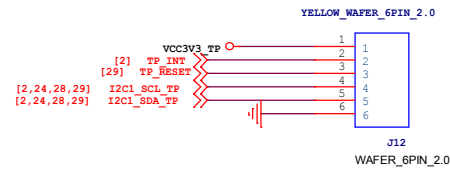
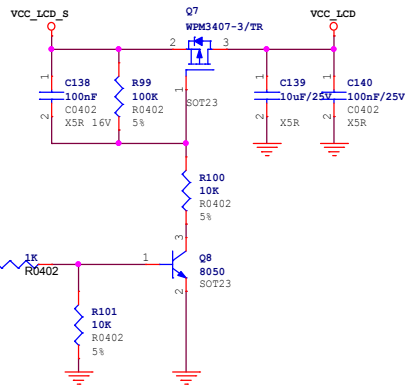
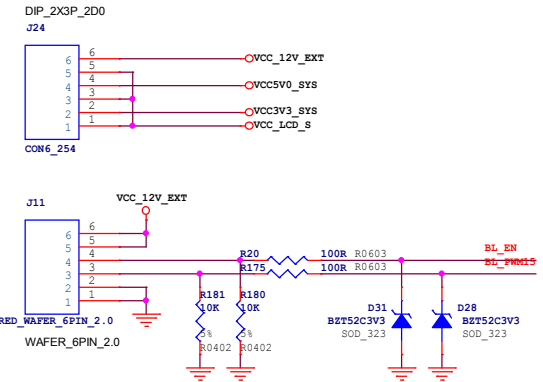
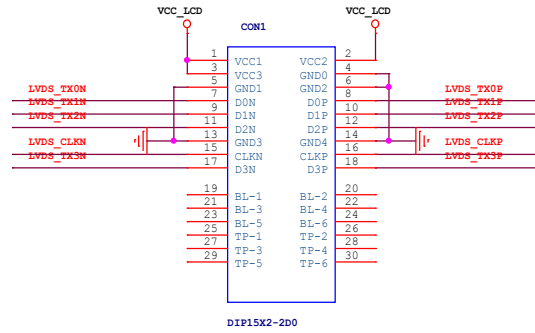
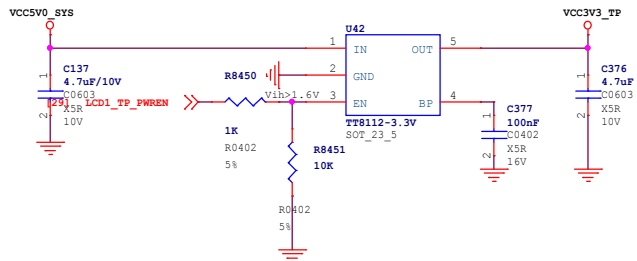
BT0B CONNECTOR

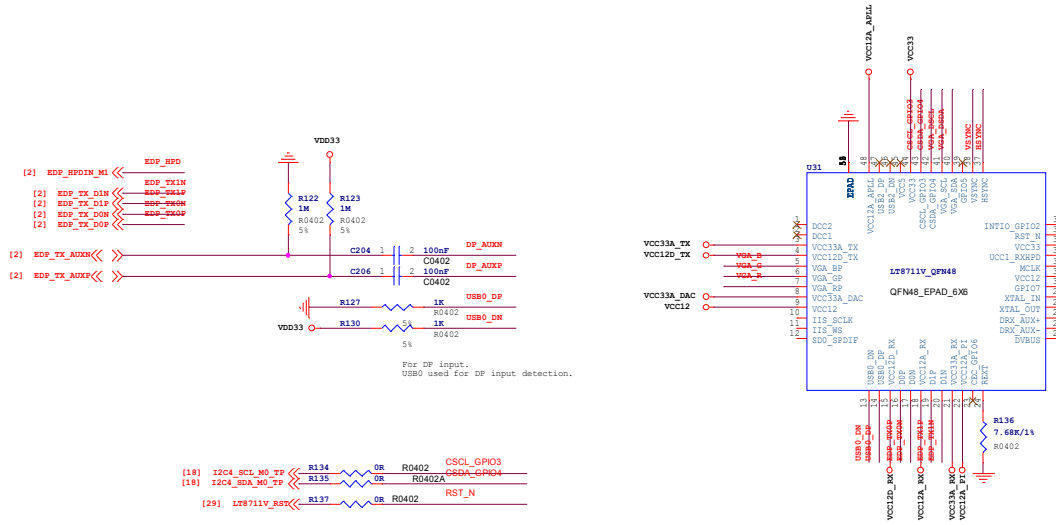
File: **MB-Q-EK3681TX** REV: V1.0

Cont. Date: Thursday, May 11, 2023 Page: Num: 3

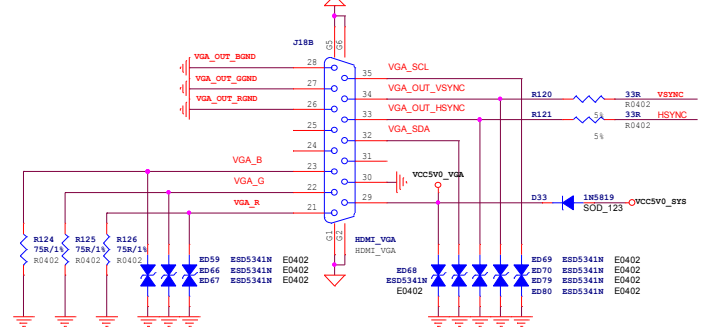
Modify Date: Thursday, May 19, 2023 Page: Total: 31

- [2] BL_PWM15 <<> BL_PWM6
- [29] BL_EN <<> BL_EN
- LVDS_TX0N <<> LVDS_TX0N
- [2] MIPI_DSI_TX0_D0N/LVDS_TX0_D0N <<> LVDS_TX0P
- [2] MIPI_DSI_TX0_D0P/LVDS_TX0_D0P <<> LVDS_TX0P
- LVDS_TX1N <<> LVDS_TX1N
- [2] MIPI_DSI_TX0_D1N/LVDS_TX0_D1N <<> LVDS_TX1P
- [2] MIPI_DSI_TX0_D1P/LVDS_TX0_D1P <<> LVDS_TX1P
- LVDS_CLKN <<> LVDS_CLKN
- [2] MIPI_DSI_TX0_CLKN/LVDS_TX0_CLKN <<> LVDS_CLKP
- [2] MIPI_DSI_TX0_CLKP/LVDS_TX0_CLKP <<> LVDS_CLKP
- LVDS_TX2N <<> LVDS_TX2N
- [2] MIPI_DSI_TX0_D2N/LVDS_TX0_D2N <<> LVDS_TX2P
- [2] MIPI_DSI_TX0_D2P/LVDS_TX0_D2P <<> LVDS_TX2P
- LVDS_TX3N <<> LVDS_TX3N
- [2] MIPI_DSI_TX0_D3N/LVDS_TX0_D3N <<> LVDS_TX3P
- [2] MIPI_DSI_TX0_D3P/LVDS_TX0_D3P <<> LVDS_TX3P

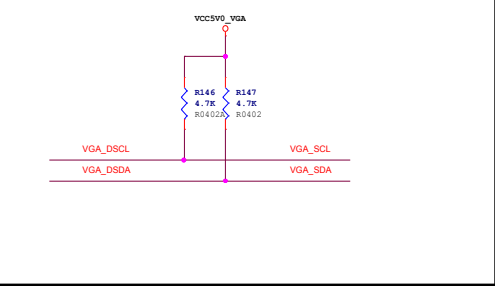
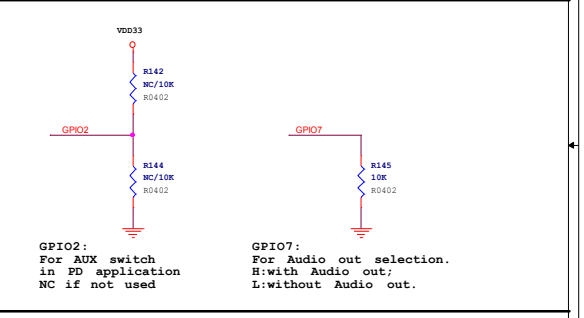
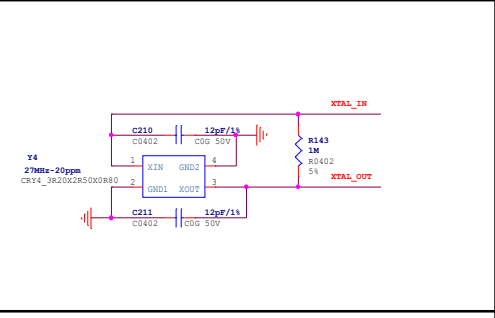
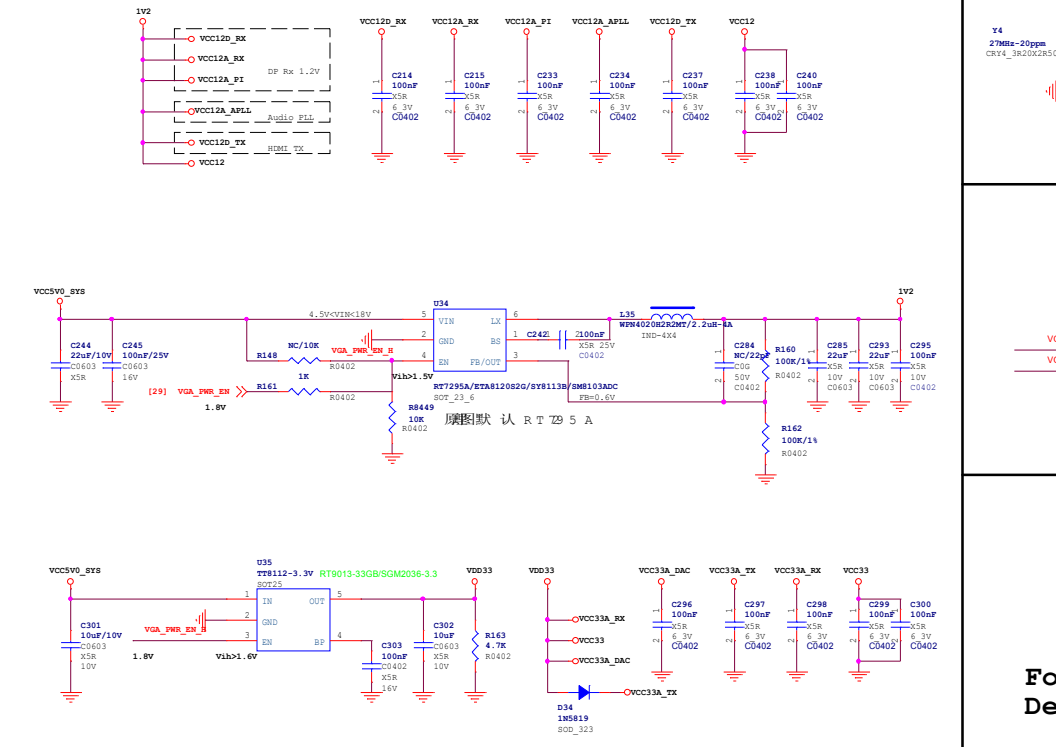




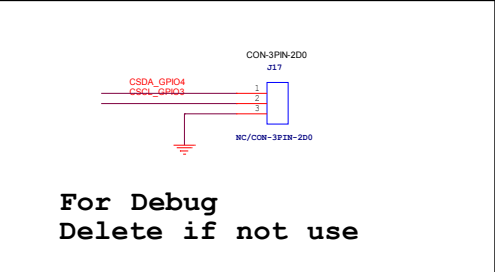
VGA out




Power



GPIO	Function
GPIO 0	
GPIO 1	
GPIO 2	For AUX switch in PD application
GPIO 3	System I2C-SCL
GPIO 4	System I2C-SDA
GPIO 5	
GPIO 6	
GPIO 7	Audio out selection
GPIO 8	
GPIO 9	
GPIO 10	
GPIO 11	
GPIO 12	
GPIO 13	
GPIO 14	
GPIO 15	

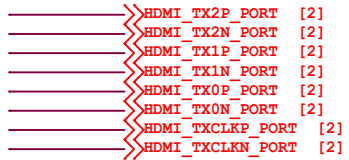


For Debug
Delete if not use

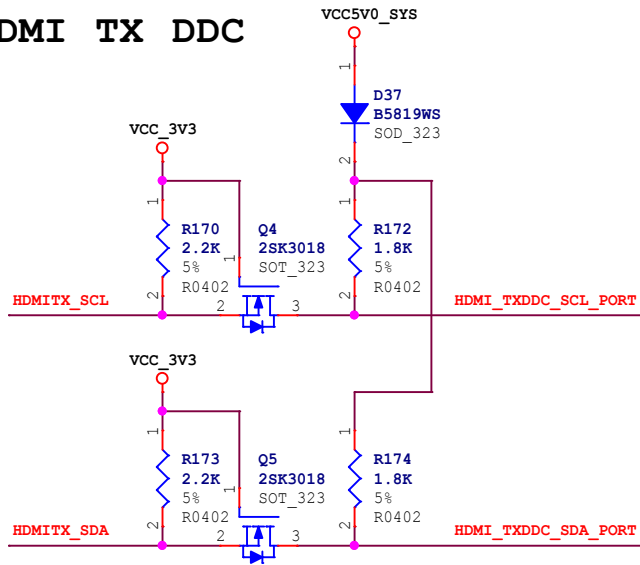

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Title: EDP-VGA-LT8711V
File: MB-Q-RK35681TY
 Create Date: Friday, December 10, 2021
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REV: V1.0	Page Num: 16
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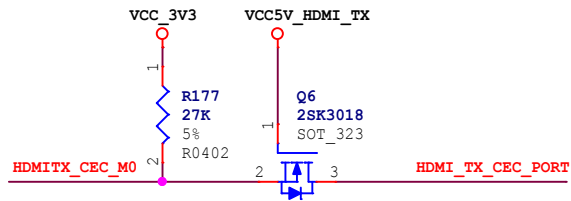
HDMI2.0 TX



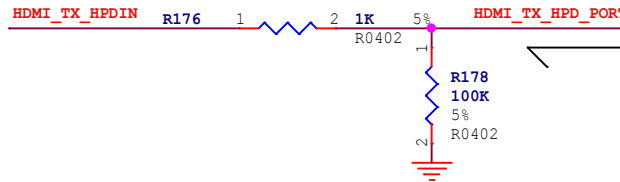
HDMI TX DDC



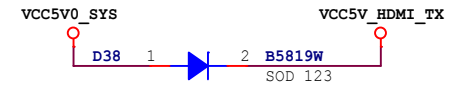
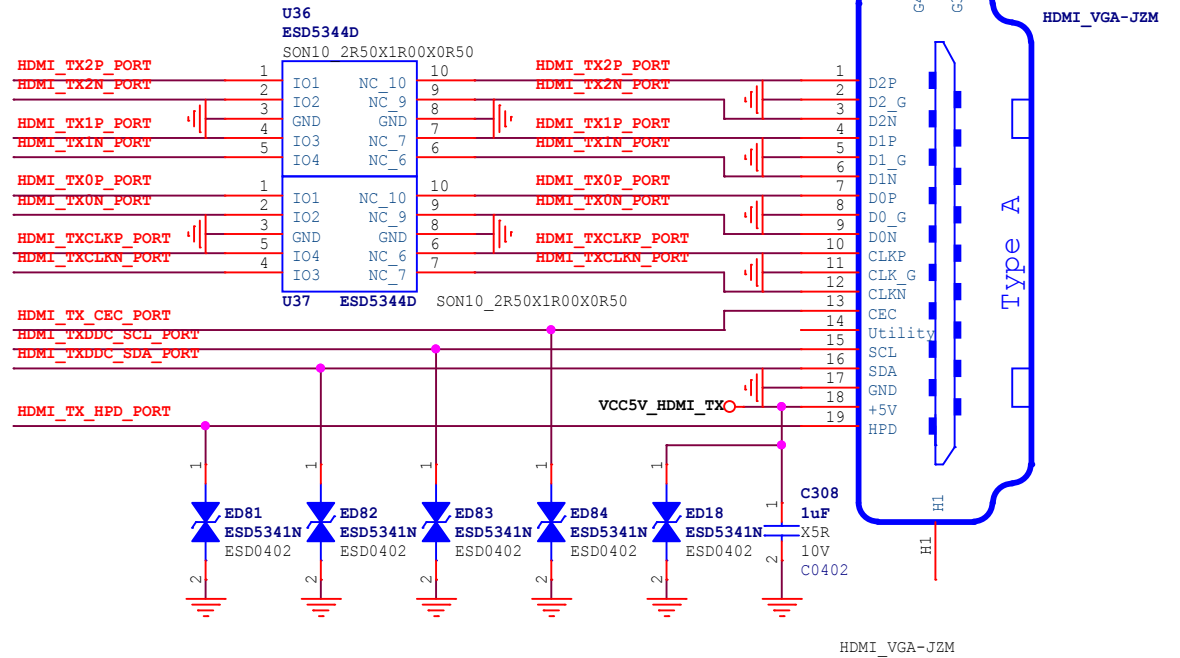
HDMI TX CEC



HDMI TX HPD



$$C_j \leq 0.4 \text{ pF}$$



Title: VO-HDMI2.0 TX	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Friday, December 10, 2021	Page Num: 15
Modify Date: Thursday, May 19, 2022	Page Total: 31

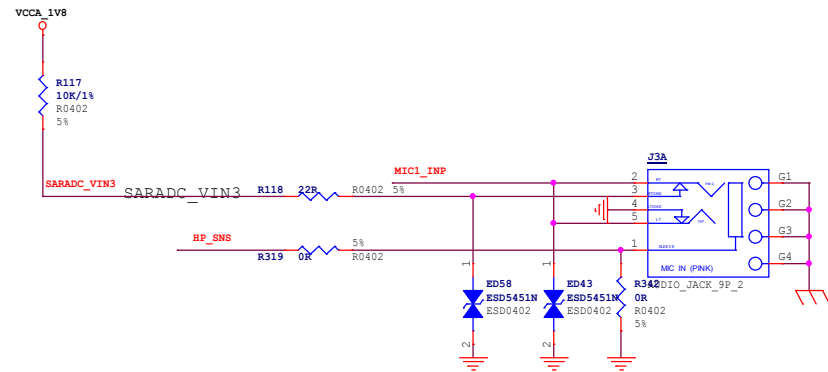
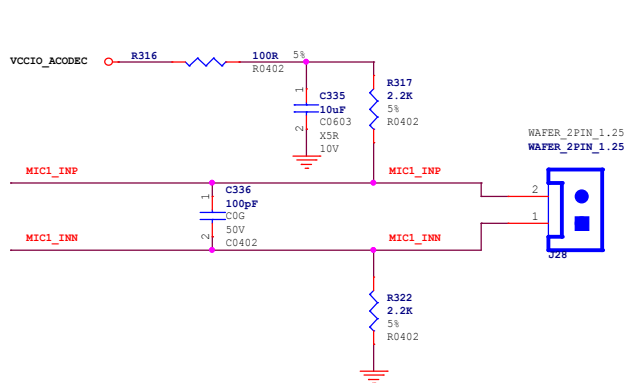
MIC

- ≡ HPL_OUT [2,14]
- ≡ HP_SNS [2,14]
- ≡ HPR_OUT [2,14]

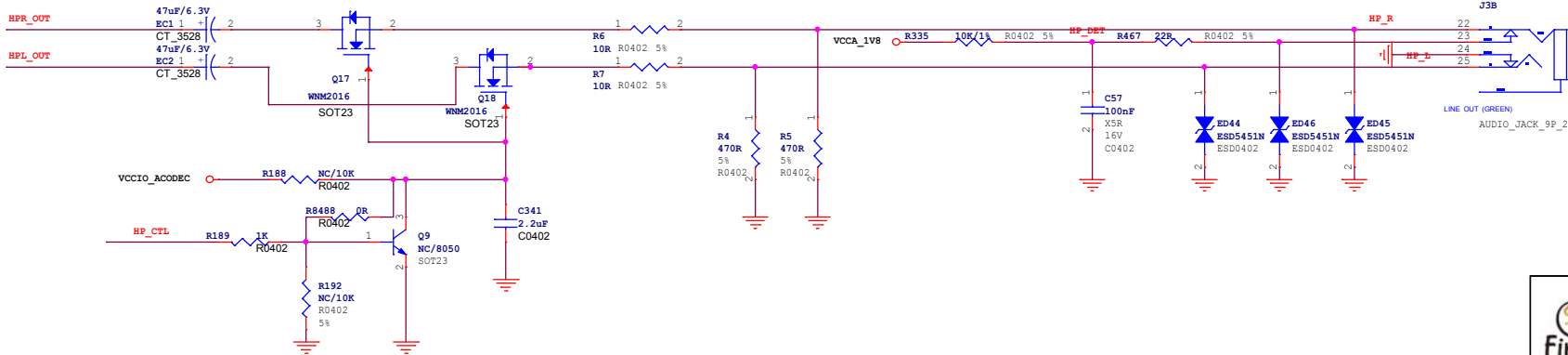
- ≡ MIC1_INP [2]
- ≡ MIC1_INN [2]

- ≡ SARADC_VIN3 [2]
- ≡ HP_CTL [2]

- ≡ HP_DET [2]



Headphone





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Title: Audio Port		REV: V1.0
File: MB-Q-RK3568ITX		
Create Date: Monday, May 10, 2021	Page Num: 13	
Modify Date: Thursday, May 19, 2022	Page Total: 31	

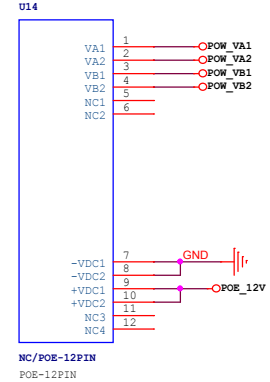
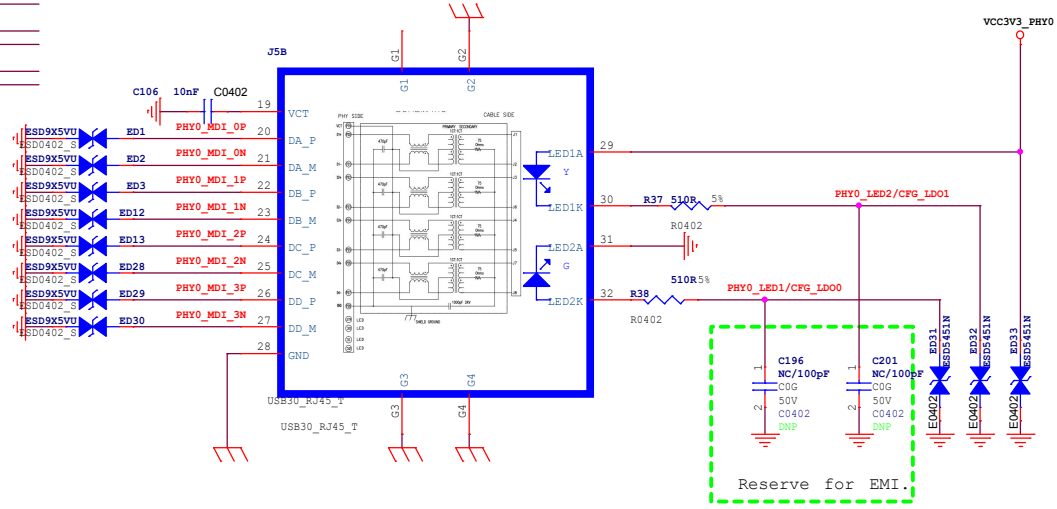
[10] PHY0_LED2/CFG_LD01
 [10] PHY0_LED1/CFG_LD00

[10] PHY0_MDI_OP
 [10] PHY0_MDI_ON

[10] PHY0_MDI_1P
 [10] PHY0_MDI_1N

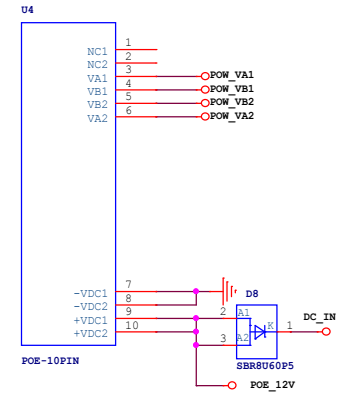
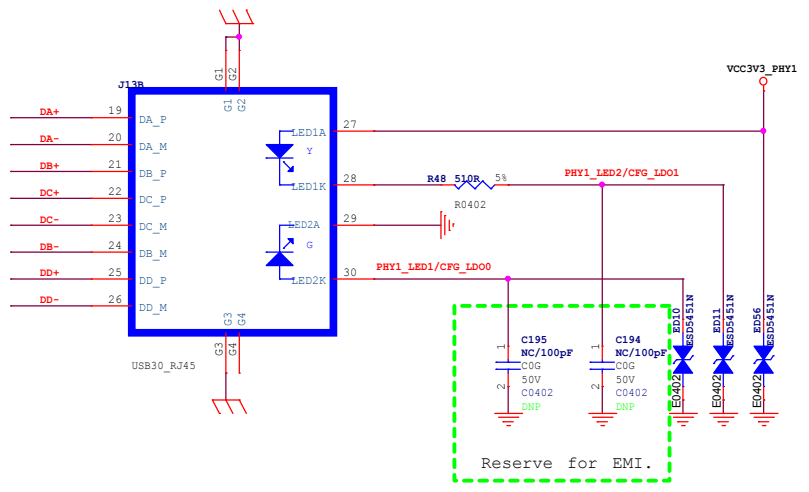
[10] PHY0_MDI_2P
 [10] PHY0_MDI_2N


[10] PHY0_MDI_3P
 [10] PHY0_MDI_3N



[11] PHY1_LED2/CFG_LD01
 [11] PHY1_LED1/CFG_LD00

[11] DA+
 [11] DA-
 [11] DB+
 [11] DB-
 [11] DC+
 [11] DC-
 [11] DD+
 [11] DD-



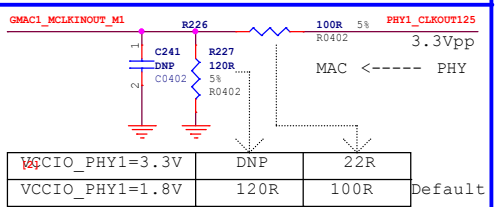
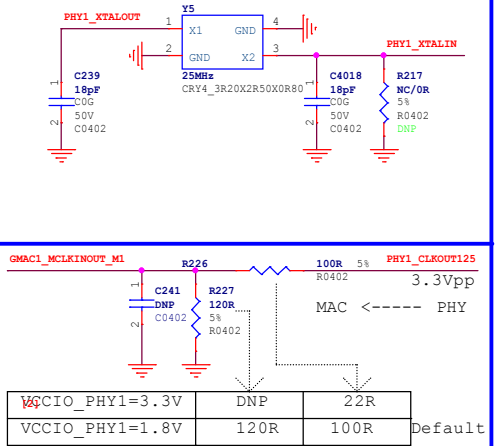
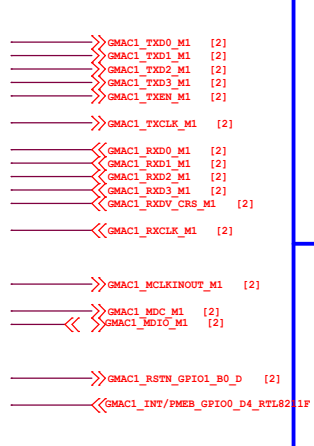
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Title: RJ45/POE_MODULE

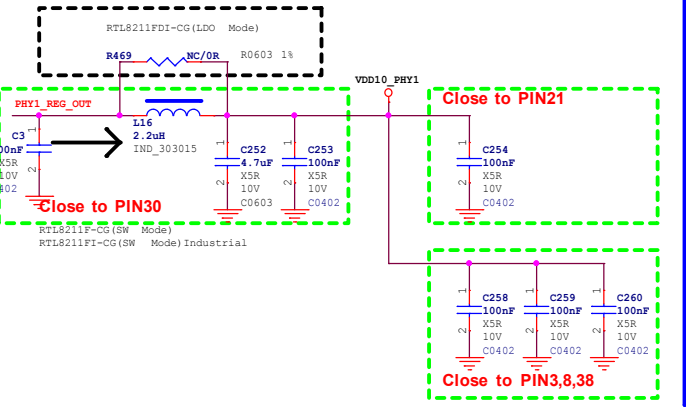
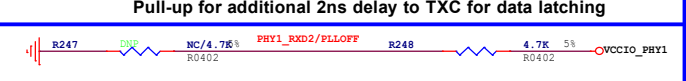
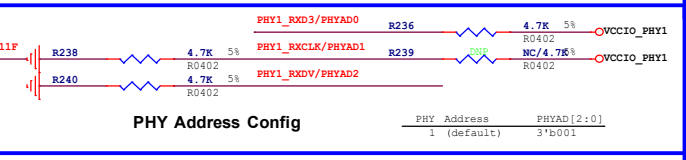
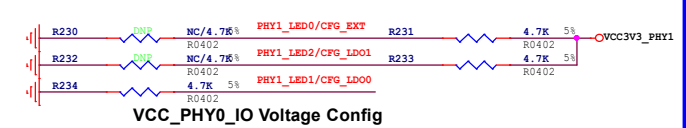
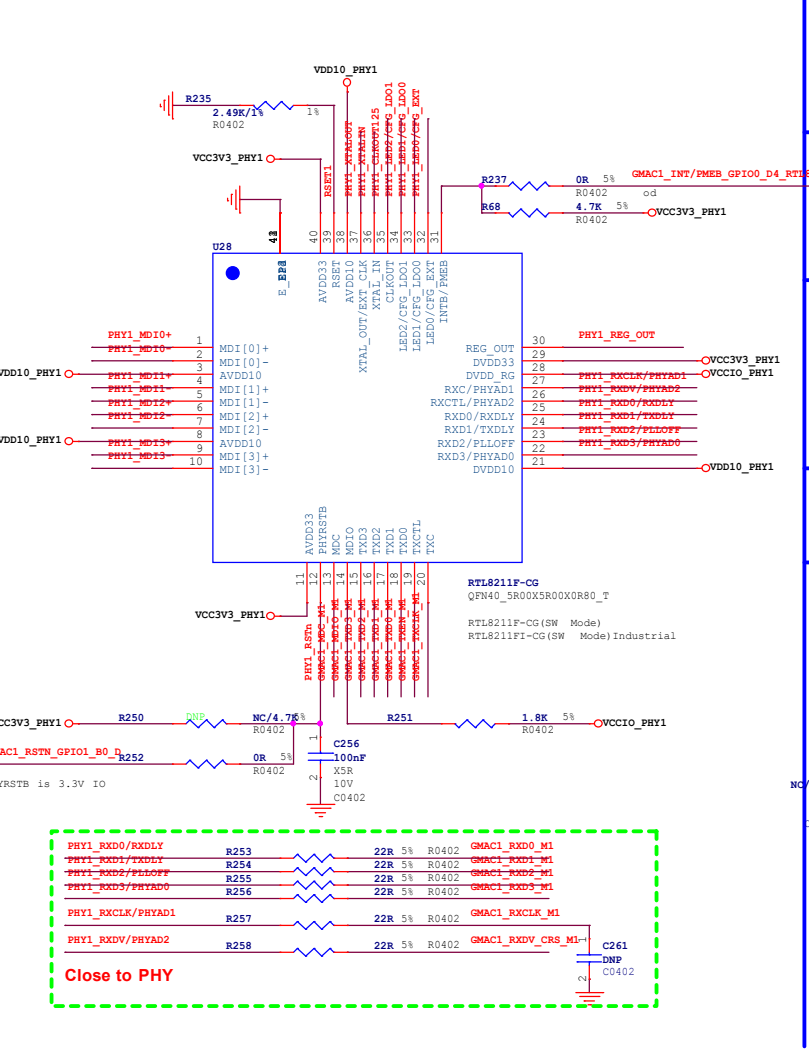
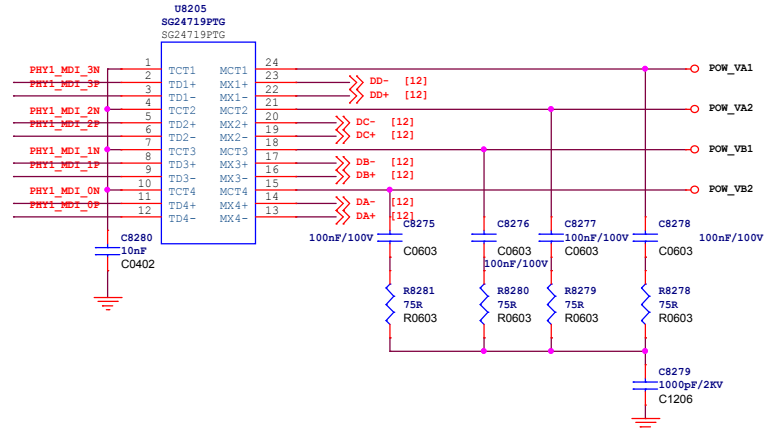
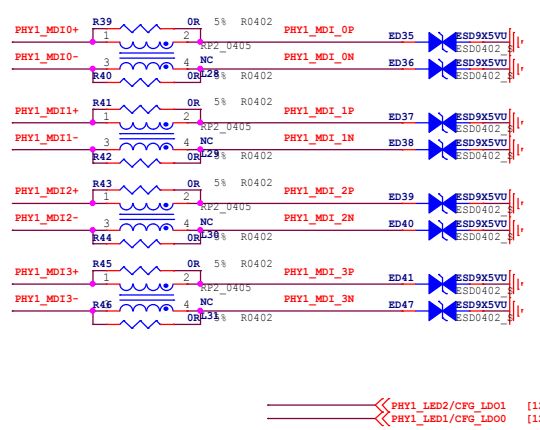
File: MB-Q-RK3568ITX REV: V1.0

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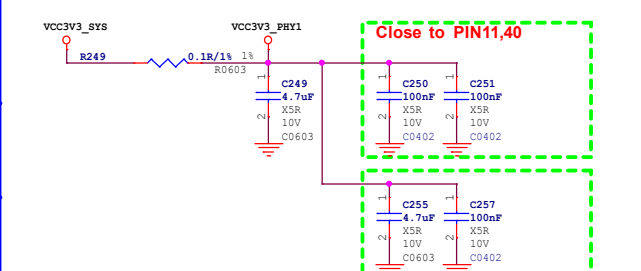
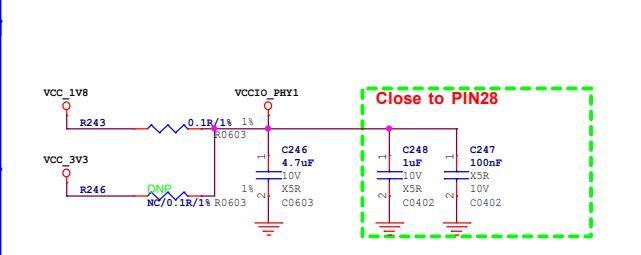
Modify Date: Thursday, May 19, 2022 Page Total: 31



VCCIO_PHY1=3.3V	DNP	22R	
VCCIO_PHY1=1.8V	120R	100R	Default



RGMI1 Power Source	CFG EXT	CFG LDO[1:0]	
External 3.3V	1'b1	2'b00	
External 1.8V (default)	1'b1	2'b10	
Internal 1.8V	1'b0	2'b10	



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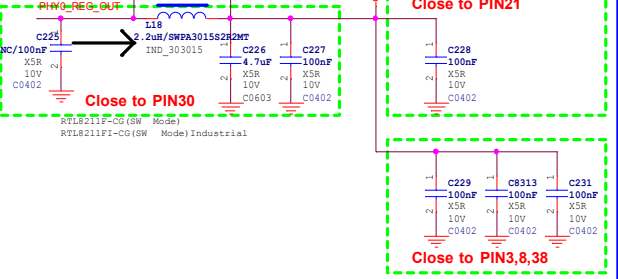
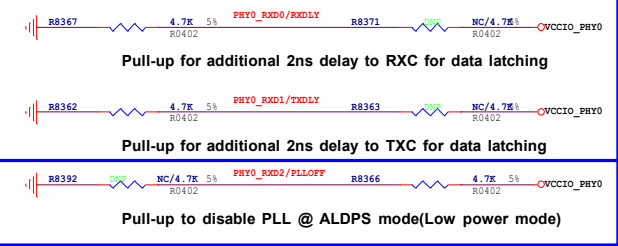
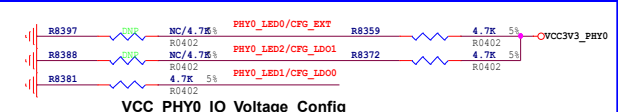
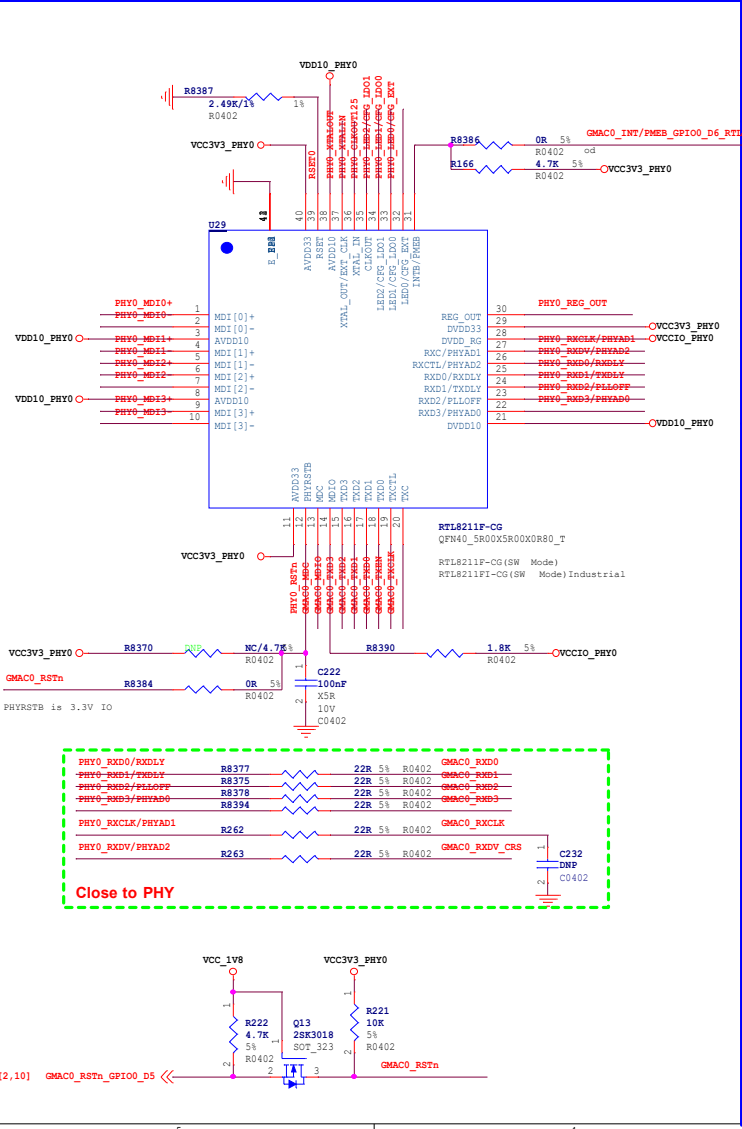
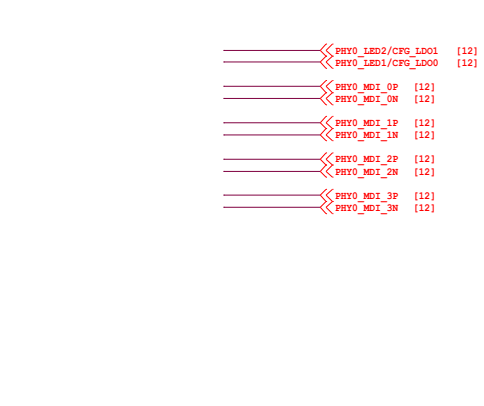
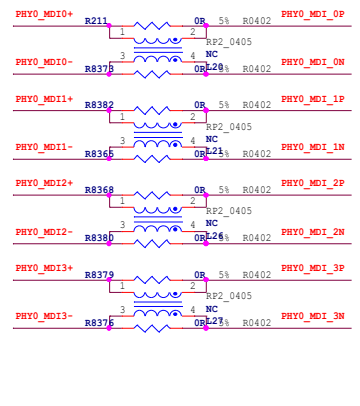
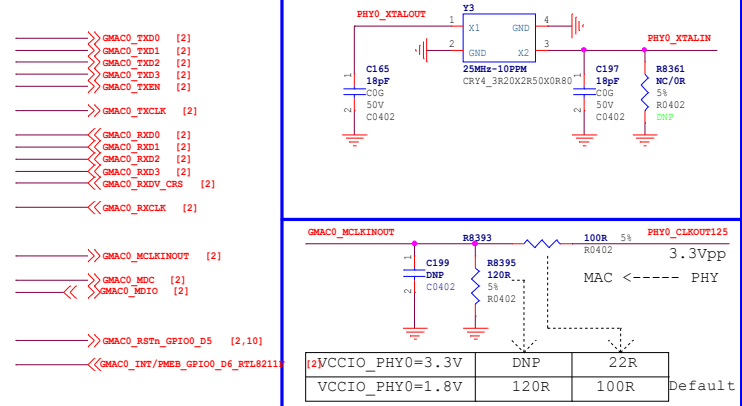
Title: Ethernet-GEPHY RGMI11

File: MB-Q-RK3568ITX

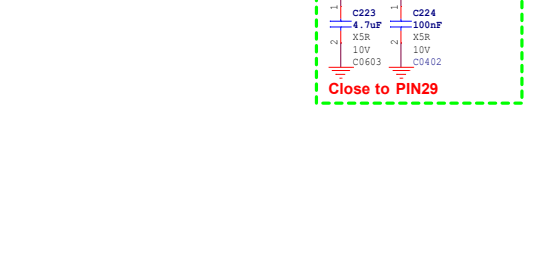
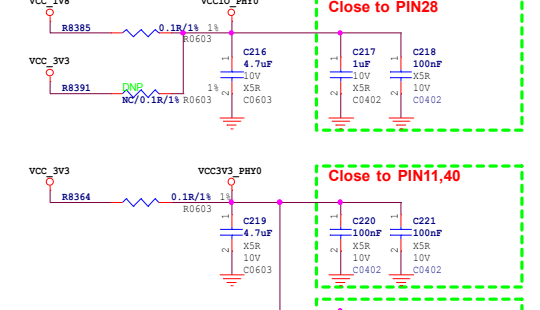
REV: V1.0

Create Date: Monday, May 10, 2021 Page Num: 11

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RGMI Power Source	CFG_EXT	CFG_LDO[1:0]
External 3.3V	1'b1	2'b00
External 1.8V (default)	1'b1	2'b10
Internal 1.8V	1'b0	2'b10

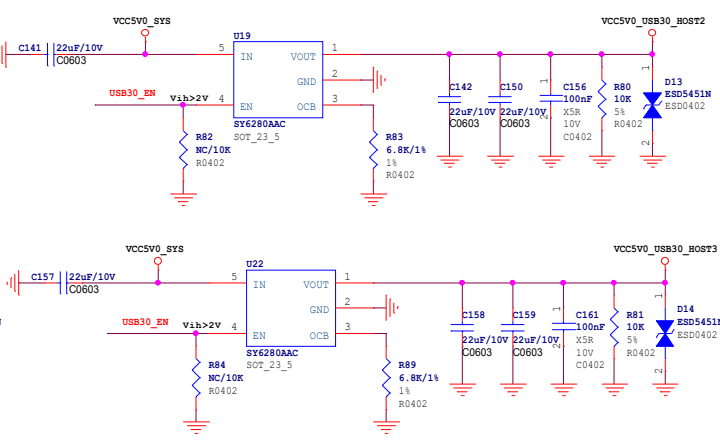
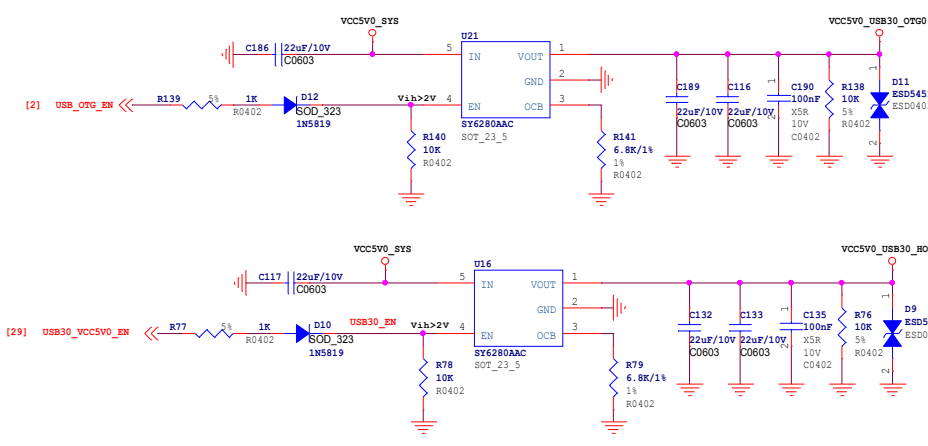
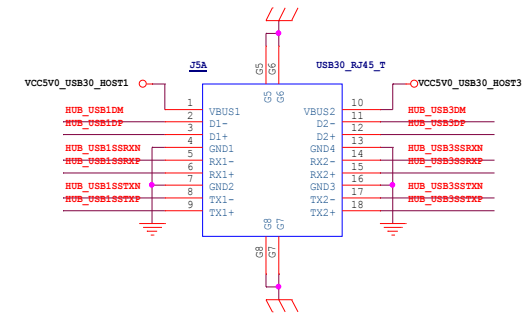
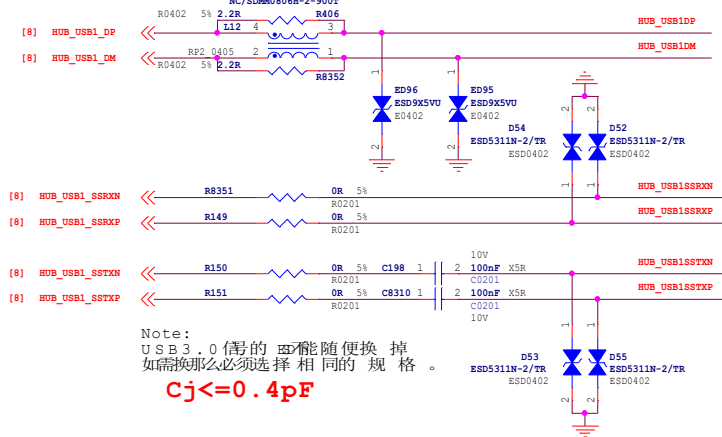
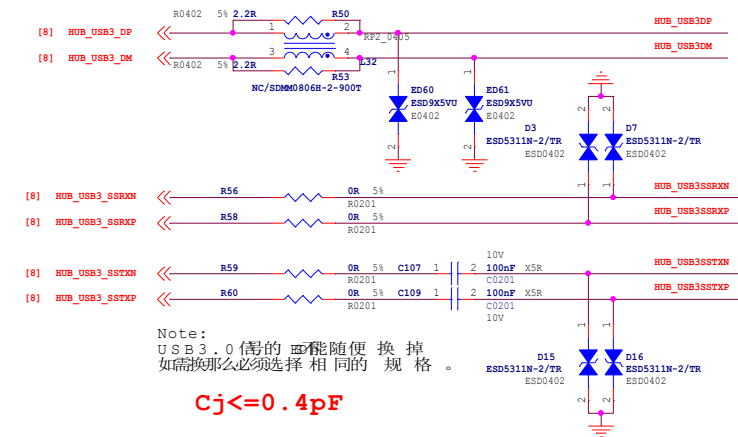
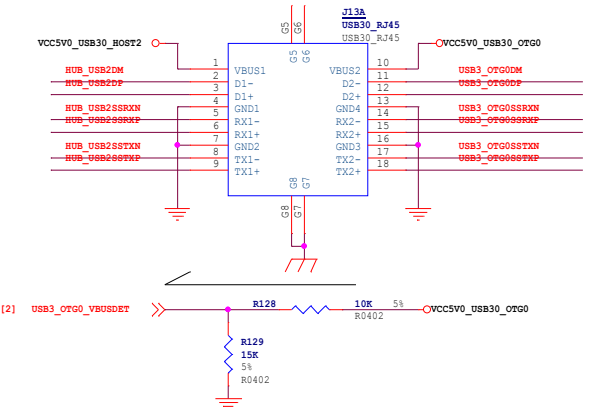
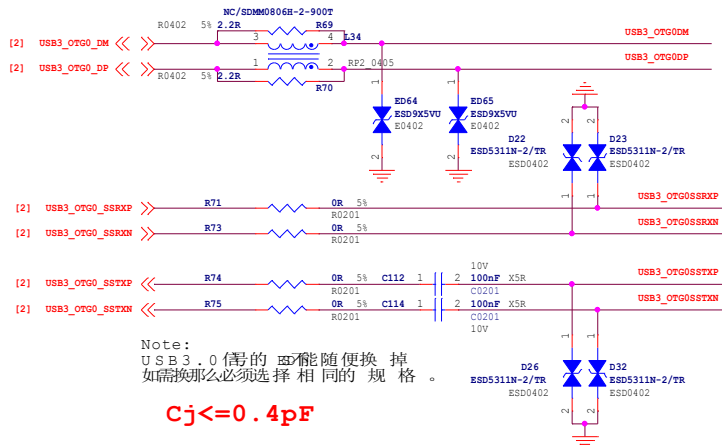
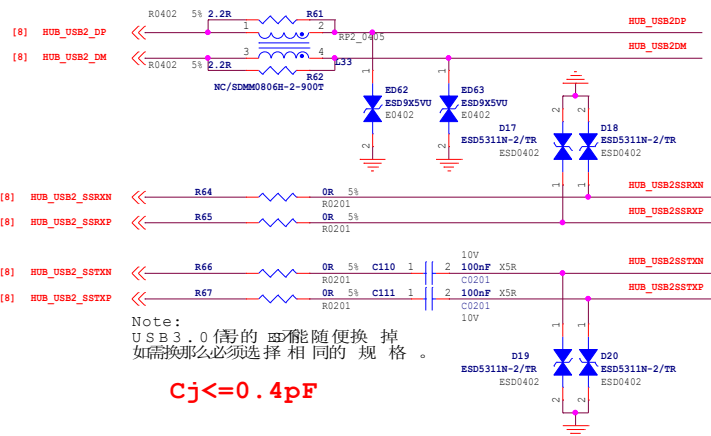



Title: Ethernet-GEPHY RGMII0

File: MB-Q-RK3568ITX REV: V1.0

Create Date: Tuesday, November 30, 2021 Page Num: 10

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Title: USB3.0 Port

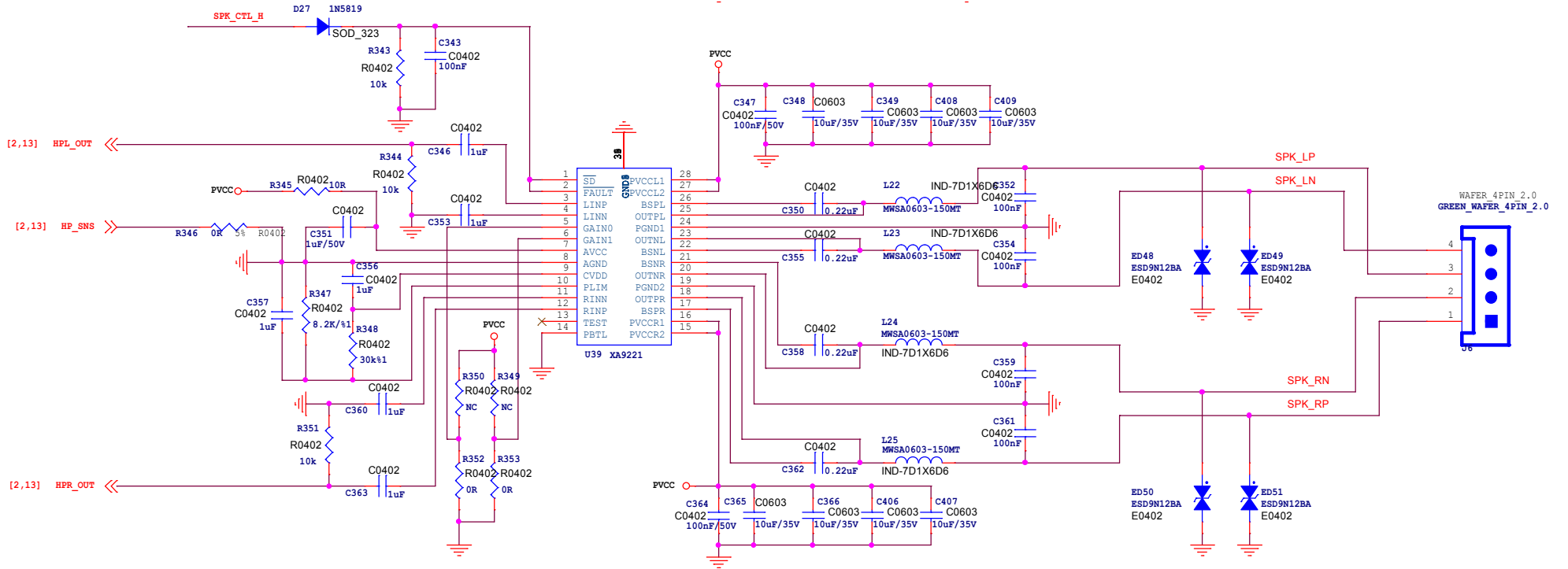
File: MB-Q-RK3568ITX REV: V1.0


Create Date: Monday, May 10, 2021 Page Num: 9

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SPEAKER

[29] SPK_CTL_H >>



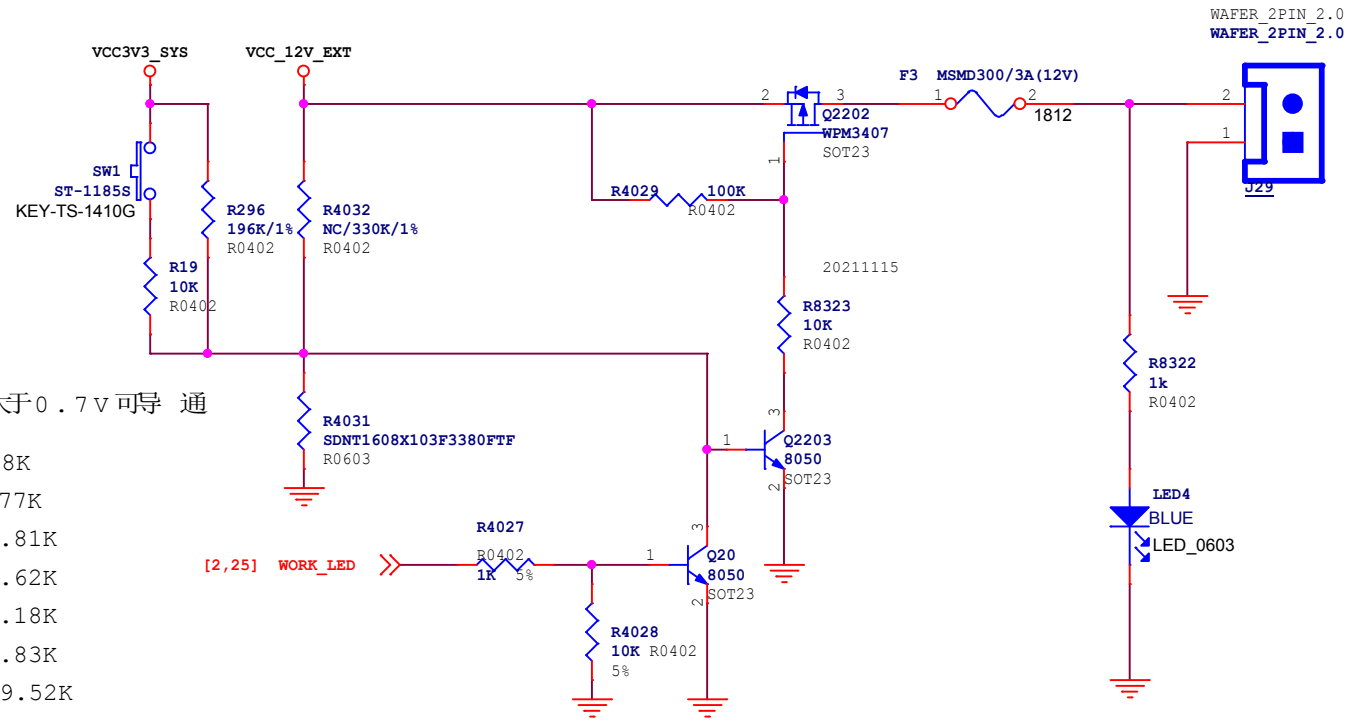


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Title: SPEAKER	
File: MB-Q-RK3568ITX	REV: v1.0
Create Date: Monday, May 10, 2021	Page Num: 14
Modify Date: Thursday, May 19, 2022	Page Total: 31

热敏电阻分压 大于0.7V可导通

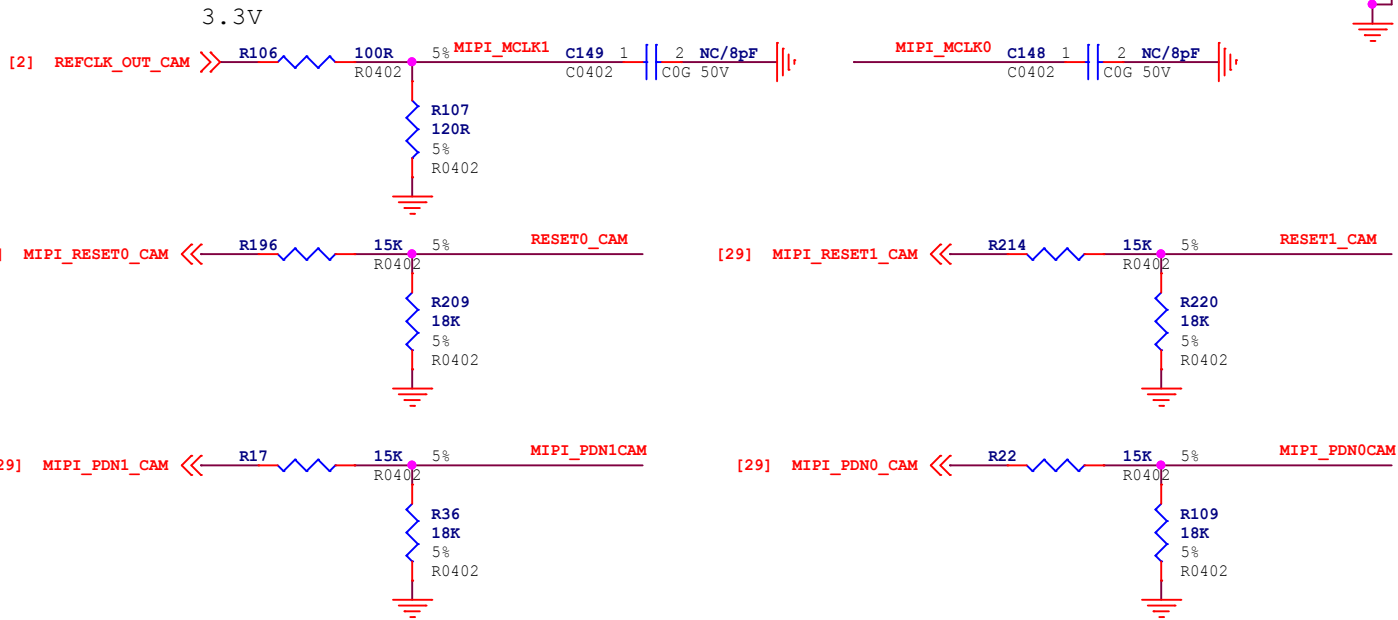
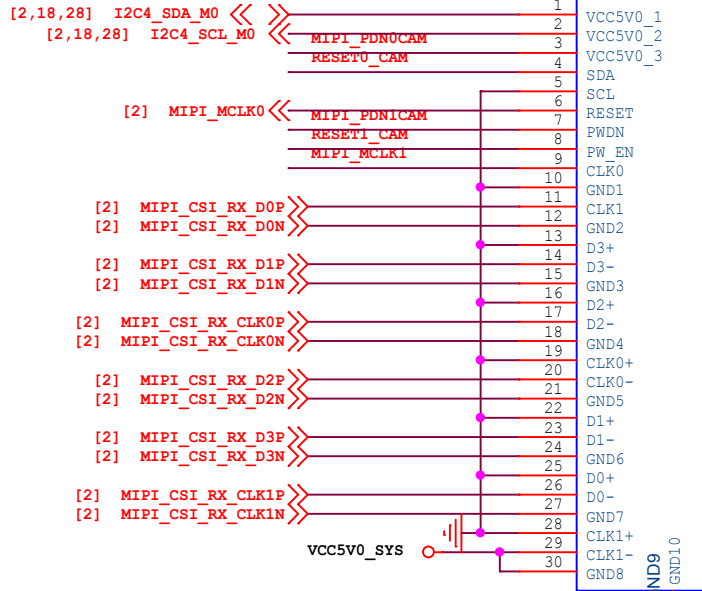
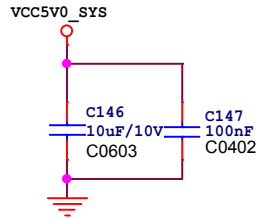
0°	27.8K
-5°	34.77K
-10°	43.81K
-15°	55.62K
-20°	71.18K
-25°	91.83K
-30°	119.52K




Title: HEAT	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Tuesday, May 11, 2021	Page Num: 21
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MIPI CAMERA

J14
FPC_30PIN_OD5
fpc_30pin_Od5



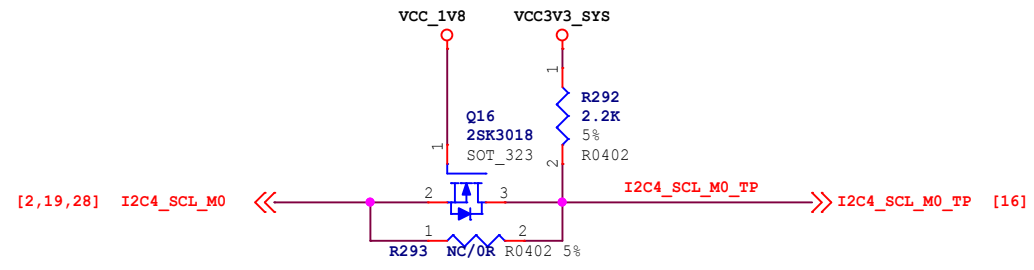
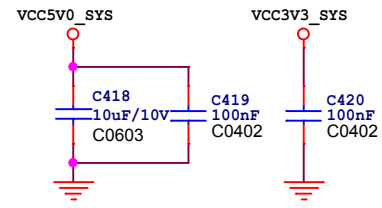
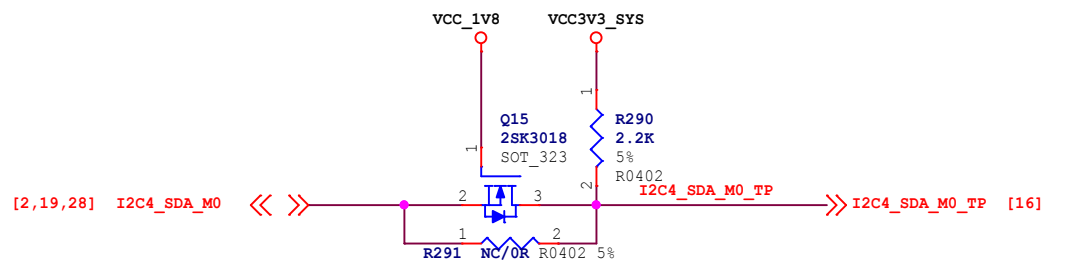
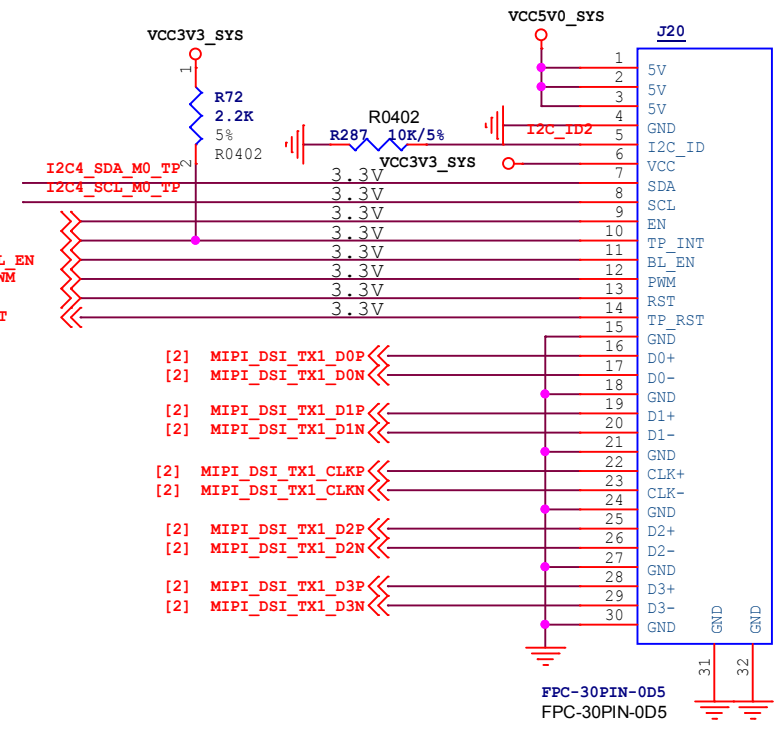



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Title: MIPI CAMREA	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Tuesday, May 11, 2021	Page Num: 19
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MIPI DSI1

- [17,29] LCD_VCC_EN
- [2] MIPI_TP_INT
- [29] MIPI_BL_EN
- [2] MIPI_BL_PWM
- [2] LCD1_RST
- [29] MIPI_TP_RESET



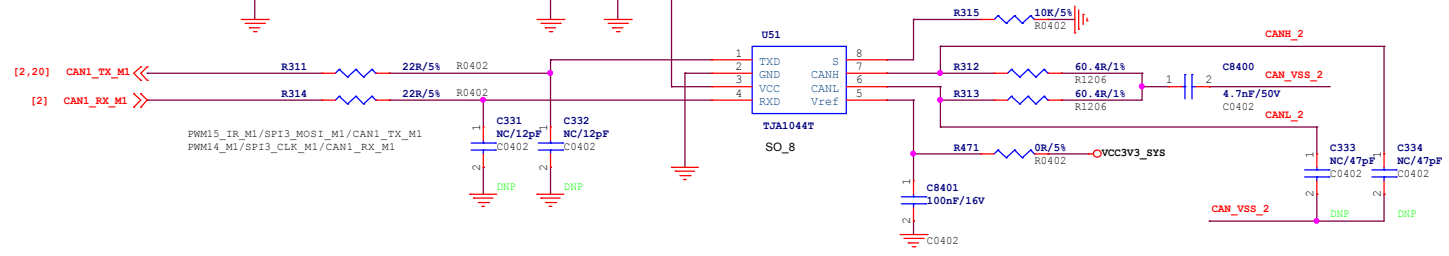
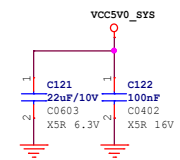
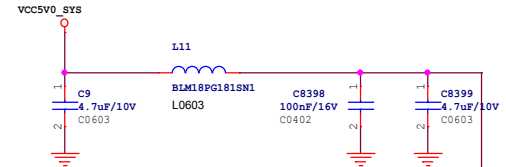
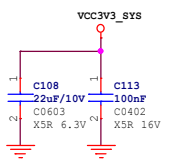
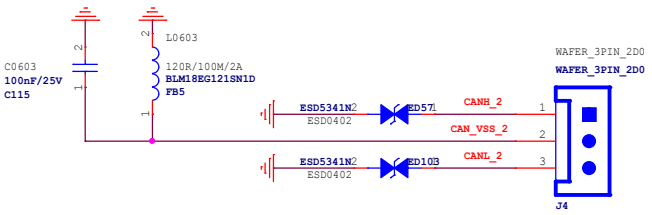
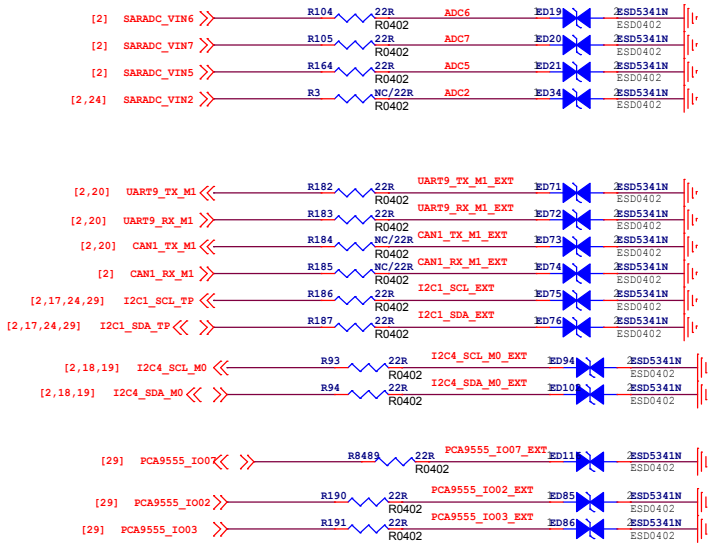
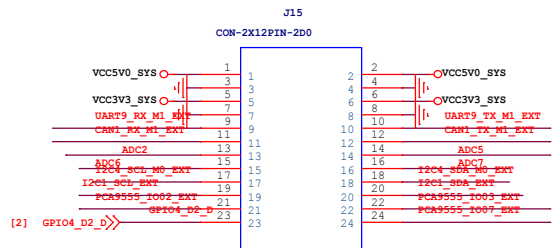


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Title: MIPI DSI1

File: MB-Q-RK3568ITX REV: V1.0

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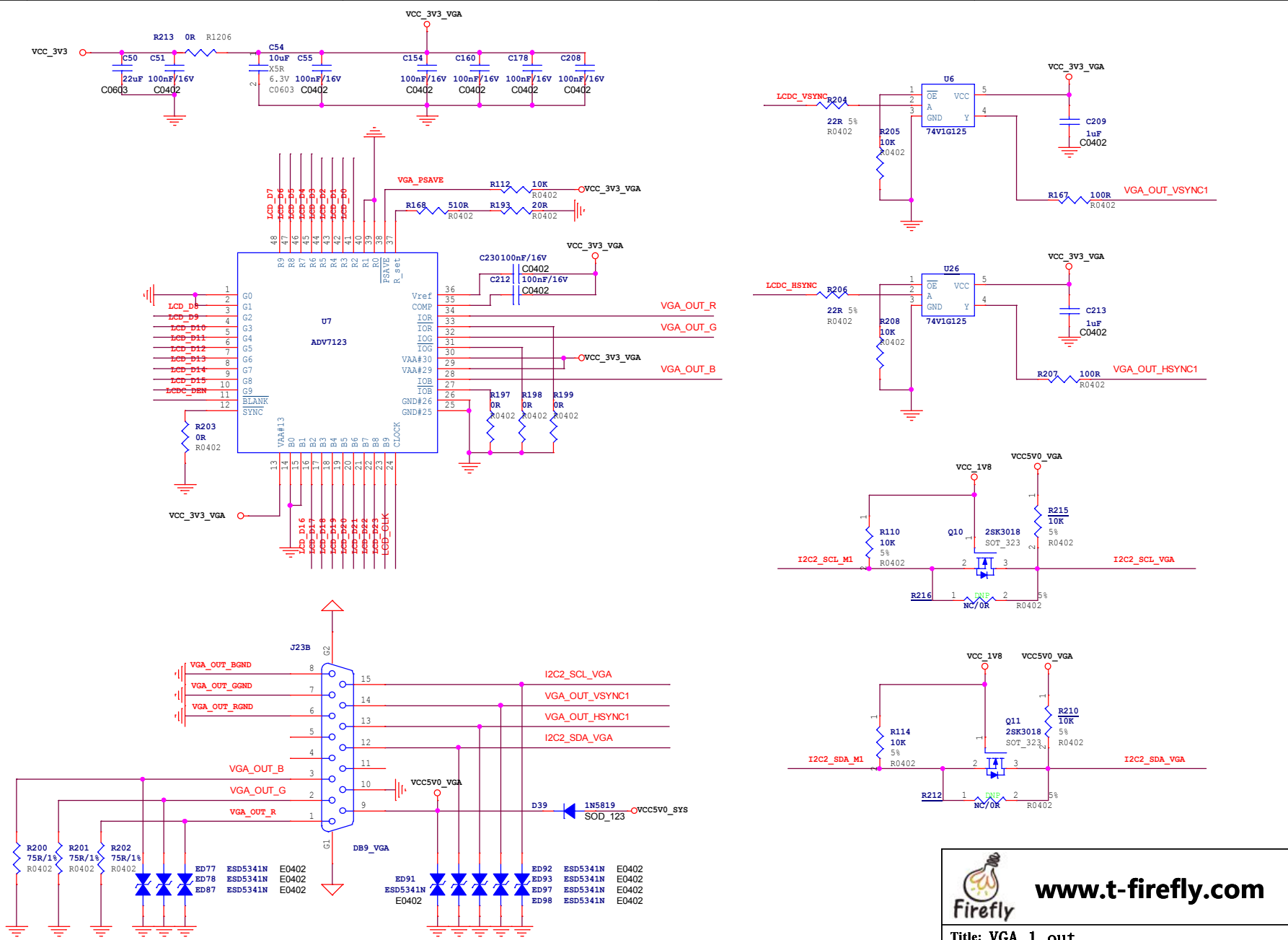
SOIC (8)
 TXD:transmit data input
 RXD:receiver data output




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Title: VGA_1 out		REV: V1.0
File: MB-Q-RK3568ITX		
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(2) LCD_D0 >>> LCD_D0
 (2) LCD_D1 >>> LCD_D1
 (2) LCD_D2 >>> LCD_D2
 (2) LCD_D3 >>> LCD_D3
 (2) LCD_D4 >>> LCD_D4
 (2) LCD_D5 >>> LCD_D5
 (2) LCD_D6 >>> LCD_D6
 (2) LCD_D7 >>> LCD_D7
 (2) LCD_D8 >>> LCD_D8
 (2) LCD_D9 >>> LCD_D9
 (2) LCD_D10 >>> LCD_D10
 (2) LCD_D11 >>> LCD_D11
 (2) LCD_D12 >>> LCD_D12
 (2) LCD_D13 >>> LCD_D13
 (2) LCD_D14 >>> LCD_D14
 (2) LCD_D15 >>> LCD_D15
 (2) LCD_D16 >>> LCD_D16
 (2) LCD_D17 >>> LCD_D17
 (2) LCD_D18 >>> LCD_D18
 (2) LCD_D19 >>> LCD_D19
 (2) LCD_D20 >>> LCD_D20
 (2) LCD_D21 >>> LCD_D21
 (2) LCD_D22 >>> LCD_D22
 (2) LCD_D23 >>> LCD_D23
 (2) LCD_VSYNC >>> LCD_VSYNC
 (2) LCD_HSsync >>> LCD_HSsync
 (2) LCD_CLK >>> LCD_CLK
 (2) LCD_DEN >>> LCD_DEN
 (2,17,24,28,29) I2C1_SCL_TP >>>
 (2,17,24,28,29) I2C1_SDA_TP >>>
 (29) VGA_PSAVE <<<
 (2) I2C2_SCL_M1 <<<
 (2) I2C2_SDA_M1 <<<



VGA_1 out

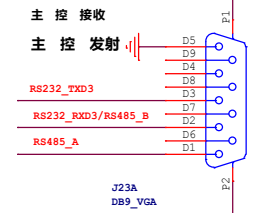
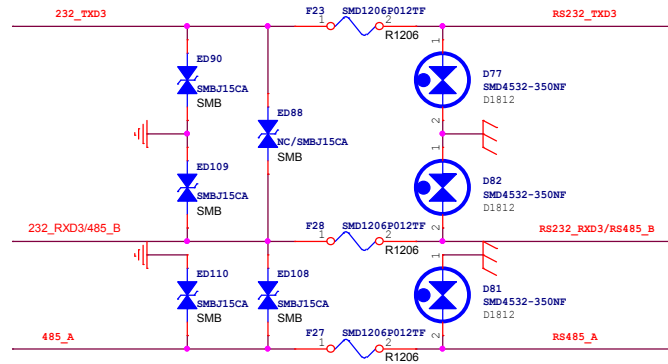
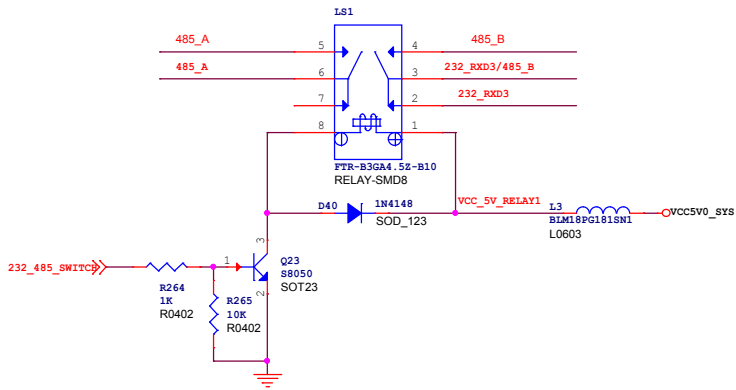
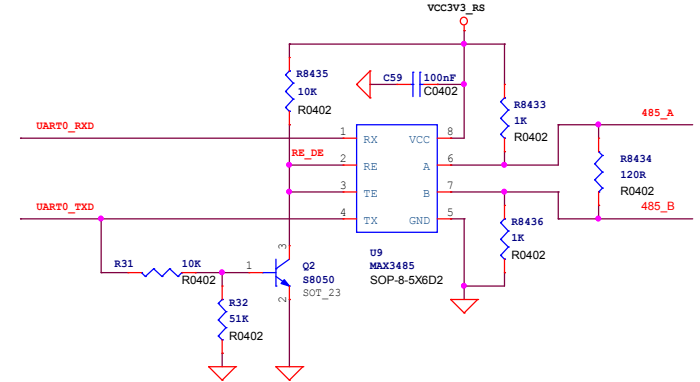
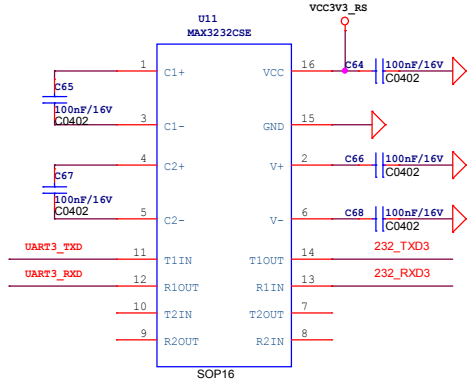
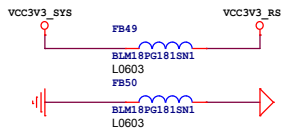
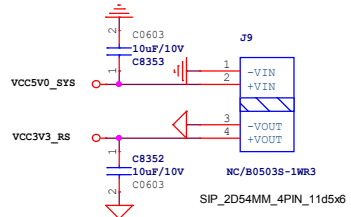
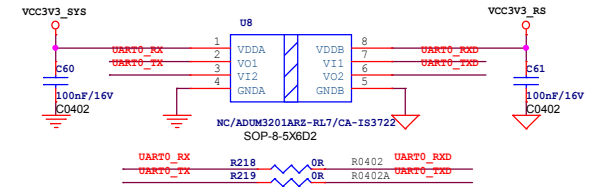
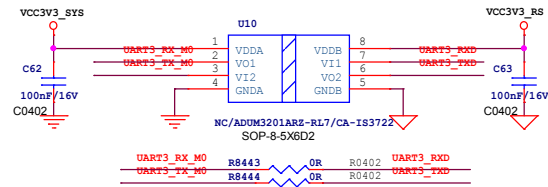



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Title: VGA 1 out		REV: V1.0
File: MB-Q-RK3568ITX		
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[2] UART0_TX
[2] UART0_RX

[2] UART3_TX_M0
[2] UART3_RX_M0



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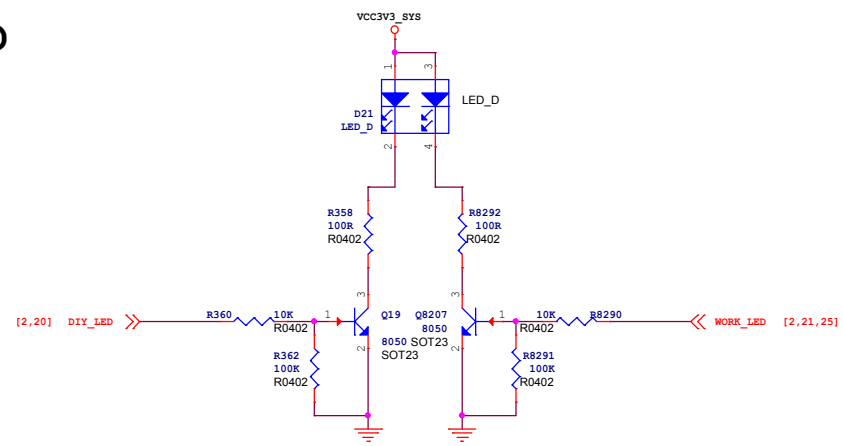
Title: RS232/RS485

File: MB-Q-RK3568ITX REV: V1.0

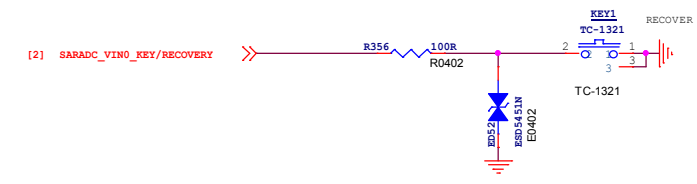
Create Date: Wednesday, December 01, 2021 Page Num: 26

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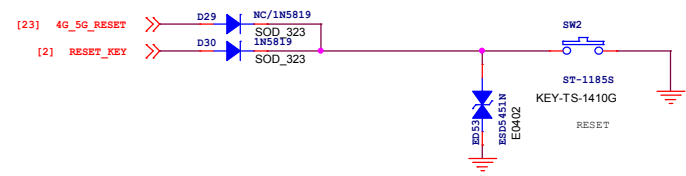
LED



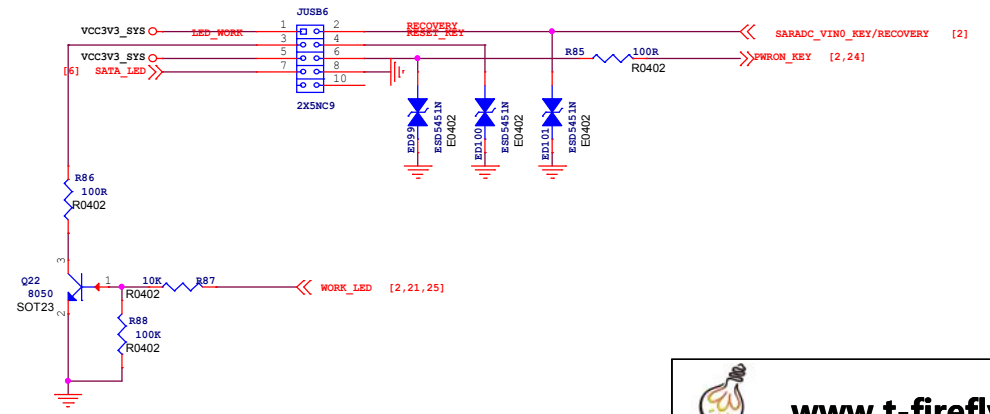
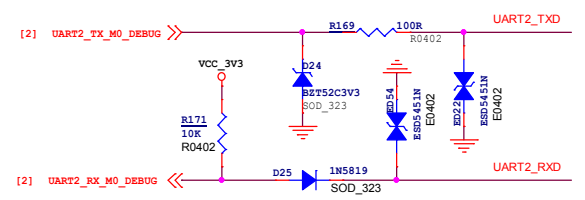
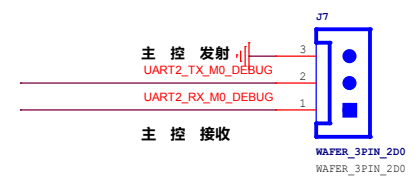
RECOVERY_KEY




RESET_KEY



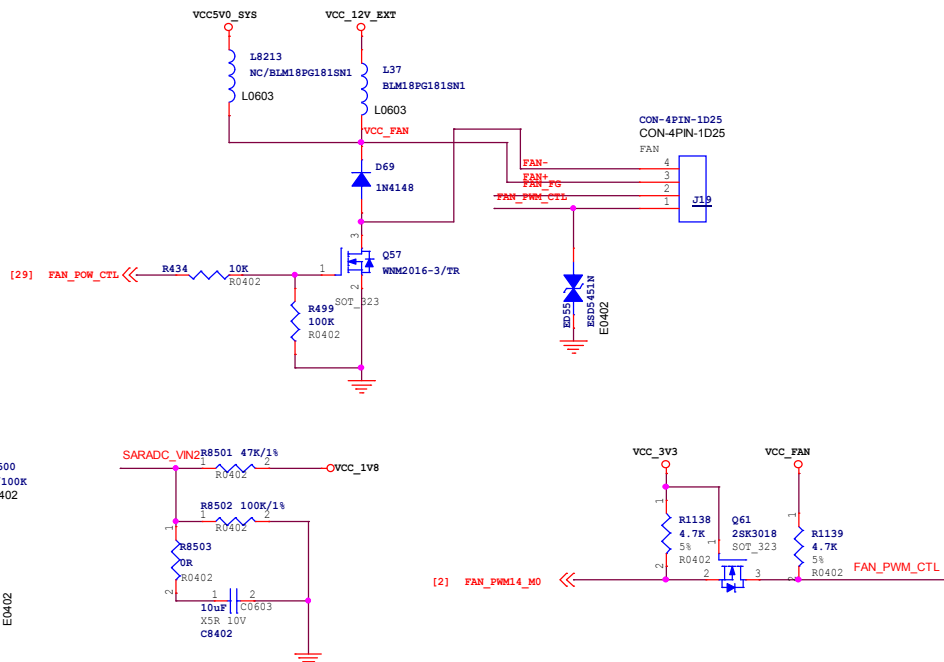
DEBUG



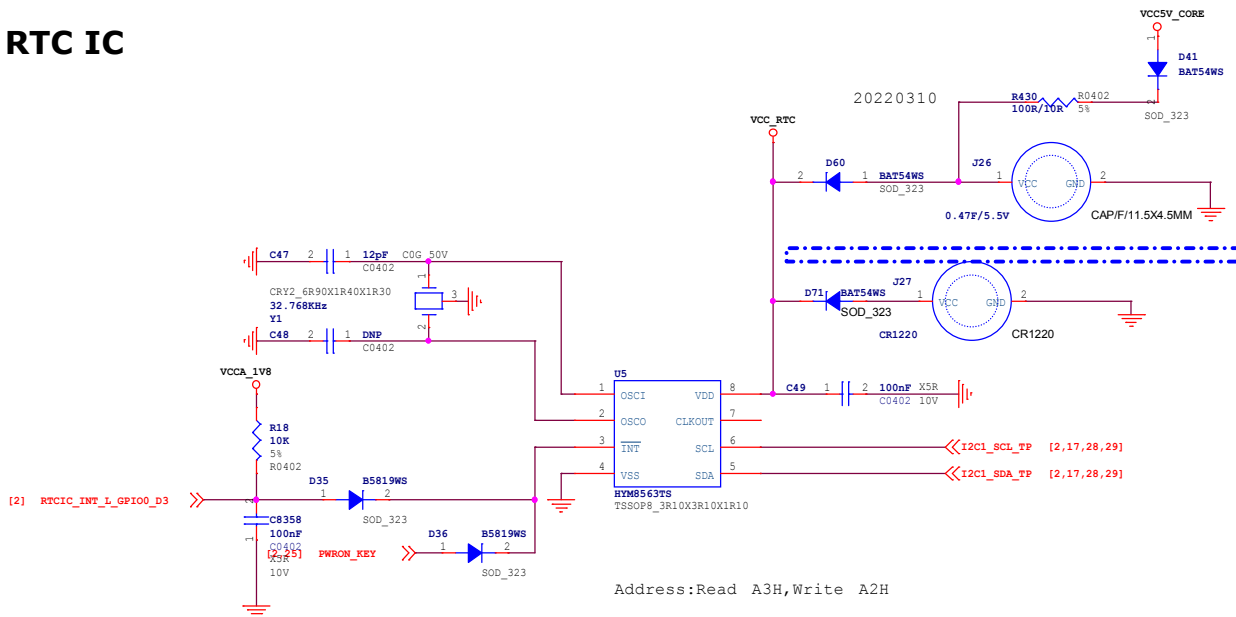

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Title: KEY/LED/DEBUG		REV: V1.0
File: MB-Q-RK3668ITX		
Create Date: Monday, May 10, 2021	Page Num: 25	
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FAN



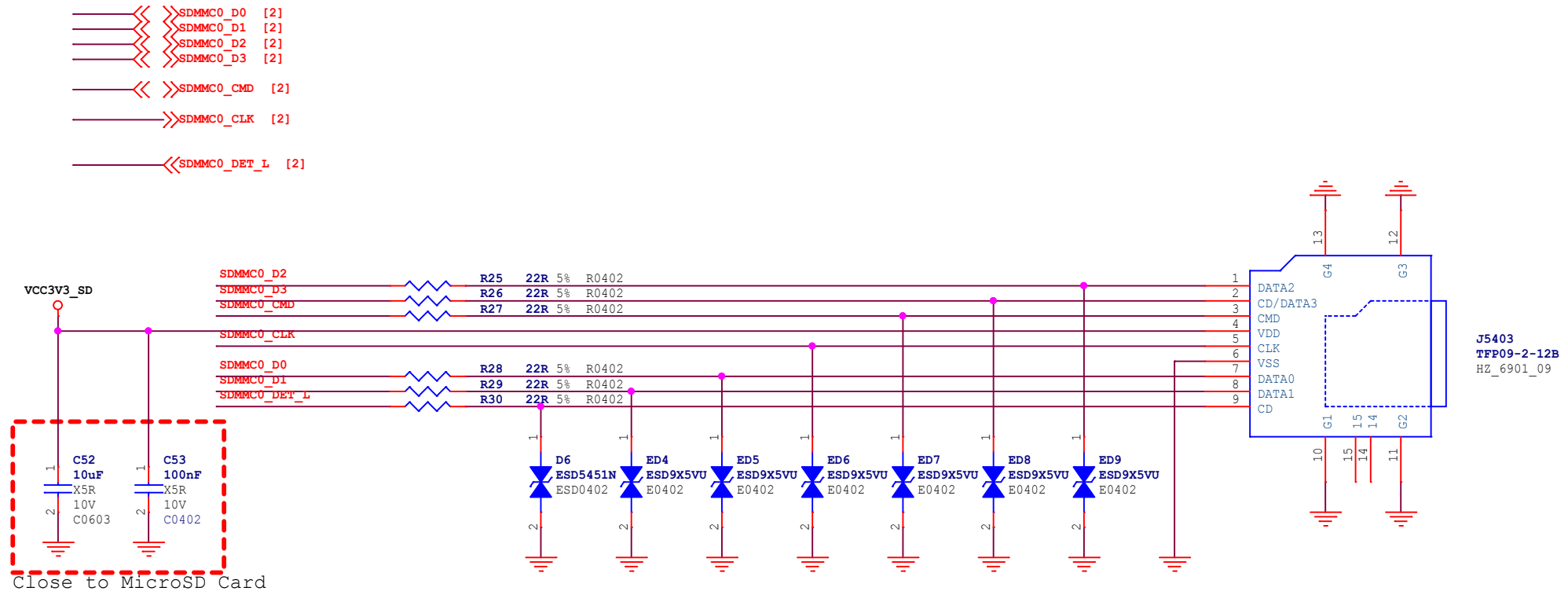
RTC IC






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Title: FAN/RTC	
File: MB-Q-RK3568ITX	REV: V1.0
Create Date: Monday, May 10, 2021	Page Num: 24
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Close to MicroSD Card

MicroSD Card

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Title: Flash-MicroSD Card			
File: MB-Q-RK3568ITX			REV: V1.0
Create Date: Wednesday, May 12, 2021		Page Num: 22	
Modify Date: Thursday, May 19, 2022		Page Total: 31	

