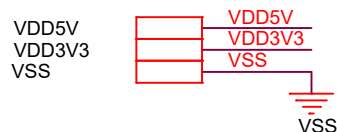


CON2			CON3		
PL4	1	2	VDD5V	1	2
PL5	3	4	VDD5V	3	4
PN14	5	6	VDD5V	5	6
PD15	7	8	VSS	7	8
PN12	9	10	PH3	9	10
PN13	11	12	PH2	11	12
PN7	13	14	PH1	13	14
PN6	15	16	PH0	15	16
PN5	17	18	PI15	17	18
PN4	19	20	PI14	19	20
PN3	21	22	PI13	21	22
PN2	23	24	PI12	23	24
PN1	25	26	PI11	25	26
PN0	27	28	PI10	27	28
VSS	29	30	PI9	29	30
PN10	31	32	PI8	31	32
VSS	33	34	PB15	33	34
PN11	35	36	PB14	35	36
VSS	37	38	PB13	37	38
PD9	39	40	PB12	39	40
PD8	41	42	PB11	41	42
PC4	43	44	PB10	43	44
PC5	45	46	PB9	45	46
PC0	47	48	PB8	47	48
VSS	49	50	PK3	49	50
PC1	51	52	PK2	51	52
VSS	53	54	PK1	53	54
PC2	55	56	PK0	55	56
PC3	57	58	PI7	57	58
PC7	59	60	PI6	59	60
PC6	61	62	PI5	61	62
VSS	63	64	PI4	63	64
E MDIP0	65	66	PI3	65	66
E MDIN0	67	68	PI2	67	68
VSS	69	70	PI1	69	70
E MDIP1	71	72	PIO	71	72
E MDIN1	73	74	PD13	73	74
VSS	75	76	PD12	75	76
E MDIP2	77	78	PD11	77	78
E MDIN2	79	80	PD10	79	80
VSS	81	82	PL9	81	82
E MDIP3	83	84	PL8	83	84
E MDIN3	85	86	PL7	85	86
VSS	87	88	PH9	87	88
F MDIP0	89	90	PH8	89	90
F MDIN0	91	92	VSS	91	92
VSS	93	94	PK10	93	94
F MDIP1	95	96	VSS	95	96
F MDIN1	97	98	PK9	97	98
VSS	99	100	VSS	99	100
F MDIP2	101	102	PM2	101	102
F MDIN2	103	104	PM3	103	104
VSS	105	106	PM4	105	106
F MDIP3	107	108	PM5	107	108
F MDIN3	109	110	PM6	109	110
VSS	111	112	PM7	111	112
PE15	113	114	PM8	113	114
PE14	115	116	PM9	115	116
HSUSB0_ID	117	118	PM10	117	118
PF15	119	120	PM11	119	120

DF40C-120DS-0.4V (51) (Pitch 0.4mm, female)

CON2			CON3		
nRESET	1	2	VDD5V	1	2
RTC nRWAKE	3	4	VDD5V	3	4
VSS	5	6	VDD5V	5	6
PN15	7	8	VSS	7	8
PK15	9	10	PH4	9	10
PK14	11	12	PH5	11	12
PK13	13	14	PH6	13	14
PL3	15	16	PH7	15	16
PL2	17	18	PC12	17	18
PL1	19	20	PC13	19	20
PJ15	21	22	PC14	21	22
PJ14	23	24	PC15	23	24
PJ13	25	26	PH12	25	26
PJ12	27	28	PH13	27	28
PL15	29	30	PH14	29	30
PL14	31	32	PH15	31	32
PL13	33	34	VSS	33	34
PL12	35	36	PG10	35	36
PL11	37	38	VSS	37	38
PL10	39	40	PG9	39	40
PD14	41	42	PG8	41	42
PA14	43	44	PK4	43	44
PA13	45	46	PK5	45	46
PA12	47	48	PK6	47	48
PA11	49	50	PK7	49	50
PA10	51	52	PM15	51	52
PA9	53	54	PM14	53	54
PA8	55	56	PM13	55	56
PA7	57	58	PM12	57	58
PA6	59	60	VSS	59	60
PA5	61	62	PL6	61	62
PA4	63	64	VSS	63	64
PA3	65	66	PG15	65	66
PA2	67	68	PG14	67	68
PA1	69	70	PG13	69	70
PA0	71	72	PG12	71	72
PF14	73	74	PG11	73	74
E LED0	75	76	PG7	75	76
E LED1	77	78	PG6	77	78
E LED2	79	80	PG5	79	80
F LED0	81	82	PG4	81	82
F LED1	83	84	PG3	83	84
F LED2	85	86	PG2	85	86
EADC0_CH7	87	88	PG1	87	88
EADC0_CH3	89	90	PG0	89	90
EADC0_CH6	91	92	VSS	91	92
EADC0_CH2	93	94	PD0	93	94
EADC0_CH5	95	96	PD3	95	96
EADC0_CH1	97	98	PD4	97	98
EADC0_CH4	99	100	PD2	99	100
EADC0_CH0	101	102	VSS	101	102
HSUSB0_D+	103	104	PD1	103	104
HSUSB0_D-	105	106	VSS	105	106
HSUSB1_D+	107	108	PD5	107	108
HSUSB1_D-	109	110	VSS	109	110
VSS	111	112	PM1	111	112
VSS	113	114	PM8	113	114
VSS	115	116	PM9	115	116
VSS	117	118	PM0	117	118
VSS	119	120	VSS	119	120

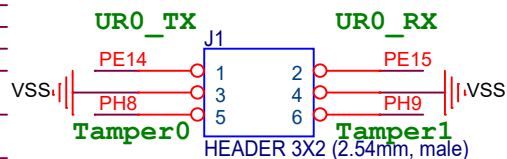
DF40C-120DS-0.4V (51) (Pitch 0.4mm, female)



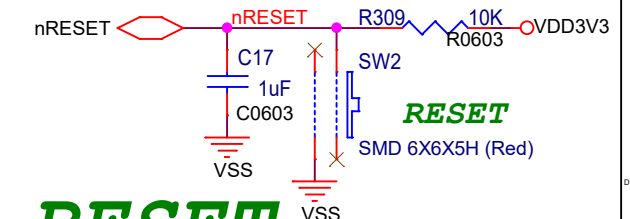
Power

PA[14:0]	PA[14:0]
PB[15:8]	PB[15:8]
PC[7:0]	PC[7:0]
PC[15:12]	PC[15:12]
PD[5:0]	PD[5:0]
PD[15:8]	PD[15:8]
PE[15:14]	PE[15:14]
PF[15:14]	PF[15:14]
PG[15:0]	PG[15:0]
PH[9:0]	PH[9:0]
PH[15:12]	PH[15:12]
PI[15:0]	PI[15:0]
PJ[15:12]	PJ[15:12]
PK[15:0]	PK[15:0]
PL[15:0]	PL[15:0]
PM[15:0]	PM[15:0]
PN[7:0]	PN[7:0]
PN[15:10]	PN[15:10]

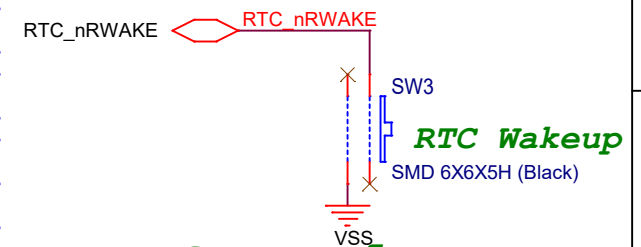
GPIO



UART0 & Tamper



RESET



RTC Wakeup

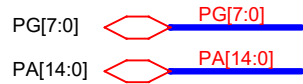
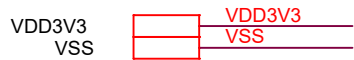
HSUSB0_ID	HSUSB0_ID
HSUSB0_D+	HSUSB0_D+
HSUSB0_D-	HSUSB0_D-
HSUSB1_D+	HSUSB1_D+
HSUSB1_D-	HSUSB1_D-

HSUSB

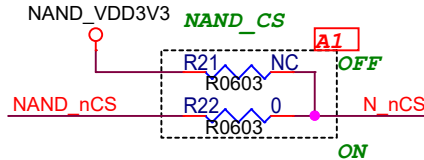
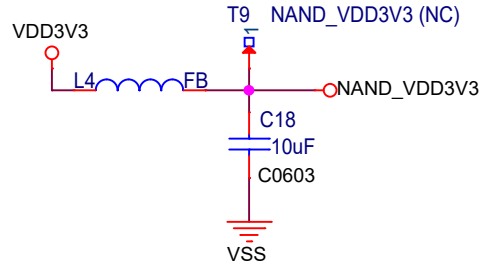
EADC0_CH[7:0]	EADC0_CH[7:0]
E_MDIP[3:0]	E_MDIP[3:0]
E_MDIN[3:0]	E_MDIN[3:0]
E_LED[2:0]	E_LED[2:0]
F_MDIP[3:0]	F_MDIP[3:0]
F_MDIN[3:0]	F_MDIN[3:0]
F_LED[2:0]	F_LED[2:0]

Ethernet

nuvoTon Technology Corp.		
Title NuMaker_MA35D1_Base		
Size A	Document Number SOM Connectors	Rev V2.0
Date: Tuesday, April 26, 2022	Sheet 2	of 22

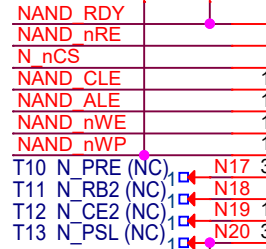


PA0	NAND_DATA0
PA1	NAND_DATA1
PA2	NAND_DATA2
PA3	NAND_DATA3
PA4	NAND_DATA4
PA5	NAND_DATA5
PA6	NAND_DATA6
PA7	NAND_DATA7
PA8	NAND_RDY
PA9	NAND_nRE
PA10	NAND_nWE
PA11	NAND_CLE
PA12	NAND_ALE
PA13	NAND_nCS
PA14	NAND_nWP

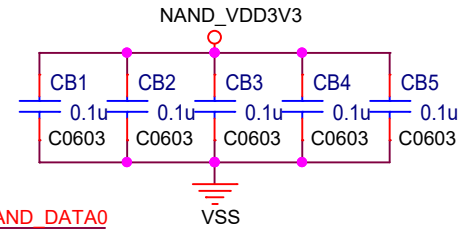
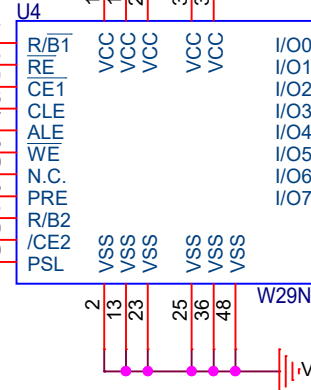


Note: These GPIO PA0~PA14 and PG0~PG7 pins belong to I/O group 1 (VDDIO1) and the default input voltage of VDDIO1 is 3.3V on SOM board.

NAND_VDD3V3



NAND_VDD3V3



NAND Flash

Power-on Setting

PG0	Secure Boot
L	Secure Boot Enable
H	Secure Boot Disable

PG1	Boot Source QSPI0, SD/eMMC I/O Voltage
L	3.3V
H	1.8V

PG3	PG2	Boot Source
L	L	QSPI0 Flash
L	H	SD/eMMC
H	L	NAND Flash
H	H	USB

PG7	PG6	Bootting from QSPI0
L	L	SPI-NAND, 1-bit
H	L	SPI-NOR, 1-bit

PG6	Bootting from SD/eMMC
L	SD0/eMMC0 bootting
H	SD1/eMMC1 bootting

PG7	Bootting from SD/eMMC
L	eMMC 4-bit bootting
H	eMMC 8-bit bootting

PG5	PG4	Bootting from NAND
L	L	Ignore
L	H	NAND flash page 2KB
H	L	NAND flash page 4KB
H	H	NAND flash page 8KB

PG7	PG6	Bootting from NAND
L	L	Ignore
L	H	BCH T12
H	L	BCH T24
H	H	NO ECC

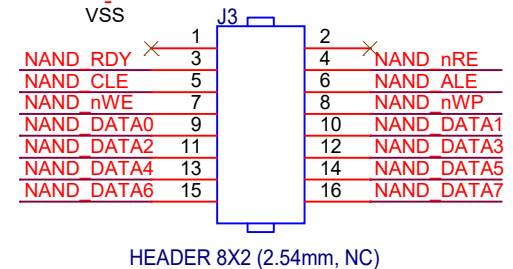
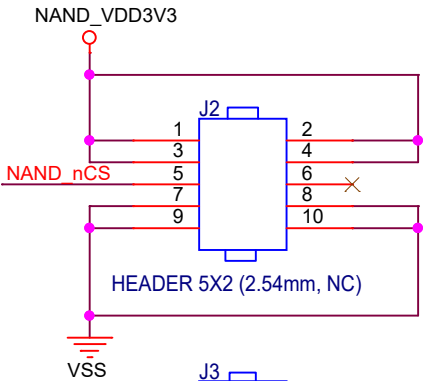
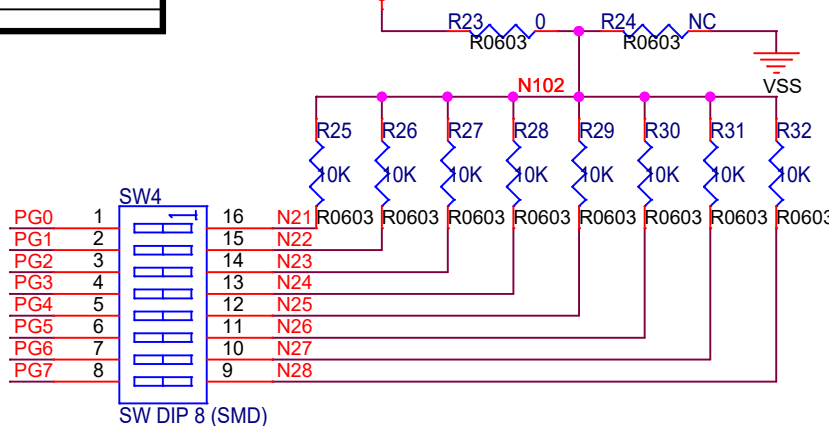
PG4	Bootting from USB
L	USBD bootting
H	USBH bootting

PG5	Bootting from USBH
L	USBH port 0 bootting
H	USBH port 1 bootting

PG6	Bootting from USBH
L	Over-current low-active detect
H	Over-current high-active detect

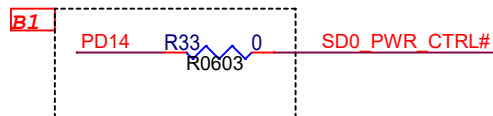
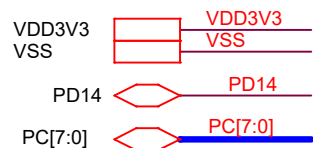
Note: These GPIO PG0~PG7 pins are internal pull-low inside MA35D1 chip.

VDD3V3



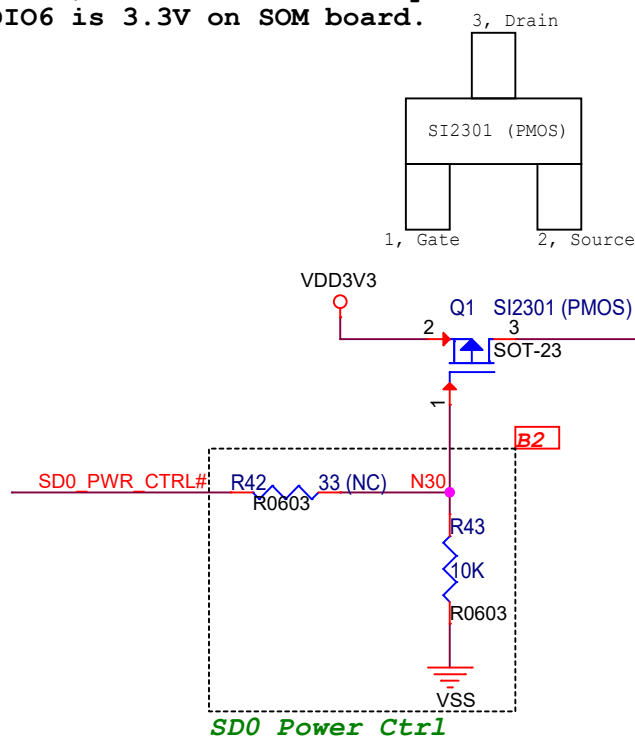
nuvoTon Technology Corp.

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Size A			Document Number		
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Rev			V2.0		

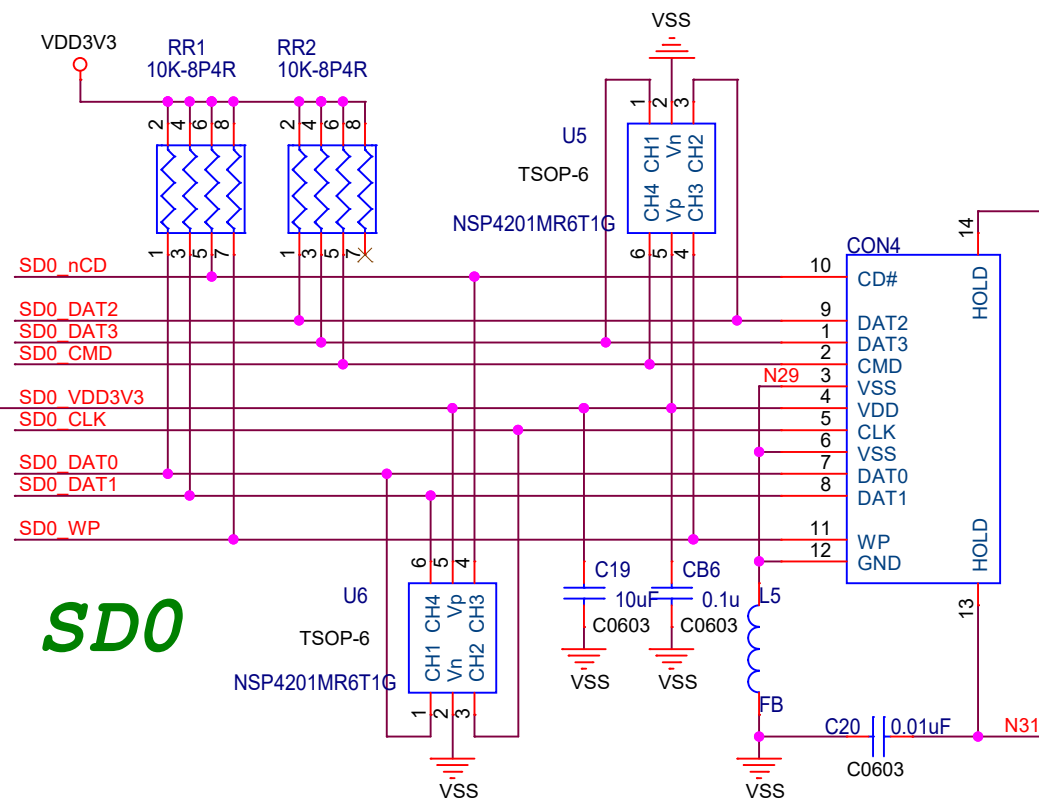


PC0	R34	33	R0402	SD0_CMD
PC1	R35	33	R0402	SD0_CLK
PC2	R36	33	R0402	SD0_DAT0
PC3	R37	33	R0402	SD0_DAT1
PC4	R38	33	R0402	SD0_DAT2
PC5	R39	33	R0402	SD0_DAT3
PC6	R40	33	R0402	SD0_nCD
PC7	R41	33	R0402	SD0_WP

Note: These GPIO PC0~PC7 pins belong to I/O group 6 (VDDIO6) and the default input voltage of VDDIO6 is 3.3V on SOM board.



Note: The power of SD0_VDD3V3 is always ON (uncontrollable) by default. (R42 is NC on this BASE board by default)



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Title

NuMaker_MA35D1_Base

Size A

Document Number

SD0

Rev

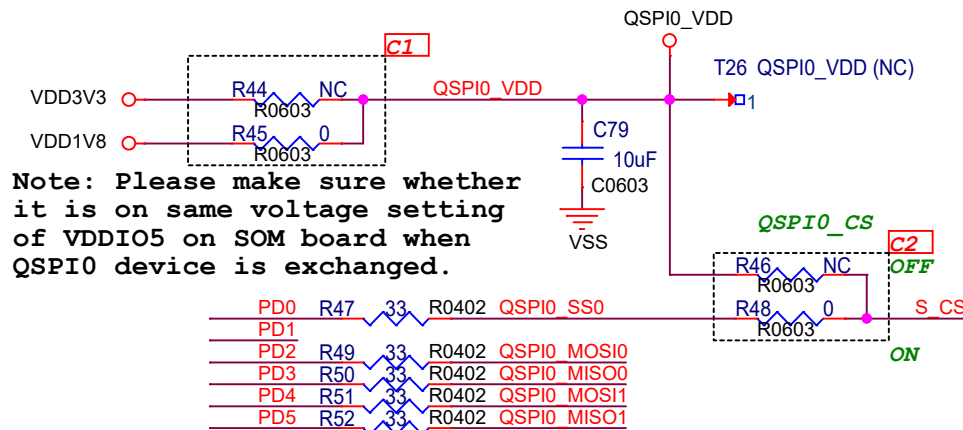
V2.0

Date: Thursday, December 29, 2022

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Note: These GPIO PD0~PD5 pins belong to I/O group 5 (VDDIO5) and the default input voltage of VDDIO5 is 1.8V on SOM board.

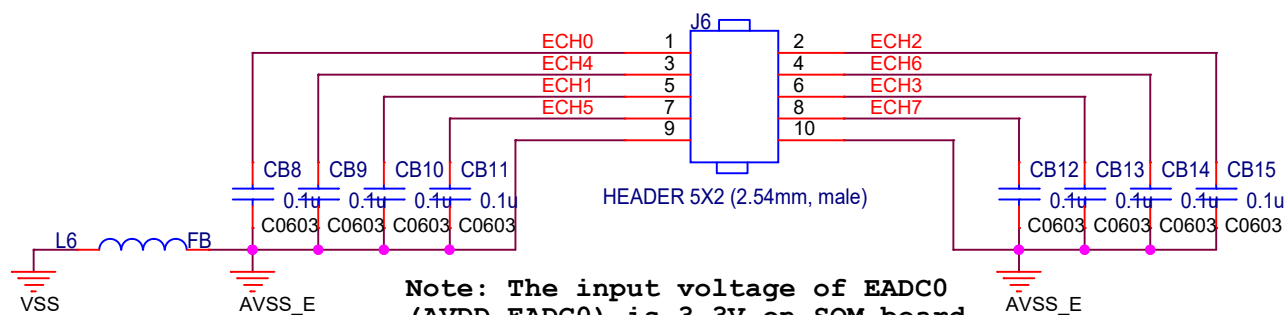


VSS  VSS

EADC0_CH[7:0]  EADC0_CH[7:0]

EADC0_CH0	R59_33	R0402	ECH0
EADC0_CH4	R60_33	R0402	ECH4
EADC0_CH1	R61_33	R0402	ECH1
EADC0_CH5	R62_33	R0402	ECH5
EADC0_CH2	R63_33	R0402	ECH2
EADC0_CH6	R64_33	R0402	ECH6
EADC0_CH3	R65_33	R0402	ECH3
EADC0_CH7	R66_33	R0402	ECH7

EADC0



nuvoTon Technology Corp.

Title

NuMaker_MA35D1_Base

Size
A

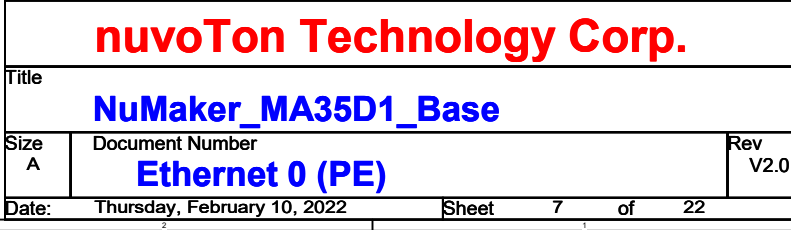
Document Number

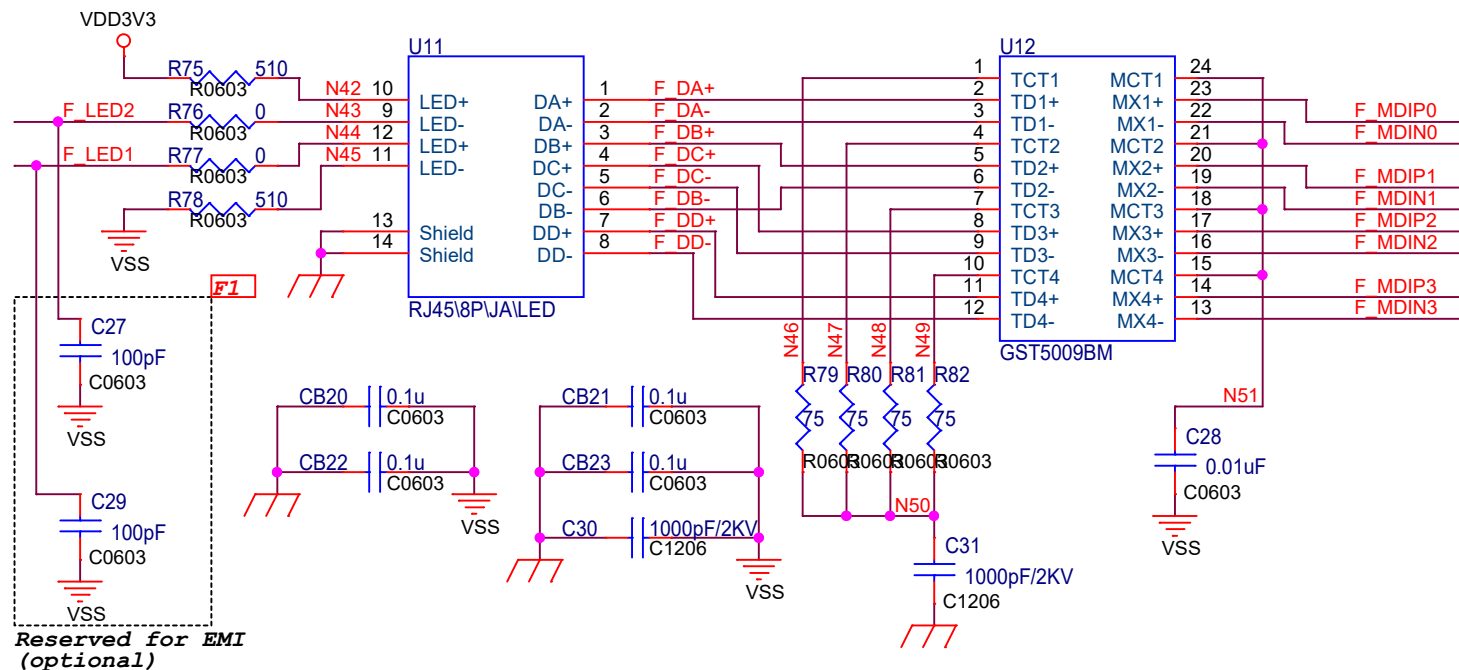
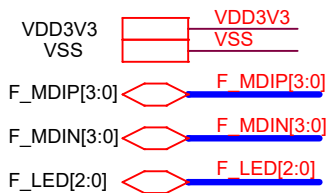
EADC0

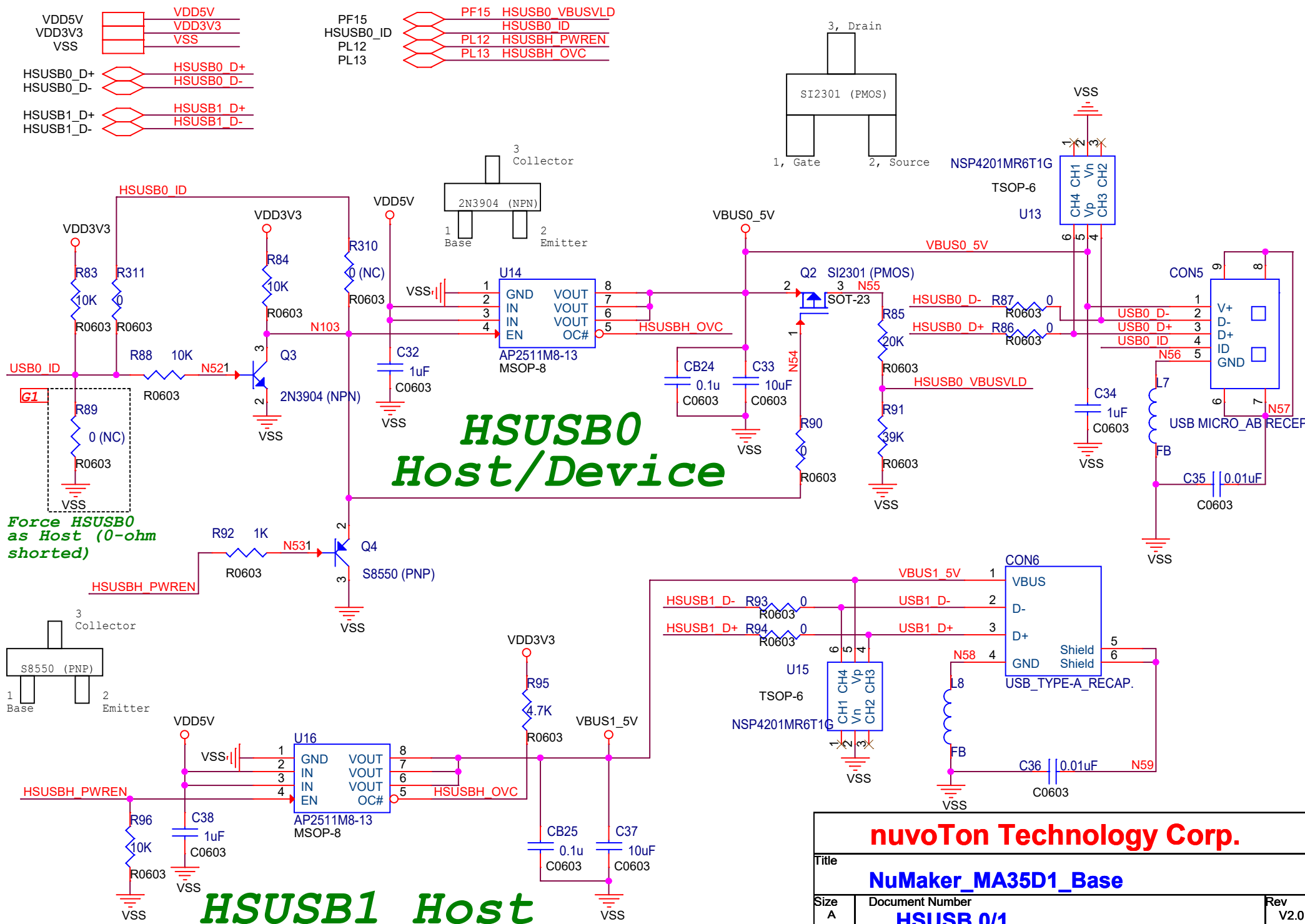
Rev
V2.0

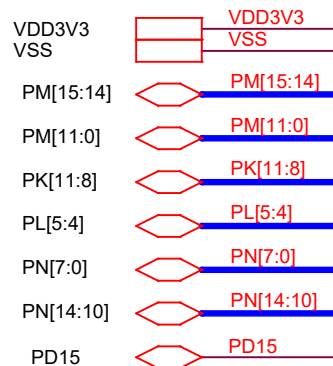
Date: Thursday, December 29, 2022

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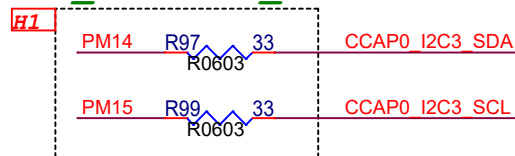




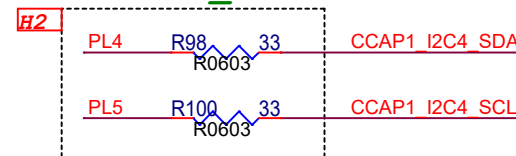




I2C_3 (TRACE DATA2/3)

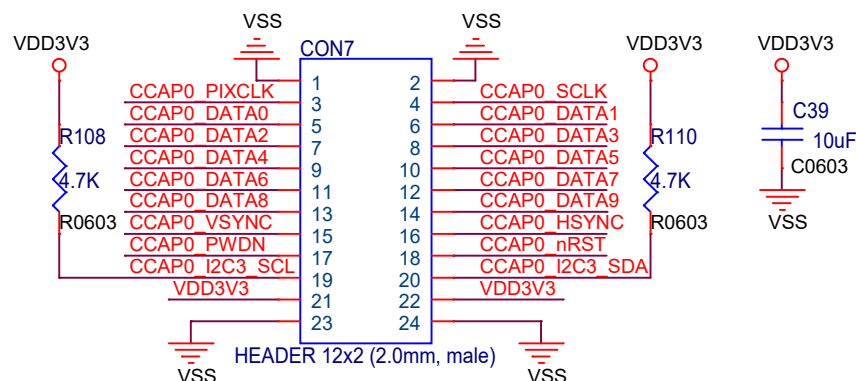


I2C_4



CCAP0 Connector

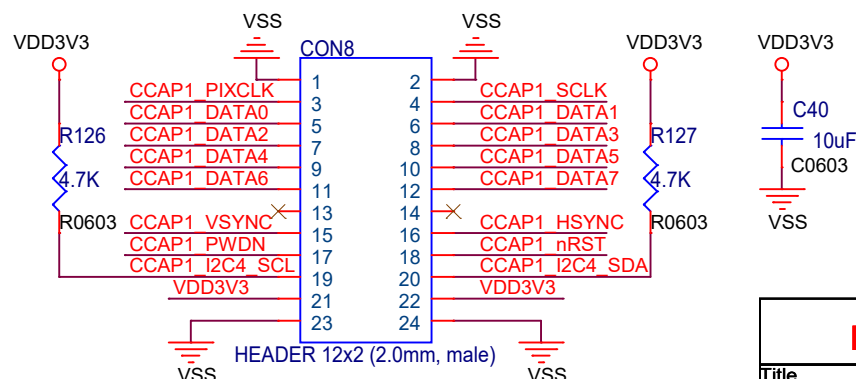
PM2	R10133	R0402	CCAP0_DATA0
PM3	R10233	R0402	CCAP0_DATA1
PM4	R10333	R0402	CCAP0_DATA2
PM5	R10533	R0402	CCAP0_DATA3
PM6	R10433	R0402	CCAP0_DATA4
PM7	R10633	R0402	CCAP0_DATA5
PM8	R10733	R0402	CCAP0_DATA6
PM9	R10933	R0402	CCAP0_DATA7
PM10	R11133	R0402	CCAP0_DATA8
PM11	R11233	R0402	CCAP0_DATA9
PK9	R11333	R0402	CCAP0_SCLK
PK10	R11433	R0402	CCAP0_PIXCLK
PK11	R11533	R0402	CCAP0_HSYNC
PM0	R11633	R0402	CCAP0_VSYNC
PM1	R11733	R0402	CCAP0_nRST
PK8	R11833	R0402	CCAP0_PWDN



Note: These GPIO PK8~PK11 and PM0~PM11 pins belong to I/O group 2 (VDDIO2) and the default input voltage of VDDIO2 is 3.3V on SOM board.

CCAP1 Connector

PN0	R11933	R0402	CCAP1_DATA0
PN1	R12033	R0402	CCAP1_DATA1
PN2	R12133	R0402	CCAP1_DATA2
PN3	R12233	R0402	CCAP1_DATA3
PN4	R12333	R0402	CCAP1_DATA4
PN5	R12433	R0402	CCAP1_DATA5
PN6	R12533	R0402	CCAP1_DATA6
PN7	R12633	R0402	CCAP1_DATA7
PN10	R12933	R0402	CCAP1_SCLK
PN11	R13033	R0402	CCAP1_PIXCLK
PN12	R13133	R0402	CCAP1_HSYNC
PN13	R13233	R0402	CCAP1_VSYNC
PN14	R13333	R0402	CCAP1_nRST
PD15	R13433	R0402	CCAP1_PWDN



Note: These GPIO PN0~PN14 pins belong to I/O group 7 (VDDIO7) and the GPIO PD15 belong to I/O group 1 (VDDIO1), these default input voltages of VDDIO7 and VDDIO1 are 3.3V on SOM board.

nuvoTon Technology Corp.

Title		
NuMaker_MA35D1_Base		
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A	CCAP 0/1 Connectors	V2.0
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VDD5V
VDD3V3
VSS

nRESET

PM12

PD12

PJ[13:12]

PB[15:10]

PG[10:8]

PK[7:4]

PI[15:8]

PH[7:0]

PC[15:12]

PH[15:12]

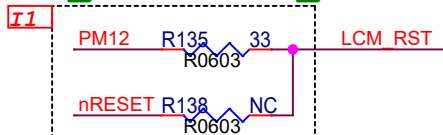
I2C1_SDA

I2C1_SCL

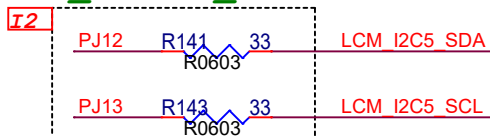
MPU6500 I2C1_SDA/SCL

PG8	R1533	R0402	LCM_VSYNC
PG9	R1473	R0402	LCM_HSYNC
PG10	R1483	R0402	LCM_CLK
PK4	R1493	R0402	LCM_DEN
PK5	R1503	R0402	LCM_PWM
PK6	R1513	R0402	LCM_CS
PK7	R1523	R0402	LCM_BLEn
PI8	R1543	R0402	LCM_DATA0
PI9	R1553	R0402	LCM_DATA1
PI10	R1563	R0402	LCM_DATA2
PI11	R1573	R0402	LCM_DATA3
PI12	R1583	R0402	LCM_DATA4
PI13	R1593	R0402	LCM_DATA5
PI14	R1603	R0402	LCM_DATA6
PI15	R1613	R0402	LCM_DATA7
PH0	R1623	R0402	LCM_DATA8
PH1	R1633	R0402	LCM_DATA9
PH2	R1643	R0402	LCM_DATA10
PH3	R1653	R0402	LCM_DATA11
PH4	R1663	R0402	LCM_DATA12
PH5	R1673	R0402	LCM_DATA13
PH6	R1683	R0402	LCM_DATA14
PH7	R1693	R0402	LCM_DATA15
PC12	R1703	R0402	LCM_DATA16
PC13	R1713	R0402	LCM_DATA17
PC14	R1723	R0402	LCM_DATA18
PC15	R1733	R0402	LCM_DATA19
PH12	R1743	R0402	LCM_DATA20
PH13	R1753	R0402	LCM_DATA21
PH14	R1763	R0402	LCM_DATA22
PH15	R1773	R0402	LCM_DATA23

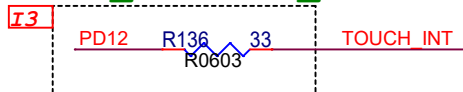
LCM_RST (TRACE DATA0)



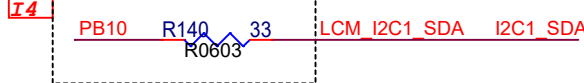
I2C_5 (EBI_ADR12/13)



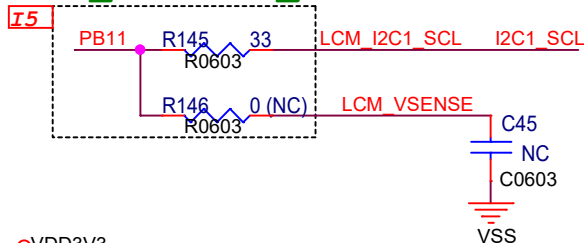
TOUCH_INT (EBI_nCS1)



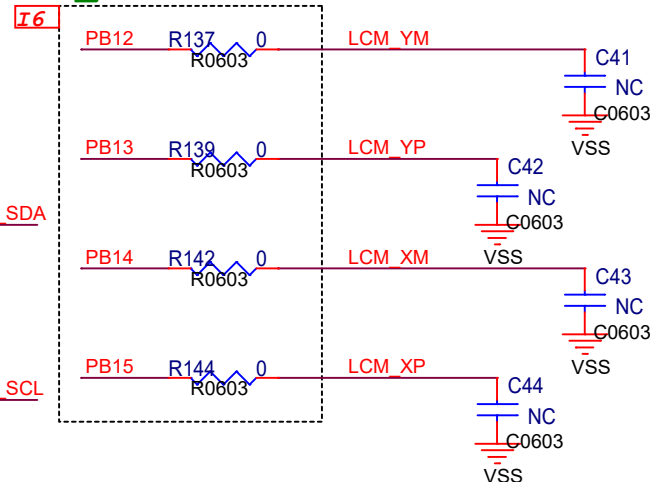
I2C1_SDA (EBI_MCLK)



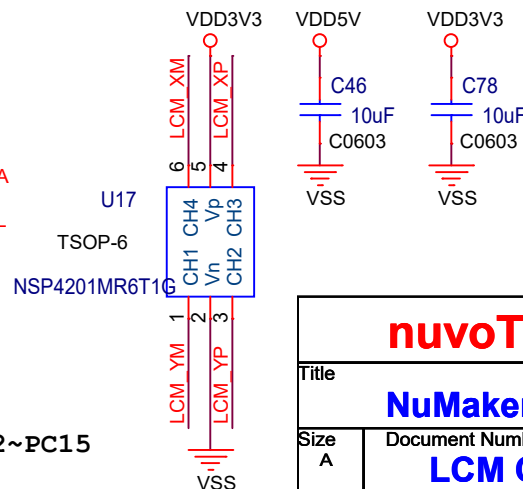
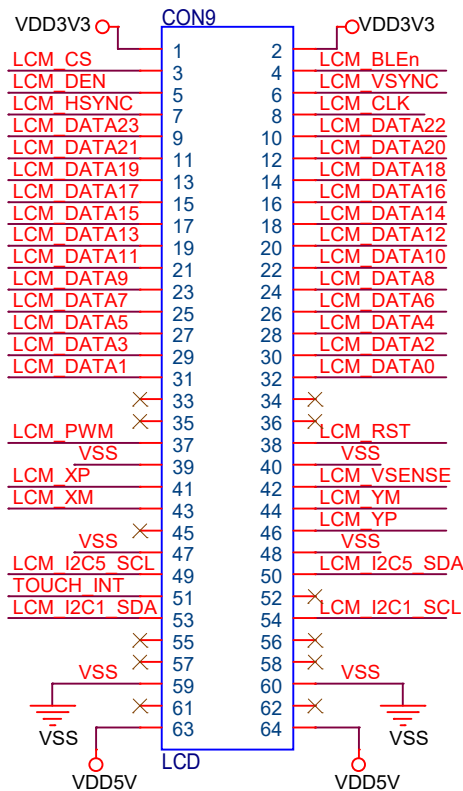
I2C1_SCL (LCM_VSENSE)



LCM_Touch



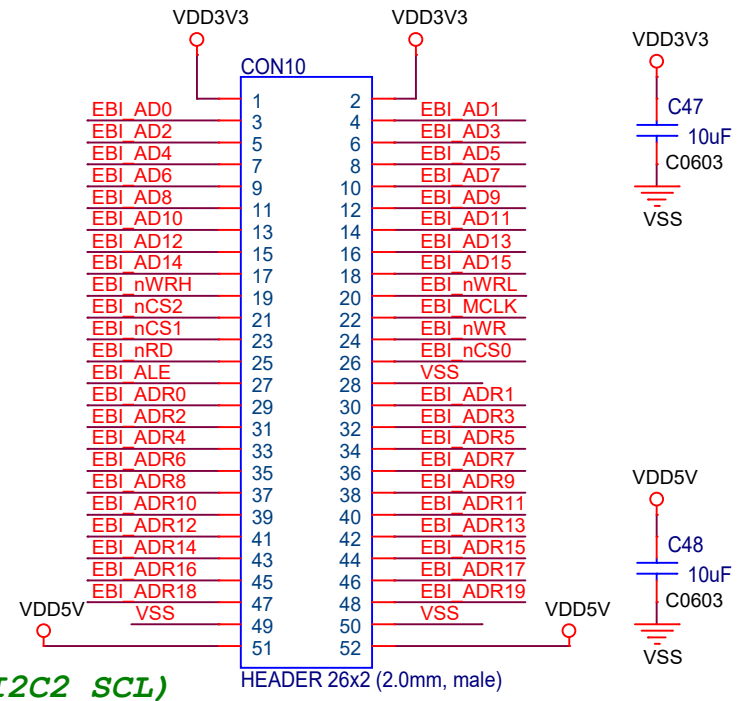
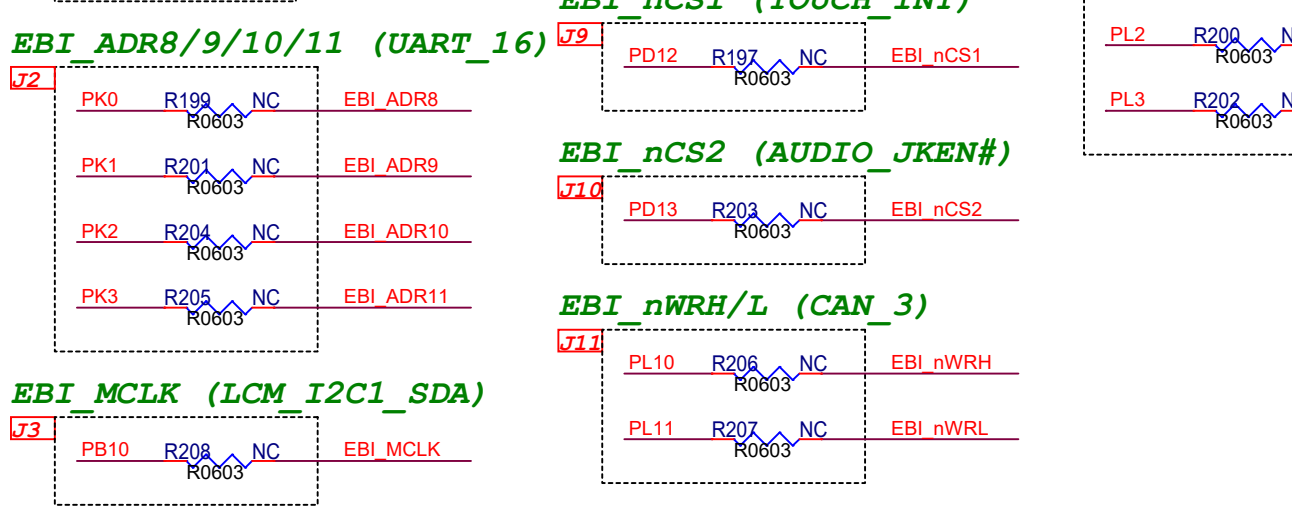
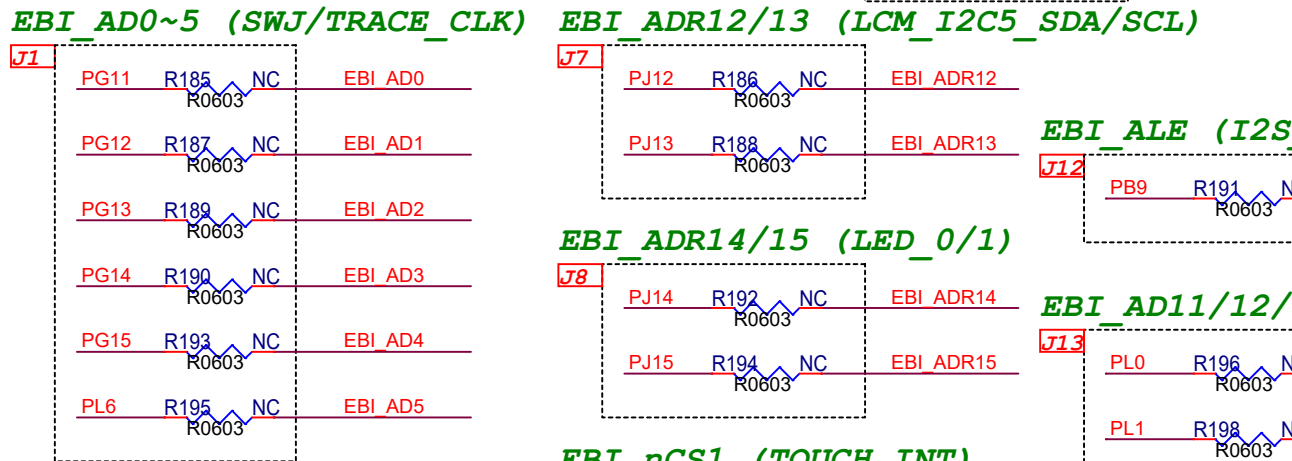
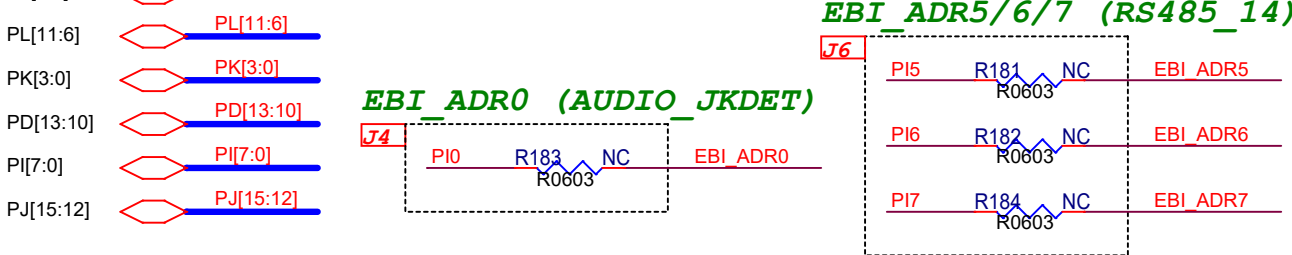
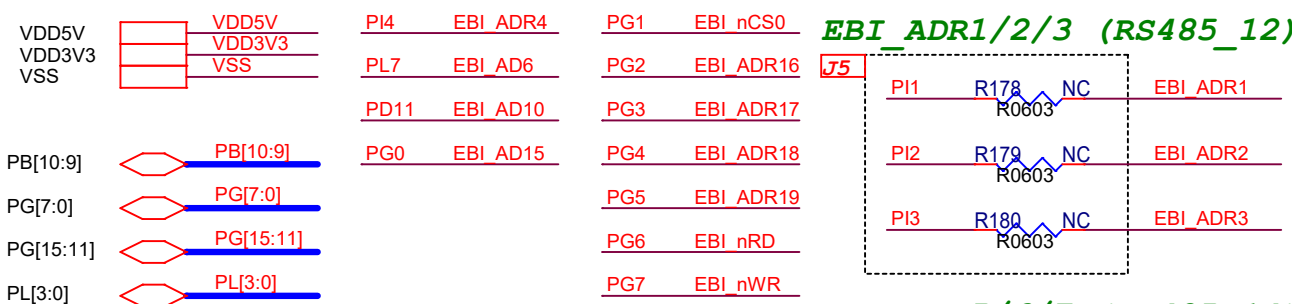
LCM Connector



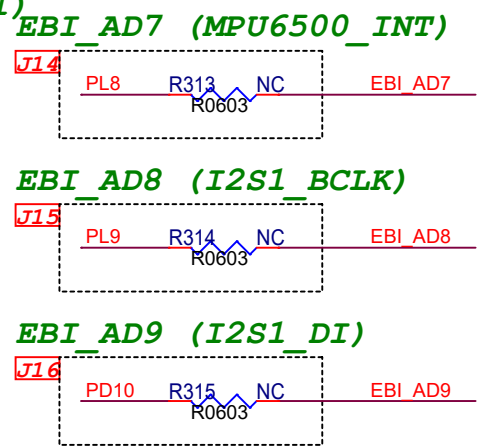
nuvoTon Technology Corp.

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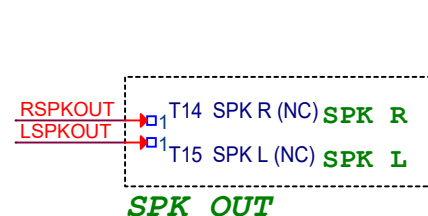
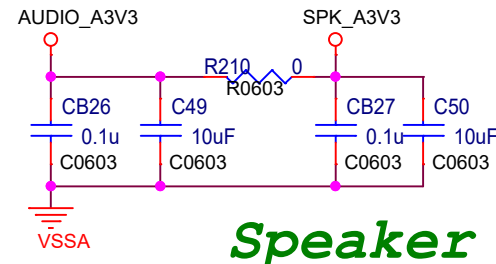
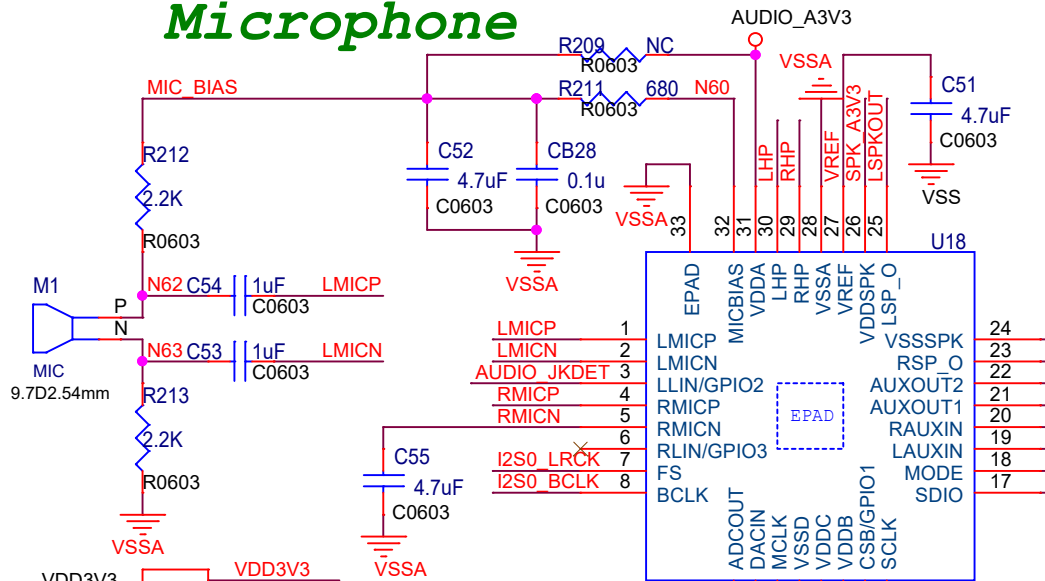
Note: These GPIO PG8~PG10, PK4~PK7, PI8~PI15, PH0~PH7, PC12~PC15 and PH12~PH15 pins belong to I/O group 4 (VDDIO4), and the default input voltage of VDDIO4 is 3.3V on SOM board.



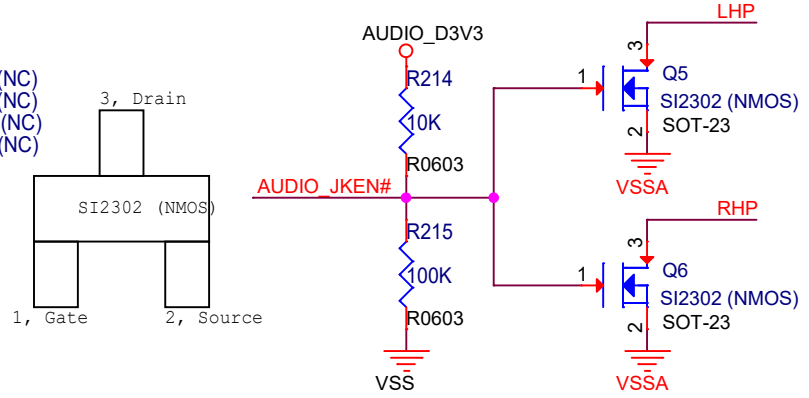
EBI Connector



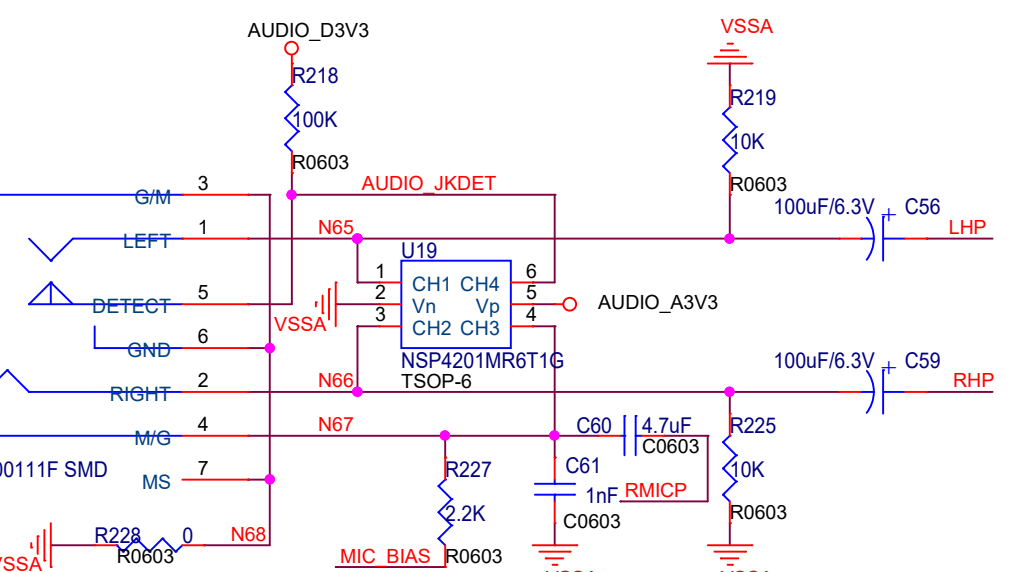
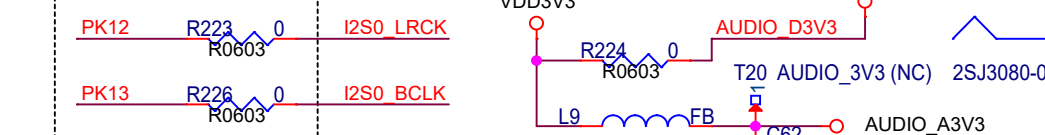
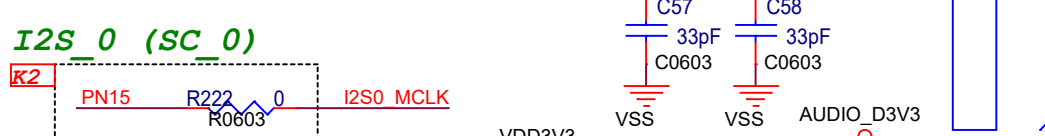
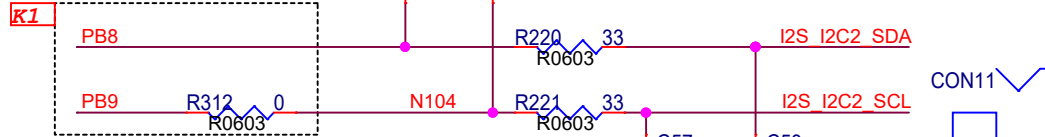
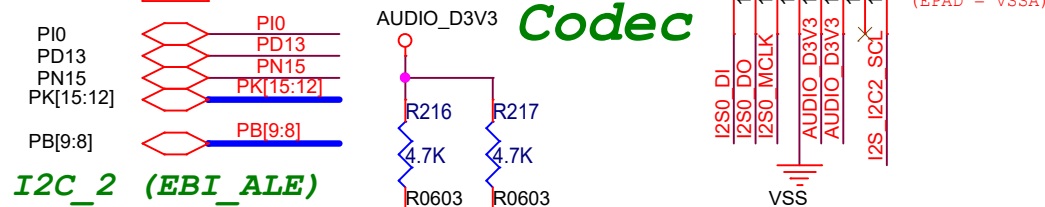
Microphone



Speaker

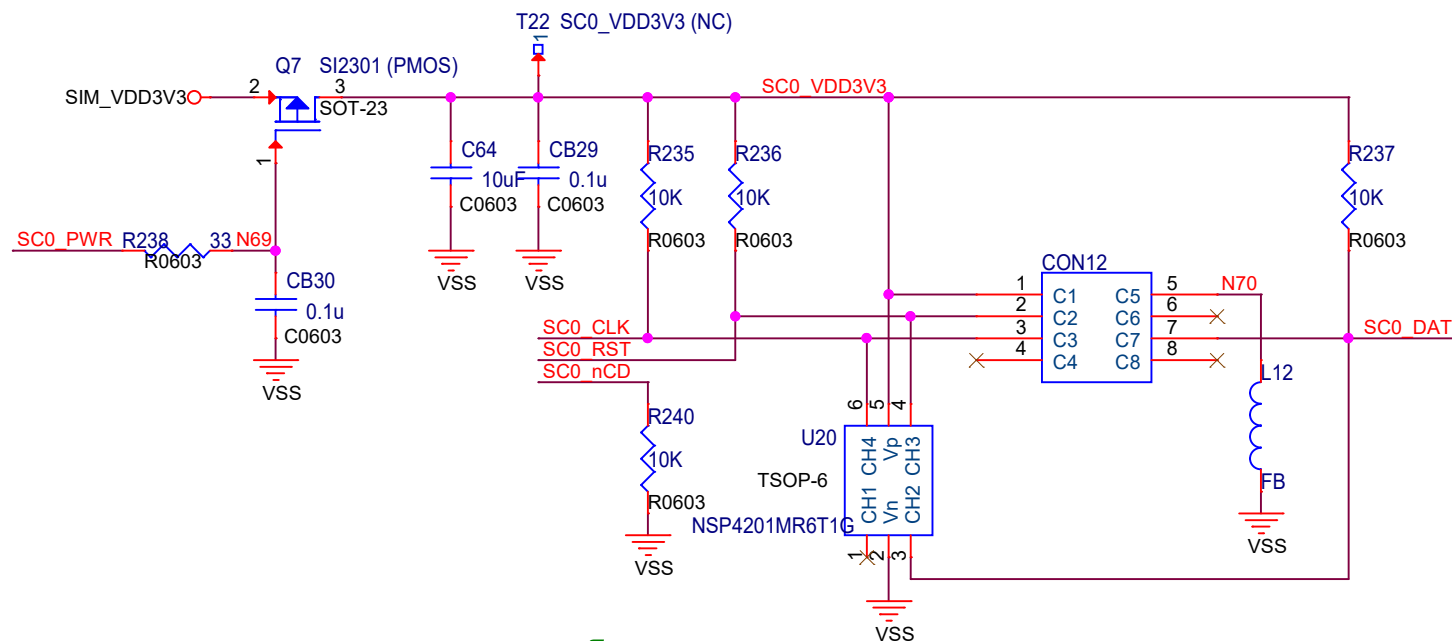
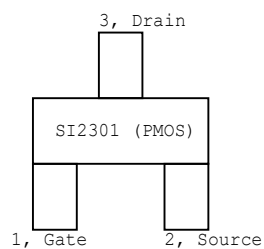
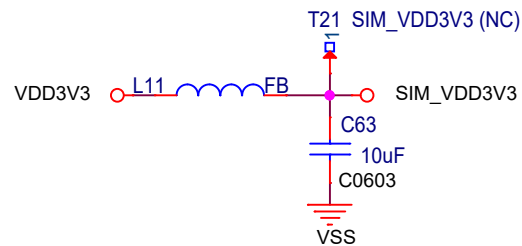
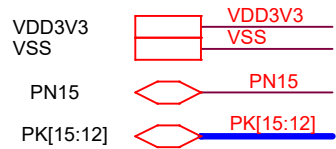


Codec



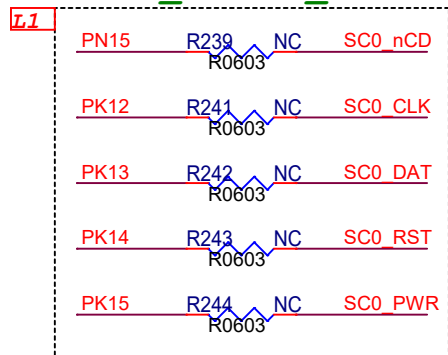
Earphone

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SIM Card

SC_0 (I2S_0)



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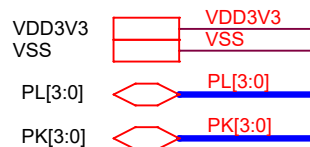
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A

Document Number
SIM Card

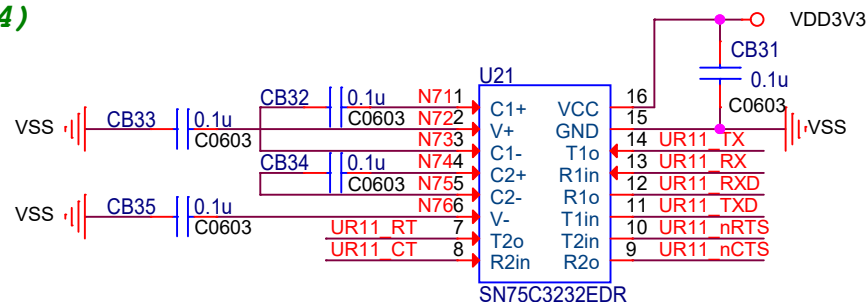
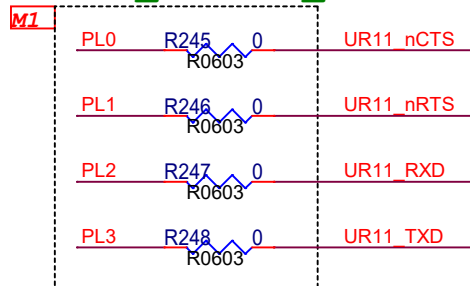
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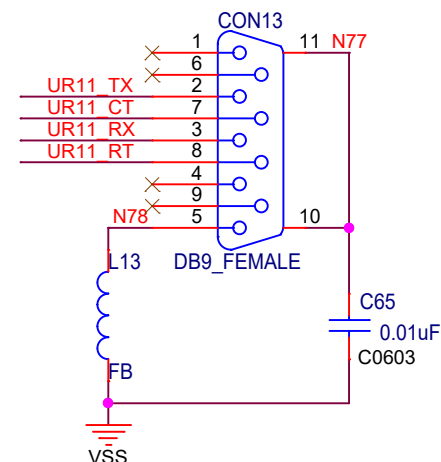
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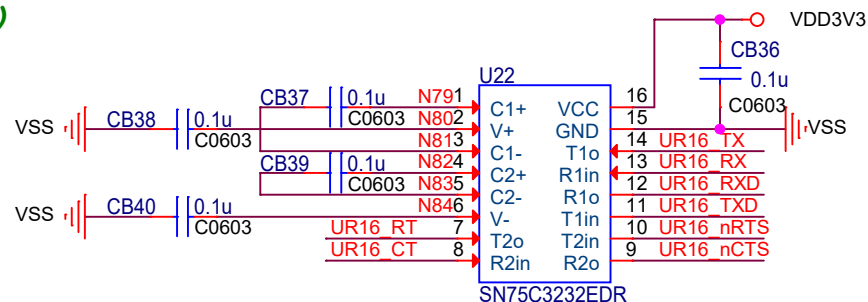
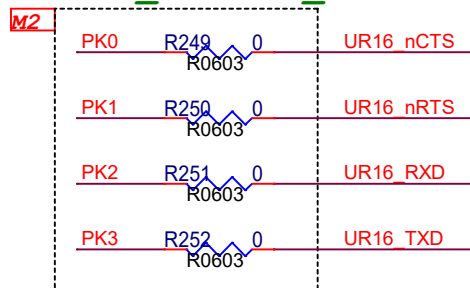
UART_11 (EBI_AD11/12/13/14)



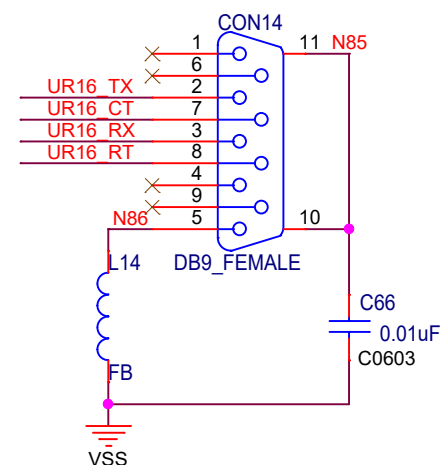
RS232_11



UART_16 (EBI_ADR8/9/10/11)



RS232_16



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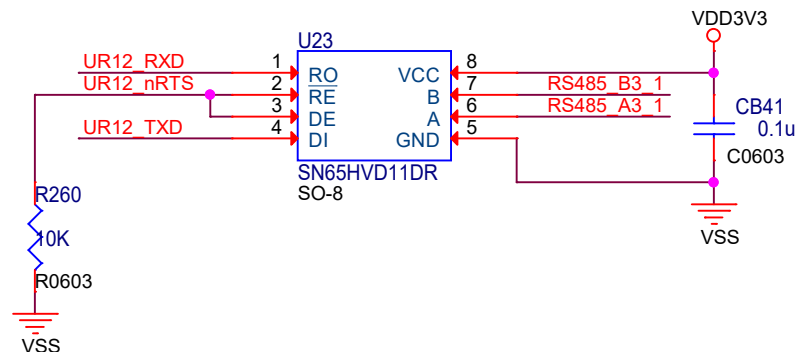
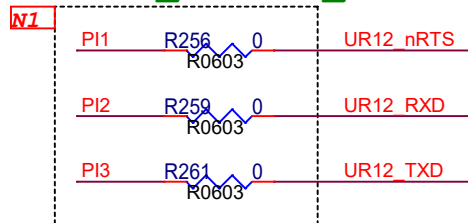
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A	RS232	V2.0
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VDD5V
VDD3V3
VSS

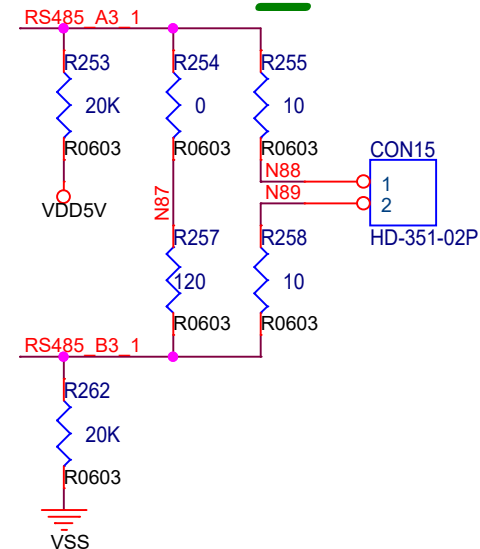
PI[3:1] PI[3:1]

PI[7:5] PI[7:5]

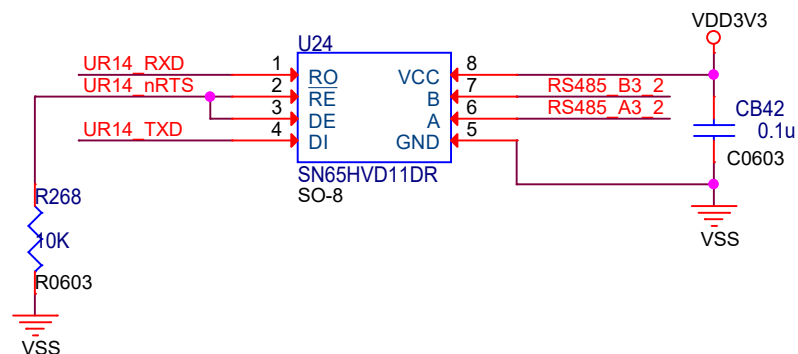
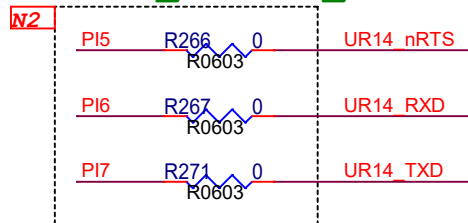
RS485_12 (EBI_ADR1/2/3)



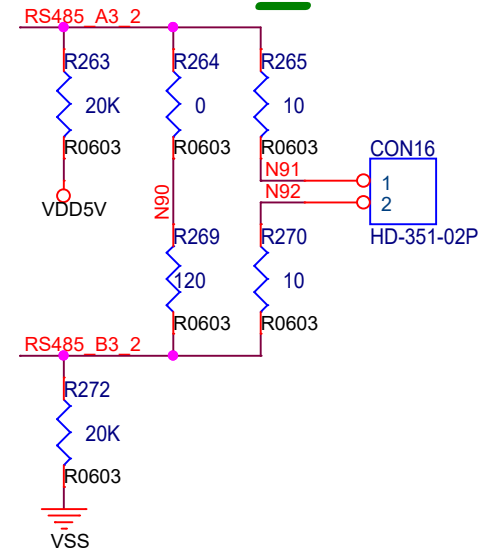
RS485_12



RS485_14 (EBI_ADR5/6/7)



RS485_14



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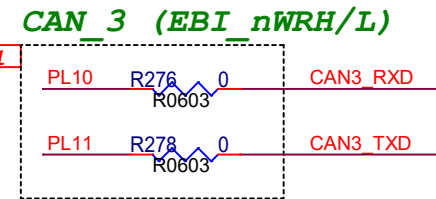
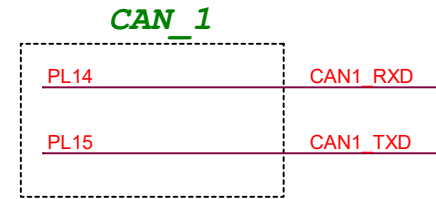
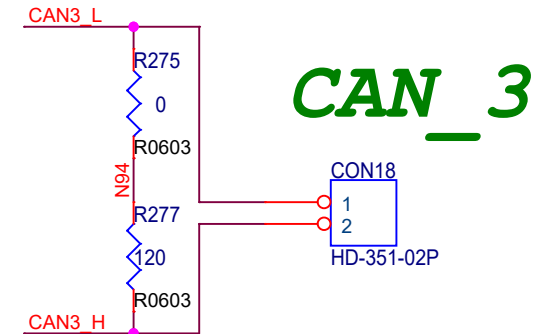
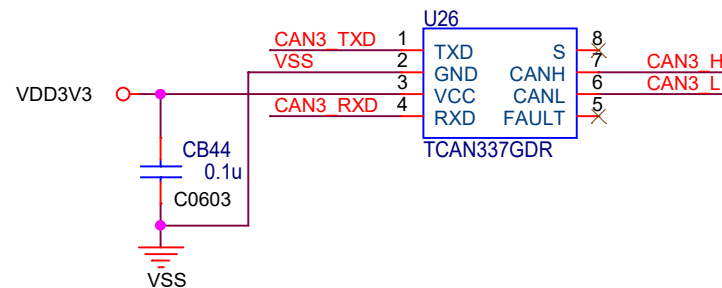
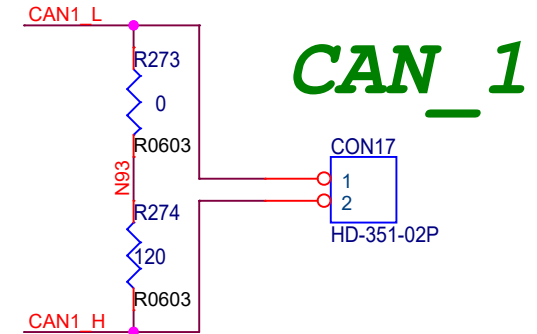
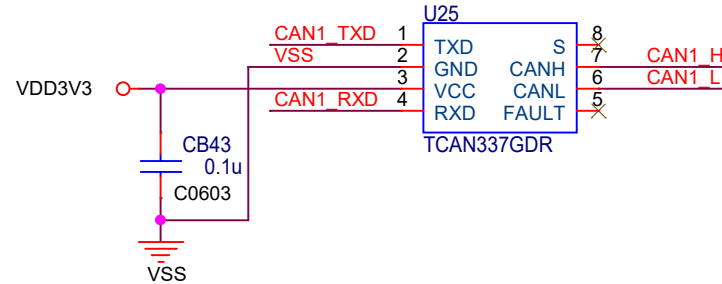
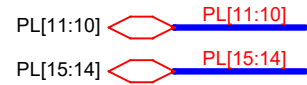
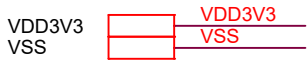
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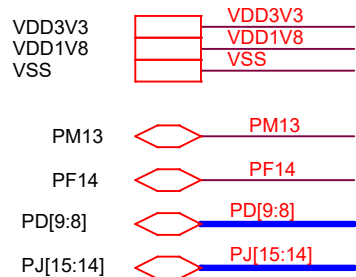
Size
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Document Number
CAN FD

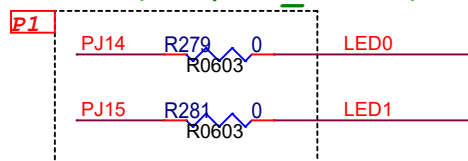
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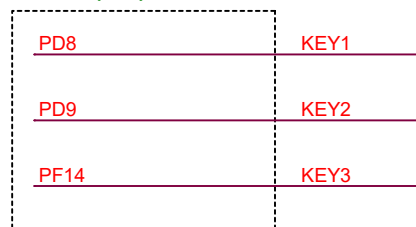
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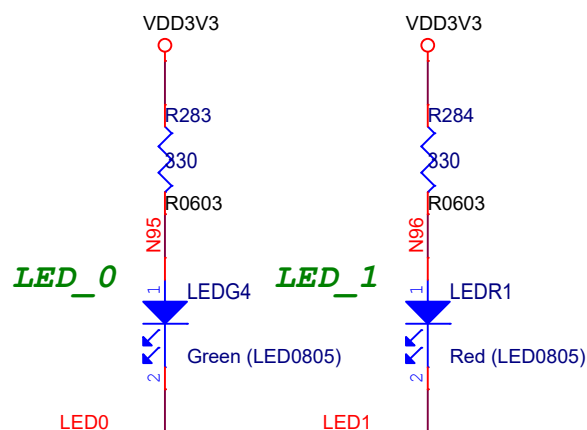
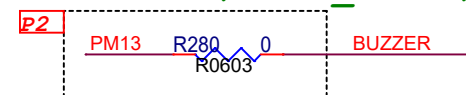
LED0/1 (EBI_ADR14/15)



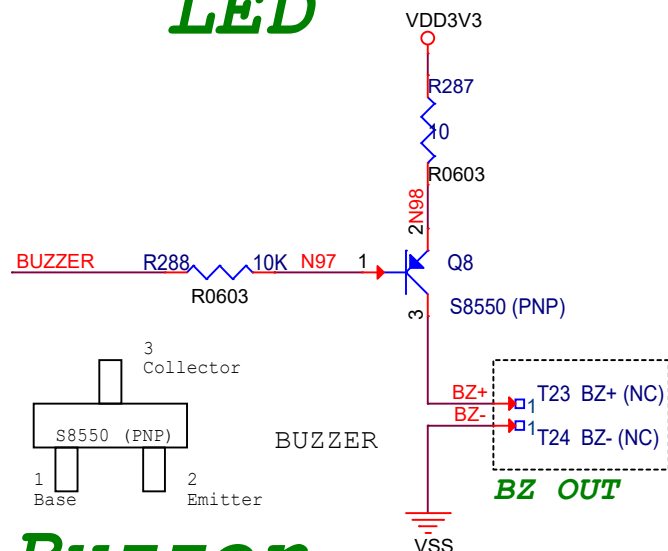
KEY1/2/3



Buzzer (TRACE_DATA1)

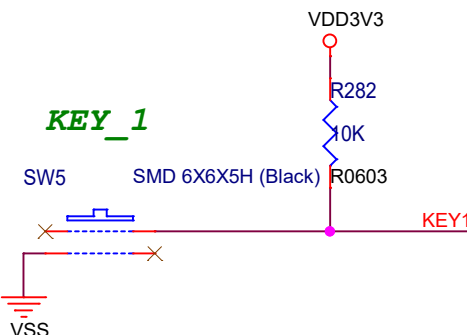


LED



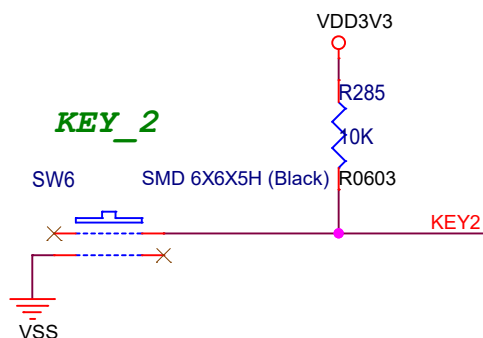
Buzzer

KEY_1

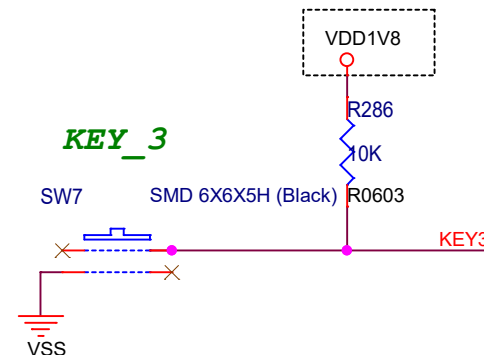


Note: F_VDDIO = 1.8V on SOM (default)
(F_VDDIO: RGMII1 I/O Power)

KEY_2



KEY_3



Key Buttons

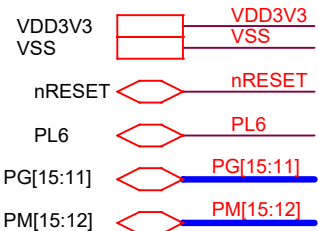
nuvoTon Technology Corp.

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Key Buttons, LEDs and Buzzer

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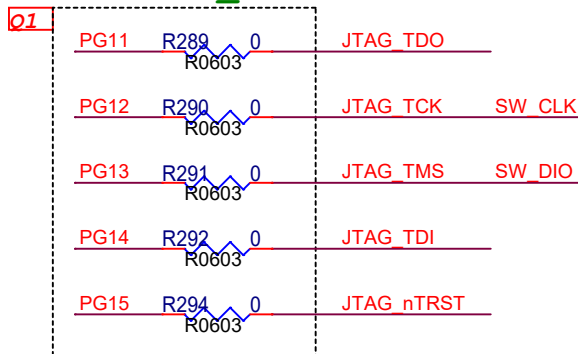
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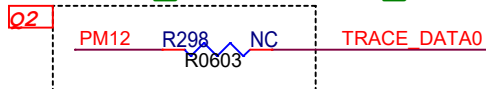
J7 HEADER 2x1 (2.54mm, male)

nRESET SWJ nRESET

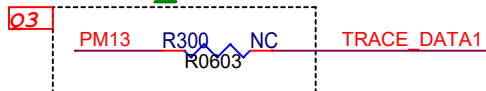
SWJ (EBI_AD0/1/2/3/4)



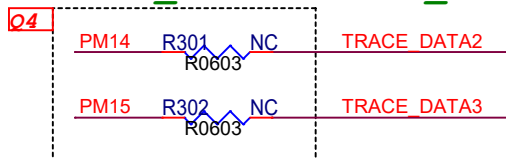
TRACE_DATA0 (LCM_RST)



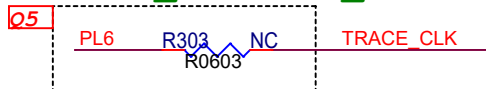
TRACE_DATA1 (Buzzer)



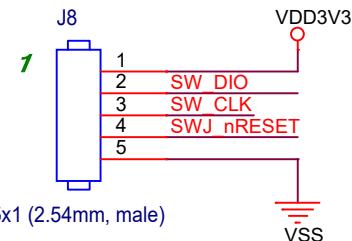
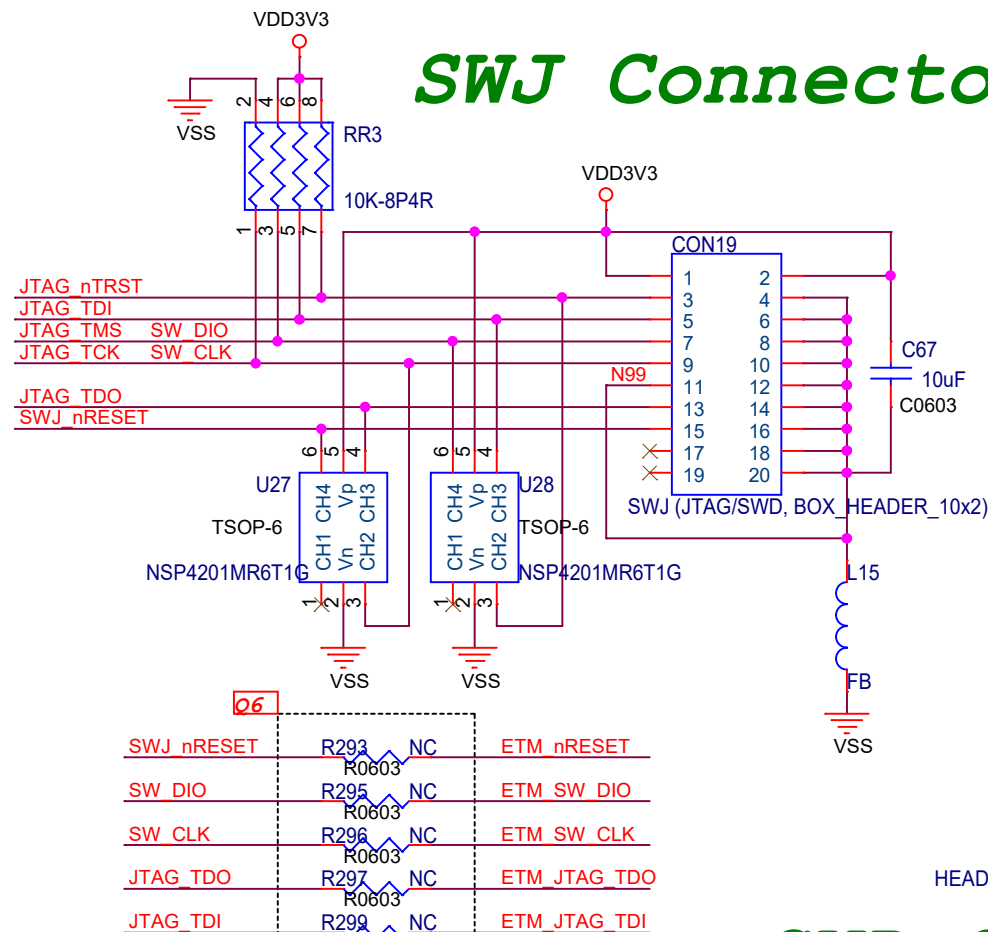
TRACE_DATA2/3 (I2C_3)



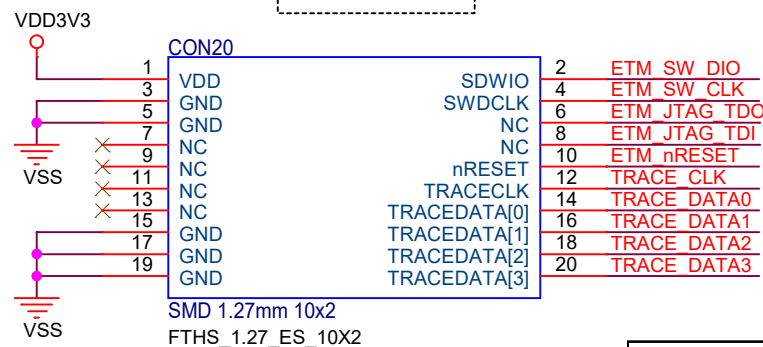
TRACE_CLK (EBI_AD5)



SWJ Connector



SWD Connector

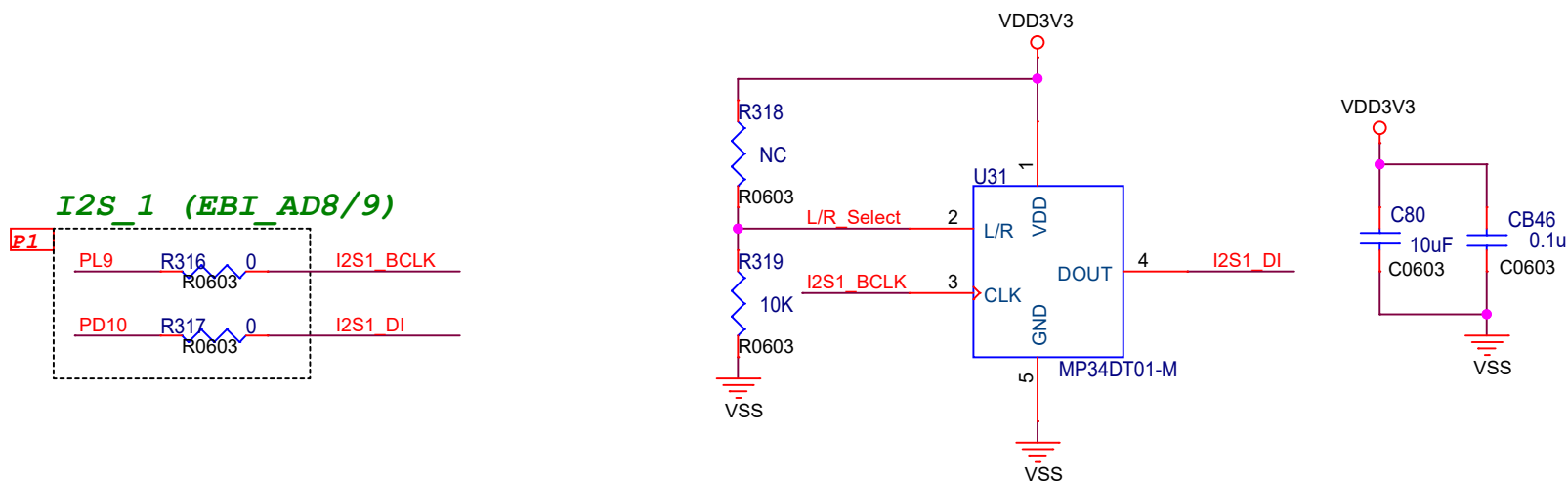
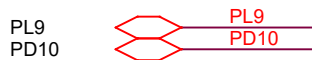
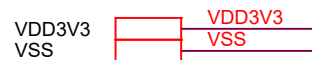


ETM Connector

nuvoTon Technology Corp.

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A	SWJ, SWD and ETM Connectors	V2.0
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MEMS Digital MIC

nuvoTon Technology Corp.

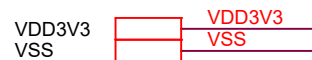
Title
NuMaker_MA35D1_Base

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MEMS Digital MIC (MP34DT01-M)

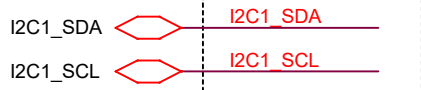
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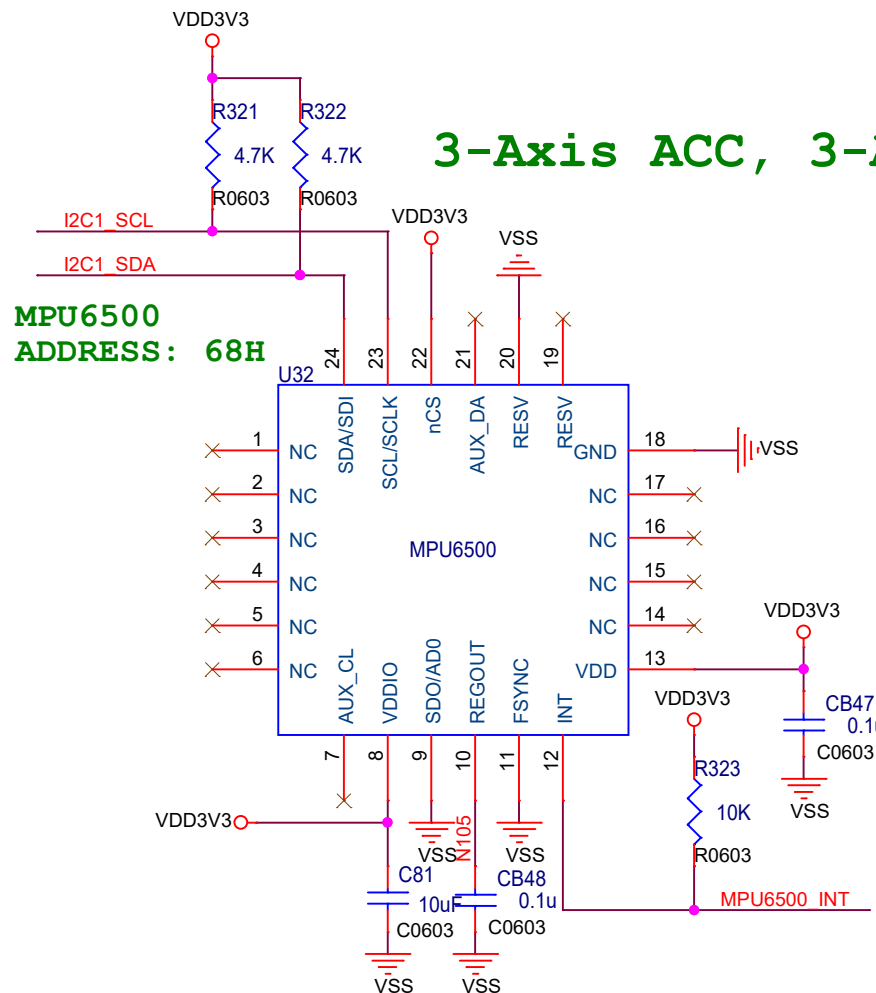
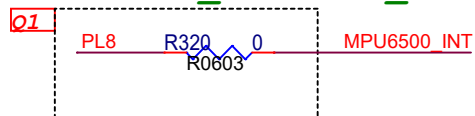
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I2C1_SDA/SCL (LCM_I2C1_SDA/SCL)



MPU6500_INT (EBI_AD7)



3-Axis ACC, 3-Axis Gyro

MEMS G-Sensor

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