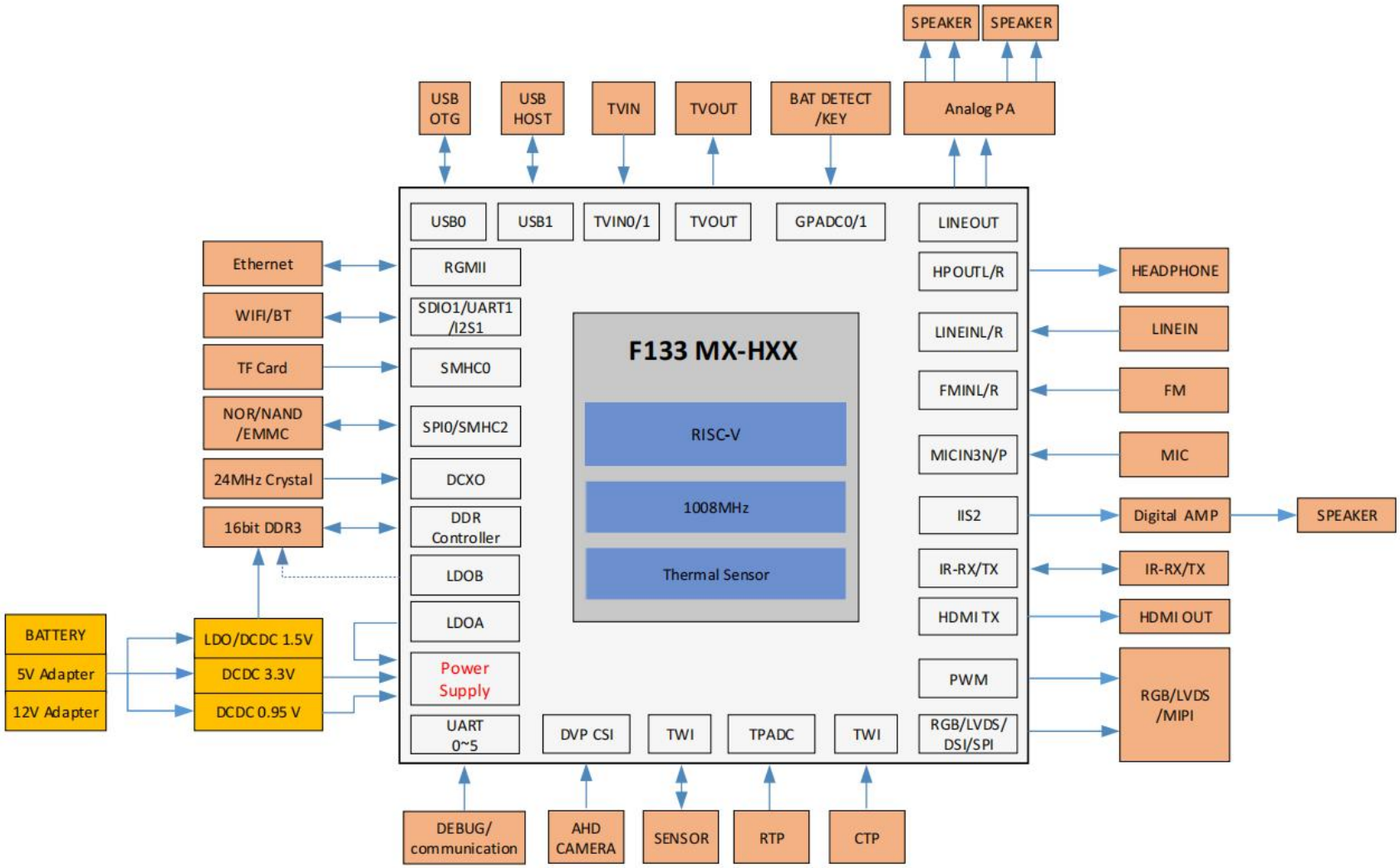
VERSION HISTORY

Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Release Version	2024-10-18			

Index:

BLOCK



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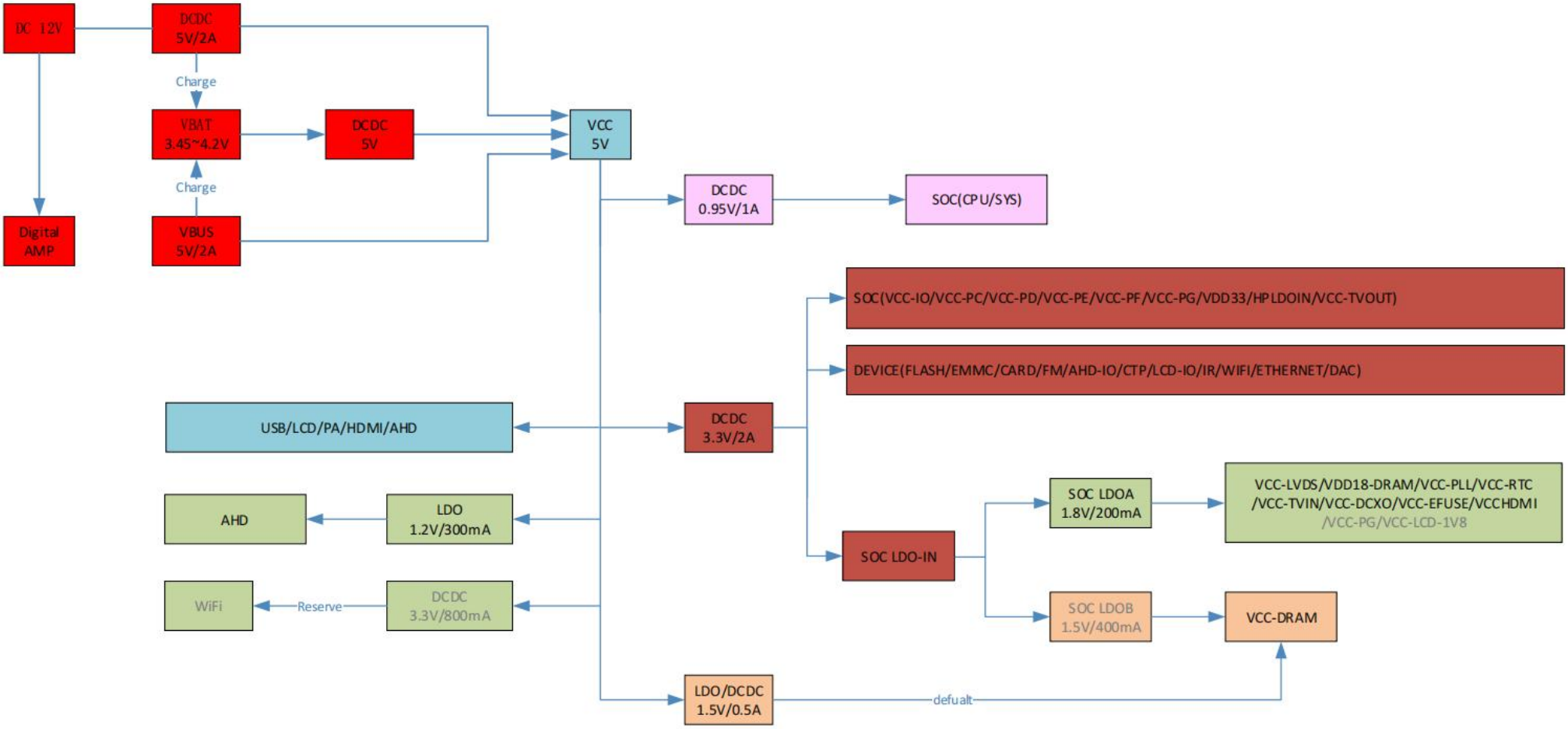
Design Name: F133 MX-HXX_STD_V1_0		
Size: A3	Page Name: 02 BLOCK DIAGRAM	Rev
Date: Friday, November 01, 2024	Sheet 2 of 18	

F133 MX-HXX电源树



AllWinner Technology Co.,Ltd		
Design Name: F133 MX-HXX_STD_V1_0		
Size: A3	Page Name: 03 POWER TREE	Rev
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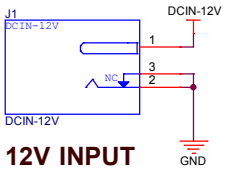
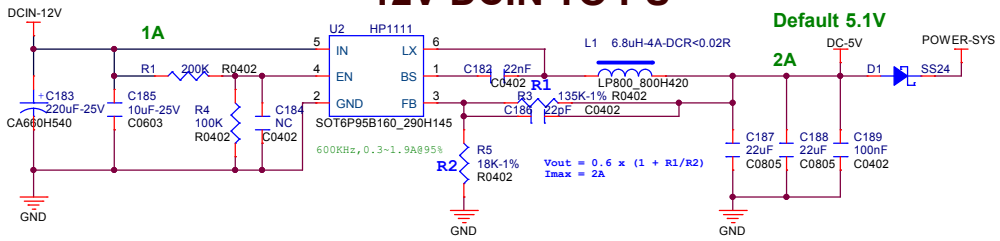
POWER1

DC-IN Programme

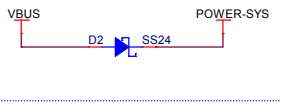
12V INPUT



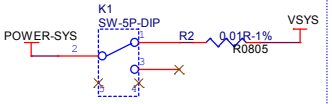
12V DCIN TO PS



USB TO PS

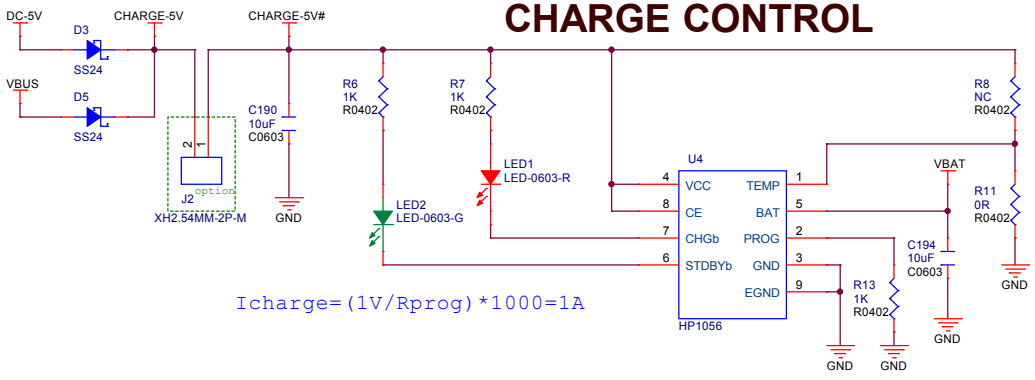


POWER-ON KEY

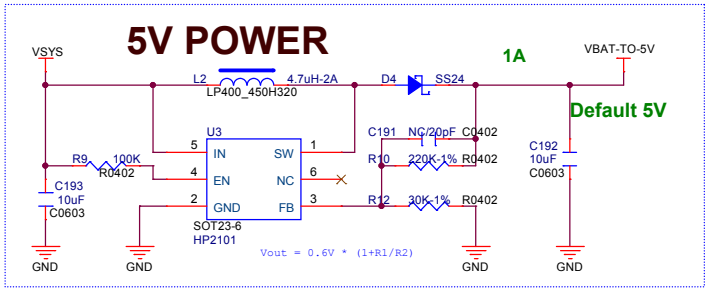


Battery Programme

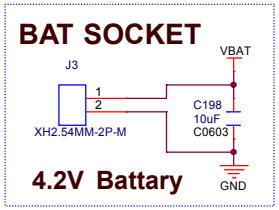
CHARGE CONTROL



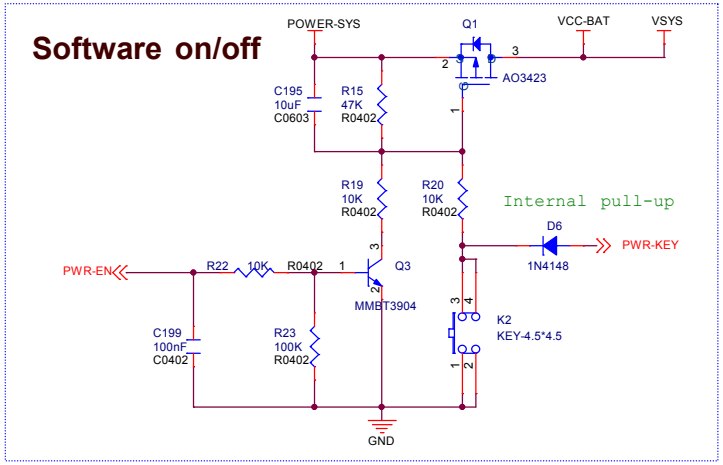
5V POWER



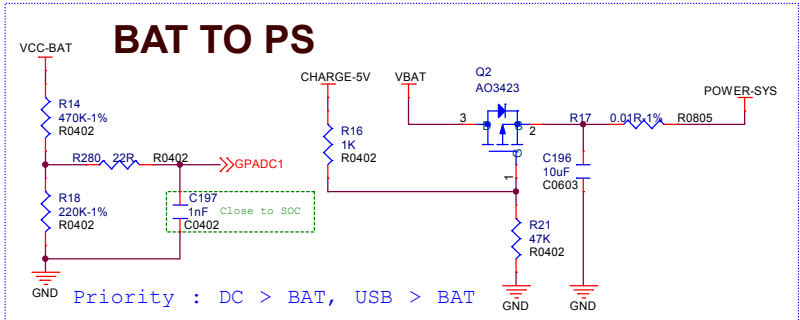
BAT SOCKET



Software on/off



BAT TO PS



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Design Name: F133 MX-HXX_STD_V1_0		
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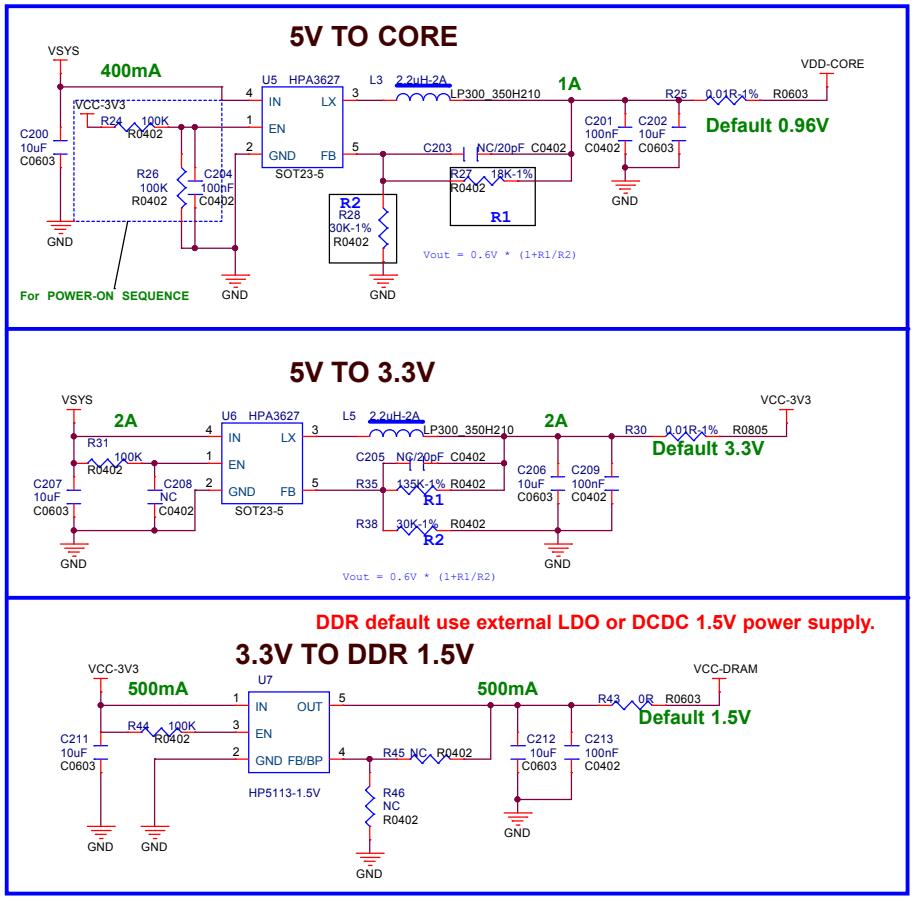
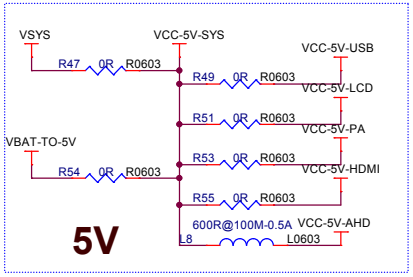
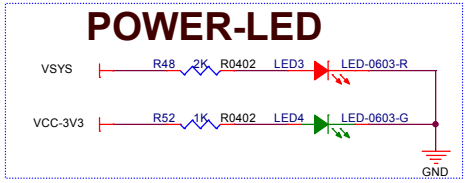
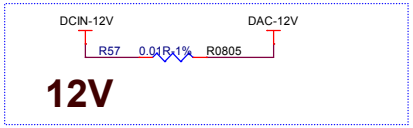
POWER2

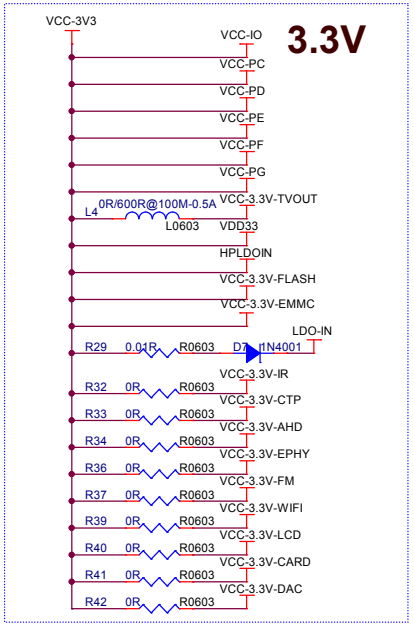
Place on bottom.

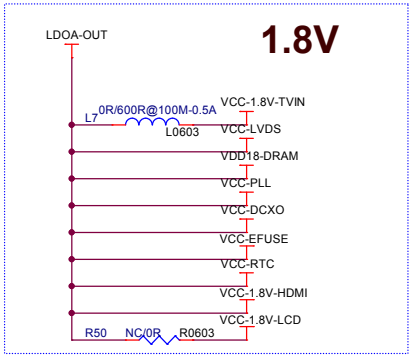


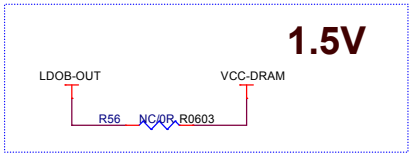












AllWinner Technology Co.,Ltd

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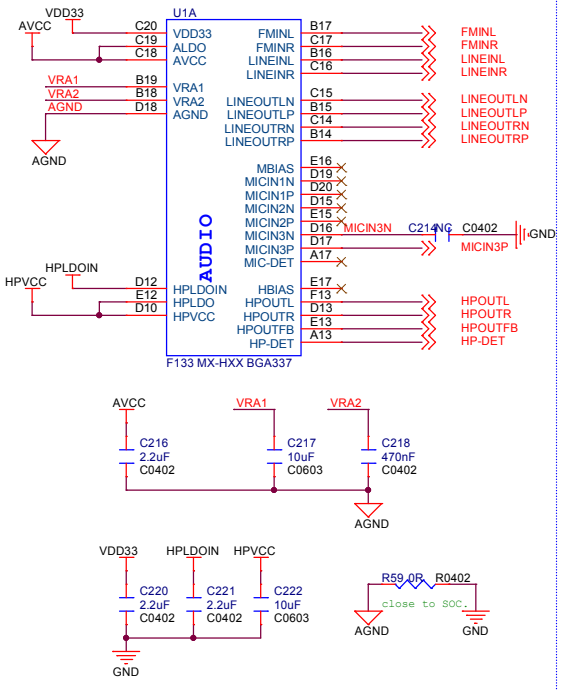
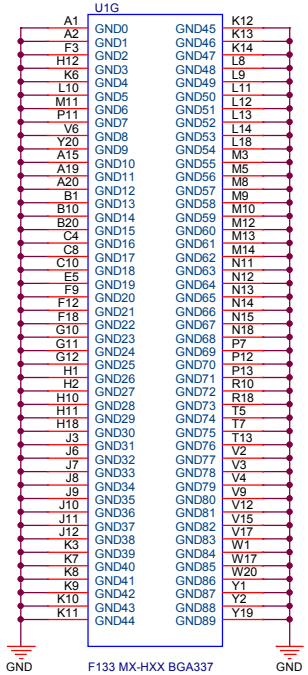
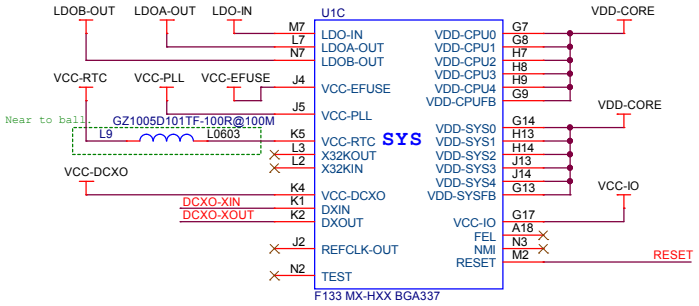
SOC-AUDIO

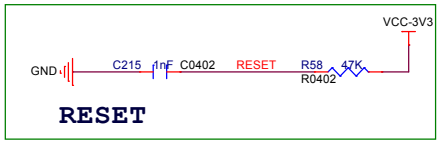


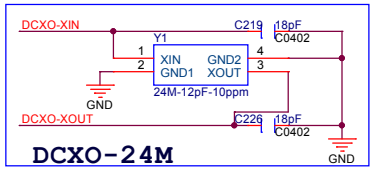
SOC-GND

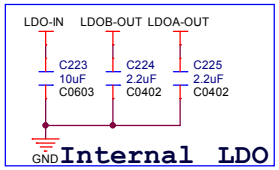


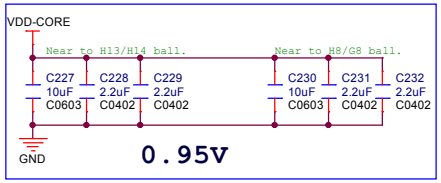
SOC-SYS

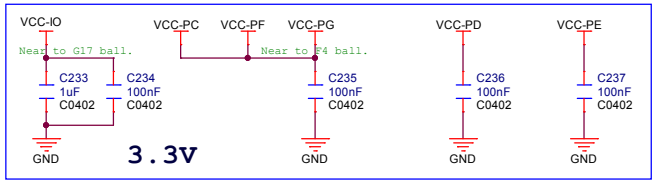


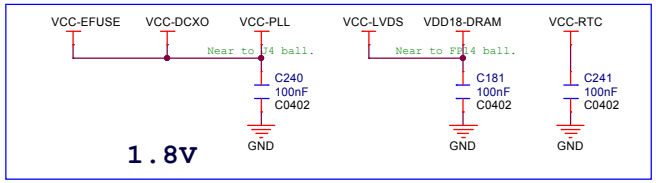




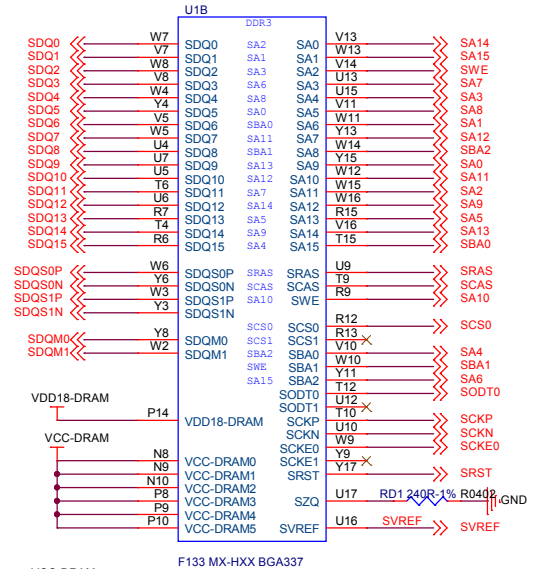




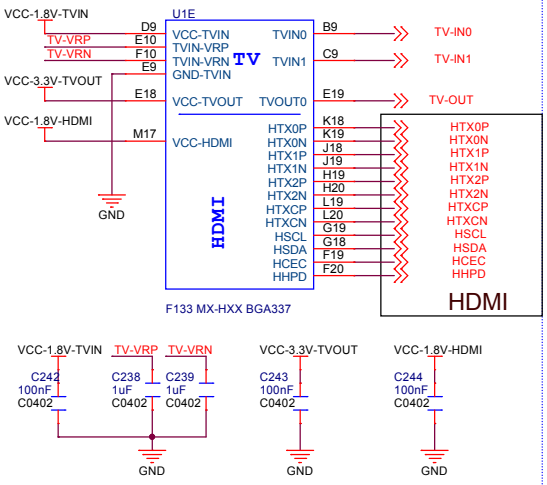




SOC-DDR



SOC-Analog



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SOC-GPIO

U1D

VCC-PG

PG0/SDC1-CLK/UART3-TX/RGMII-RXCTRL/RMII-CRS-DV/PWM7/PG-EINT0
PG1/SDC1-CMD/UART3-RX/RGMII-RXD0/RMII-RXD0/PWM6/PG-EINT1
PG2/SDC1-D0/UART3-RTS/RGMII-RXD1/RMII-RXD1/UART4-TX/PG-EINT2
PG3/SDC1-D1/UART3-CTS/RGMII-TXCK/RMII-TXCK/UART4-RX/PG-EINT3
PG4/SDC1-D2/UART5-TX/RGMII-TXD0/RMII-TXD0/PWM5/PG-EINT4
PG5/SDC1-D3/UART5-RX/RGMII-TXD1/RMII-TXD1/PWM4/PG-EINT5
PG6/UART1-TX/TWI2-SCK/RGMII-TXD2/PWM1/PG-EINT6
PG7/UART1-RX/TWI2-SDA/RGMII-TXD3/PG-EINT7
PG8/UART1-RTS/TWI1-SCK/RGMII-RXD2/UART3-TX/PG-EINT8
PG9/UART1-CTS/TWI1-SDA/RGMII-RXD3/UART3-RX/PG-EINT9
PG10/PWM3/TWI3-SCK/RGMII-RXCK/CLK-FANOUT0/IR-RX/PG-EINT10
PG11/I2S1-MCLK/TWI3-SDA/EPHY-25M/CLK-FANOUT1/TCON-TRIG/PG-EINT11
PG12/I2S1-LRCK/TWI0-SCK/RGMII-TXCTRL/RMII-TXEN/CLK-FANOUT2/PWM0/UART1-TX/PG-EINT12
PG13/I2S1-BCLK/TWI0-SDA/RGMII-CLKIN/RMII-RXER/PWM2/LEDC-DO/UART1-RX/PG-EINT13
PG14/I2S1-DIN0/TWI2-SCK/MDC/I2S1-DOUT1/SPI0-WP/UART1-RTS/PG-EINT14
PG15/I2S1-DOUT0/TWI2-SDA/MDIO/I2S1-DIN1/SPI0-HOLD/UART1-CTS/PG-EINT15
PG16/IR-RX/TCON-TRIG/PWM5/CLK-FANOUT2/LEDC-DO/PG-EINT16
PG17/UART2-TX/TWI3-SCK/PWM7/CLK-FANOUT0/IR-TX/UART0-TX/PG-EINT17
PG18/UART2-RX/TWI3-SDA/PWM6/CLK-FANOUT1/OWA-OUT/UART0-RX/PG-EINT18

F133 MX-HXX BGA337

SW1 SW-6P: SDC1-CLK R60 33R R0402 WL-SDIO-CLK; SDC1-CMD R61 22R R0402 WL-SDIO-CMD; SDC1-D0 R62 22R R0402 WL-SDIO-D0; SDC1-D1 R63 22R R0402 WL-SDIO-D1; SDC1-D2 R64 22R R0402 WL-SDIO-D2; SDC1-D3 R65 22R R0402 WL-SDIO-D3

WIFI

USB-ID
USB-DRP

SW2 SW-6P: PG11 WL-REG-ON; PG12 IIS1-LRCK; PG13 IIS1-BCLK; PG14 AMP-MUTE; PG15 IIS1-DOUT0; PG16 WL-WAKE-AP

SW3 SW-6P: PG0 R66 22R R0402 RMII-CRS-DV; PG1 R67 22R R0402 RMII-RXD0; PG2 R69 22R R0402 RMII-RXD1; PG3 R70 0R R0402 RMII-TXCK; PG4 R71 22R R0402 RMII-TXD0; PG5 R72 22R R0402 RMII-TXD1

SW4 SW-6P: PG11 R73 22R R0402 EPHY-25M; PG12 R74 22R R0402 RMII-TXEN; PG13 R75 22R R0402 RMII-RXER; PG14 R76 22R R0402 RMII-MDC; PG15 R78 22R R0402 RMII-MDIO; PG16 RMII-RESET

Place on bottom.

ETHERNET

U1I

VCC-PE

PE0/NCSI0-HSYNC/UART2-RTS/TWI1-SCK/LCD0-HSYNC/RGMII-RXCTRL/RMII-CRS-DV/PE-EINT0
PE1/NCSI0-VSYNC/UART2-CTS/TWI1-SDA/LCD0-VSYNC/RGMII-RXD0/RMII-RXD0/PE-EINT1
PE2/NCSI0-PCLK/UART2-TX/TWI0-SCK/CLK-FANOUT0/UART0-TX/RGMII-RXD1/RMII-RXD1/PE-EINT2
PE3/NCSI0-MCLK/UART2-RX/TWI0-SDA/CLK-FANOUT1/UART0-RX/RGMII-TXCK/RMII-TXCK/PE-EINT3
PE4/NCSI0-D0/UART4-TX/TWI2-SCK/CLK-FANOUT2/D-JTAG-MS/R-JTAG-MS/RGMII-TXD0/RMII-TXD0/PE-EINT4
PE5/NCSI0-D1/UART4-RX/TWI2-SDA/LEDC-DO/D-JTAG-DI/R-JTAG-DI/RGMII-TXD1/RMII-TXD1/PE-EINT5
PE6/NCSI0-D2/UART5-TX/TWI3-SCK/D-JTAG-DO/R-JTAG-DO/RGMII-TXCTRL/RMII-TXEN/PE-EINT6
PE7/NCSI0-D3/UART5-RX/TWI3-SDA/OWA-OUT/D-JTAG-CK/R-JTAG-CK/RGMII-CLKIN/RMII-RXER/PE-EINT7
PE8/NCSI0-D4/UART1-RTS/PWM2/UART3-TX/JTAG-MS/MDC/PE-EINT8
PE9/NCSI0-D5/UART1-CTS/PWM3/UART3-RX/JTAG-DI/MDIO/PE-EINT9
PE10/NCSI0-D6/UART1-TX/PWM4/IR-RX/JTAG-DO/EPHY-25M/PE-EINT10
PE11/NCSI0-D7/UART1-RX/I2S0-DOUT3/I2S0-DIN3/JTAG-CK/RGMII-TXD2/PE-EINT11
PE12/TWI2-SCK/NCSI0-FIELD/I2S0-DOUT2/I2S0-DIN2/RGMII-TXD3/PE-EINT12
PE13/TWI2-SDA/PWM5/I2S0-DOUT0/I2S0-DIN1/DMIC-DATA3/RGMII-RXD2/PE-EINT13
PE14/TWI1-SCK/D-JTAG-MS/I2S0-DOUT1/I2S0-DIN0/DMIC-DATA2/RGMII-RXD3/PE-EINT14
PE15/TWI1-SDA/D-JTAG-DI/PWM6/I2S0-LRCK/DMIC-DATA1/RGMII-RXCK/PE-EINT15
PE16/TWI3-SCK/D-JTAG-DO/PWM7/I2S0-BCLK/DMIC-DATA0/PE-EINT16
PE17/TWI3-SDA/D-JTAG-CK/IR-TX/I2S0-MCLK/DMIC-CLK/PE-EINT17

CSI-HSYNC
CSI-VSYNC
CSI-PCLK
FANOUT-27M
CSI-D0
CSI-D1
CSI-D2
CSI-D3
CSI-D4
CSI-D5
CSI-D6
CSI-D7
TWI2-SCK
TWI2-SDA
CSI-RST

F133 MX-HXX BGA337

U1J

VCC-PC

PC0/UART2-TX/TWI2-SCK/LEDC-DO/PC-EINT0
PC1/UART2-RX/TWI2-SDA/PC-EINT1
PC2/SPI0-CLK/SDC2-CLK/PC-EINT2
PC3/SPI0-CS0/SDC2-CMD/PC-EINT3
PC4/SPI0-MOSI/SDC2-D2/BOOT-SEL0/PC-EINT4
PC5/SPI0-MISO/SDC2-D1/BOOT-SEL1/PC-EINT5
PC6/SPI0-WP/SDC2-D0/UART3-TX/TWI3-SCK/DBG-CLK/PC-EINT6
PC7/SPI0-HOLD/SDC2-D3/UART3-RX/TWI3-SDA/TCON-TRIG/PC-EINT7

R68 33R R0402 close to soc

FLASH EMMC

VCC-PF

PF0/SDC0-D1/JTAG-MS/R-JTAG-MS/I2S2-DOUT1/I2S2-DIN0/PF-EINT0
PF1/SDC0-D0/JTAG-DI/R-JTAG-DI/I2S2-DOUT0/I2S2-DIN1/PF-EINT1
PF2/SDC0-CLK/UART0-TX/TWI0-SCK/LEDC-DO/PF-EINT2
PF3/SDC0-CMD/JTAG-DO/R-JTAG-DO/I2S2-BCLK/PF-EINT3
PF4/SDC0-D3/UART0-RX/TWI0-SDA/PWM6/IR-TX/PF-EINT4
PF5/SDC0-D2/JTAG-CK/R-JTAG-CK/I2S2-LRCK/PF-EINT5
PF6/OWA-OUT/IR-RX/I2S2-MCLK/PWM5/PF-EINT6

SDC0-CLK# R77 33R R0402 close to soc

SDC0-D1
SDC0-D0
SDC0-CLK
SDC0-CMD
SDC0-D3
SDC0-D2
SDC0-DET

SD CARD

F133 MX-HXX BGA337

U1H

PB0/PWM3/IR-TX/TWI2-SCK/SPI1-WP/DBI-TE/UART0-TX/UART2-TX/OWA-OUT/PB-EINT0
PB1/PWM4/I2S2-DOUT3/TWI2-SDA/I2S2-DIN3/UART0-RX/UART2-RX/IR-RX/PB-EINT1
PB2/LCD0-D0/I2S2-DOUT2/TWI0-SDA/I2S2-DIN2/LCD0-D18/UART4-TX/PB-EINT2
PB3/LCD0-D1/I2S2-DOUT1/TWI0-SCK/I2S2-DIN0/LCD0-D19/UART4-RX/PB-EINT3
PB4/LCD0-D8/I2S2-DOUT0/TWI1-SCK/I2S2-DIN1/LCD0-D20/UART5-TX/PB-EINT4
PB5/LCD0-D9/I2S2-BCLK/TWI1-SDA/PWM0/LCD0-D21/UART5-RX/PB-EINT5
PB6/LCD0-D16/I2S2-LRCK/TWI3-SCK/PWM1/LCD0-D22/UART3-TX/CPUBIST0/PB-EINT6
PB7/LCD0-D17/I2S2-MCLK/TWI3-SDA/IR-RX/LCD0-D23/UART3-RX/CPUBIST1/PB-EINT7
PB8/DMIC-DATA3/PWM5/TWI2-SCK/SPI1-HOLD/DBI-DCX/DBI-WRX/UART0-TX/UART1-TX/PB-EINT8
PB9/DMIC-DATA2/PWM6/TWI2-SDA/SPI1-MISO/DBI-SDI/DBI-TE/DBI-DCX/UART0-RX/UART1-RX/PB-EINT9
PB10/DMIC-DATA1/PWM7/TWI0-SCK/SPI1-MOSI/DBI-SDO/CLK-FANOUT0/UART1-RTS/PB-EINT10
PB11/DMIC-DATA0/PWM2/TWI0-SDA/SPI1-CLK/DBI-SCLK/CLK-FANOUT1/UART1-CTS/PB-EINT11
PB12/DMIC-CLK/PWM0/SPI1-CS/DBI-CSX/CLK-FANOUT2/IR-RX/PB-EINT12

CTP-SCK
CTP-SDA
CTP-INT
CTP-RST
FANOUT-32K
PA-SHDN
IR-RX

VCC-PD
VCC-LVDS

PD0/LCD0-D2/LVDS0-V0P/DSI-D0P/TWI0-SCK/PD-EINT0
PD1/LCD0-D3/LVDS0-V0N/DSI-D0N/UART2-TX/PD-EINT1
PD2/LCD0-D4/LVDS0-V1P/DSI-D1P/UART2-RX/PD-EINT2
PD3/LCD0-D5/LVDS0-V1N/DSI-D1N/UART2-RTS/PD-EINT3
PD4/LCD0-D6/LVDS0-V2P/DSI-CKP/UART2-CTS/PD-EINT4
PD5/LCD0-D7/LVDS0-V2N/DSI-CKN/UART5-TX/PD-EINT5
PD6/LCD0-D10/LVDS0-CKP/DSI-D2P/UART5-RX/PD-EINT6
PD7/LCD0-D11/LVDS0-CKN/DSI-D2N/UART4-TX/PD-EINT7
PD8/LCD0-D12/LVDS0-V3P/DSI-D3P/UART4-RX/PD-EINT8
PD9/LCD0-D13/LVDS0-V3N/DSI-D3N/PWM6/PD-EINT9
PD10/LCD0-D14/LVDS1-V0P/SPI1-CS/DBI-CSX/UART3-TX/PD-EINT10
PD11/LCD0-D15/LVDS1-V0N/SPI1-CLK/DBI-SCLK/UART3-RX/PD-EINT11
PD12/LCD0-D18/LVDS1-V1P/SPI1-MOSI/DBI-SDO/TWI0-SDA/PD-EINT12
PD13/LCD0-D19/LVDS1-V1N/SPI1-MISO/DBI-SDI/DBI-TE/DBI-DCX/UART3-RTS/PD-EINT13
PD14/LCD0-D20/LVDS1-V2P/SPI1-HOLD/DBI-DCX/DBI-WRX/UART3-CTS/PD-EINT14
PD15/LCD0-D21/LVDS1-V2N/SPI1-WP/DBI-TE/IR-RX/PD-EINT15
PD16/LCD0-D22/LVDS1-CKP/DMIC-DATA3/PWM0/PD-EINT16
PD17/LCD0-D23/LVDS1-CKN/DMIC-DATA2/PWM1/PD-EINT17
PD18/LCD0-CLK/LVDS1-V3P/DMIC-DATA1/PWM2/PD-EINT18
PD19/LCD0-DE/LVDS1-V3N/DMIC-DATA0/PWM3/PD-EINT19
PD20/LCD0-HSYNC/TWI2-SCK/DMIC-CLK/PWM4/PD-EINT20
PD21/LCD0-VSYNC/TWI2-SDA/UART1-TX/PWM5/PD-EINT21
PD22/OWA-OUT/IR-RX/UART1-RX/PWM7/PD-EINT22

LCD0-D0
LCD0-D1
LCD0-D8
LCD0-D9
LCD0-D16
LCD0-D17

RGB666/888
Dual LVDS
4Lanes MIPI

LCD0-D2
LCD0-D3
LCD0-D4
LCD0-D5
LCD0-D6
LCD0-D7
LCD0-D10
LCD0-D11
LCD0-D12
LCD0-D13
LCD0-D14
LCD0-D15
LCD0-D18
LCD0-D19
LCD0-D20
LCD0-D21
LCD0-D22
LCD0-D23
LCD0-CLK
LCD0-DE
LCD0-HSYNC
LCD0-VSYNC
PD22

F133 MX-HXX BGA337

PG6 R79 0R R0402 PC-UART2-TX
PG7 R80 0R R0402 PC-UART2-RX

R81 NC/0R R0402 PWR-EN
R82 NC/1K R0402 PWR-KEY

SOC-Interface

U1F

USB: USB0-DM, USB0-DP, USB1-DM, USB1-DP
ADC: LRADC, GPADC0, GPADC1
TP: TP-X1, TP-X2, TP-Y1, TP-Y2

GPADC0
GPADC1
TP-X1
TP-X2
TP-Y1
TP-Y2

F133 MX-HXX BGA337

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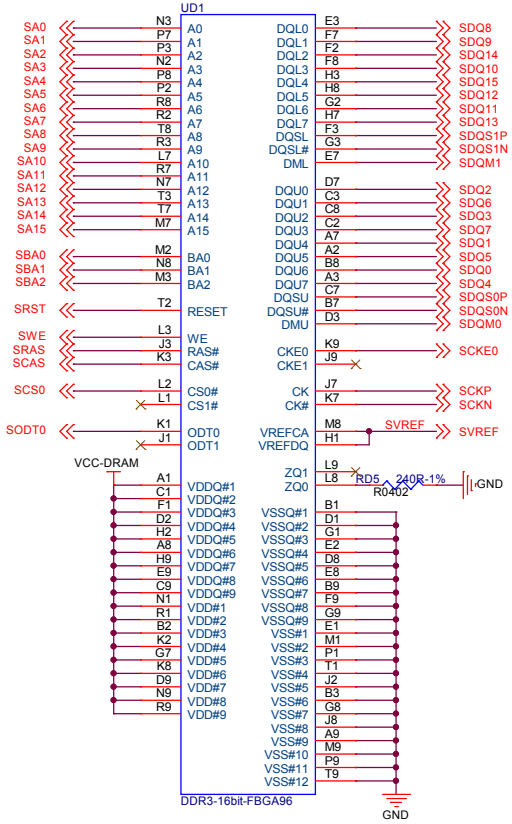
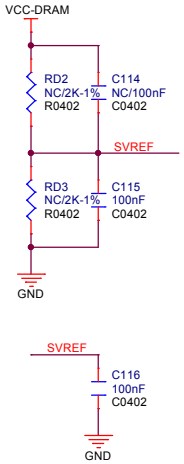
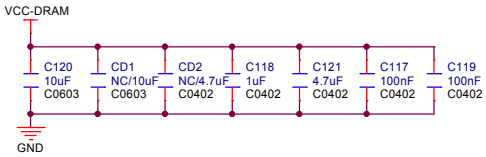
DDR3







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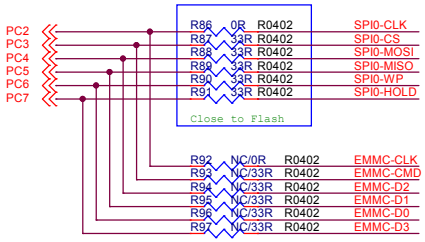
Flash



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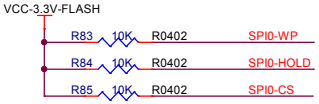

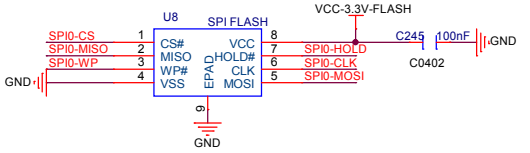

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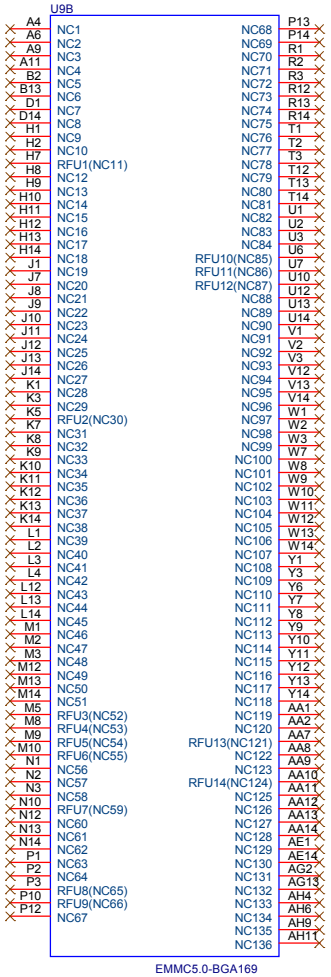

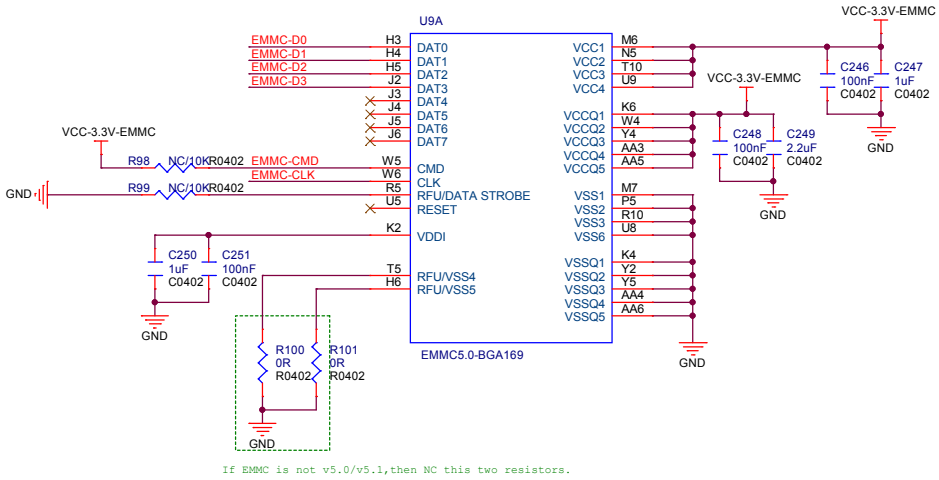

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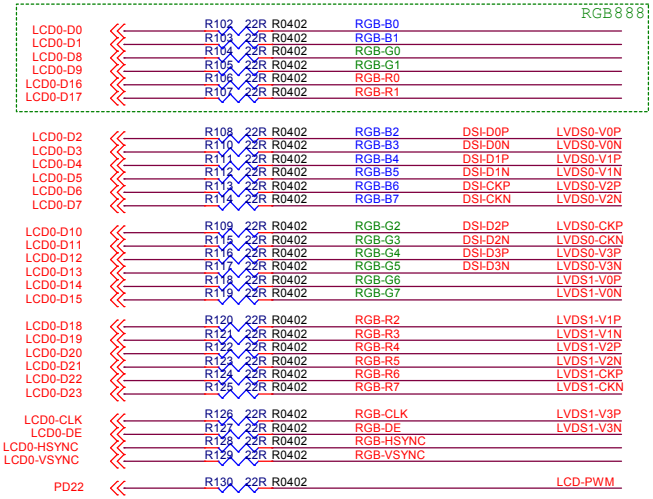
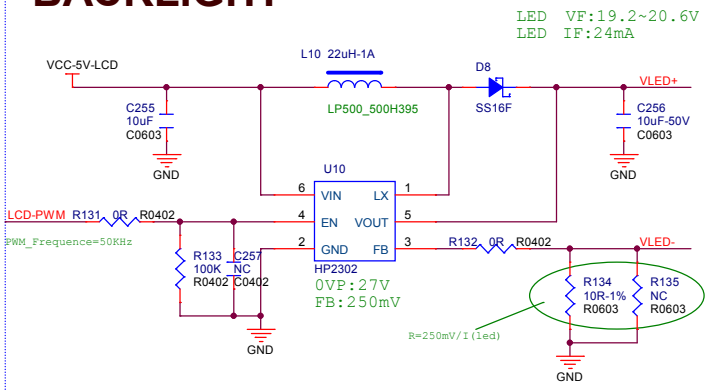
LCD IO



BACKLIGHT



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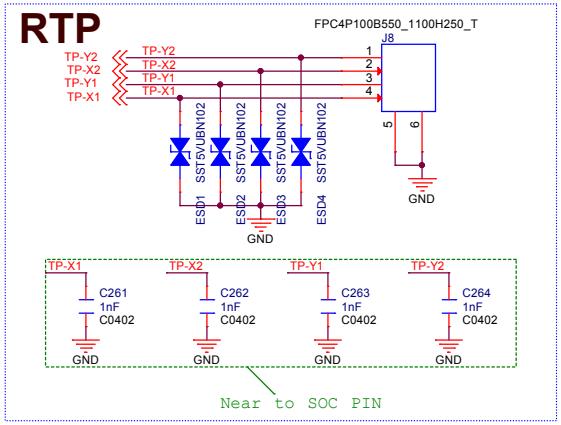

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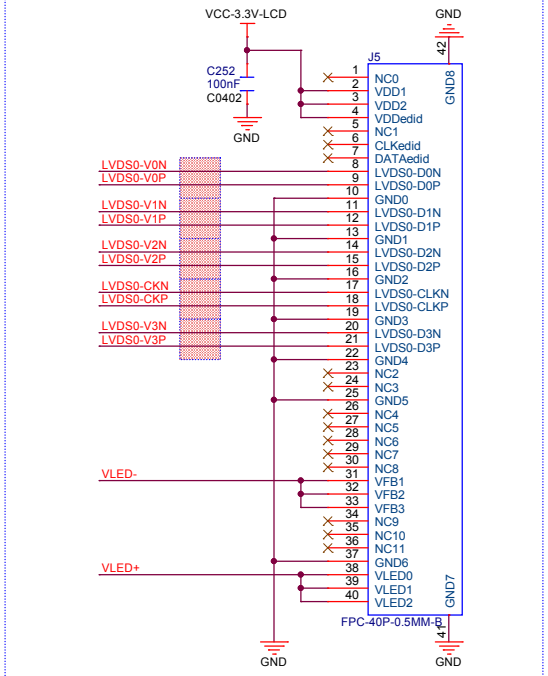

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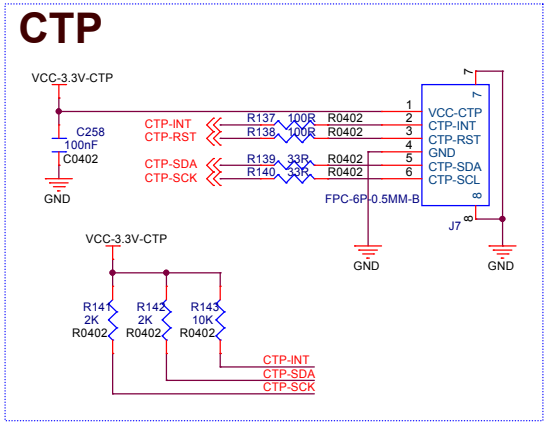

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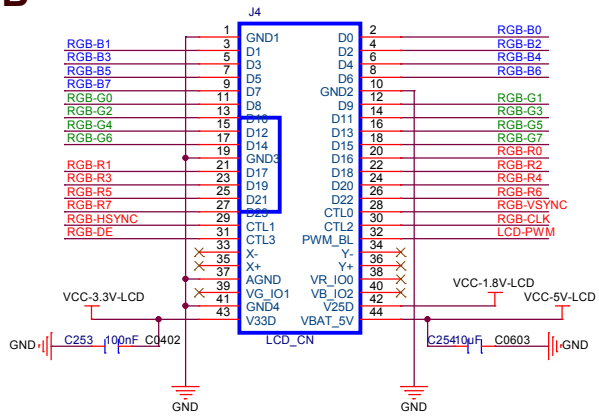

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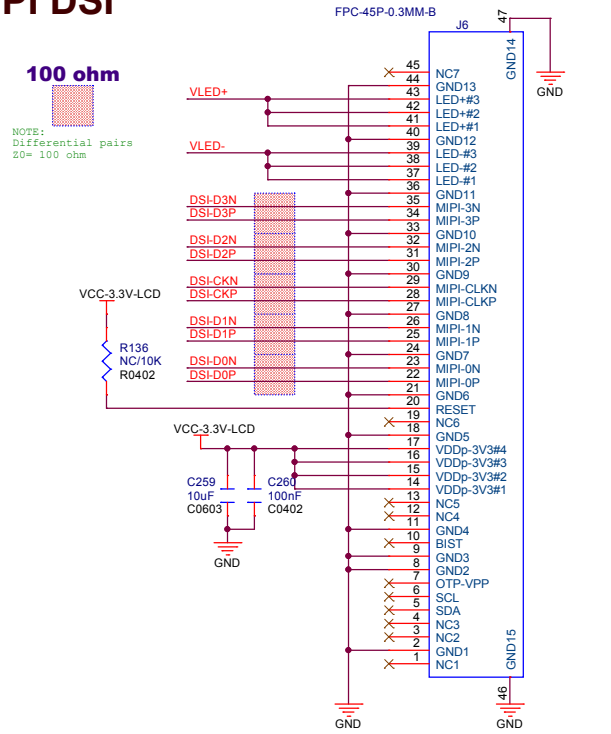

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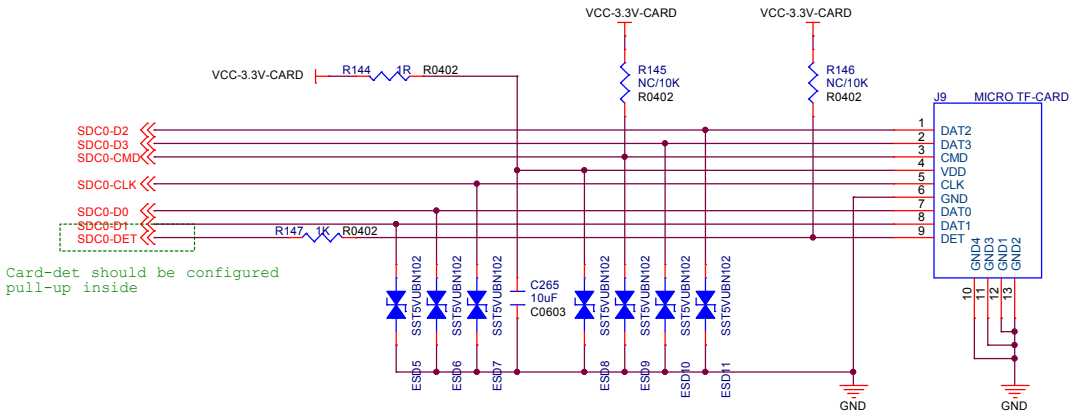
SD CARD



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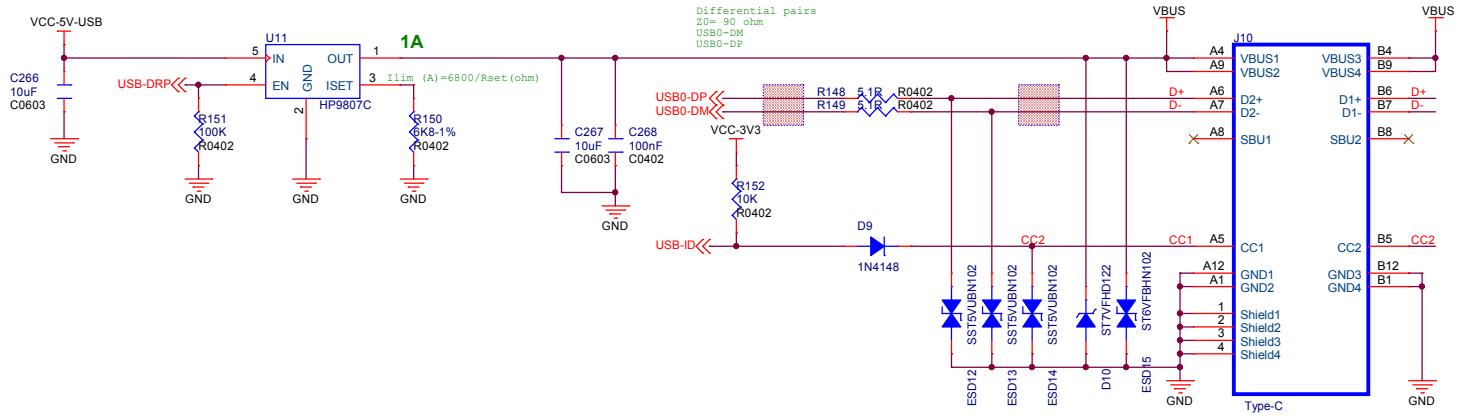

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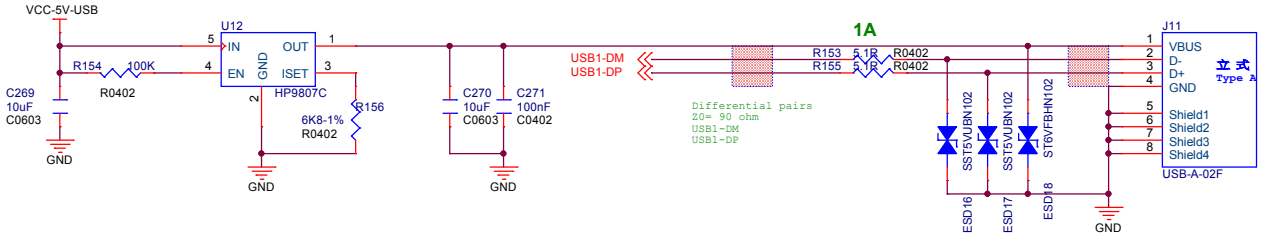

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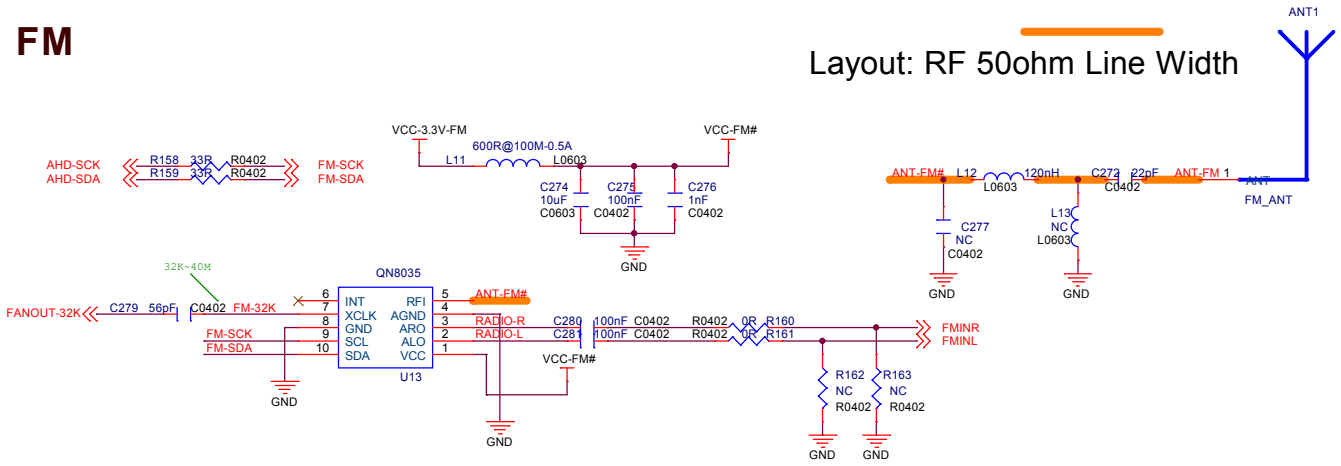
FM



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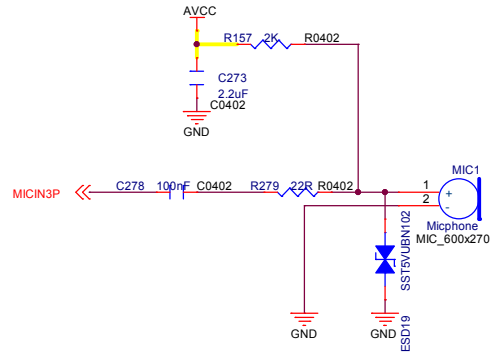

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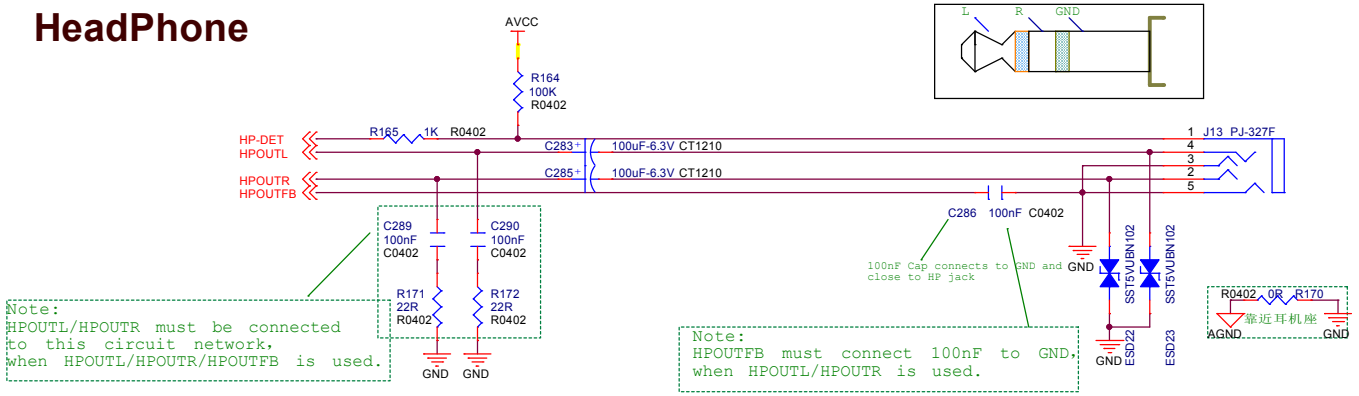

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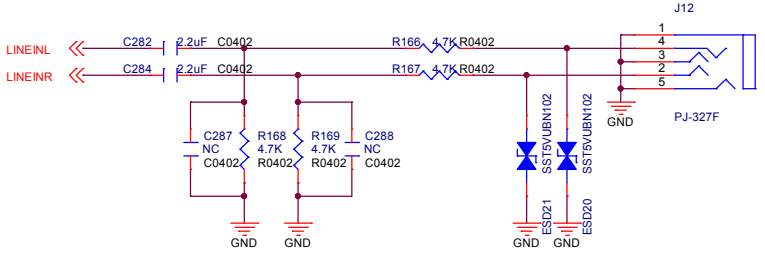

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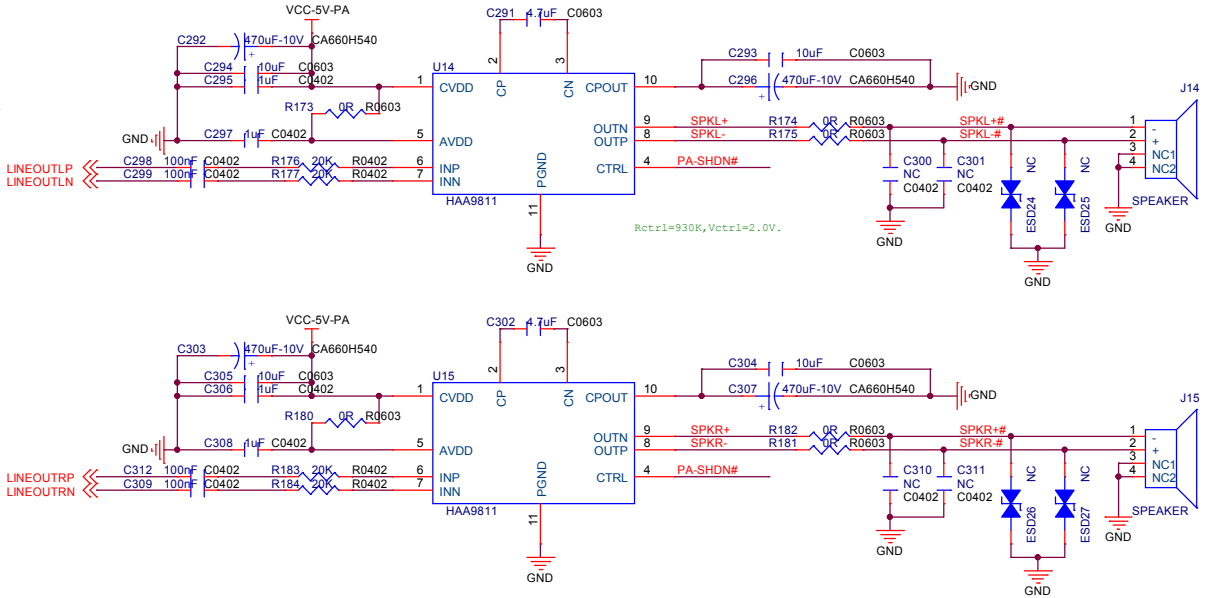

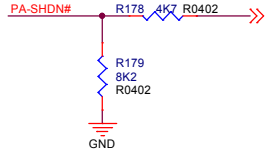

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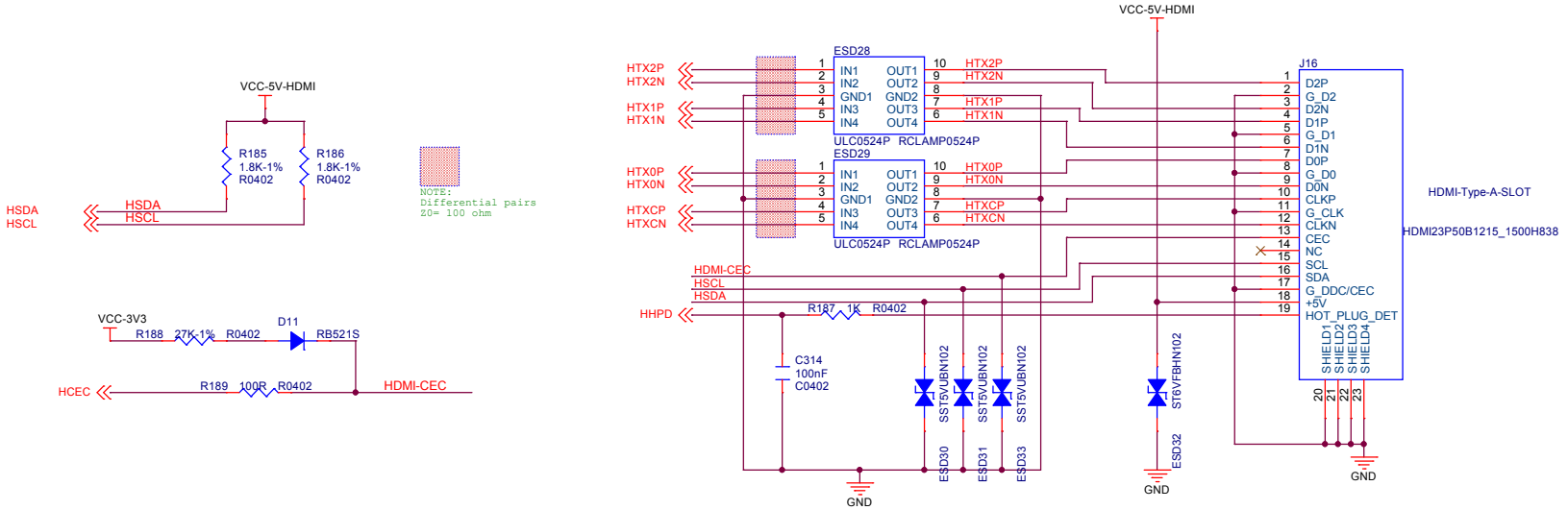
HDMI



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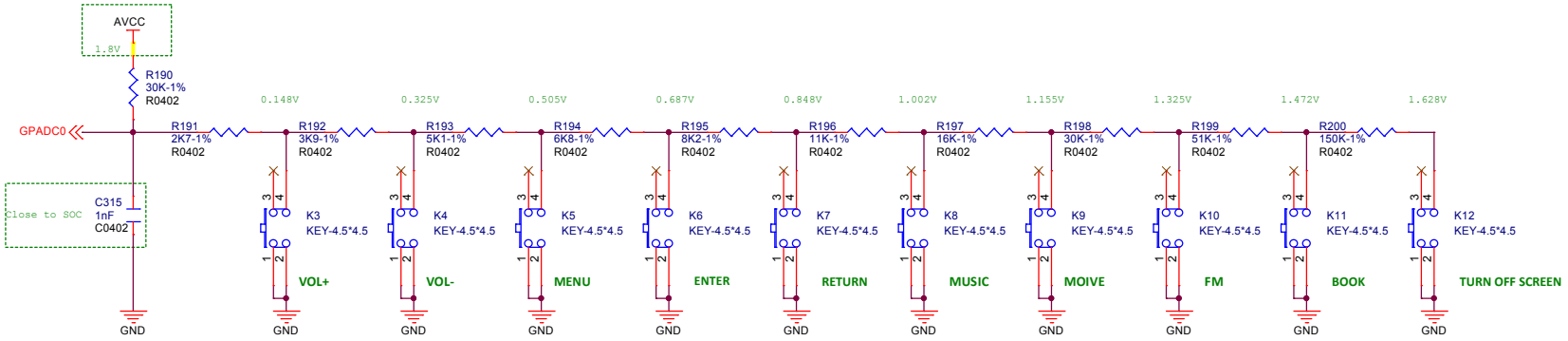
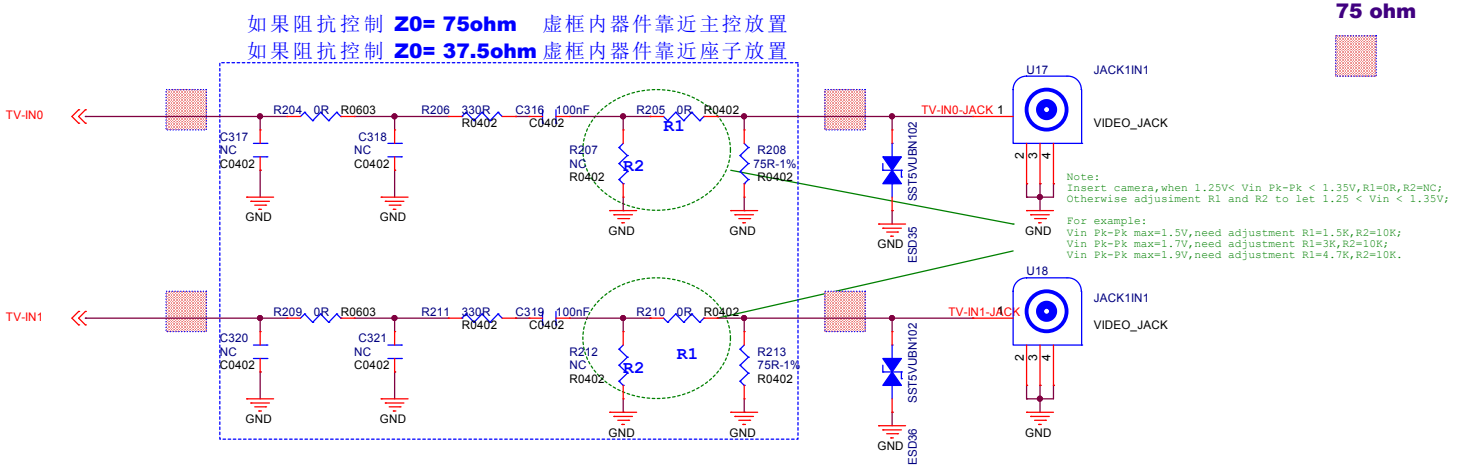
KEY



TV OUT

TV IN



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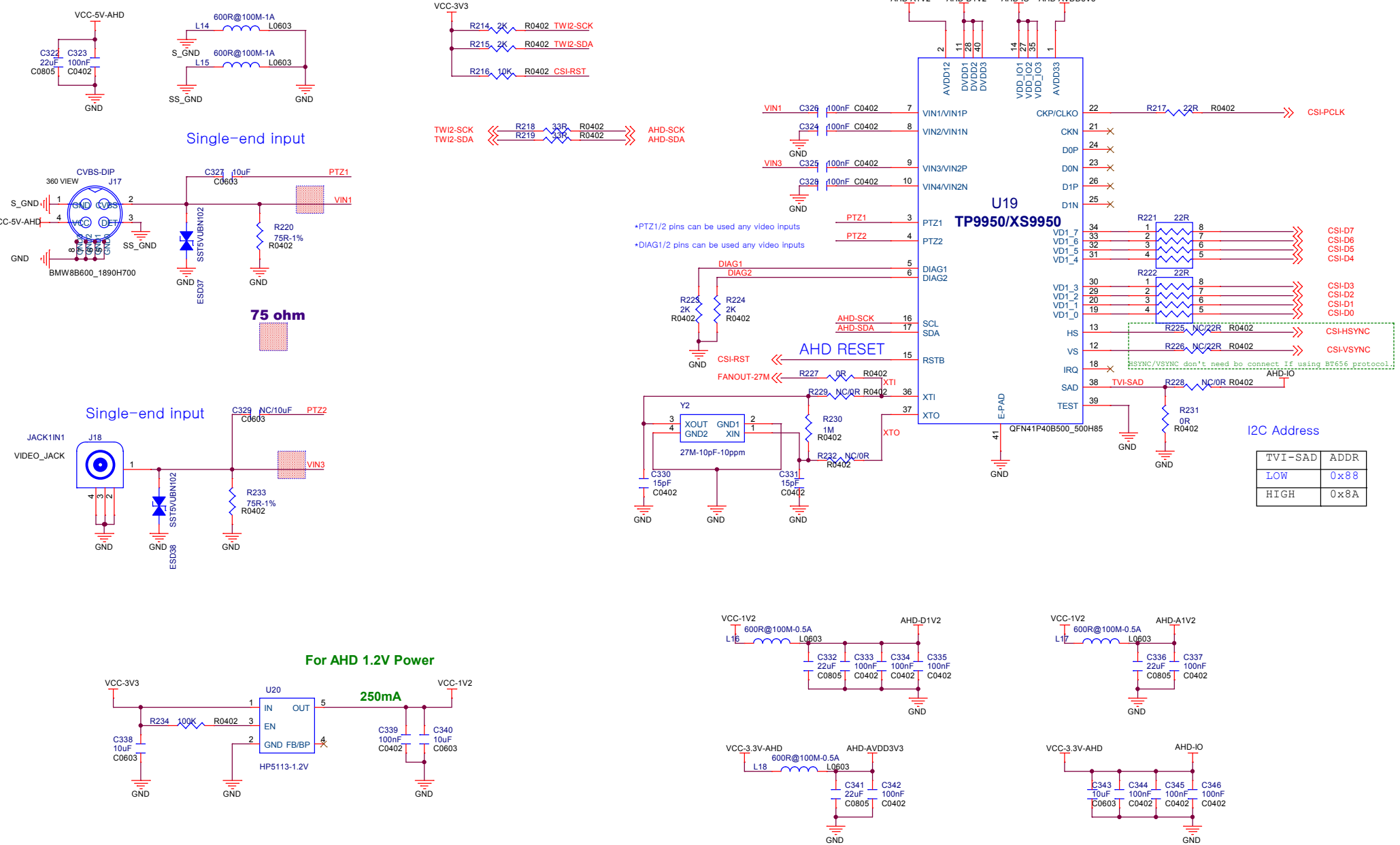
AHD CAMERA



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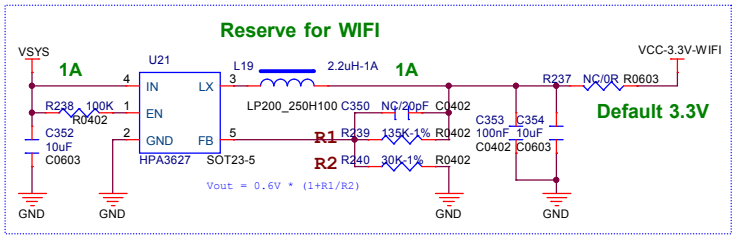
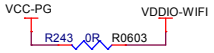
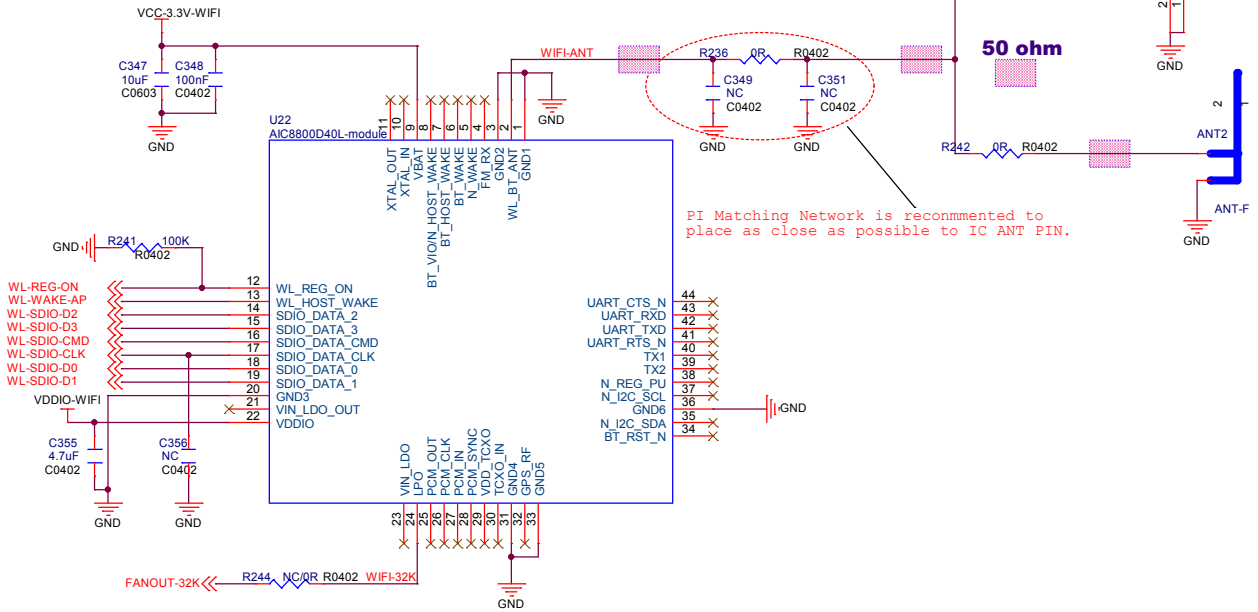
WIFI MODULE







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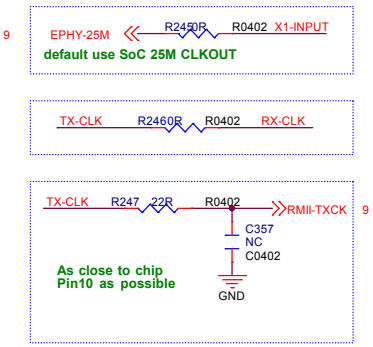
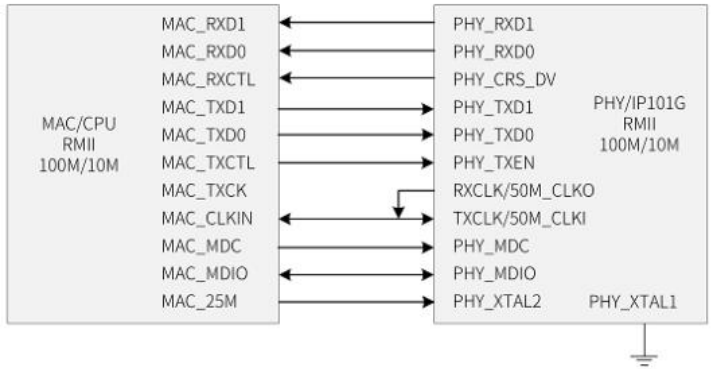
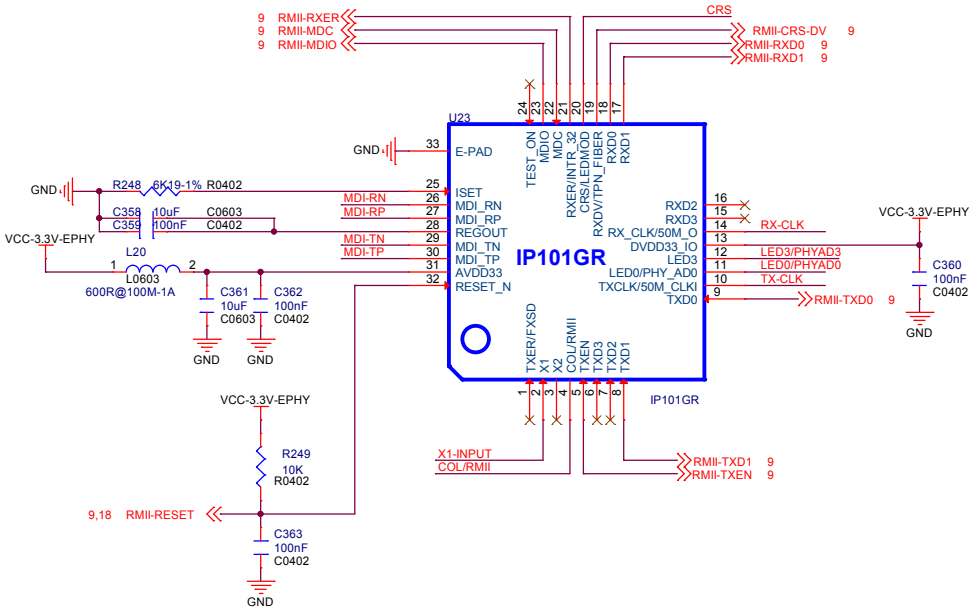
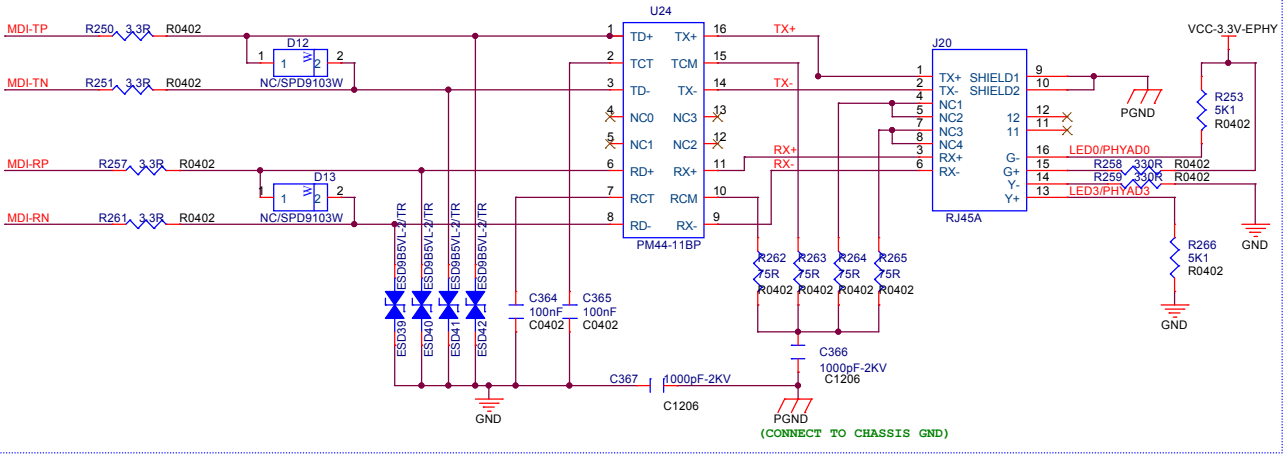
RMII (IP101GR)

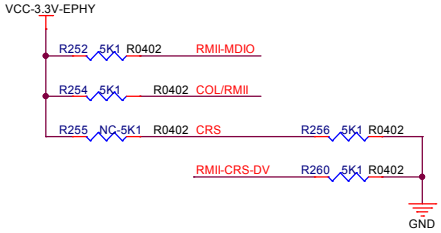






Ethernet Interface





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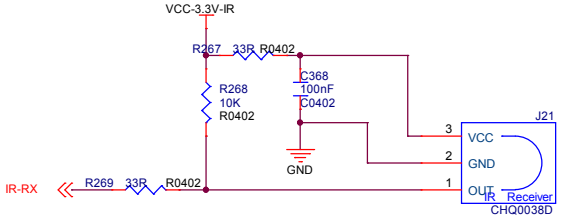
IR-RX



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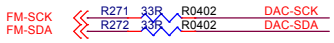
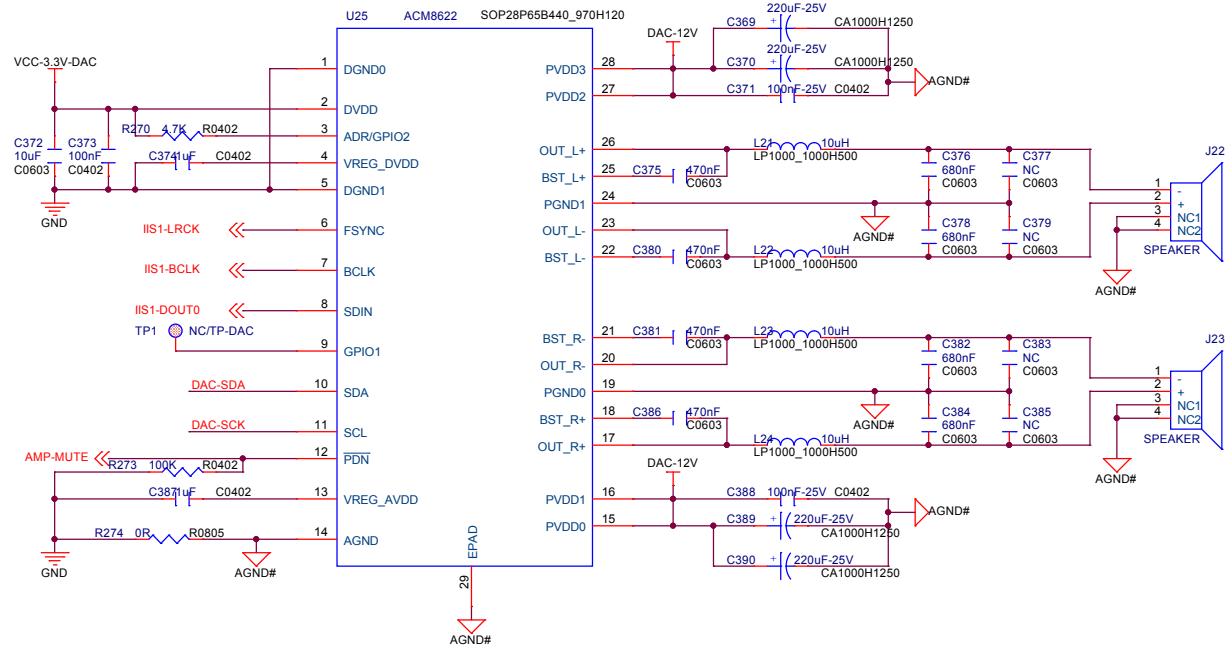


Table 5 I²C Device Address Configuration

ADR PIN Configuration	MSBs					User Define		LSB	Device Write Address
4.7kΩ to DVDD	0	0	0	1	1	0	0	R/W	0x18
15kΩ to DVDD	0	0	0	1	1	0	1	R/W	0x1a
47kΩ to DVDD	0	0	0	1	1	1	0	R/W	0x1c
120kΩ to DVDD	0	0	0	1	1	1	1	R/W	0x1e



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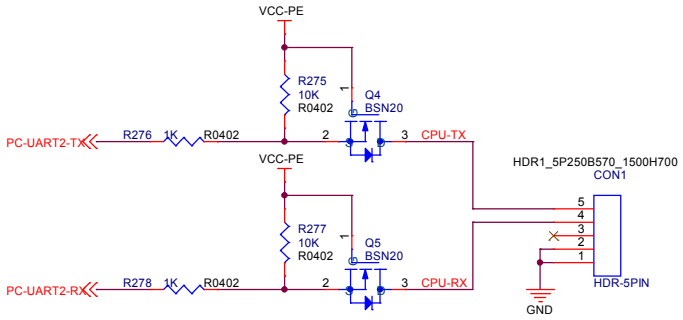

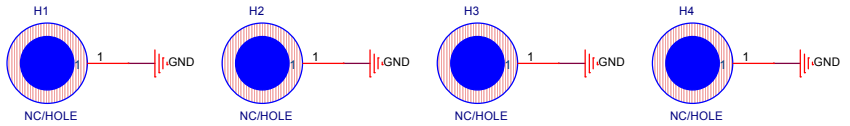

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