NanoPC T4

Revision

1802, First Release

1902, 1) Change MIC to 2.54mm Jumper
      2) Add Power On Mode Select Jumper J1
      3) Change Type-C Connetor to SMT type
      4) Change USB Power Switch to SY6280AAC

I2C device list :
I2C0(3V), SYR838PKC, SYR837, RK808-D
I2C1(1.8V) CSI0, ALC5651
I2C2(1.8V) CSI1, M.2
I2C3
I2C4(1.8V), FUSB302MPX, LCD Touch
I2C5
I2C6
I2C7(1.8V) HDMI
I2C8

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 01.Title	Rev 1902
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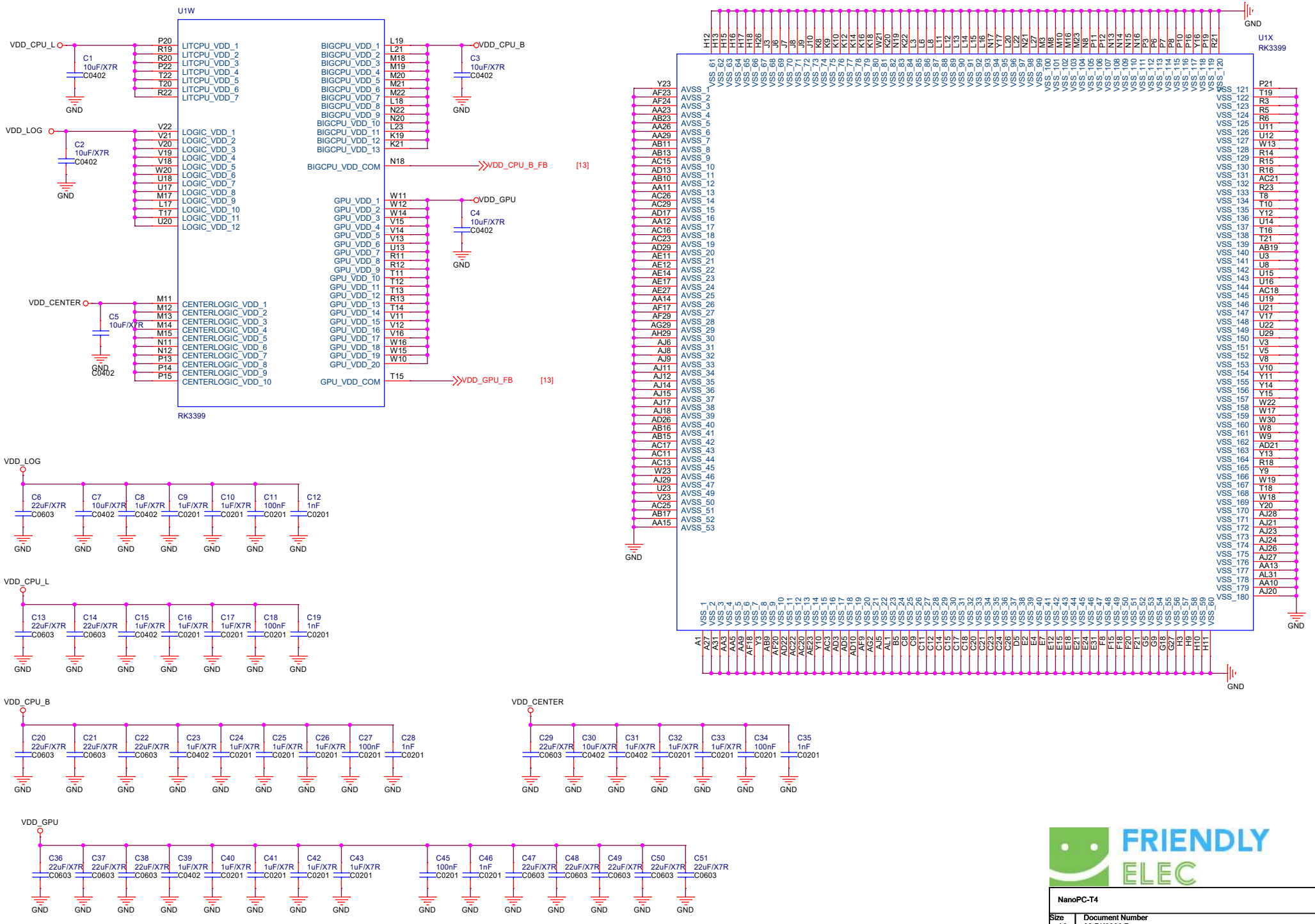
U1W
RK3399
LITCPU_VDD_1
LITCPU_VDD_2
LITCPU_VDD_3
LITCPU_VDD_4
LITCPU_VDD_5
LITCPU_VDD_6
LITCPU_VDD_7
LOGIC_VDD_1
LOGIC_VDD_2
LOGIC_VDD_3
LOGIC_VDD_4
LOGIC_VDD_5
LOGIC_VDD_6
LOGIC_VDD_7
LOGIC_VDD_8
LOGIC_VDD_9
LOGIC_VDD_10
LOGIC_VDD_11
LOGIC_VDD_12
CENTERLOGIC_VDD_1
CENTERLOGIC_VDD_2
CENTERLOGIC_VDD_3
CENTERLOGIC_VDD_4
CENTERLOGIC_VDD_5
CENTERLOGIC_VDD_6
CENTERLOGIC_VDD_7
CENTERLOGIC_VDD_8
CENTERLOGIC_VDD_9
CENTERLOGIC_VDD_10
BIGCPU_VDD_1
BIGCPU_VDD_2
BIGCPU_VDD_3
BIGCPU_VDD_4
BIGCPU_VDD_5
BIGCPU_VDD_6
BIGCPU_VDD_7
BIGCPU_VDD_8
BIGCPU_VDD_9
BIGCPU_VDD_10
BIGCPU_VDD_11
BIGCPU_VDD_12
BIGCPU_VDD_13
BIGCPU_VDD_COM
GPU_VDD_1
GPU_VDD_2
GPU_VDD_3
GPU_VDD_4
GPU_VDD_5
GPU_VDD_6
GPU_VDD_7
GPU_VDD_8
GPU_VDD_9
GPU_VDD_10
GPU_VDD_11
GPU_VDD_12
GPU_VDD_13
GPU_VDD_14
GPU_VDD_15
GPU_VDD_16
GPU_VDD_17
GPU_VDD_18
GPU_VDD_19
GPU_VDD_20
GPU_VDD_COM
VDD_CPU_L
VDD_CPU_B
VDD_LOG
VDD_GPU
VDD_CENTER
VDD_CPU_B_FB
VDD_GPU_FB
[13]
C1 10uF/X7R C0402
C2 10uF/X7R C0402
C3 10uF/X7R C0402
C4 10uF/X7R C0402
C5 10uF/X7R C0402
GND
U1X
RK3399
AVSS_1
AVSS_2
AVSS_3
AVSS_4
AVSS_5
AVSS_6
AVSS_7
AVSS_8
AVSS_9
AVSS_10
AVSS_11
AVSS_12
AVSS_13
AVSS_14
AVSS_15
AVSS_16
AVSS_17
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AVSS_19
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AVSS_44
AVSS_45
AVSS_46
AVSS_47
AVSS_49
AVSS_50
AVSS_51
AVSS_52
AVSS_53
C6 22uF/X7R C0603
C7 10uF/X7R C0402
C8 1uF/X7R C0402
C9 1uF/X7R C0201
C10 1uF/X7R C0201
C11 100nF C0201
C12 1nF C0201
C13 22uF/X7R C0603
C14 22uF/X7R C0603
C15 1uF/X7R C0402
C16 1uF/X7R C0201
C17 1uF/X7R C0201
C18 100nF C0201
C19 1nF C0201
C20 22uF/X7R C0603
C21 22uF/X7R C0603
C22 22uF/X7R C0603
C23 1uF/X7R C0402
C24 1uF/X7R C0201
C25 1uF/X7R C0201
C26 1uF/X7R C0201
C27 100nF C0201
C28 1nF C0201
C29 22uF/X7R C0603
C30 10uF/X7R C0402
C31 1uF/X7R C0402
C32 1uF/X7R C0201
C33 1uF/X7R C0201
C34 100nF C0201
C35 1nF C0201
C36 22uF/X7R C0603
C37 22uF/X7R C0603
C38 22uF/X7R C0603
C39 1uF/X7R C0402
C40 1uF/X7R C0201
C41 1uF/X7R C0201
C42 1uF/X7R C0201
C43 1uF/X7R C0201
C45 100nF C0201
C46 1nF C0201
C47 22uF/X7R C0603
C48 22uF/X7R C0603
C49 22uF/X7R C0603
C50 22uF/X7R C0603
C51 22uF/X7R C0603
FRIENDLY ELEC
NanoPC-T4
Size A3
Document Number 02.RK3399 Power
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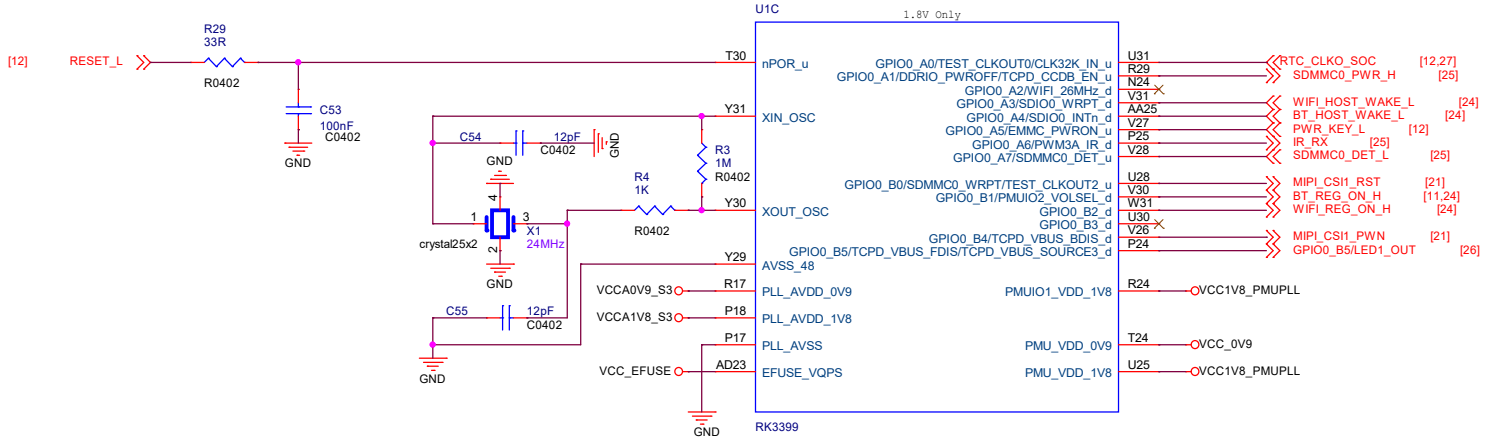

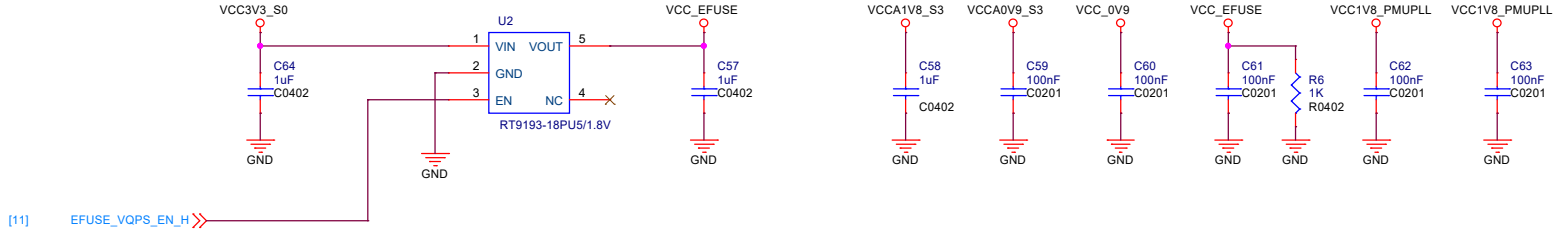

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 03.RK3399 PMU Controler	Rev 1902
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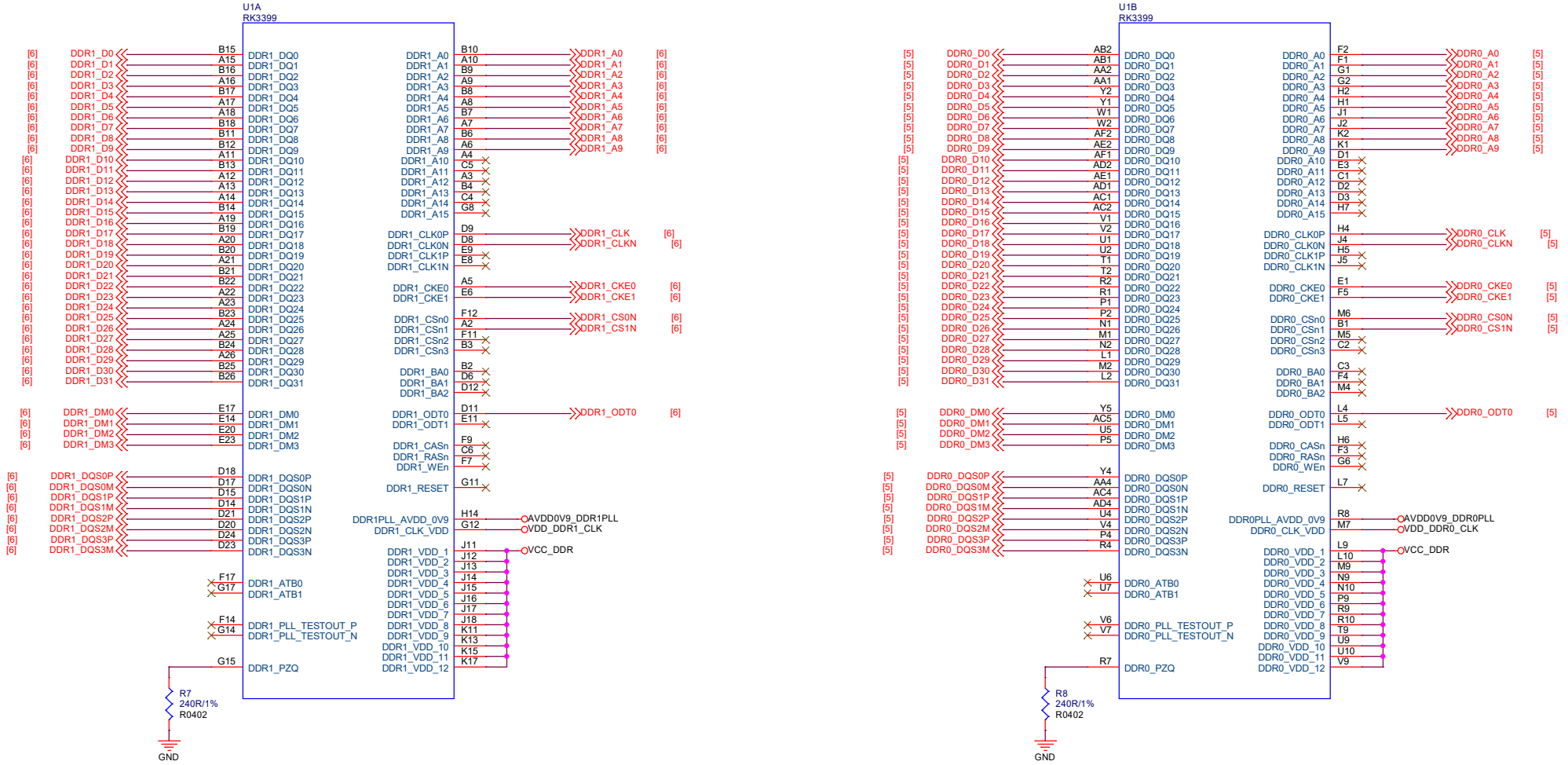
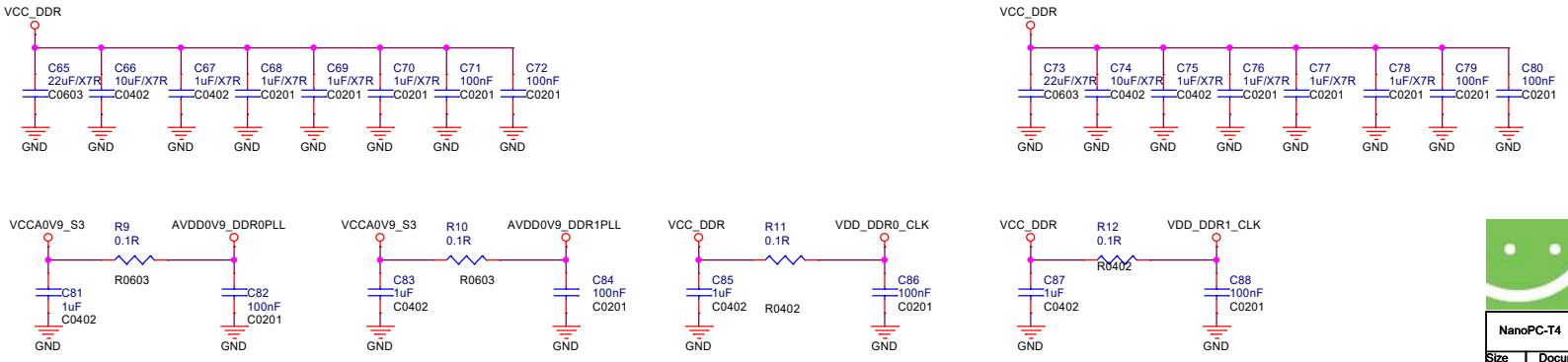


DDR FILTER



FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 04.RK3399 DDR Controler	Rev 1902
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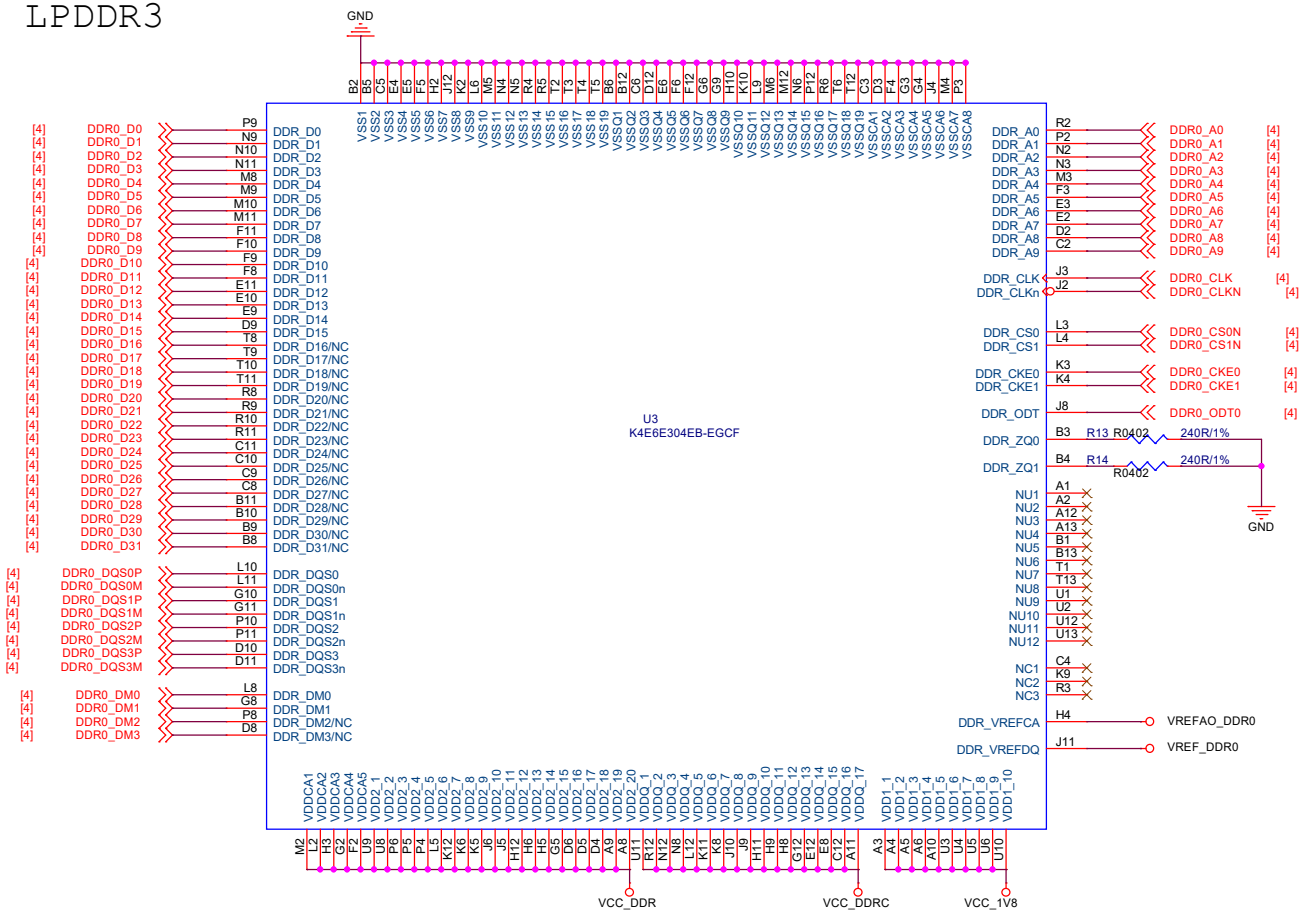
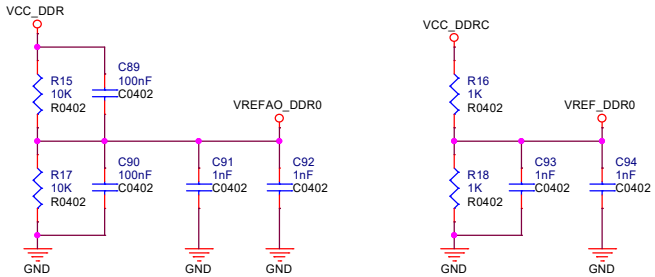
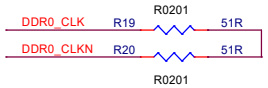
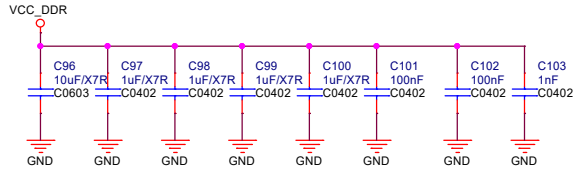
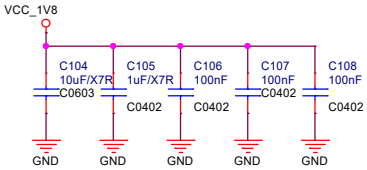
LPDDR3

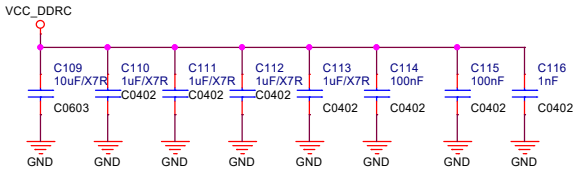












FRIENDLY ELEC

NanoPC-T4		
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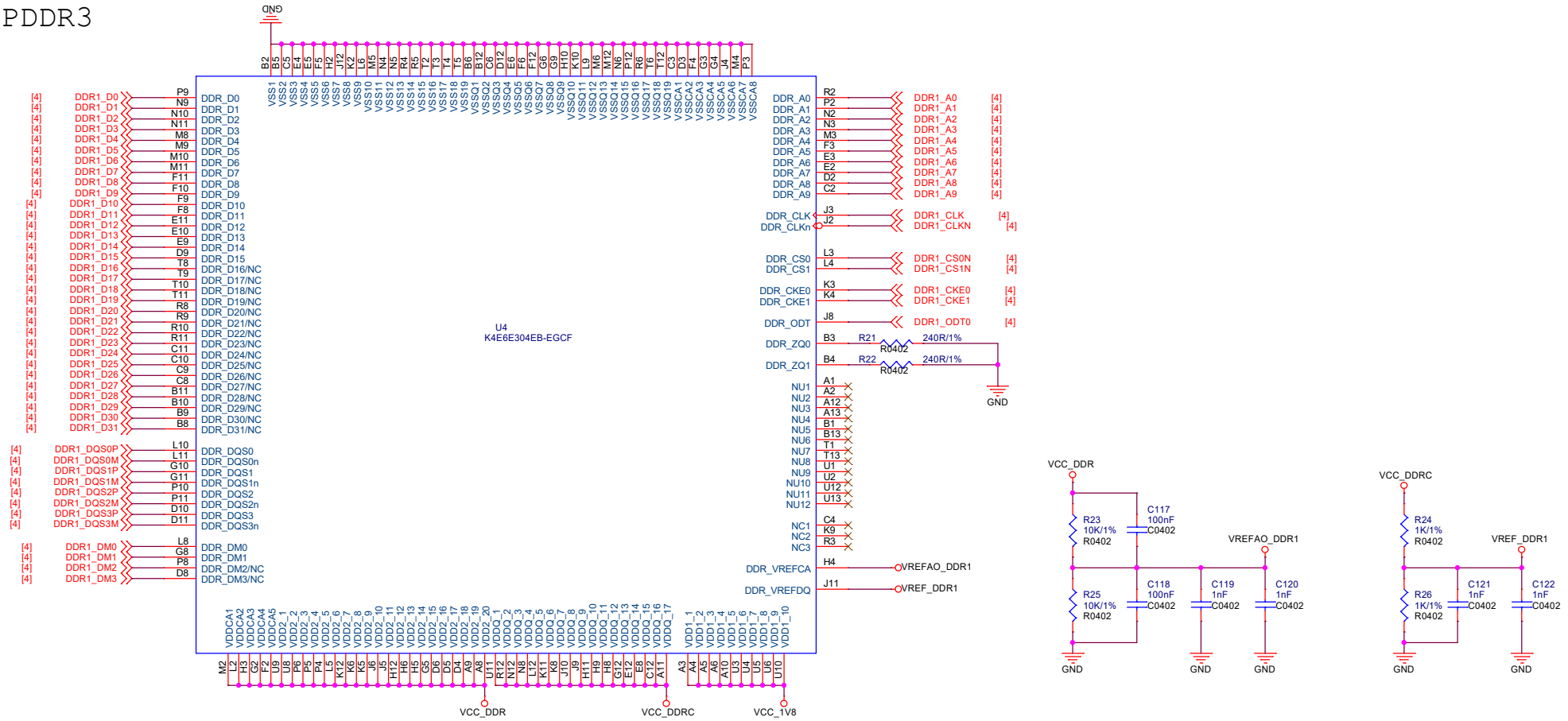
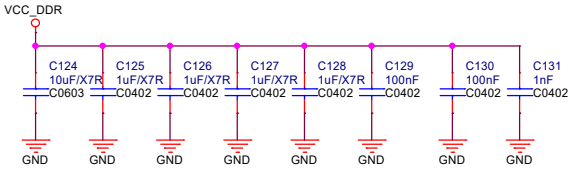
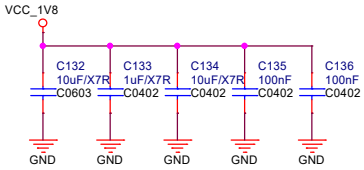
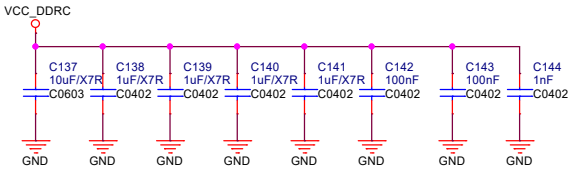
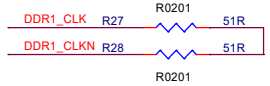
LPDDR3











FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 06.LPDDR3-DDR1	Rev 1902
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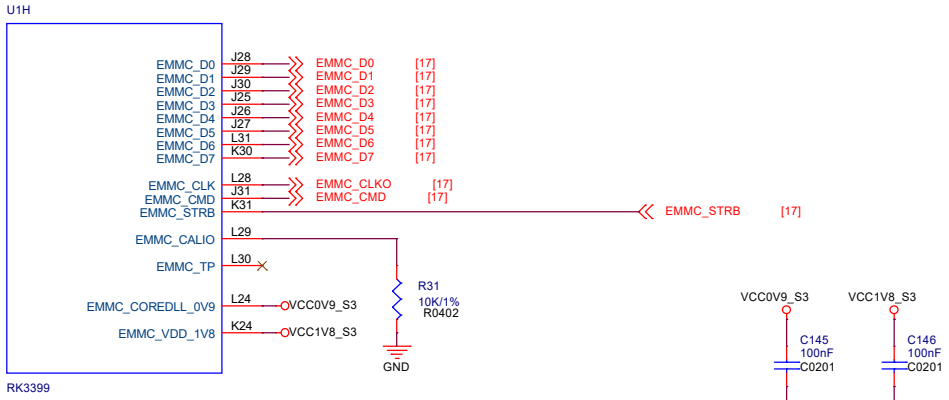

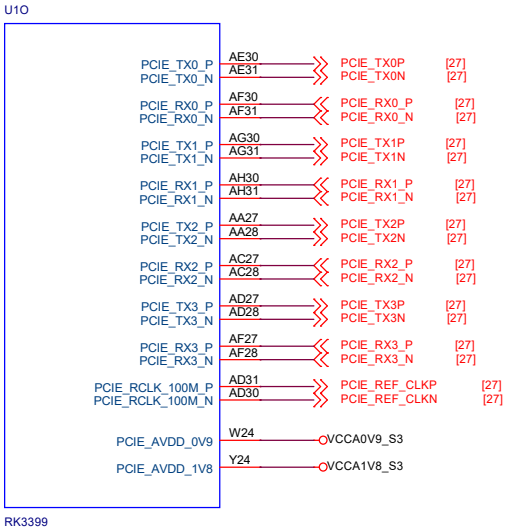

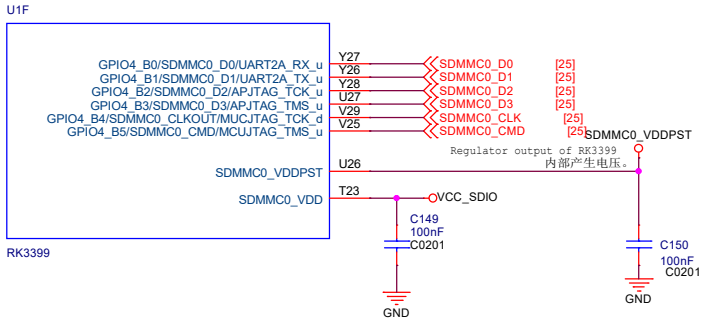

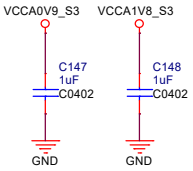

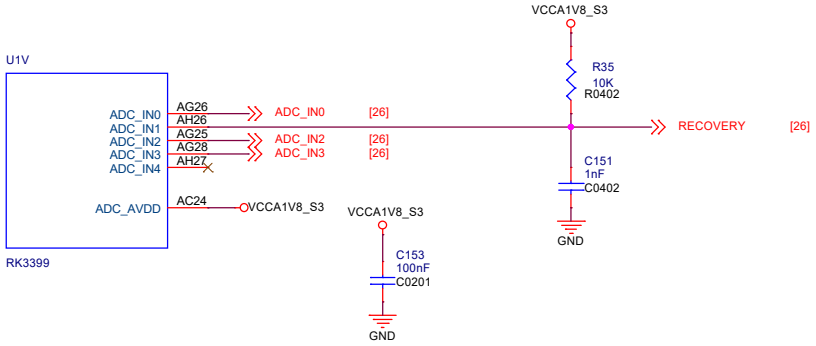

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 07.RK3399 MMC/ADC/PCIe	Rev 1902
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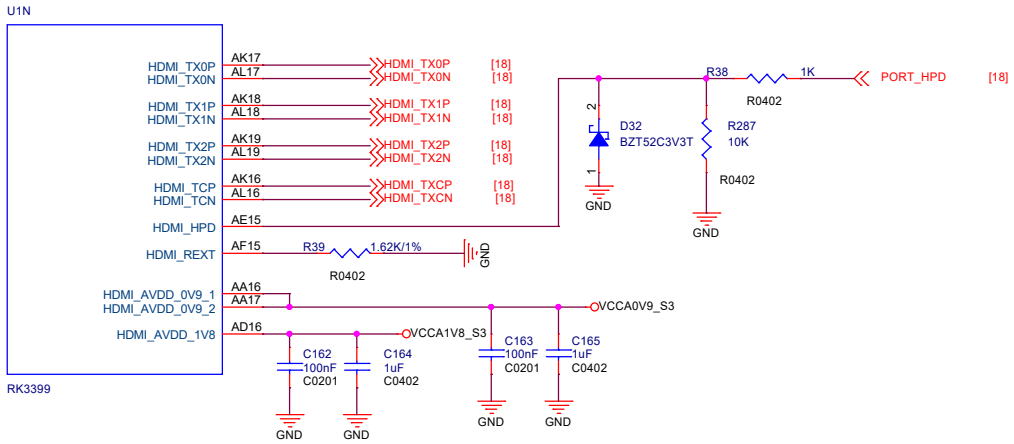

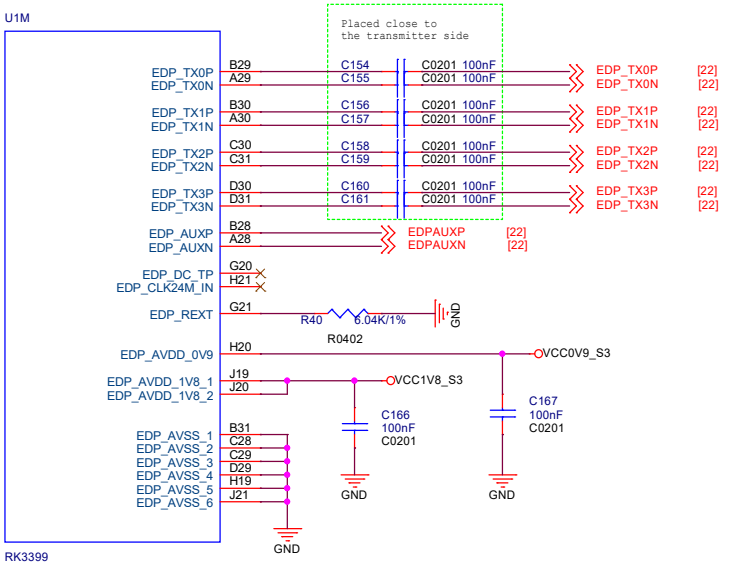

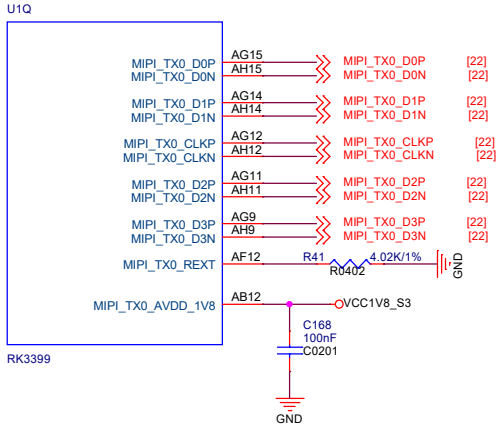

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 08.RK3399 Display Interface	Rev 1902
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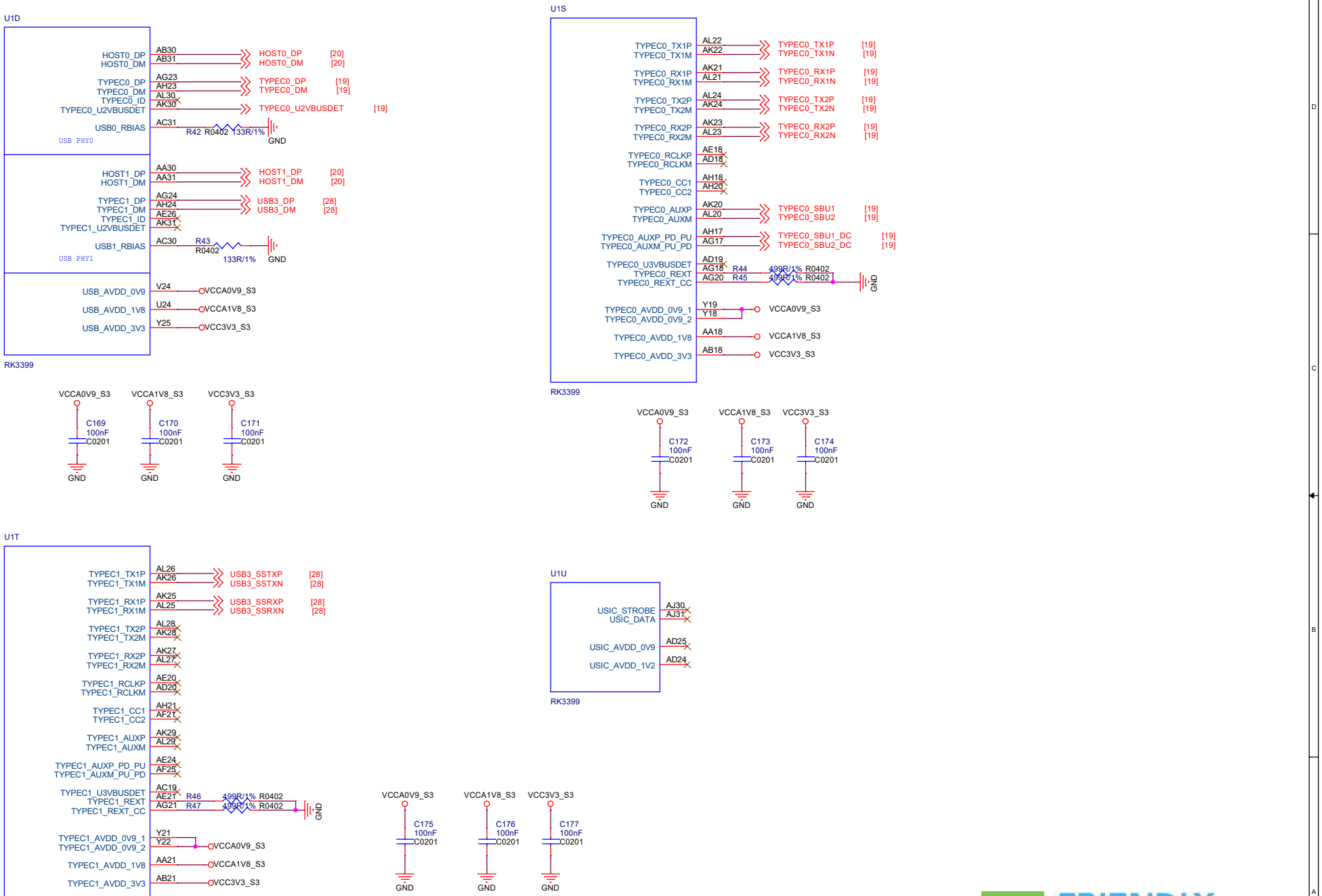

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Size	Document Number	Rev
A3	09.RK3399 USB/USIC Controler	1902

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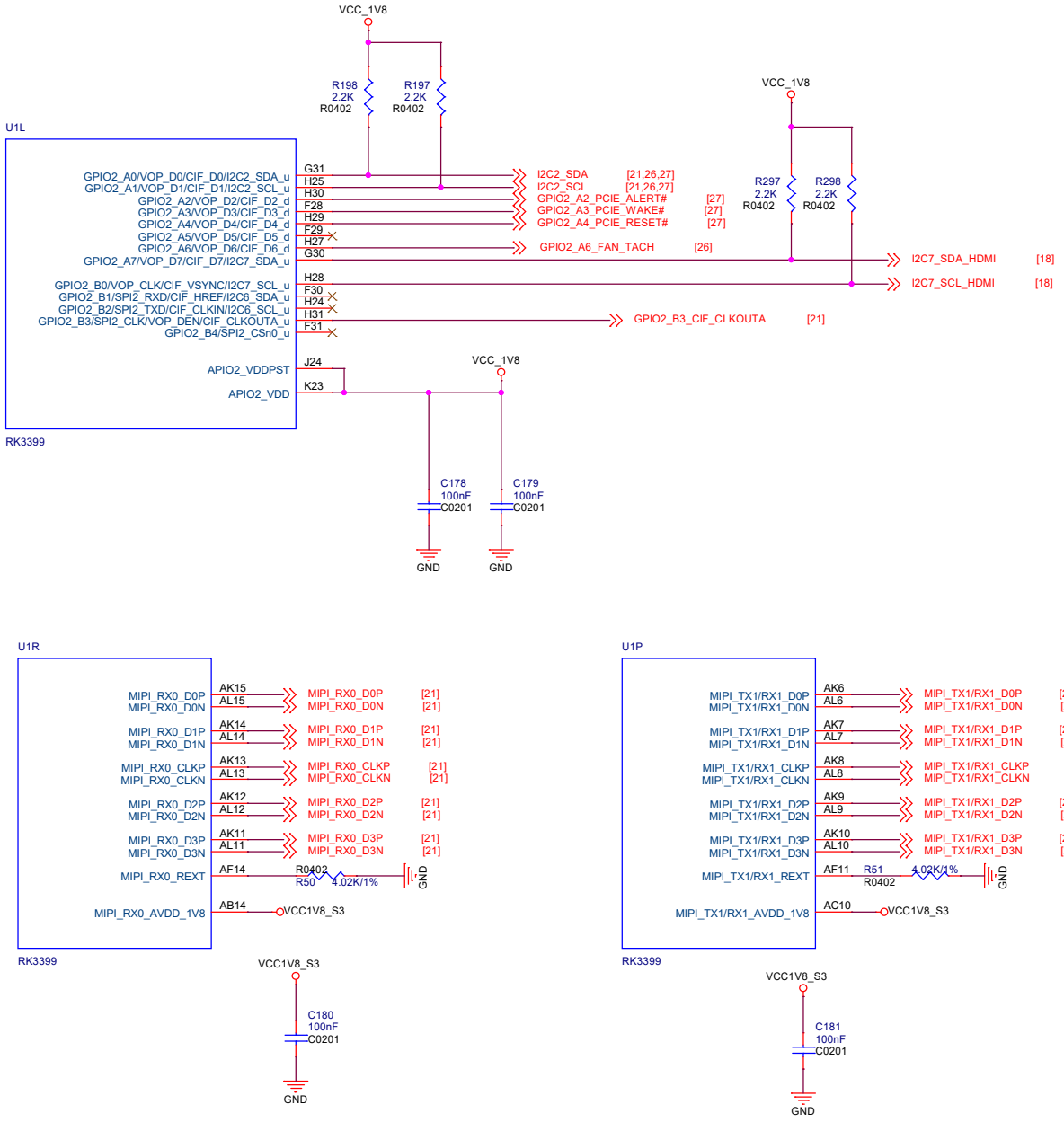

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 10.RK3399 DVP/MIPI CSI	Rev 1902
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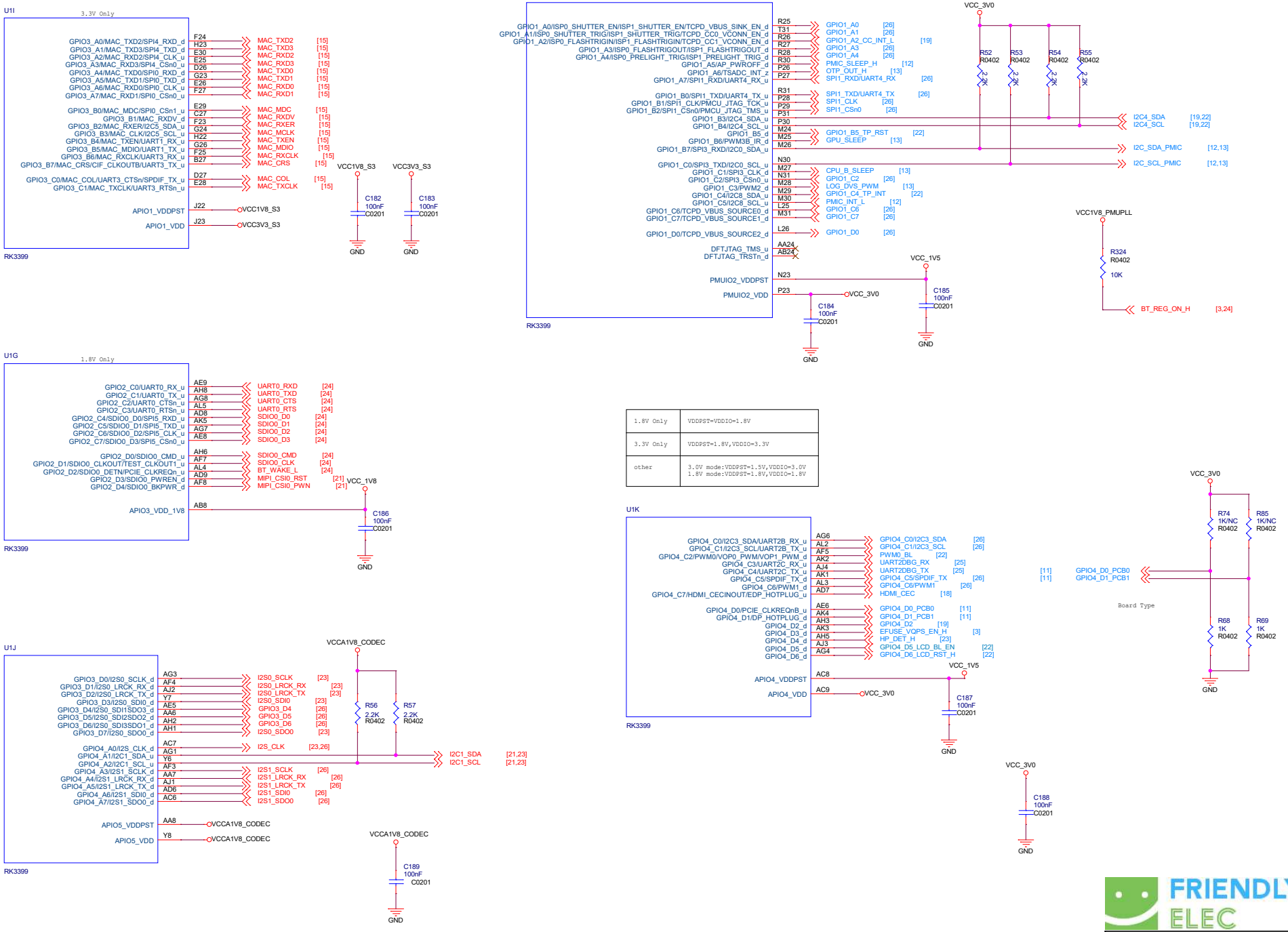
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3.3V Only
GPIO3_A0/MAC_TXD2/SPI4_RXD_d
GPIO3_A1/MAC_TXD3/SPI4_TXD_d
GPIO3_A2/MAC_RXD2/SPI4_CLK_u
GPIO3_A3/MAC_RXD3/SPI4_CSn0_u
GPIO3_A4/MAC_TXD0/SPI0_RXD_d
GPIO3_A5/MAC_TXD1/SPI0_TXD_d
GPIO3_A6/MAC_RXD0/SPI0_CLK_u
GPIO3_A7/MAC_RXD1/SPI0_CSn0_u
GPIO3_B0/MAC_MDC/SPI0_CSn1_u
GPIO3_B1/MAC_RXDV_d
GPIO3_B2/MAC_RXER/I2C5_SDA_u
GPIO3_B3/MAC_CLK/I2C5_SCL_u
GPIO3_B4/MAC_TXEN/UART1_RX_u
GPIO3_B5/MAC_MDIO/UART1_TX_u
GPIO3_B6/MAC_RXCLK/UART3_RX_u
GPIO3_B7/MAC_CRS/CIF_CLKOUTB/UART3_TX_u
GPIO3_C0/MAC_COL/UART3_CTSn/SPDIF_TX_u
GPIO3_C1/MAC_TXCLK/UART3_RTSn_u
APIO1_VDDPST
APIO1_VDD
F24 H23 E30 E25 D26 G23 E26 F27
E29 C27 F23 G24 H22 G26 F25 B27
D27 E28
J22 J23
MAC_TXD2 [15]
MAC_TXD3 [15]
MAC_RXD2 [15]
MAC_RXD3 [15]
MAC_TXD0 [15]
MAC_TXD1 [15]
MAC_RXD0 [15]
MAC_RXD1 [15]
MAC_MDC [15]
MAC_RXDV [15]
MAC_RXER [15]
MAC_MCLK [15]
MAC_TXEN [15]
MAC_MDIO [15]
MAC_RXCLK [15]
MAC_CRS [15]
MAC_COL [15]
MAC_TXCLK [15]
VCC1V8_S3
VCC3V3_S3
C182 100nF C0201
C183 100nF C0201
GND
RK3399
U1E
GPIO1_A0/ISP0_SHUTTER_EN/ISP1_SHUTTER_EN/TCPD_VBUS_SINK_EN_d
GPIO1_A1/ISP0_SHUTTER_TRIG/ISP1_SHUTTER_TRIG/TCPD_CC0_VCONN_EN_d
GPIO1_A2/ISP0_FLASHTRIGIN/ISP1_FLASHTRIGIN/TCPD_CC1_VCONN_EN_d
GPIO1_A3/ISP0_FLASHTRIGOUT/ISP1_FLASHTRIGOUT_d
GPIO1_A4/ISP0_PRELIGHT_TRIG/ISP1_PRELIGHT_TRIG_d
GPIO1_A5/AP_PWROFF_d
GPIO1_A6/TSADC_INT_z
GPIO1_A7/SPI1_RXD/UART4_RX_u
GPIO1_B0/SPI1_TXD/UART4_TX_u
GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK_u
GPIO1_B2/SPI1_CSn0/PMCU_JTAG_TMS_u
GPIO1_B3/I2C4_SDA_u
GPIO1_B4/I2C4_SCL_u
GPIO1_B5_d
GPIO1_B6/PWM3B_IR_d
GPIO1_B7/SPI3_RXD/I2C0_SDA_u
GPIO1_C0/SPI3_TXD/I2C0_SCL_u
GPIO1_C1/SPI3_CLK_d
GPIO1_C2/SPI3_CSn0_u
GPIO1_C3/PWM2_d
GPIO1_C4/I2C8_SDA_u
GPIO1_C5/I2C8_SCL_u
GPIO1_C6/TCPD_VBUS_SOURCE0_d
GPIO1_C7/TCPD_VBUS_SOURCE1_d
GPIO1_D0/TCPD_VBUS_SOURCE2_d
DFTJTAG_TMS_u
DFTJTAG_TRSTn_d
PMUIO2_VDDPST
PMUIO2_VDD
R25 T31 R26 R27 R28 R30 P26 P27
R31 P28 P29 P31 P30 M24 M25 M26
N30 M27 N31 M28 M29 M30 L25 M31
L26
AA24 AB24
N23 P23
GPIO1_A0 [26]
GPIO1_A1 [26]
GPIO1_A2_CC_INT_L [19]
GPIO1_A3 [26]
GPIO1_A4 [26]
PMIC_SLEEP_H [12]
OTP_OUT_H [13]
SPI1_RXD/UART4_RX [26]
SPI1_TXD/UART4_TX [26]
SPI1_CLK [26]
SPI1_CSn0 [26]
GPIO1_B5_TP_RST [22]
GPU_SLEEP [13]
CPU_B_SLEEP [13]
GPIO1_C2 [26]
LOG_DVS_PWM [13]
GPIO1_C4_TP_INT [22]
PMIC_INT_L [12]
GPIO1_C6 [26]
GPIO1_C7 [26]
GPIO1_D0 [26]
I2C4_SDA [19,22]
I2C4_SCL [19,22]
I2C_SDA_PMIC [12,13]
I2C_SCL_PMIC [12,13]
VCC_3V0
R52 R0402 2.2K
R53 R0402 2.2K
R54 R0402 2.2K
R55 R0402 2.2K
VCC_1V5
C185 100nF C0201
C184 100nF C0201
GND
RK3399
VCC1V8_PMUPLL
R324 R0402 10K
BT_REG_ON_H [3,24]
U1G
1.8V Only
GPIO2_C0/UART0_RX_u
GPIO2_C1/UART0_TX_u
GPIO2_C2/UART0_CTSn_u
GPIO2_C3/UART0_RTSn_u
GPIO2_C4/SDIO0_D0/SPI5_RXD_u
GPIO2_C5/SDIO0_D1/SPI5_TXD_u
GPIO2_C6/SDIO0_D2/SPI5_CLK_u
GPIO2_C7/SDIO0_D3/SPI5_CSn0_u
GPIO2_D0/SDIO0_CMD_u
GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1_u
GPIO2_D2/SDIO0_DETN/PCIE_CLKREQn_u
GPIO2_D3/SDIO0_PWREN_d
GPIO2_D4/SDIO0_BKPWR_d
APIO3_VDD_1V8
AE9 AH8 AG8 AL5 AD8 AK5 AG7 AE8
AH6 AF7 AL4 AD9 AF8
AB8
UART0_RXD [24]
UART0_TXD [24]
UART0_CTS [24]
UART0_RTS [24]
SDIO0_D0 [24]
SDIO0_D1 [24]
SDIO0_D2 [24]
SDIO0_D3 [24]
SDIO0_CMD [24]
SDIO0_CLK [24]
BT_WAKE_L [24]
MIPI_CSI0_RST [21]
MIPI_CSI0_PWN [21]
VCC_1V8
C186 100nF C0201
GND
RK3399
1.8V Only | VDDPST=VDDIO=1.8V
3.3V Only | VDDPST=1.8V,VDDIO=3.3V
other | 3.0V mode:VDDPST=1.5V,VDDIO=3.0V 1.8V mode:VDDPST=1.8V,VDDIO=1.8V
U1K
GPIO4_C0/I2C3_SDA/UART2B_RX_u
GPIO4_C1/I2C3_SCL/UART2B_TX_u
GPIO4_C2/PWM0/VOP0_PWM/VOP1_PWM_d
GPIO4_C3/UART2C_RX_u
GPIO4_C4/UART2C_TX_u
GPIO4_C5/SPDIF_TX_d
GPIO4_C6/PWM1_d
GPIO4_C7/HDMI_CECINOUT/EDP_HOTPLUG_u
GPIO4_D0/PCIE_CLKREQnB_u
GPIO4_D1/DP_HOTPLUG_d
GPIO4_D2_d
GPIO4_D3_d
GPIO4_D4_d
GPIO4_D5_d
GPIO4_D6_d
APIO4_VDDPST
APIO4_VDD
AG6 AL2 AF5 AK2 AJ4 AK1 AL3 AD7
AE6 AK4 AH3 AK3 AH5 AJ3 AG4
AC8 AC9
GPIO4_C0/I2C3_SDA [26]
GPIO4_C1/I2C3_SCL [26]
PWM0_BL [22]
UART2DBG_RX [25]
UART2DBG_TX [25]
GPIO4_C5/SPDIF_TX [26]
GPIO4_C6/PWM1 [26]
HDMI_CEC [18]
GPIO4_D0_PCB0 [11]
GPIO4_D1_PCB1 [11]
GPIO4_D2 [19]
EFUSE_VQPS_EN_H [3]
HP_DET_H [23]
GPIO4_D5_LCD_BL_EN [22]
GPIO4_D6_LCD_RST_H [22]
VCC_1V5
C187 100nF C0201
VCC_3V0
GND
RK3399
VCC_3V0
R74 1K/NC R0402
R85 1K/NC R0402
GPIO4_D0_PCB0 [11]
GPIO4_D1_PCB1 [11]
Board Type
R68 1K R0402
R69 1K R0402
GND
U1J
GPIO3_D0/I2S0_SCLK_d
GPIO3_D1/I2S0_LRCK_RX_d
GPIO3_D2/I2S0_LRCK_TX_d
GPIO3_D3/I2S0_SDI0_d
GPIO3_D4/I2S0_SDI1SDO3_d
GPIO3_D5/I2S0_SDI2SDO2_d
GPIO3_D6/I2S0_SDI3SDO1_d
GPIO3_D7/I2S0_SDO0_d
GPIO4_A0/I2S_CLK_d
GPIO4_A1/I2C1_SDA_u
GPIO4_A2/I2C1_SCL_u
GPIO4_A3/I2S1_SCLK_d
GPIO4_A4/I2S1_LRCK_RX_d
GPIO4_A5/I2S1_LRCK_TX_d
GPIO4_A6/I2S1_SDI0_d
GPIO4_A7/I2S1_SDO0_d
APIO5_VDDPST
APIO5_VDD
AG3 AF4 AJ2 Y7 AE5 AA6 AH2 AH1
AC7 AG1 Y6 AF3 AA7 AJ1 AD6 AC6
AA8 Y8
I2S0_SCLK [23]
I2S0_LRCK_RX [23]
I2S0_LRCK_TX [23]
I2S0_SDI0 [23]
GPIO3_D4 [26]
GPIO3_D5 [26]
GPIO3_D6 [26]
I2S0_SDO0 [23]
I2S_CLK [23,26]
I2S1_SCLK [26]
I2S1_LRCK_RX [26]
I2S1_LRCK_TX [26]
I2S1_SDI0 [26]
I2S1_SDO0 [26]
VCCA1V8_CODEC
R56 2.2K R0402
R57 2.2K R0402
I2C1_SDA [21,23]
I2C1_SCL [21,23]
VCCA1V8_CODEC
C189 100nF C0201
GND
RK3399
VCC_3V0
C188 100nF C0201
GND
FRIENDLY ELEC
NanoPC-T4
Size: Custom
Document Number: 11.RK3399 RGMII/SDIO/SPI/etc
Rev: 1902
Date: Monday, May 11, 2020
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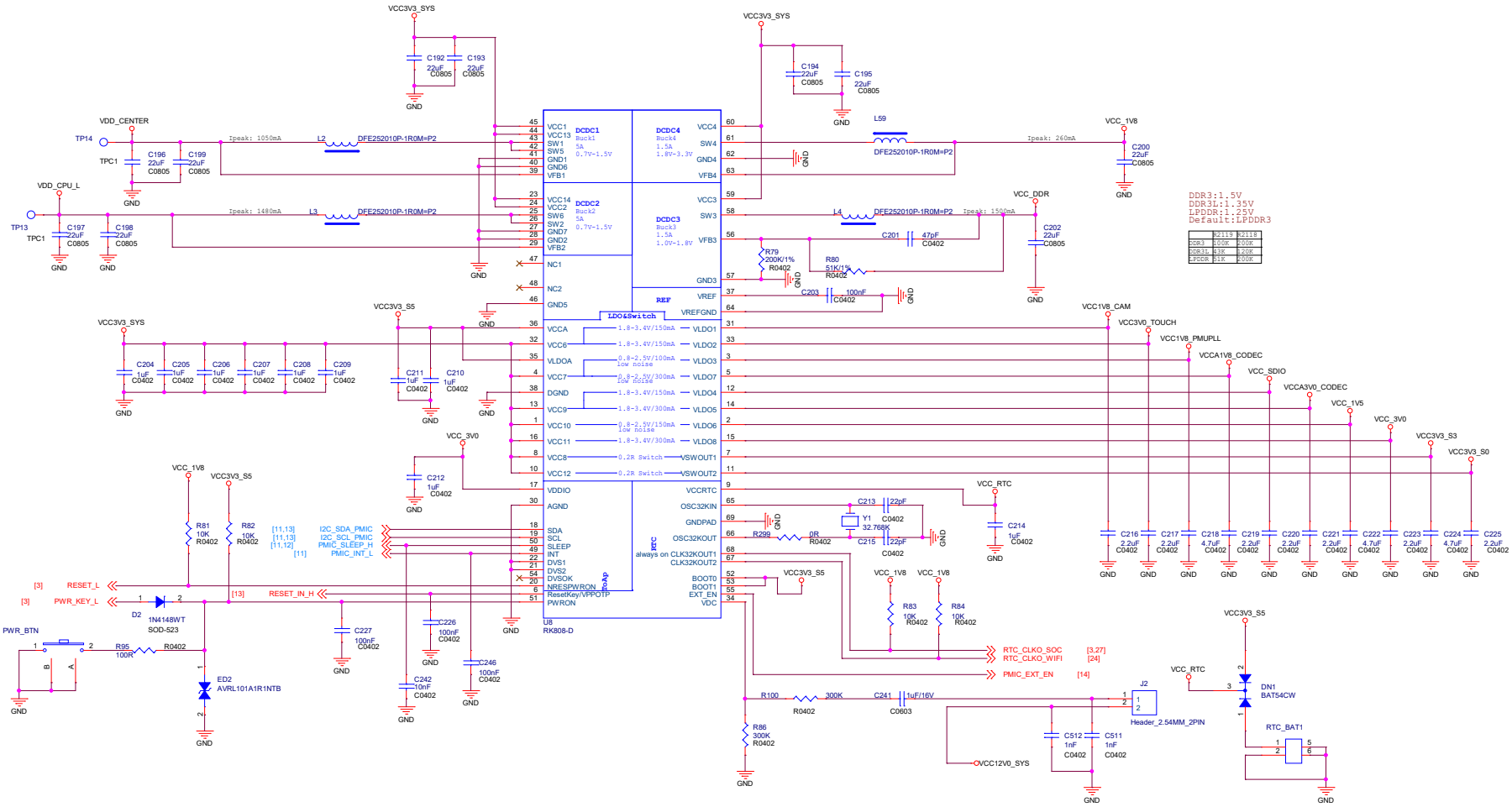

	R2119	R2118
DDR3	100K	200K
DDR3L	93K	120K
LPDDR	51K	200K

NanoPC-T4

Size	Document Number	Rev
A2	12.Power1-RK808-D	1902

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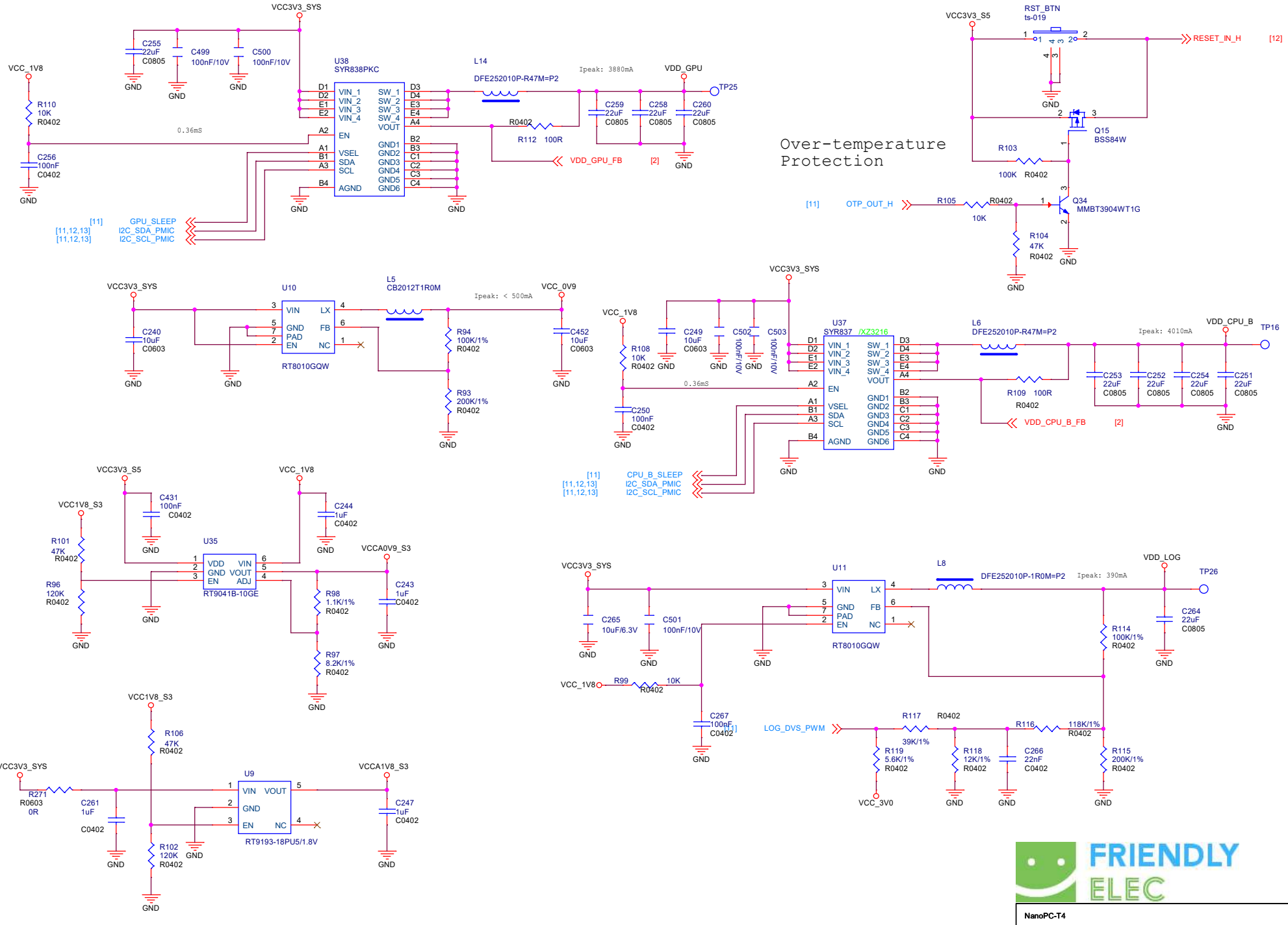
VCC3V3_SYS
VCC_1V8
U38
SYR838PKC
L14
DFE252010P-R47M=P2
Ipeak: 3880mA
VDD_GPU
TP25
R110 10K R0402
C256 100nF C0402
C255 22uF C0805
C499 100nF/10V
C500 100nF/10V
0.36mS
R0402
R112 100R
C259 22uF C0805
C258 22uF C0805
C260 22uF C0805
VDD_GPU_FB [2]
[11] GPU_SLEEP
[11,12,13] I2C_SDA_PMIC
[11,12,13] I2C_SCL_PMIC
VIN_1 VIN_2 VIN_3 VIN_4 EN VSEL SDA SCL AGND
SW_1 SW_2 SW_3 SW_4 VOUT GND1 GND2 GND3 GND4 GND5 GND6
Over-temperature Protection
VCC3V3_S5
RST_BTN
ts-019
RESET_IN_H [12]
R103 100K R0402
Q15 BSS84W
[11] OTP_OUT_H
R105 10K
R0402
Q34 MMBT3904WT1G
R104 47K R0402
VCC3V3_SYS
U10
RT8010GQW
L5
CB2012T1R0M
Ipeak: < 500mA
VCC_0V9
C240 10uF C0603
C452 10uF C0603
R94 100K/1% R0402
R93 200K/1% R0402
VIN LX FB GND PAD EN NC
VCC_1V8
U37
SYR837 /XZ3216
L6
DFE252010P-R47M=P2
Ipeak: 4010mA
VDD_CPU_B
TP16
R108 10K R0402
C249 10uF C0603
C502 100nF/10V
C503 100nF/10V
C250 100nF C0402
0.36mS
R109 100R R0402
VDD_CPU_B_FB [2]
C253 22uF C0805
C252 22uF C0805
C254 22uF C0805
C251 22uF C0805
[11] CPU_B_SLEEP
[11,12,13] I2C_SDA_PMIC
[11,12,13] I2C_SCL_PMIC
VCC3V3_S5
VCC1V8_S3
U35
RT9041B-10GE
C431 100nF C0402
C244 1uF C0402
R101 47K R0402
R96 120K R0402
R98 1.1K/1% R0402
R97 8.2K/1% R0402
C243 1uF C0402
VCCA0V9_S3
VDD_LOG
TP26
U11
RT8010GQW
L8
DFE252010P-1R0M=P2
Ipeak: 390mA
C265 10uF/6.3V
C501 100nF/10V
C264 22uF C0805
R114 100K/1% R0402
R99 10K R0402
C267 100nF C0402
LOG_DVS_PWM [1]
R117 39K/1%
R0402
R116 118K/1% R0402
R119 5.6K/1% R0402
R118 12K/1% R0402
C266 22nF C0402
R115 200K/1% R0402
VCC_3V0
R106 47K R0402
U9
RT9193-18PU5/1.8V
VCCA1V8_S3
R271 R0603 0R
C261 1uF C0402
R102 120K R0402
C247 1uF C0402
VIN VOUT GND EN NC
FRIENDLY ELEC
NanoPC-T4
Size A3
Document Number 13.Power2-CPU/GPU/etc
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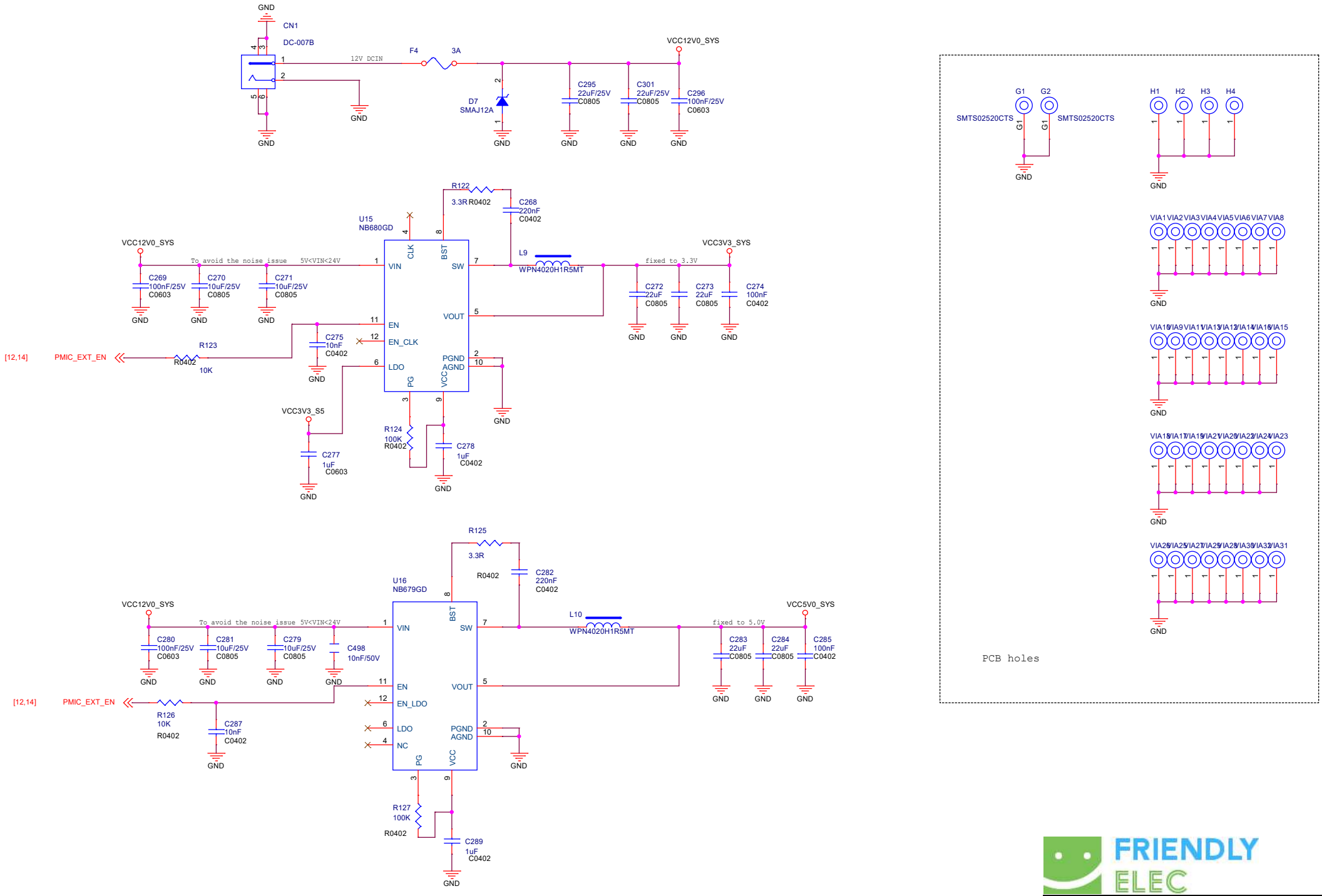

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 14.Power3-3.3V/5V	Rev 1902
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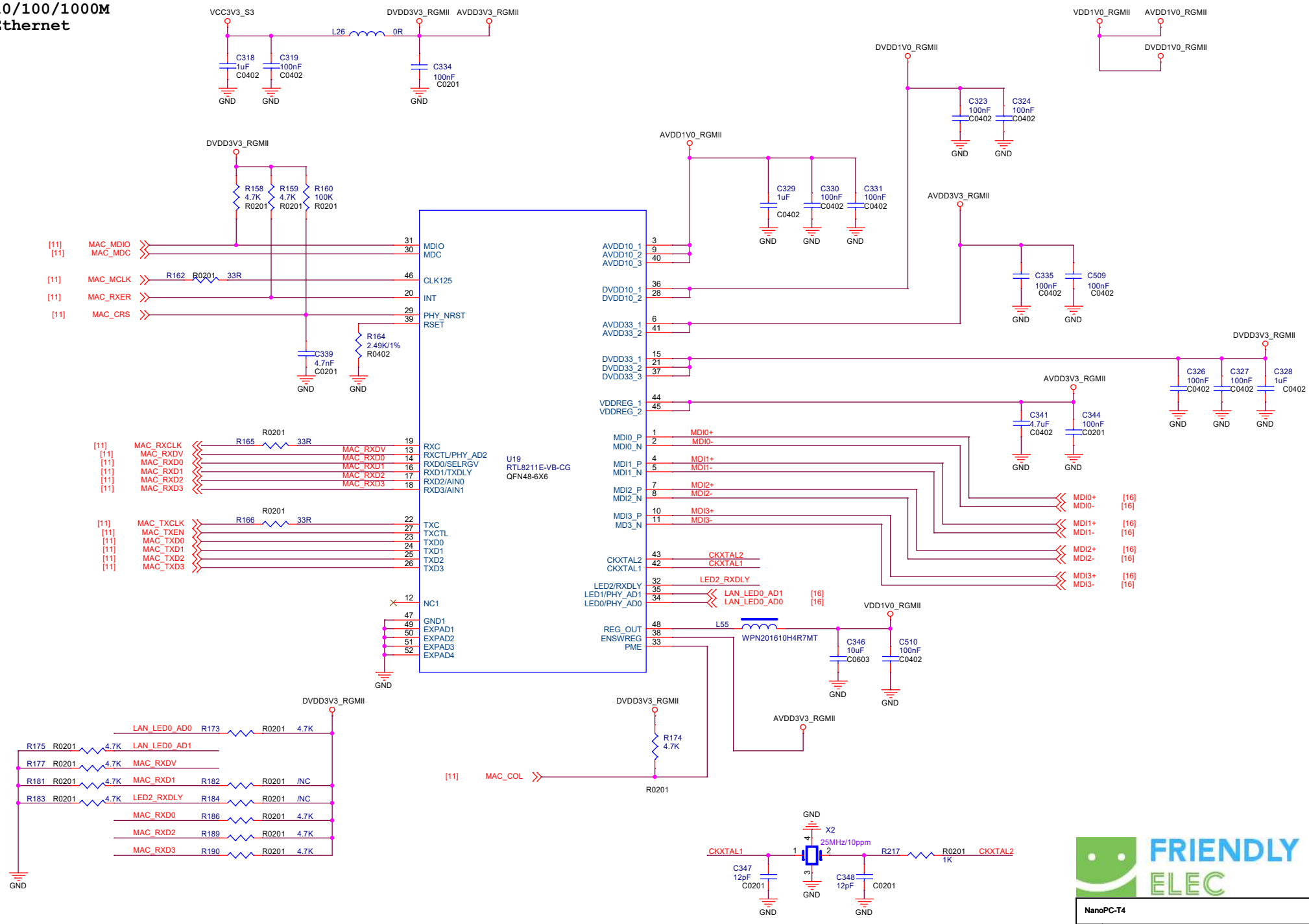
10/100/1000M Ethernet



FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 15.RGMII-10/100/1000M	Rev 1902
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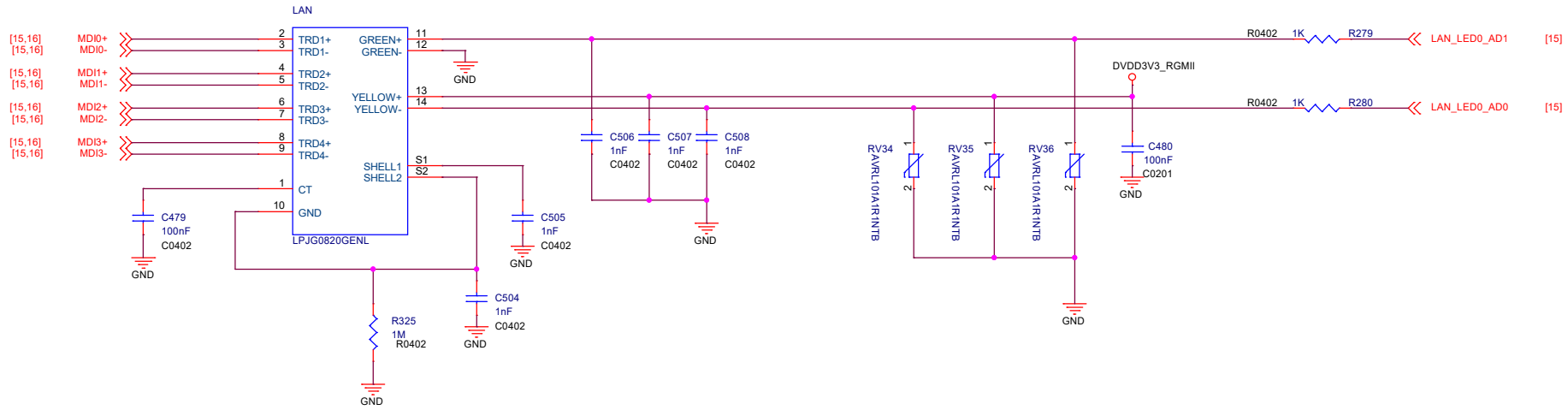

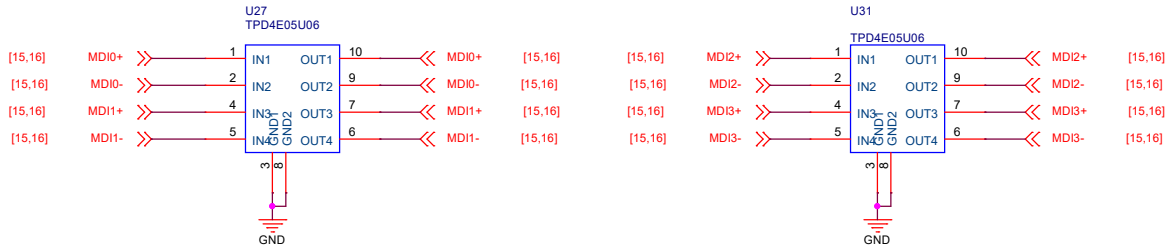

NanoPC-T4		
Size A3	Document Number 16.Gigabit Port	Rev 1902
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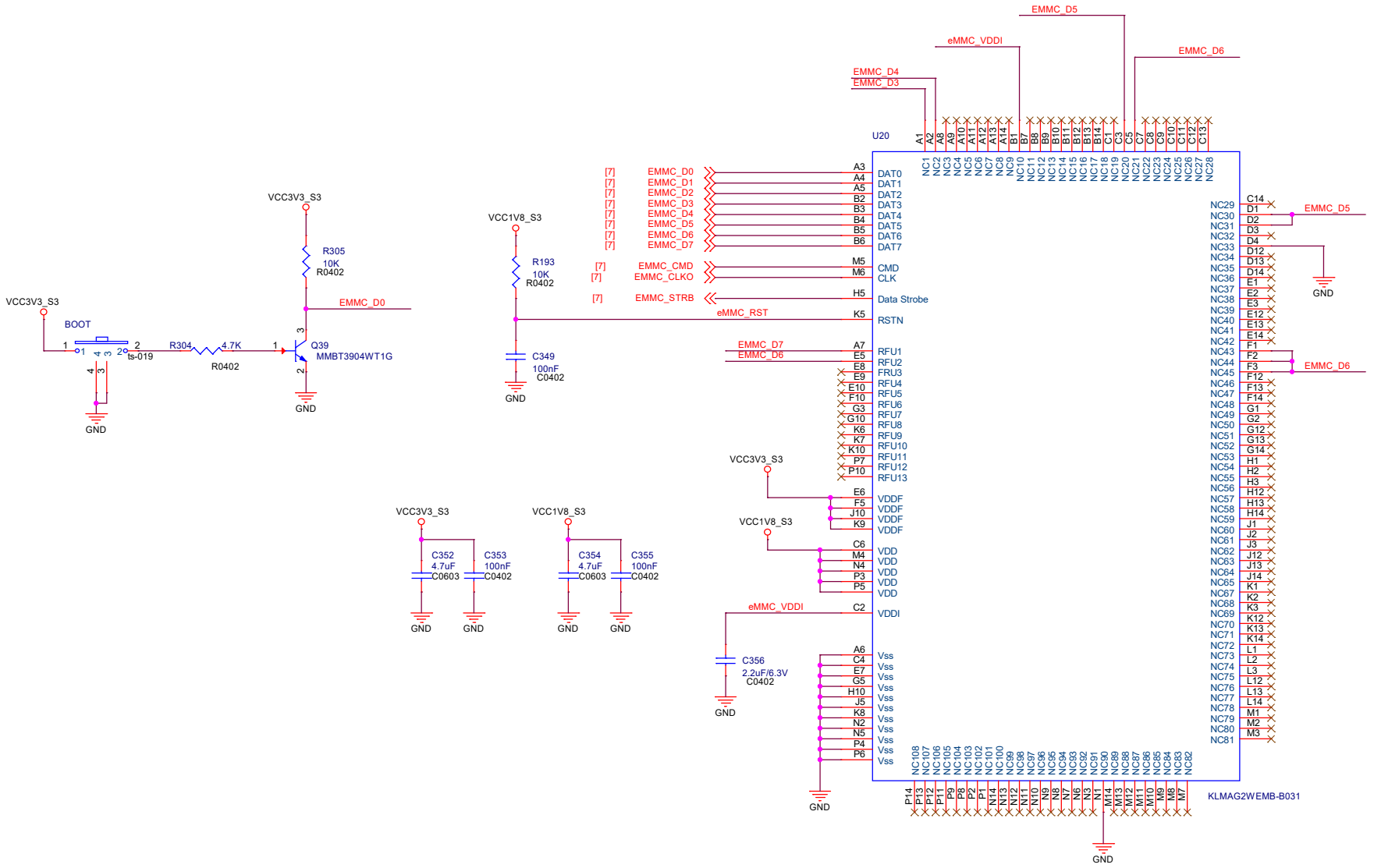

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 17.eMMC/boot	Rev 1902
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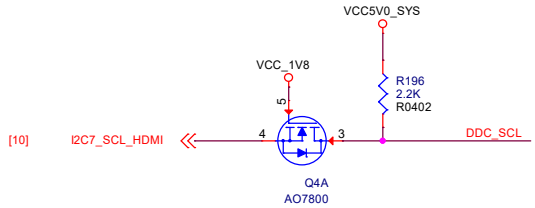
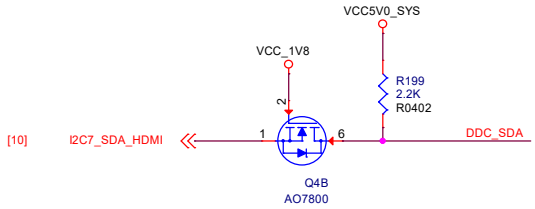
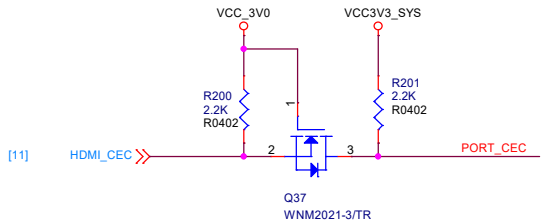
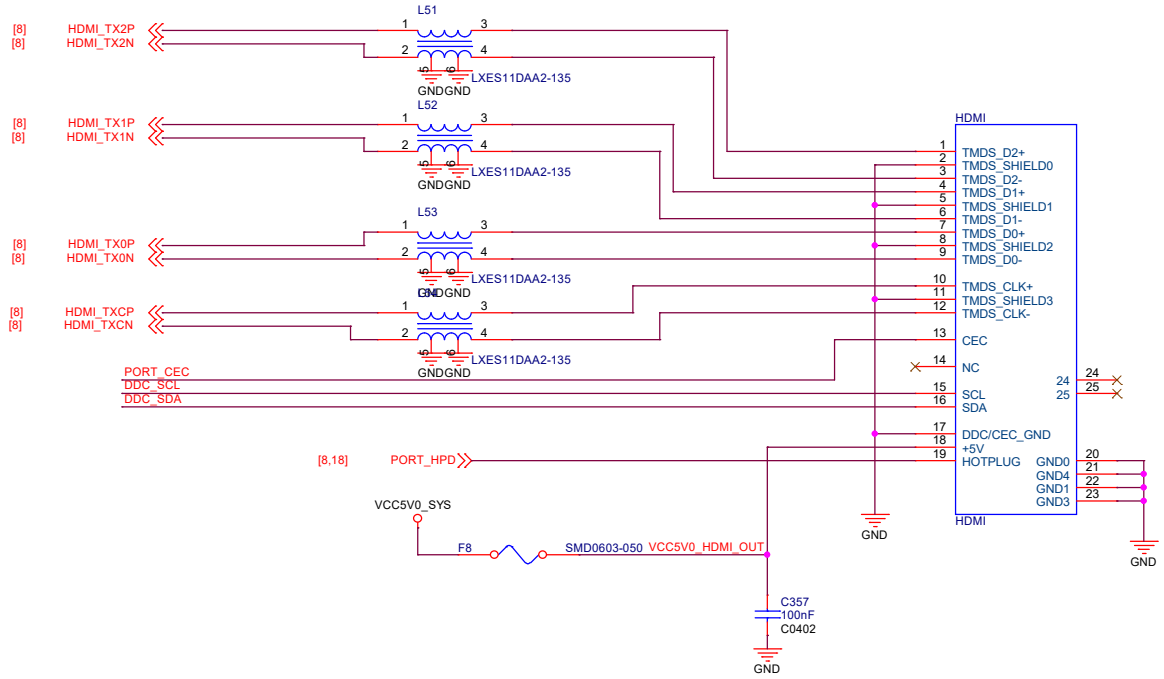
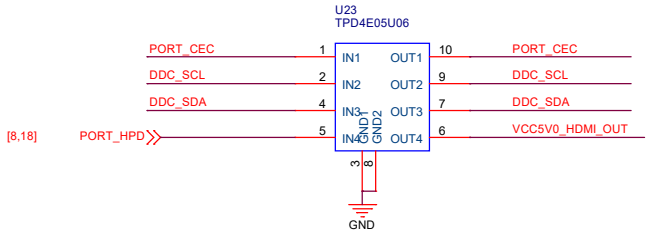
HDMI Port











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Size: A3	Document Number: 18.HDMI Port	Rev: 1902
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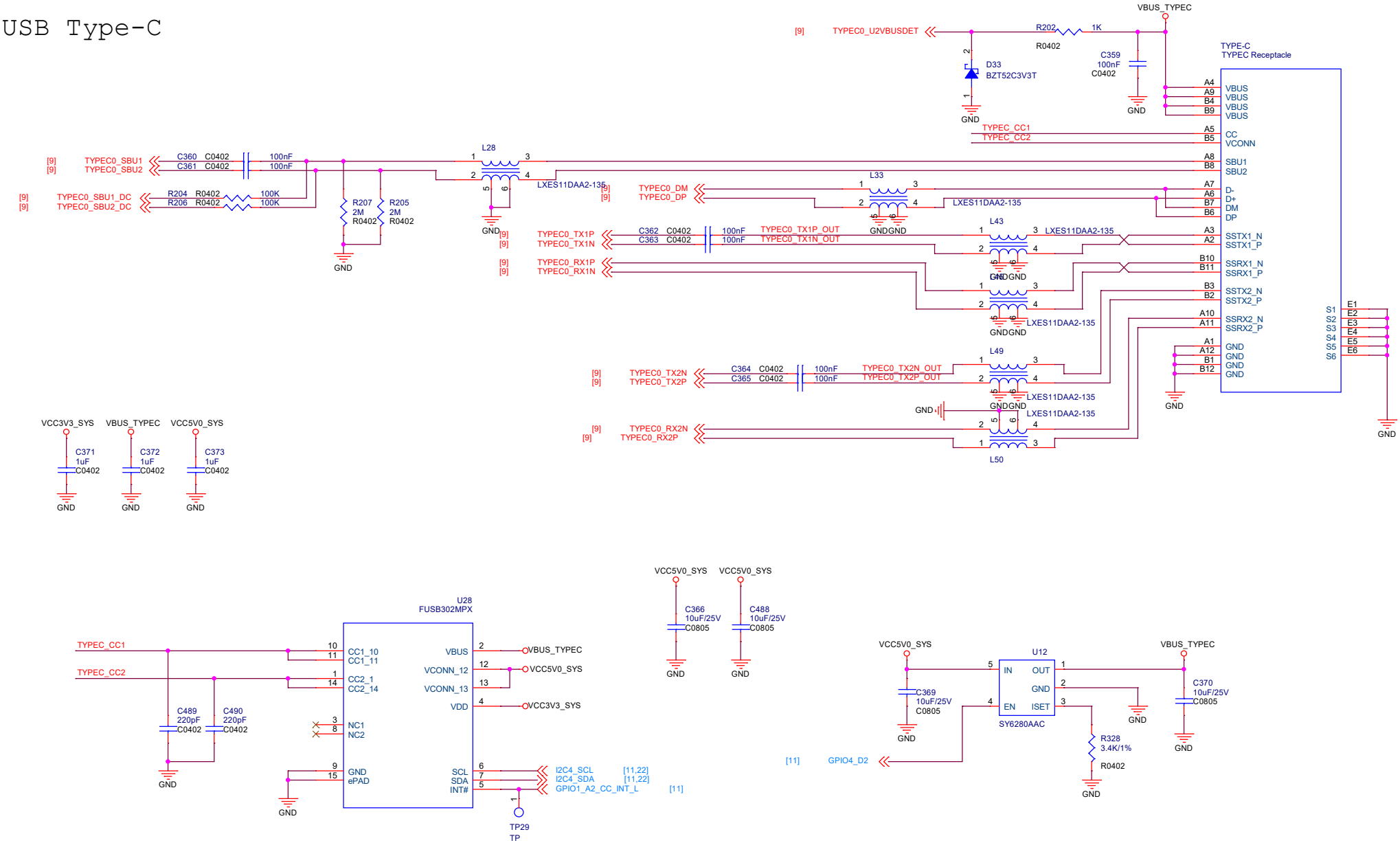
USB Type-C



FRIENDLY ELEC

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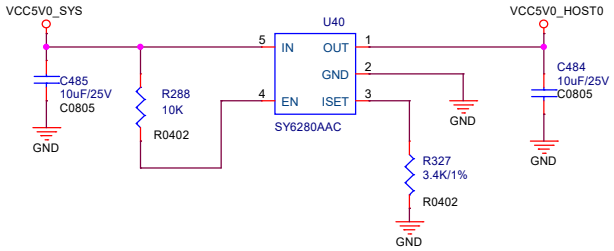
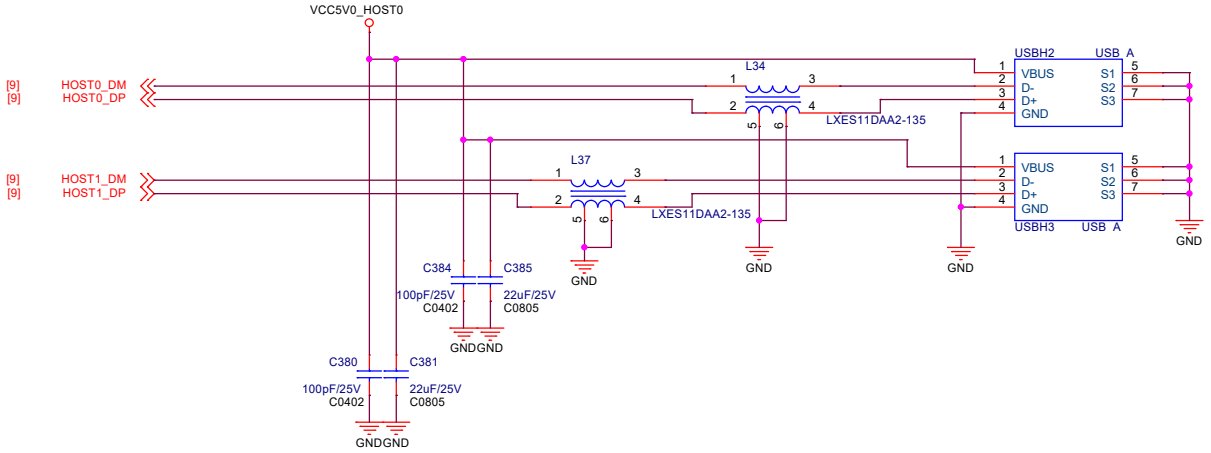
USB2.0 Host





NanoPC-T4		
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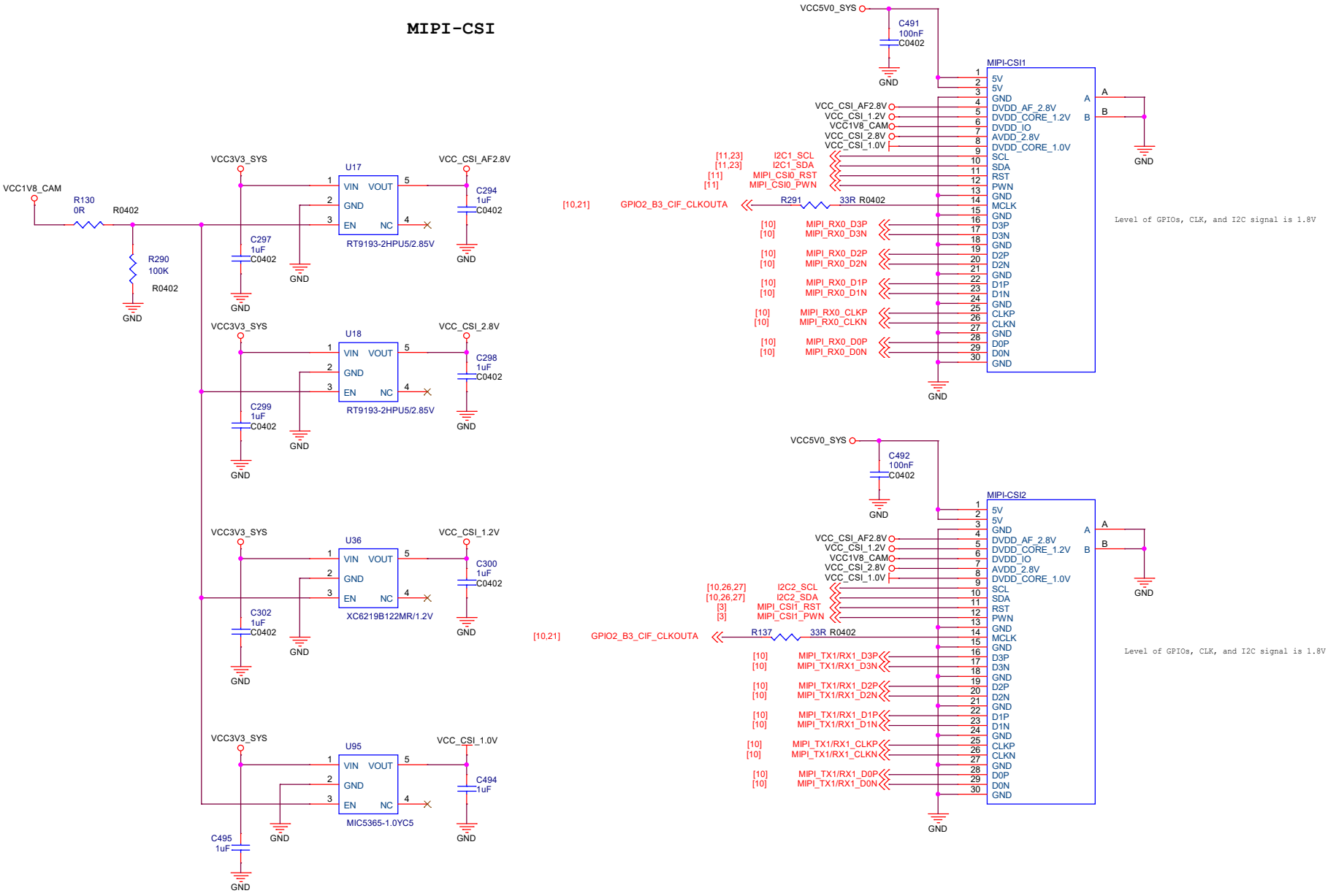
MIPI-CSI



FRIENDLY ELEC

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Size A3	Document Number 21.MIPI-CSI	Rev 1902
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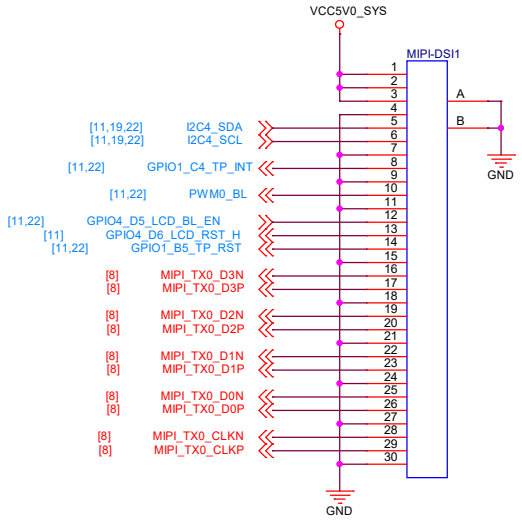
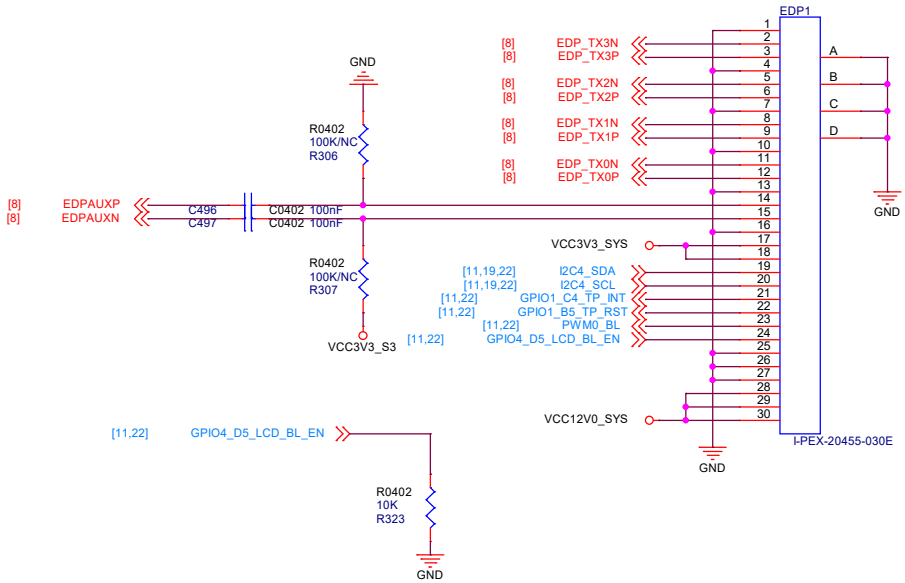


Level of GPIOs, PWM, and I2C signal is 3.0V



FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 22.eDP/MIPI-DSI	Rev 1902
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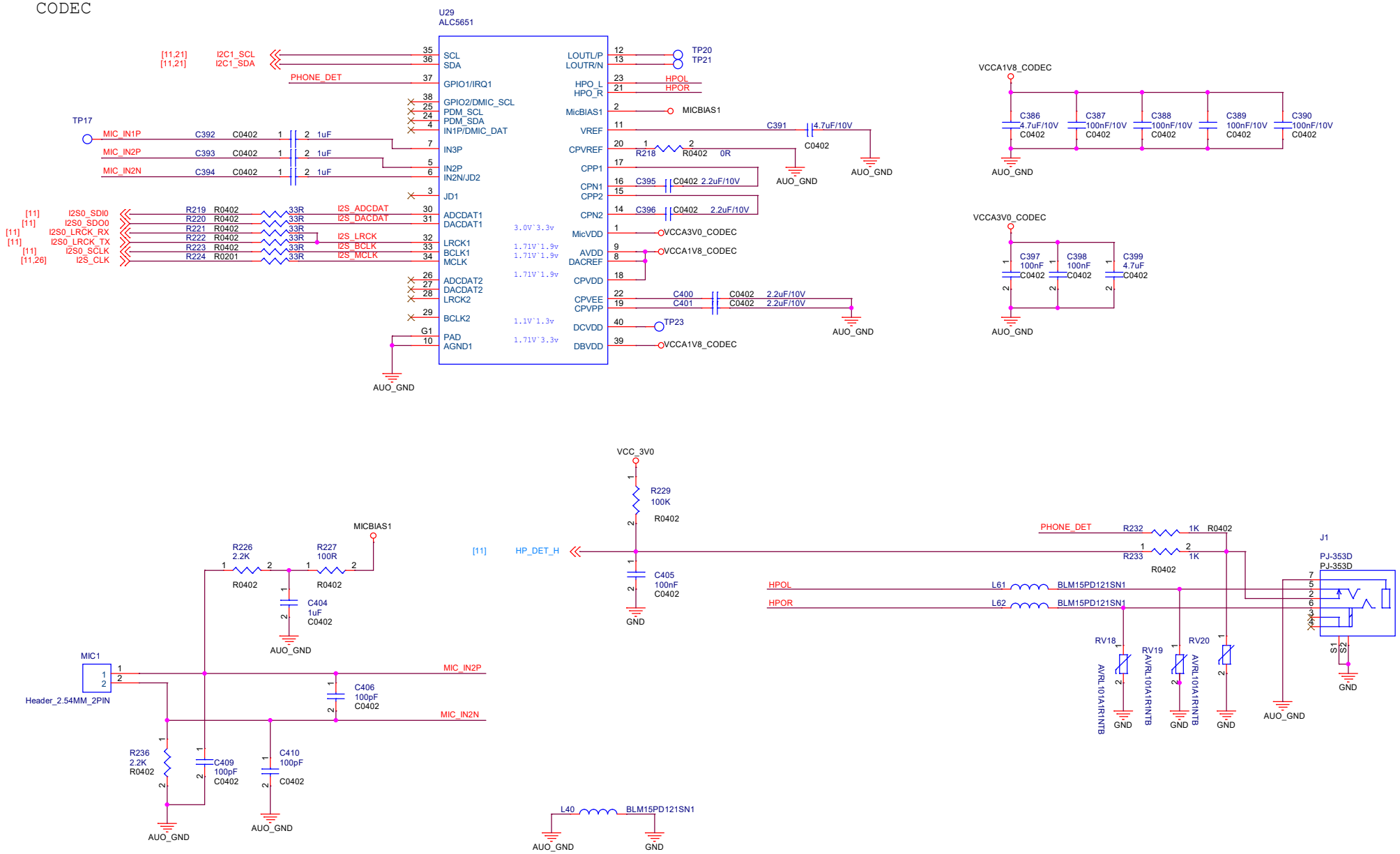
CODEC



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Size A3	Document Number 23.Audio		Rev 1902
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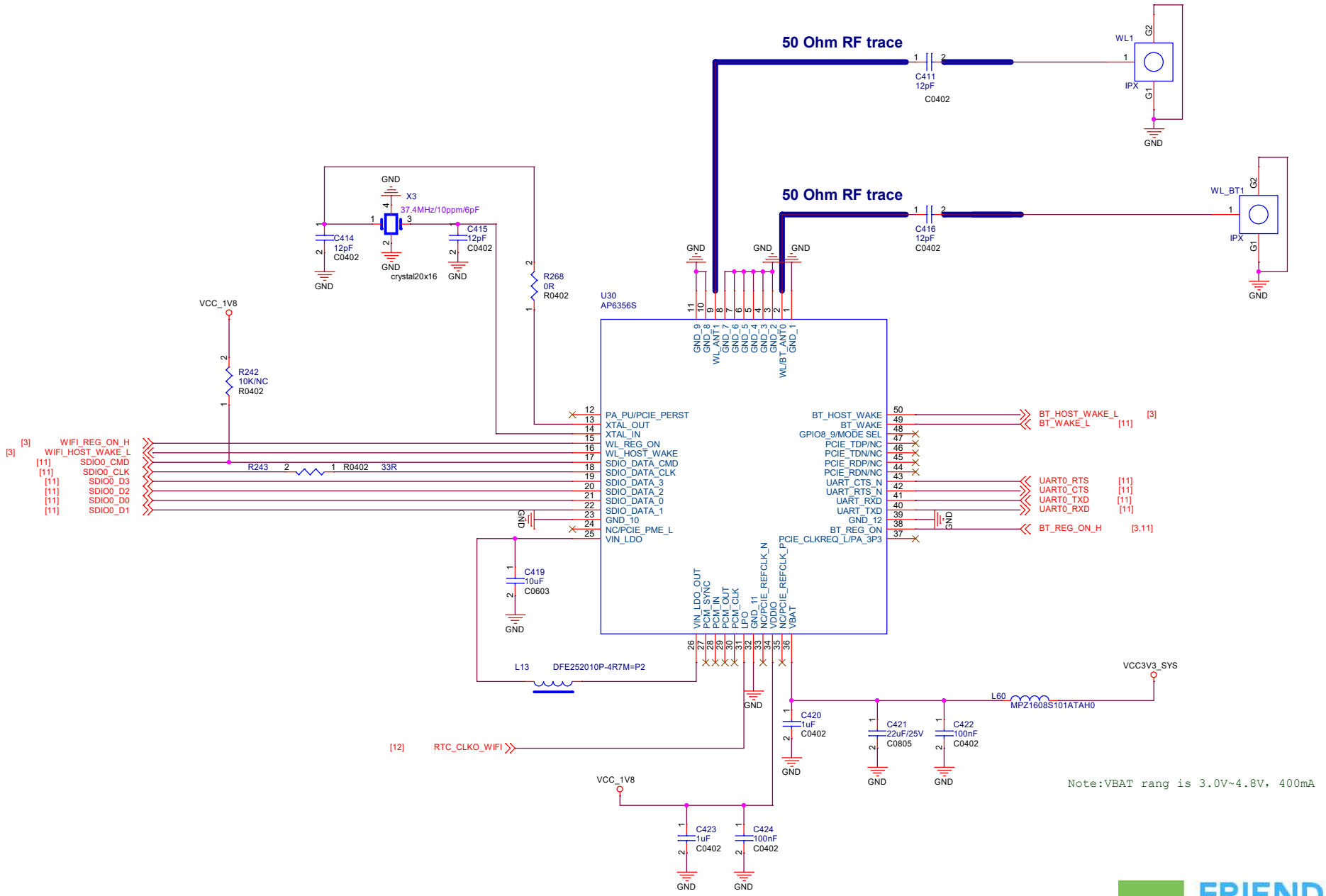
WIFI/WIFI ac/BT MODULE



FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 24.2.4G&5G Wi-Fi/BT	Rev 1902
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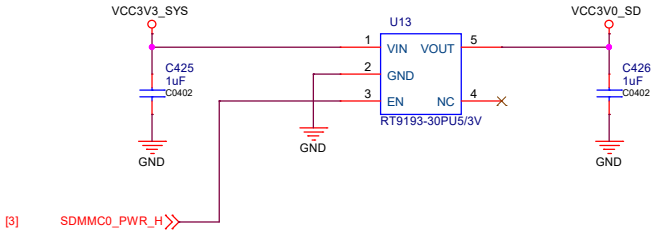

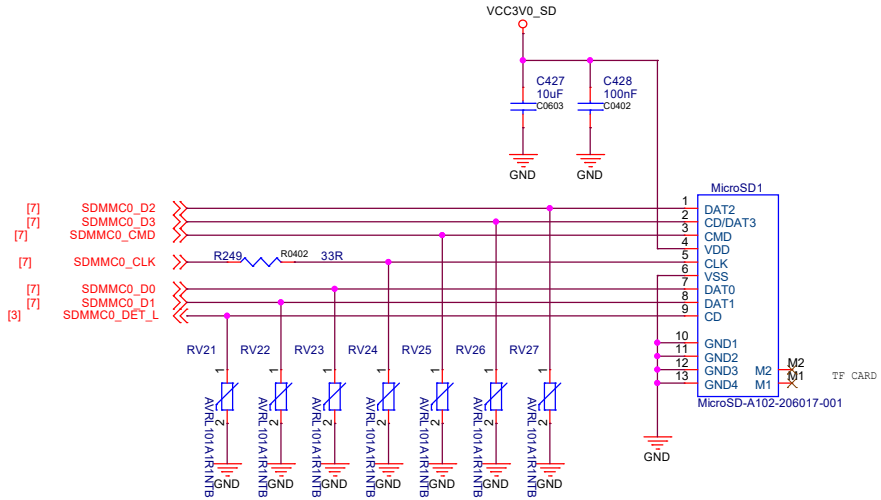

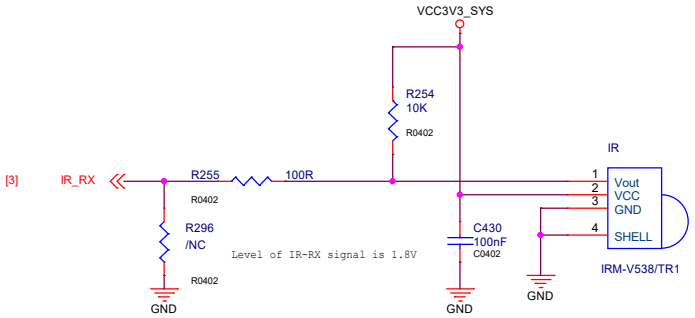

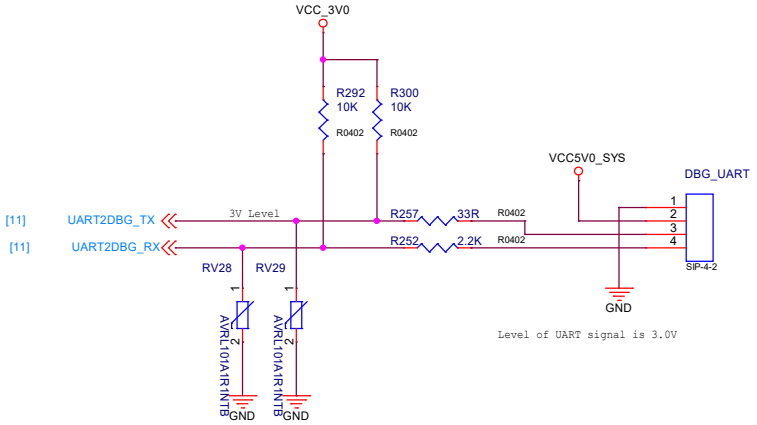

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 25.SD Card/UARTDBG/IR	Rev 1902
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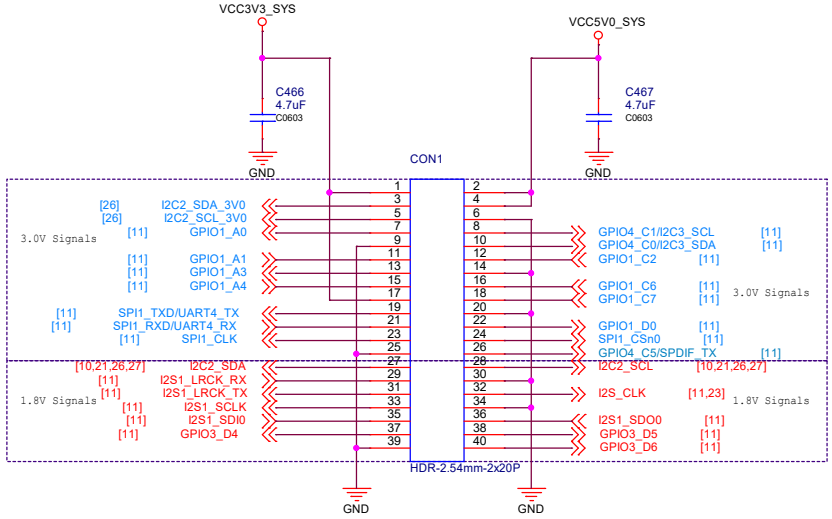

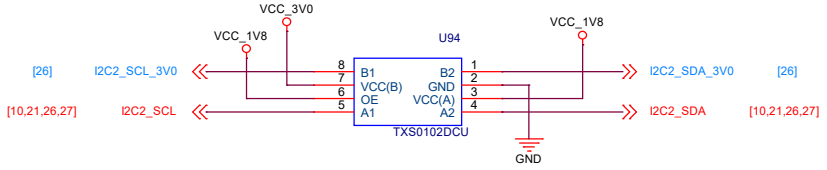

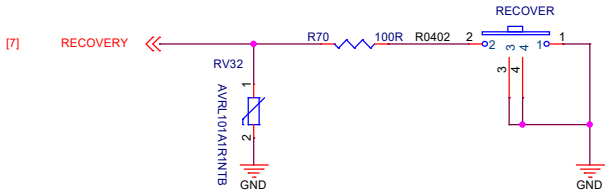

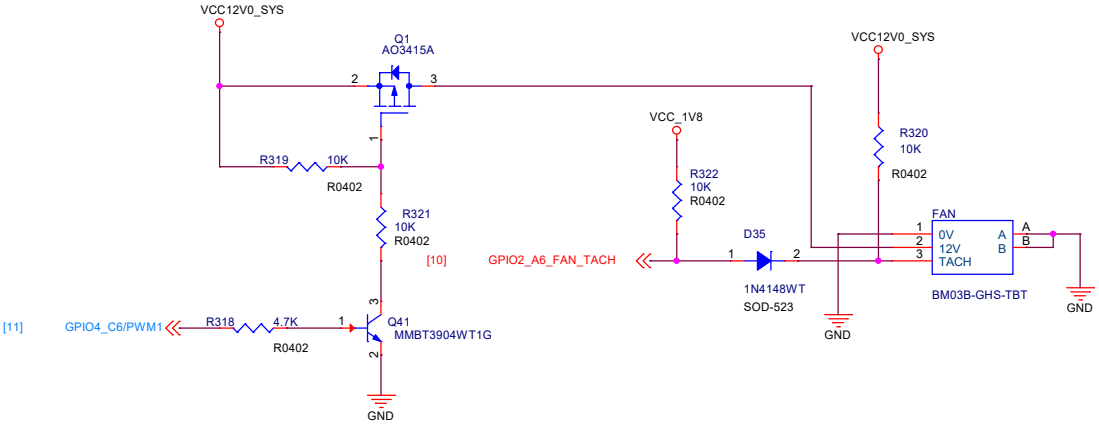

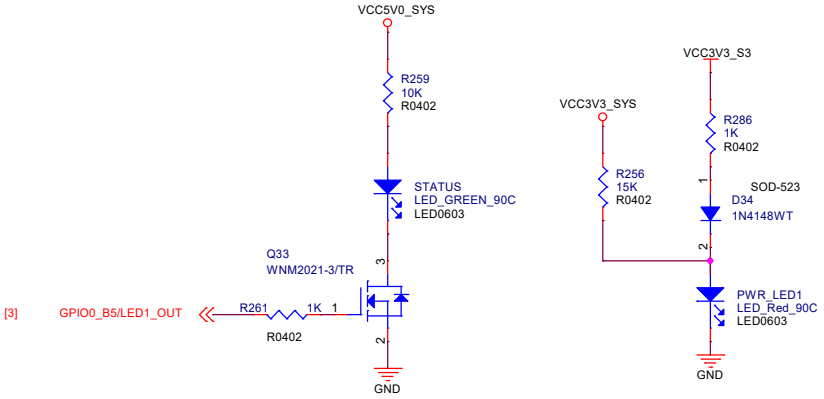

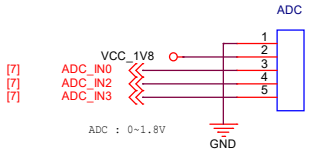

FRIENDLY ELEC

NanoPC-T4		
Size A3	Document Number 26.GPIO/FAN/LED/ADC	Rev 1902
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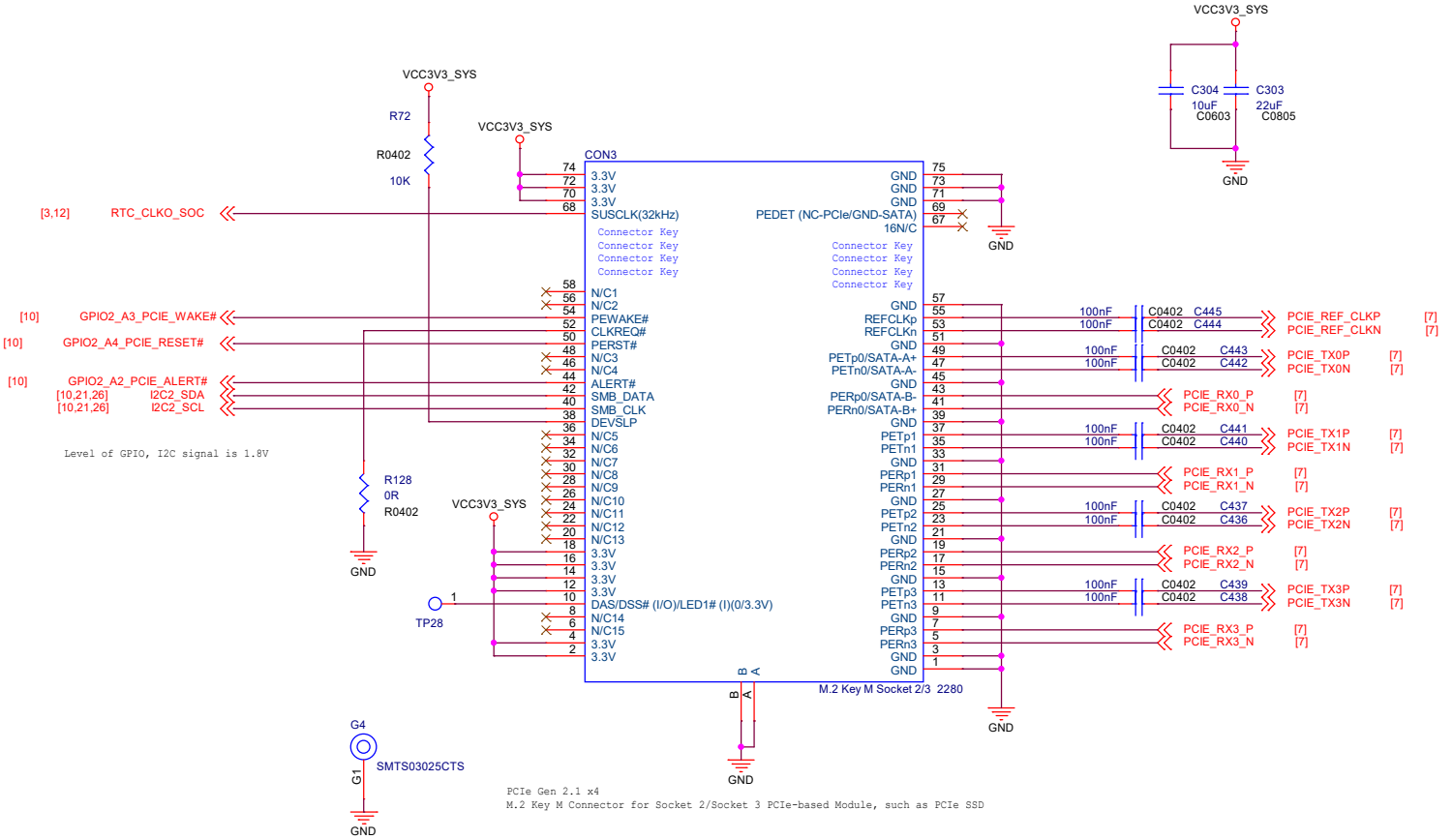

FRIENDLY ELEC

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Size A3	Document Number 27.PCIe, M.2	Rev 1902
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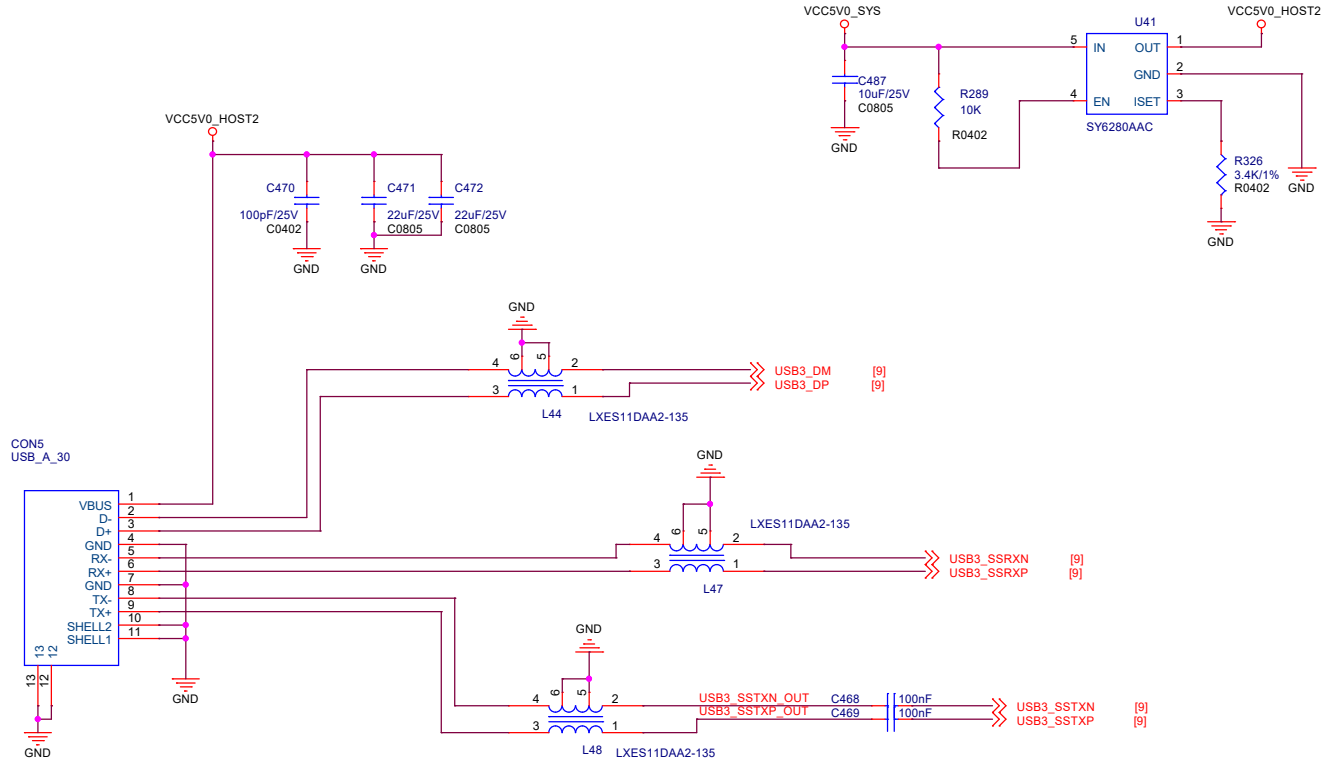
USB3.0 Host



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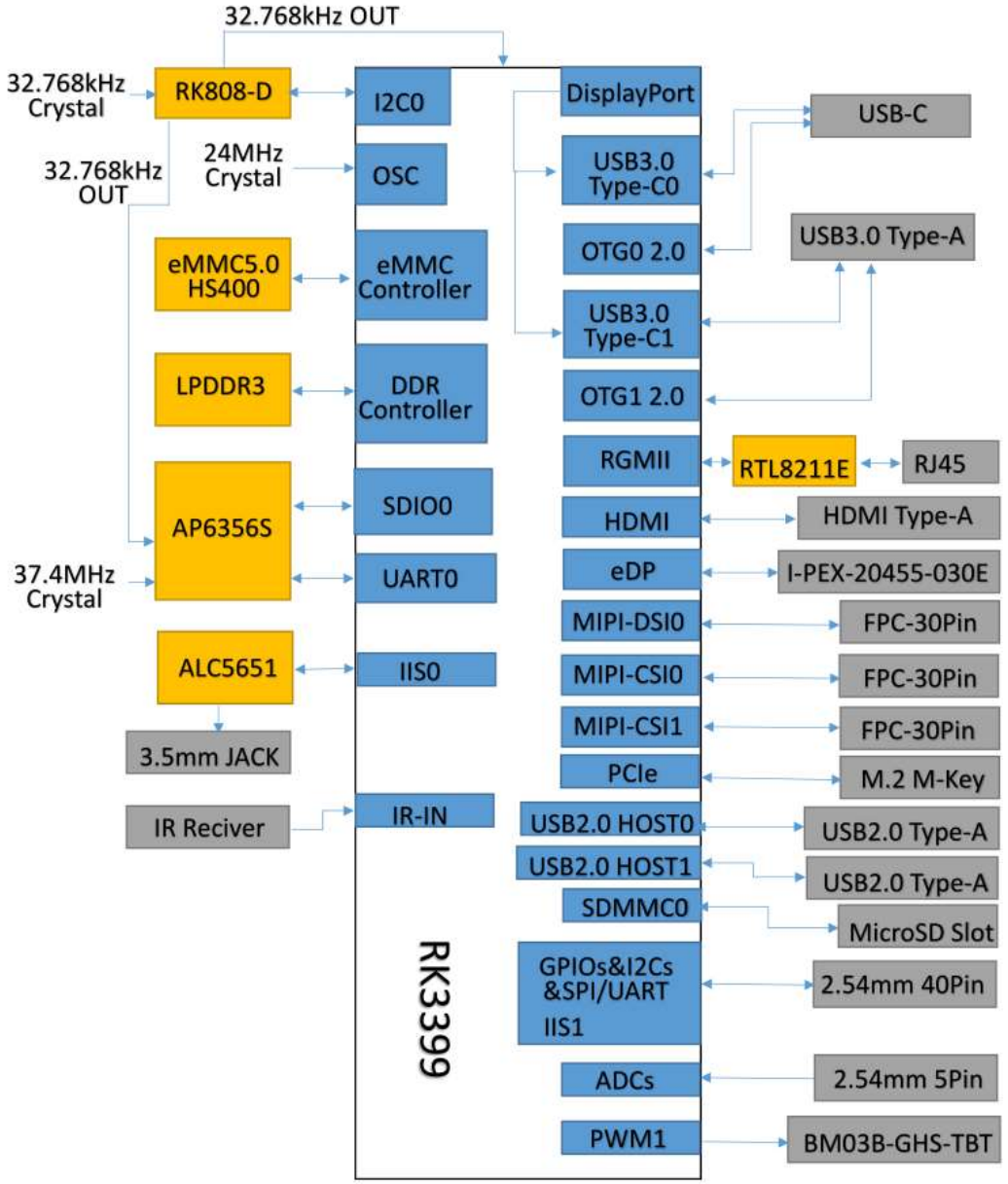

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