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MS-7811

ATX

Ver:11

Intel -SharkBay plamform (Z87-XPOWER)

CPU:

Haswell LGA1150

CPU POWLSTAGE*32 Phase

System Chipset:

Lynx Point Z87

Onboard Chip:

HD Audio Codec:ALC1150

LAN-QUALCOMM E2205-B

SIO:NCT6779D

Flash ROM: SPI 64 MB X2

CLK GEN: IDT4105

CLK BUF: IDT1216+IDT0841

WiFi / BT: Rear IO Pinheader

USB Hotkey: FinteK F75501

USB Charge: SLG55583A

PWM:

VCORE: VRD12.5 -IR3563 - 32Phase

DDR : IR3570 - 3Phase

PCH(1.05V) -IR3570- 1Phase

PLX(0.9V) -uP1504T - 1Phase

Other:

SATA3.0 x4(PCH)

SATA3.0 x6 (ASM1061 SATA 6G)

REAR ASM1074 x2 (USB3.0 x 8)

FRONT ASM1464 *4 (USB3.0 *4)

REAR USB HOTKEY *2

Main Memory:

DDRIII (800/1066/1333/1666MHz) * 4 (Dual Channel)

ACPI:

UPI-uP7501+uP1714

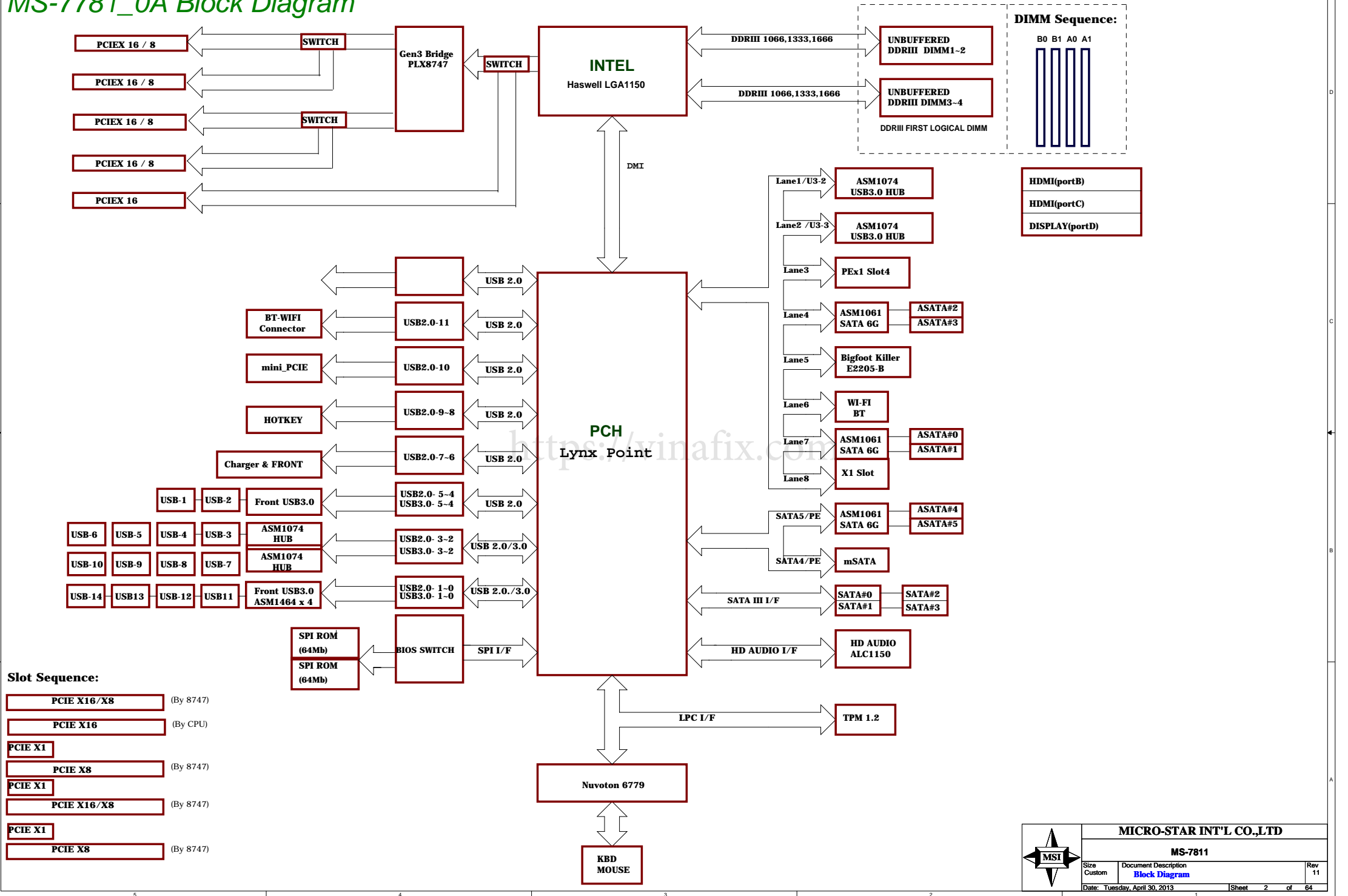
Expansion Slots:

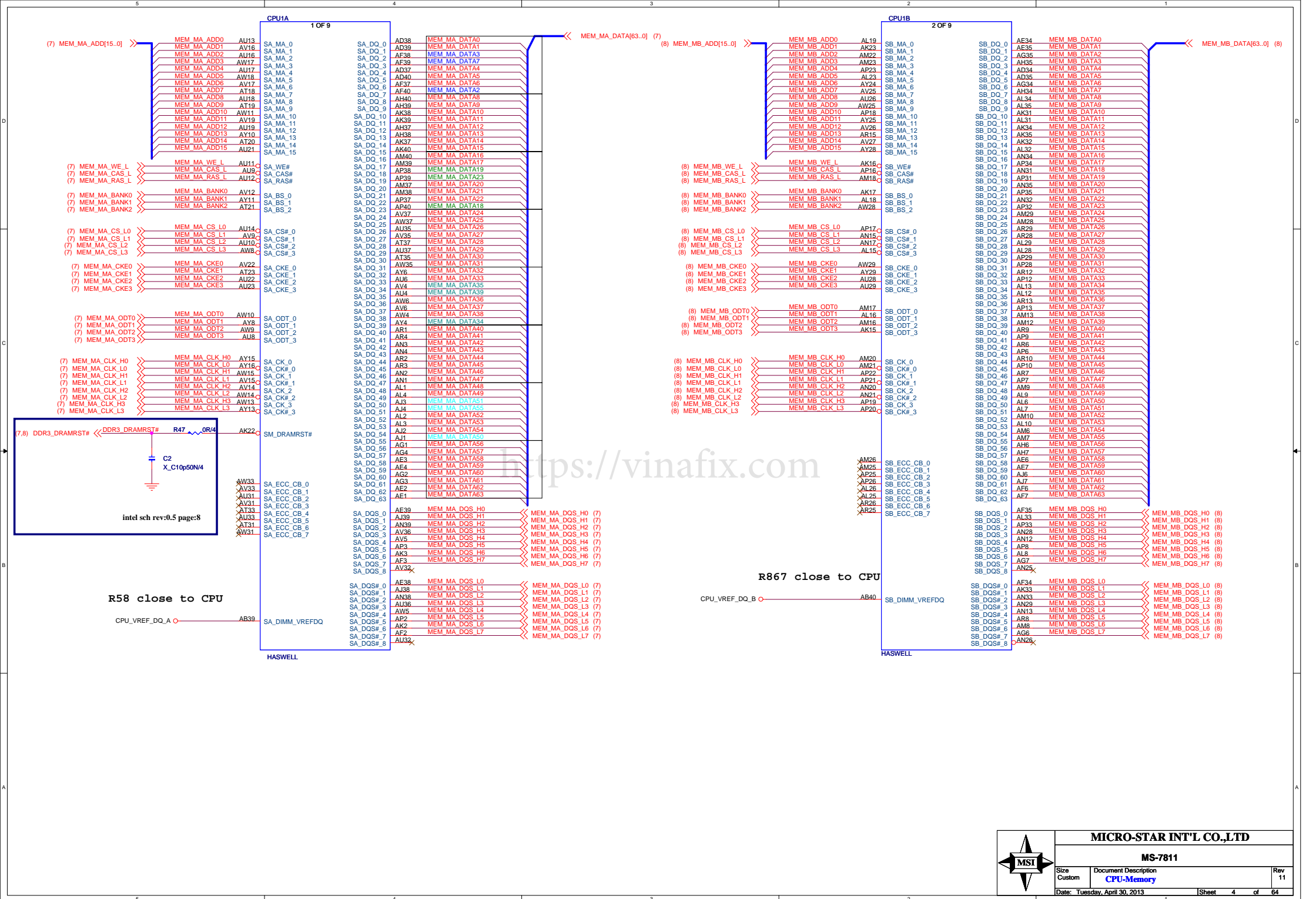
PCI Express (X16) Slot * 5

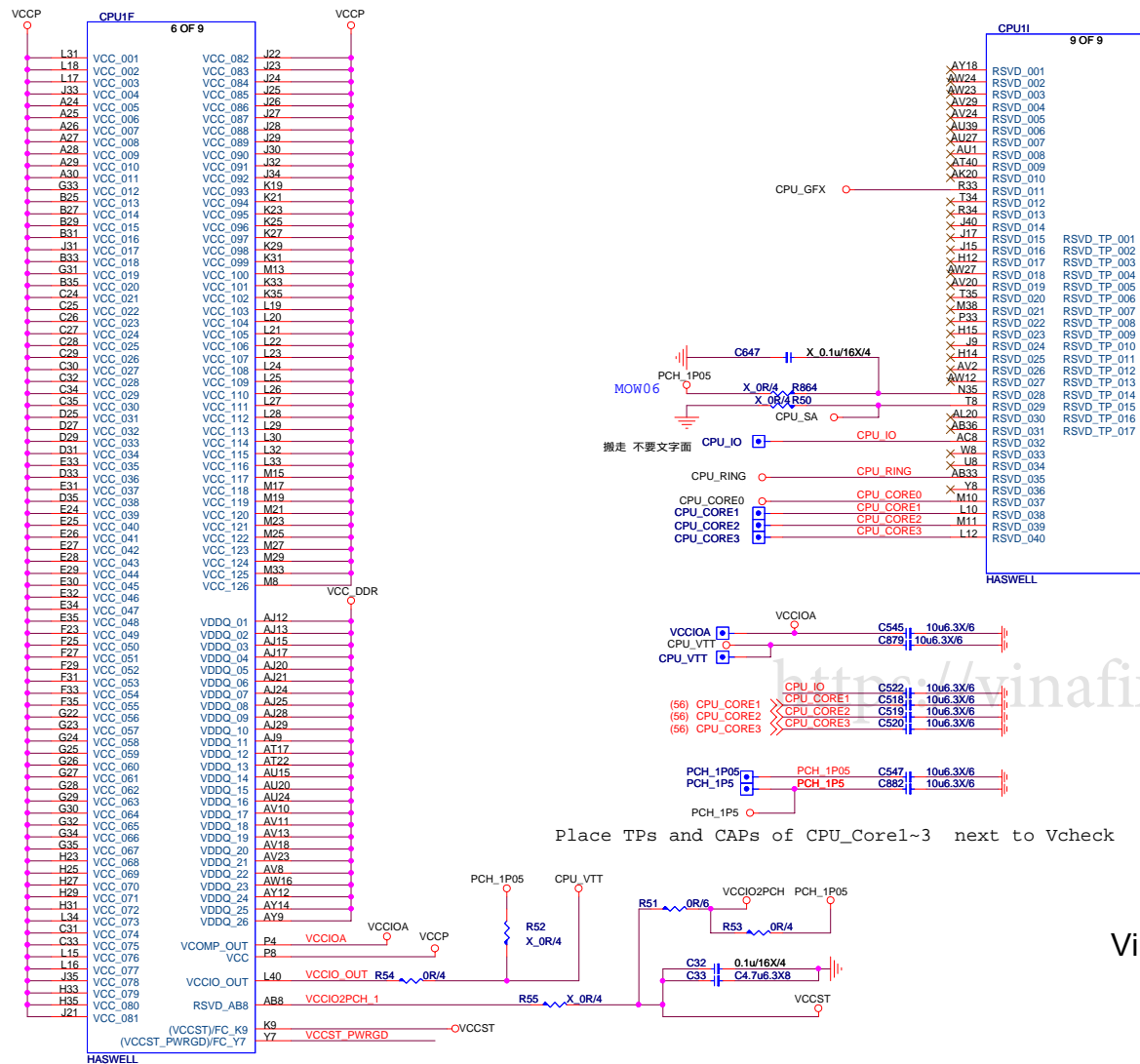
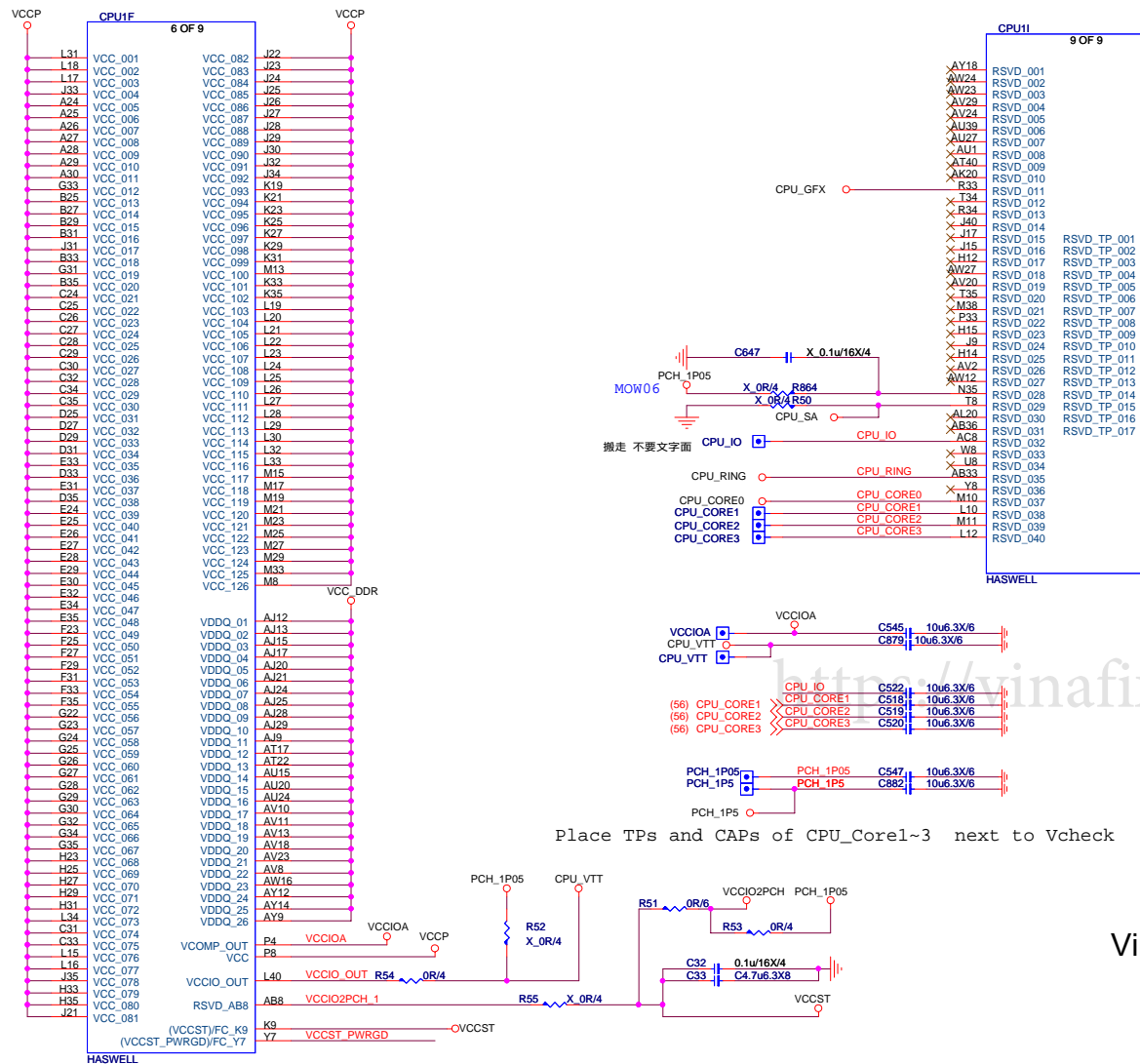
PCI Express (X1) Slot * 2

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MS-7781_0A Block Diagram



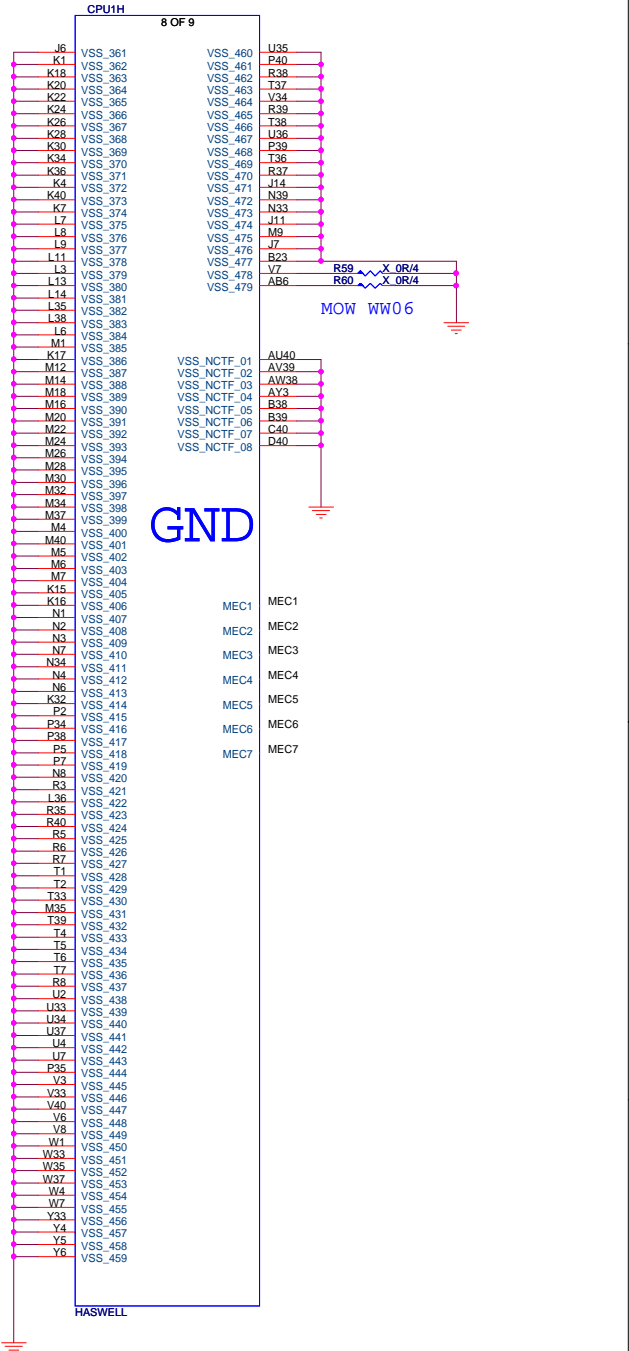






GND

<https://vinafix.com>

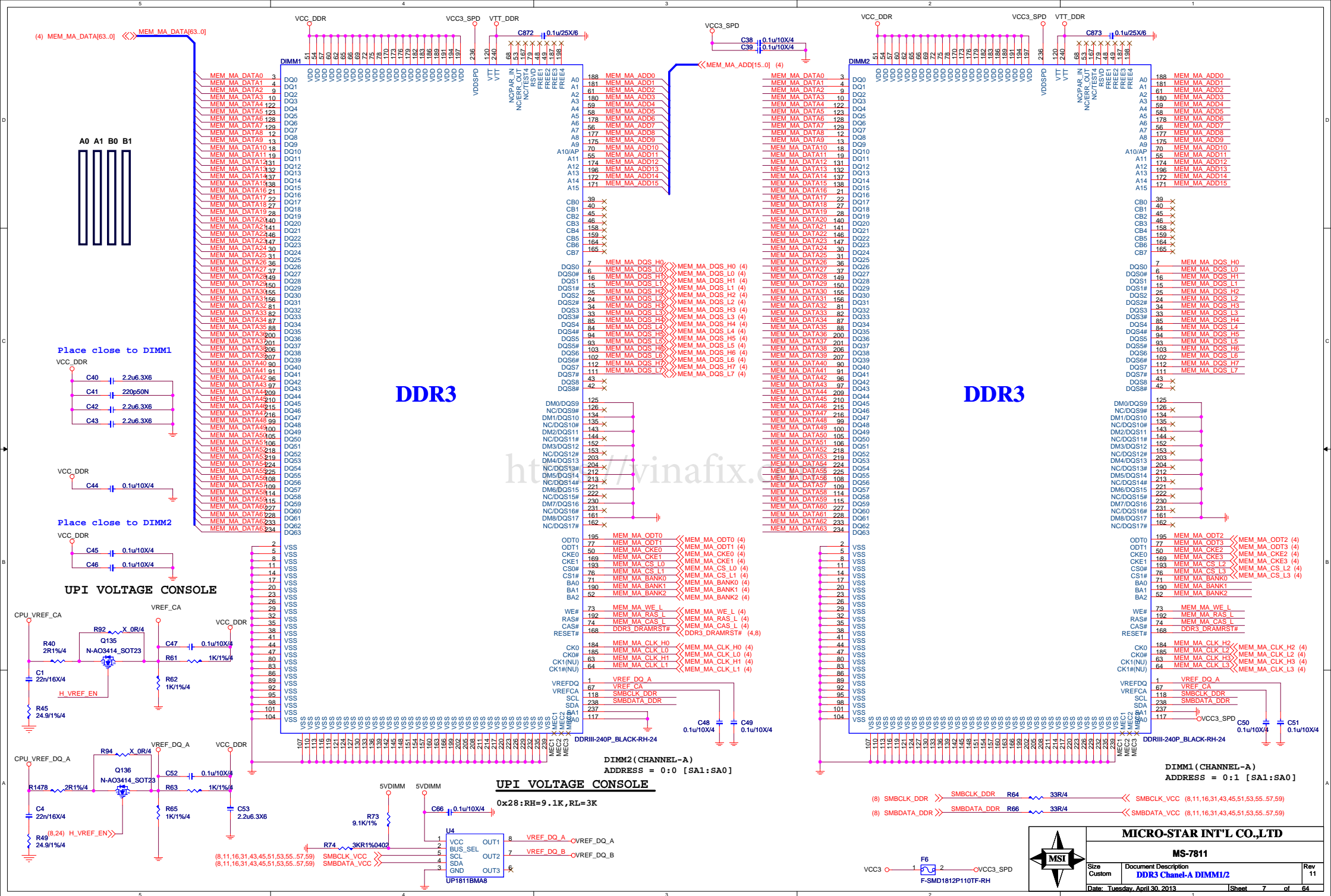


GND

VSS_NCTF_01
VSS_NCTF_02
VSS_NCTF_03
VSS_NCTF_04
VSS_NCTF_05
VSS_NCTF_06
VSS_NCTF_07
VSS_NCTF_08



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DDR3 DIMM B0

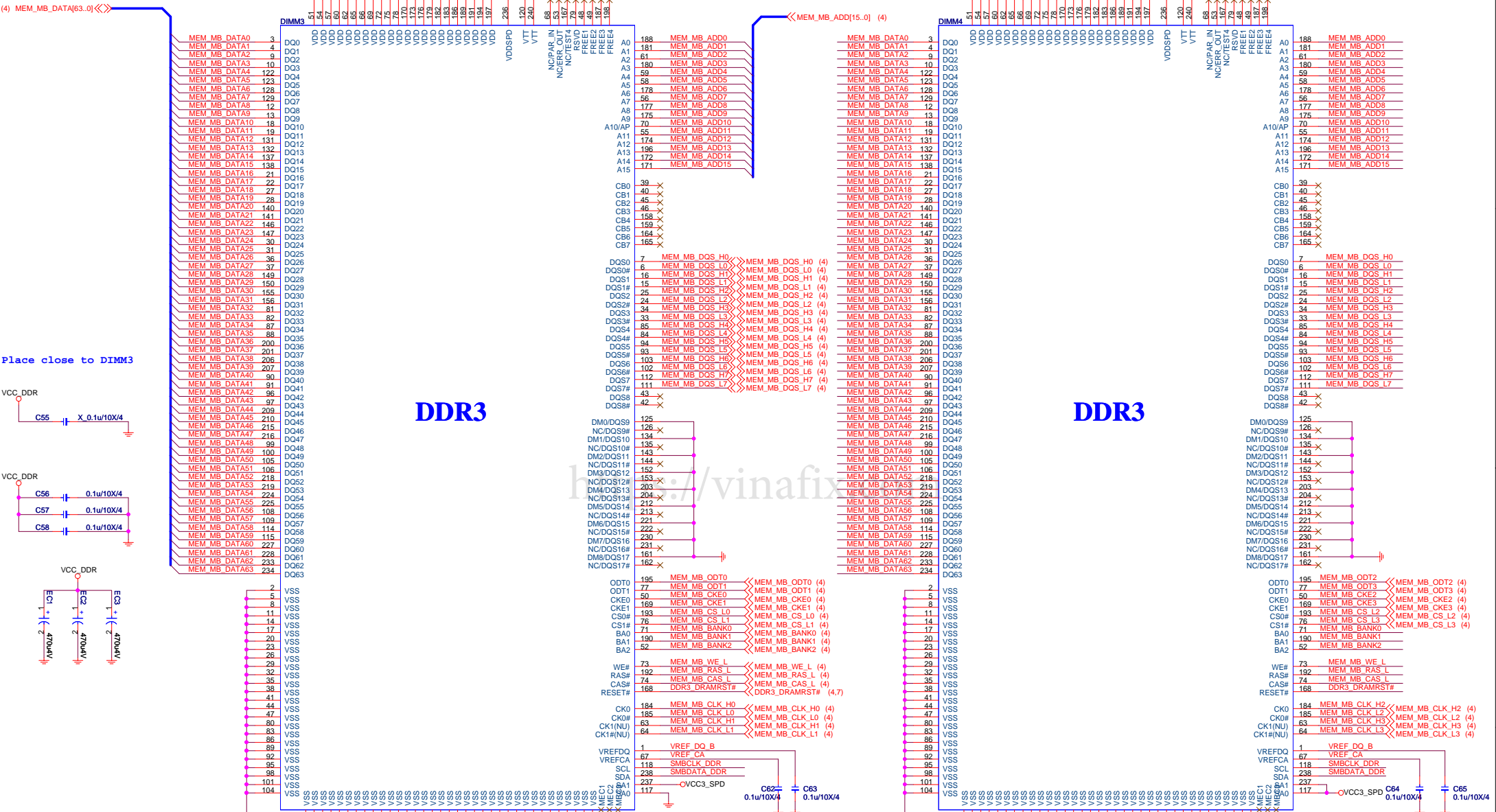
DDR3 DIMM B1

(4) MEM_MB_DATA[63..0] <<>

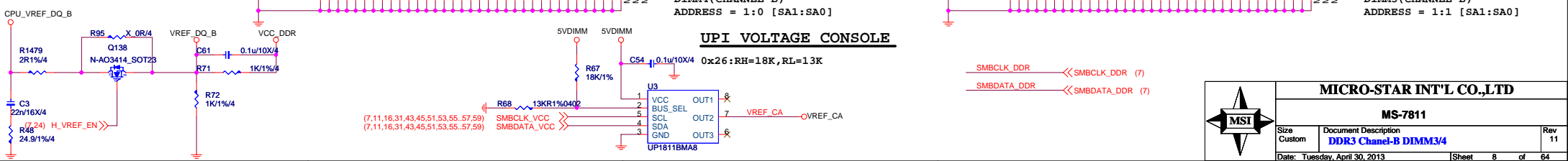
Place close to DIMM3

DDR3

DDR3



UPI VOLTAGE CONSOLE



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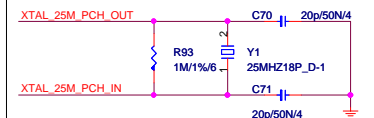
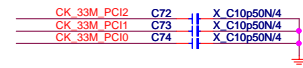
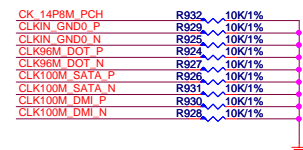
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Custom	DDR3 Chane1-B DIMM3/4	11

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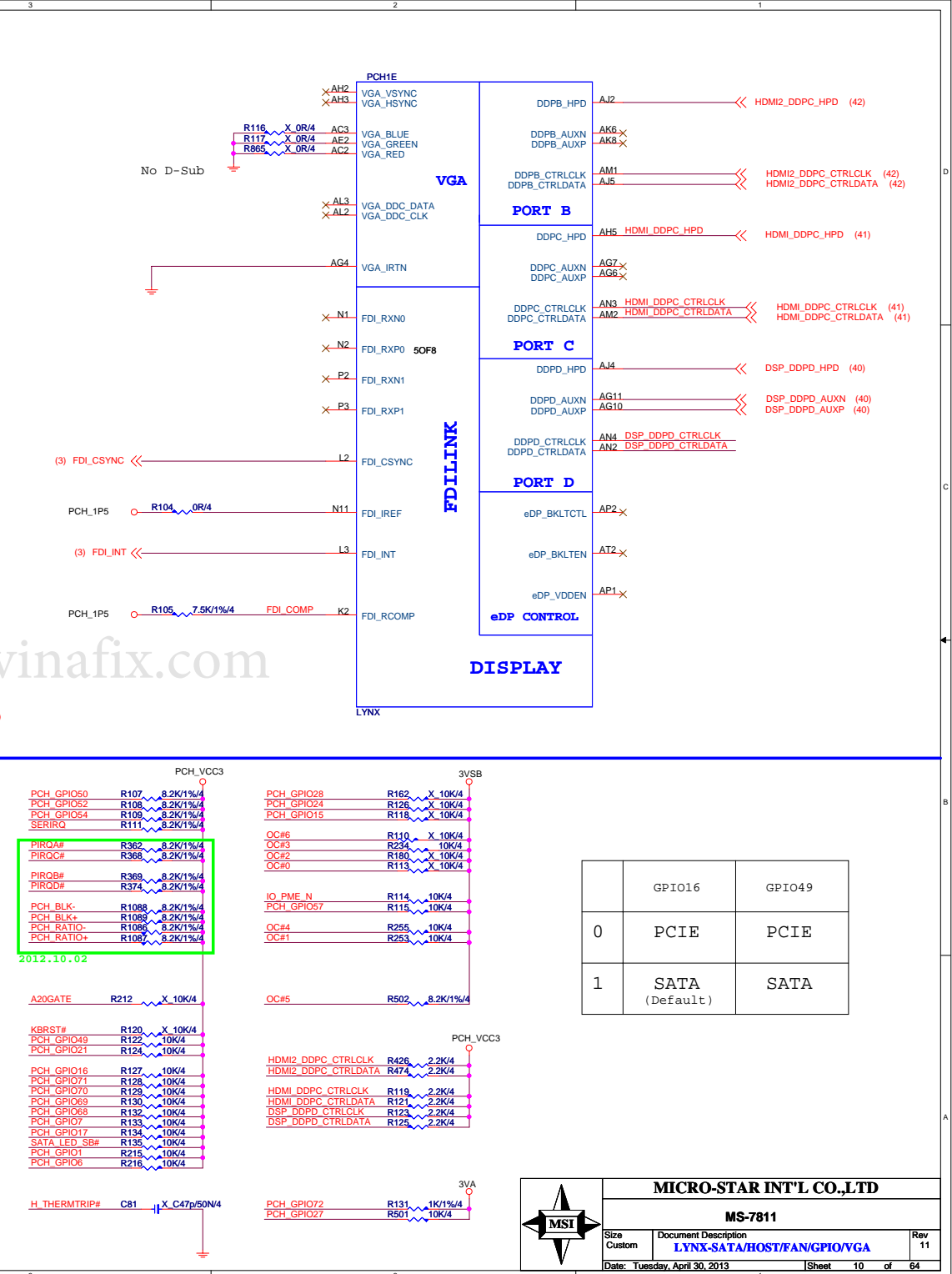
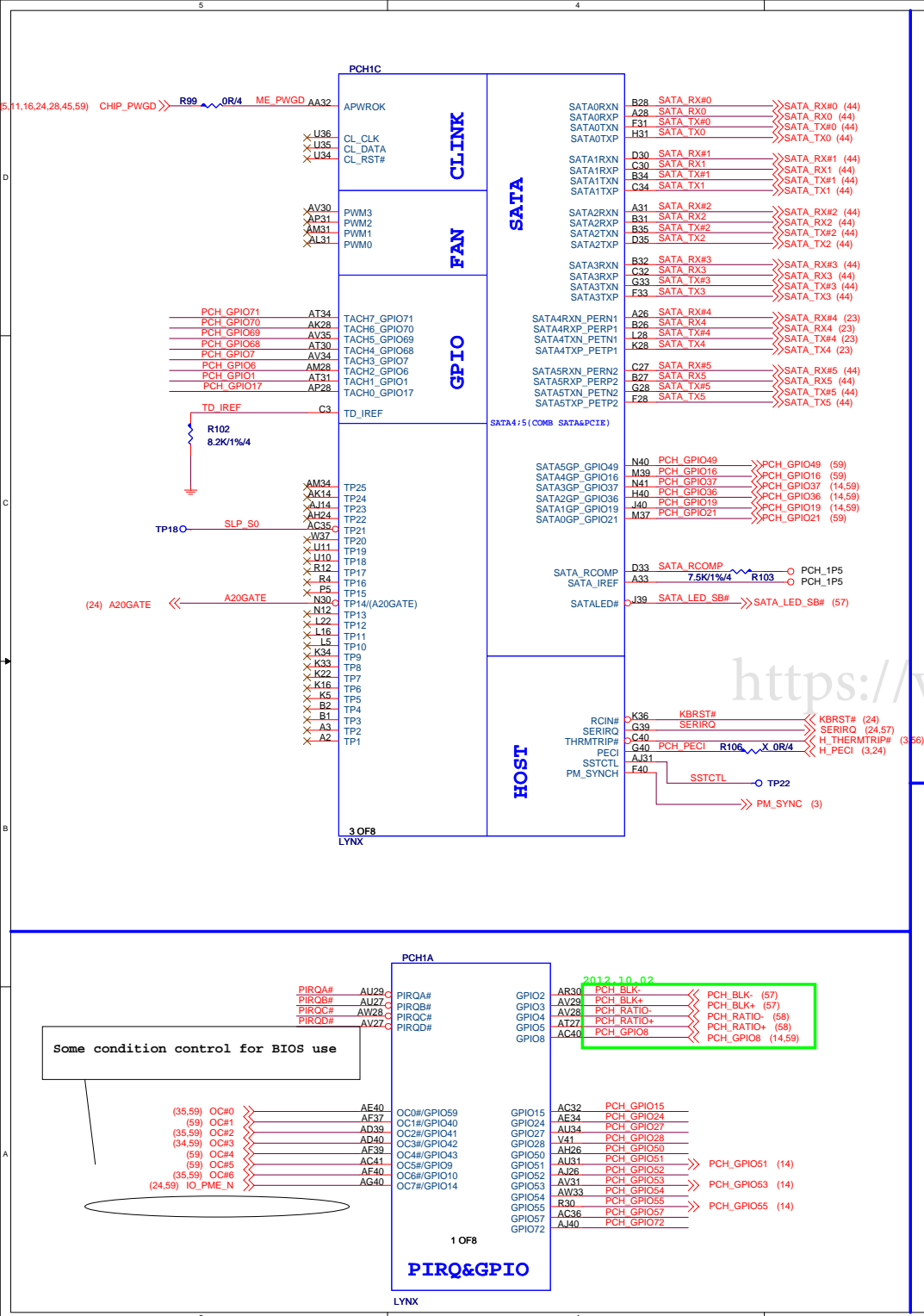
no clock gen pull down

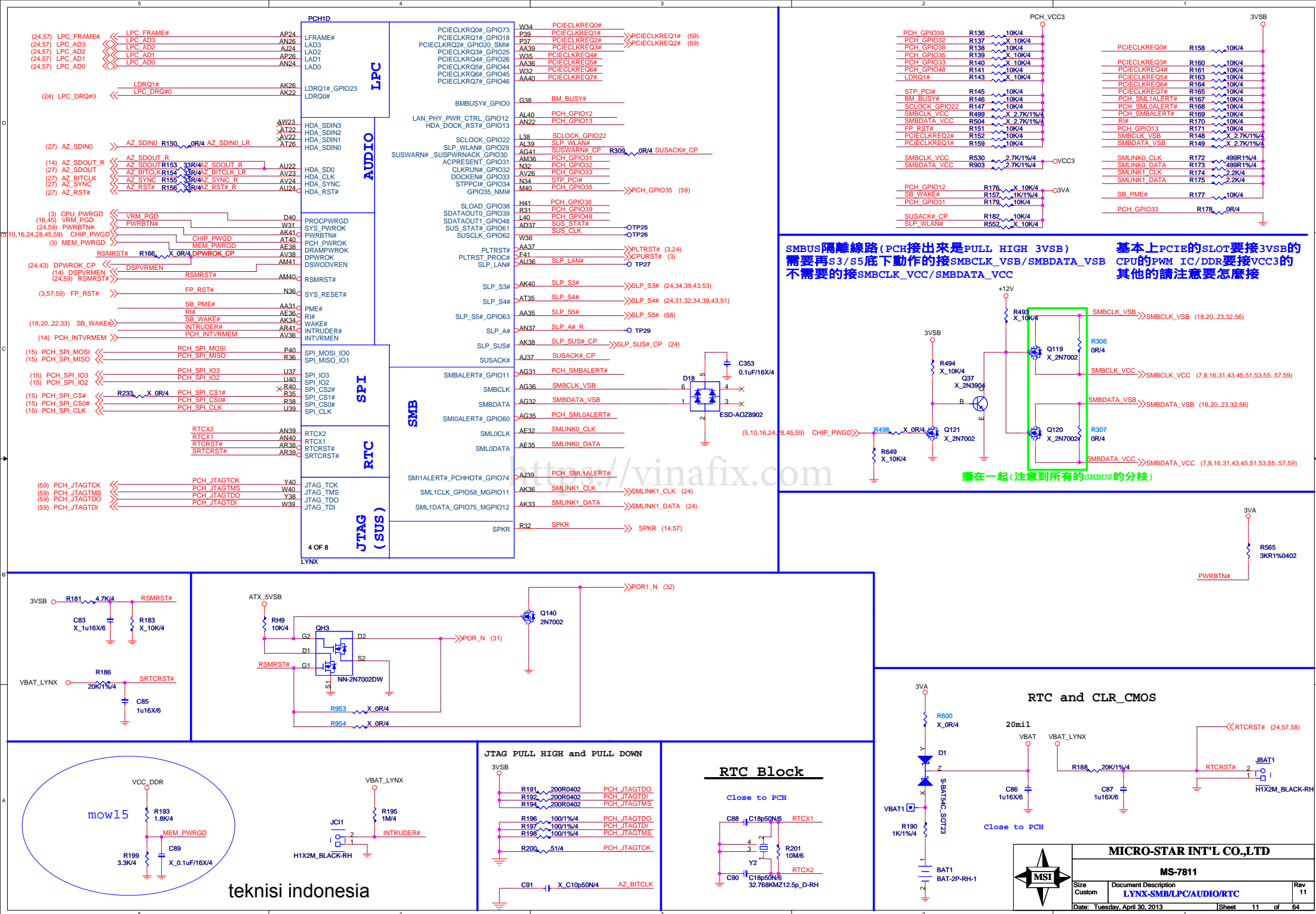


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PCH_1P5

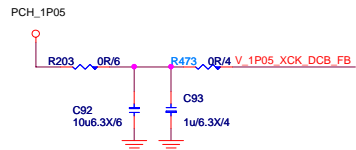
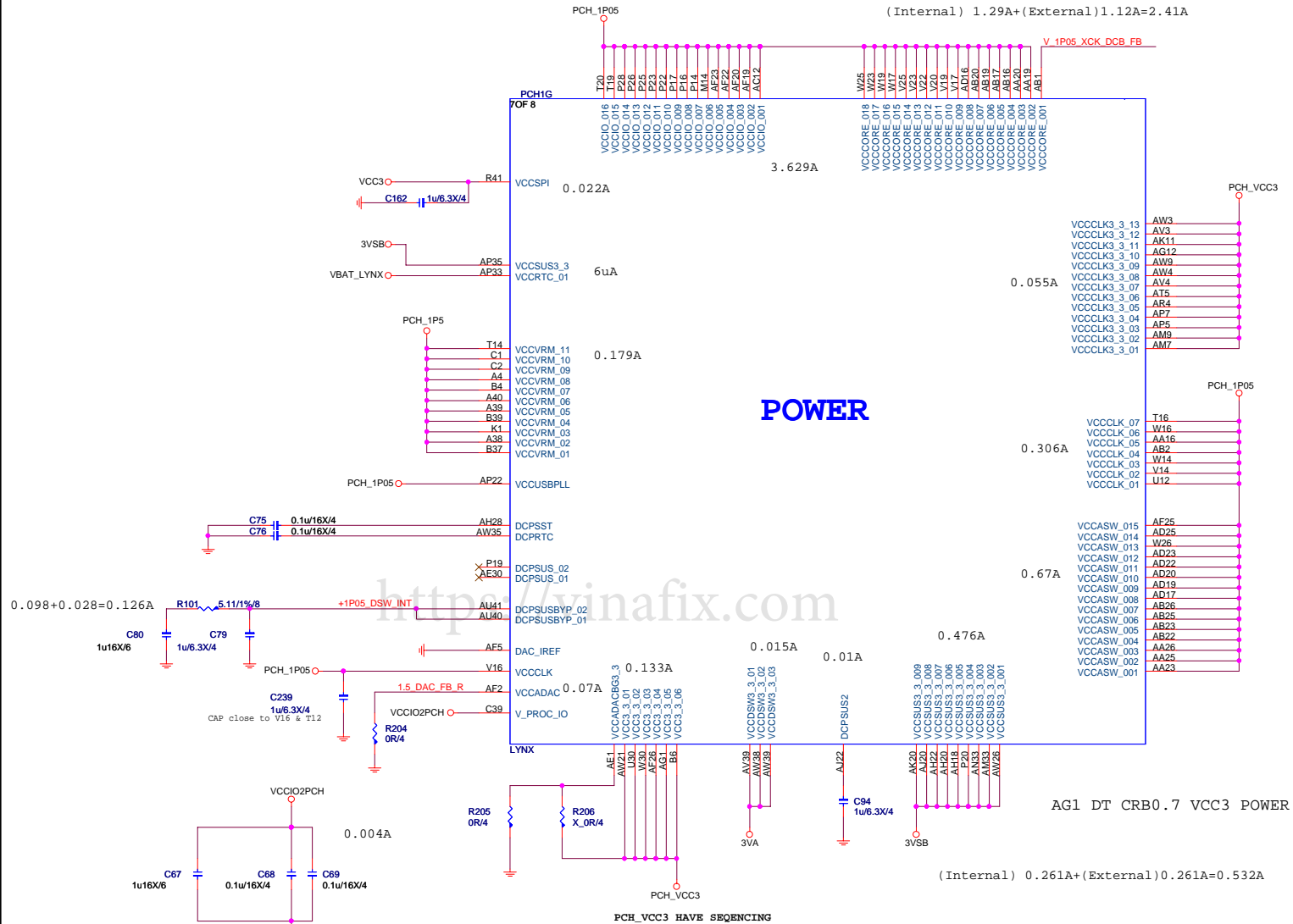
R202 X 1/6

1.5 DAC FB

C371
0.01u/16X/4

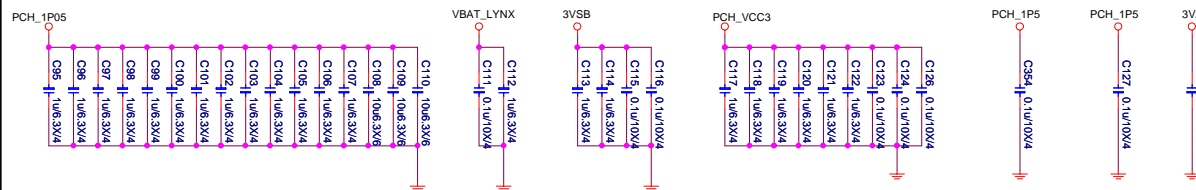
1.5 DAC FB R

R905 1R


$$(\text{Internal})\ 1.29A + (\text{External})\ 1.12A = 2.41A$$


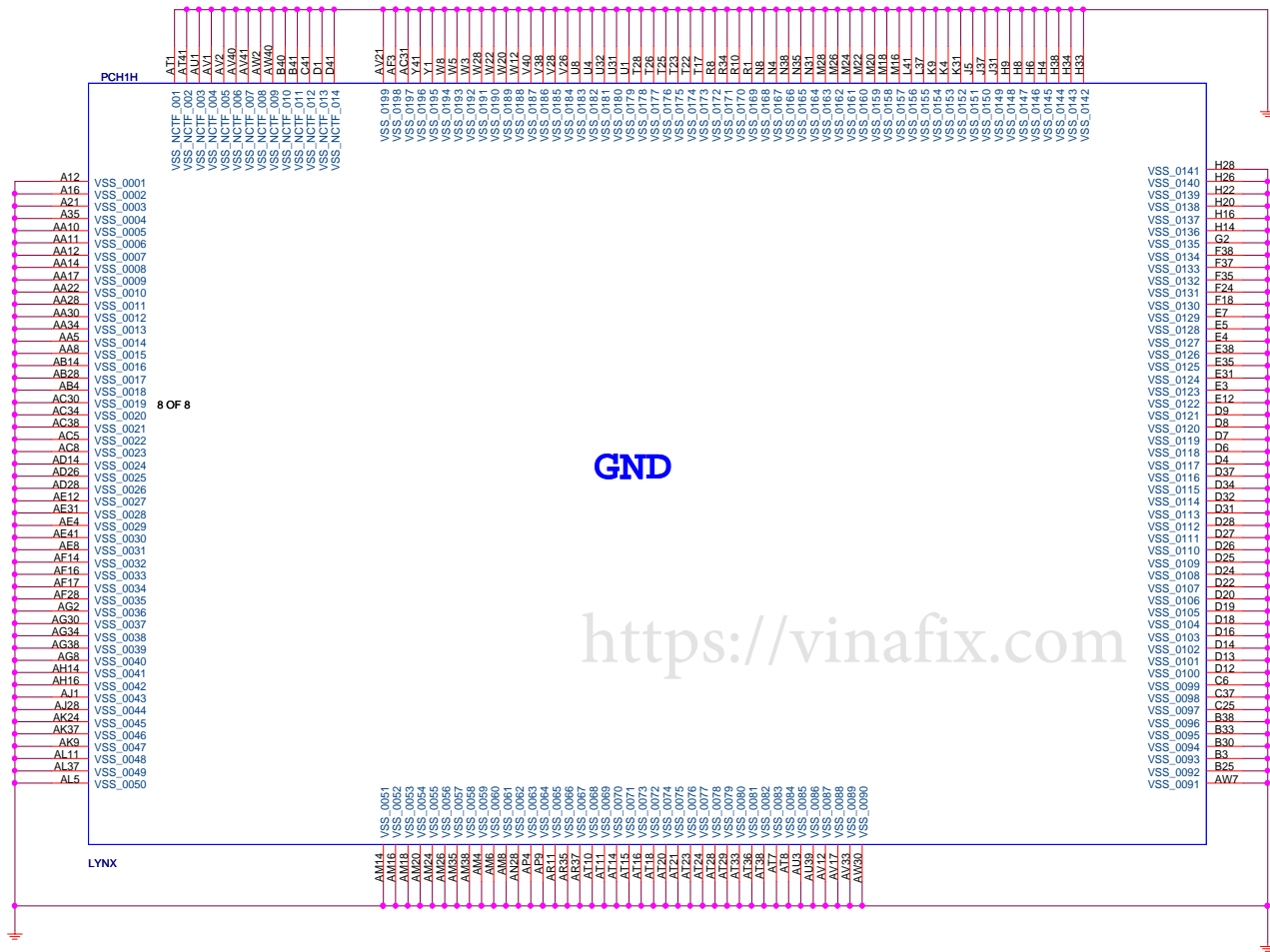
PCH_1P05

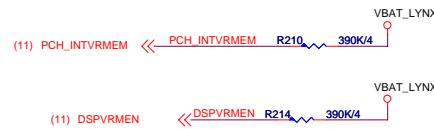
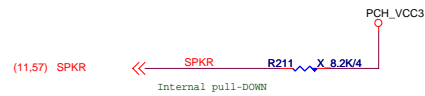
PCH decoupling cap



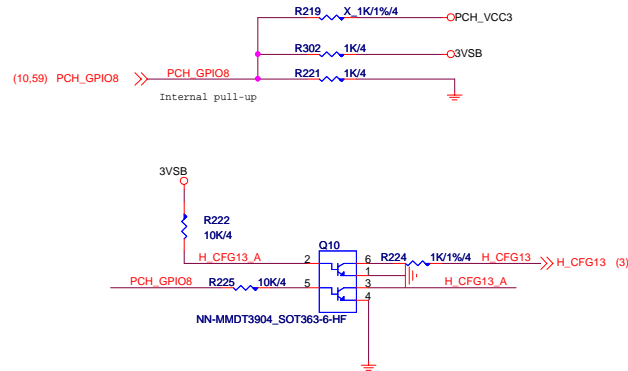
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Size Custom	Document Description LYNX -POWER PIN	Rev 11
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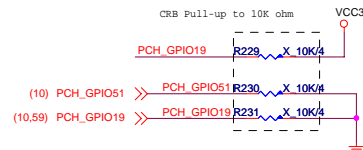


GPIO8



GPIO19 & GPIO51

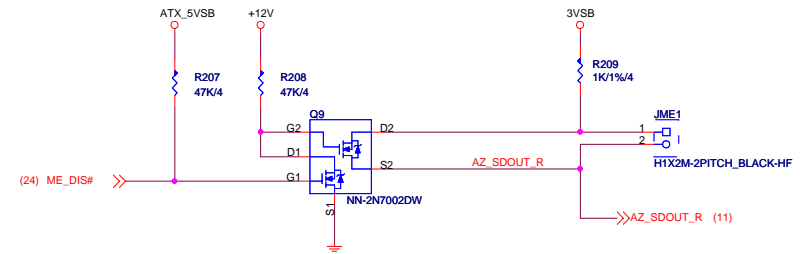
BOOT DEVICE	GPIO51	GPIO19
LPC	0	0
SPI	1	1



Default (SPI):
Left both SATA1GP/GPIO19 and GPIO51 floating.
No pull up required.

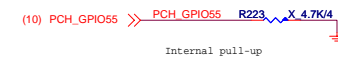
Boot from PCI:
Connect SATA1GP/GPIO19 to ground with 1k Ohm pull-down resistor.
Leave GPIO51 Floating.

Boot from LPC:
Connect both SATA1GP/GPIO19 and GPIO51 to ground with 1k Ohm pull-down resistor.



GPIO55

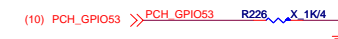
TOP BLOCK SWAP MODE



GPIO55
Default Mode:
Internal pull-up.

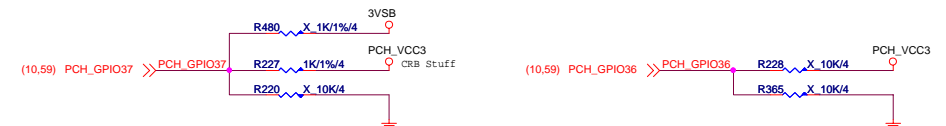
Top Block Swap Mode:
Connect to ground with 4.7k Ohm weak pulldown resistor.

GPIO53

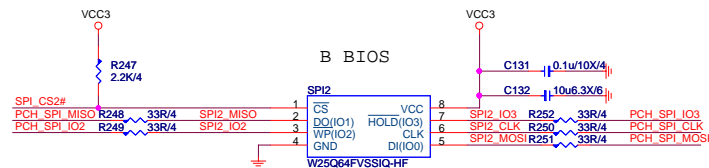
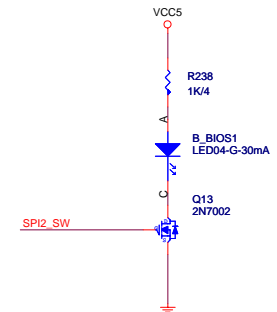
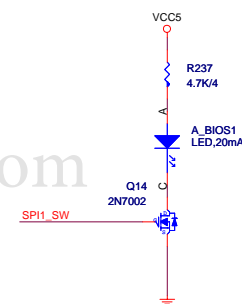
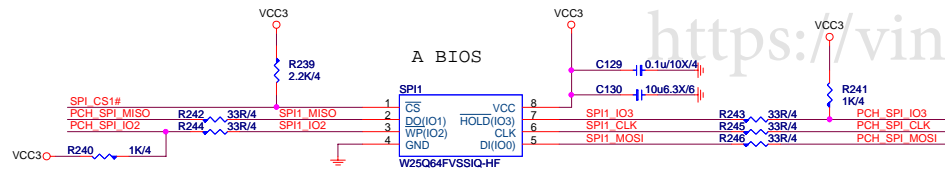
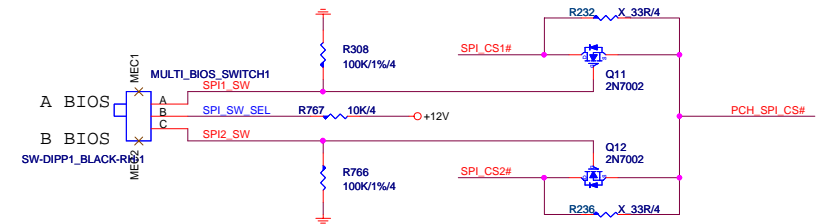
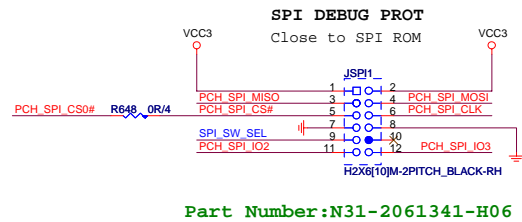


GPIO53
Connect to ground with 1k Ohm pull-down resistor.

GPIO36 & GPIO37



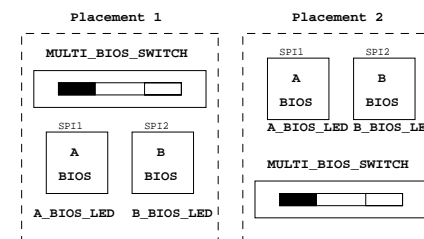
- (11) PCH_SPI_CS0# << PCH_SPI_CS0#
- (11) PCH_SPI_CS# << PCH_SPI_CS#
- (11) PCH_SPI_MOSI << PCH_SPI_MOSI
- (11) PCH_SPI_MISO << PCH_SPI_MISO
- (11) PCH_SPI_CLK << PCH_SPI_CLK
- (11) PCH_SPI_IO2 << PCH_SPI_IO2
- (11) PCH_SPI_IO3 << PCH_SPI_IO3



SPI FLASH ROM

Place close to SB.

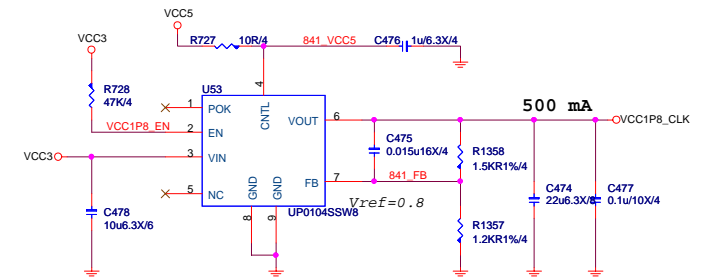
*SPI_CLK & SPI_MOSI must be length matched to within 500mils.
*SPI_CLK & SPI_CS0# must be length matched to within 500mils.



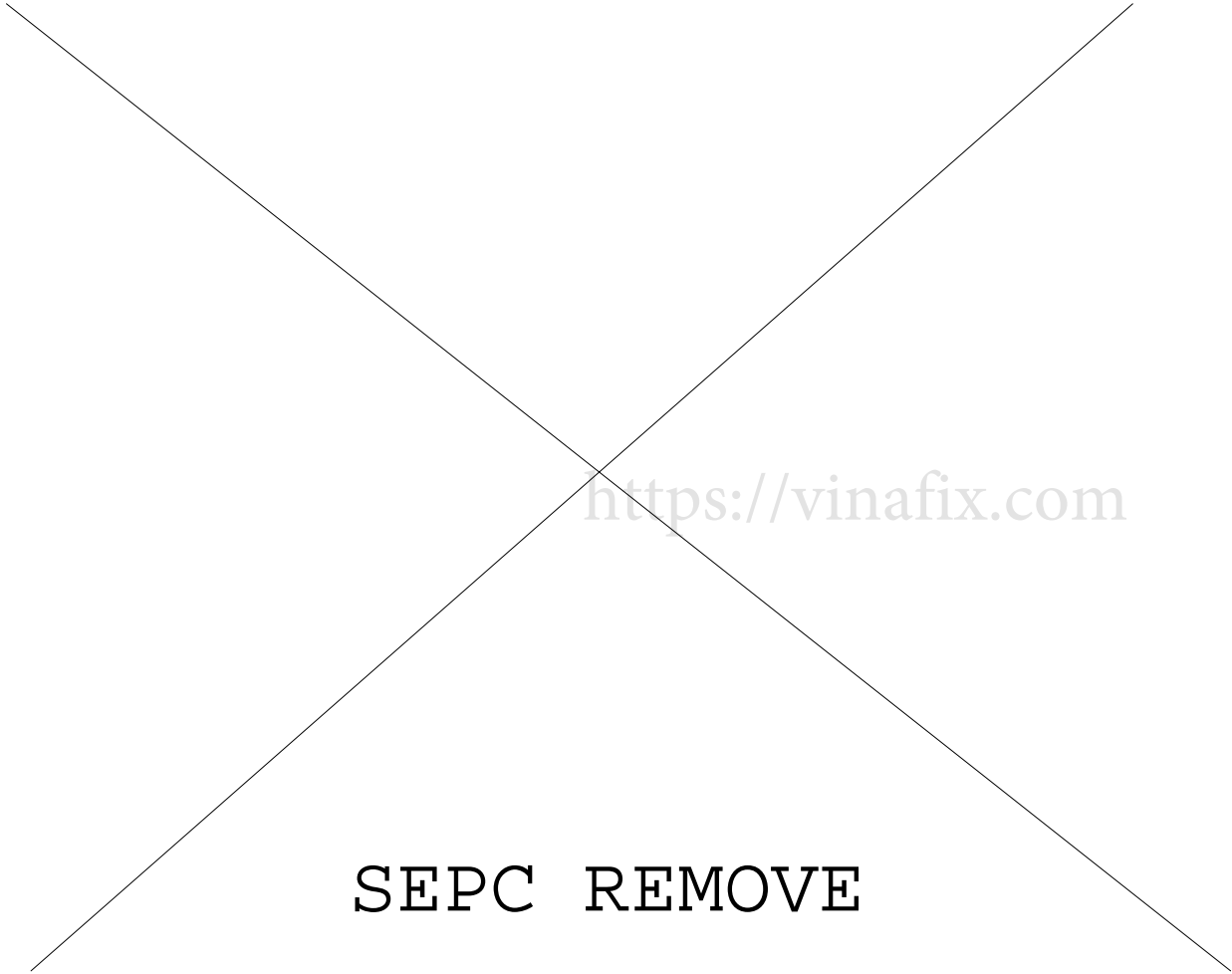
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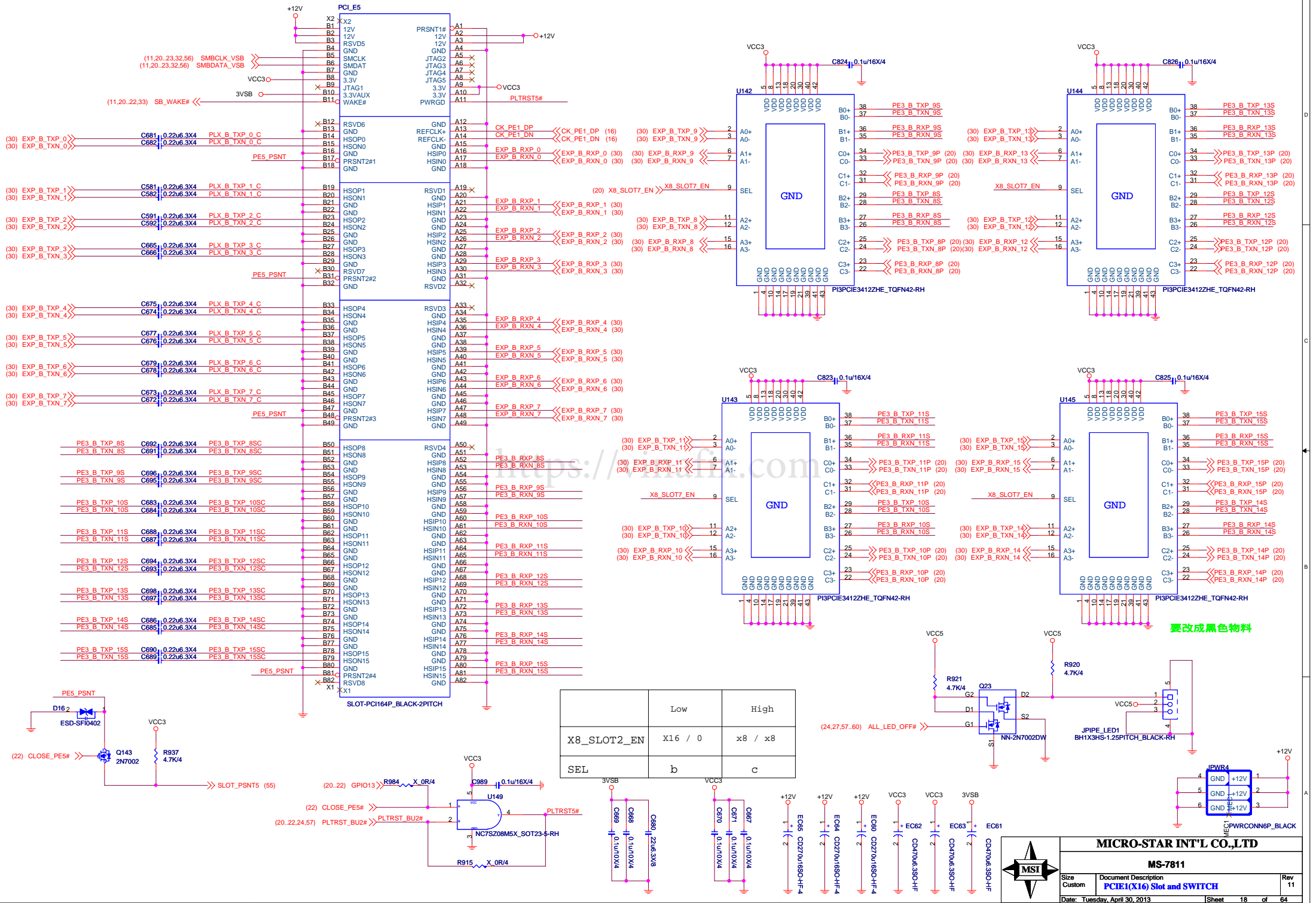


<https://vinafix.com>

SEPC REMOVE

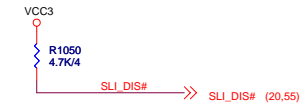
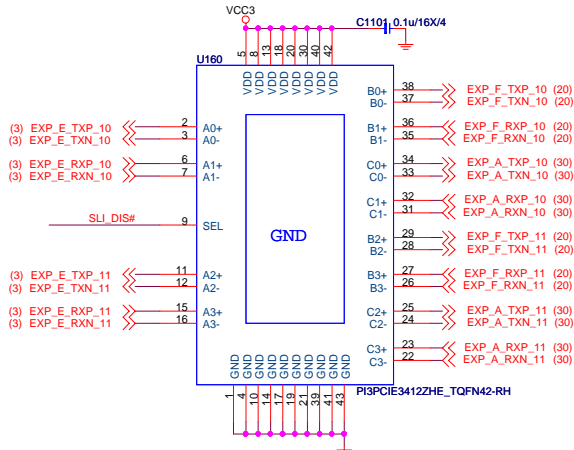
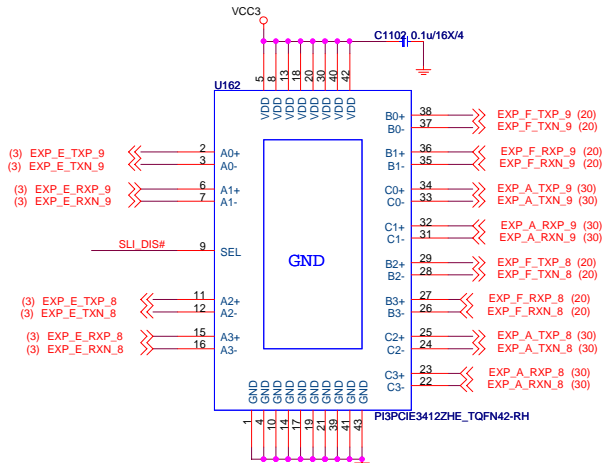
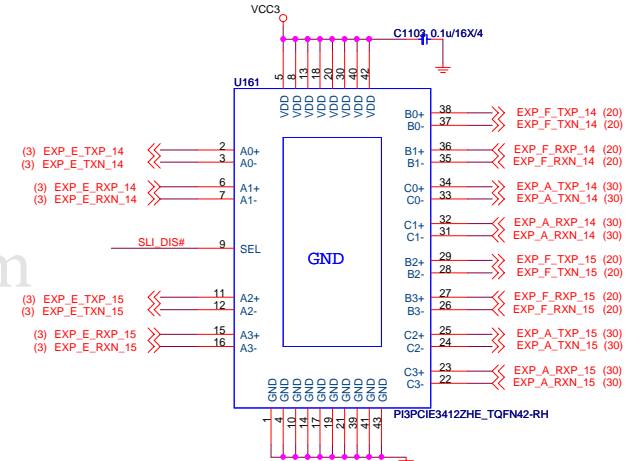
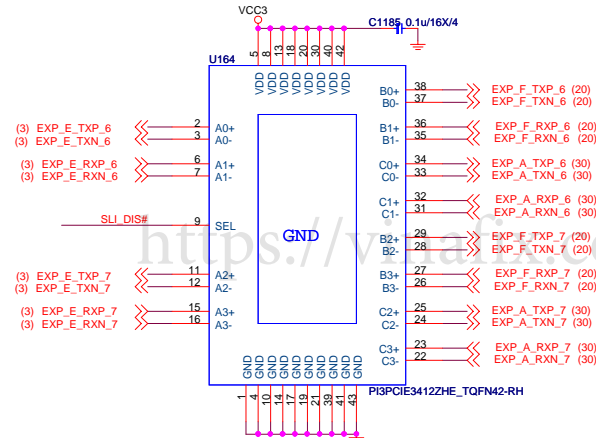
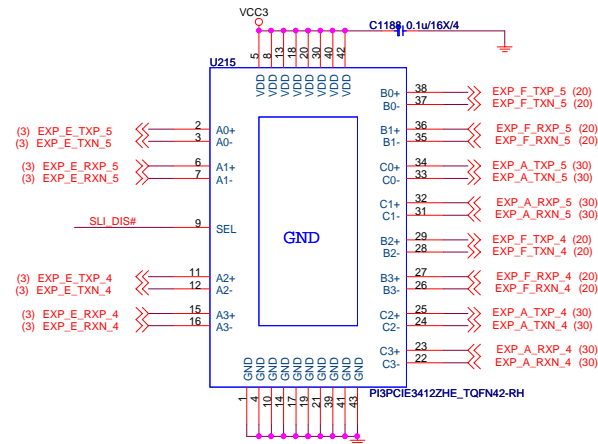
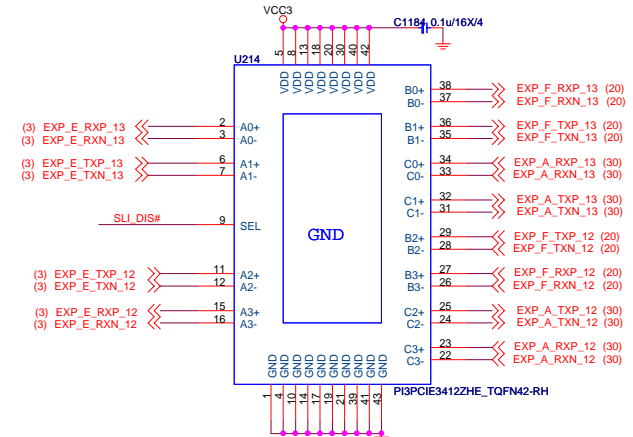
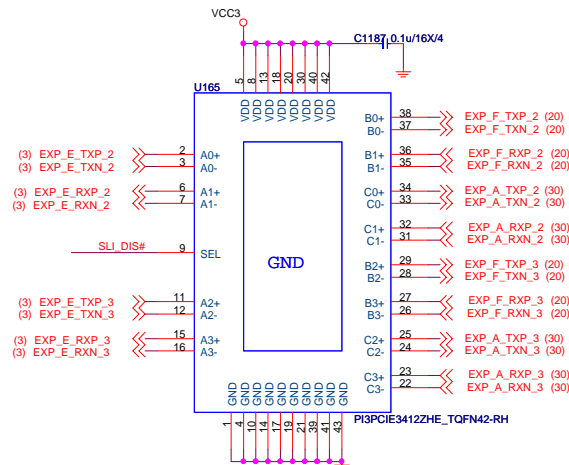
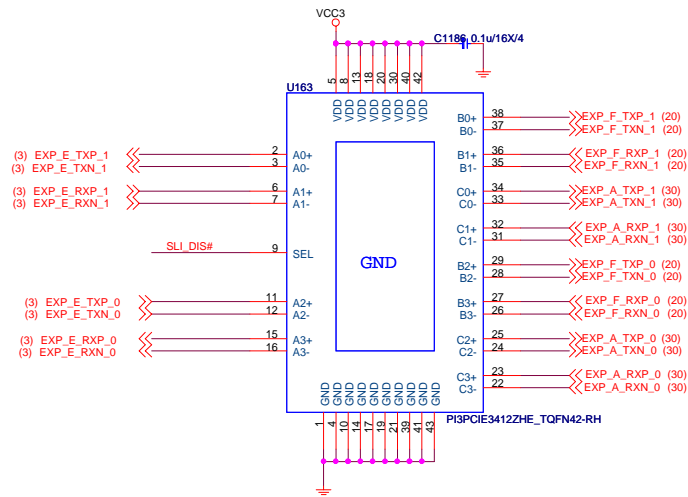


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	Low	High
X8_SLOT2_EN	X16 / 0	x8 / x8
SEL	b	c





	Low	High
SLI_DIS#	Non-SLI	SLI
SEL	b	C

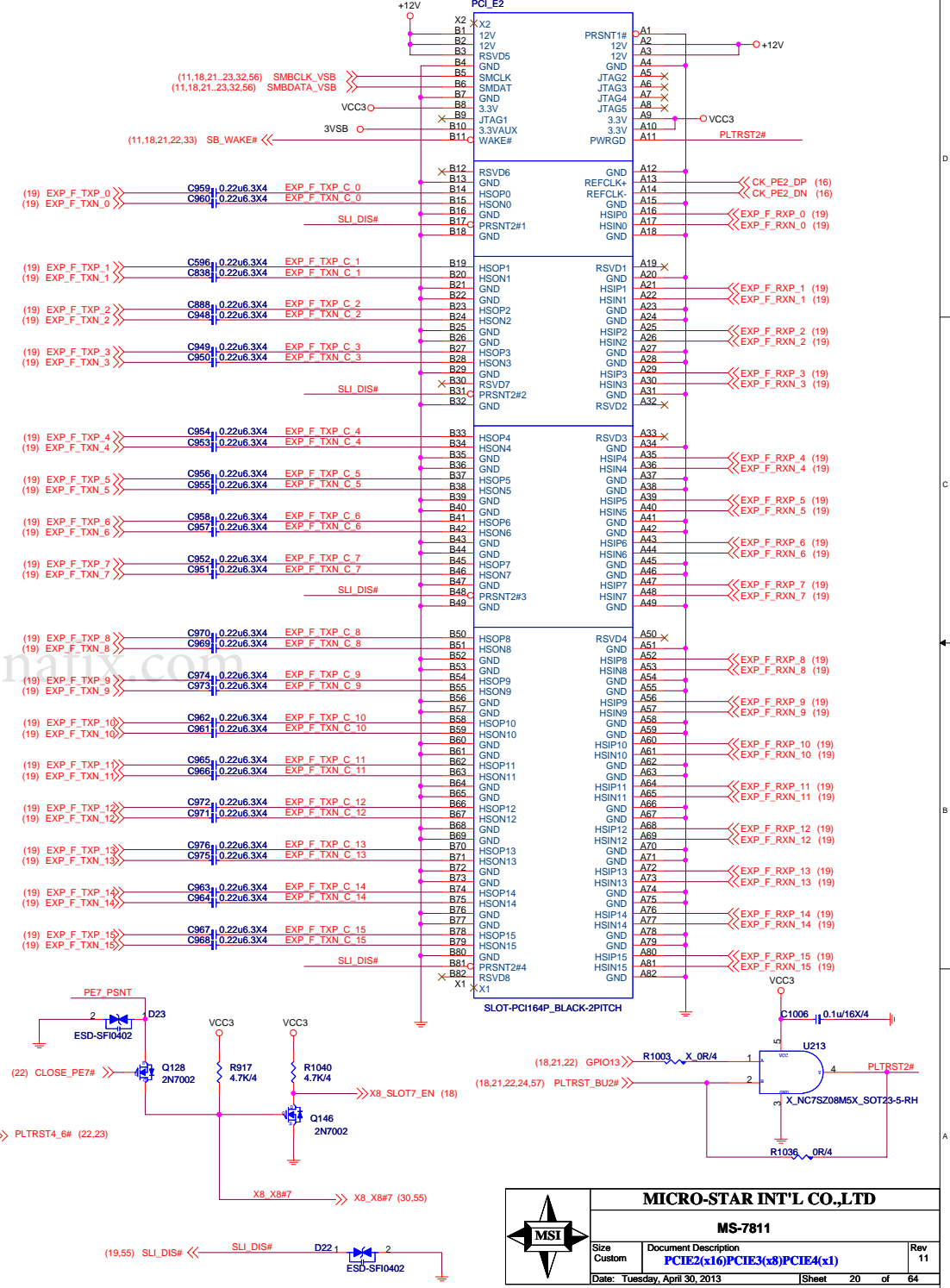
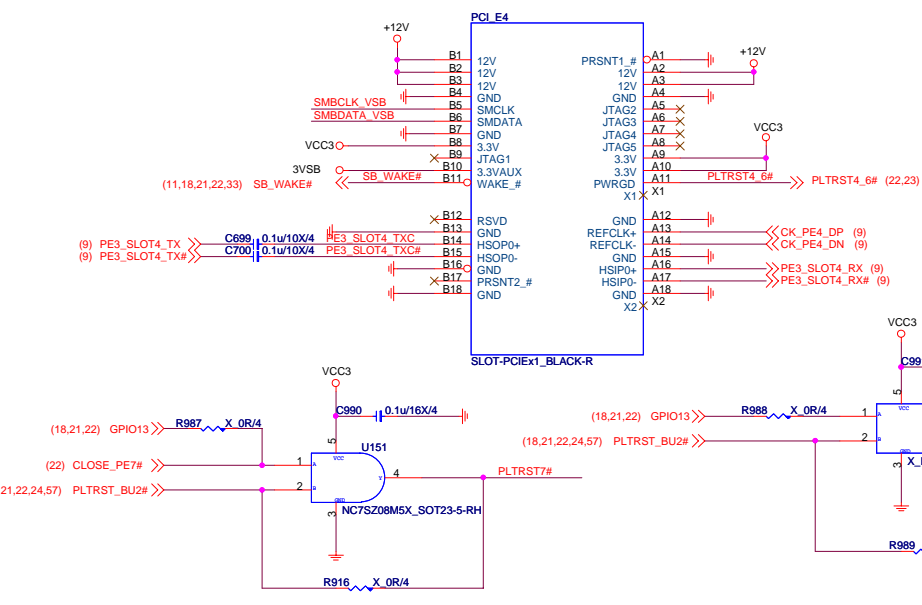
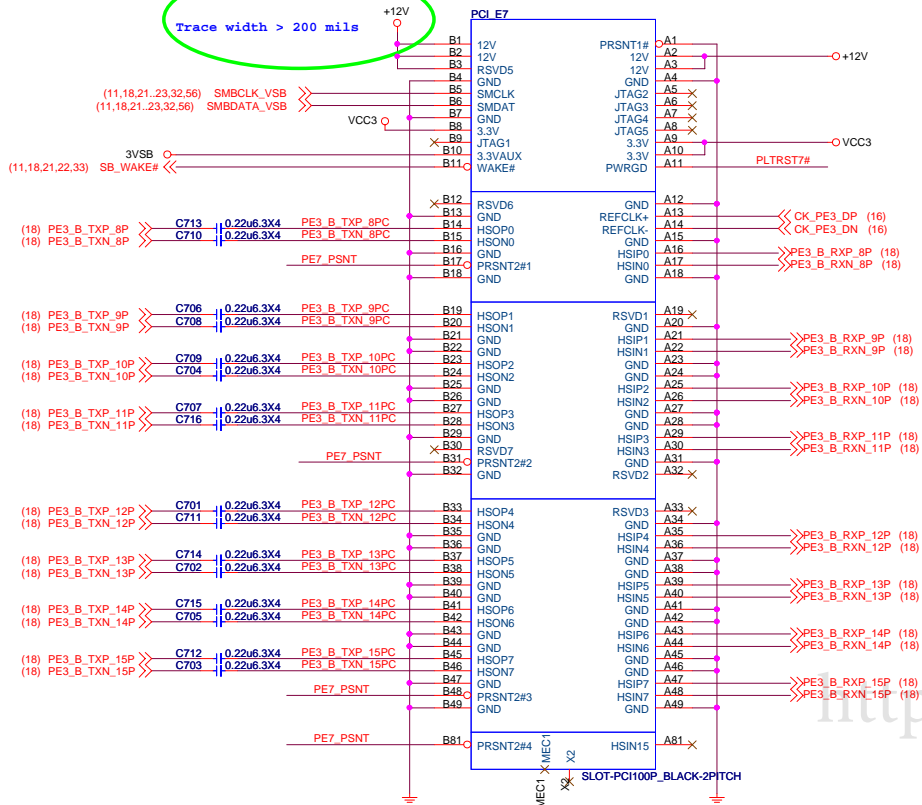


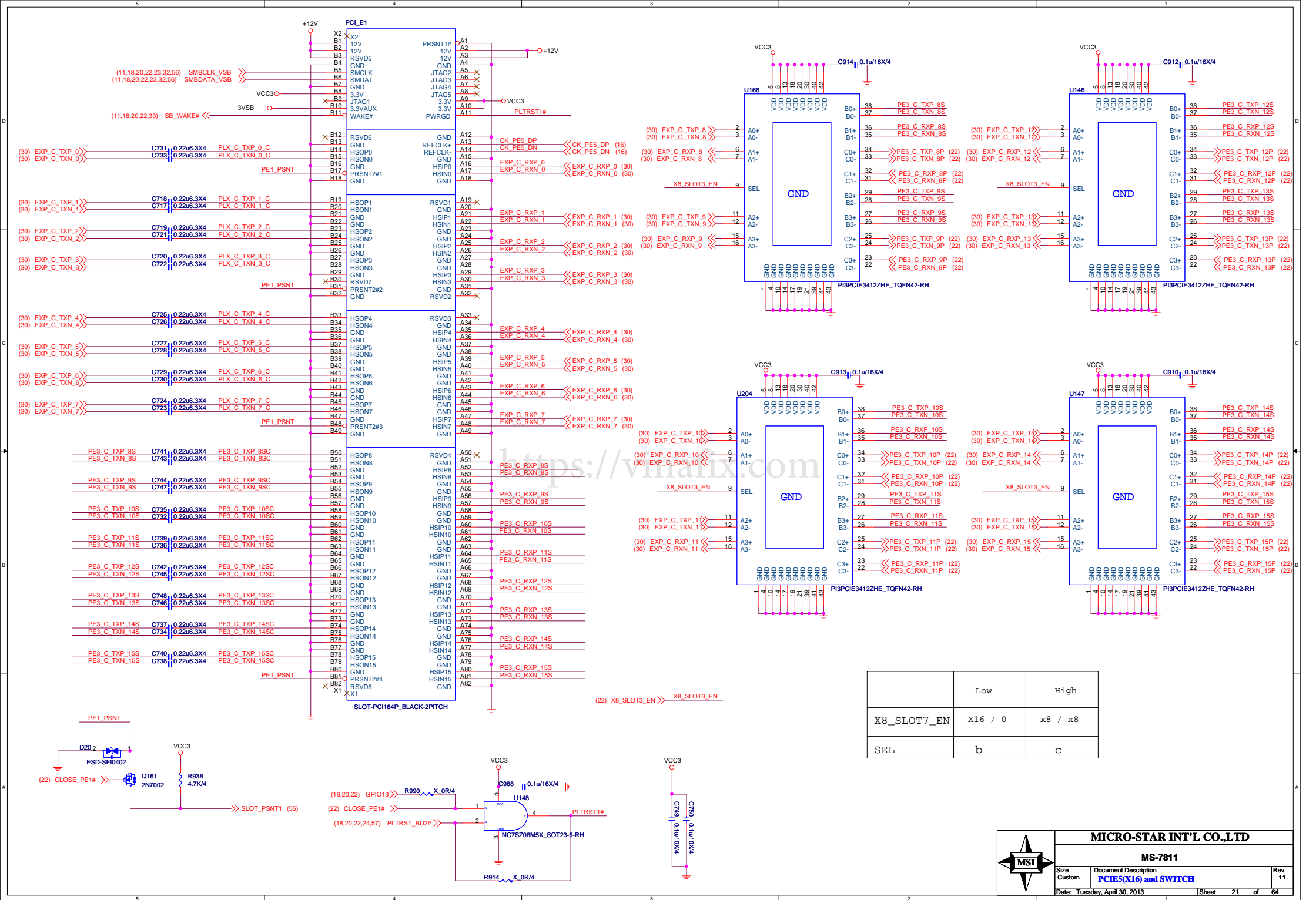
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Custom	CPU PCIE SWITCH	11
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PCI Express X8 slot

(Share with PCI_E x16 Slots)

Trace width > 200 mils



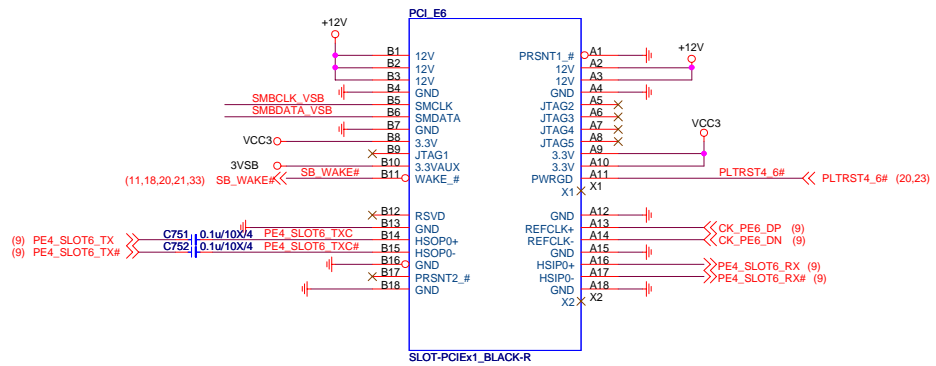
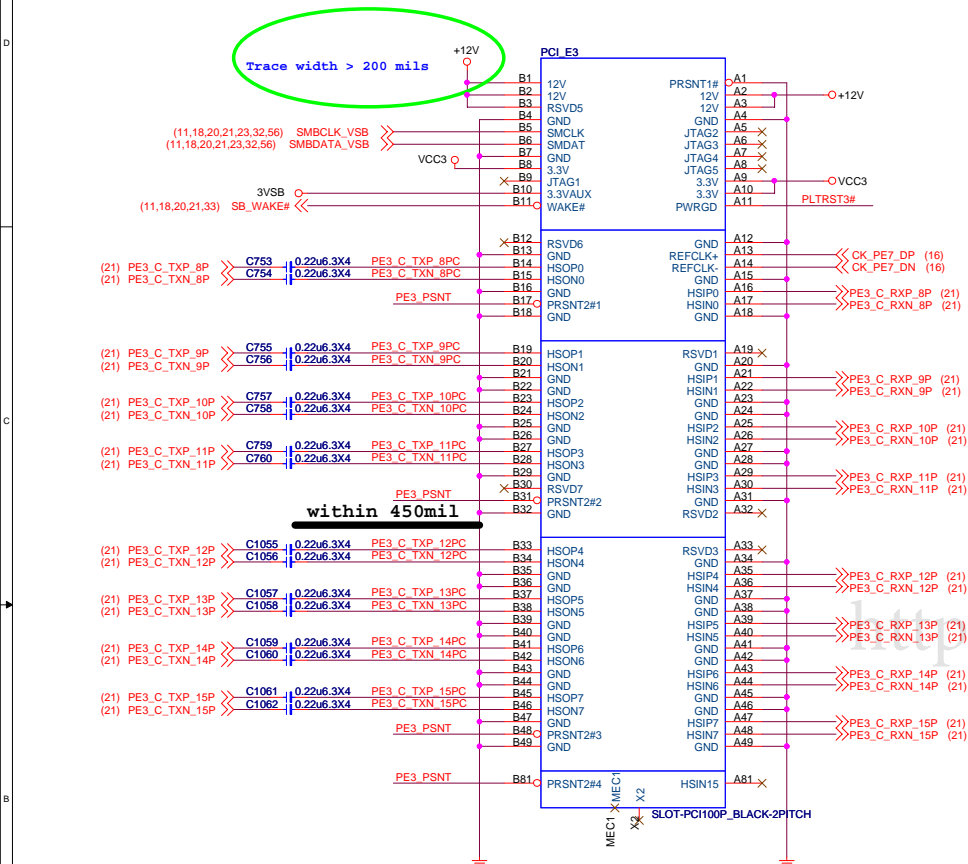


	Low	High
X8_SLOT7_EN	X16 / 0	x8 / x8
SEL	b	c

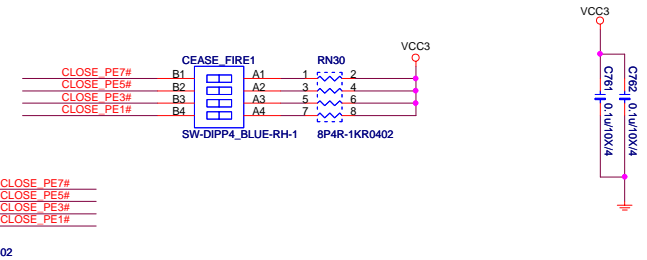


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MS-7811		
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Custom	PCIE5(X16) and SWITCH	11
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PCI_Express X8 Slot(Shaed by X16)

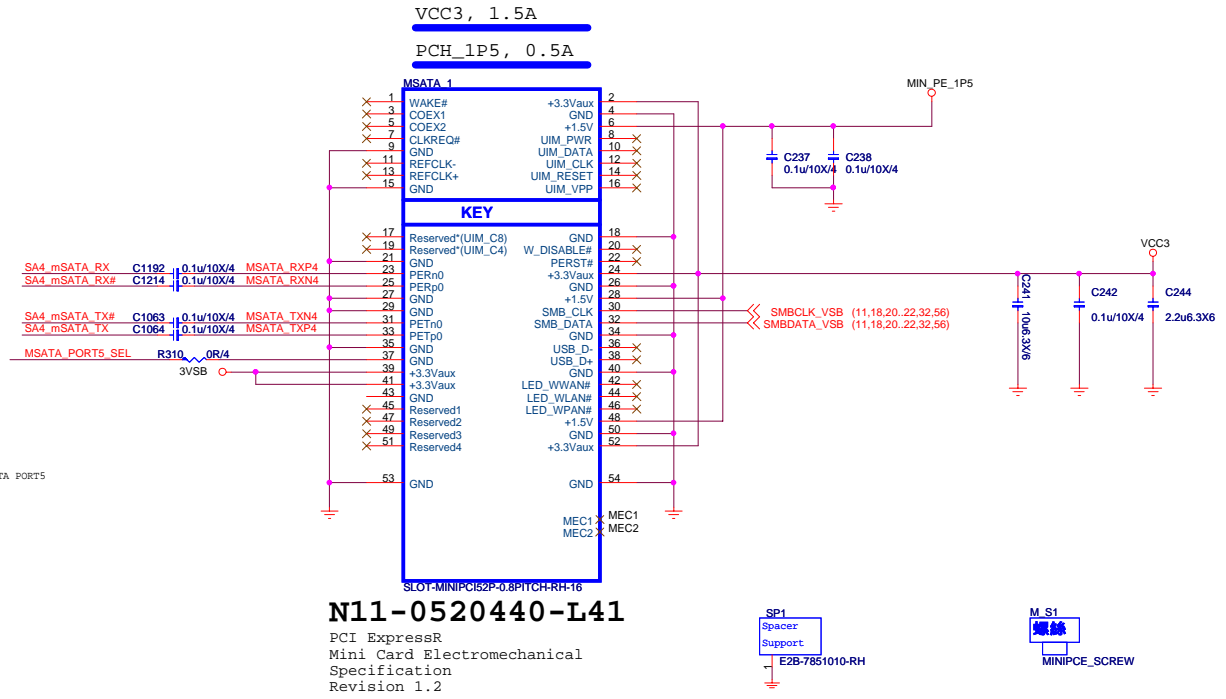
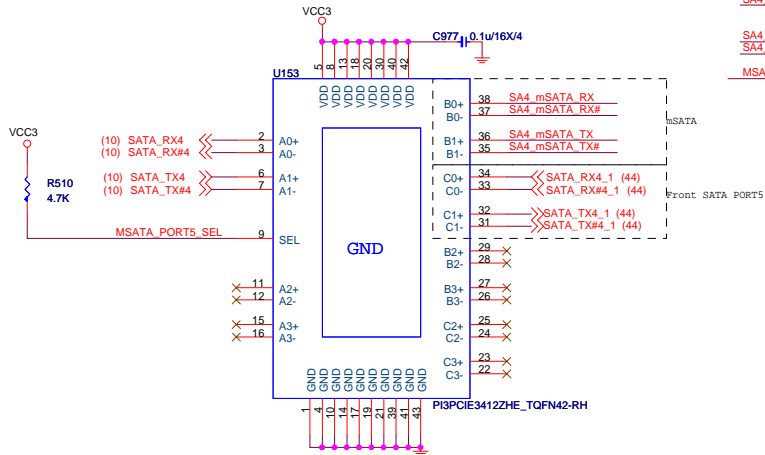


(18) CLOSE_PE5# << CLOSE_PE5#
 (21) CLOSE_PE1# << CLOSE_PE1#
 (20) CLOSE_PE7# << CLOSE_PE7#



mSATA Only/(Long Card)

Low: mSATA
High: Front SATA PORT5

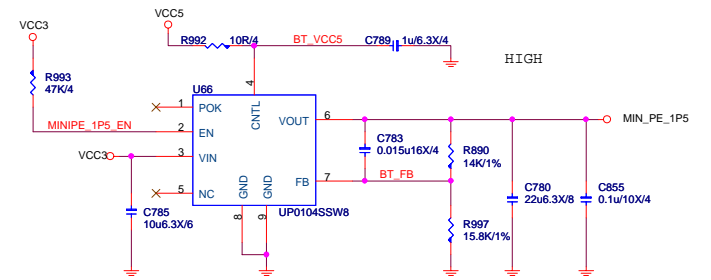
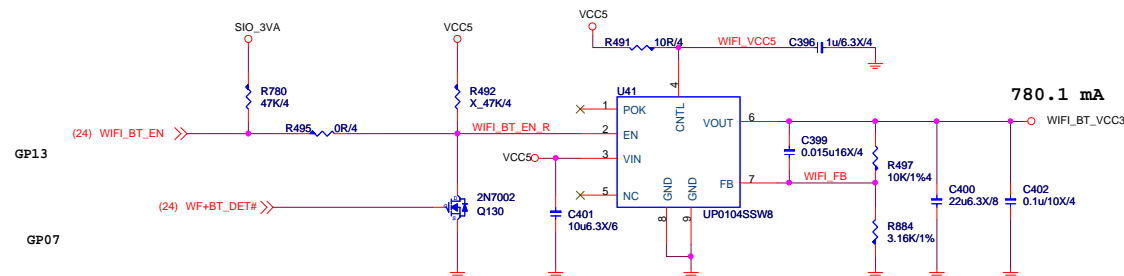
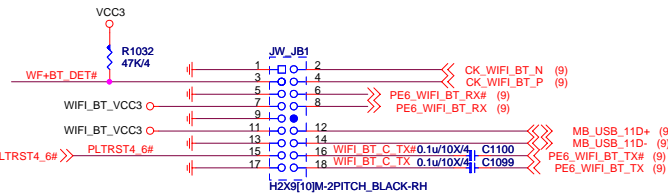


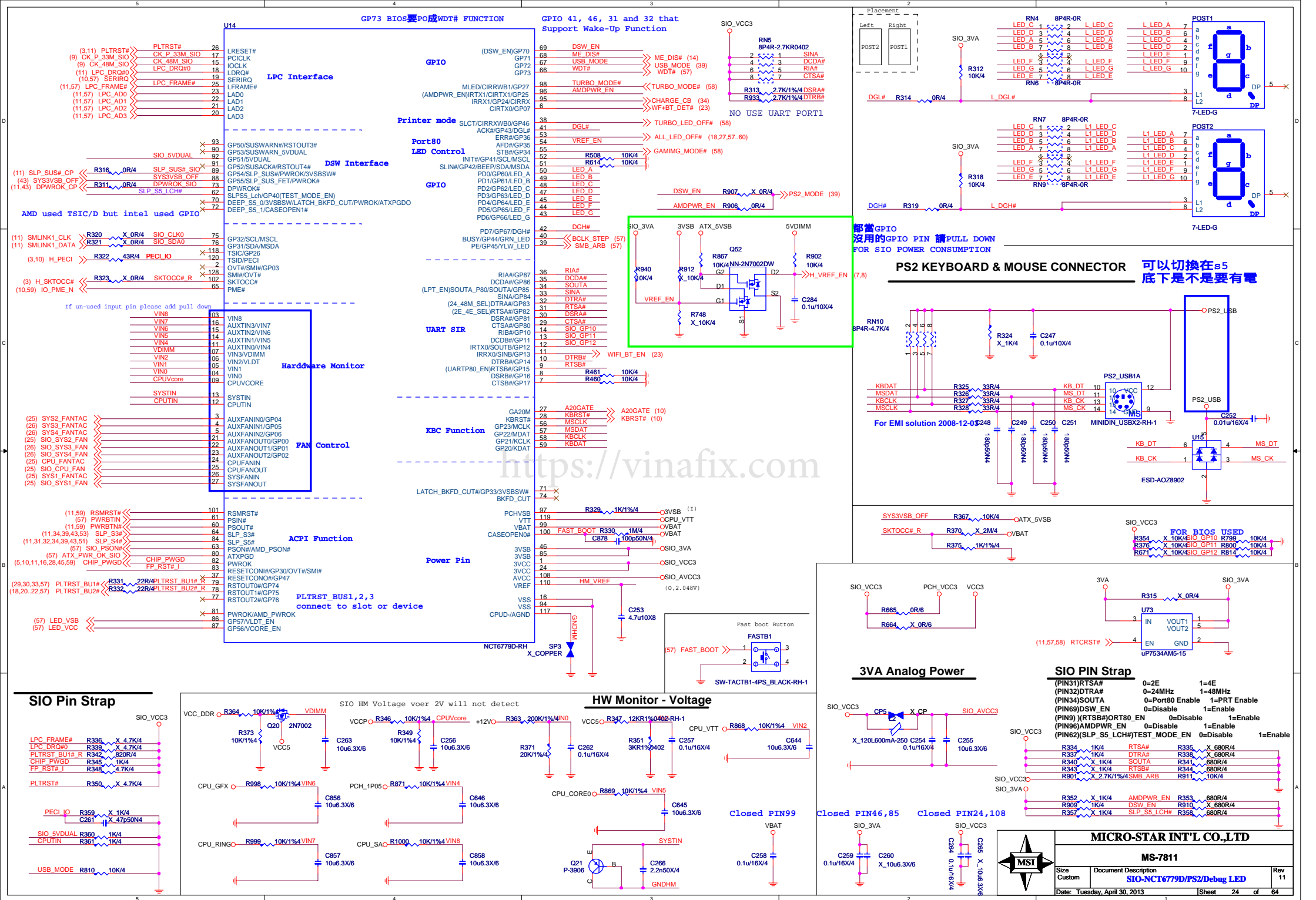
N11-0520440-L41
PCI Express®
Mini Card Electromechanical
Specification
Revision 1.2

<https://vinafix.com>

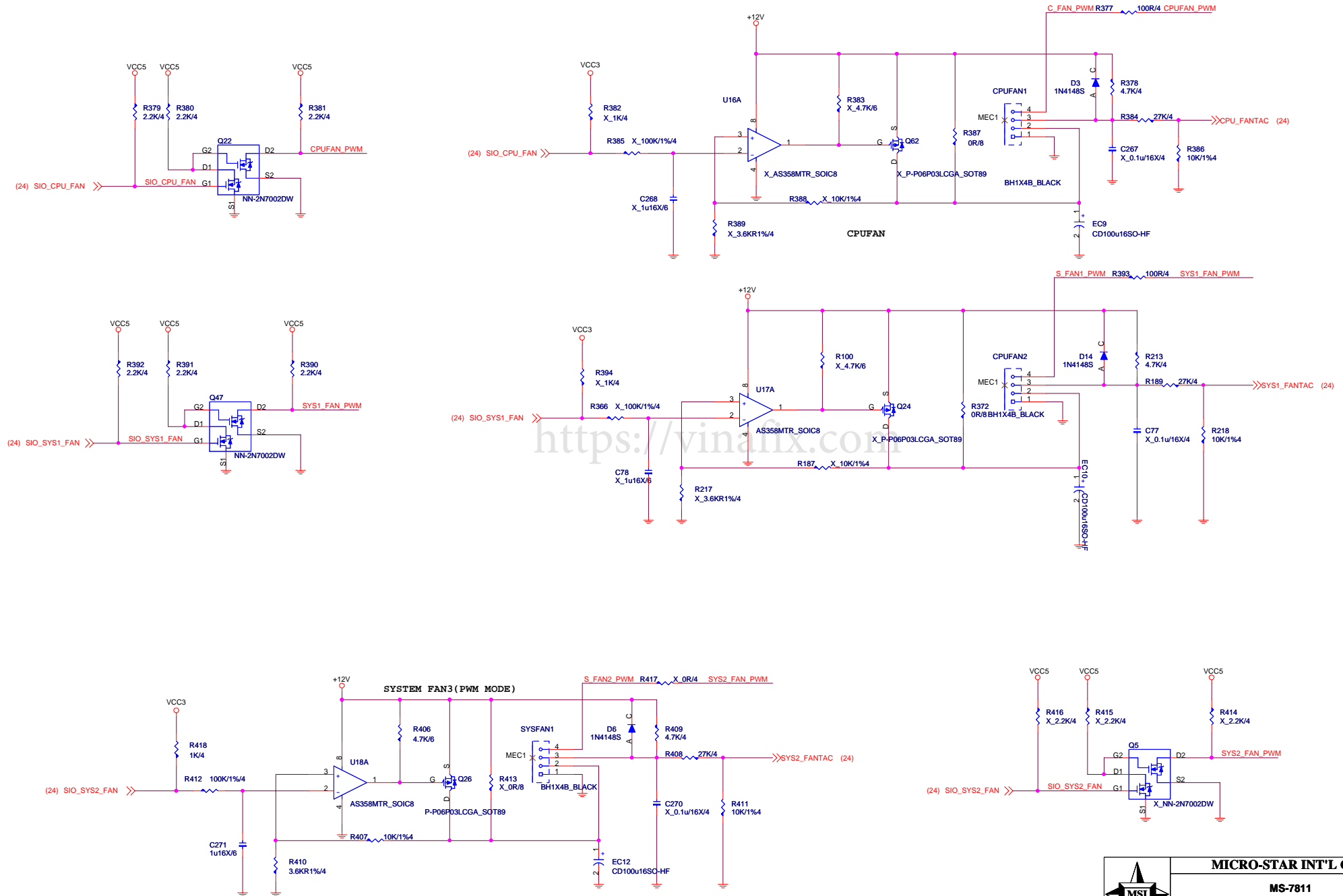
Auto Mode: Hardware Default
Manual Mode: GPIO Table Setting

Mode	Manual	Auto
GPIO	mSATA	mini-PCIE
MINI_AUTO SIO_GPIO41	LOW	LOW
MINI_MANU SIO_GPIO42	LOW	HIGH





Type E : 4 PIN CPU FAN FROM SIO (Smart Fan/PWM MODE) (FOR NCT6776/5533)

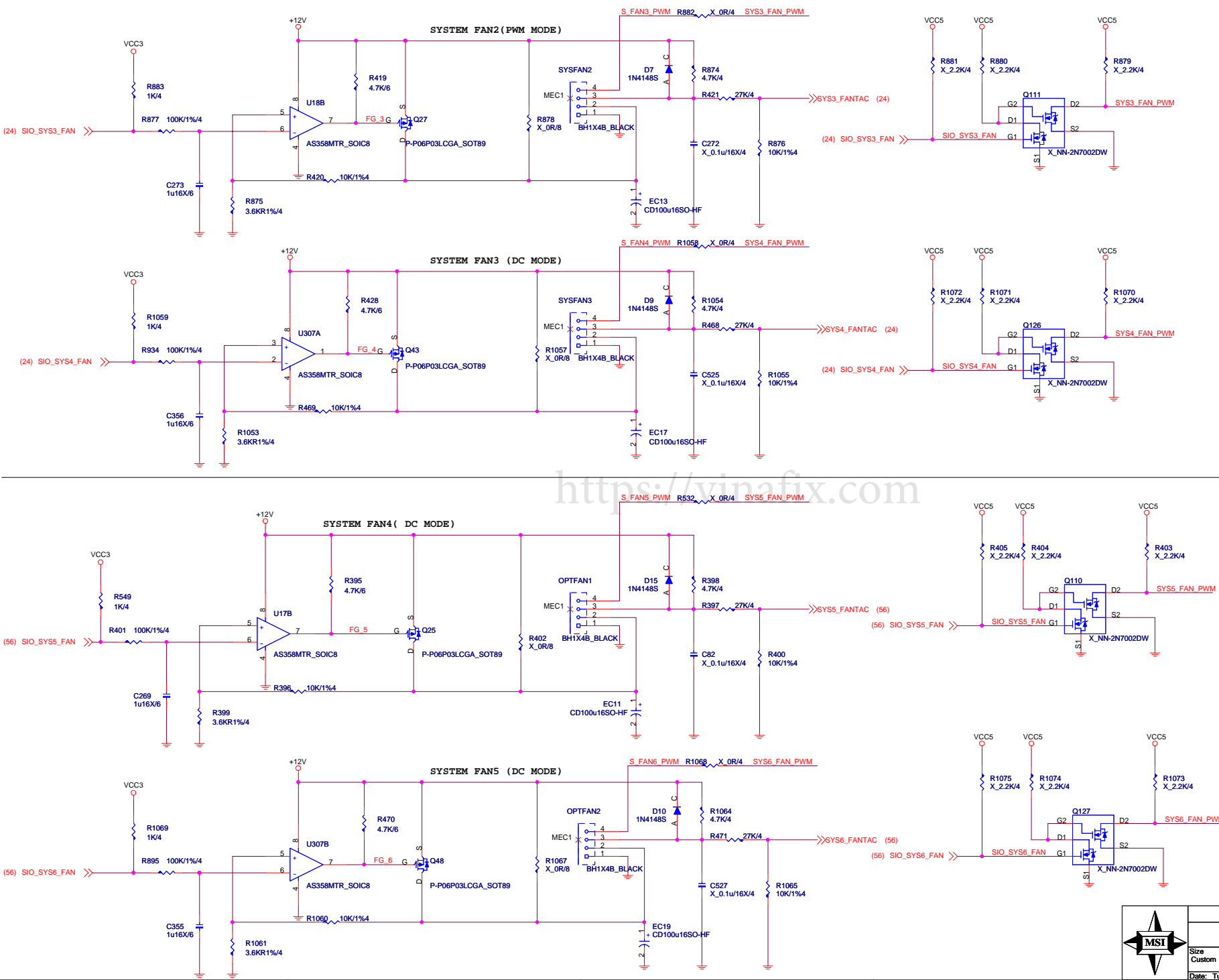


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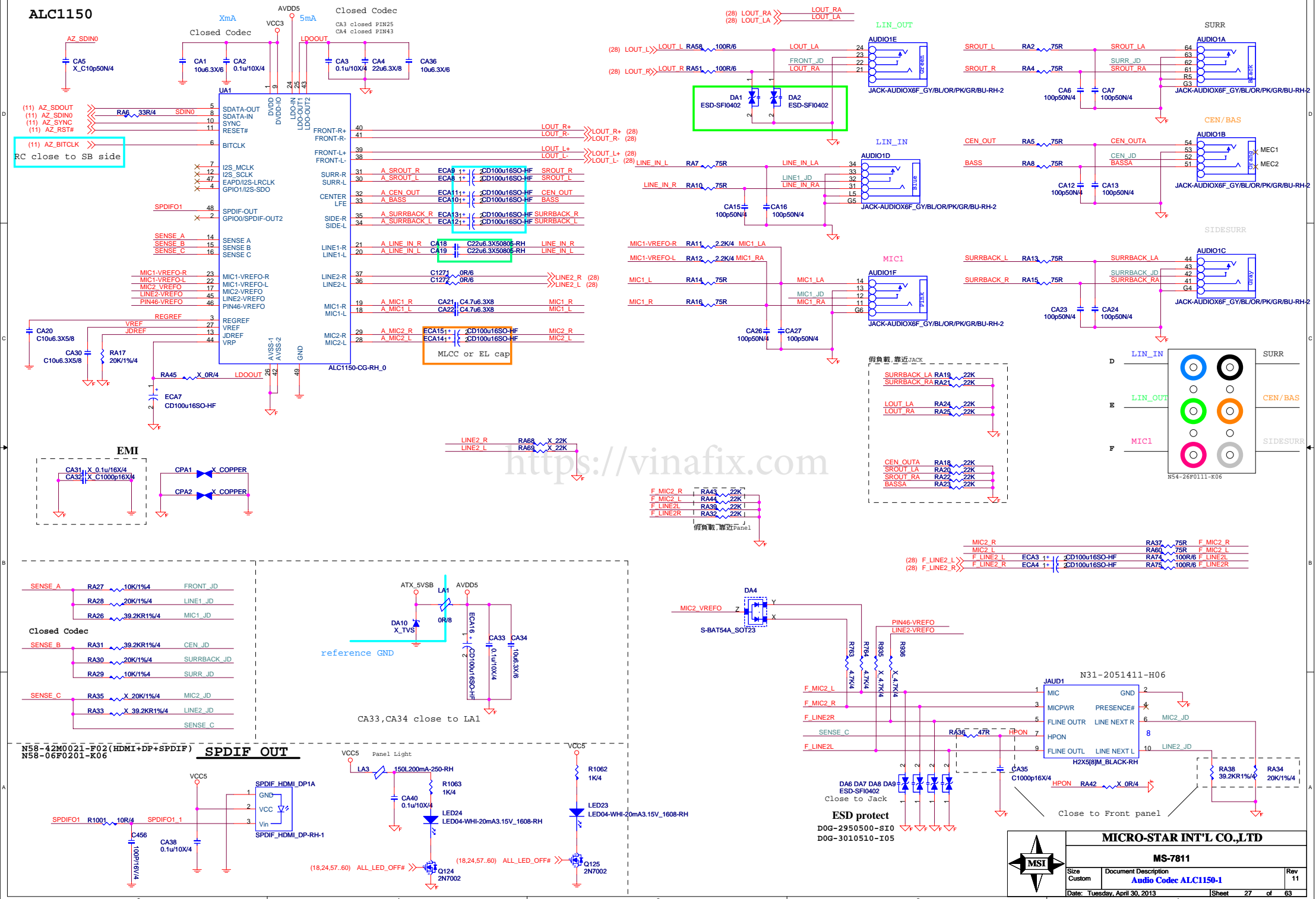
MS-7811

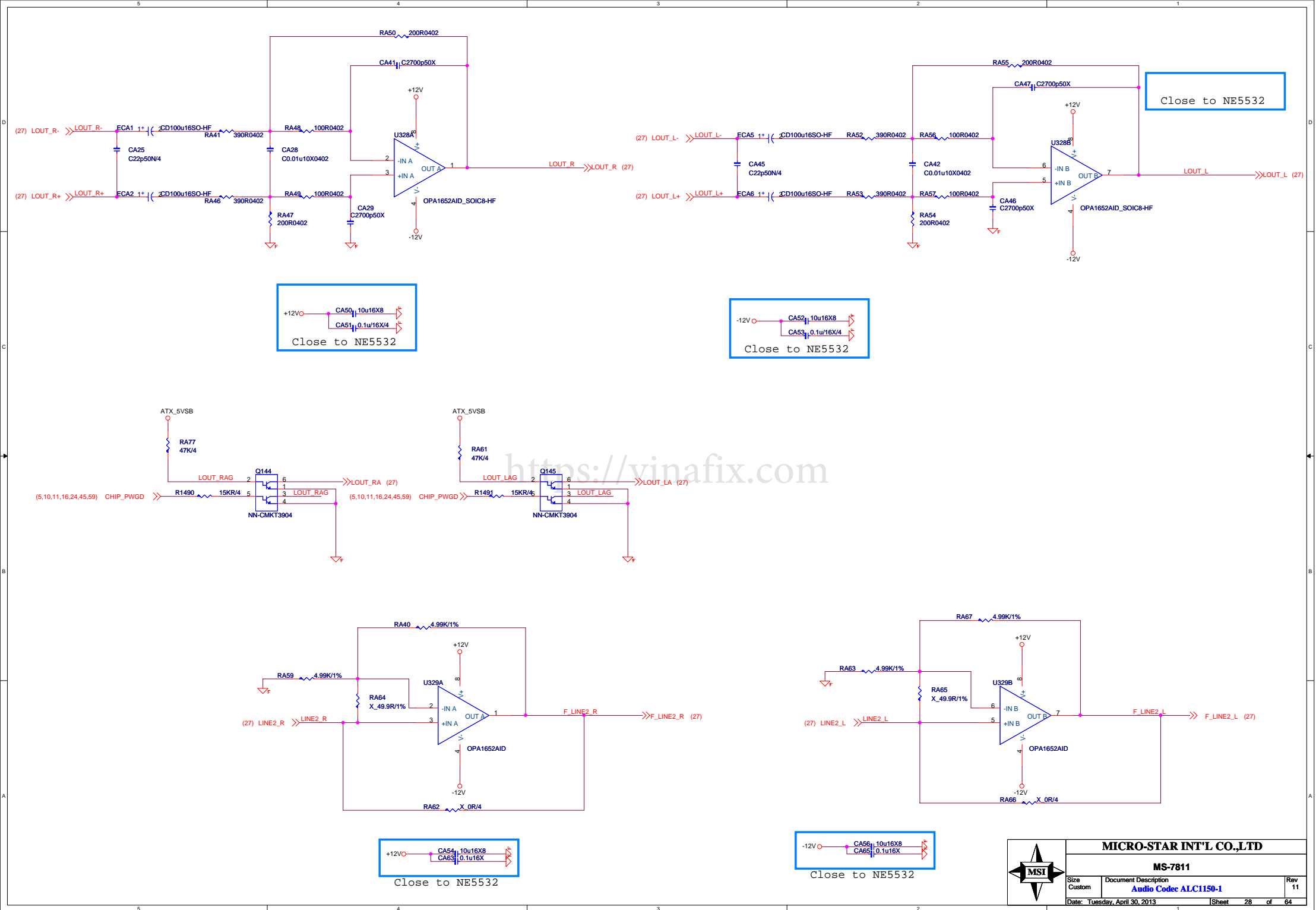
Size Custom	Document Description CPU FAN & SYSFAN1-2	Rev 11
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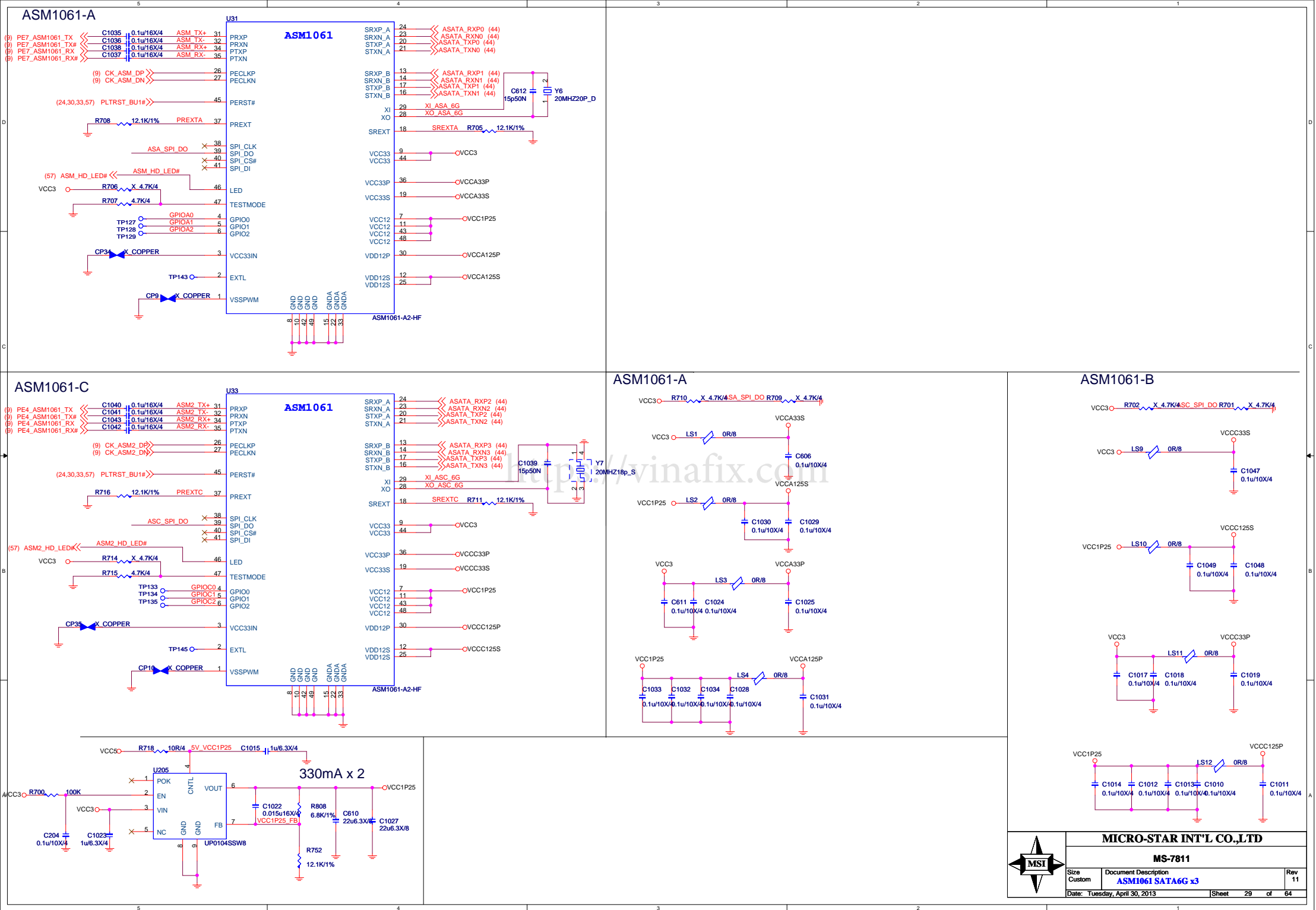
Type F : 4 PIN SYSTEM FAN FROM SIO (Smart Fan/PWM MODE) (FOR NCT6776/5533)



ALC1150







2012.10.16
From Switch and Non-Reversal

U208A

PEX_8747

(19) EXP_A_TXP_0	C936	0.22u/6.3X4	EXP_A_TXP_C_0	A01	PEX_PERP0	PEX_PETN0	AA1	EXP_A_RXP_C_0	C905	0.22u/6.3X4	EXP_A_RXP_0	(19)
(19) EXP_A_TXN_0	C935	0.22u/6.3X4	EXP_A_TXN_C_0	A01	PEX_PERN0	PEX_PETN0	AA1	EXP_A_RXN_C_0	C904	0.22u/6.3X4	EXP_A_RXN_0	(19)
(19) EXP_A_TXP_1	C934	0.22u/6.3X4	EXP_A_TXP_C_1	A02	PEX_PERP1	PEX_PETN1	AA2	EXP_A_RXP_C_1	C903	0.22u/6.3X4	EXP_A_RXP_1	(19)
(19) EXP_A_TXN_1	C933	0.22u/6.3X4	EXP_A_TXN_C_1	A02	PEX_PERN1	PEX_PETN1	AA2	EXP_A_RXN_C_1	C902	0.22u/6.3X4	EXP_A_RXN_1	(19)
(19) EXP_A_TXP_2	C932	0.22u/6.3X4	EXP_A_TXP_C_2	A03	PEX_PERP2	PEX_PETN2	AA3	EXP_A_RXP_C_2	C901	0.22u/6.3X4	EXP_A_RXP_2	(19)
(19) EXP_A_TXN_2	C931	0.22u/6.3X4	EXP_A_TXN_C_2	A03	PEX_PERN2	PEX_PETN2	AA3	EXP_A_RXN_C_2	C900	0.22u/6.3X4	EXP_A_RXN_2	(19)
(19) EXP_A_TXP_3	C930	0.22u/6.3X4	EXP_A_TXP_C_3	A04	PEX_PERP3	PEX_PETN3	AA4	EXP_A_RXP_C_3	C899	0.22u/6.3X4	EXP_A_RXP_3	(19)
(19) EXP_A_TXN_3	C929	0.22u/6.3X4	EXP_A_TXN_C_3	A04	PEX_PERN3	PEX_PETN3	AA4	EXP_A_RXN_C_3	C898	0.22u/6.3X4	EXP_A_RXN_3	(19)
(19) EXP_A_TXP_4	C928	0.22u/6.3X4	EXP_A_TXP_C_4	A05	PEX_PERP4	PEX_PETN4	AA5	EXP_A_RXP_C_4	C897	0.22u/6.3X4	EXP_A_RXP_4	(19)
(19) EXP_A_TXN_4	C927	0.22u/6.3X4	EXP_A_TXN_C_4	A05	PEX_PERN4	PEX_PETN4	AA5	EXP_A_RXN_C_4	C896	0.22u/6.3X4	EXP_A_RXN_4	(19)
(19) EXP_A_TXP_5	C926	0.22u/6.3X4	EXP_A_TXP_C_5	A06	PEX_PERP5	PEX_PETN5	AA6	EXP_A_RXP_C_5	C895	0.22u/6.3X4	EXP_A_RXP_5	(19)
(19) EXP_A_TXN_5	C925	0.22u/6.3X4	EXP_A_TXN_C_5	A06	PEX_PERN5	PEX_PETN5	AA6	EXP_A_RXN_C_5	C894	0.22u/6.3X4	EXP_A_RXN_5	(19)
(19) EXP_A_TXP_6	C924	0.22u/6.3X4	EXP_A_TXP_C_6	A07	PEX_PERP6	PEX_PETN6	AA7	EXP_A_RXP_C_6	C893	0.22u/6.3X4	EXP_A_RXP_6	(19)
(19) EXP_A_TXN_6	C923	0.22u/6.3X4	EXP_A_TXN_C_6	A07	PEX_PERN6	PEX_PETN6	AA7	EXP_A_RXN_C_6	C892	0.22u/6.3X4	EXP_A_RXN_6	(19)
(19) EXP_A_TXP_7	C922	0.22u/6.3X4	EXP_A_TXP_C_7	A08	PEX_PERP7	PEX_PETN7	AA8	EXP_A_RXP_C_7	C891	0.22u/6.3X4	EXP_A_RXP_7	(19)
(19) EXP_A_TXN_7	C921	0.22u/6.3X4	EXP_A_TXN_C_7	A08	PEX_PERN7	PEX_PETN7	AA8	EXP_A_RXN_C_7	C890	0.22u/6.3X4	EXP_A_RXN_7	(19)
(19) EXP_A_TXP_8	C920	0.22u/6.3X4	EXP_A_TXP_C_8	A09	PEX_PERP8	PEX_PETN8	AA9	EXP_A_RXP_C_8	C889	0.22u/6.3X4	EXP_A_RXP_8	(19)
(19) EXP_A_TXN_8	C919	0.22u/6.3X4	EXP_A_TXN_C_8	A09	PEX_PERN8	PEX_PETN8	AA9	EXP_A_RXN_C_8	C888	0.22u/6.3X4	EXP_A_RXN_8	(19)
(19) EXP_A_TXP_9	C918	0.22u/6.3X4	EXP_A_TXP_C_9	A10	PEX_PERP9	PEX_PETN9	AA10	EXP_A_RXP_C_9	C887	0.22u/6.3X4	EXP_A_RXP_9	(19)
(19) EXP_A_TXN_9	C917	0.22u/6.3X4	EXP_A_TXN_C_9	A10	PEX_PERN9	PEX_PETN9	AA10	EXP_A_RXN_C_9	C886	0.22u/6.3X4	EXP_A_RXN_9	(19)
(19) EXP_A_TXP_10	C916	0.22u/6.3X4	EXP_A_TXP_C_10	A11	PEX_PERP10	PEX_PETN10	AA11	EXP_A_RXP_C_10	C885	0.22u/6.3X4	EXP_A_RXP_10	(19)
(19) EXP_A_TXN_10	C915	0.22u/6.3X4	EXP_A_TXN_C_10	A11	PEX_PERN10	PEX_PETN10	AA11	EXP_A_RXN_C_10	C884	0.22u/6.3X4	EXP_A_RXN_10	(19)
(19) EXP_A_TXP_11	C914	0.22u/6.3X4	EXP_A_TXP_C_11	A12	PEX_PERP11	PEX_PETN11	AA12	EXP_A_RXP_C_11	C883	0.22u/6.3X4	EXP_A_RXP_11	(19)
(19) EXP_A_TXN_11	C913	0.22u/6.3X4	EXP_A_TXN_C_11	A12	PEX_PERN11	PEX_PETN11	AA12	EXP_A_RXN_C_11	C882	0.22u/6.3X4	EXP_A_RXN_11	(19)
(19) EXP_A_TXP_12	C912	0.22u/6.3X4	EXP_A_TXP_C_12	A13	PEX_PERP12	PEX_PETN12	AA13	EXP_A_RXP_C_12	C881	0.22u/6.3X4	EXP_A_RXP_12	(19)
(19) EXP_A_TXN_12	C911	0.22u/6.3X4	EXP_A_TXN_C_12	A13	PEX_PERN12	PEX_PETN12	AA13	EXP_A_RXN_C_12	C880	0.22u/6.3X4	EXP_A_RXN_12	(19)
(19) EXP_A_TXP_13	C910	0.22u/6.3X4	EXP_A_TXP_C_13	A14	PEX_PERP13	PEX_PETN13	AA14	EXP_A_RXP_C_13	C879	0.22u/6.3X4	EXP_A_RXP_13	(19)
(19) EXP_A_TXN_13	C909	0.22u/6.3X4	EXP_A_TXN_C_13	A14	PEX_PERN13	PEX_PETN13	AA14	EXP_A_RXN_C_13	C878	0.22u/6.3X4	EXP_A_RXN_13	(19)
(19) EXP_A_TXP_14	C908	0.22u/6.3X4	EXP_A_TXP_C_14	A15	PEX_PERP14	PEX_PETN14	AA15	EXP_A_RXP_C_14	C877	0.22u/6.3X4	EXP_A_RXP_14	(19)
(19) EXP_A_TXN_14	C907	0.22u/6.3X4	EXP_A_TXN_C_14	A15	PEX_PERN14	PEX_PETN14	AA15	EXP_A_RXN_C_14	C876	0.22u/6.3X4	EXP_A_RXN_14	(19)
(19) EXP_A_TXP_15	C906	0.22u/6.3X4	EXP_A_TXP_C_15	A16	PEX_PERP15	PEX_PETN15	AA16	EXP_A_RXP_C_15	C875	0.22u/6.3X4	EXP_A_RXP_15	(19)
(19) EXP_A_TXN_15	C905	0.22u/6.3X4	EXP_A_TXN_C_15	A16	PEX_PERN15	PEX_PETN15	AA16	EXP_A_RXN_C_15	C874	0.22u/6.3X4	EXP_A_RXN_15	(19)

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(18) EXP_B_RXP_0	V4	PEX_PERP16	PEX_PETN16	V2	EXP_B_TXP_0	(18)
(18) EXP_B_RXN_0	V5	PEX_PERN16	PEX_PETN16	U2	EXP_B_TXN_0	(18)
(18) EXP_B_RXP_1	U4	PEX_PERP17	PEX_PETN17	U1	EXP_B_TXP_1	(18)
(18) EXP_B_RXN_1	U5	PEX_PERN17	PEX_PETN17	B2	EXP_B_TXN_1	(18)
(18) EXP_B_RXP_2	R4	PEX_PERP18	PEX_PETN18	R1	EXP_B_TXP_2	(18)
(18) EXP_B_RXN_2	R5	PEX_PERN18	PEX_PETN18	R2	EXP_B_TXN_2	(18)
(18) EXP_B_RXP_3	P5	PEX_PERP19	PEX_PETN19	P1	EXP_B_TXP_3	(18)
(18) EXP_B_RXN_3	P4	PEX_PERN19	PEX_PETN19	M1	EXP_B_TXN_3	(18)
(18) EXP_B_RXP_4	M5	PEX_PERP20	PEX_PETN20	M2	EXP_B_TXP_4	(18)
(18) EXP_B_RXN_4	M6	PEX_PERN20	PEX_PETN20	L2	EXP_B_TXN_4	(18)
(18) EXP_B_RXP_5	L5	PEX_PERP21	PEX_PETN21	L1	EXP_B_TXP_5	(18)
(18) EXP_B_RXN_5	L4	PEX_PERN21	PEX_PETN21	H1	EXP_B_TXN_5	(18)
(18) EXP_B_RXP_6	H5	PEX_PERP22	PEX_PETN22	H2	EXP_B_TXP_6	(18)
(18) EXP_B_RXN_6	H4	PEX_PERN22	PEX_PETN22	H1	EXP_B_TXN_6	(18)
(18) EXP_B_RXP_7	D1	PEX_PERP23	PEX_PETN23	D2	EXP_B_TXP_7	(18)
(18) EXP_B_RXN_7	D2	PEX_PERN23	PEX_PETN23	A2	EXP_B_TXN_7	(18)
(18) EXP_B_RXP_8	E1	PEX_PERP24	PEX_PETN24	A1	EXP_B_TXP_8	(18)
(18) EXP_B_RXN_8	E2	PEX_PERN24	PEX_PETN24	B2	EXP_B_TXN_8	(18)
(18) EXP_B_RXP_9	D2	PEX_PERP25	PEX_PETN25	A2	EXP_B_TXP_9	(18)
(18) EXP_B_RXN_9	D1	PEX_PERN25	PEX_PETN25	B1	EXP_B_TXN_9	(18)
(18) EXP_B_RXP_10	E4	PEX_PERP26	PEX_PETN26	A4	EXP_B_TXP_10	(18)
(18) EXP_B_RXN_10	E5	PEX_PERN26	PEX_PETN26	B5	EXP_B_TXN_10	(18)
(18) EXP_B_RXP_11	D5	PEX_PERP27	PEX_PETN27	A5	EXP_B_TXP_11	(18)
(18) EXP_B_RXN_11	D7	PEX_PERN27	PEX_PETN27	A7	EXP_B_TXN_11	(18)
(18) EXP_B_RXP_12	E7	PEX_PERP28	PEX_PETN28	B7	EXP_B_TXP_12	(18)
(18) EXP_B_RXN_12	E8	PEX_PERN28	PEX_PETN28	A7	EXP_B_TXN_12	(18)
(18) EXP_B_RXP_13	D8	PEX_PERP29	PEX_PETN29	B8	EXP_B_TXP_13	(18)
(18) EXP_B_RXN_13	D9	PEX_PERN29	PEX_PETN29	A8	EXP_B_TXN_13	(18)
(18) EXP_B_RXP_14	E10	PEX_PERP30	PEX_PETN30	B10	EXP_B_TXP_14	(18)
(18) EXP_B_RXN_14	E11	PEX_PERN30	PEX_PETN30	B11	EXP_B_TXN_14	(18)
(18) EXP_B_RXP_15	D11	PEX_PERP31	PEX_PETN31	A11	EXP_B_TXP_15	(18)
(18) EXP_B_RXN_15	D11	PEX_PERN31	PEX_PETN31	A11	EXP_B_TXN_15	(18)

(21) EXP_C_RXP_0	V19	PEX_PERP32	PEX_PETP32	V22	EXP_C_TXP_0	(21)
(21) EXP_C_RXN_0	V20	PEX_PERN32	PEX_PETN32	U22	EXP_C_TXN_0	(21)
(21) EXP_C_RXP_1	U20	PEX_PERP33	PEX_PETN33	U23	EXP_C_TXP_1	(21)
(21) EXP_C_RXN_1	U19	PEX_PERN33	PEX_PETN33	R22	EXP_C_TXN_1	(21)
(21) EXP_C_RXP_2	R19	PEX_PERP34	PEX_PETN34	R22	EXP_C_TXP_2	(21)
(21) EXP_C_RXN_2	R20	PEX_PERN34	PEX_PETN34	P22	EXP_C_TXN_2	(21)
(21) EXP_C_RXP_3	P19	PEX_PERP35	PEX_PETN35	P22	EXP_C_TXP_3	(21)
(21) EXP_C_RXN_3	P20	PEX_PERN35	PEX_PETN35	M22	EXP_C_TXN_3	(21)
(21) EXP_C_RXP_4	M19	PEX_PERP36	PEX_PETN36	M22	EXP_C_TXP_4	(21)
(21) EXP_C_RXN_4	M20	PEX_PERN36	PEX_PETN36	M22	EXP_C_TXN_4	(21)
(21) EXP_C_RXP_5	L19	PEX_PERP37	PEX_PETN37	L22	EXP_C_TXP_5	(21)
(21) EXP_C_RXN_5	L20	PEX_PERN37	PEX_PETN37	L22	EXP_C_TXN_5	(21)
(21) EXP_C_RXP_6	J19	PEX_PERP38	PEX_PETN38	J22	EXP_C_TXP_6	(21)
(21) EXP_C_RXN_6	J20	PEX_PERN38	PEX_PETN38	H22	EXP_C_TXN_6	(21)
(21) EXP_C_RXP_7	H19	PEX_PERP39	PEX_PETN39	H22	EXP_C_TXP_7	(21)
(21) EXP_C_RXN_7	H20	PEX_PERN39	PEX_PETN39	H23	EXP_C_TXN_7	(21)
(21) EXP_C_RXP_8	E23	PEX_PERP40	PEX_PETN40	A23	EXP_C_TXP_8	(21)
(21) EXP_C_RXN_8	E22	PEX_PERN40	PEX_PETN40	A23	EXP_C_TXN_8	(21)
(21) EXP_C_RXP_9	E22	PEX_PERP41	PEX_PETN41	B20	EXP_C_TXP_9	(21)
(21) EXP_C_RXN_9	E20	PEX_PERN41	PEX_PETN41	B20	EXP_C_TXN_9	(21)
(21) EXP_C_RXP_10	D20	PEX_PERP42	PEX_PETN42	A20	EXP_C_TXP_10	(21)
(21) EXP_C_RXN_10	D19	PEX_PERN42	PEX_PETN42	A19	EXP_C_TXN_10	(21)
(21) EXP_C_RXP_11	E19	PEX_PERP43	PEX_PETN43	B19	EXP_C_TXP_11	(21)
(21) EXP_C_RXN_11	D19	PEX_PERN43	PEX_PETN43	A19	EXP_C_TXN_11	(21)
(21) EXP_C_RXP_12	E17	PEX_PERP44	PEX_PETN44	B17	EXP_C_TXP_12	(21)
(21) EXP_C_RXN_12	E17	PEX_PERN44	PEX_PETN44	A17	EXP_C_TXN_12	(21)
(21) EXP_C_RXP_13	E16	PEX_PERP45	PEX_PETN45	B16	EXP_C_TXP_13	(21)
(21) EXP_C_RXN_13	E14	PEX_PERN45	PEX_PETN45	A16	EXP_C_TXN_13	(21)
(21) EXP_C_RXP_14	D14	PEX_PERP46	PEX_PETN46	B14	EXP_C_TXP_14	(21)
(21) EXP_C_RXN_14	E13	PEX_PERN46	PEX_PETN46	A14	EXP_C_TXN_14	(21)
(21) EXP_C_RXP_15	D13	PEX_PERP47	PEX_PETN47	B13	EXP_C_TXP_15	(21)
(21) EXP_C_RXN_15	D13	PEX_PERN47	PEX_PETN47	A13	EXP_C_TXN_15	(21)

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2012.10.03
Port C Reversal

2012.10.05
Port C Non-Reversal

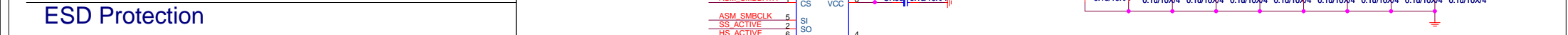
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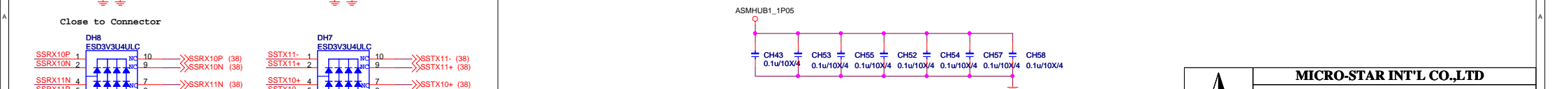
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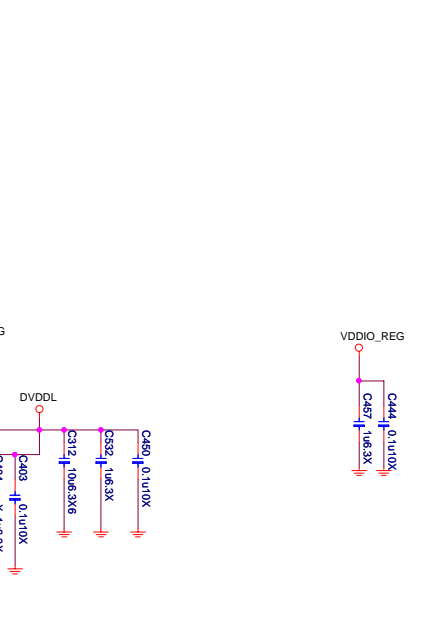
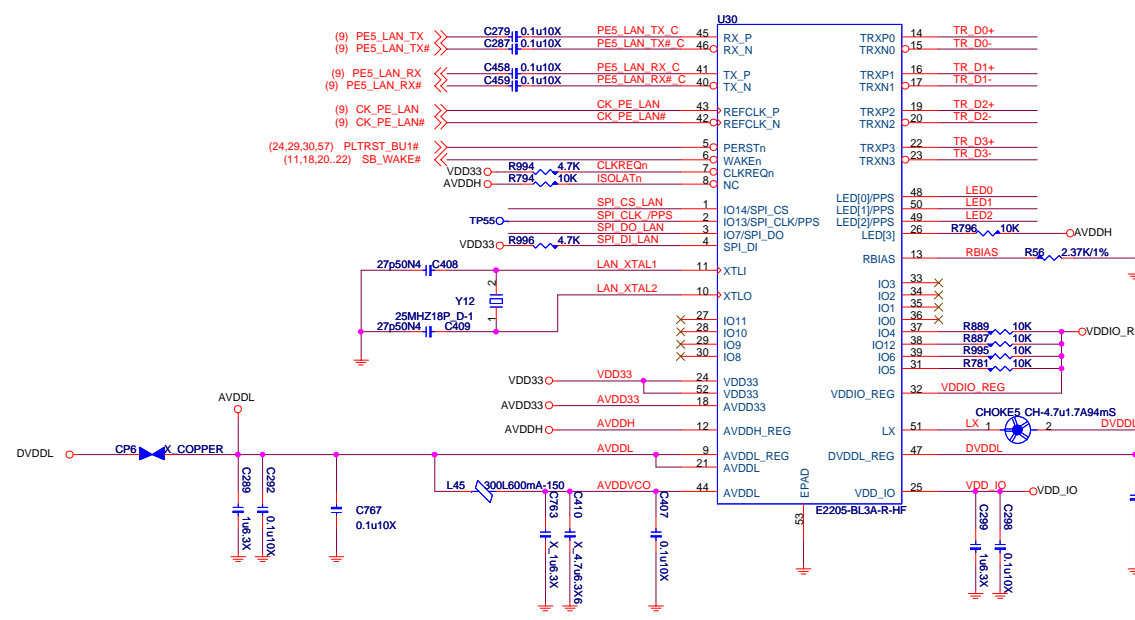
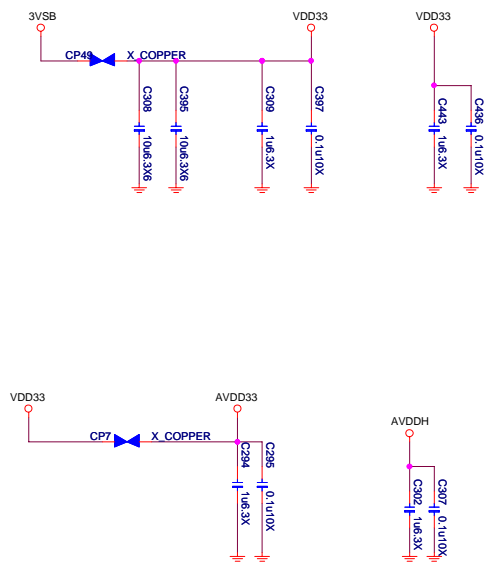
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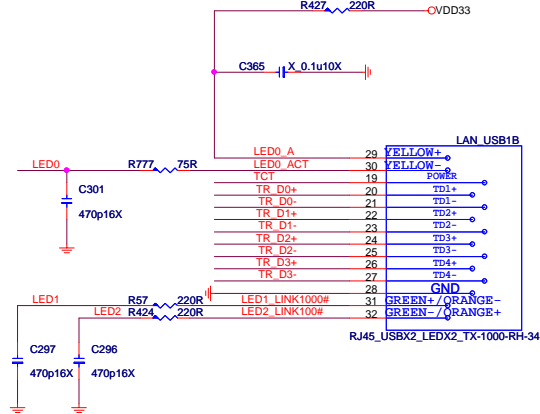
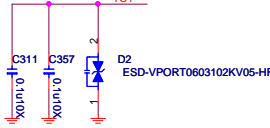
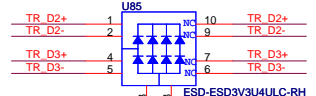
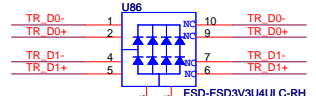
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R747	4.7K/4	F5	I2C_ADDR0	PEX_IN
R694	4.7K/4	F7	I2C_SCL0	
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REXT_A1	Y11	REXT_A1	G	
REXT_A2	Y14	REXT_A2	G	
REXT_A3	W16	REXT_A3	G	
REXT_A5	N2	REXT_A5	GP	
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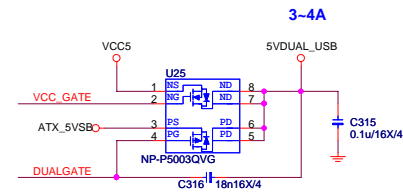
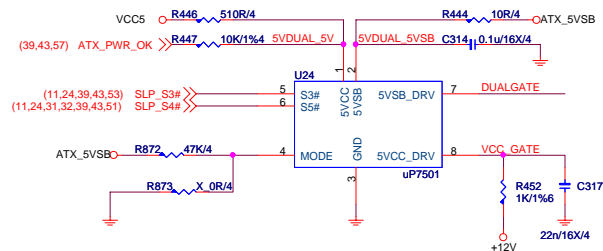
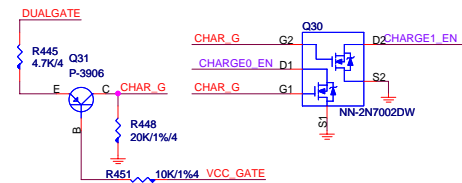


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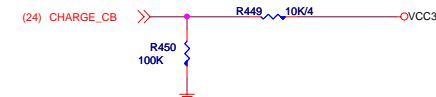


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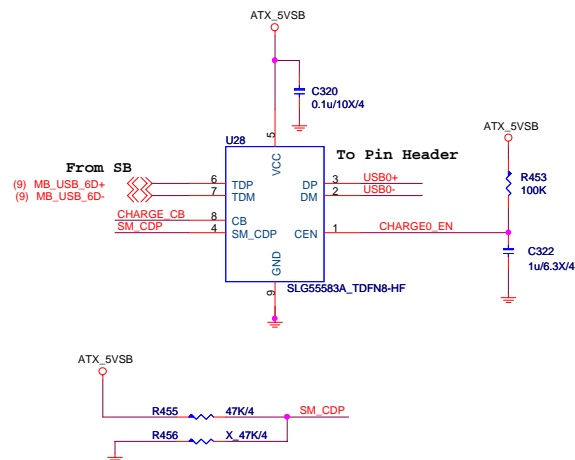
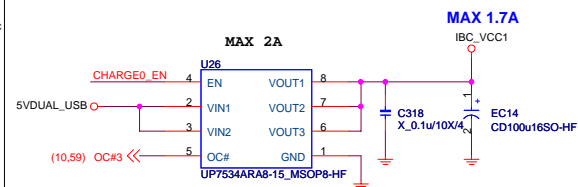
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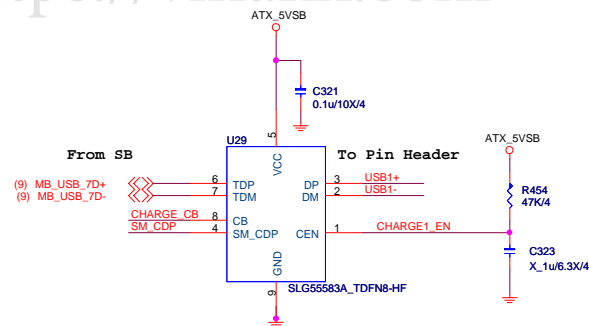
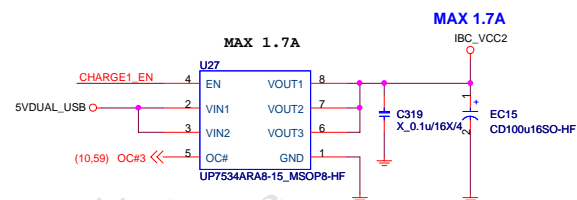
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Pin power : I_3VSB
Register power : I_3VSB
Register reset : I_3VSB
```



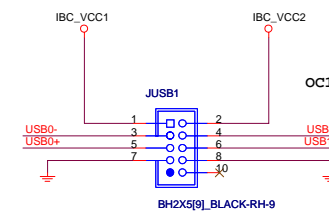
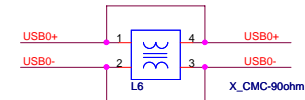
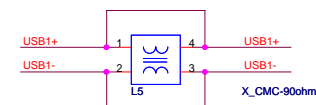
USB POWER PORT 0 For USB Charging



USB POWER PORT 1 For USB Charging



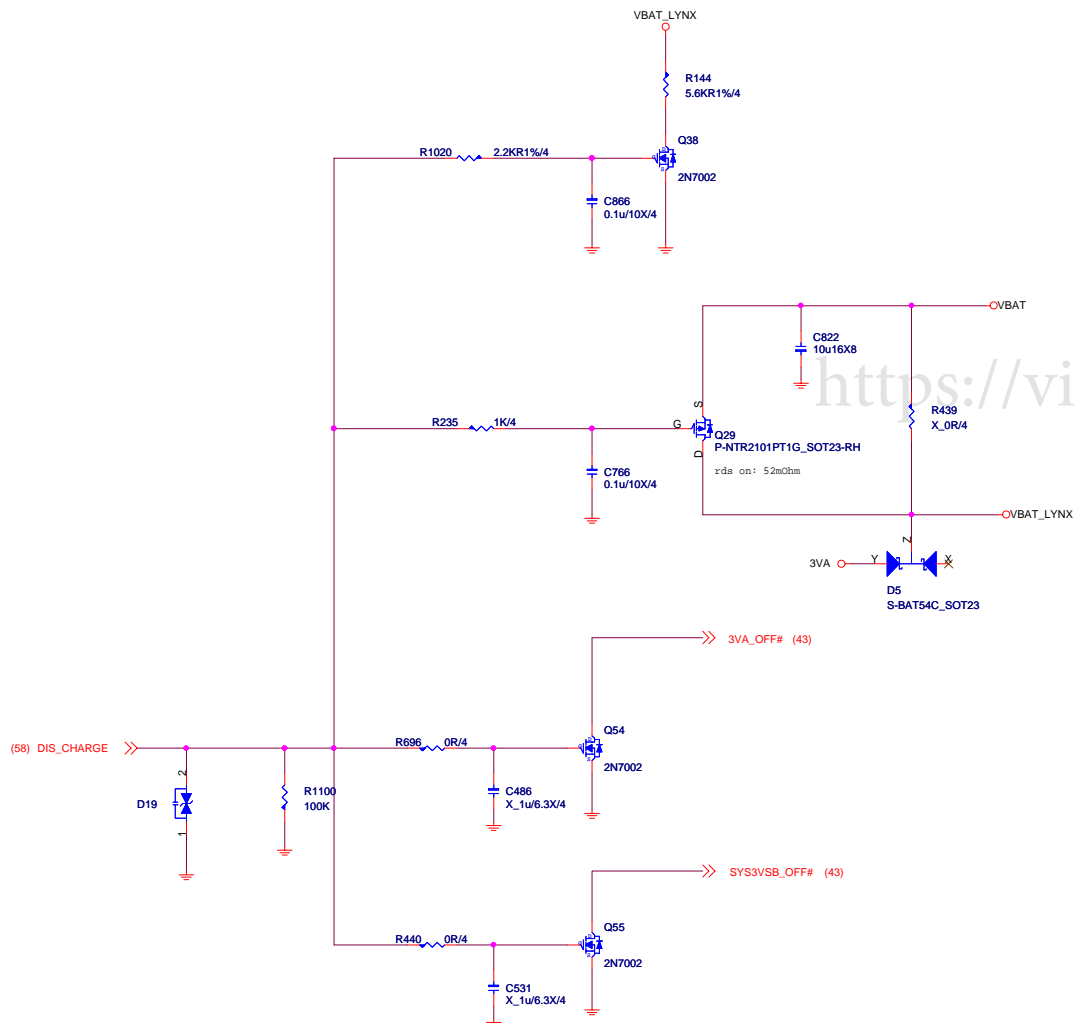
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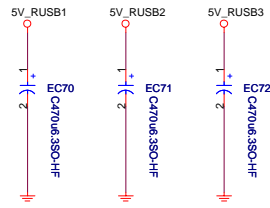
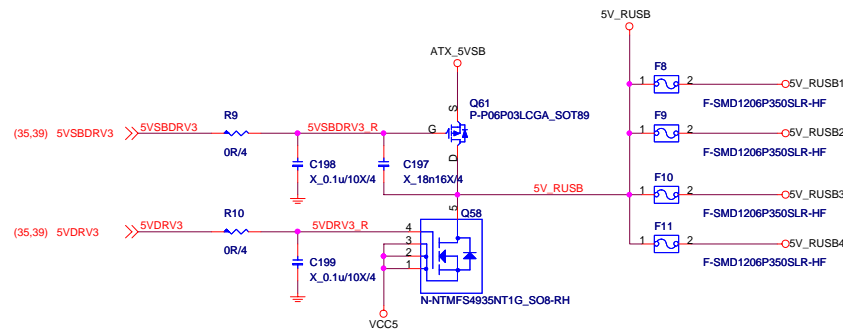


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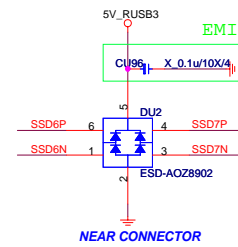
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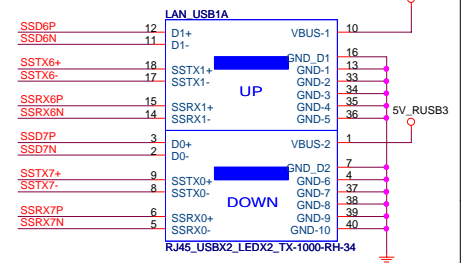




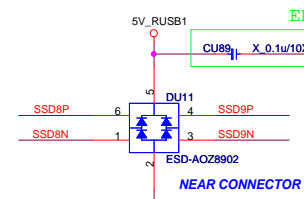
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- SSTX6- >> SSTX6- (31)
- SSTX7+ >> SSTX7+ (31)
- SSTX7- >> SSTX7- (31)
- SSTX8+ >> SSTX8+ (31)
- SSTX8- >> SSTX8- (31)
- SSTX9+ >> SSTX9+ (31)
- SSTX9- >> SSTX9- (31)
- SSRX6P >> SSRX6P (31)
- SSRX6N >> SSRX6N (31)
- SSRX7P >> SSRX7P (31)
- SSRX7N >> SSRX7N (31)
- SSRX8P >> SSRX8P (31)
- SSRX8N >> SSRX8N (31)
- SSRX9P >> SSRX9P (31)
- SSRX9N >> SSRX9N (31)
- SSD6P >> SSD6P (31)
- SSD6N >> SSD6N (31)
- SSD7P >> SSD7P (31)
- SSD7N >> SSD7N (31)
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- SSD8N >> SSD8N (31)
- SSD9P >> SSD9P (31)
- SSD9N >> SSD9N (31)



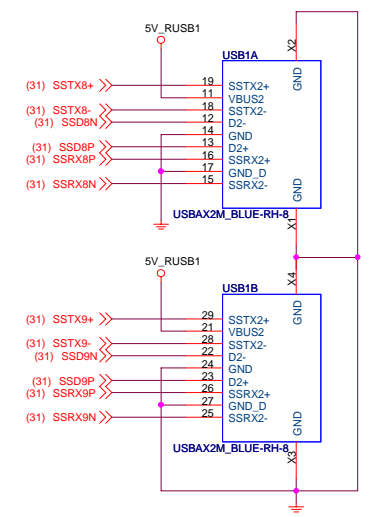
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- D0G-0200529-A68 (M)
- D0G-0422013-N47
- D0G-0303309-C12
- D0G-0422003-P03
- D0G-0422003-N47
- USB3.0 (ESD)
- D0G-05A0300-I14 (M)
- D0G-05A050C-Q05
- D0G-03A0500-N52
- D0G-25B050C-A68
- D0G-05A0500-N47



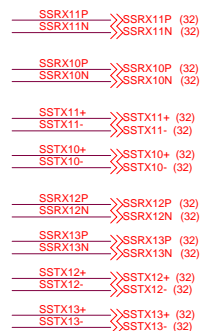
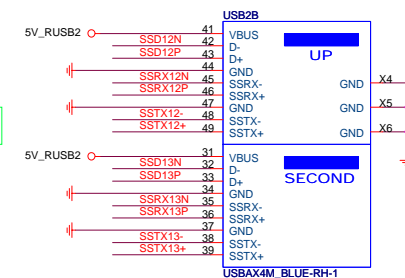
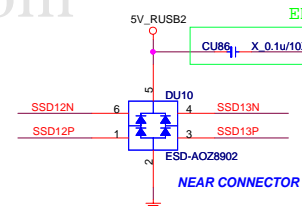
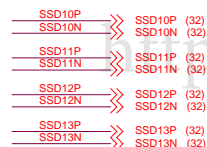
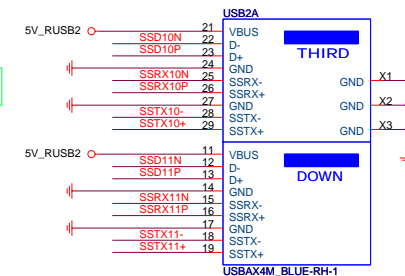
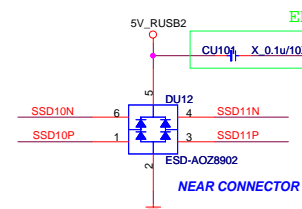
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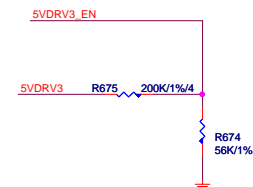
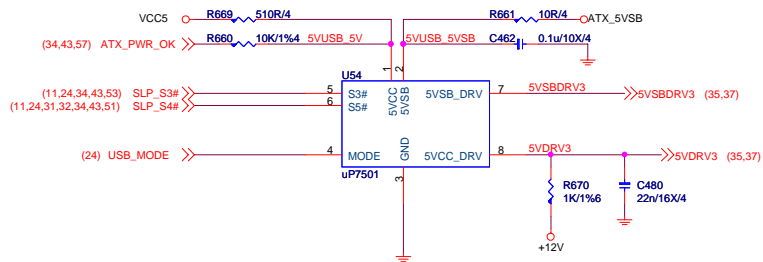


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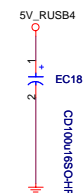
Rear I/O



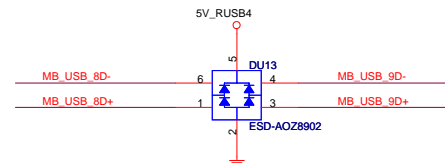
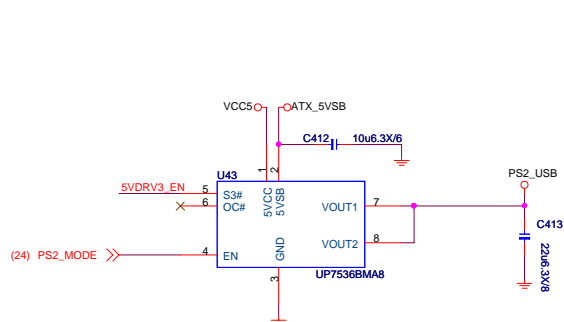


USB MODE

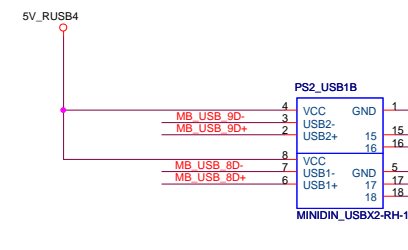
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REAR USB PORT POWER



REAR USB PORT 8,9 (With PS2)

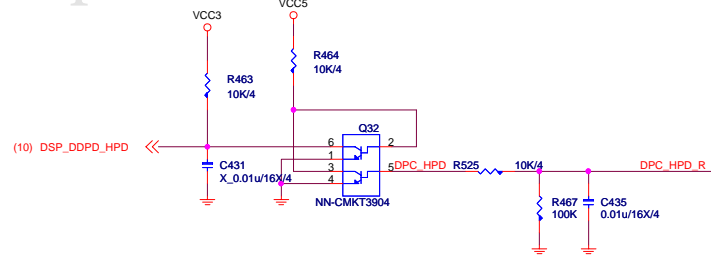
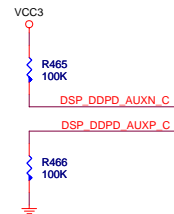
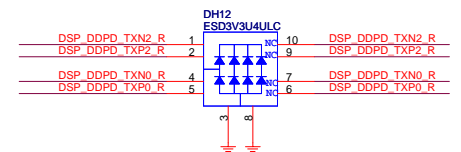
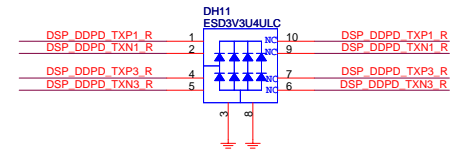
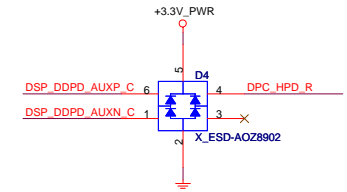
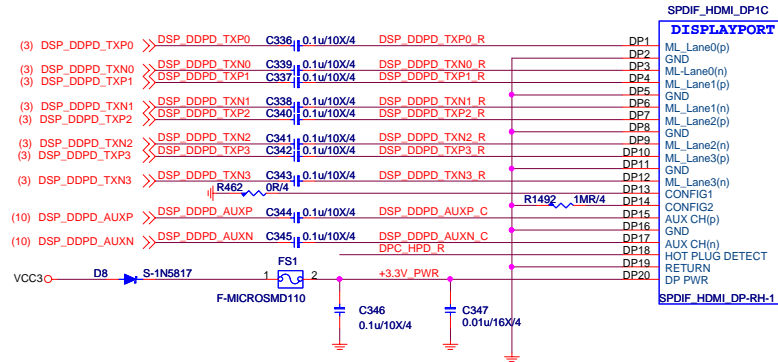


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DP



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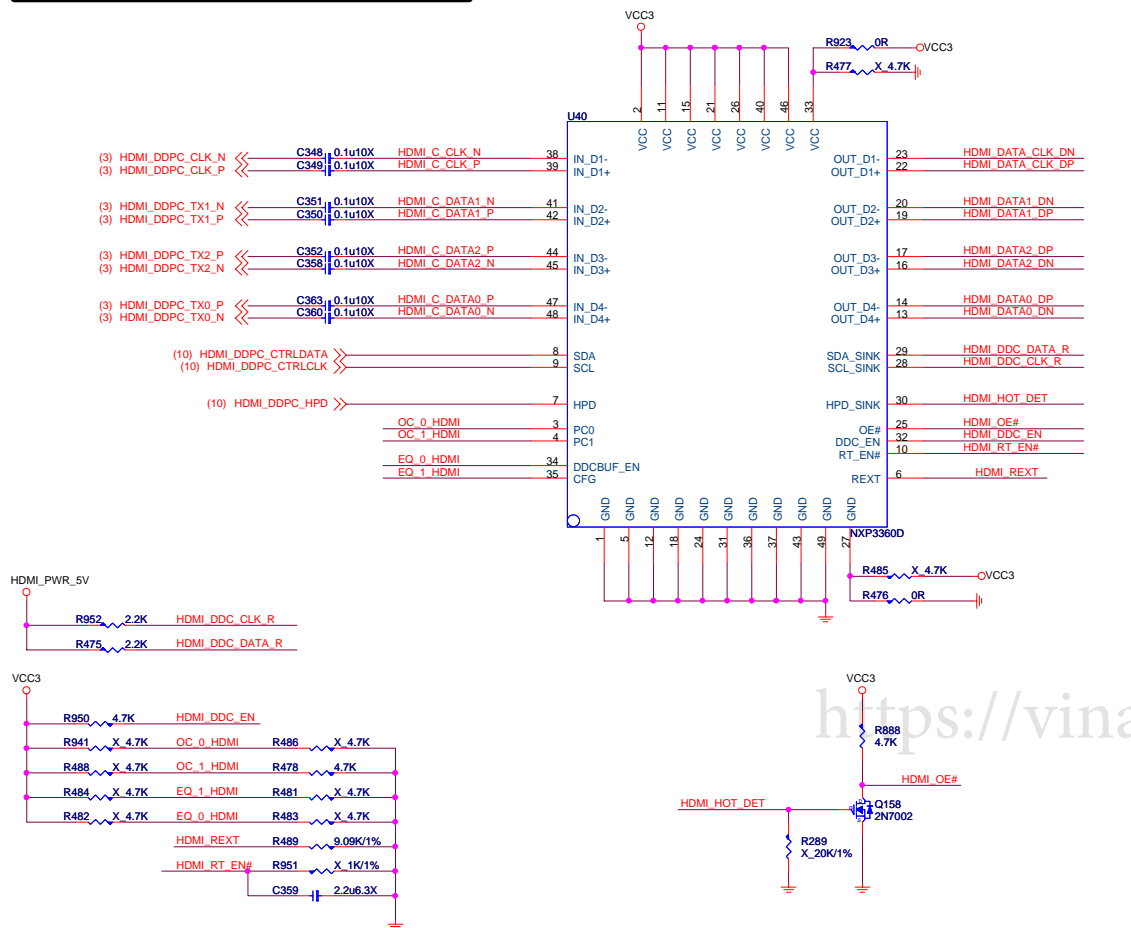


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HDMI level shifter



	"0"	"1"	note
DDC_EN	DDC level shifter disable	DDC level shifter enable	internal pull-up at ~500K ohm.
RT_EN#	Input 50 ohm termination resistor enable	the input termination ; resistors are set to high impedances	internal pull-down at ~500K ohm.
OE#	enable	the chip is power down and input termination resistors will be at high impedance.	internal pull-down at ~500K ohm.
HPD_SINK	disable	enable	internal pull-down at ~200K ohm; 5V tolerant.
DDCBUF_EN	For DDC level shifting configuration, please refer to Table.		internal pull-down at ~500K ohm.
REXT			analog current generation.

[DDC_EN, DDCBUF_EN, OE#]	DDC Passive Switch	DDC Active Buffer
1, 0, X	On	Off
1, 1, 0	Off	On
1, 1, 1	Off	Off
0, X, X	Off	Off

PC1, PC0		note
00	8 dB	internal pull-down at ~500K ohm.
01	4 dB	
10	12 dB	
11	0 dB	

EMI

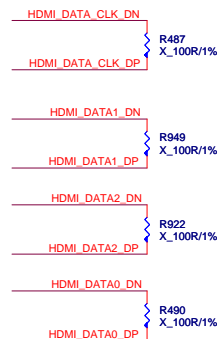
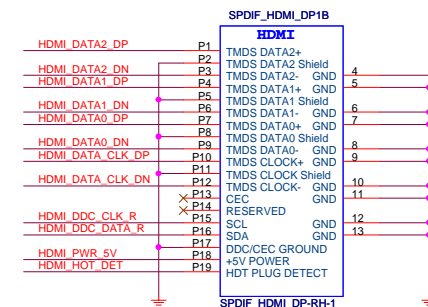
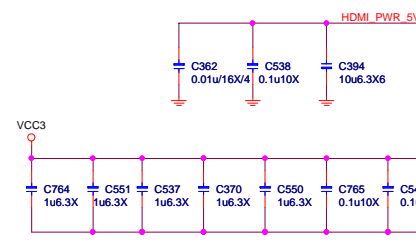
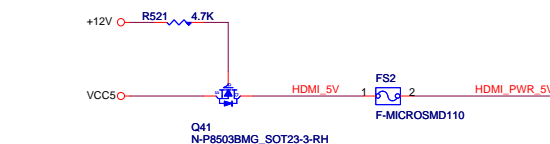
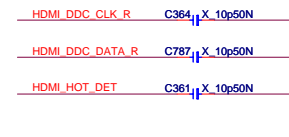


Table 8-1. PCH PCI Express Tx/RX - HDMI Signal Mappings

Port	Digital Display Interface Differential Pairs	HDMI Signals	PCH Digital Display Interface Pins
Port B	DDSP_B_TX0_DN	THDSB_DATA2#	DDPB_0N
	DDSP_B_TX0_DP	THDSB_DATA2	DDPB_0P
	DDSP_B_TX1_DN	THDSB_DATA1#	DDPB_1N
	DDSP_B_TX1_DP	THDSB_DATA1	DDPB_1P
	DDSP_B_TX2_DN	THDSB_DATA0#	DDPB_2N
	DDSP_B_TX2_DP	THDSB_DATA0	DDPB_2P
	DDSP_B_TX3_DN	THDSB_CLK#	DDPB_3N
	DDSP_B_TX3_DP	THDSB_CLK	DDPB_3P
	DDPB_HPD	DDSP_B_HPD0	Hot plug detect used by HDMI Port B.
	SDVO_CTRLCLK	HDMI0_CTRL_CLK	HDMI DDC lines for Port B
SDVO_CTRLDATA	HDMI0_CTRL_DATA		



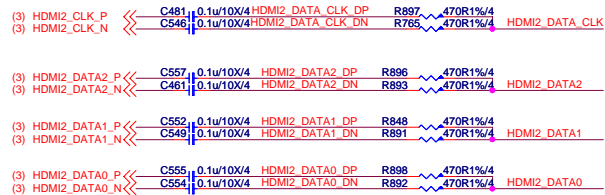
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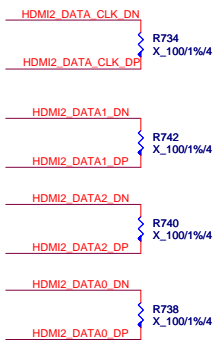
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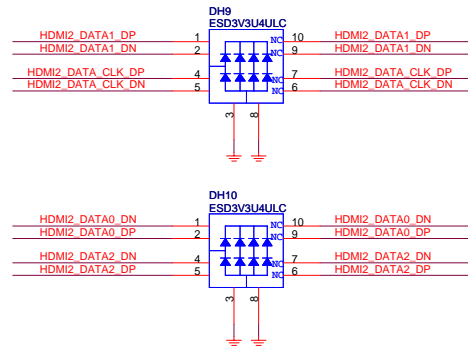
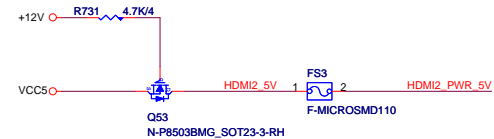
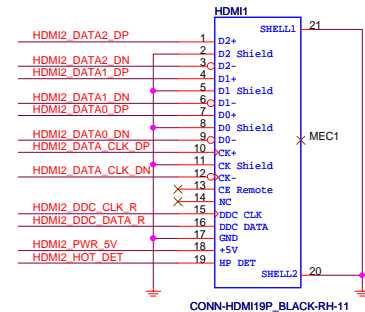
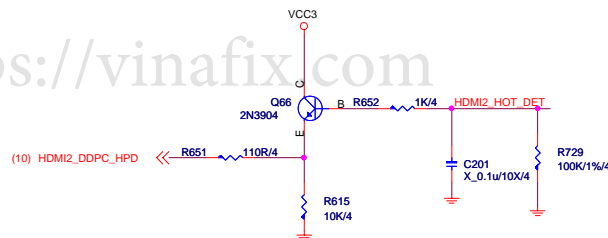
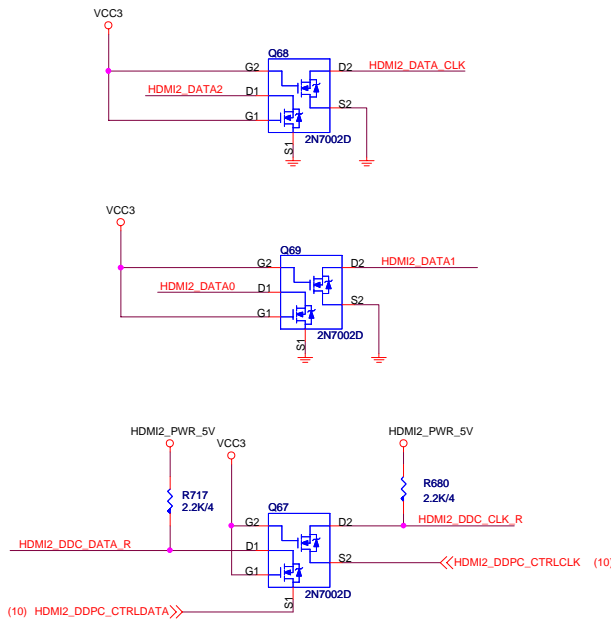
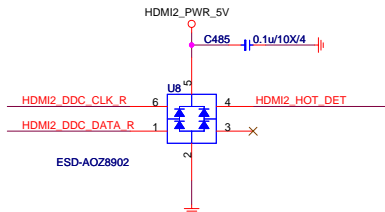
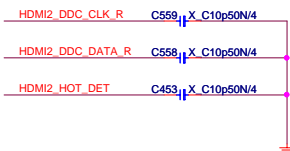
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EMI



EMI cap.



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<u>UPI VOLTAGE CONSOLE</u>						
0x20 : RH=10K, RL=OPEN						
ADDRESS	0x2A	0X28	0x26	0x24	0x22	0x20
RH (KOhm)	OPEN	3.9	3	2.2	1.3	10
RL (KOhm)	10	1.3	2.3	3	3.9	OPEN
BUS_SEL	0%	25%	40%	60%	75%	100%

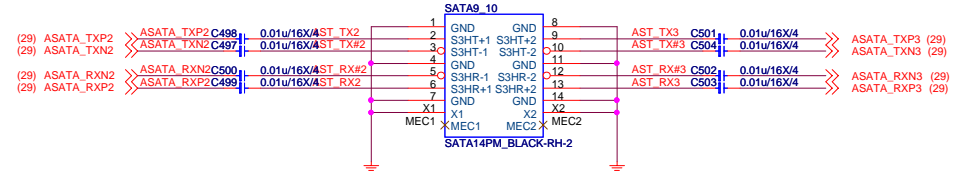
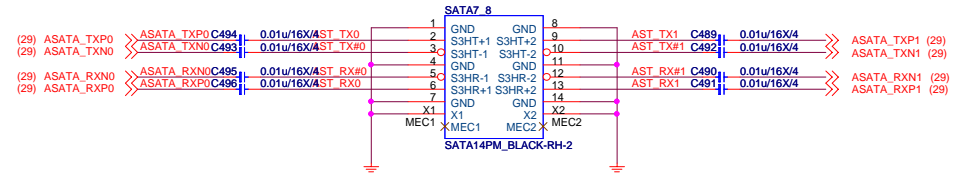
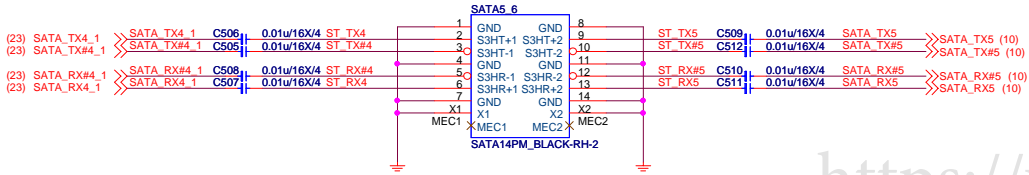
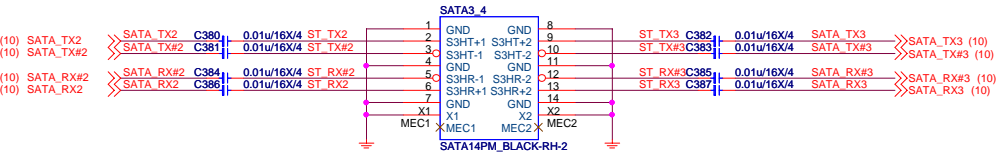
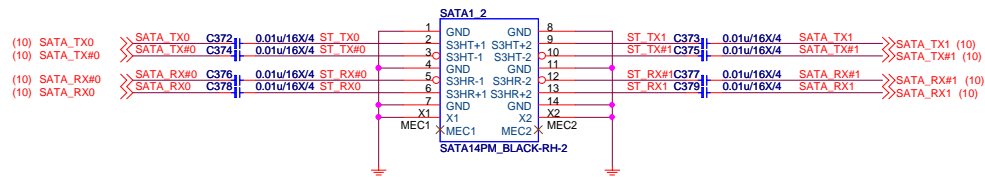
Schematic diagram of the PCH1_P5_FB signal path. The diagram shows a component U48 (UP1811BMA8) with the following connections:

- Pin 1: VCC, connected to a network of 0.1u/10K/4.
- Pin 2: BUS_SEL, connected to a network of R522 (10K/1%4) and R524 (1K/1%4).
- Pin 3: SCL, connected to SMBCLK_VCC.
- Pin 4: SDA, connected to SMBDATA_VCC.
- Pin 5: GND, connected to ground.

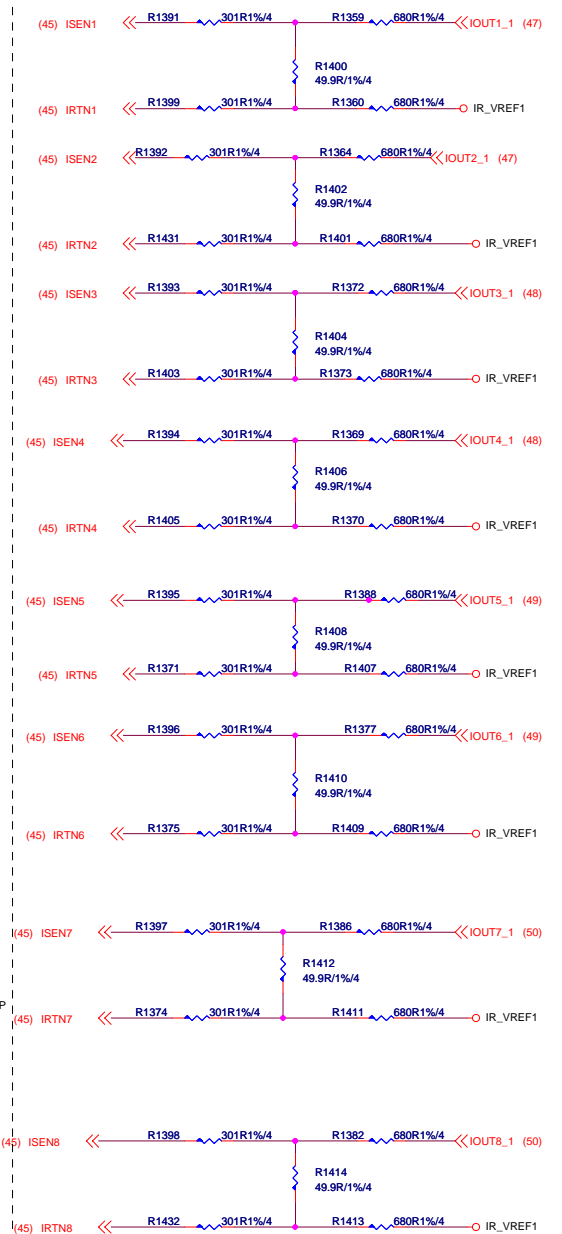
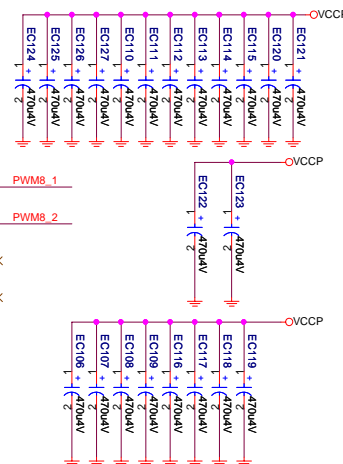
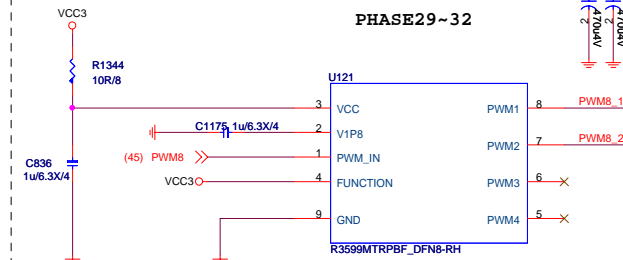
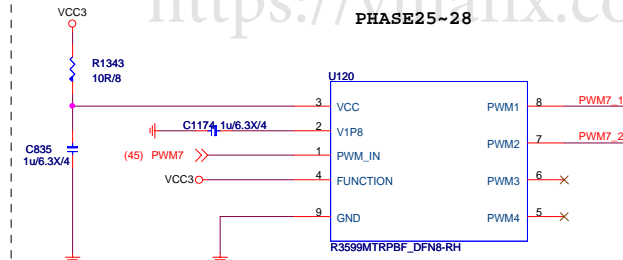
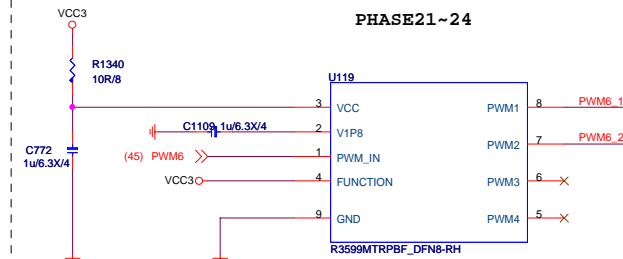
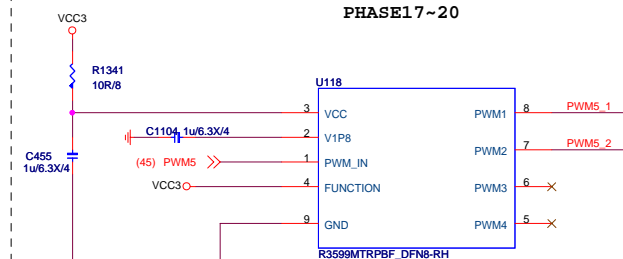
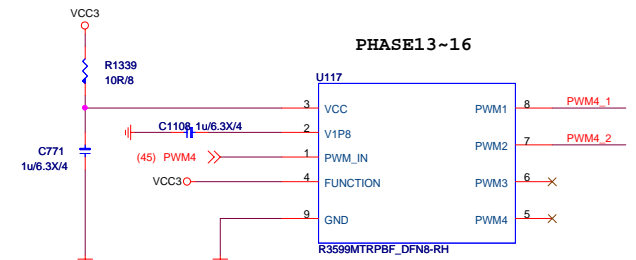
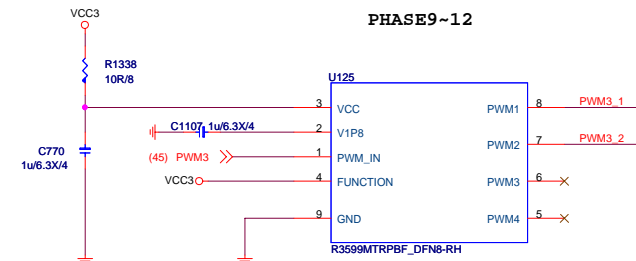
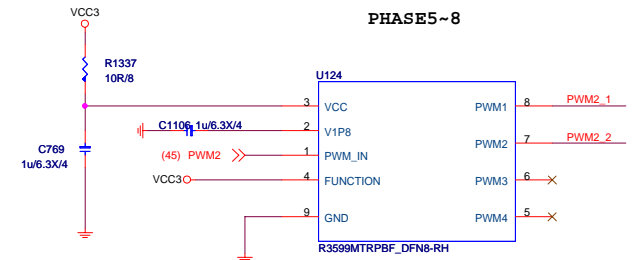
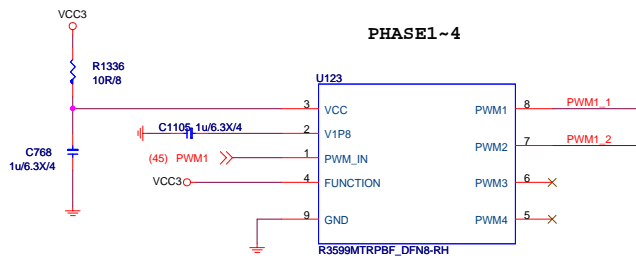
The output of the component is connected to PCH1_P5_FB (S3) via a 7-pin connector.

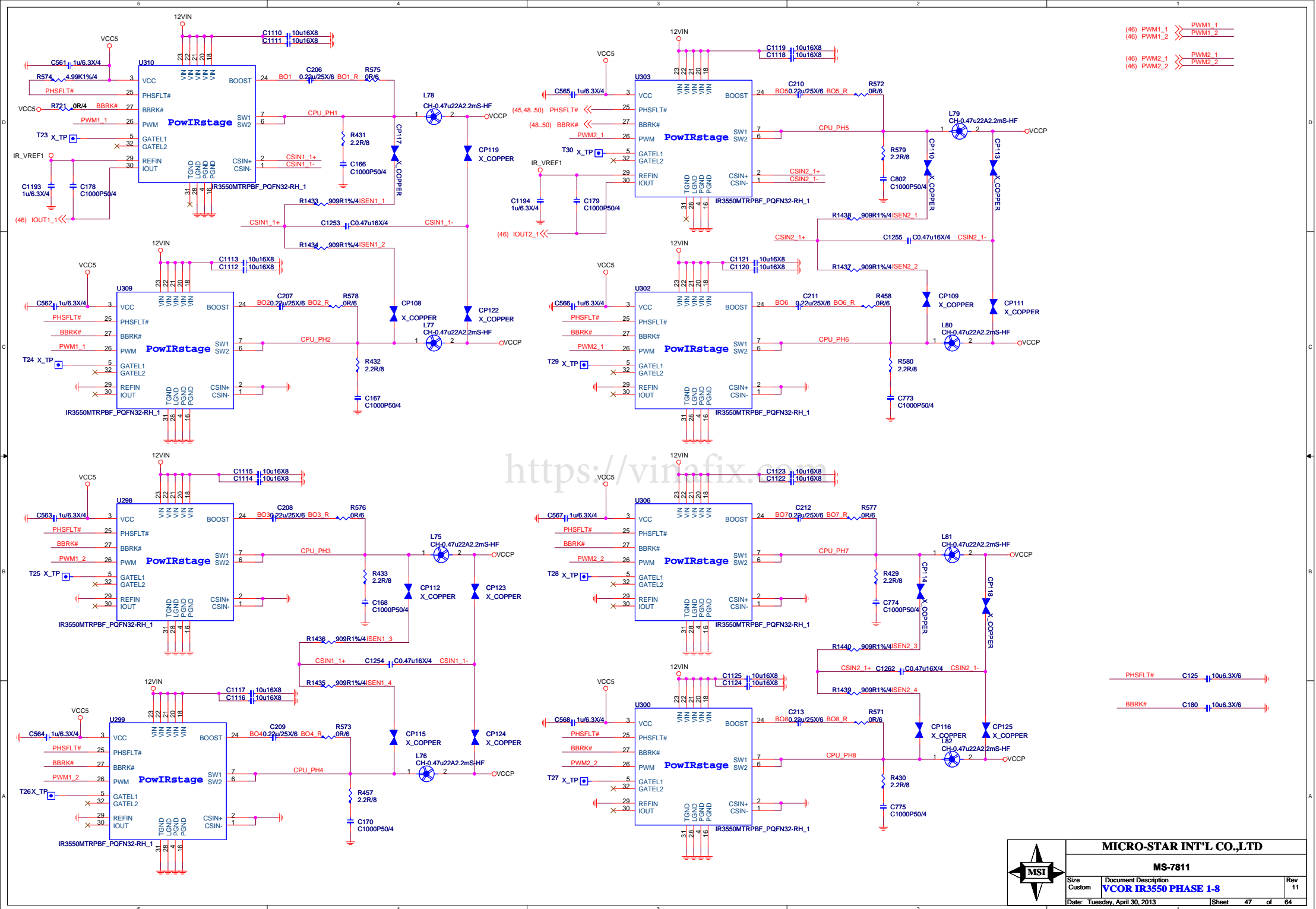
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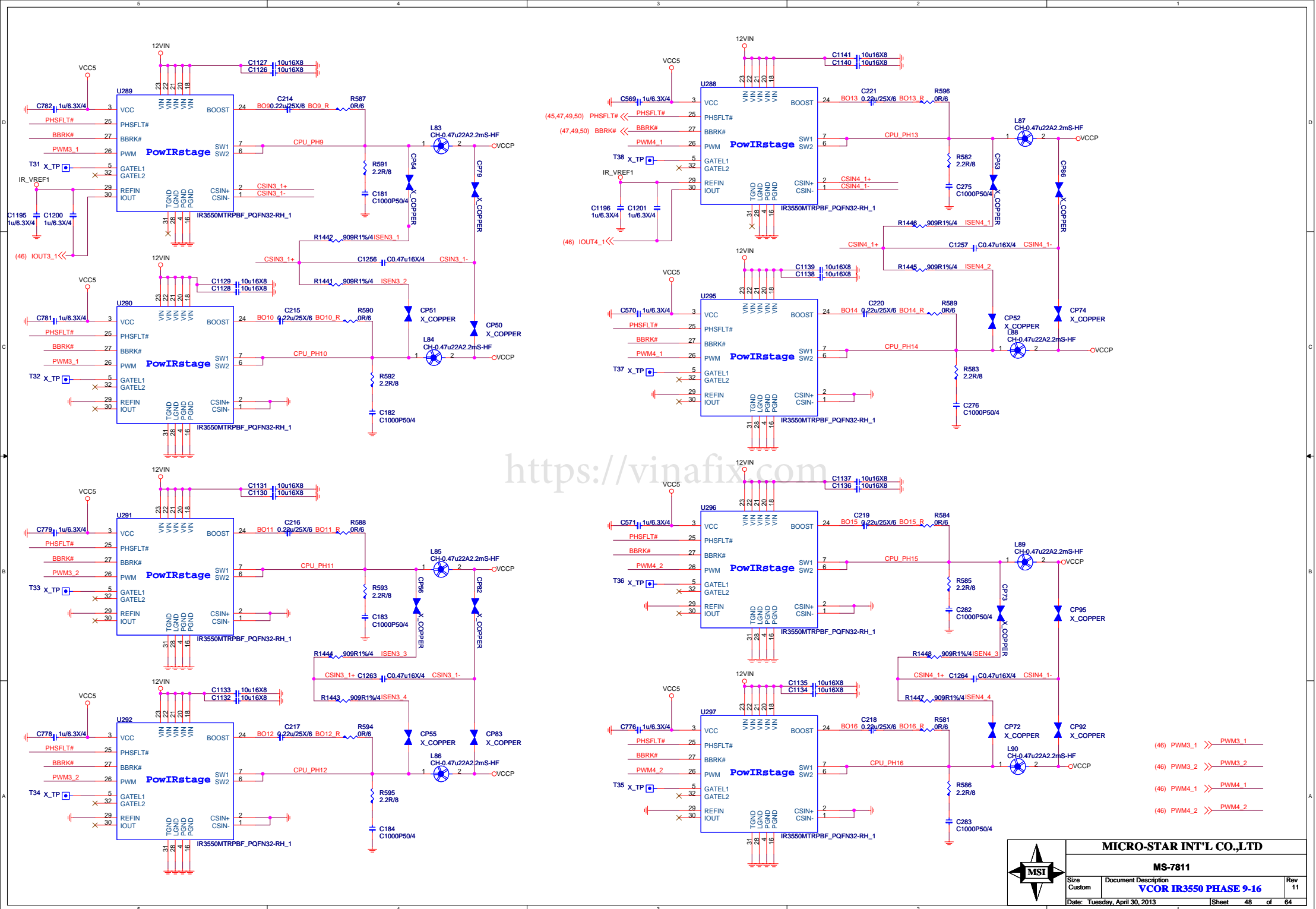


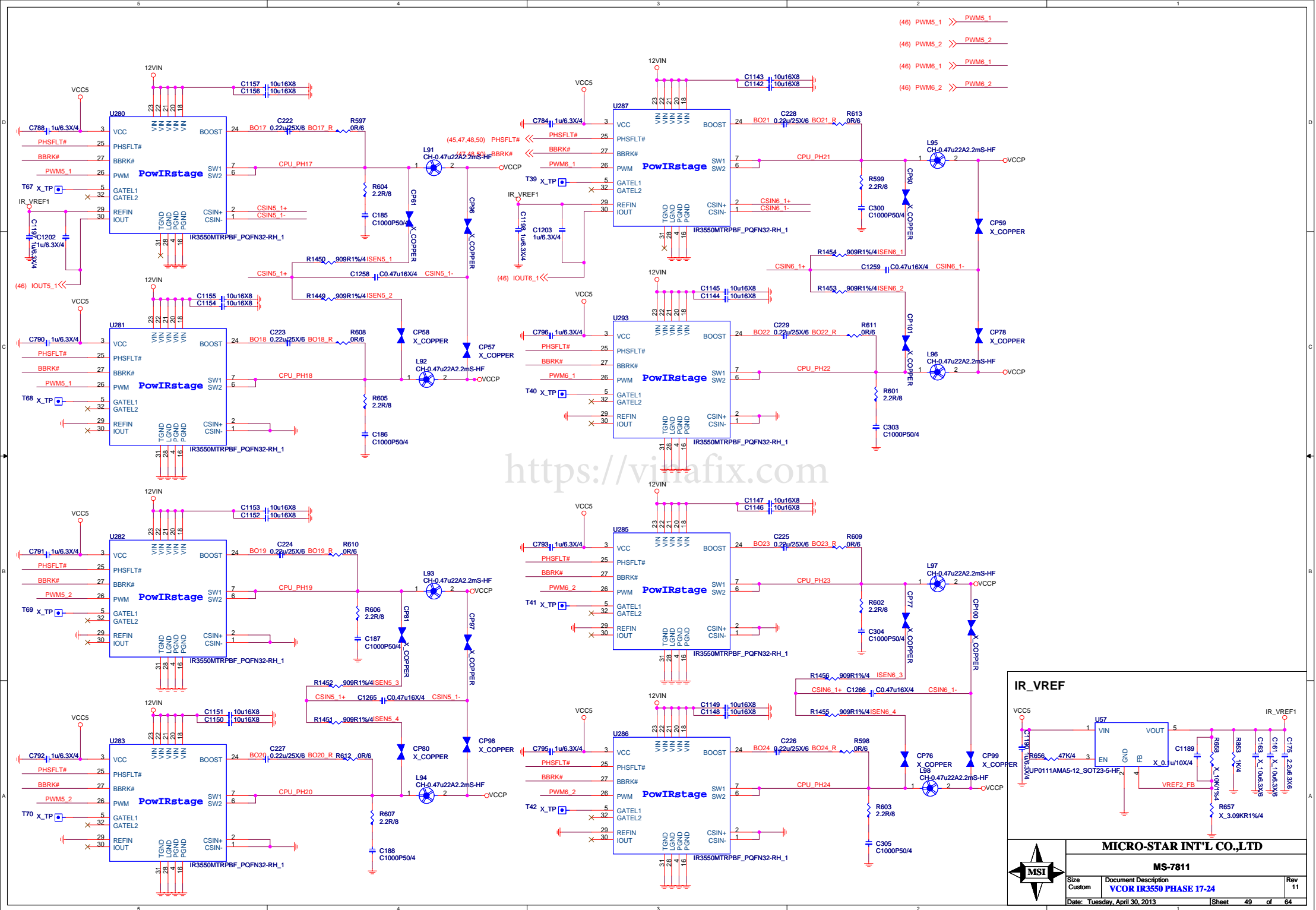


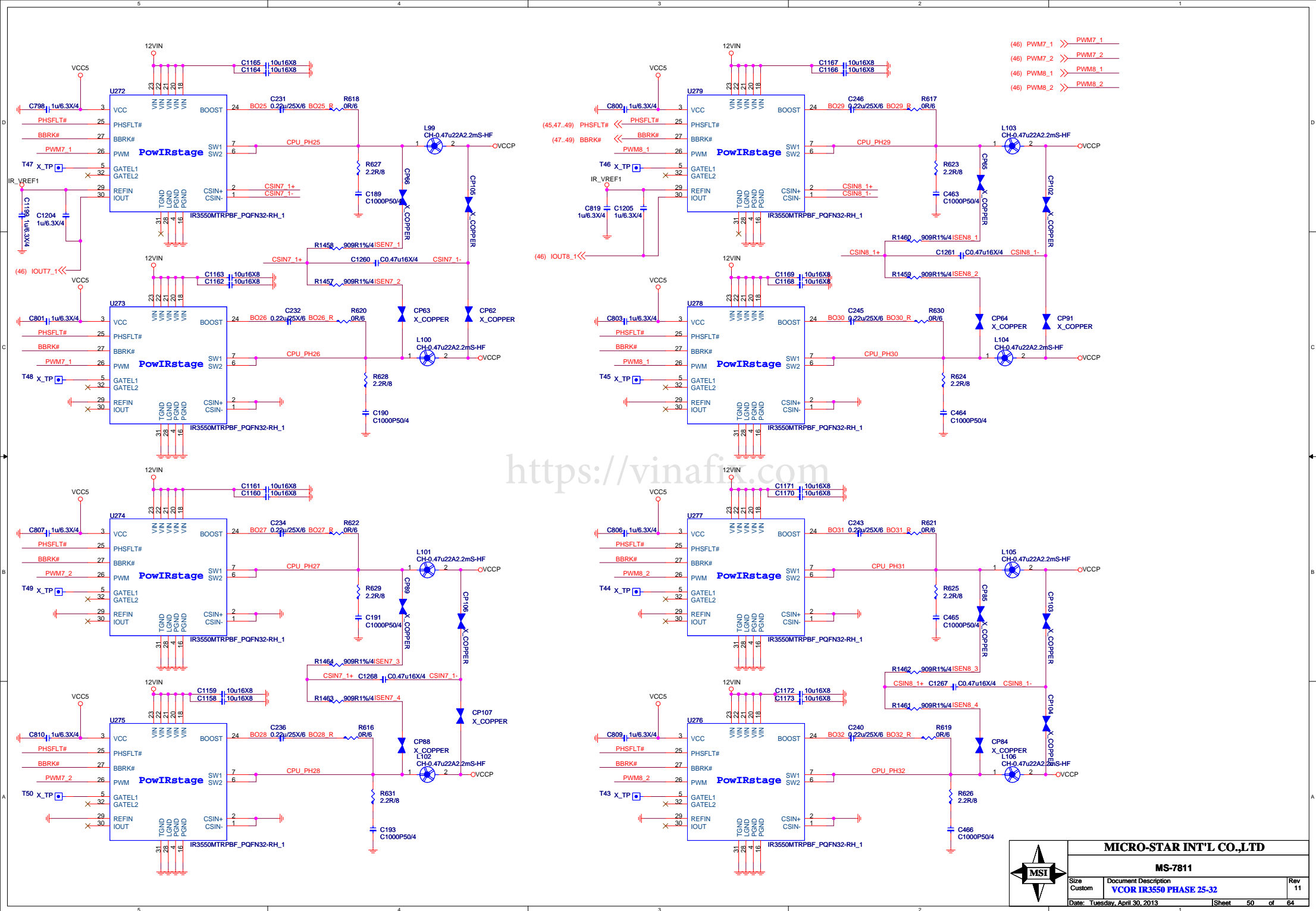
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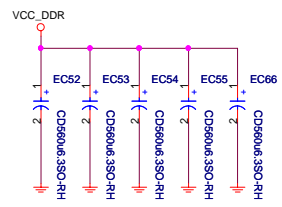
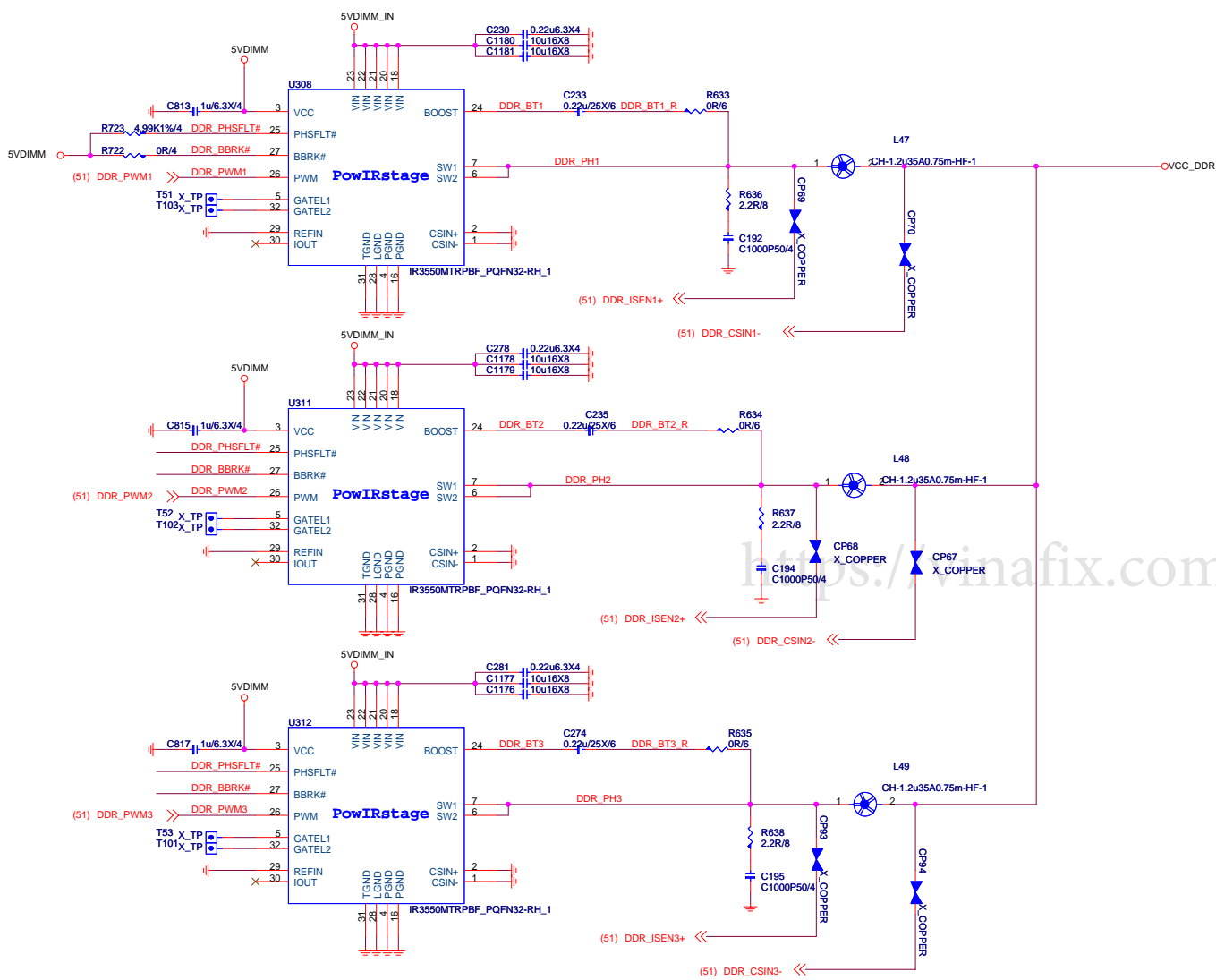
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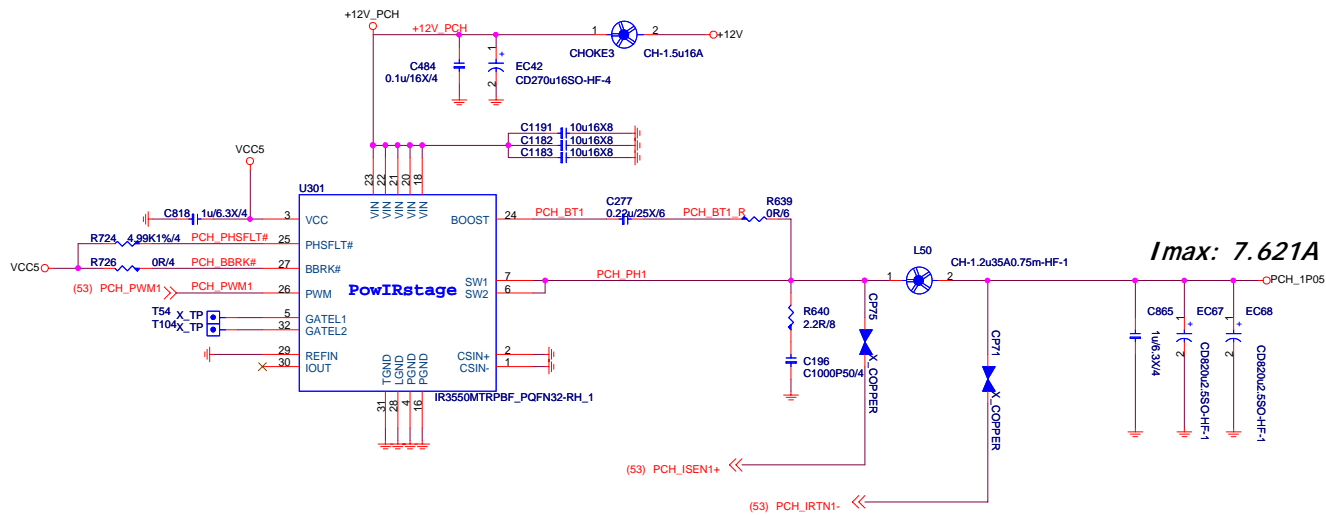


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$$375\text{mV} / (\text{Low Side Rdson}) = \text{OCP}$$

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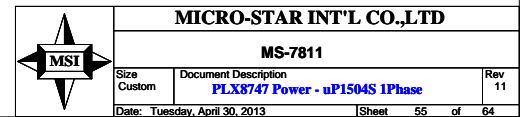
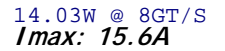
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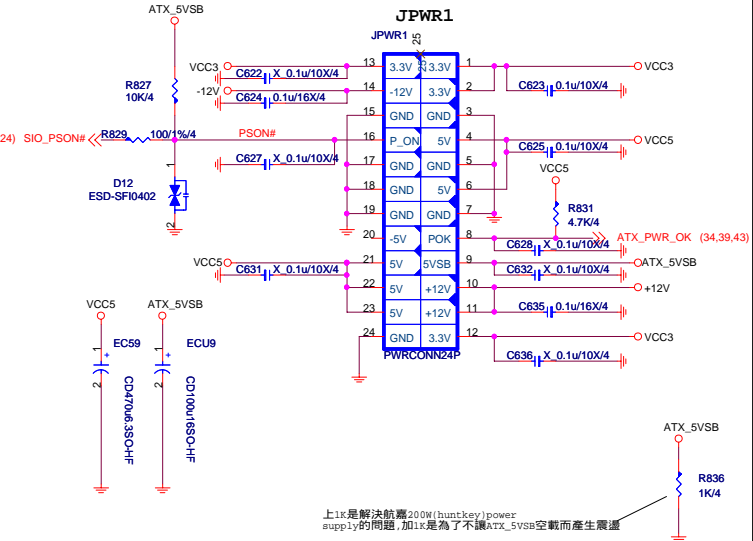
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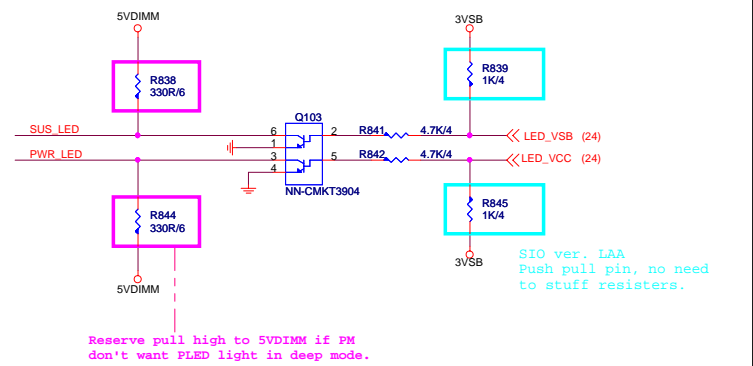
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$$(20\mu\text{A} * 8.2\text{K}) / 4 * 1.7\text{mohm} = 24.11\text{A}$$


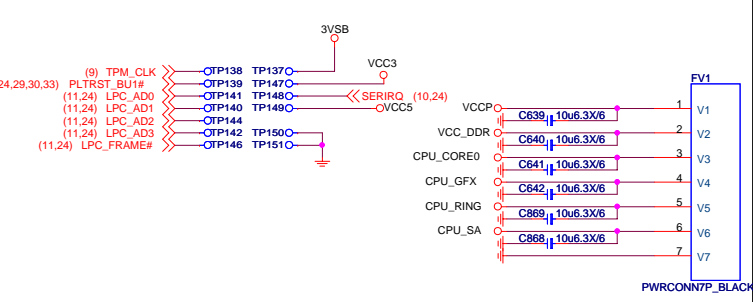
ATX POWER CONNECTOR



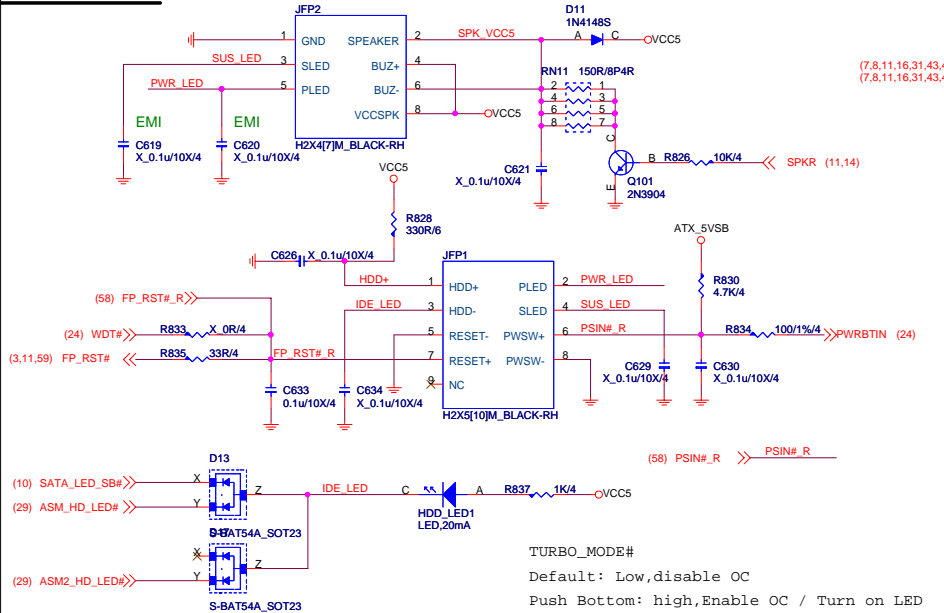
Front Panel LED



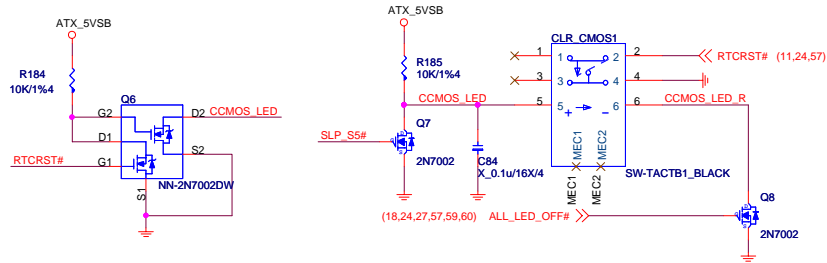
TPM



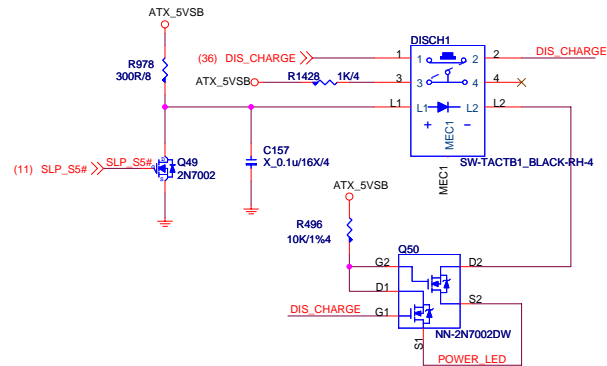
FRONT PANNEL



S0/S3/S4	: LED OFF
S5	: LED ON



Discharge Botton



SW-TACTB1-RH-22

RESET1

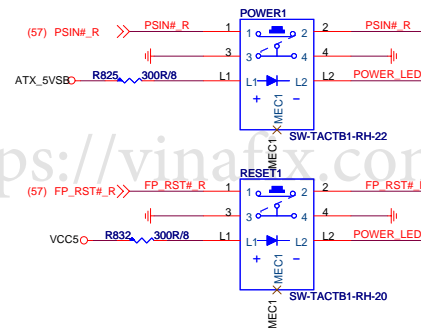
(57) FP_RST#_R

FP_RST#_R

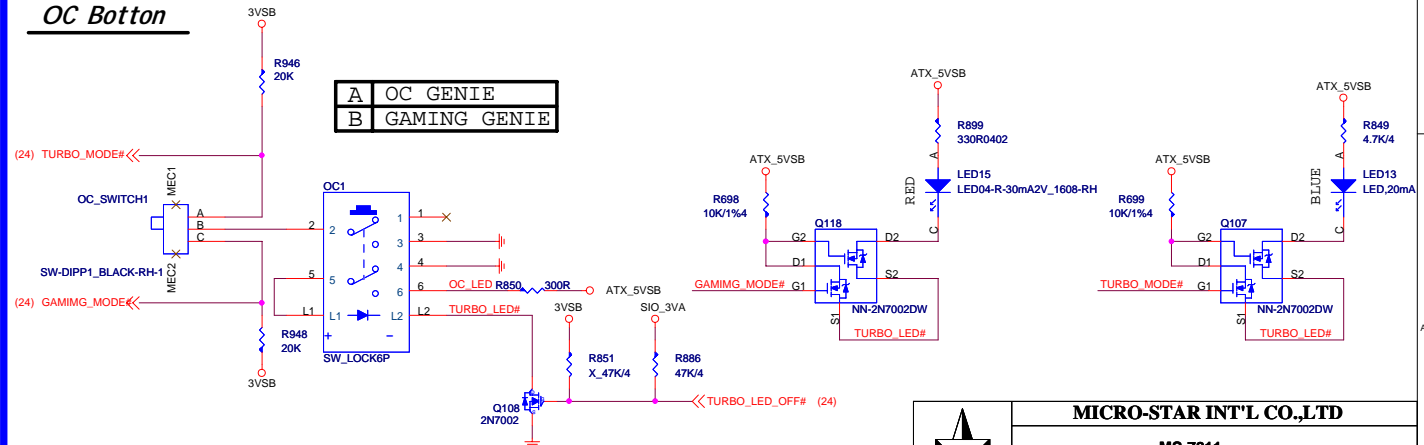
1

2

FP_RST#_R



A	OC GENIE
B	GAMING GENIE

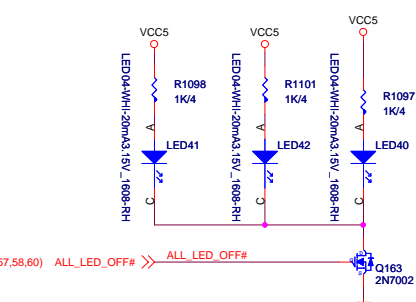
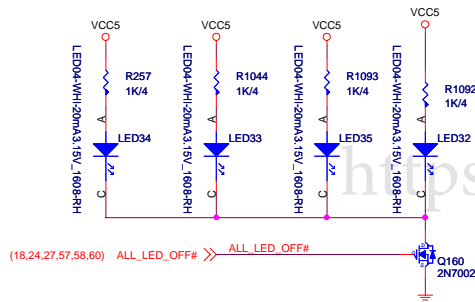
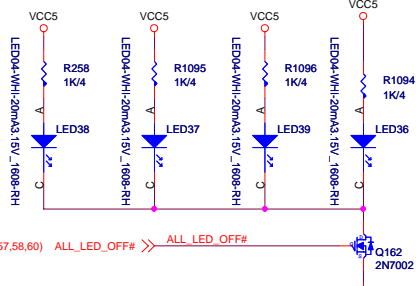
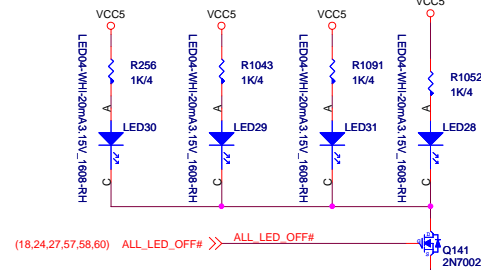
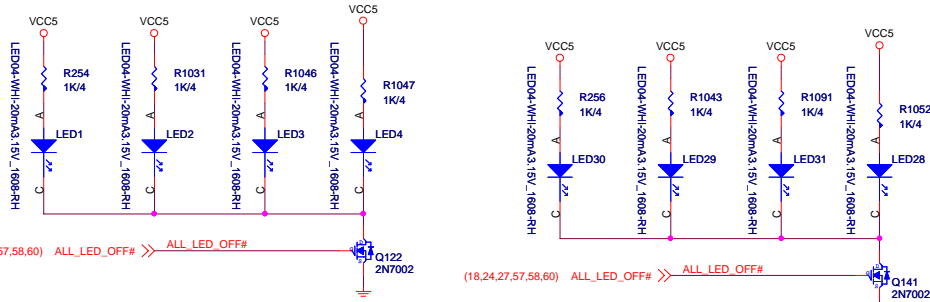


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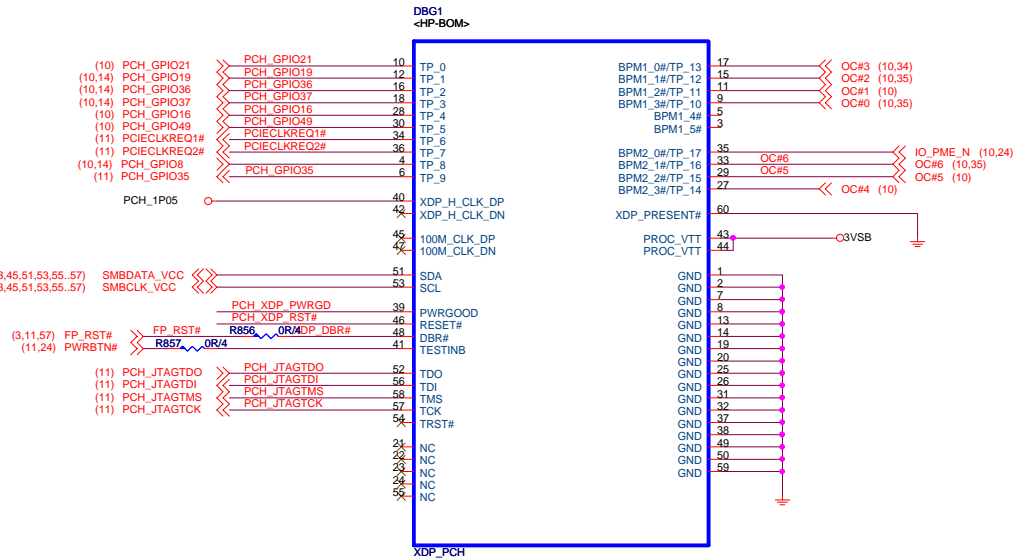
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Reserve debug port 5020

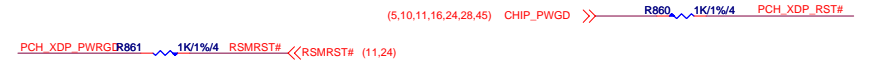
LOGO



PCH XDP



PCH XDP PWRGD/RESET

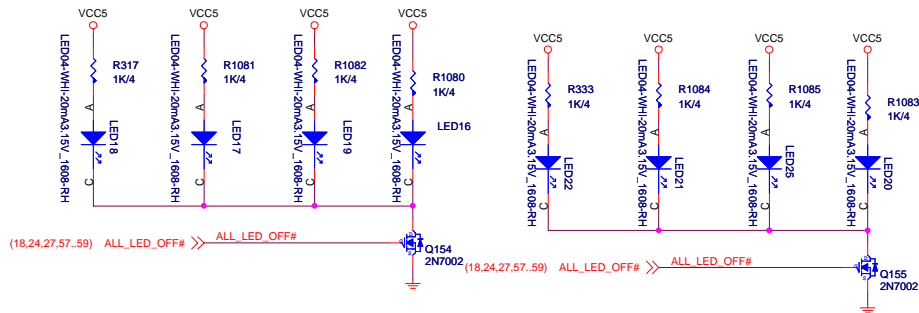
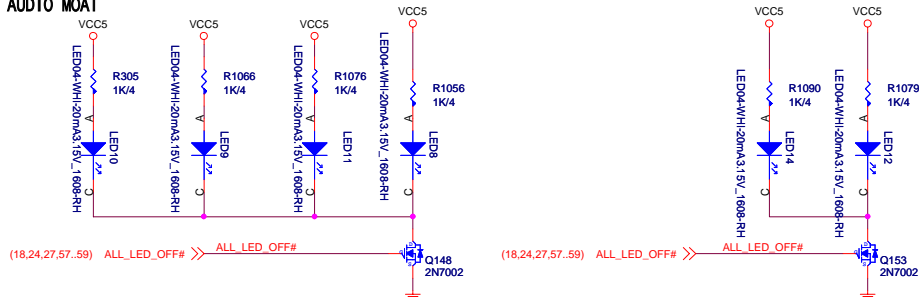


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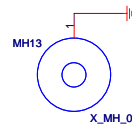
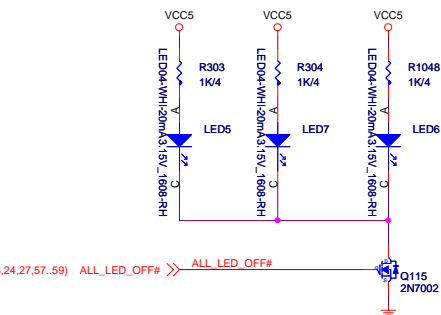
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AUDIO MOAT



PCH



HDMI Label Part Number



HDMI Virtual Part Number



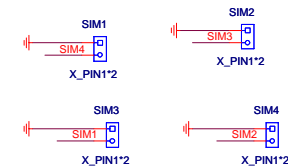
X_BUY



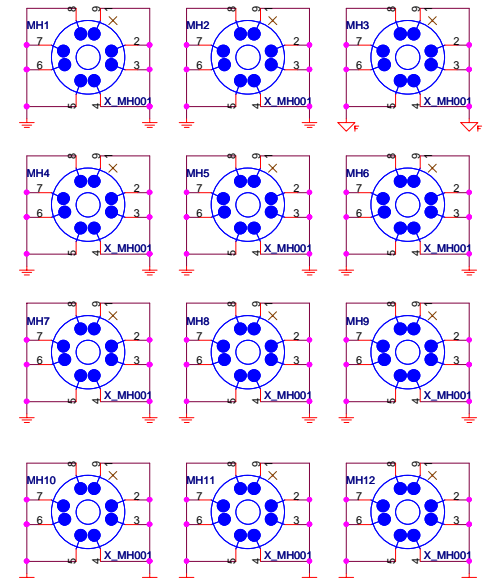
PD0-078110A-E48,競華,23,寶安恩斯邁廠(MSIS)
PD0-078110A-E48,競華,23,寶安恩斯邁廠(MSIS) 8,black



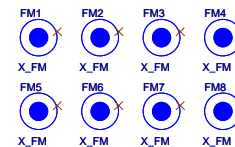
Simulation



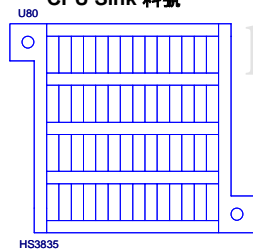
Mounting Holes



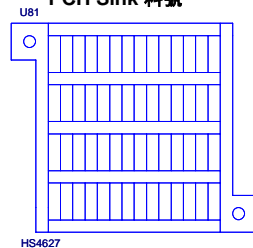
Optical Fiducial Marks-120



CPU Sink 料號



PCH Sink 料號



Heat Sink 料號

<https://vinafix.com/>



OPT	Configure	BOM	Function
		601-7751-10S	MS-7751 30 Z77 MPower 4*DDR3+3*PCI-Ex16,4*PCI-Ex1,+4*SATAII+2*SATAIII +8*USB2.0+8*USB3.0+HD 8Ch Audio+HDMI+DisplayPort+Gb LAN,Hi-C CAP,EuP,RoHS

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