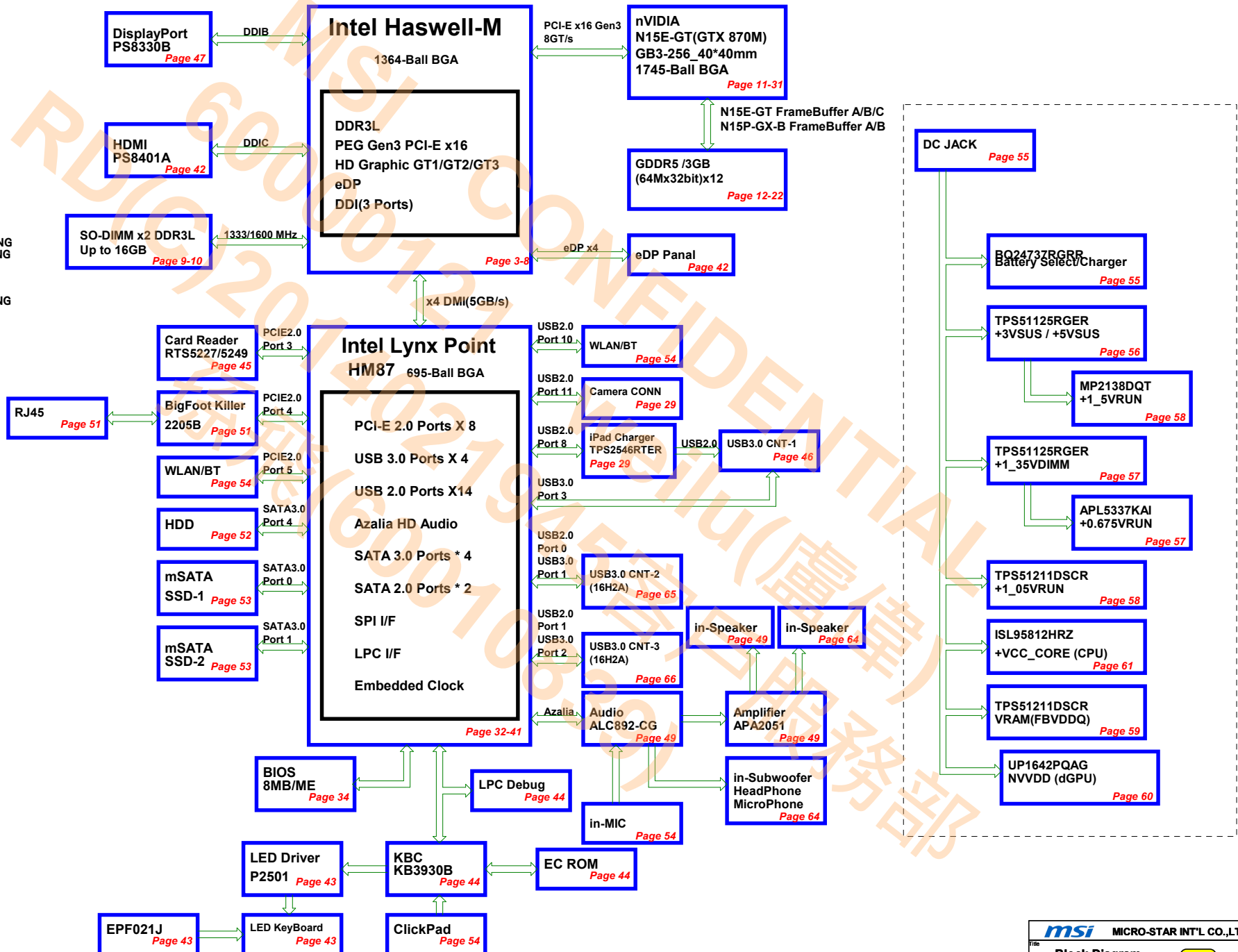


Page 01:	Block Diagram
Page 02:	Platform
Page 03:	CPU-1 (Host Bus)
Page 04:	CPU-2 (DDR3L)
Page 05:	CPU-3 (Display/Reserved)
Page 06:	CPU-4 (Power)
Page 07:	CPU-6 (Power & GND)
Page 08:	CPU-5 (GND)
Page 09:	DDR3L SODIMM 0
Page 10:	DDR3L SODIMM 1
Page 11:	DGPU PCI-E Host
Page 12:	DGPU_MEM IF A/B
Page 13:	DGPU_GDDR5 FrameBuffer A0
Page 14:	DGPU_GDDR5 FrameBuffer A1
Page 15:	DGPU_GDDR5 FrameBuffer B0
Page 16:	DGPU_GDDR5 FrameBuffer B1
Page 17:	DGPU_GDDR5 FB-A_DECOUPLING
Page 18:	DGPU_GDDR5 FB-B_DECOUPLING
Page 19:	DGPU_MEM IF C/D
Page 20:	DGPU_GDDR5 FrameBuffer C
Page 21:	DGPU_GDDR5 FrameBuffer C
Page 22:	DGPU_GDDR5 FB-C_DECOUPLING
Page 23:	DGPU_GPU DECOUPLING A
Page 24:	DGPU_GPU DECOUPLING B
Page 25:	DGPU_DACA_Display IF
Page 26:	DGPU_GPIO_I2C
Page 27:	DGPU_MIO & XTAL
Page 28:	DGPU_ROM_HW Straps
Page 29:	DGPU_NVDD, FBVDDQ
Page 30:	DGPU_GND
Page 31:	DGPU_Power Control
Page 32:	PCH-1 (HDA/JTAG/SATA)
Page 33:	PCH-2 (CLK)
Page 34:	PCH-3 (LPC, SMBUS)
Page 35:	PCH-4 (DMI, FDI)
Page 36:	PCH-5 (PCI, DDI)
Page 37:	PCH-6 (GPIO, MISC)
Page 38:	PCH-7 (PCI, USB)
Page 39:	PCH-8 (Power)
Page 40:	PCH-8 (Power)
Page 41:	PCH-8 (GND)
Page 42:	eDP Connector
Page 43:	LED Driver IC/LED_8051
Page 44:	KBC(KB3930QFB1)
Page 45:	Card Reader/USB3.0 CNT-1/-2
Page 46:	USB 3.0 / iCharger
Page 47:	DP with Repeater
Page 48:	HDMI Repeater
Page 49:	Audio CODEC/Audio AMP
Page 50:	CPU FAN/BTB CONN
Page 51:	GIGA LAN(BigFoot BFN2205B)
Page 52:	HDD With Repeater
Page 53:	SSD/ DGPU FAN
Page 54:	WLAN / Camera/ClickPad/LID
Page 55:	Battery Select/Charger
Page 56:	System Power
Page 57:	+1.35VDIMM/+0.675VRUN
Page 58:	+1.05VRUN / +1.5VRUN
Page 59:	DGPU POWER FBVDDQ
Page 60:	DGPU POWER NVDD
Page 61:	CPU Power (ISL95812HRZ)
Page 62:	EMI
Page 63:	Screw/ME
Page 64:	[A] Audio
Page 65:	[A] USB3.0 CNT-3/-4
Page 66:	LED Board
Page 67:	Power SW Board
Page 68:	Power Delivery Map
Page 69:	Power on Block Diagram
Page 70:	Power down Sequence
Page 71:	Power on Sequence



SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

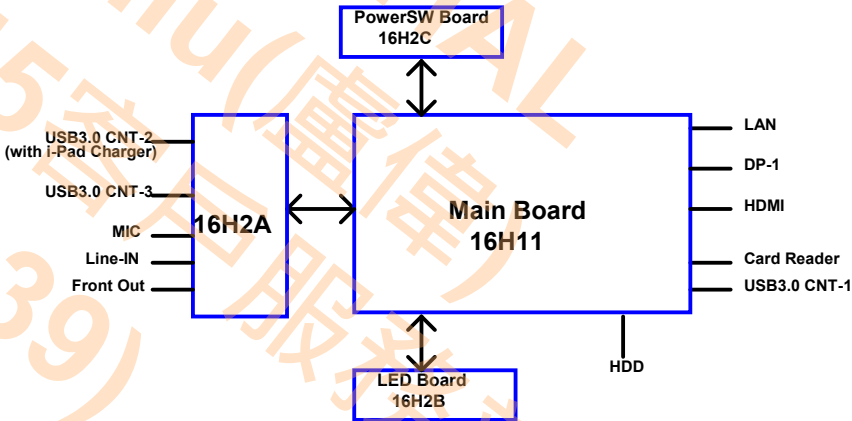
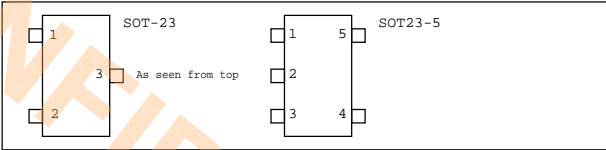
Voltage Rails

Voltage	Description	Control Signal
PWR_SRC	AC ADAPTER OR BATTERY IN	
+5VALW	5.0V always on power rail	PWR_SRC
+3VALW	3.3V always on power rail	PWR_SRC
+5VSUS	5.0V power rail	SUS_ON
+3VSUS	3.3V power rail	SUS_ON
+1_35VDIMM	1.35V DDR3L power rail (off in S4-S5)	DIMM_ON
+0_675VRUN	0.675V DDR3L Termination voltage (off in S3-S5)	PM_SLP_S3#
+5VRUN	5.0V switched power rail (off in S3-S5)	RUN_ON
+3VRUN	3.3V switched power rail (off in S3-S5 / M0)	RUN_ON
+1_5VRUN	1.5V switched power rail (off in S3-S5)	RUN_ON
+VCC_CORE	1.8V Core Voltage for Processor	EC_ALLSYSPG
+1_05VRUN	1.05V rail for Processor	RUN_ON
NVVD	V Core Voltage for nVIDIA dGPU	NVVD_EN
+3V3_NV	3.3V PEX power rail (off in Optimus OFF)	DGPU_PWR_EN#
FBVDDQ	1.35V FB / GDDR5 power rail (off in Optimus OFF)	FBVDDQ_ON
PEX_VDD	1.05V PLL power rail (off in Optimus OFF)	NVVD_EN

Net Naming Conventions

Suffix
= Active Low Signal
Prefix
H = Host
M = DDR Memory
TP = Test Point (does not connect anywhere else)
FB = DGPU VRAM
VIAXxx = Like Test Point, but using VIA.

PCB Footprints



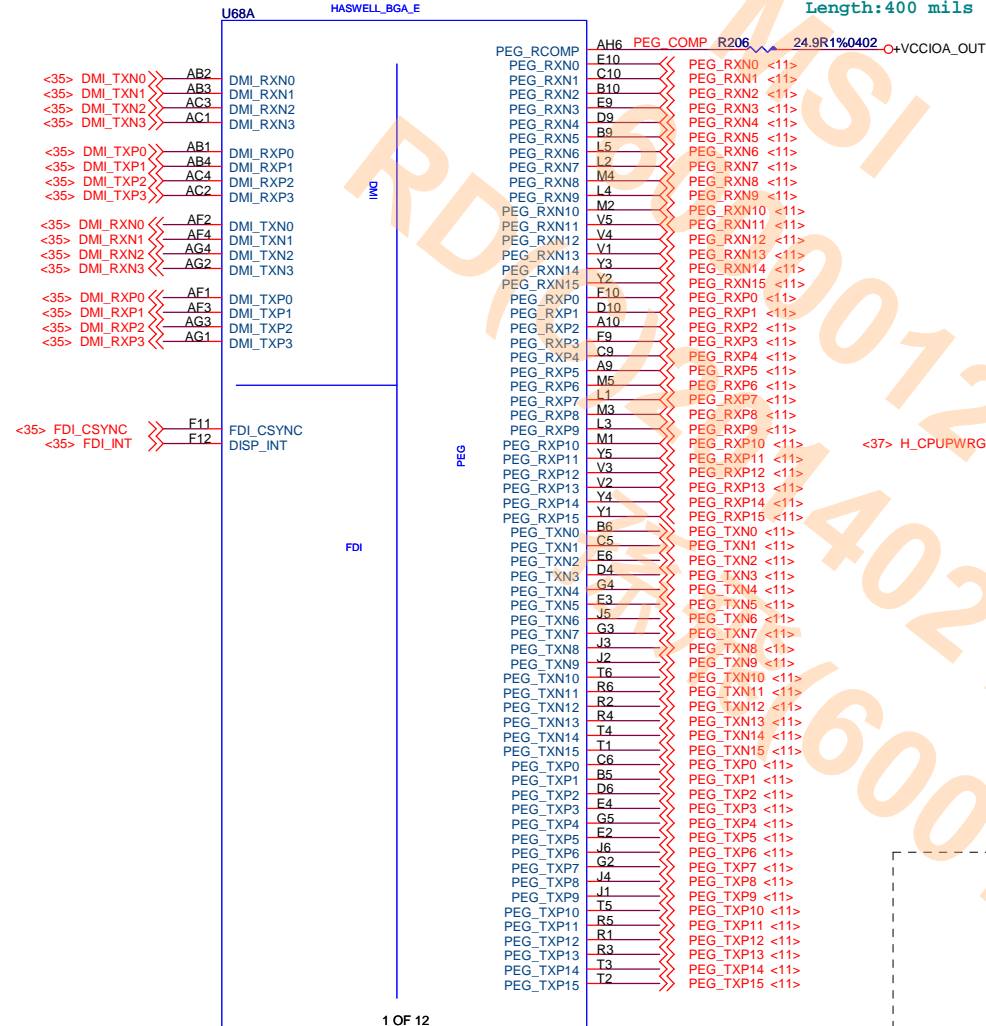
POWER STATES

STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALW	+*VSUS	+*VRUN	Clocks
S0(Full ON)	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)	LOW	LOW	LOW	ON	OFF	OFF	OFF

Note : WHEN AC MODE , System turn on and +V*SUS always keep high

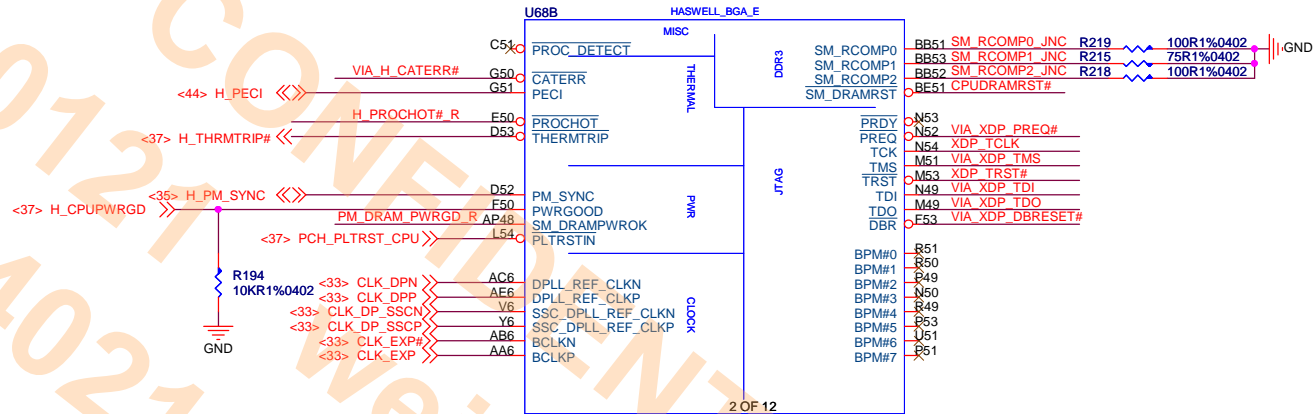
Haswell (DMI,PEG,FDI)

PEG_RCOMP
Width:12 mils
Spacing:15 mils
Length:400 mils

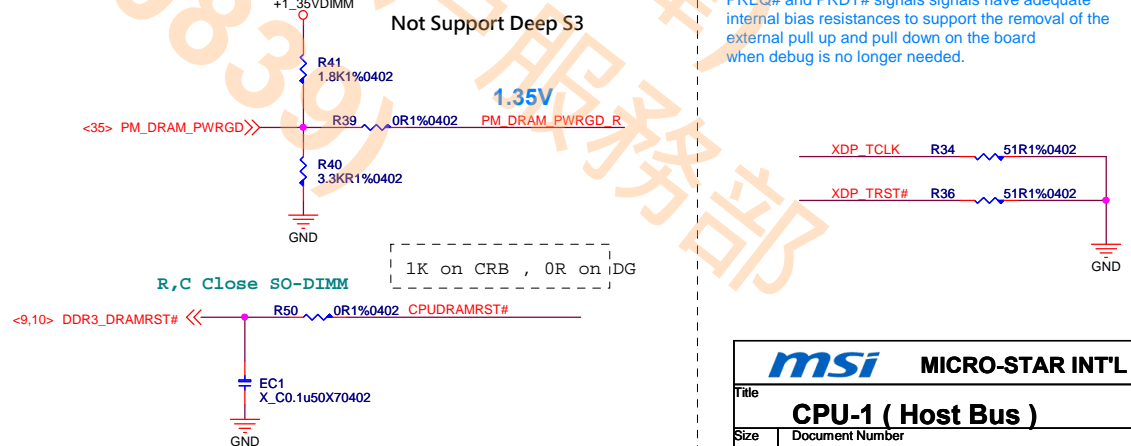
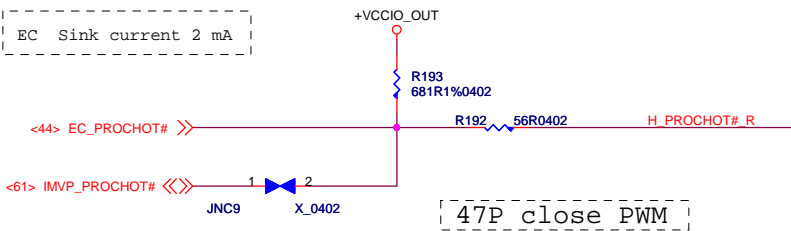


Haswell (CLK,MISC,JTAG)

SM_RCOMP_0/1/2 : 15/20/25/15/20/25
SM_RCOMP_0/1/2 Length max: 500mil

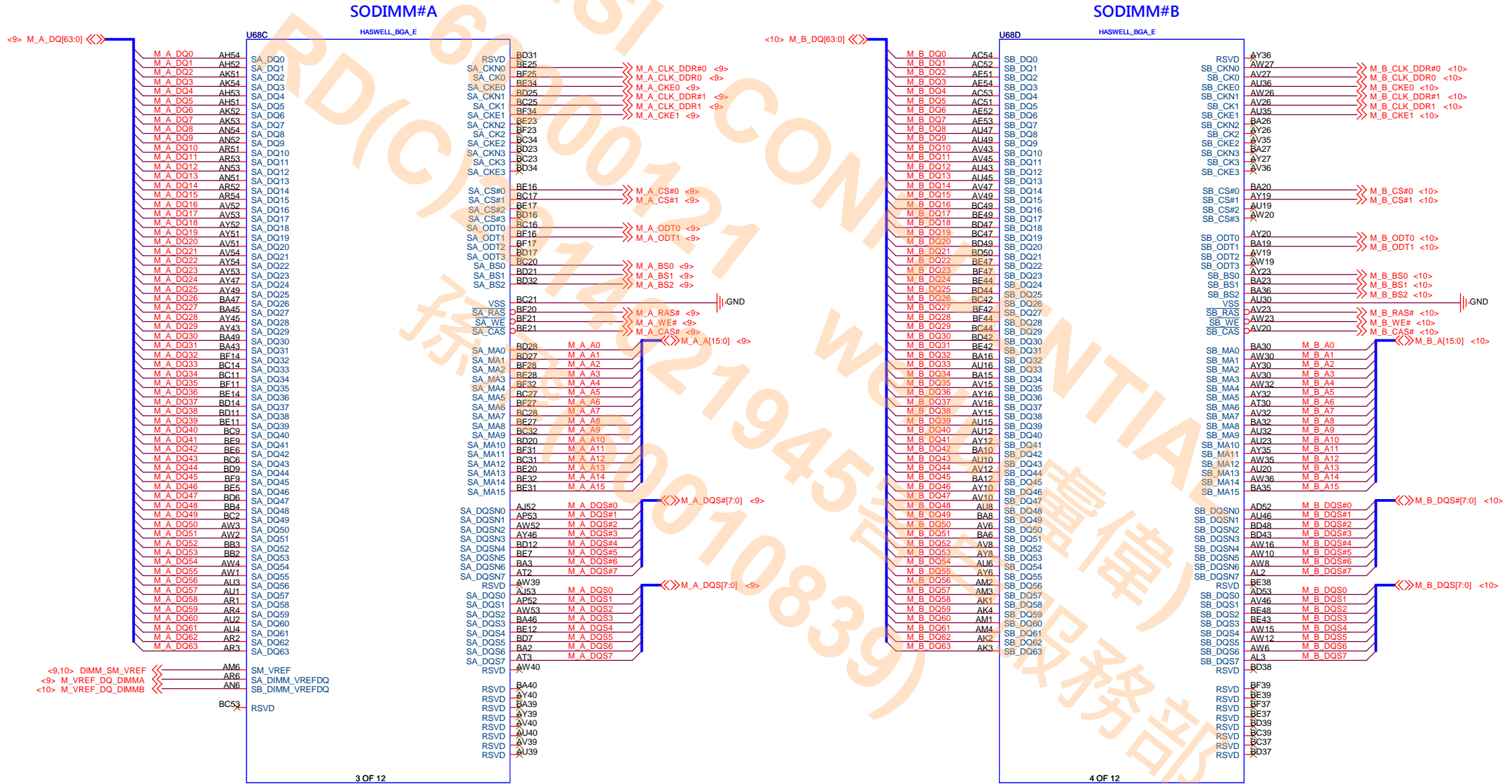


H_CUPUPWRGD EC8 X C15p50N0402 GND

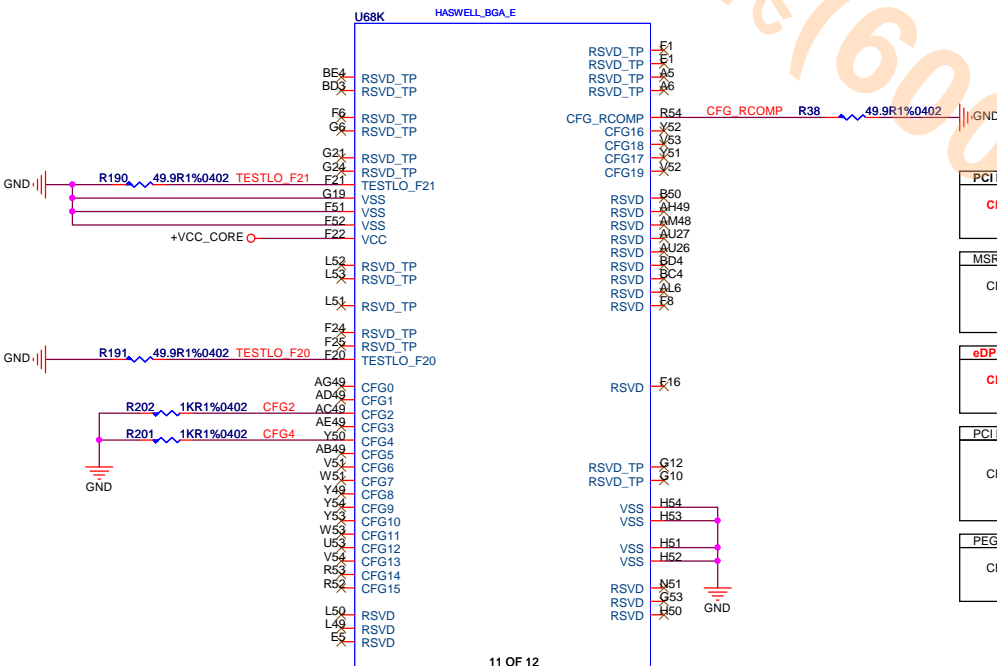
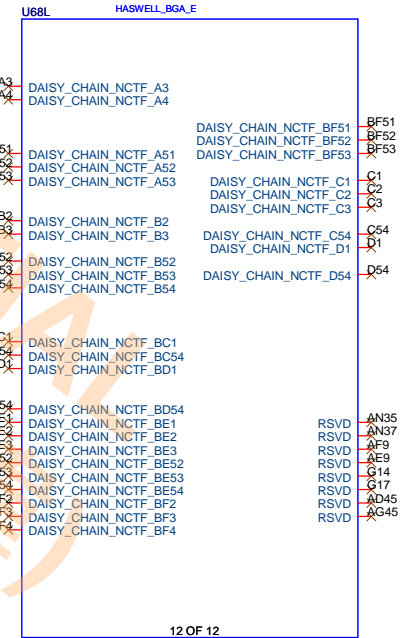


p.11 479493_479493_SharkBay_HSW_ext_rev2.0.pdf
Processor JTAG (TDI, TDO, TMS, TRST#, TCK) signals, PREQ# and PRDY# signals have adequate internal bias resistances to support the removal of the external pull up and pull down on the board when debug is no longer needed.

Haswell (DDR3L)

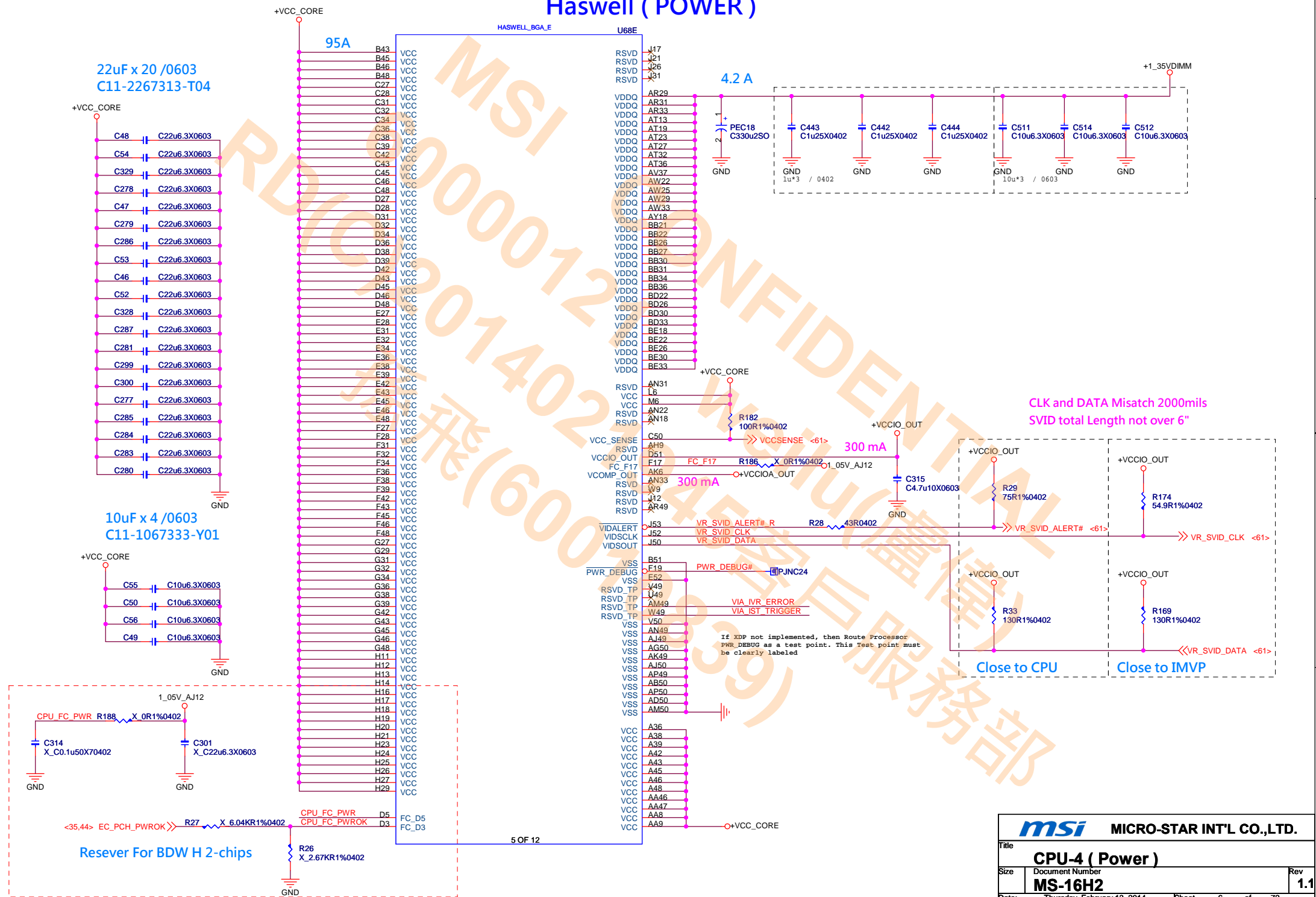


To eDP Panel

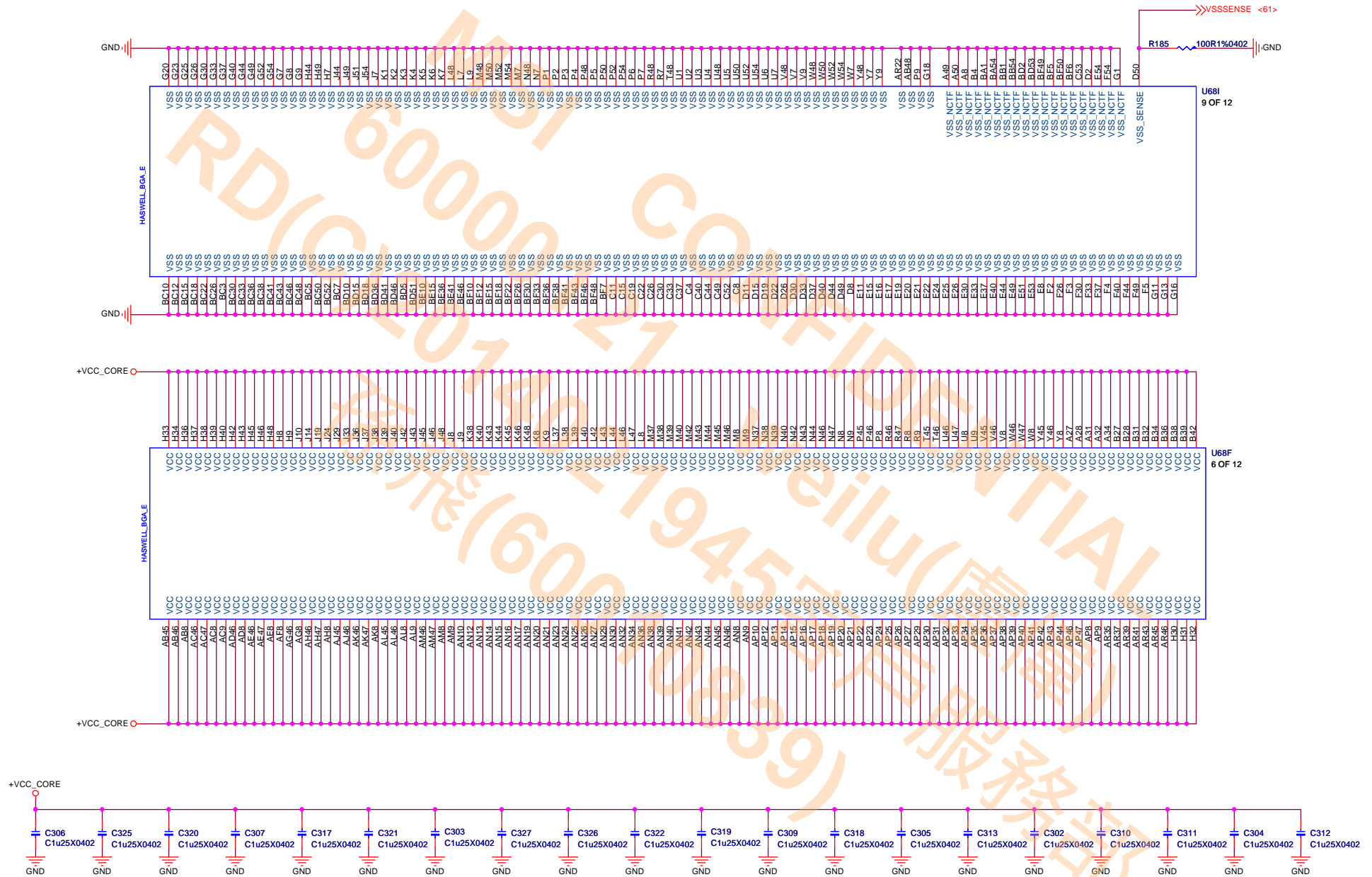


PEG DEFER TRAINING	
CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training

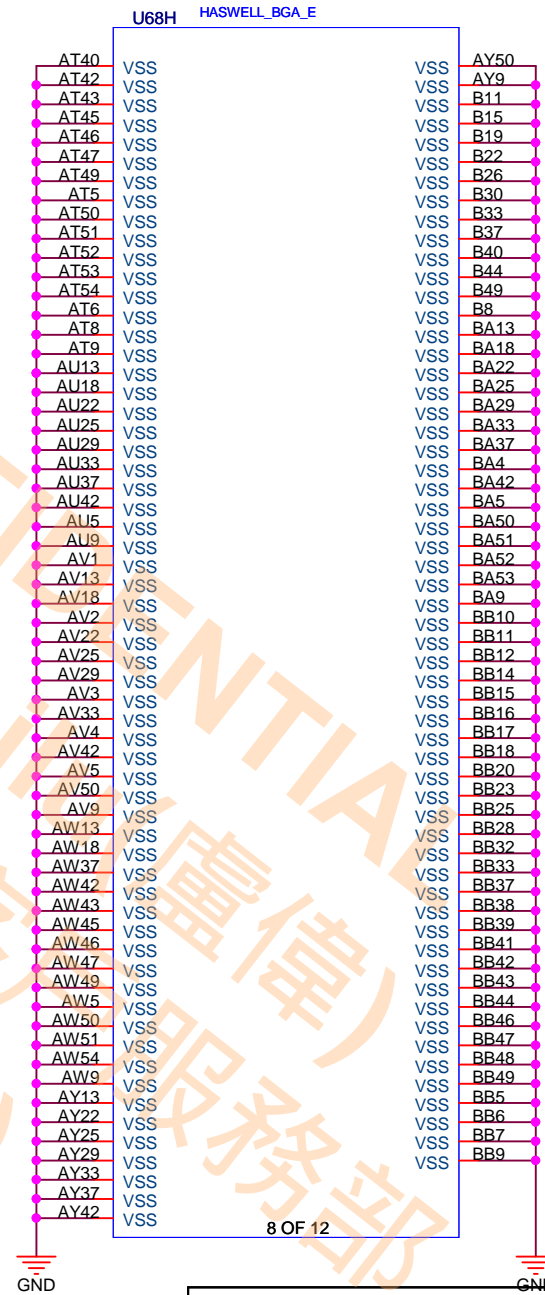
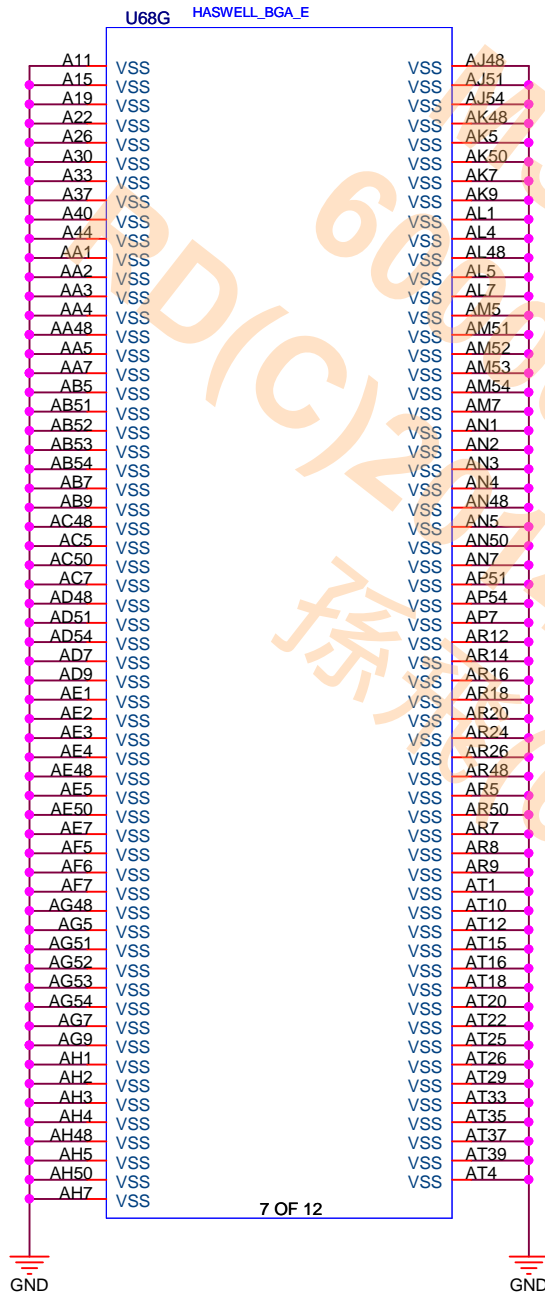
Haswell (POWER)



Haswell (Power & GND)



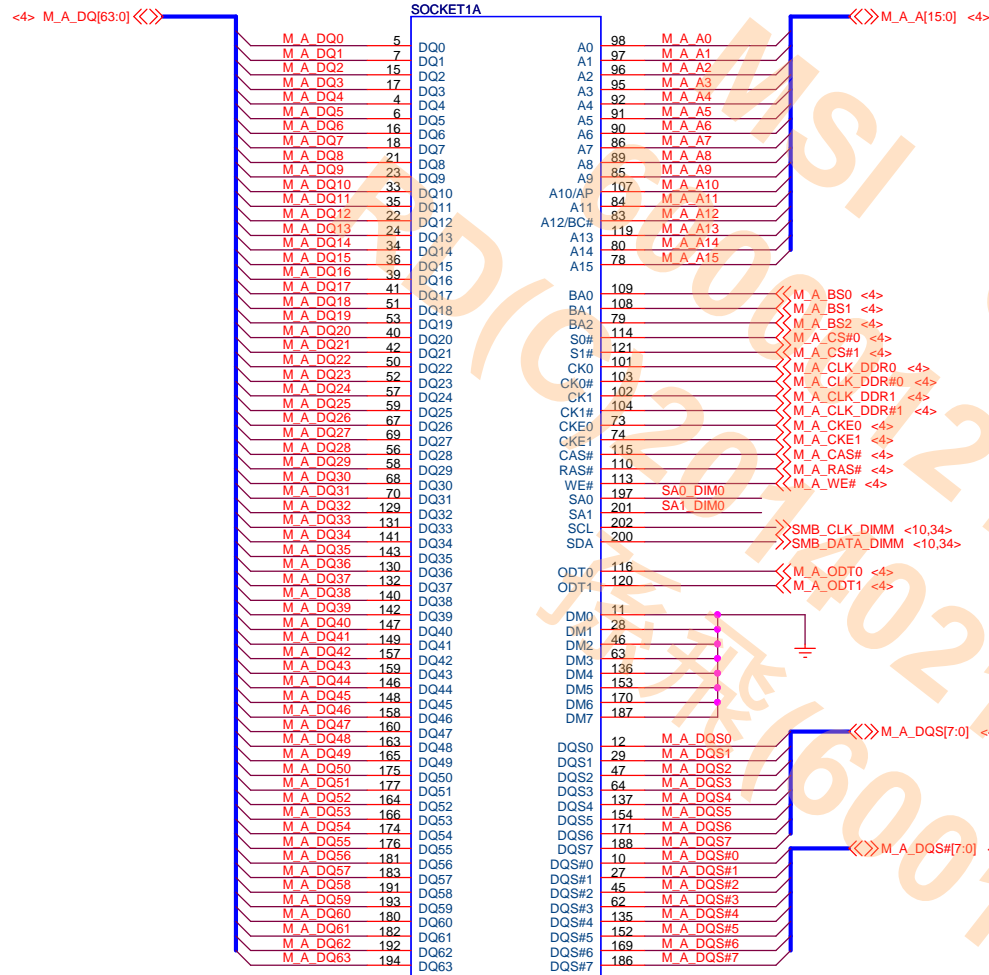
Haswell (GND)



MICRO-STAR INT'L CO.,LTD.

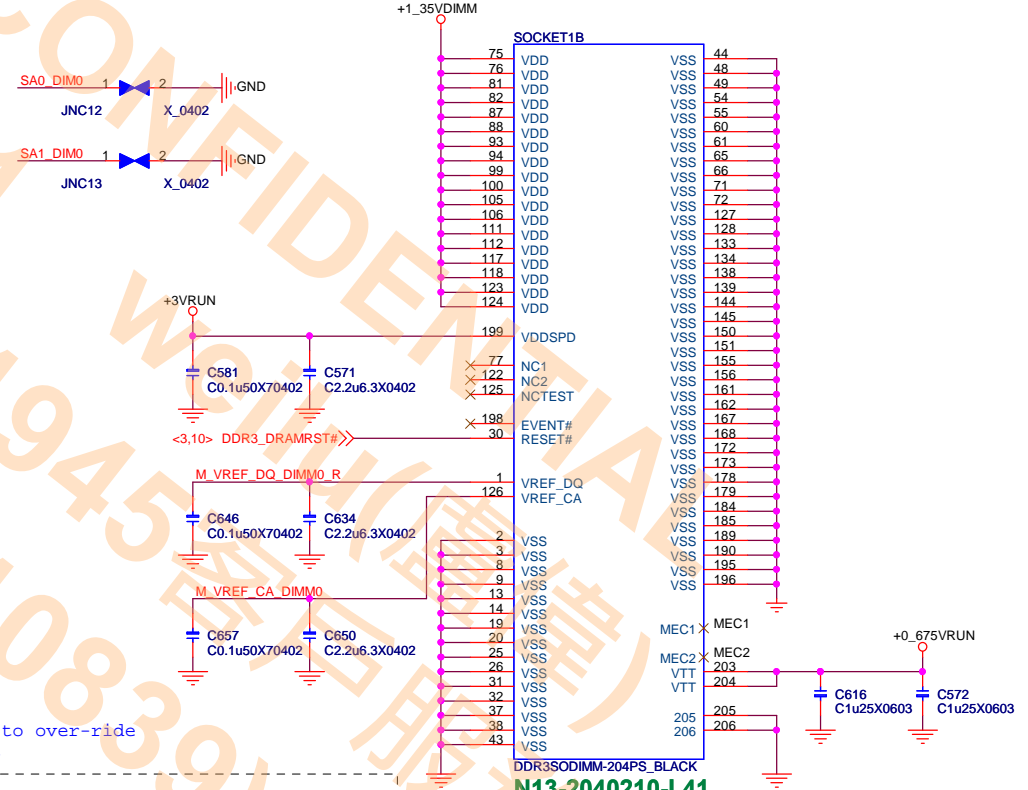
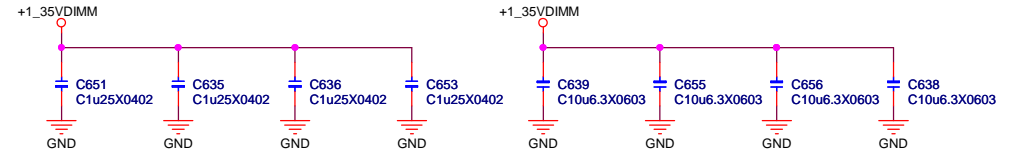
Title			CPU-5 (GND)	
Size	Document Number		Rev	
	MS-16H2		1.1	
Date:	Thursday, February 13, 2014		Sheet	8 of 72

SODIMM#A

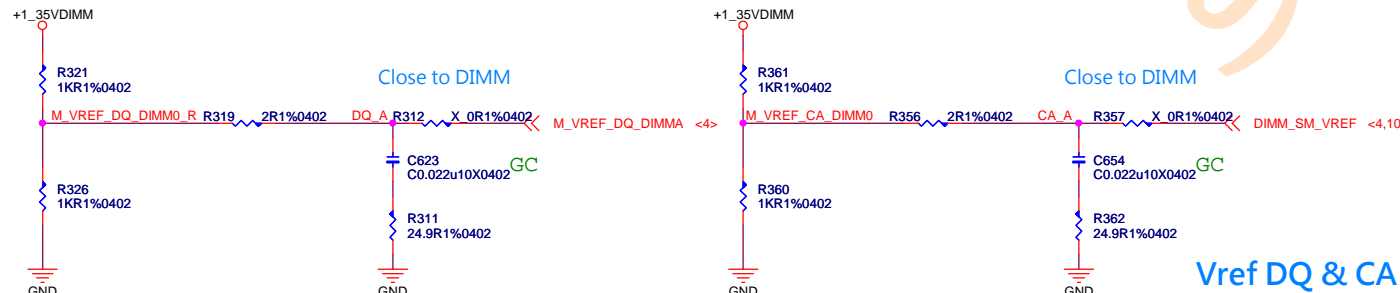


DDR3SODIMM-204PS_BLACK
N13-2040210-L41

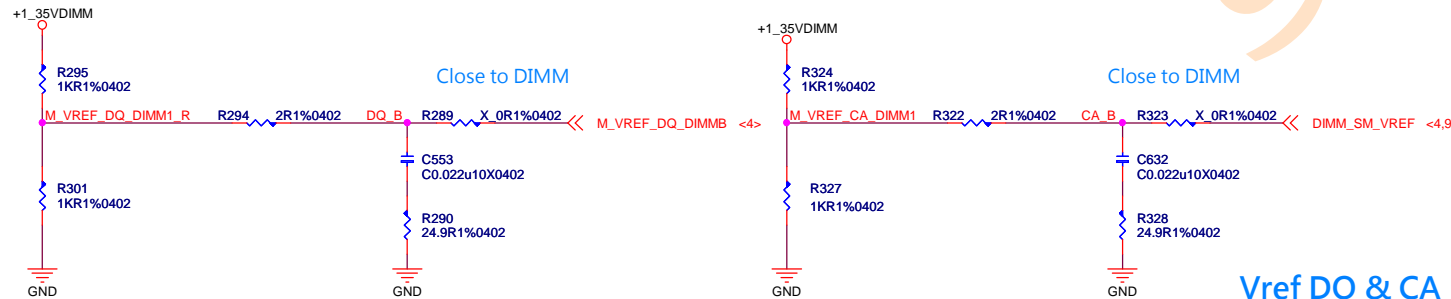
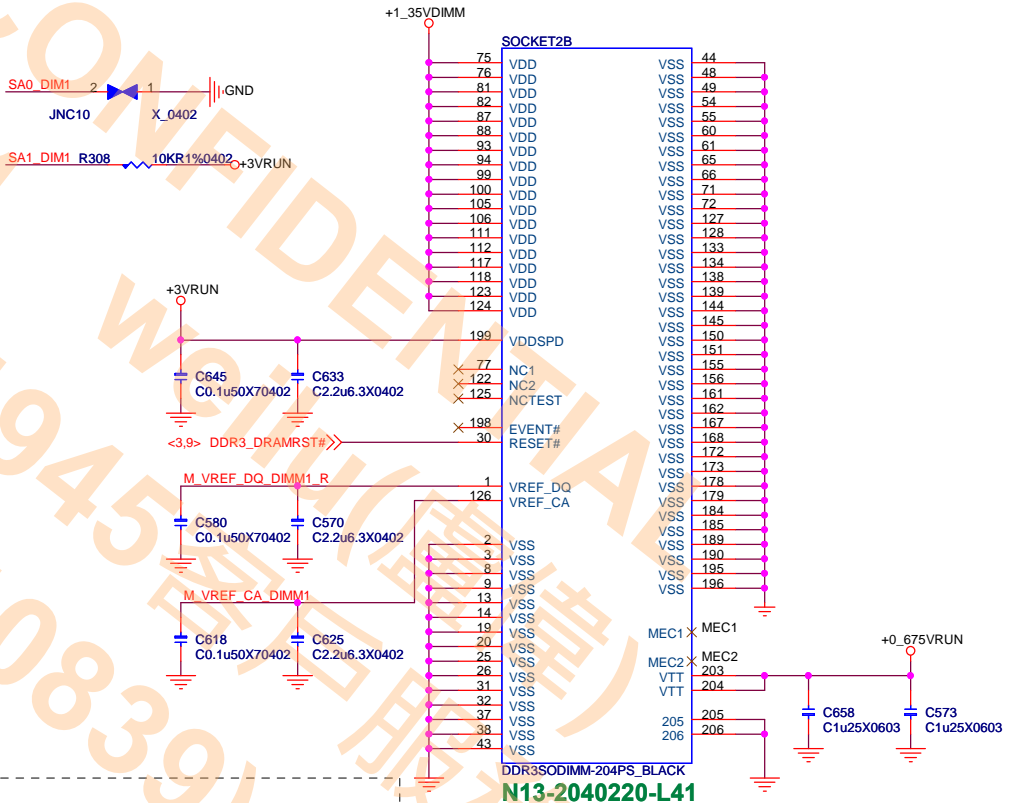
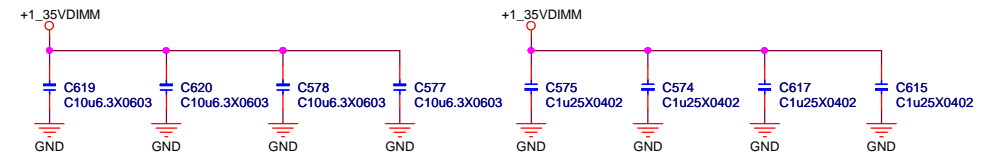
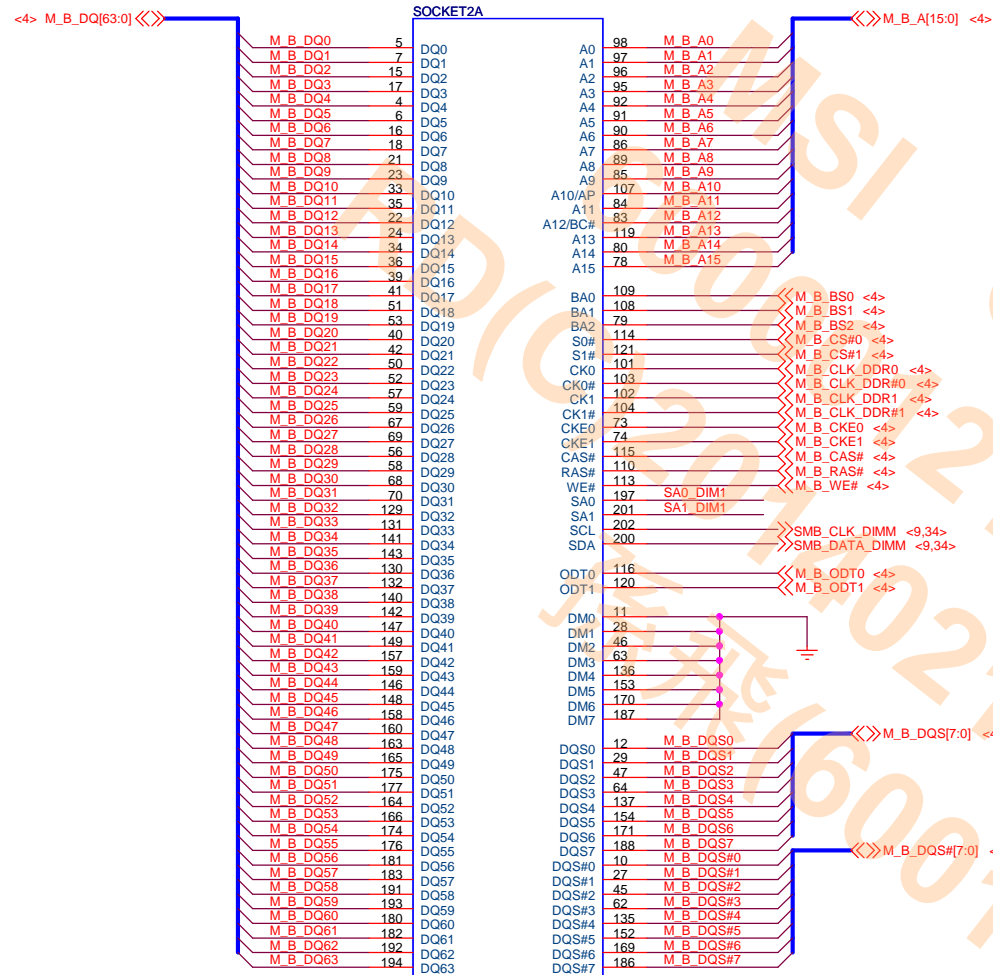
M1(used for S3)
M3(used for S0), maybe to over-ride
Active when soft-start



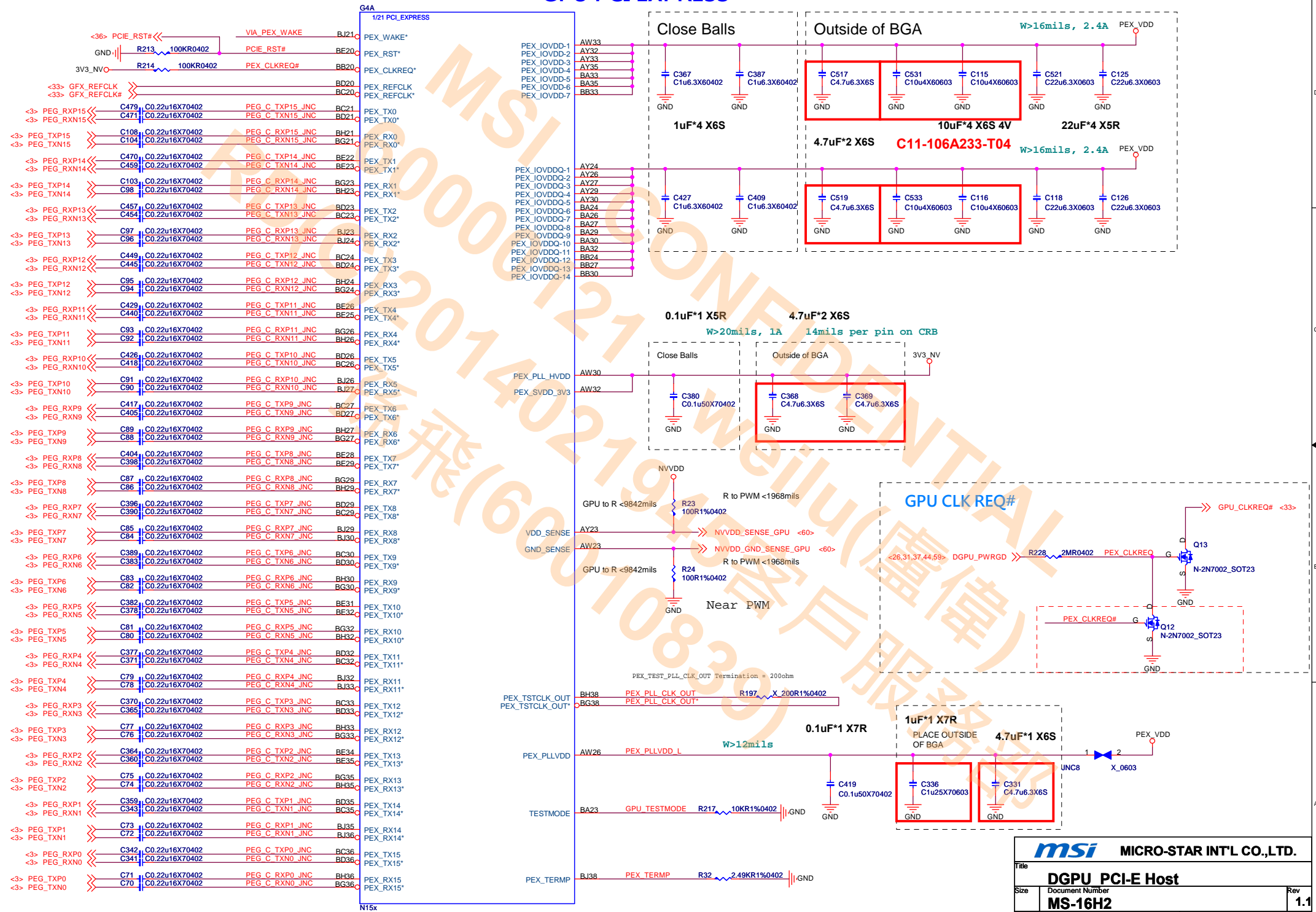
DDR3SODIMM-204PS_BLACK
N13-2040210-L41



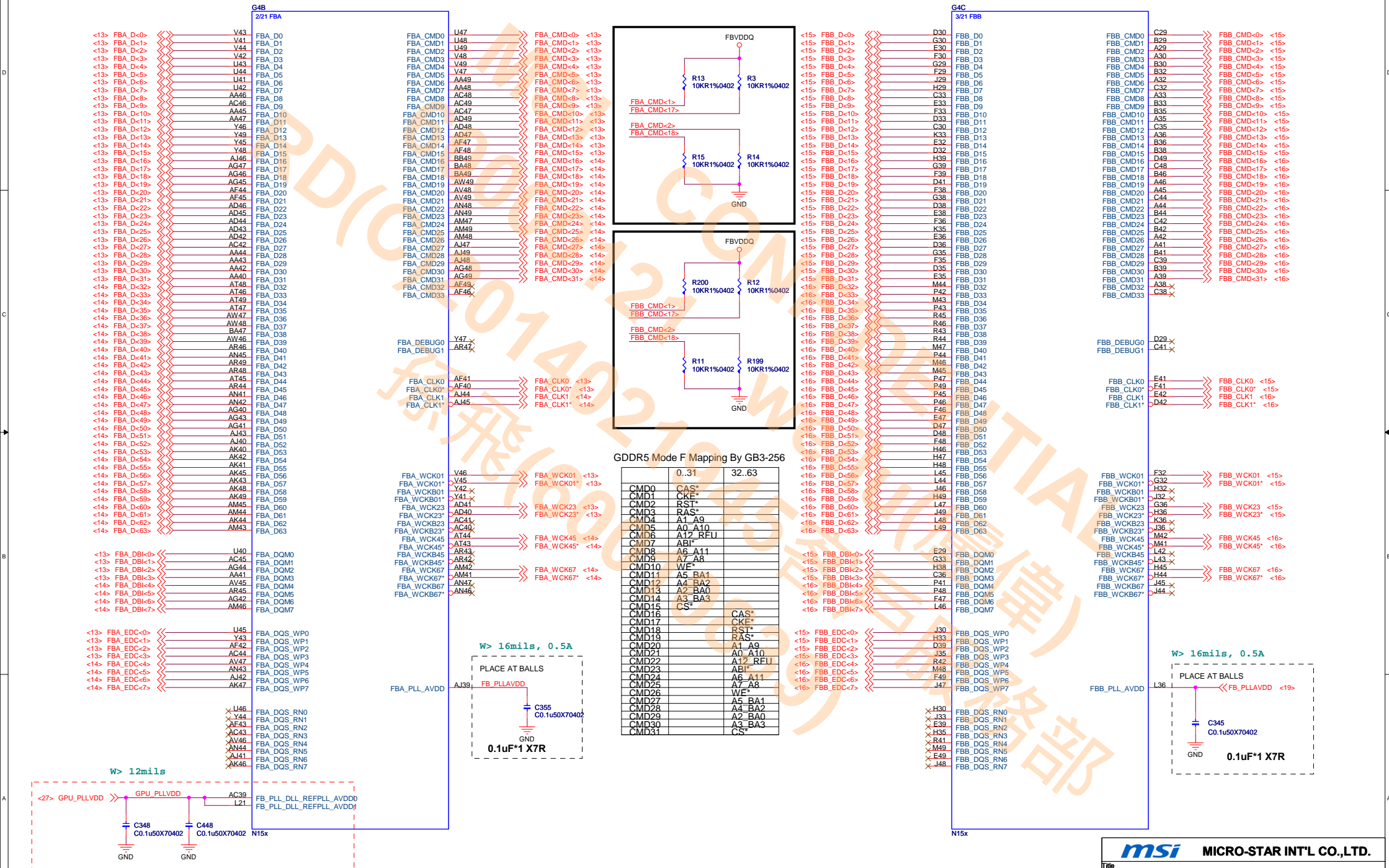
SODIMM#B



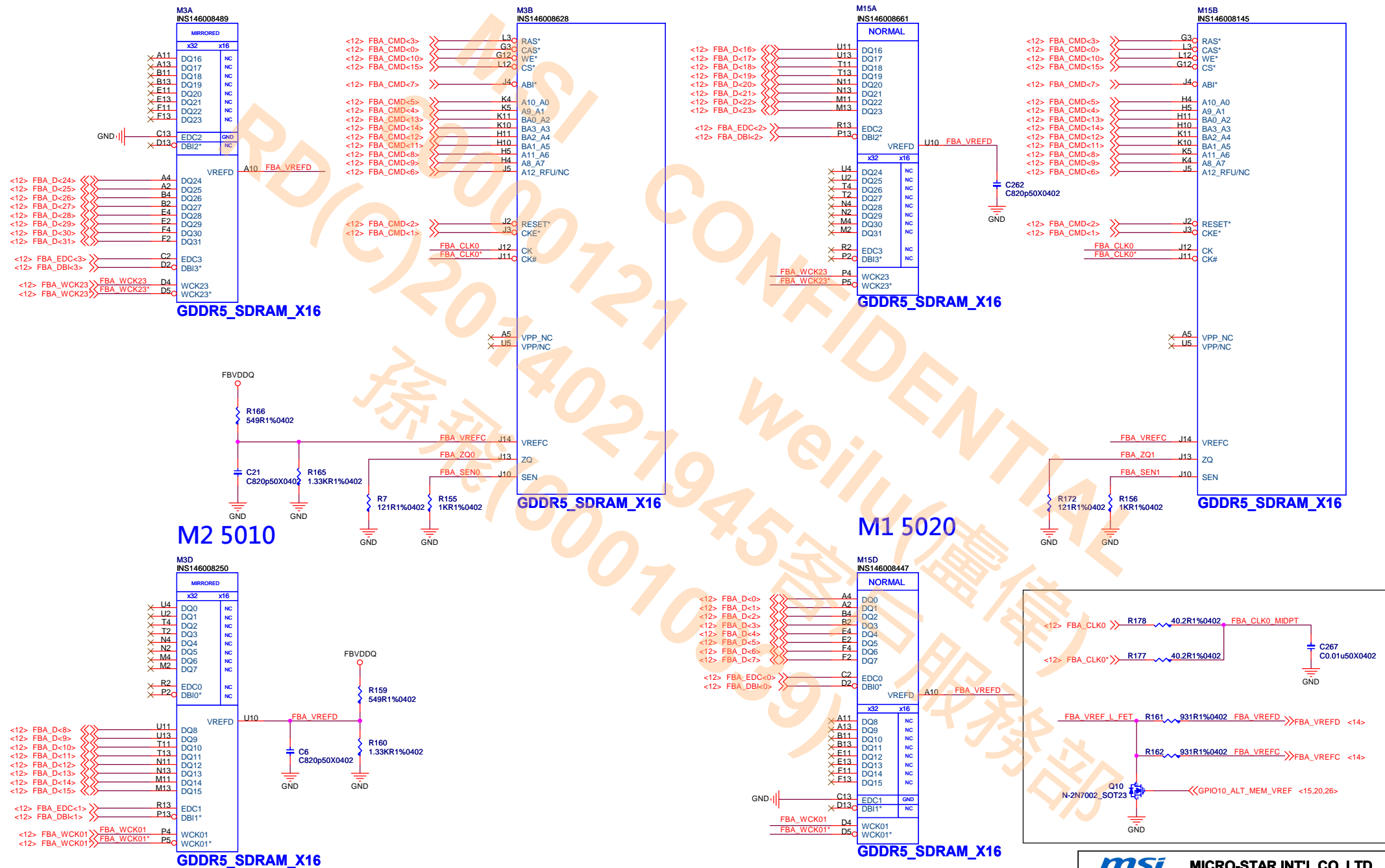
GPU PCI EXPRESS



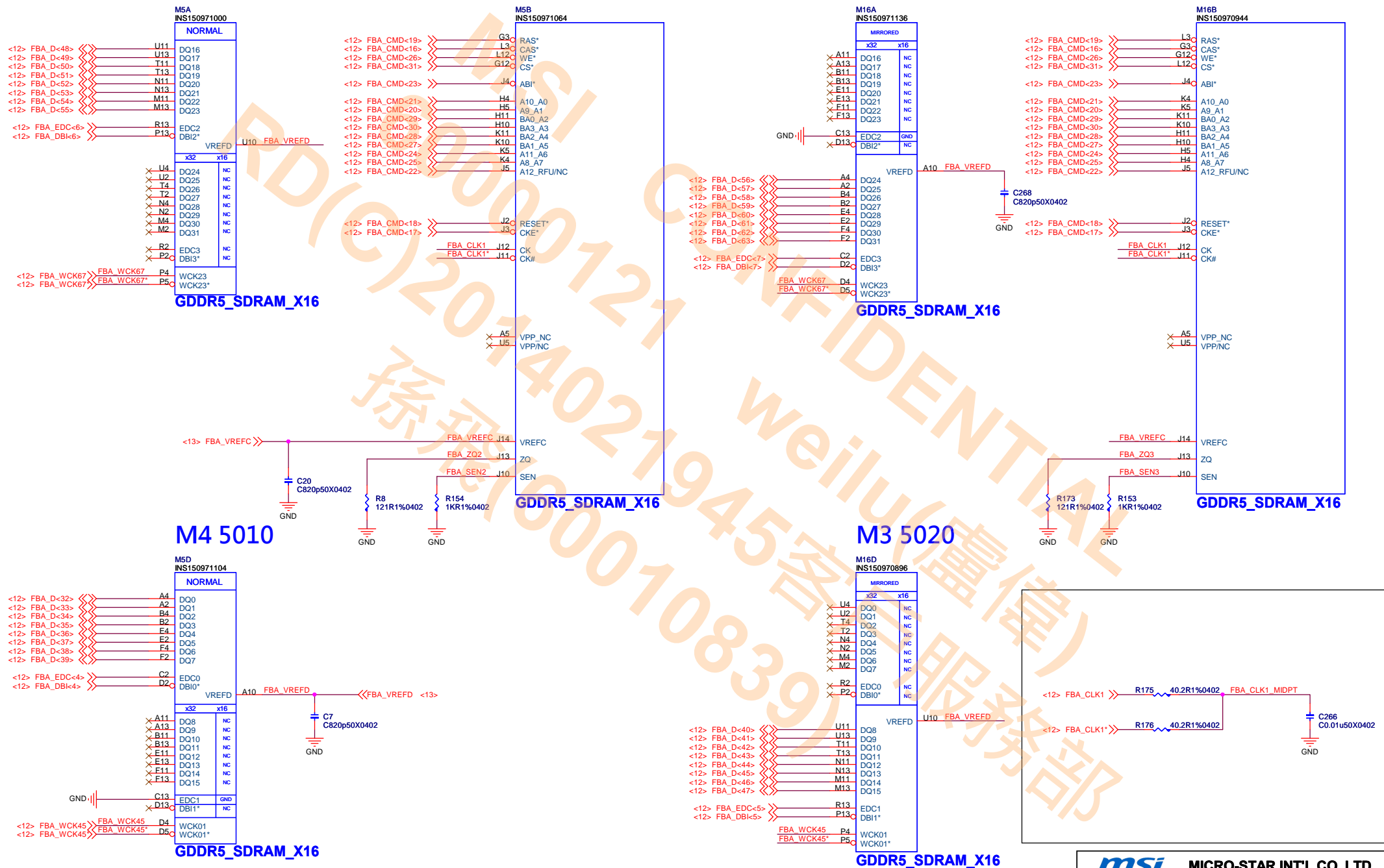
GPU Frame Buffer Partition A/B



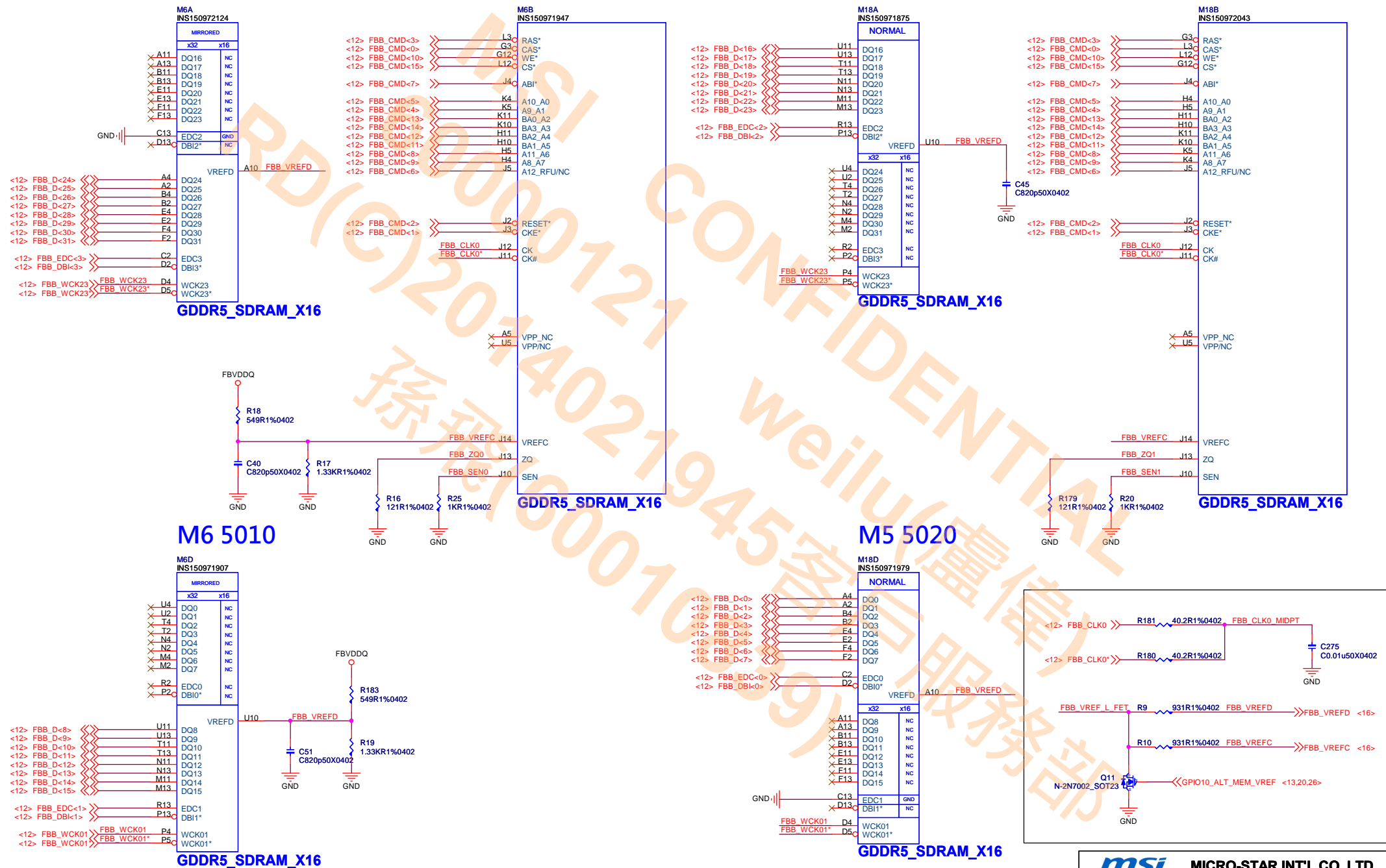
DGPU_GDDR5 FrameBuffer A0



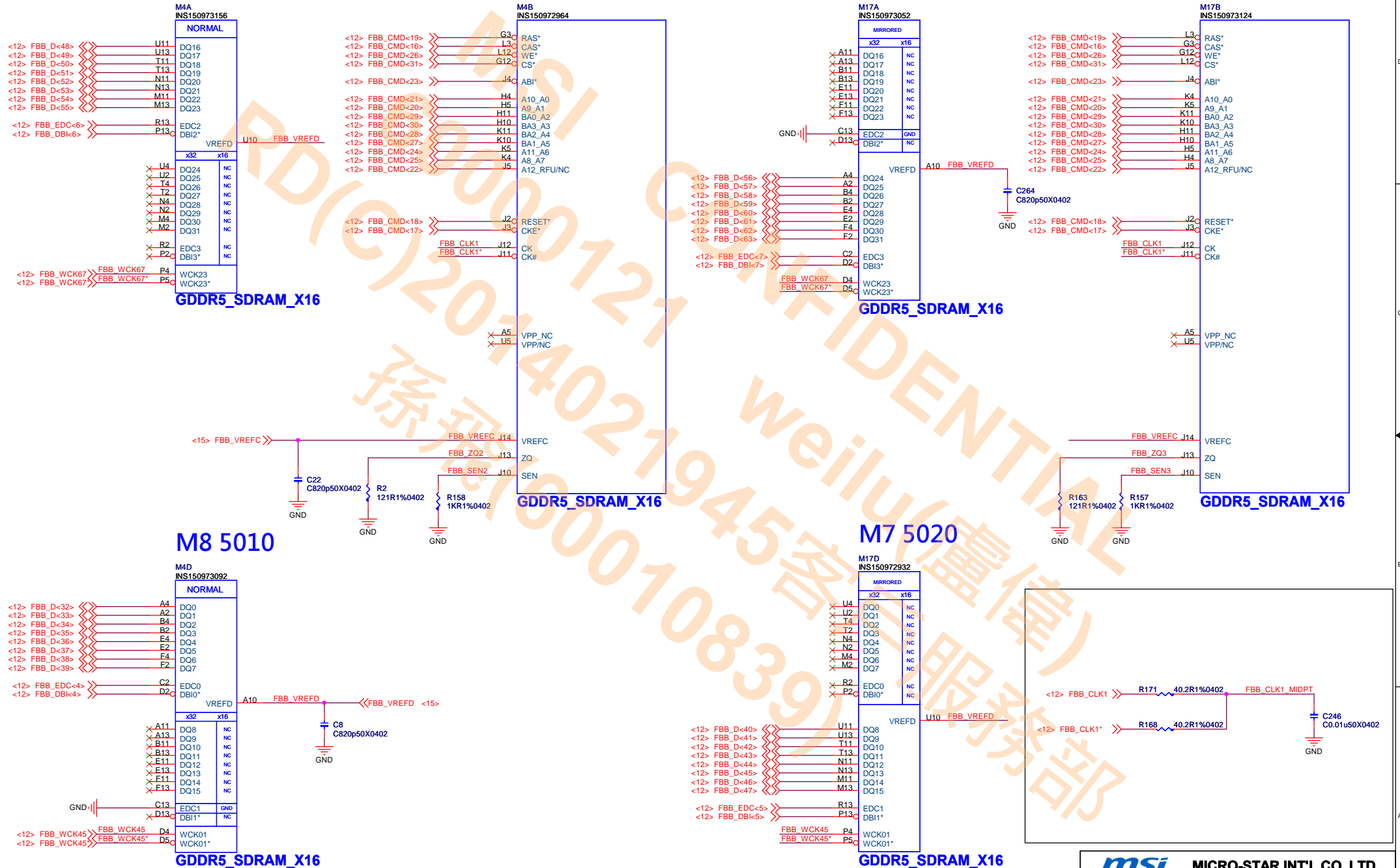
DGPU_GDDR5 FrameBuffer A1



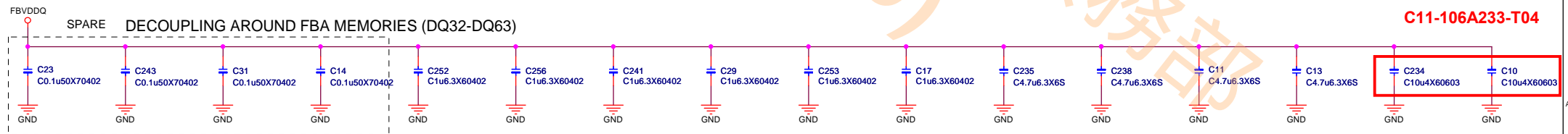
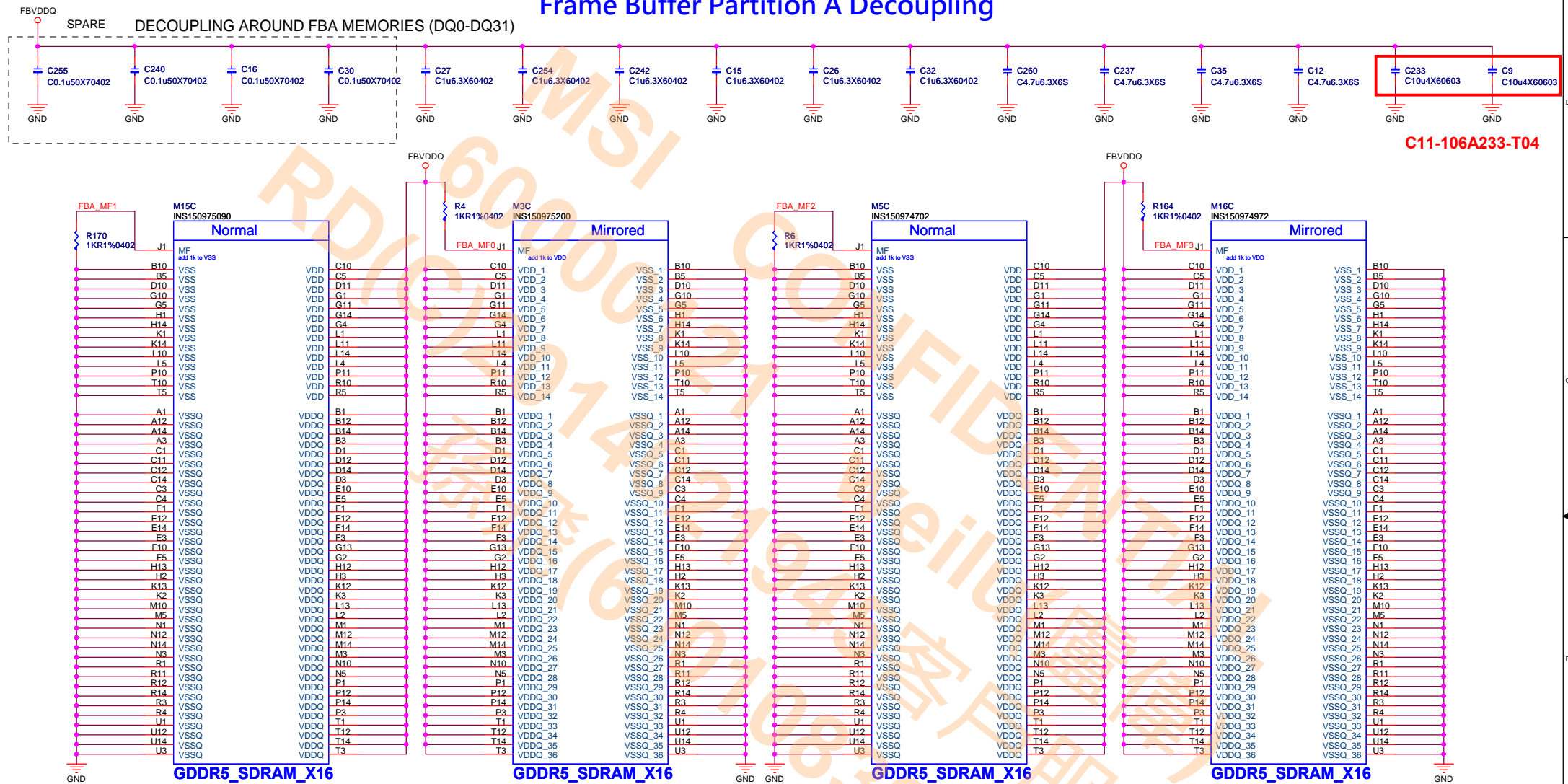
DGPU_GDDR5 FrameBuffer B0



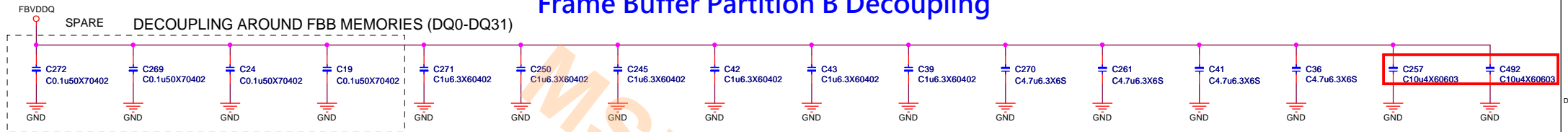
DGPU_GDDR5 FrameBuffer B1



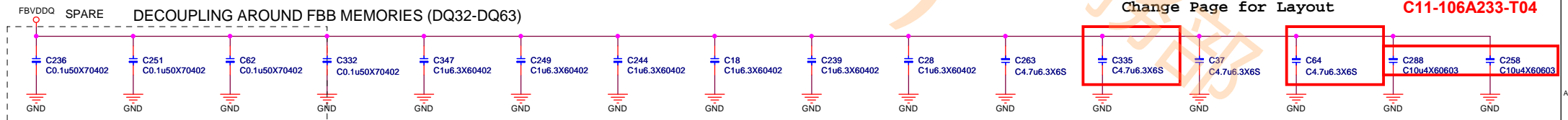
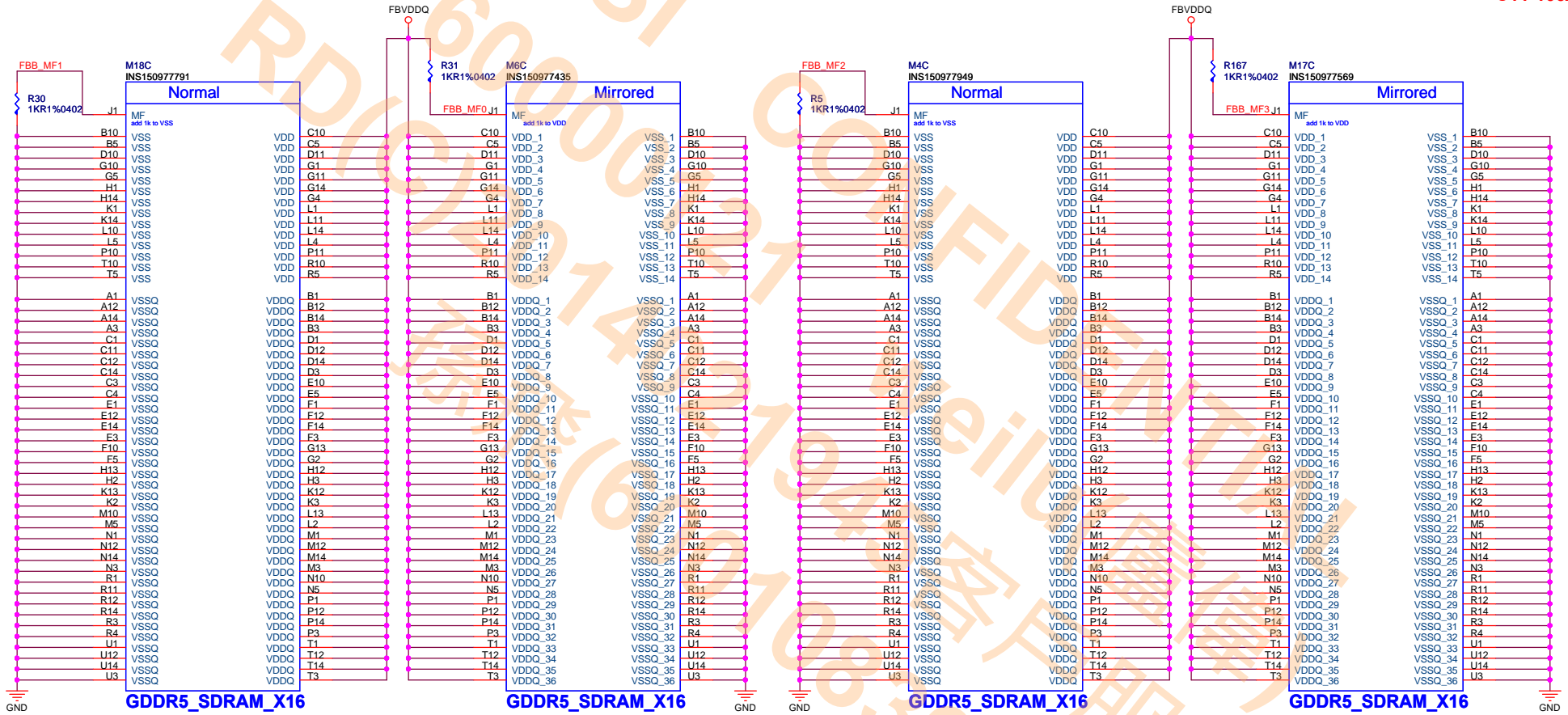
Frame Buffer Partition A Decoupling



Frame Buffer Partition B Decoupling



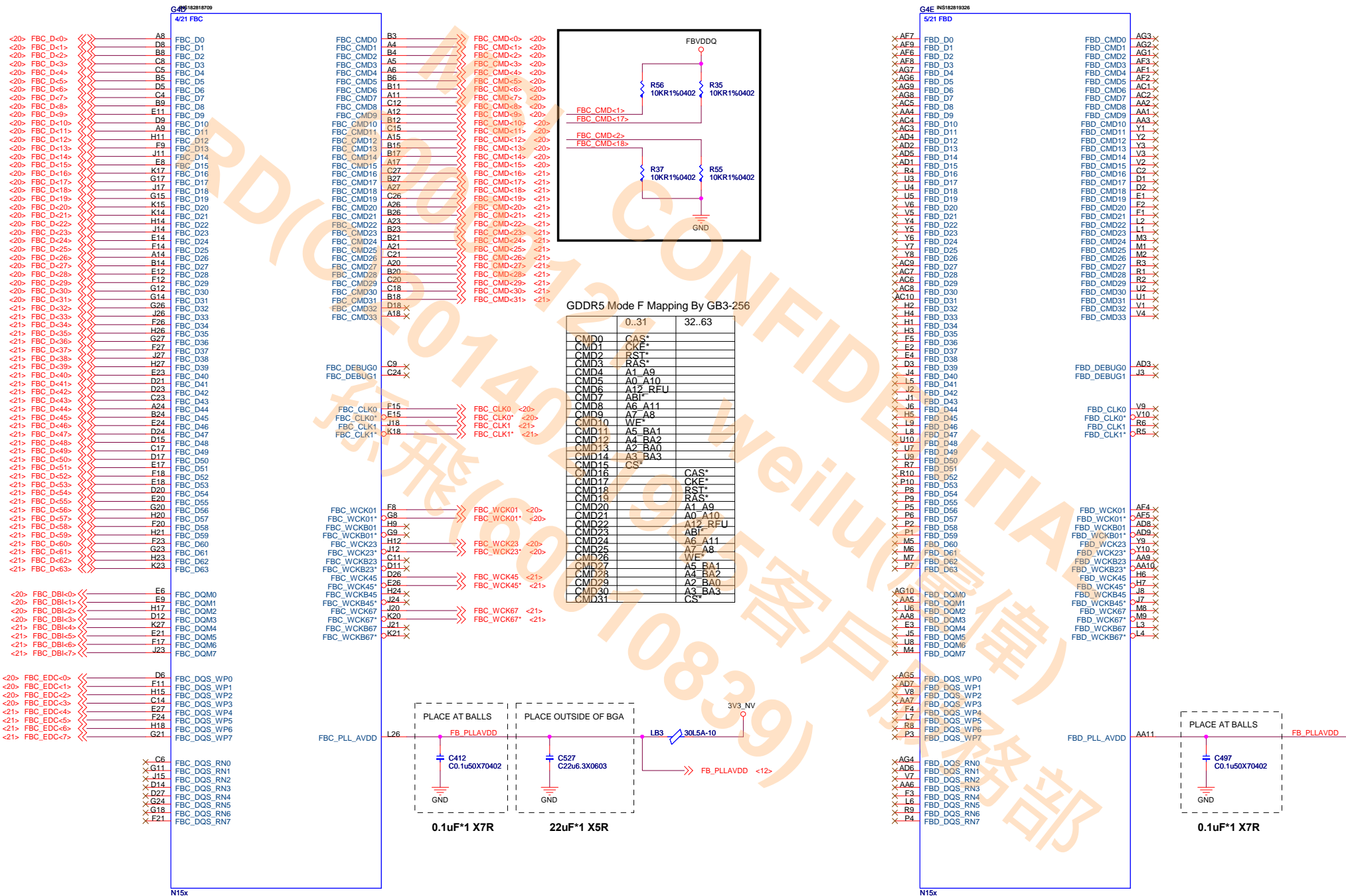
C11-106A233-T04



Change Page for Layout

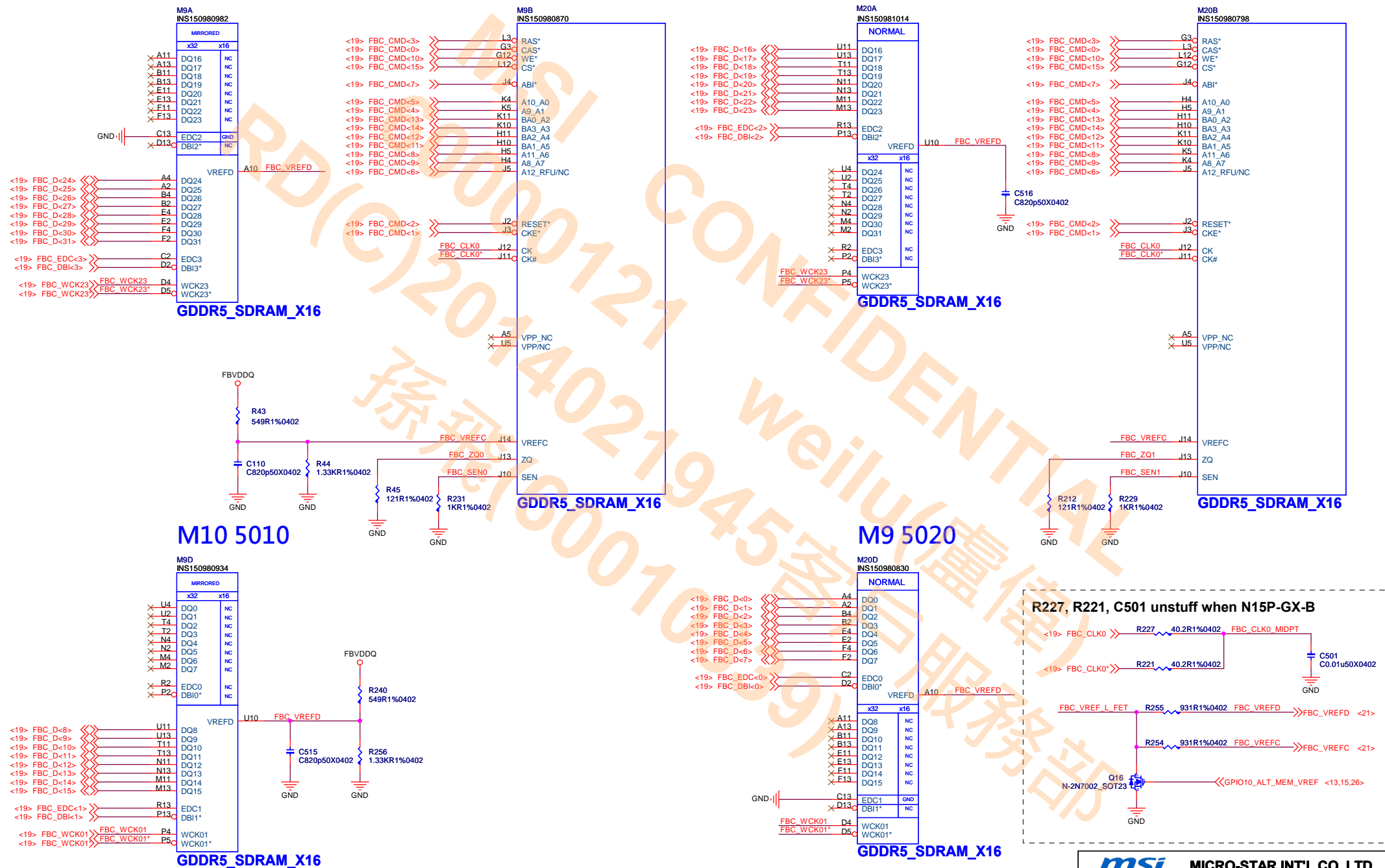
C11-106A233-T04

GPU Frame Buffer Partition C/D



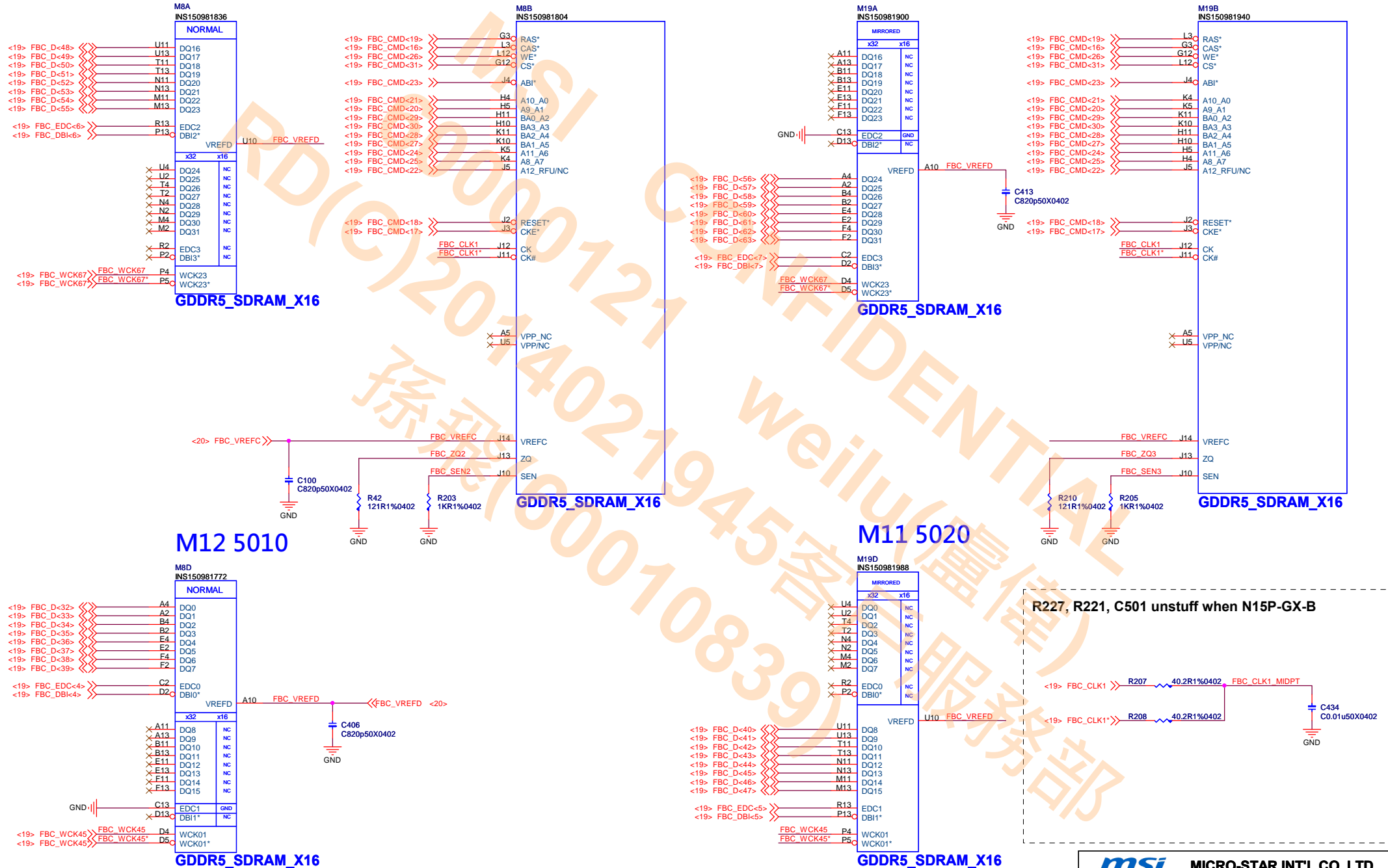
DGPU_GDDR5 FrameBuffer C0

(N15P-GX-B ALL unstuff)



DGPU_GDDR5 FrameBuffer C1

(N15P-GX-B ALL unstuff)



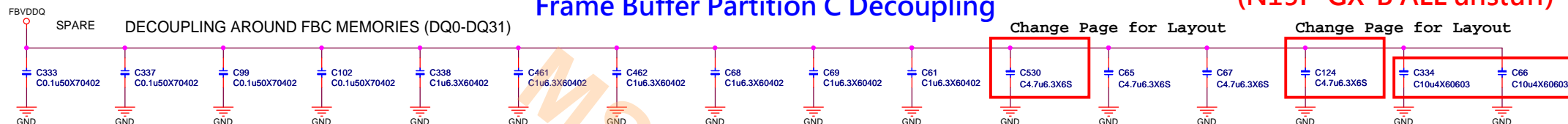
R227, R221, C501 unstuff when N15P-GX-B

<19> FBC_CLK1 <19> FBC_CLK1* <19> FBC_CLK1 MIDPT

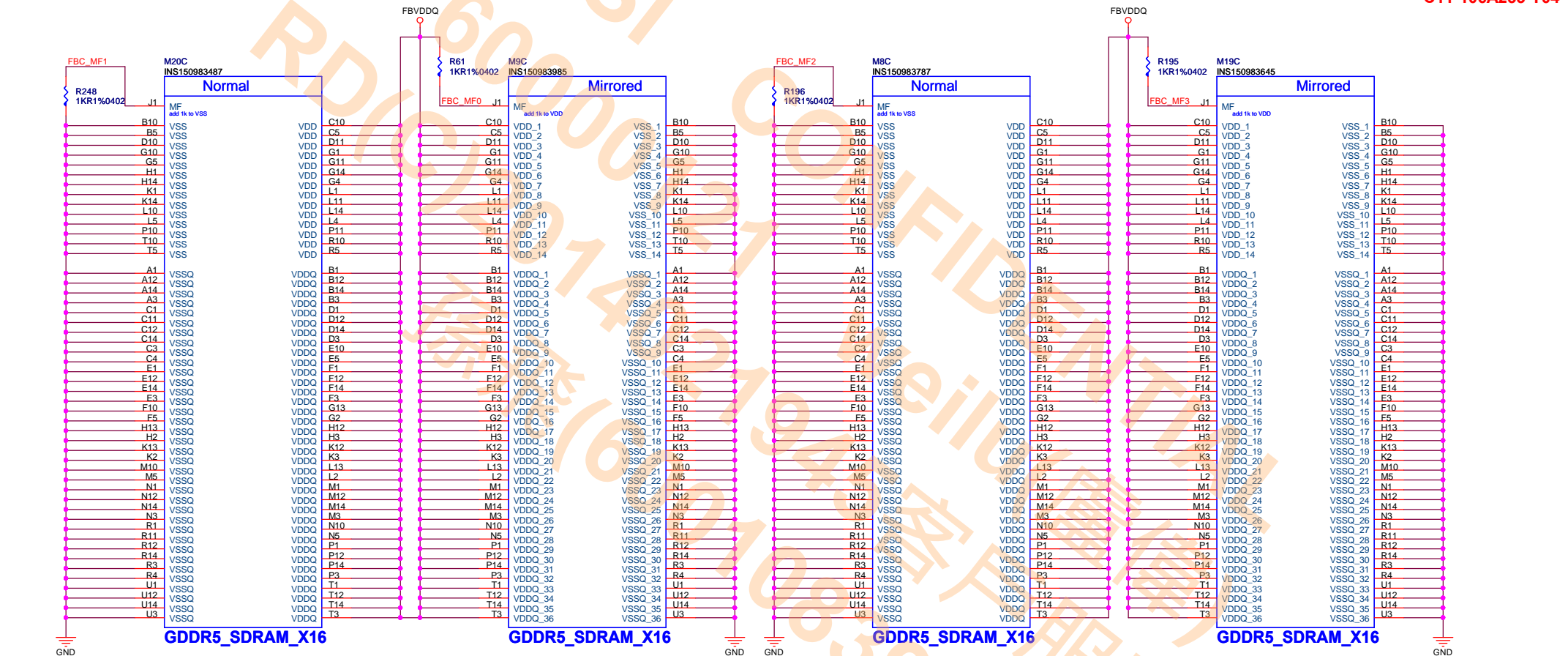
C434 C0.01u50X0402

Frame Buffer Partition C Decoupling

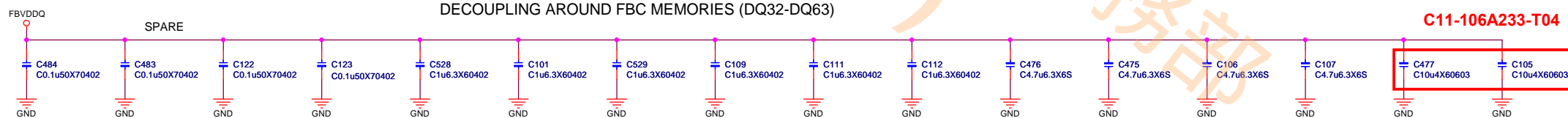
(N15P-GX-B ALL unstuff)



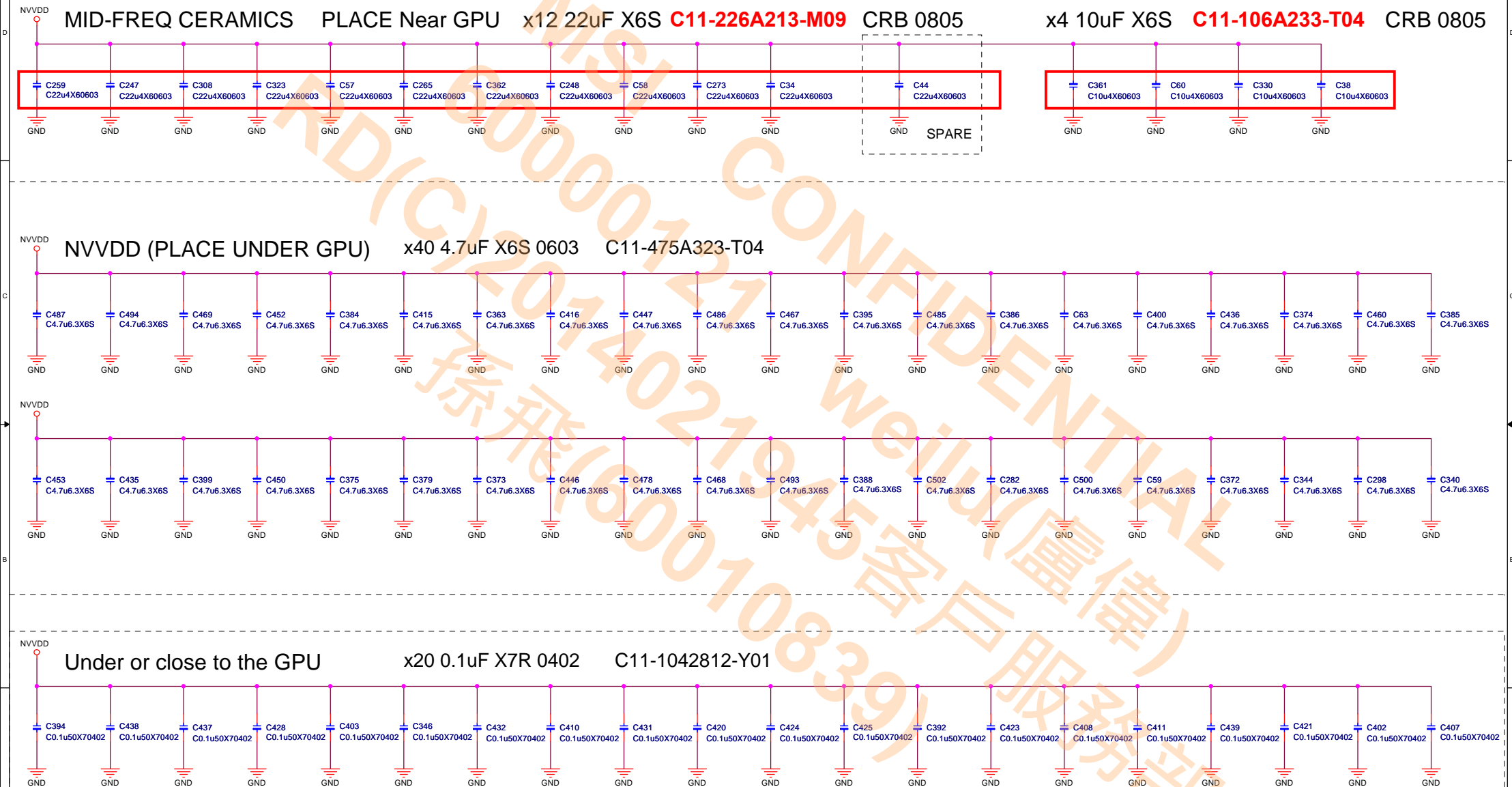
C11-106A233-T04



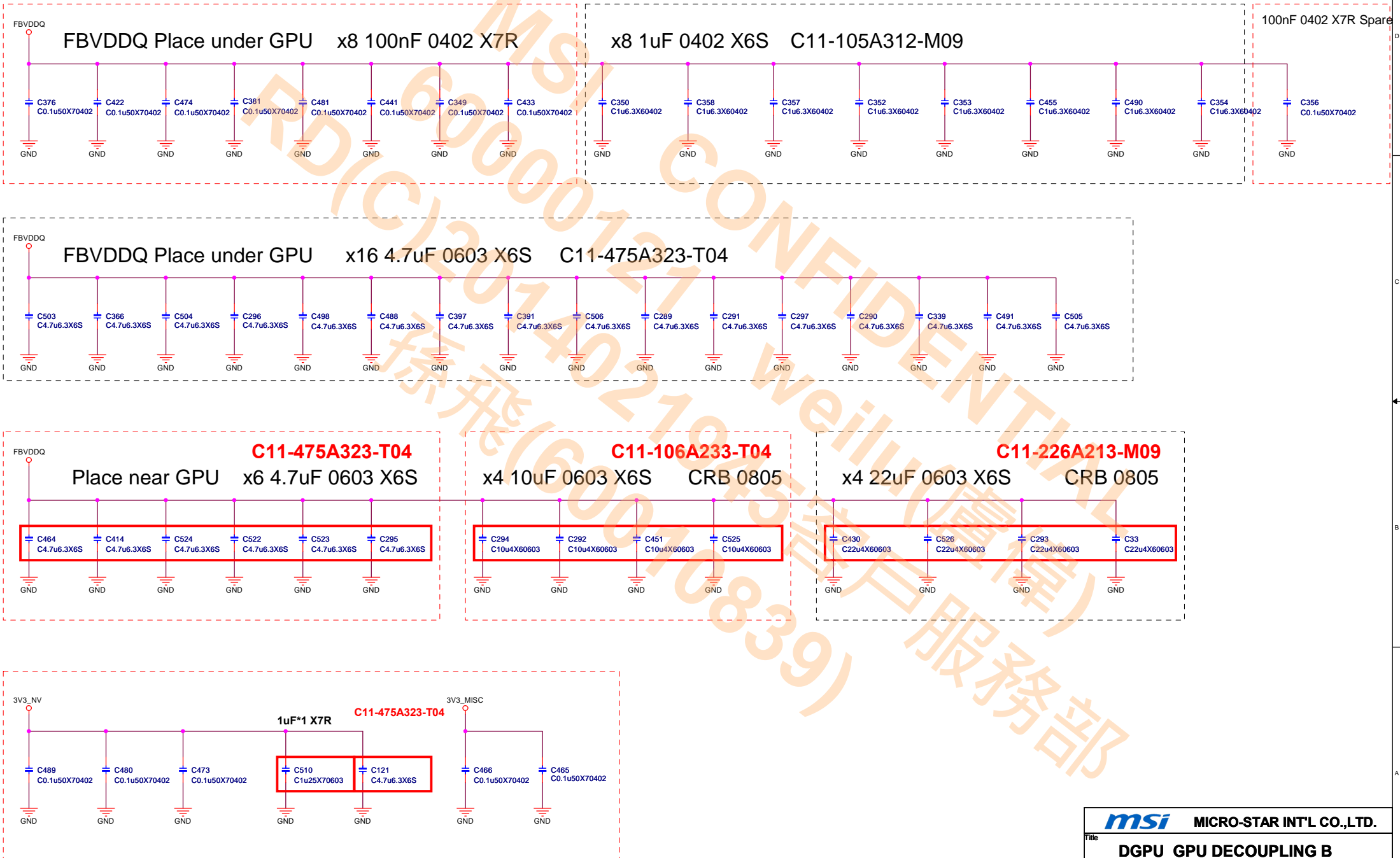
C11-106A233-T04



GPU DECOUPLING A



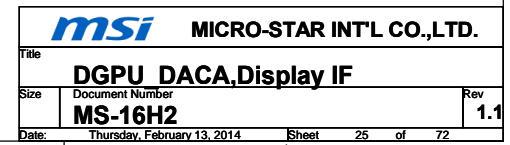
GPU DECOUPLING B



[illegible]

G4G	
6/21 DACA	
DACA_VDD	I2CA_SCL
DACA_VREF	I2CA_SDA
DACA_RSET	DACA_HSYNC
	DACA_VSYNC
	DACA_RED
	DACA_GREEN
	DACA_BLUE

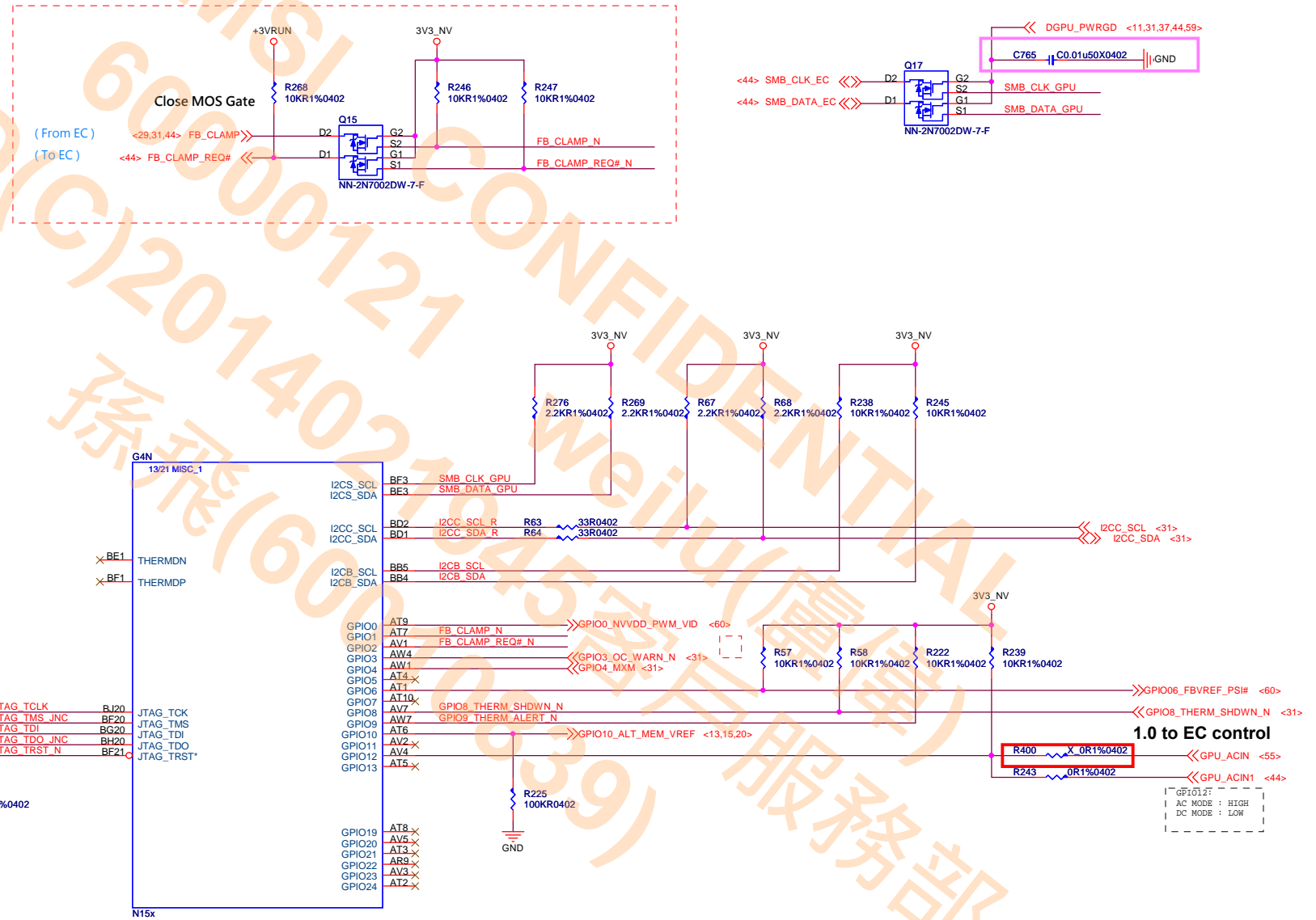
N15x



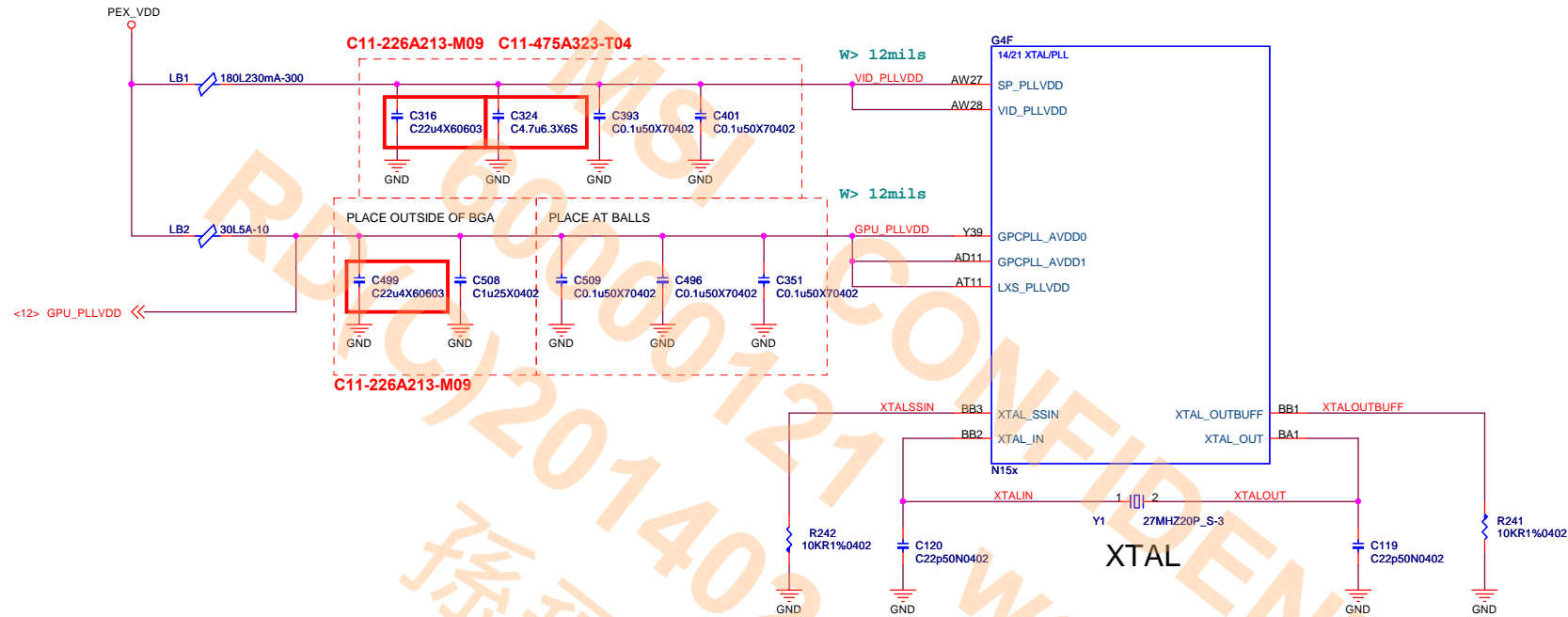
DGPU GPIO, I2C

GB3-256 GPIO(Design Guide Table 12-2)

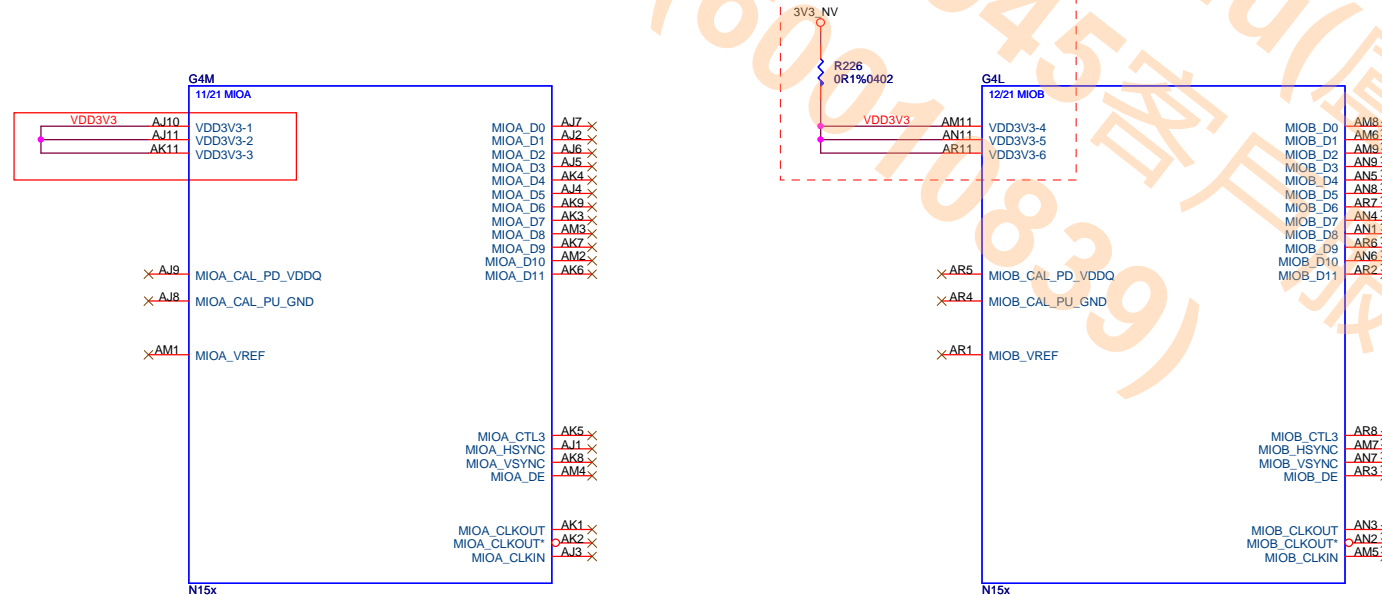
GPIO	I/O	Function
0	OUT	PWM VID
1	IN	FB_CLAMP_MON
2	OUT	FB_CLAMP_MON_TGL_REQ
3	IN	OC_WARN
4	N/A	Reserved
5	N/A	Reserved
6	OUT	PSI
7	OUT	LCD PWM
8	OUT	OVERT
9	I/O	ALERT
10	OUT	MEM_VREF_CTL
11	OUT	LCD_VCC
12	IN	PWM LEVEL
13	OUT	LCD_BLEN
14	IN	HPD_AB
15	IN	HPD_C
16	IN	HPD_F or HPD_B
17	IN	HPD_D
18	IN	HPD_E
19	OUT	3DVision
20	N/A	Reserved
21	I/O	RASTER_SYNC
22	IN	SWAP_RDY
23	N/A	Reserved
24	OUT	MEM_VDD_CTL



DGPU MIO & XTAL



Multi-use IO(MIO) Interface



ROM, MULTI-LEVEL STRAPS

M12-4132525-S02 M12-5GC2H05-H23

GND	3V3
5K	0000
10K	0001
15K	0010
20K	0011
25K	0100
30K	0101
35K	0110
45K	0111
PD	1111
	PU

STRAP0 BA6
STRAP1 AW8
STRAP2 BA7
STRAP3 BA8
STRAP4 BB6

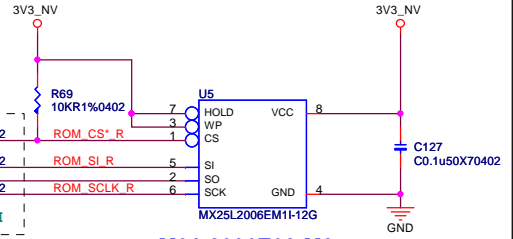
G40

15/21 MISC_2

ROM_CS* BA3
ROM_SI BA5
ROM_SO BA4
ROM_SCLK BA2

BUFRST* AW9
PGOOD AV9
CEC AV8

R59 33R0402
R65 33R0402
R66 33R0402



M31-2006E02-M24

RCFG1 Hynix A-die GDDR5M1 5010 GDDR5M2 5020
R11-3482T12-W08 M12-5GQ2HL5-H23 M12-5GQ2HL5-H23
X_34.8KR1%0402 X_H5GQ2H24AFR-R0X_H5GQ2H24AFR-R0C

RCFG2 Samsung GDDR5M3 5010 GDDR5M4 5020
R11-4532T12-W08 M12-2032585-S02 M12-2032585-S02
X_45.3KR1%0402 X_K4G20325FD-FC03 X_K4G20325FD-FC03

RCFG3 Hynix GDDR5M5 5010 GDDR5M6 5020
R11-0153T12-W08 M12-5GC4H05-H23 M12-5GC4H05-H23
X_15KR1%0402 X_H5GC4H24MFR-T2X_H5GC4H24MFR-T2C

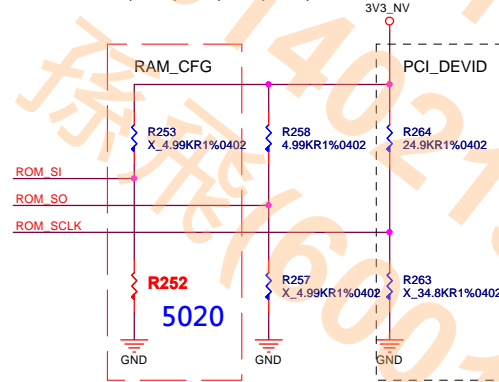
RCFG4 Micron GDDR5M7 5010 GDDR5M8 5020
R11-0103T12-W08 M12-4032B05-E59 M12-4032B05-E59
X_10KR1%0402 X_EDW4032BABG-60X_EDW4032BABG-60F

RCFG5 Samsung GDDR5M9 5010 GDDR5M10 5020
R11-0203T12-W08 M12-4132525-S02 M12-4132525-S02
X_20KR1%0402 X_K4G41325FC-HC03 X_K4G41325FC-HC03

RCFG6 Hynix B-die GDDR5M11 5010 GDDR5M12 5020
R11-2492T12-W08 M12-5GC2H05-H23 M12-5GC2H05-H23
X_24.9KR1%0402 X_H5GC2H24BFR-T2X_H5GC2H24BFR-T2C

GDDR5 Parts

5020 : M15, M16, M17, M18, M19, M20
5010 : M3, M4, M5, M6, M8, M9



R252

For Hynix 128Mx16 a-die 35KR 1%
For Samsung 128Mx16 45KR 1%
For Hynix 128Mx16 b-die 25KR 1%

For Hynix 256Mx16 15KR 1%
For Elpida 256Mx16 10KR 1%
For Samsung 256Mx17 20KR 1%

Setting

Hynix 128Mx16 a-die RCFG1 GDDR5M1 GDDR5M2
Samsung 128Mx16 RCFG2 GDDR5M3 GDDR5M4
Hynix 128Mx16 b-die RCFG6 GDDR5M11 GDDR5M12

Hynix 256Mx16 RCFG3 GDDR5M5 GDDR5M6
Elpida 256Mx16 RCFG4 GDDR5M7 GDDR5M8
Samsung 256x16 RCFG5 GDDR5M9 GDDR5M10

STRAP0	USER_BIT[3:0]	0xF: EDID	45K PU
STRAP1	3GIO_PADCFG_LUT_ADR[3:0]	0x0: DDI no used	5K PD
STRAP2	PCI_DEVID[3:0]	15E-GT 0x1199 15P-GX-B 0x119A	10K PU 15K PU
ROM_SO	VGA_DEVICE SMB_ALT_ADDR FB_0_BAR_SIZE XCLK_417	0x0001	5K PU
ROM_SI	RAM_CFG_0 RAM_CFG_1 RAM_CFG_2 RAM_CFG_3	0110 0111 0010 0001	35K PD 45K PD 15K PD 10K PD
ROM_SCLK	PCI_DEVID[4] SUB_VENDOR PCI_DEVID[5] PEX_PLL_EN_TERM100	1: 0x119=>1001 1: VBIOS ROM is Present 0: 0x119=>1001	25K PU
STRAP3	SOR_EXposed [3:0]	0000	5K PD
STRAP4	Reserved PCIe_Speed_Change_Gen3 PCIe_MAX_SPEED DP_PLL_VDD_33V	0 1: Enable PCIe Gen3 operation 1: Allow booting to GEN2/Gen3 1: ENABLED	45K PD

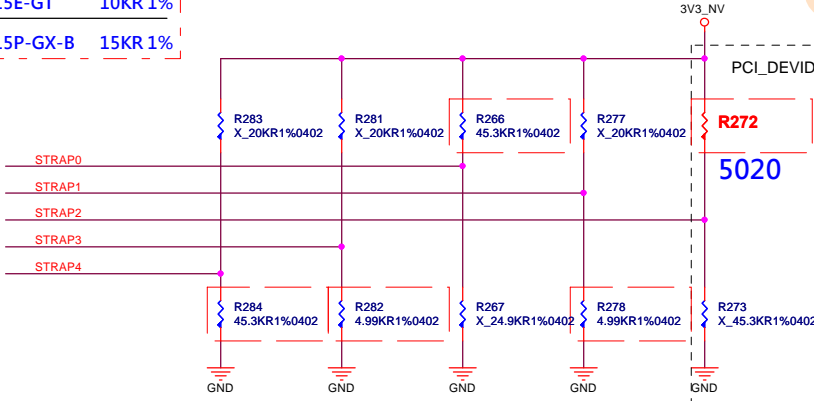
RGPU1 N15E-GT 5020
R11-0103T12-W08
X_10KR1%0402

R272 N15E-GT 10KR 1%
N15P-GX-B 15KR 1%

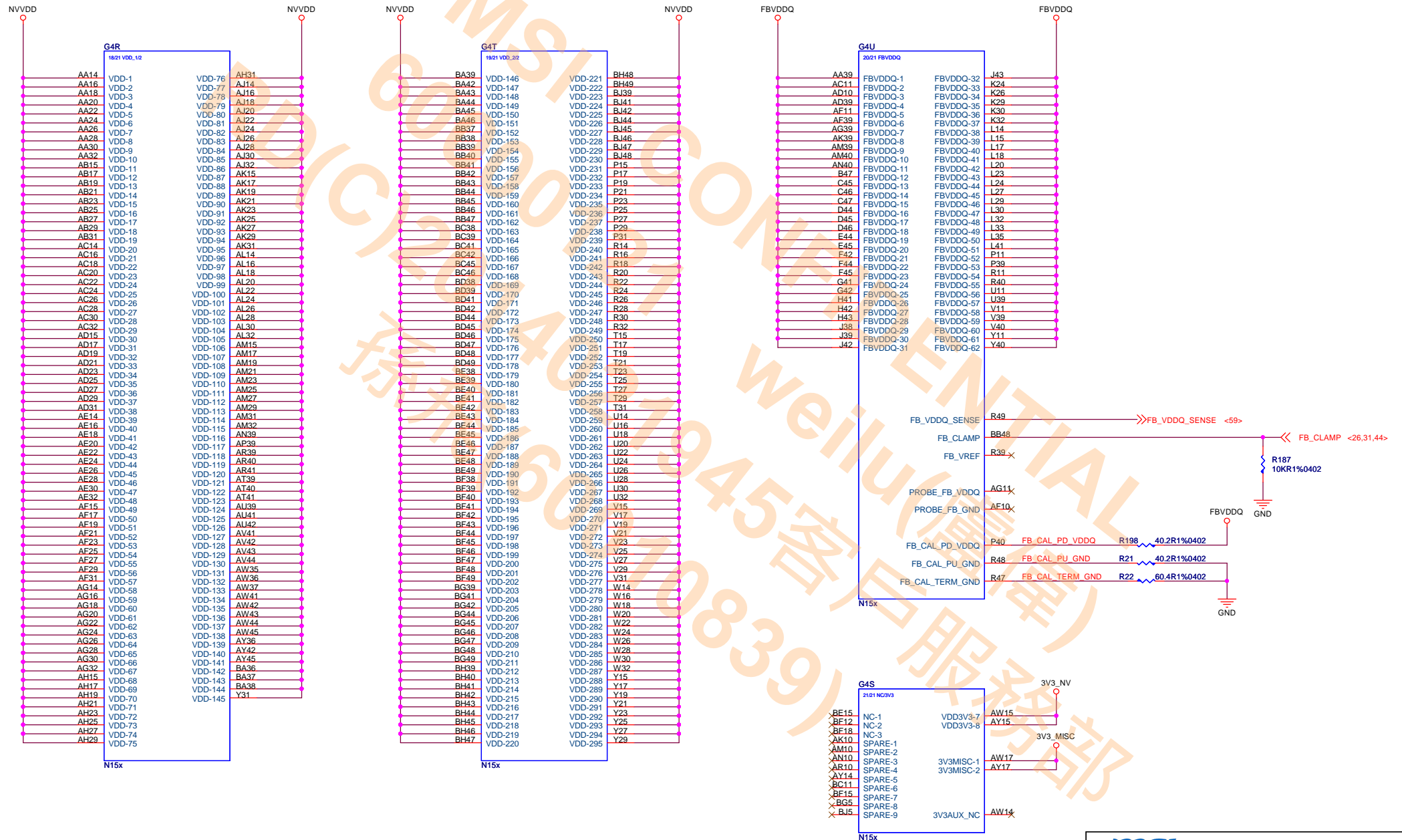
DGPU1 5010
B03-0N15E05-N08
X_N15E-GT-A2

RGPU2 N15P-GX-B 5020
R11-0153T12-W08
X_15KR1%0402

DGPU2 5010
B03-0N15P35-N08
X_N15P-GX-B-A2



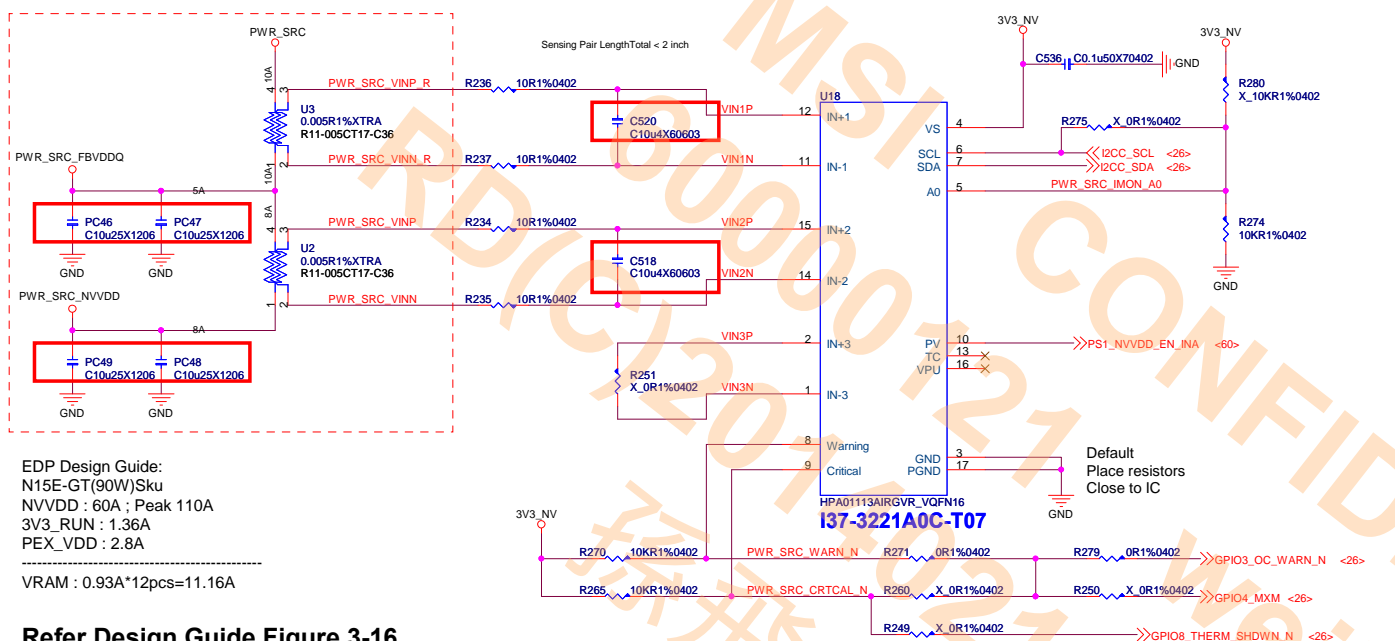
GPU NVVDD, FBVDDQ



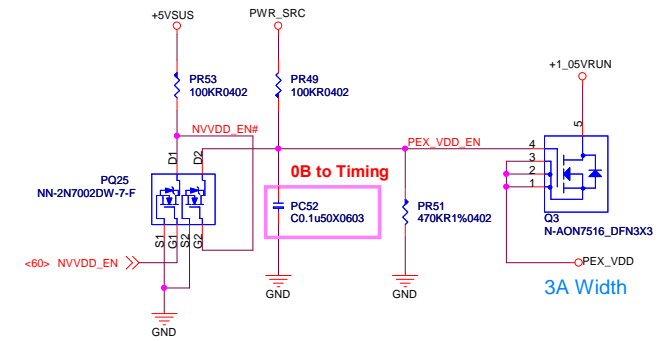
DGPU GND

A2	GND-1	A25	BB32	GND-241	K2
A3	GND-2	AK27	BB34	GND-242	K4
A4	GND-3	AK28	BB36	GND-243	K6
A7	GND-4	AK14	BB38	GND-244	K48
AA15	GND-5	AK16	BB2	GND-246	K5
AA17	GND-6	AK18	BB22	GND-247	K8
AA19	GND-7	AK20	BB24	GND-248	K8
AA21	GND-8	AK22	BB26	GND-249	K8
AA23	GND-9	AK24	BB28	GND-250	K8
AA25	GND-10	AK26	BB30	GND-251	K8
AA27	GND-11	AK28	BB32	GND-252	K8
AA29	GND-12	AK30	BB34	GND-253	K8
AA31	GND-13	AK32	BB36	GND-254	K8
AB11	GND-14	AL11	BB38	GND-255	K8
AB14	GND-15	AL12	BB40	GND-256	K8
AB18	GND-16	AL13	BB42	GND-257	K8
AB2	GND-17	AL14	BB44	GND-258	K8
AB20	GND-18	AL15	BB46	GND-259	K8
AB22	GND-19	AL16	BB48	GND-260	K8
AB24	GND-20	AL17	BB50	GND-261	K8
AB26	GND-21	AL18	BB52	GND-262	K8
AB28	GND-22	AL19	BB54	GND-263	K8
AB30	GND-23	AL20	BB56	GND-264	K8
AB32	GND-24	AL21	BB58	GND-265	K8
AB34	GND-25	AL22	BB60	GND-266	K8
AB36	GND-26	AL23	BB62	GND-267	K8
AB38	GND-27	AL24	BB64	GND-268	K8
AB40	GND-28	AL25	BB66	GND-269	K8
AB42	GND-29	AL26	BB68	GND-270	K8
AB44	GND-30	AL27	BB70	GND-271	K8
AB46	GND-31	AL28	BB72	GND-272	K8
AB48	GND-32	AL29	BB74	GND-273	K8
AB50	GND-33	AL30	BB76	GND-274	K8
AB52	GND-34	AL31	BB78	GND-275	K8
AB54	GND-35	AL32	BB80	GND-276	K8
AB56	GND-36	AL33	BB82	GND-277	K8
AB58	GND-37	AL34	BB84	GND-278	K8
AB60	GND-38	AL35	BB86	GND-279	K8
AB62	GND-39	AL36	BB88	GND-280	K8
AB64	GND-40	AL37	BB90	GND-281	K8
AB66	GND-41	AL38	BB92	GND-282	K8
AB68	GND-42	AL39	BB94	GND-283	K8
AB70	GND-43	AL40	BB96	GND-284	K8
AB72	GND-44	AL41	BB98	GND-285	K8
AB74	GND-45	AL42	BB100	GND-286	K8
AB76	GND-46	AL43	BB102	GND-287	K8
AB78	GND-47	AL44	BB104	GND-288	K8
AB80	GND-48	AL45	BB106	GND-289	K8
AB82	GND-49	AL46	BB108	GND-290	K8
AB84	GND-50	AL47	BB110	GND-291	K8
AB86	GND-51	AL48	BB112	GND-292	K8
AB88	GND-52	AL49	BB114	GND-293	K8
AB90	GND-53	AL50	BB116	GND-294	K8
AB92	GND-54	AL51	BB118	GND-295	K8
AB94	GND-55	AL52	BB120	GND-296	K8
AB96	GND-56	AL53	BB122	GND-297	K8
AB98	GND-57	AL54	BB124	GND-298	K8
AB100	GND-58	AL55	BB126	GND-299	K8
AB102	GND-59	AL56	BB128	GND-300	K8
AB104	GND-60	AL57	BB130	GND-301	K8
AB106	GND-61	AL58	BB132	GND-302	K8
AB108	GND-62	AL59	BB134	GND-303	K8
AB110	GND-63	AL60	BB136	GND-304	K8
AB112	GND-64	AL61	BB138	GND-305	K8
AB114	GND-65	AL62	BB140	GND-306	K8
AB116	GND-66	AL63	BB142	GND-307	K8
AB118	GND-67	AL64	BB144	GND-308	K8
AB120	GND-68	AL65	BB146	GND-309	K8
AB122	GND-69	AL66	BB148	GND-310	K8
AB124	GND-70	AL67	BB150	GND-311	K8
AB126	GND-71	AL68	BB152	GND-312	K8
AB128	GND-72	AL69	BB154	GND-313	K8
AB130	GND-73	AL70	BB156	GND-314	K8
AB132	GND-74	AL71	BB158	GND-315	K8
AB134	GND-75	AL72	BB160	GND-316	K8
AB136	GND-76	AL73	BB162	GND-317	K8
AB138	GND-77	AL74	BB164	GND-318	K8
AB140	GND-78	AL75	BB166	GND-319	K8
AB142	GND-79	AL76	BB168	GND-320	K8
AB144	GND-80	AL77	BB170	GND-321	K8
AB146	GND-81	AL78	BB172	GND-322	K8
AB148	GND-82	AL79	BB174	GND-323	K8
AB150	GND-83	AL80	BB176	GND-324	K8
AB152	GND-84	AL81	BB178	GND-325	K8
AB154	GND-85	AL82	BB180	GND-326	K8
AB156	GND-86	AL83	BB182	GND-327	K8
AB158	GND-87	AL84	BB184	GND-328	K8
AB160	GND-88	AL85	BB186	GND-329	K8
AB162	GND-89	AL86	BB188	GND-330	K8
AB164	GND-90	AL87	BB190	GND-331	K8
AB166	GND-91	AL88	BB192	GND-332	K8
AB168	GND-92	AL89	BB194	GND-333	K8
AB170	GND-93	AL90	BB196	GND-334	K8
AB172	GND-94	AL91	BB198	GND-335	K8
AB174	GND-95	AL92	BB200	GND-336	K8
AB176	GND-96	AL93	BB202	GND-337	K8
AB178	GND-97	AL94	BB204	GND-338	K8
AB180	GND-98	AL95	BB206	GND-339	K8
AB182	GND-99	AL96	BB208	GND-340	K8
AB184	GND-100	AL97	BB210	GND-341	K8
AB186	GND-101	AL98	BB212	GND-342	K8
AB188	GND-102	AL99	BB214	GND-343	K8
AB190	GND-103	AL100	BB216	GND-344	K8
AB192	GND-104	AL101	BB218	GND-345	K8
AB194	GND-105	AL102	BB220	GND-346	K8
AB196	GND-106	AL103	BB222	GND-347	K8
AB198	GND-107	AL104	BB224	GND-348	K8
AB200	GND-108	AL105	BB226	GND-349	K8
AB202	GND-109	AL106	BB228	GND-350	K8
AB204	GND-110	AL107	BB230	GND-351	K8
AB206	GND-111	AL108	BB232	GND-352	K8
AB208	GND-112	AL109	BB234	GND-353	K8
AB210	GND-113	AL110	BB236	GND-354	K8
AB212	GND-114	AL111	BB238	GND-355	K8
AB214	GND-115	AL112	BB240	GND-356	K8
AB216	GND-116	AL113	BB242	GND-357	K8
AB218	GND-117	AL114	BB244	GND-358	K8
AB220	GND-118	AL115	BB246	GND-359	K8
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AB224	GND-120	AL117	BB250	GND-361	K8
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AB236	GND-126	AL123	BB262	GND-367	K8
AB238	GND-127	AL124	BB264	GND-368	K8
AB240	GND-128	AL125	BB266	GND-369	K8
AB242	GND-129	AL126	BB268	GND-370	K8
AB244	GND-130	AL127	BB270	GND-371	K8
AB246	GND-131	AL128	BB272	GND-372	K8
AB248	GND-132	AL129	BB274	GND-373	K8
AB250	GND-133	AL130	BB276	GND-374	K8
AB252	GND-134	AL131	BB278	GND-375	K8
AB254	GND-135	AL132	BB280	GND-376	K8
AB256	GND-136	AL133	BB282	GND-377	K8
AB258	GND-137	AL134	BB284	GND-378	K8
AB260	GND-138	AL135	BB286	GND-379	K8
AB262	GND-139	AL136	BB288	GND-380	K8
AB264	GND-140	AL137	BB290	GND-381	K8
AB266	GND-141	AL138	BB292	GND-382	K8
AB268	GND-142	AL139	BB294	GND-383	K8
AB270	GND-143	AL140	BB296	GND-384	K8
AB272	GND-144	AL141	BB298	GND-385	K8
AB274	GND-145	AL142	BB300	GND-386	K8
AB276	GND-146	AL143	BB302	GND-387	K8
AB278	GND-147	AL144	BB304	GND-388	K8
AB280	GND-148	AL145	BB306	GND-389	K8
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AB284	GND-150	AL147	BB310	GND-391	K8
AB286	GND-151	AL148	BB312	GND-392	K8
AB288	GND-152	AL149	BB314	GND-393	K8
AB290	GND-153	AL150	BB316	GND-394	K8
AB292	GND-154	AL151	BB318	GND-395	K8
AB294	GND-155	AL152	BB320	GND-396	K8
AB296	GND-156	AL153	BB322	GND-397	K8
AB298	GND-157	AL154	BB324	GND-398	K8
AB300	GND-158	AL155	BB326	GND-399	K8
AB302	GND-159	AL156	BB328	GND-400	K8
AB304	GND-160	AL157	BB330	GND-401	K8
AB306	GND-161	AL158	BB332	GND-402	K8
AB308	GND-162	AL159	BB334	GND-403	K8
AB310	GND-163	AL160	BB336	GND-404	K8
AB312	GND-164	AL161	BB338	GND-405	K8
AB314	GND-165	AL162	BB340	GND-406	K8
AB316	GND-166	AL163	BB342	GND-407	K8
AB318	GND-167	AL164	BB344	GND-408	K8
AB320	GND-168	AL165	BB346	GND-409	K8
AB322	GND-169	AL166	BB348	GND-410	K8
AB324	GND-170	AL167	BB350	GND-411	K8
AB326	GND-171	AL168	BB352	GND-412	K8
AB328	GND-172	AL169	BB354	GND-413	K8
AB330	GND-173	AL170	BB356	GND-414	K8
AB332	GND-174	AL171	BB358	GND-415	K8
AB334	GND-175	AL172	BB360	GND-416	K8
AB336	GND-176	AL173	BB362	GND-417	K8
AB338	GND-177	AL174	BB364	GND-418	K8
AB340	GND-178	AL175	BB366	GND-419	K8
AB342	GND-179	AL176	BB368	GND-420	K8
AB344	GND-180	AL177	BB370	GND-421	K8
AB346	GND-181	AL178	BB372	GND-422	K8
AB348	GND-182	AL179	BB374	GND-423	K8
AB350	GND-183	AL180	BB376	GND-424	K8
AB352	GND-184	AL181	BB378	GND-425	K8
AB354	GND-185	AL182	BB380	GND-426	K8
AB356	GND-186	AL183	BB382	GND-427	K8
AB358	GND-187	AL184	BB384	GND-428	K8
AB360	GND-188	AL185	BB386	GND-429	K8
AB362	GND-189	AL186	BB388	GND-430	K8
AB364	GND-190	AL187	BB390	GND-431	K8
AB366	GND-191	AL188	BB392	GND-432	K8
AB368	GND-192	AL189	BB394	GND-433	K8
AB370	GND-193	AL190	BB396	GND-434	K8
AB372	GND-194	AL191	BB398	GND-435	K8
AB374	GND-195	AL192	BB400	GND-436	K8
AB376	GND-196	AL193	BB402	GND-437	K8
AB378	GND-197	AL194	BB404	GND-438	K8
AB380	GND-198	AL195	BB406	GND-439	K8
AB382	GND-199	AL196	BB408	GND-440	K8
AB384	GND-200	AL197	BB410	GND-441	K8
AB386	GND-201	AL198	BB412	GND-442	K8
AB388	GND-202	AL199	BB414	GND-443	K8
AB390	GND-203	AL200	BB416	GND-444	K8
AB392	GND-204	AL201	BB418	GND-445	K8
AB394	GND-205	AL202	BB420	GND-446	K8
AB396	GND-206	AL203	BB422	GND-447	K8
AB398	GND-207	AL204	BB424	GND-448	K8
AB400	GND-208	AL205	BB426	GND-449	K8
AB402	GND-209	AL206	BB428	GND-450	K8
AB404	GND-210	AL207	BB430	GND-451	K8
AB406	GND-211	AL208	BB432	GND-452	K8
AB408	GND-212	AL209	BB434	GND-453	K8
AB					

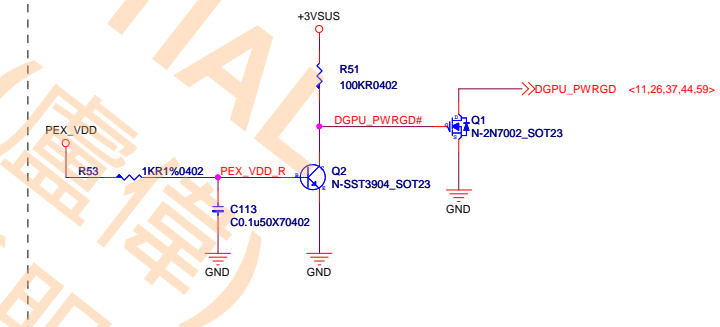
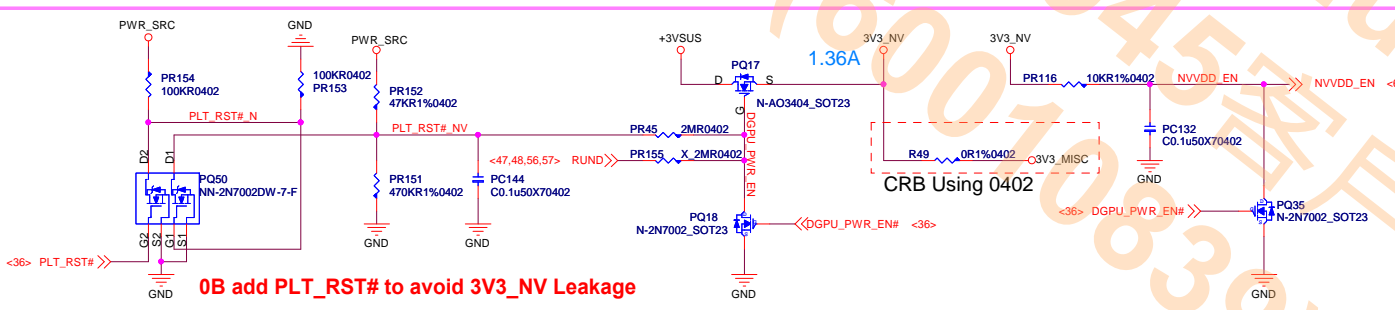
DGPU_Power Control



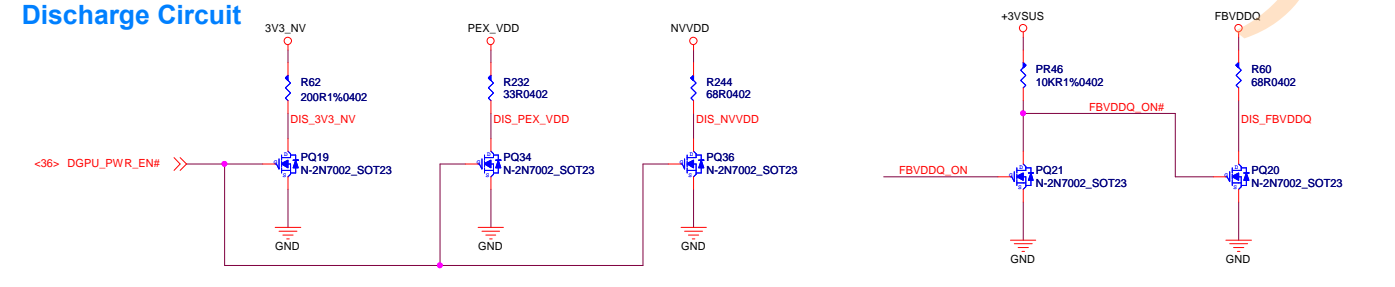
PEX_VDD



nVIDIA Power Sequence Control 3V3_NV -> NVVDD, PEX_VDD -> FBVDDQ -> DGPUPWRGD

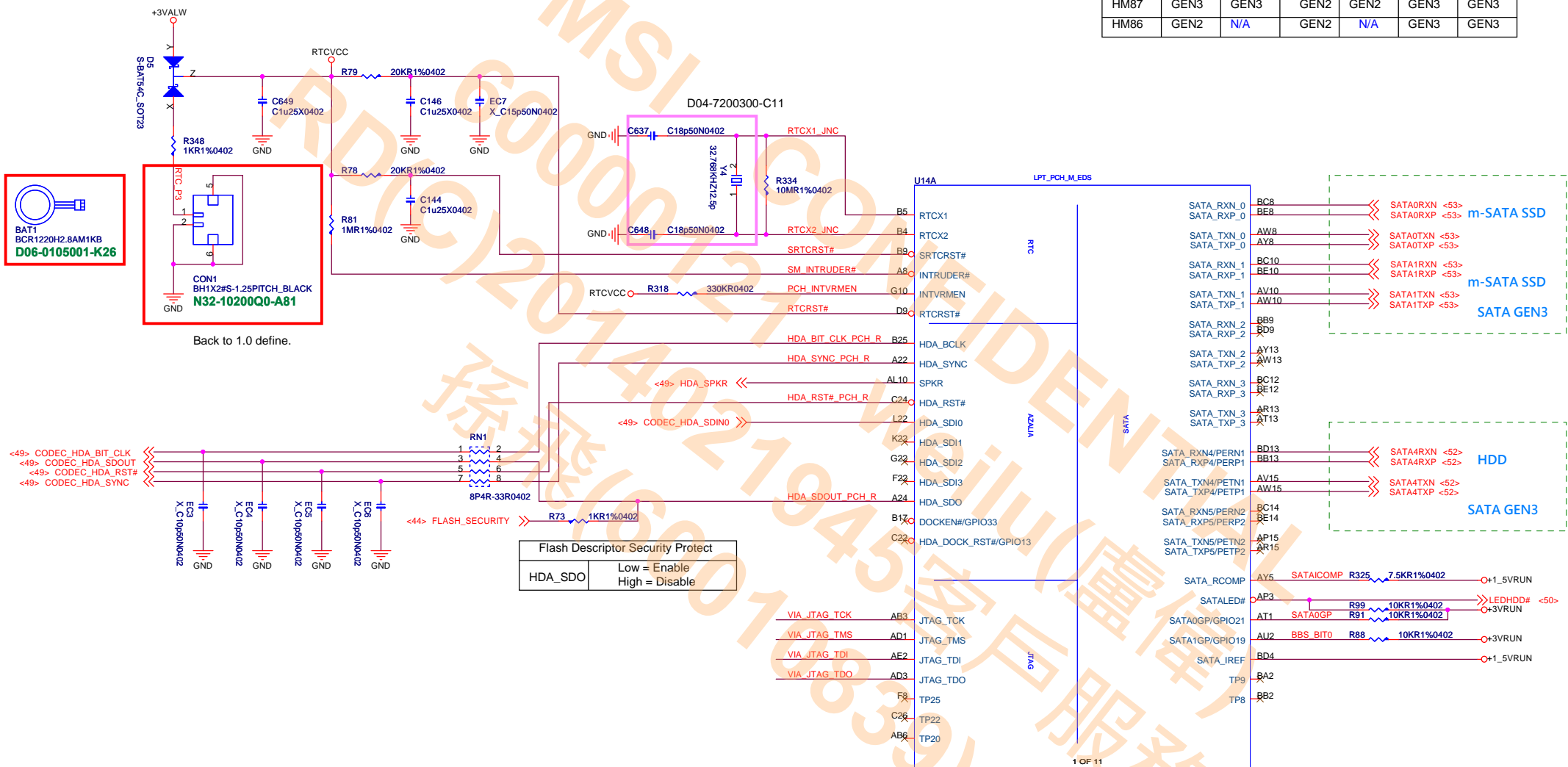


Discharge Circuit



Lynx Point (HDA/JTAG/SATA)

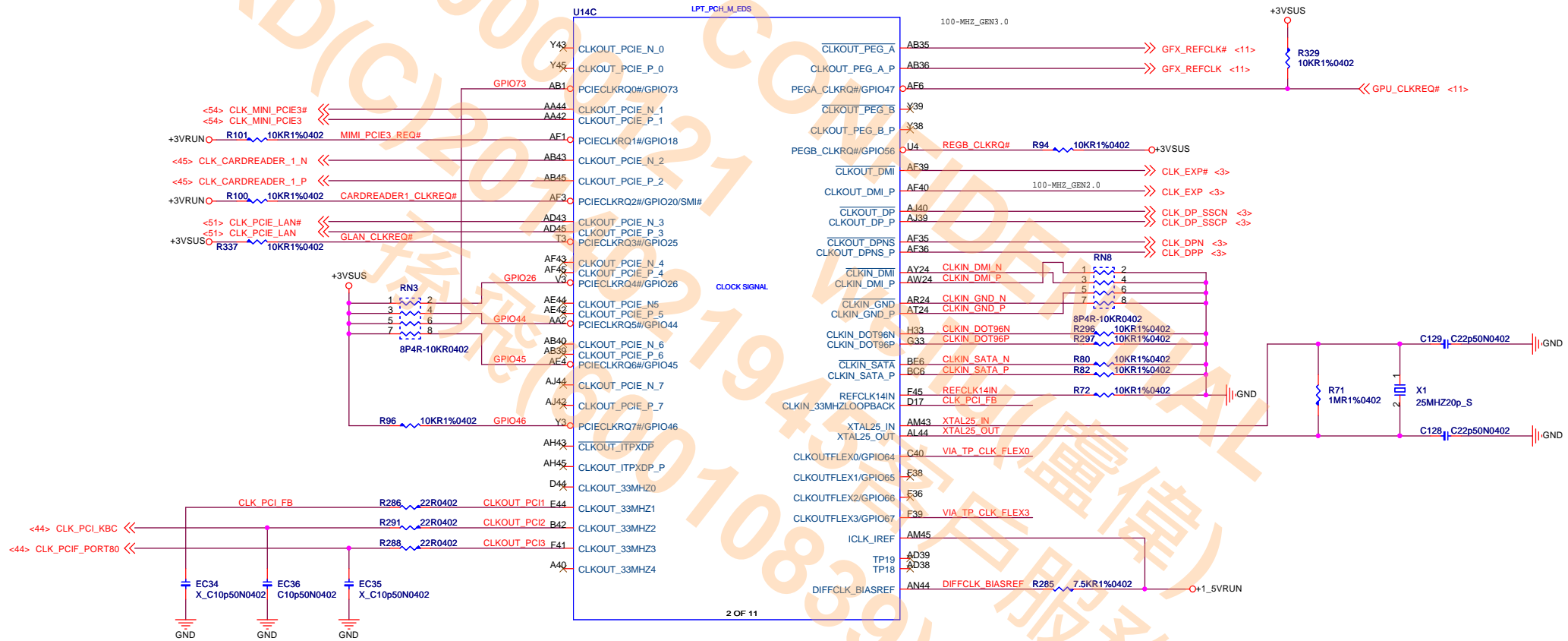
SKU	High Speed SATA I/O Ports					
	SATA-0	SATA-1	SATA-2	SATA-3	SATA-4	SATA-5
HM87	GEN3	GEN3	GEN2	GEN2	GEN3	GEN3
HM86	GEN2	N/A	GEN2	N/A	GEN3	GEN3



SPK The Signal has a weak internal pull-down
Note: the internal pull-down is disabled after PLTRST# deasserts.
If the signal is sampled high, this indicates that the system is strapped to the "No Reboot" mode
(Panther Point will disable the TCO Timer system reboot feature)

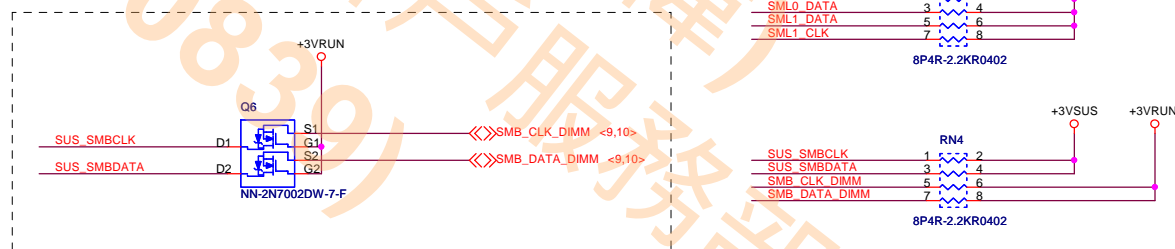
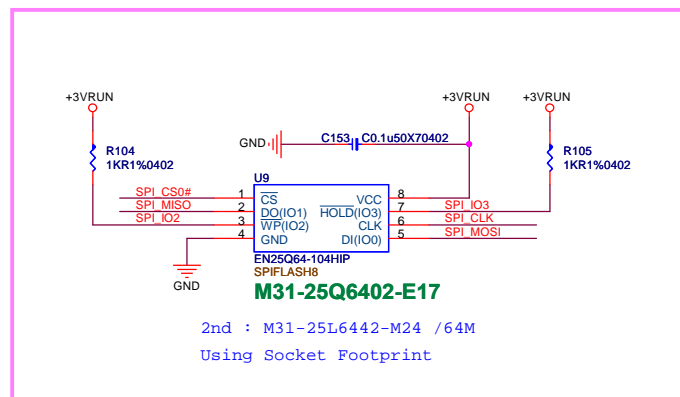
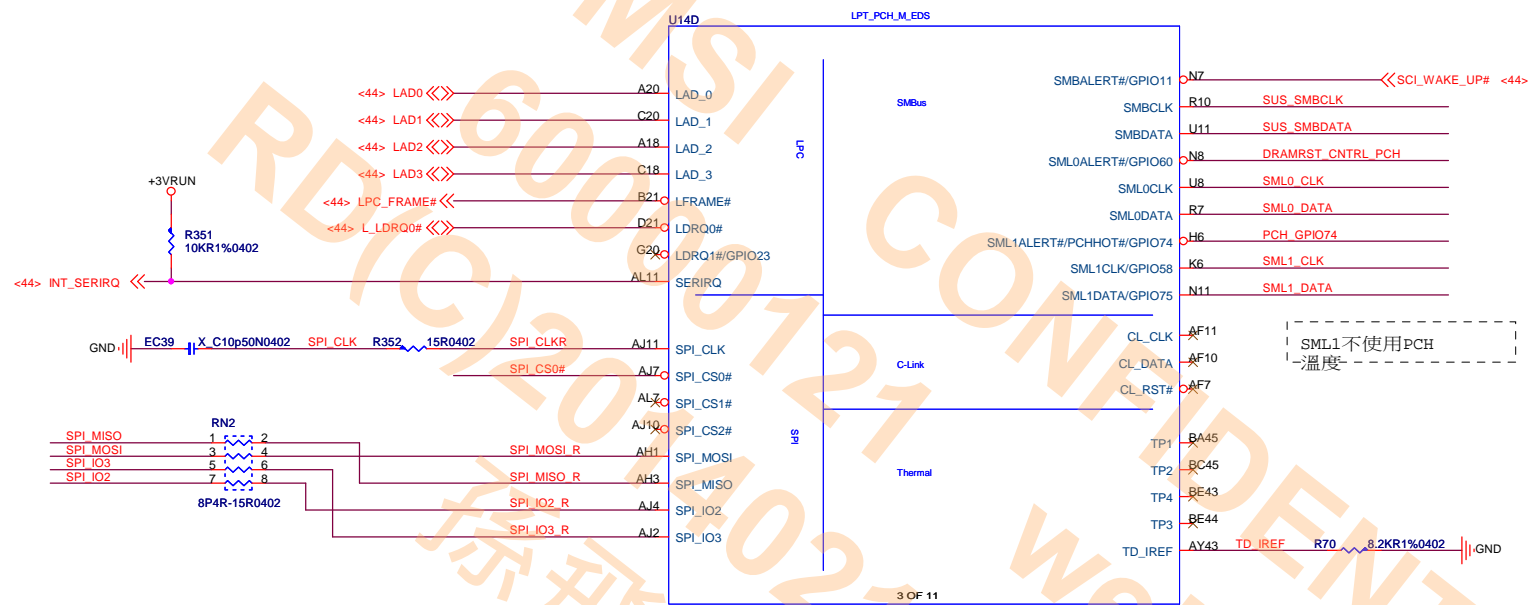
Lynx Point (Clock)

PCIe devices or addin cards that do NOT support CLKREQ# functionality should not route this signal to PCH.
Intel recommends terminating PCIeCLKREQ# pin on PCH with 10 k Ω \pm 10% external pull-up resistor instead of No Connect.
Only PCIeCLKREQ[2:1]# on PCH are core well powered. All other PCIeCLKREQ# are suspend well powered.

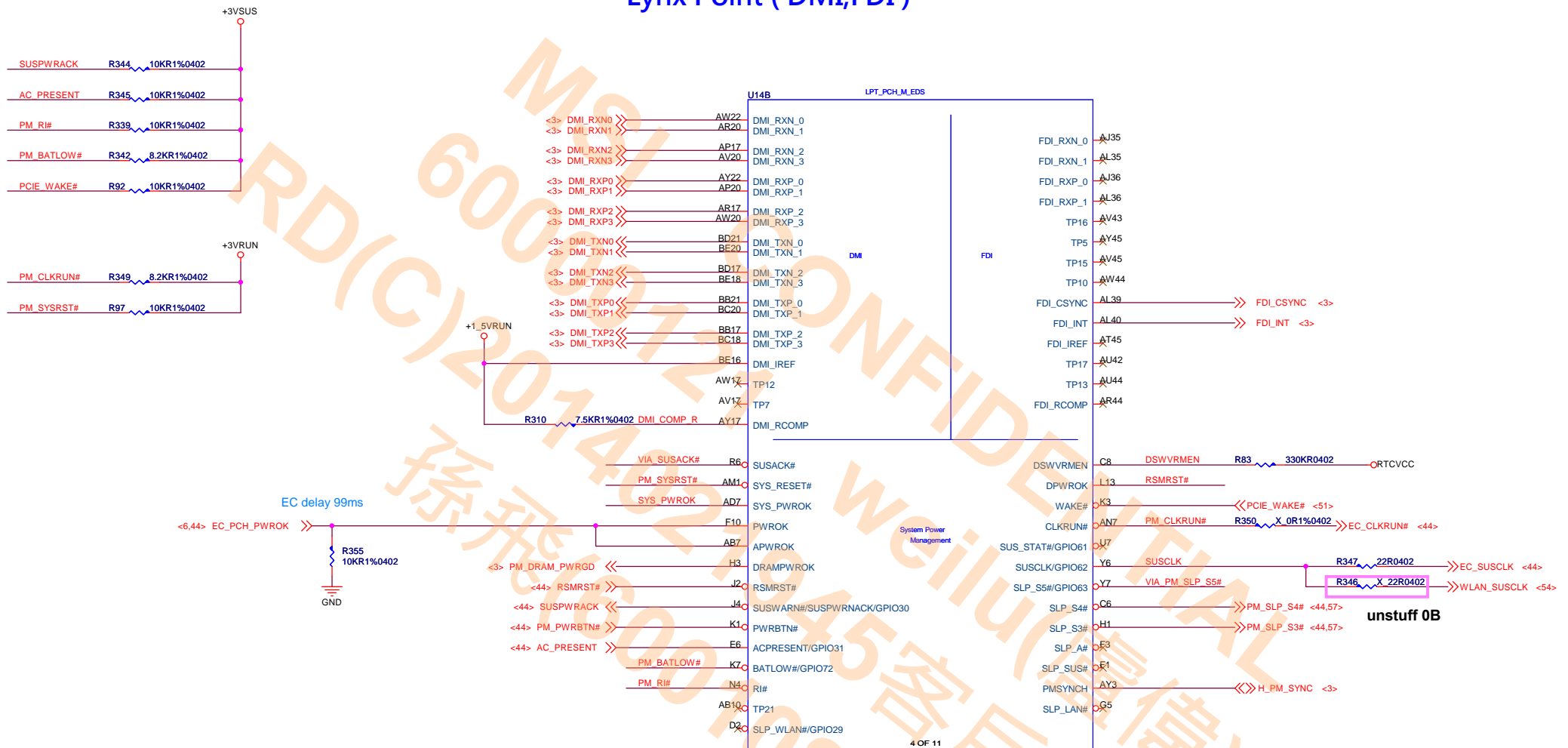


The CLKREQ# function can be disabled via intel management engine FW .Please refer to INTEL ME FW Bring up guide for configuring/disabling CLKREQ#

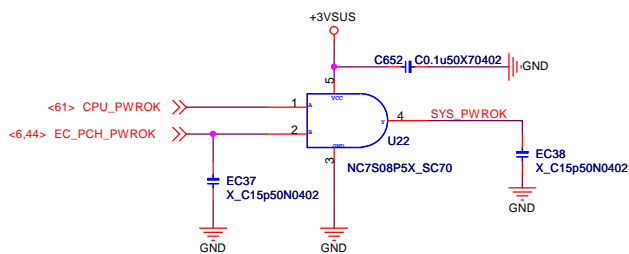
Lynx Point (LPC,SMBUS)



Lynx Point (DMI,FDI)



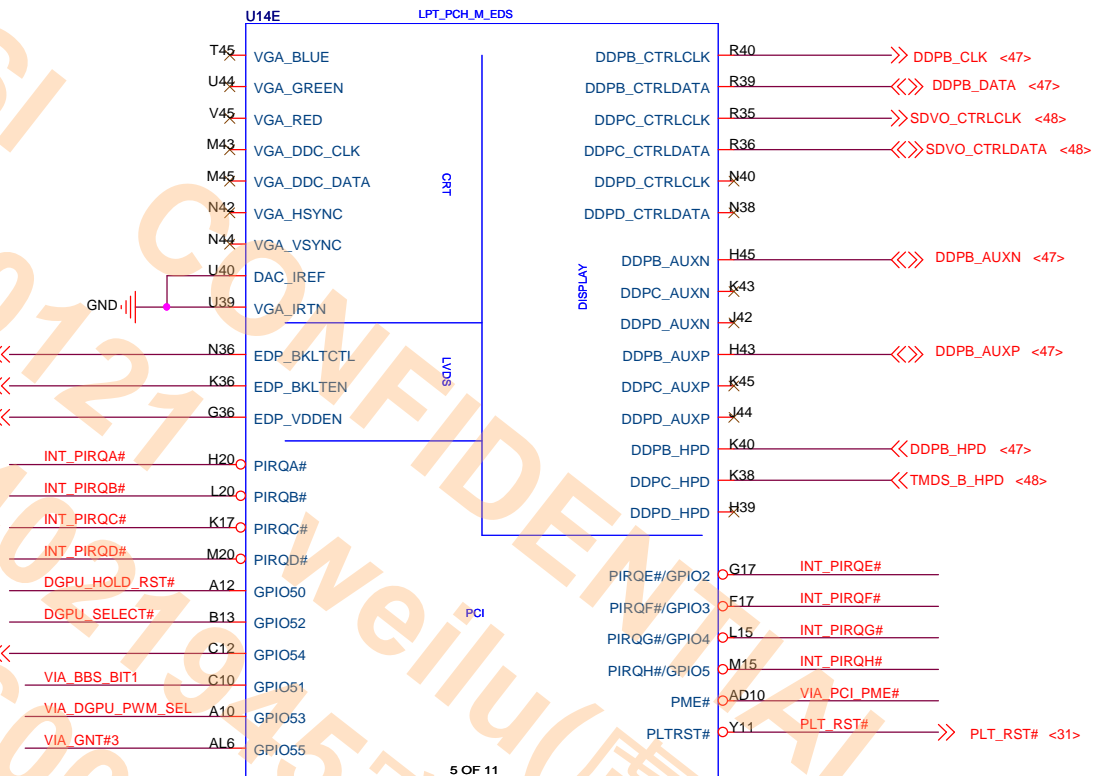
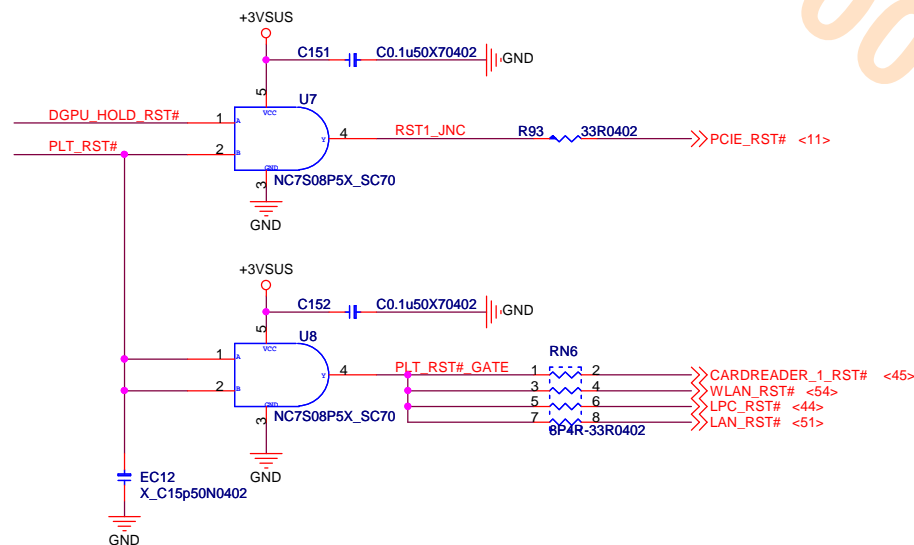
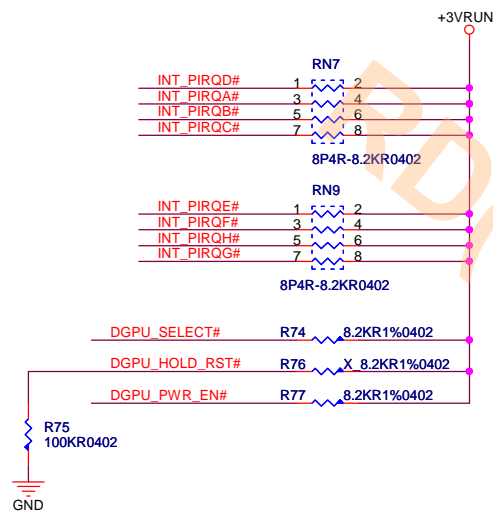
GPIO Setting : Ref 486708_LPT_EDS Section2.18



APWROK not supporting Intel AMT , it can be connected to PWROK
GPIO31 : If not used,require pull up +3VSUS
DSWVRMEN - On Die DSW VR Enable HIGH : Enable internal 1.05V regulator LOW : Disable
DPWROK Without deep s4/s5 support tied together with RSMRST#

PLL ON DIE VR_ENABLE	
GPIO62	Internal pull high (Enable)
	Low: Disable

Lynx Point (PCI,DDI)



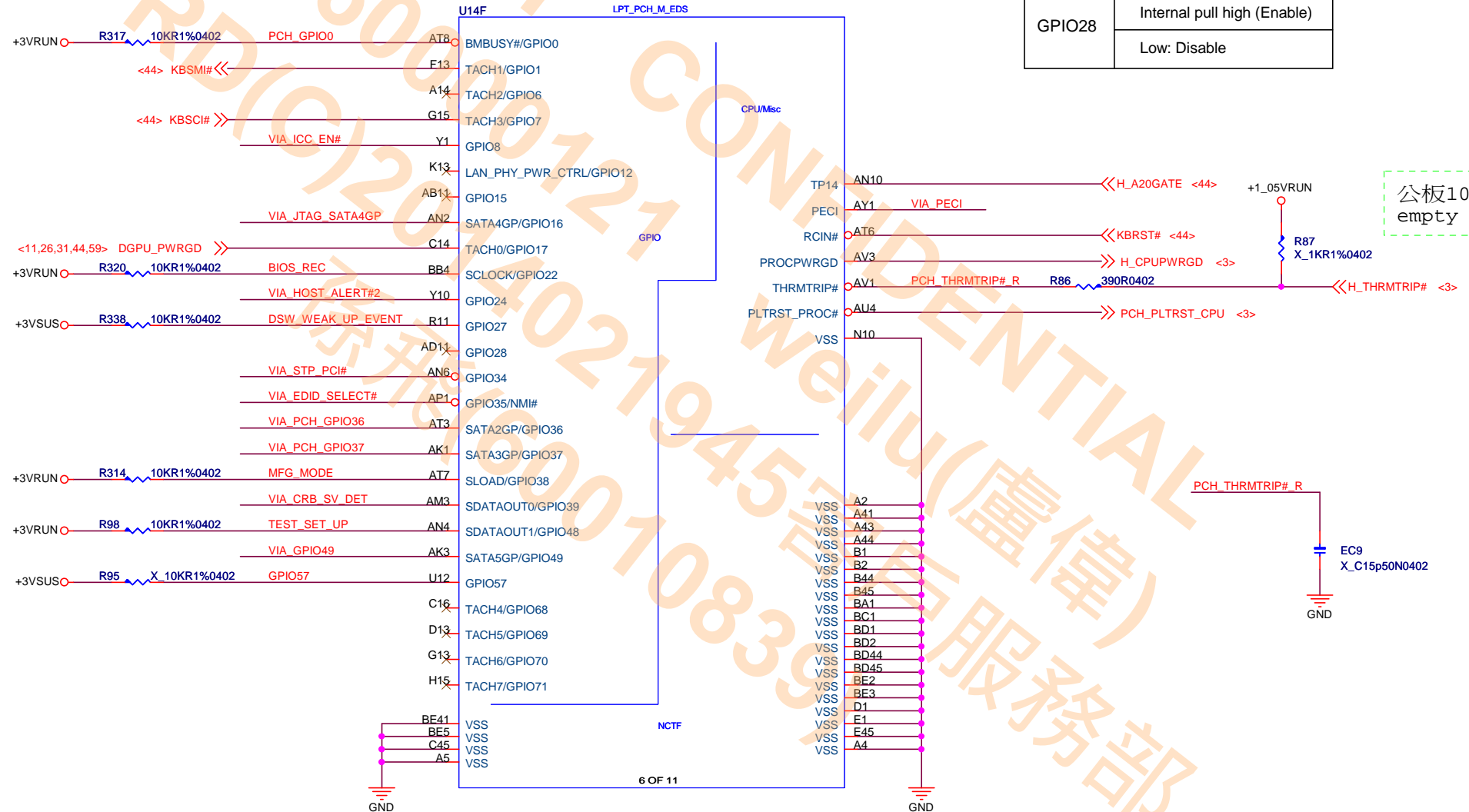
DDI-B : DP
DDI-C : HDMI

Boot BIOS Strap		
BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	N/A
1	1 _{21p}	SPI

Lynx Point (GPIO,MISC)

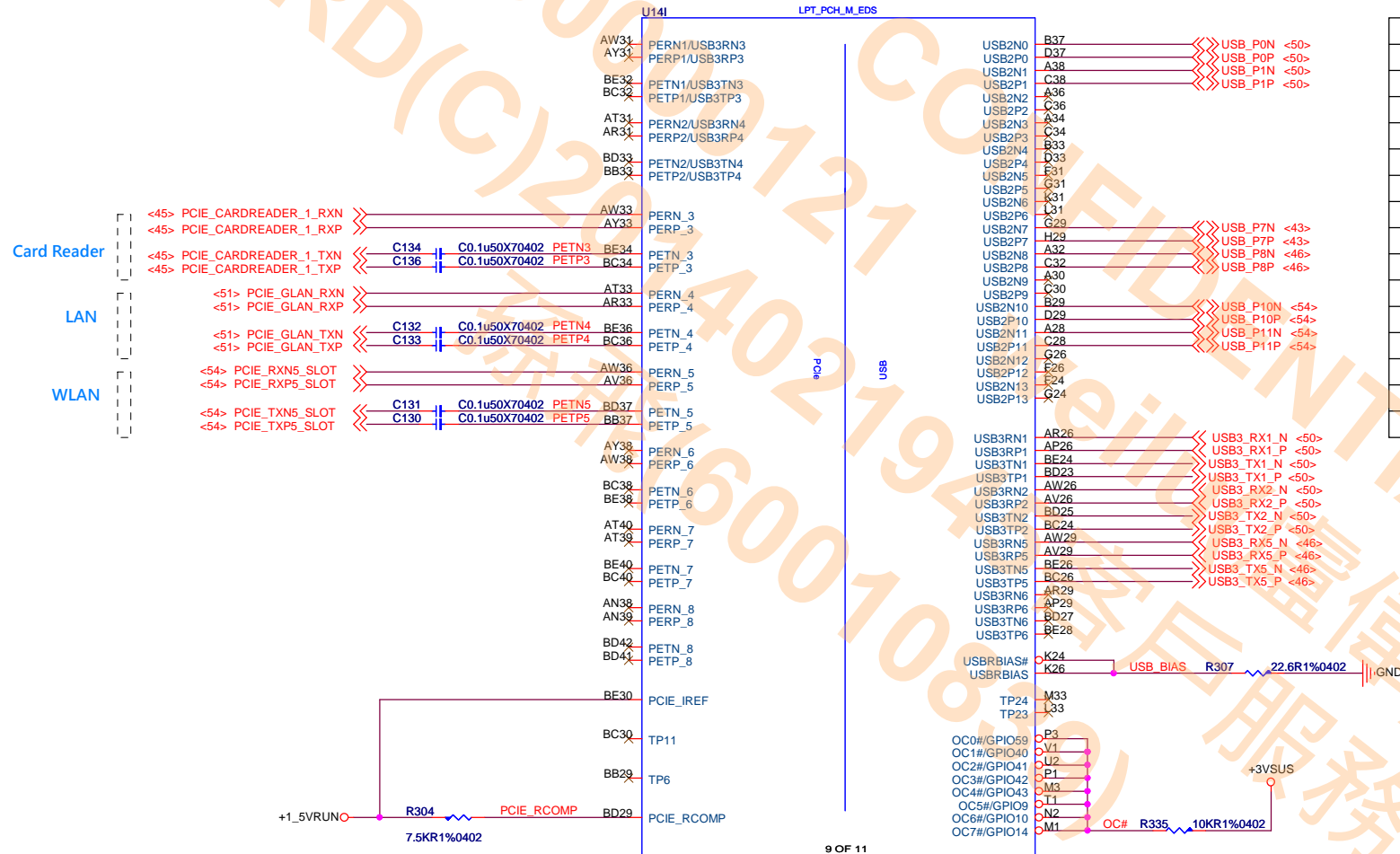
GPIO Setting : Ref 486708_LPT_EDS Section2.24

PLL ON DIE VR_ENABLE	
GPIO28	Internal pull high (Enable)
	Low: Disable



Lynx Point (PCIE,USB)

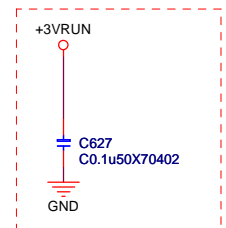
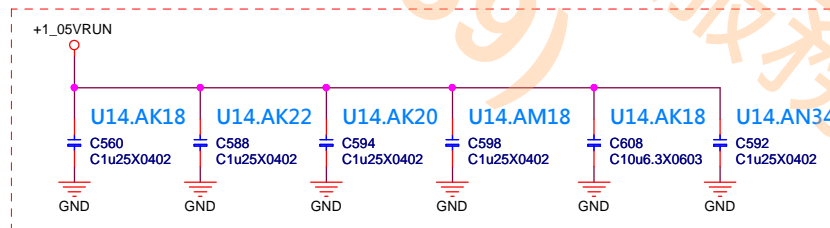
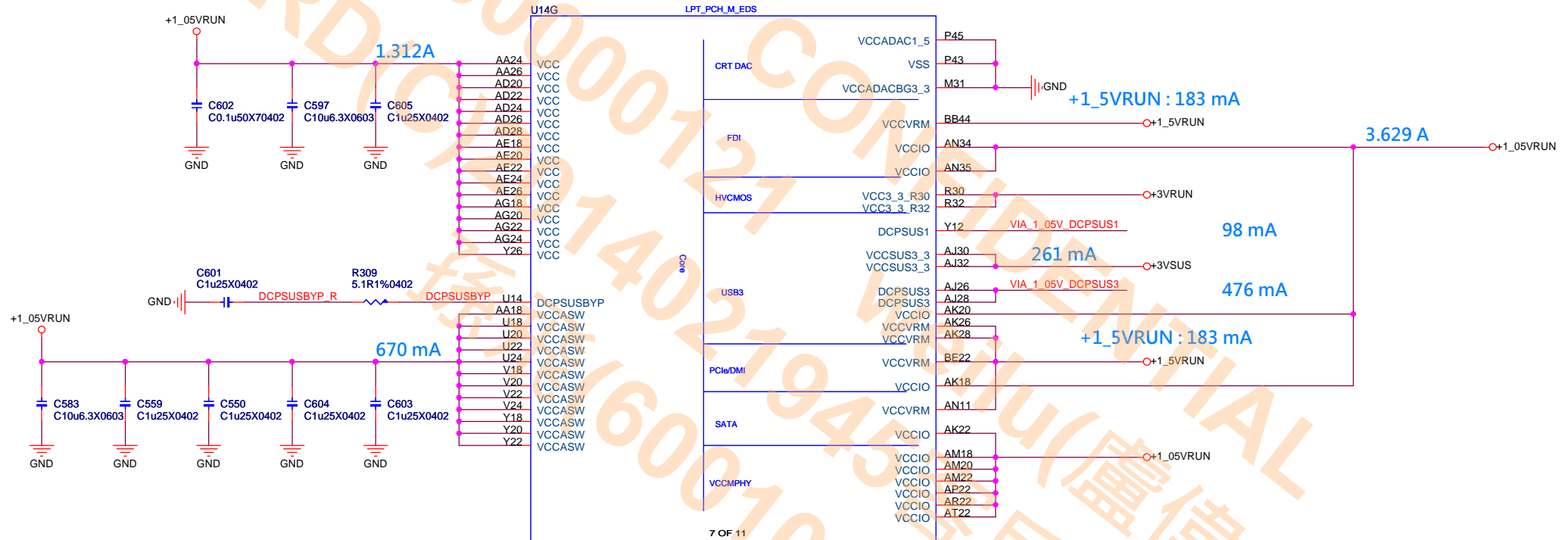
Intel Lynx Point ECHI USB(2.0) debug transport 需接Port1 or Port9



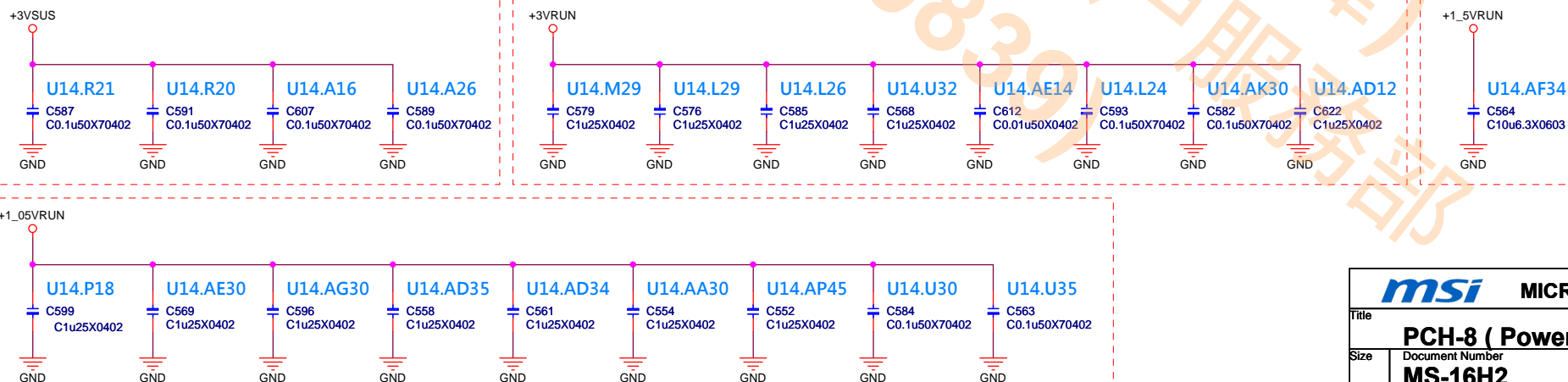
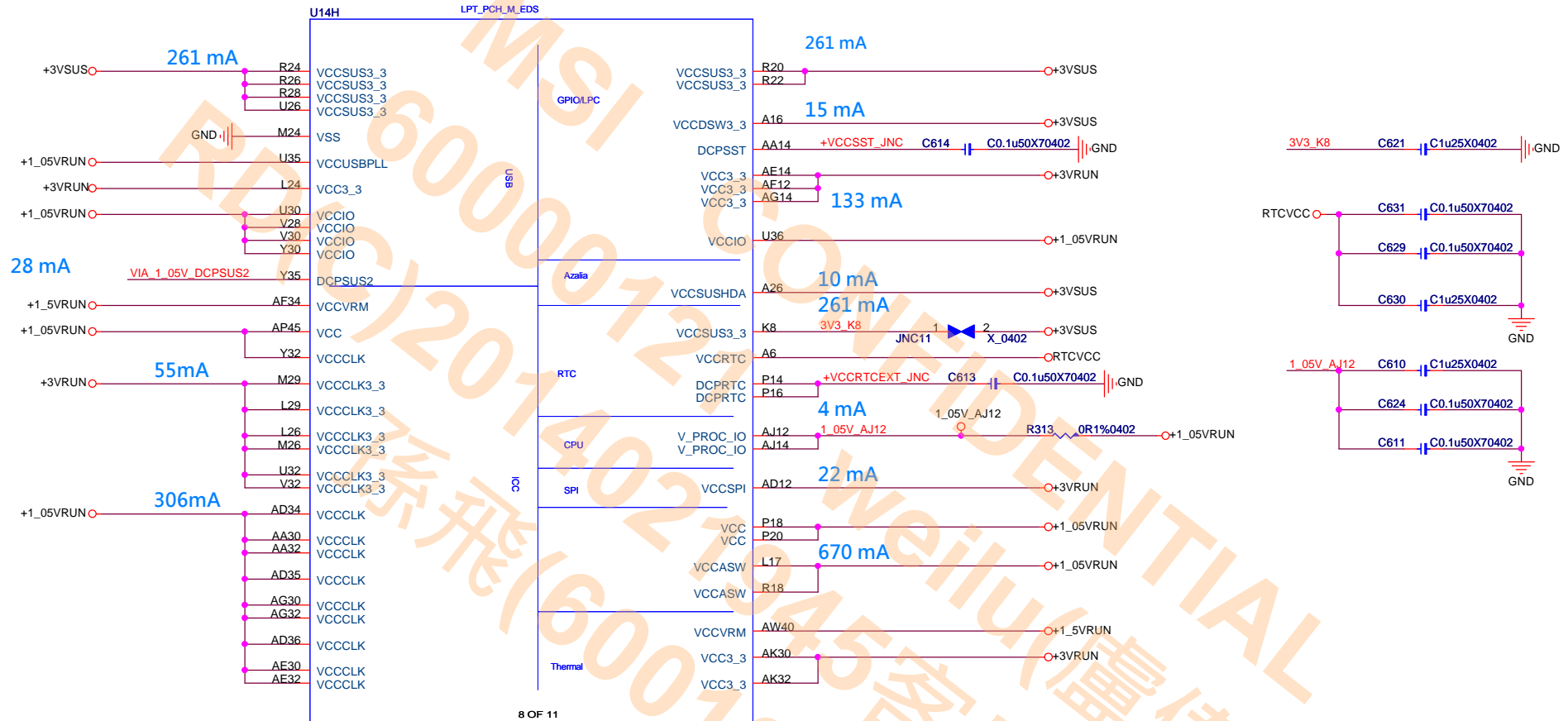
USB			
USB 2.0	USB 3.0	Device	Note
0	1	USB 3.0 Port 1	16H2A
1	2	USB 3.0 Port 2	16H2A
2			
3			NC
4			NC
5			NC
6			NC
7		EPF021	3 色KBC
8	3	USB 3.0 Port 5	16H21
9			NC
10		WLAN	
11		WebCam	
12		SECOND DISPLAY	
13			NC

HM86 没USB3.0 PORT 5,6

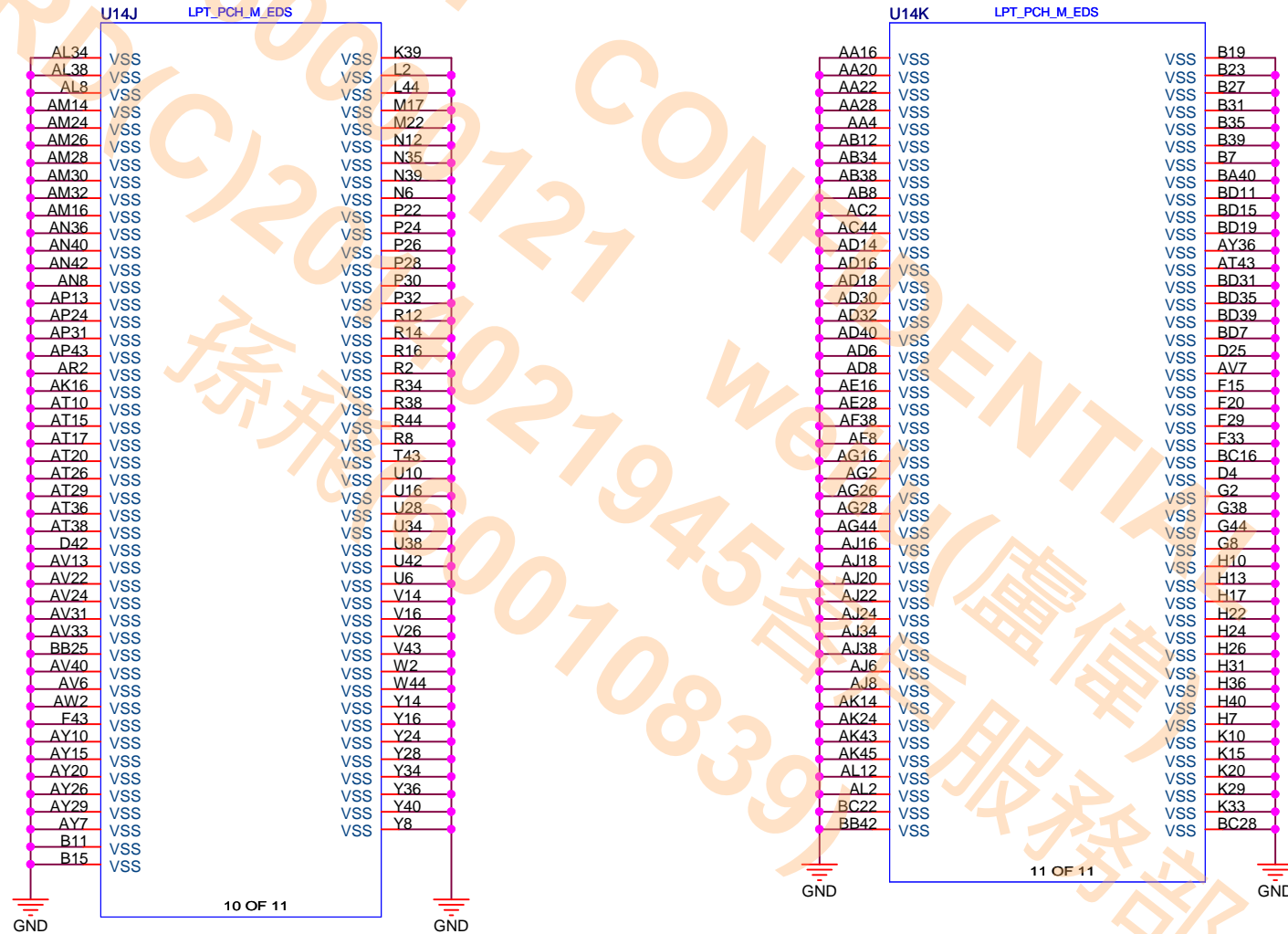
Lynx Point (Power)



Lynx Point (Power)

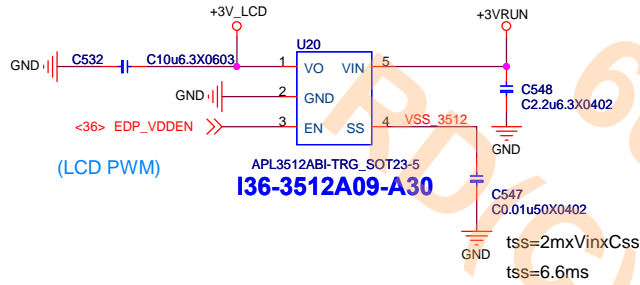


Lynx Point (GND)

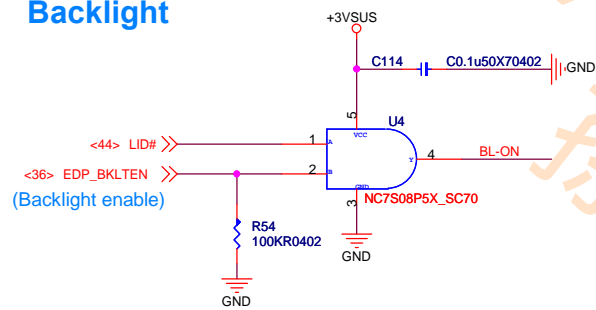


eDP Connector

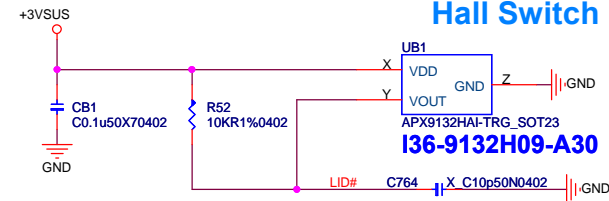
Pannel Device Logic Power



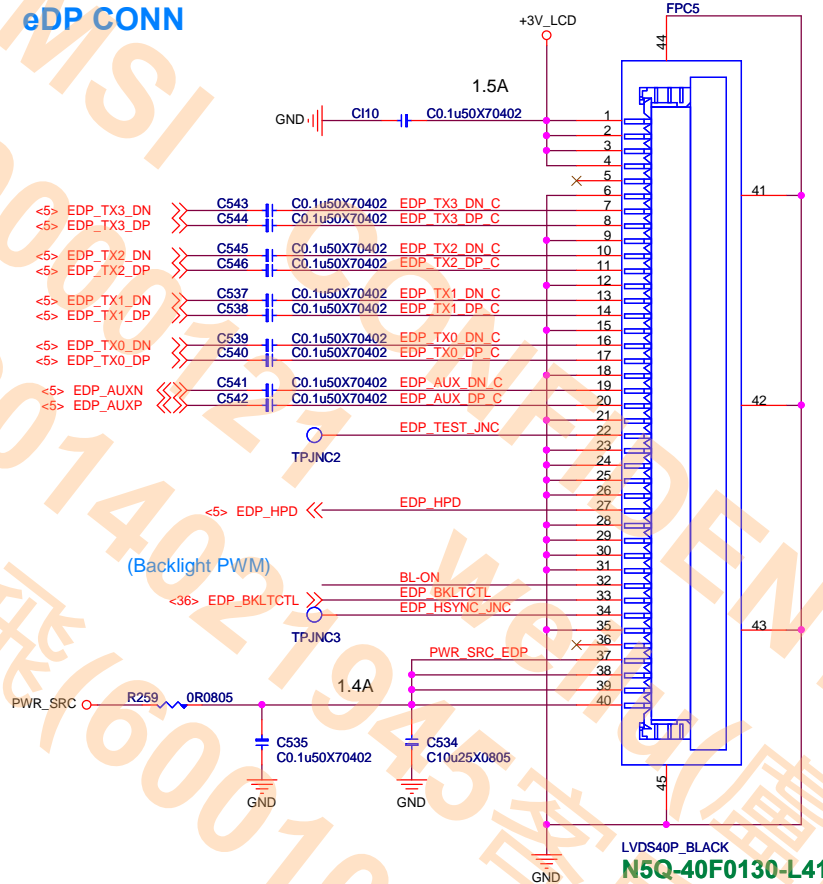
Backlight



Hall Switch



eDP CONN

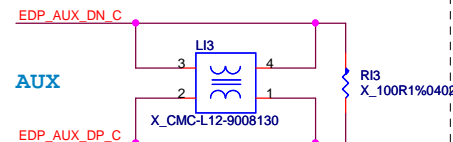
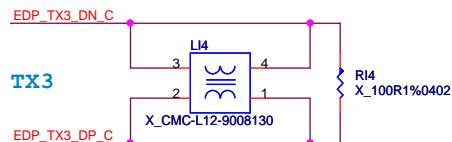
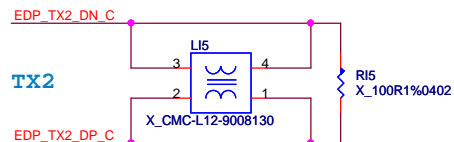
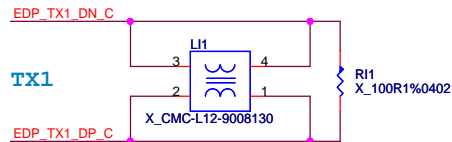
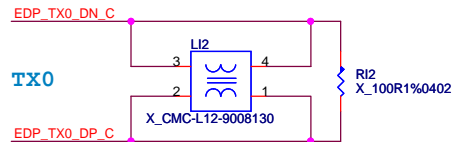


LCD Module Pin Define

Pin No	Symbol	Description
1	WP	EEPROM Write Protect(Keep open)
2	H_GND	High Speed Ground(0V)
3	eDP_Rx_3N	Complement Signal Link Lane 3
4	eDP_Rx_3P	True Signal Link Lane 3
5	H_GND	High Speed Ground(0V)
6	eDP_Rx_2N	Complement Signal Link Lane 2
7	eDP_Rx_2P	True Signal Link Lane 2
8	H_GND	H_GND
9	eDP_Rx_1N	Complement Signal Link Lane 1
10	eDP_Rx_1P	True Signal Link Lane 1
11	H_GND	H_GND
12	eDP_Rx_0N	Complement Signal Link Lane 0
13	eDP_Rx_0P	True Signal Link Lane 0
14	H_GND	H_GND
15	eDP_AUX_CH_P	True Signal Aux Channel
16	eDP_AUX_CH_N	Complement Signal Aux Channel
17	H_GND	H_GND
18	LCD_VCC	LCD logic and driver power
19	LCD_VCC	LCD logic and driver power
20	LCD_VCC	LCD logic and driver power
21	LCD_VCC	LCD logic and driver power
22	TEST	LCD Test Port
23	LCD_GND	LCD logic and driver ground(0V)
24	LCD_GND	LCD logic and driver ground(0V)
25	LCD_GND	LCD logic and driver ground(0V)
26	LCD_GND	LCD logic and driver ground(0V)
27	eDP_HPDP	HPDP signal pin
28	BL_GND	Backlight ground(0V)
29	BL_GND	Backlight ground(0V)
30	BL_GND	Backlight ground(0V)
31	BL_GND	Backlight ground(0V)
32	BL_ENABLE	Backlight enable
33	BL_PWM_DIM	System PWM signal input
34	SDA	I2C-bus Data
35	SCL	I2C-bus Clock
36	BL_PWR	Backlight power (5~21V)
37	BL_PWR	Backlight power (5~21V)
38	BL_PWR	Backlight power (5~21V)
39	BL_PWR	Backlight power (5~21V)
40	HSYNC	HSYNC output from Tcon

Place Close eDP Connector

Reserve for EMI

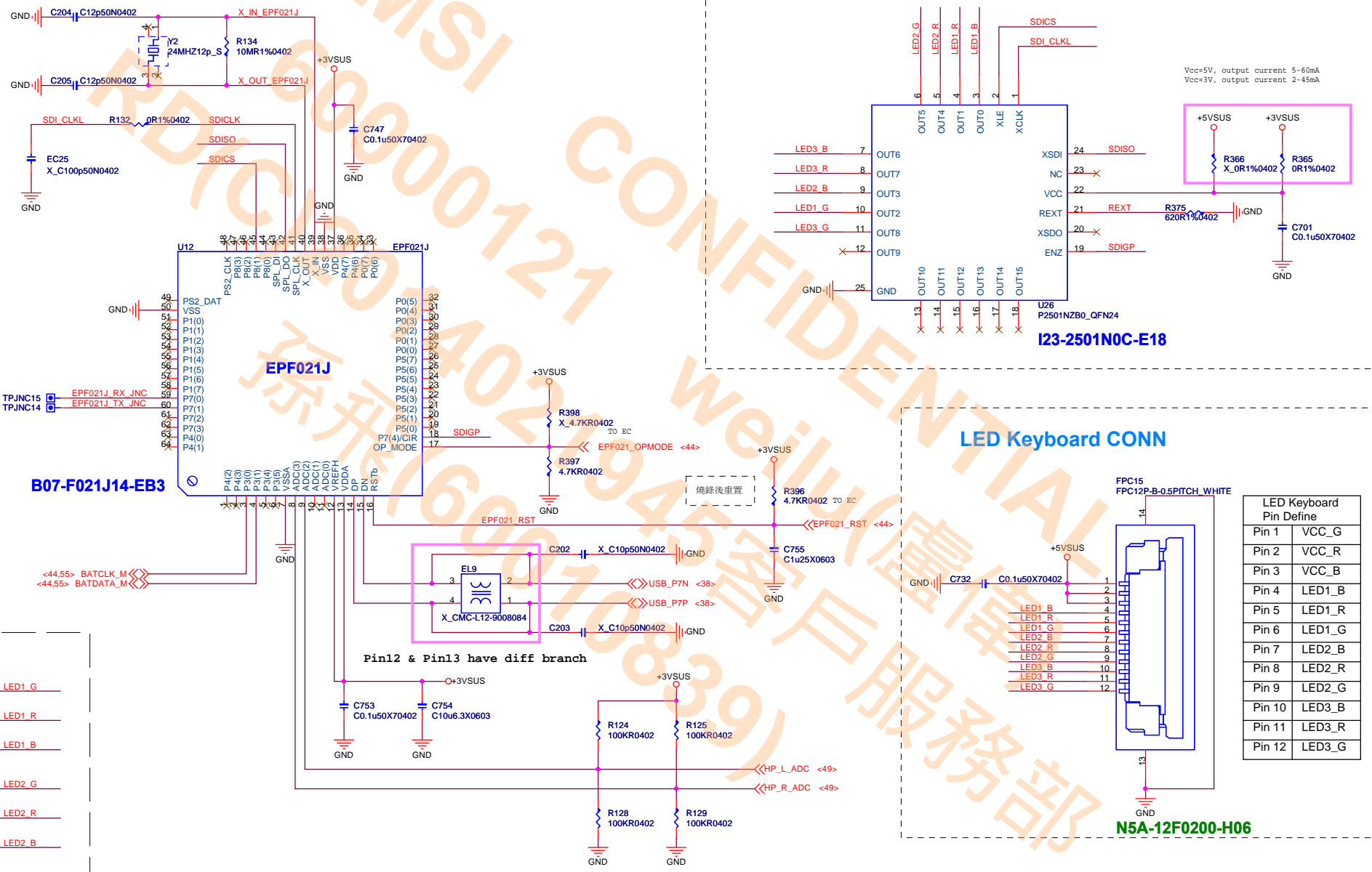


msi

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Title		eDP Connector	
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LED 8051 Controller



EMI

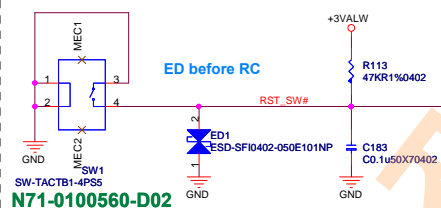
GND	C725	X	C100p50N0402	LED1_G
GND	C713	X	C100p50N0402	LED1_R
GND	C709	X	C100p50N0402	LED1_B
GND	C728	X	C100p50N0402	LED2_G
GND	C727	X	C100p50N0402	LED2_R
GND	C726	X	C100p50N0402	LED2_B
GND	C731	X	C100p50N0402	LED3_G
GND	C730	X	C100p50N0402	LED3_R
GND	C729	X	C100p50N0402	LED3_B

LED Keyboard Pin Define

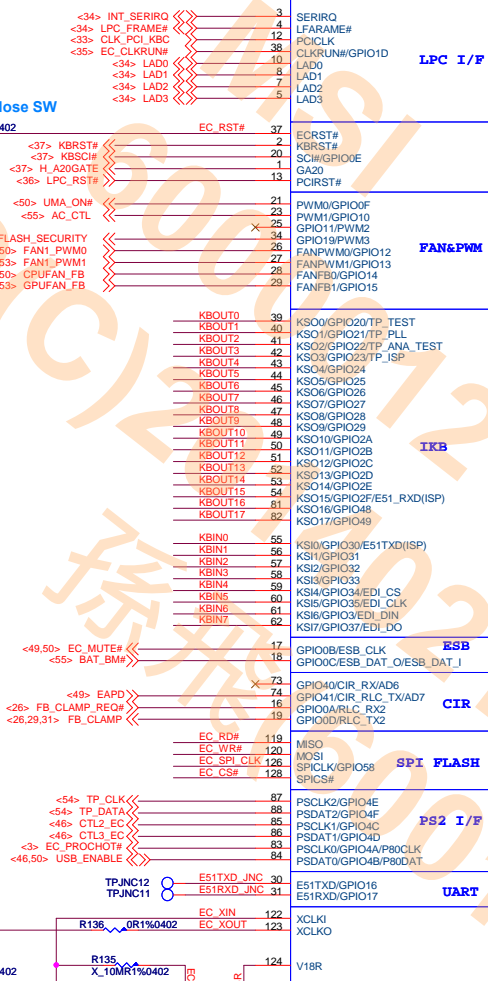
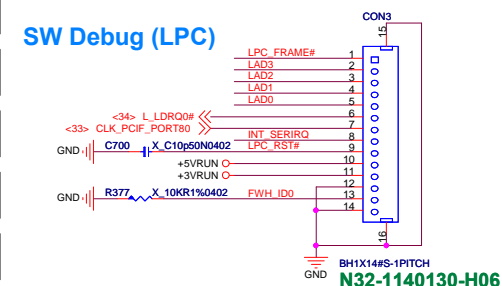
Pin 1	VCC_G
Pin 2	VCC_R
Pin 3	VCC_B
Pin 4	LED1_B
Pin 5	LED1_R
Pin 6	LED1_G
Pin 7	LED2_B
Pin 8	LED2_R
Pin 9	LED2_G
Pin 10	LED3_B
Pin 11	LED3_R
Pin 12	LED3_G

KBC(KB3930QFB1)

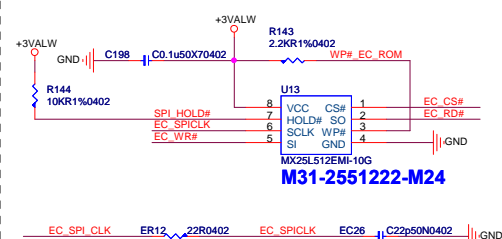
Hardware Reset



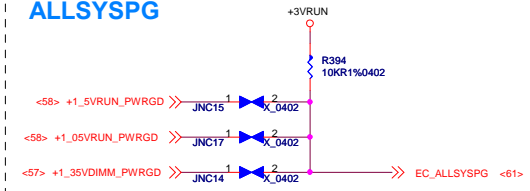
SW Debug (LPC)



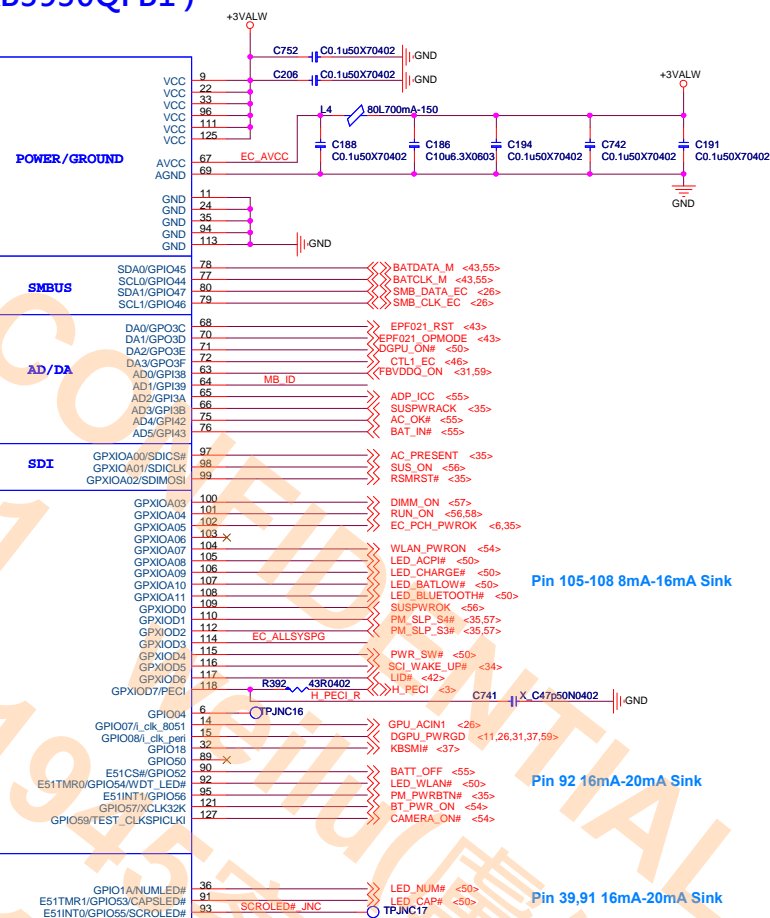
ROM



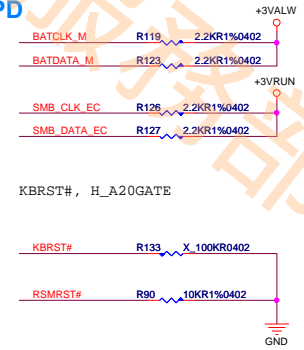
ALLSYSPG



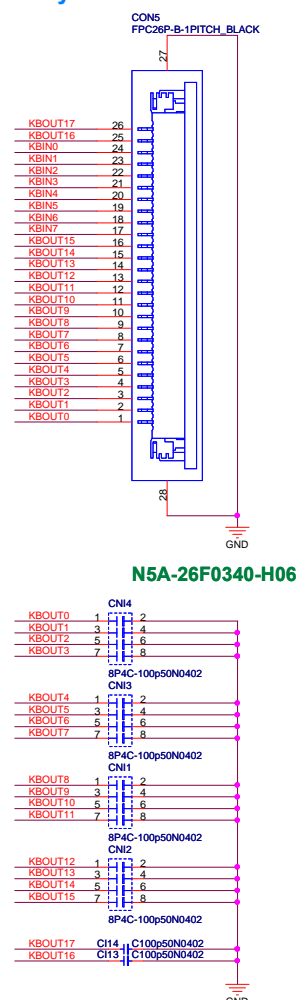
B02-0393024-E18



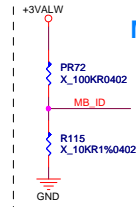
PU/PD



Keyboard conn



MB_ID

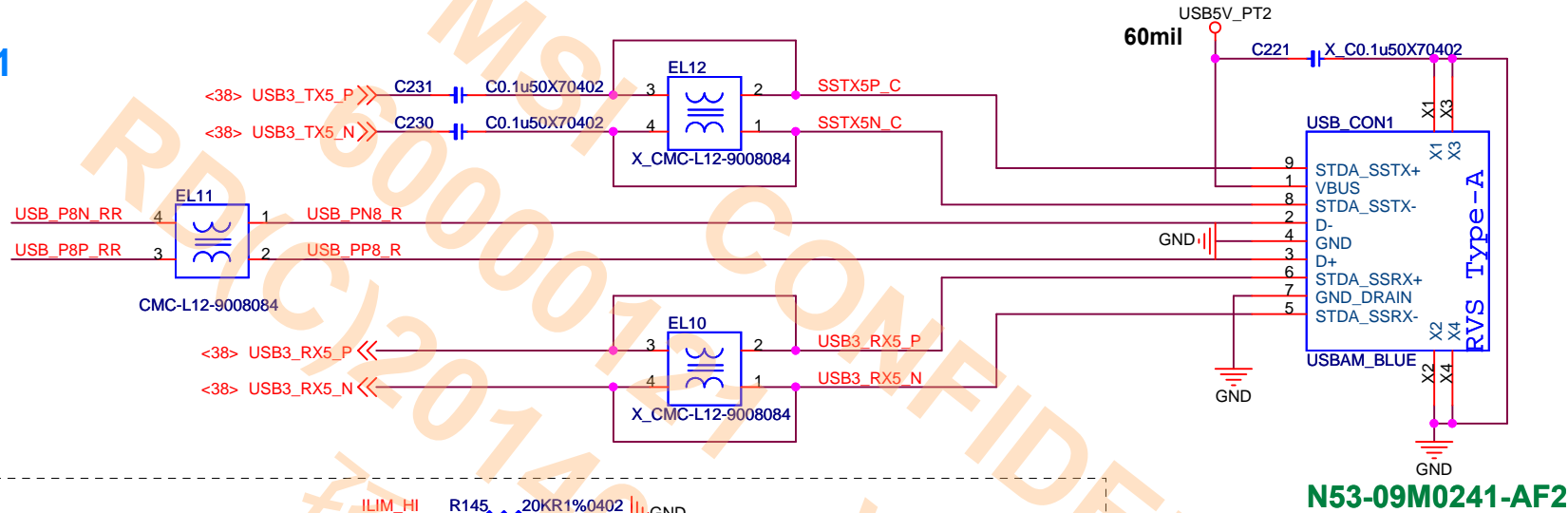


Title			
Card Reader			
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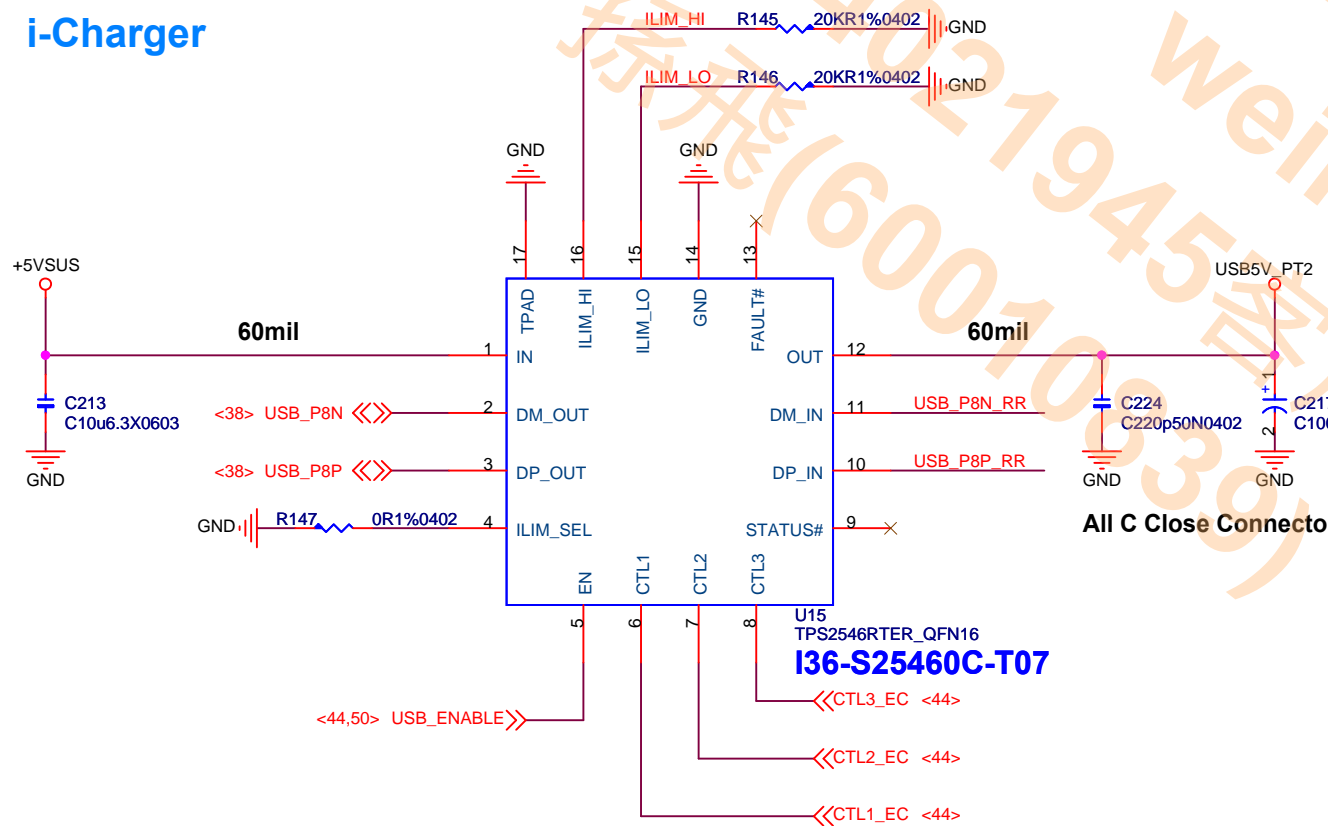
USB 3.0 / iCharger

USB3.0 CNT-1

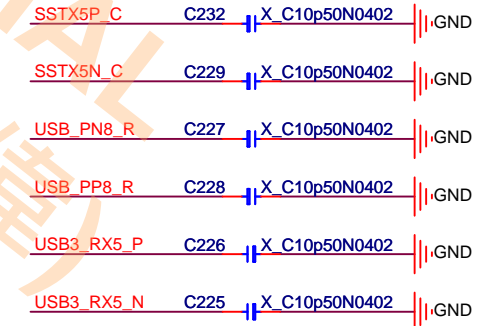
USB3.0 Port-6
USB2.0 Port-9



i-Charger



EMI

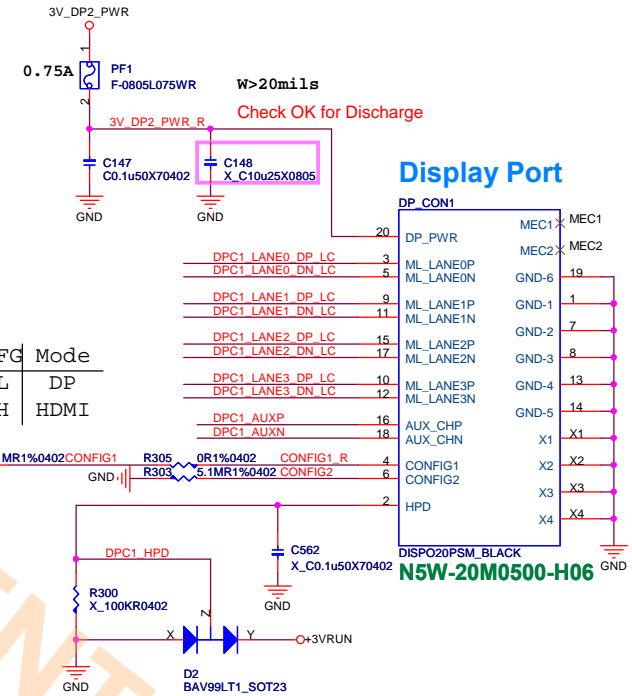
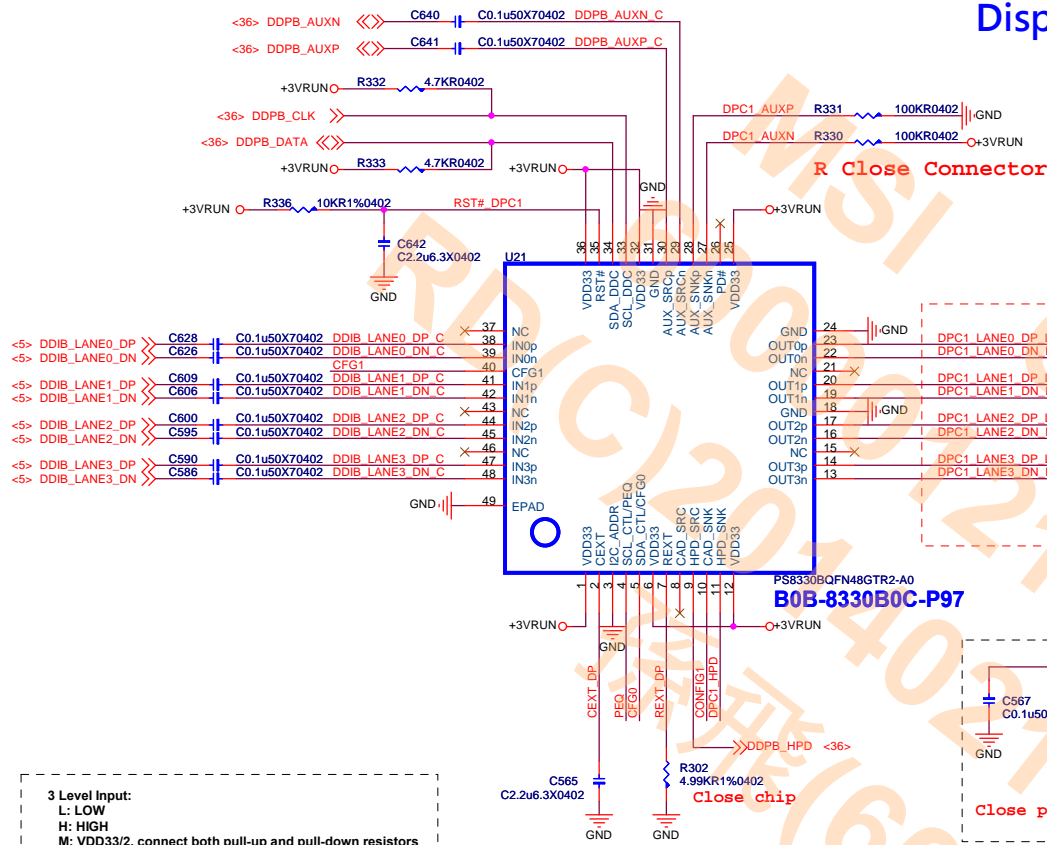


msi

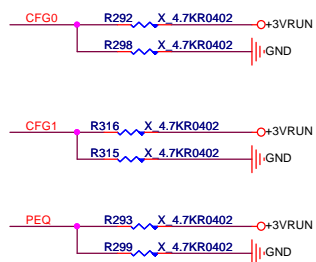
MICRO-STAR INT'L CO.,LTD.

Title			USB 3.0 / iCharger	
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Display Port



CAD_SNK Have internal Pull down 1Mohm.
HPD_SNK Have internal Pull down 150kohm.
No problem with Leakage from DP device
The DP_PWR and RETURN pins of the
box-to-box connectors must support the
maximum current rating of 500mA.



Configuration pin for automatic EQ and AUX interception: Internal pull down at ~150k Ohm, 3.3V I/O.

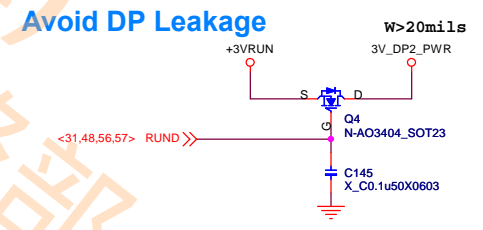
- L: default, automatic EQ enable & AUX interception enable
- H: automatic EQ disable & AUX interception enable
- M: automatic EQ disable & AUX interception disable, no pre-emphasis, 600mVpp swing

Configuration pin for auto test and input offset cancellation, 3.3V IO, internal pull up at ~150K Ohm

- H: default, auto test disable & input offset cancellation enable
- L: auto test enable & input offset cancellation enable
- M: auto test disable & input offset cancellation disable

Programmable input equalization levels; Internal pull down at ~150k Ohm, 3.3V I/O.

- L: default, LEQ, compensate channel loss up to 12dB @ HBR2
- H: HEQ, compensate channel loss up to 15dB @ HBR2
- M: LLEQ, compensate channel loss up to 5dB @ HBR2

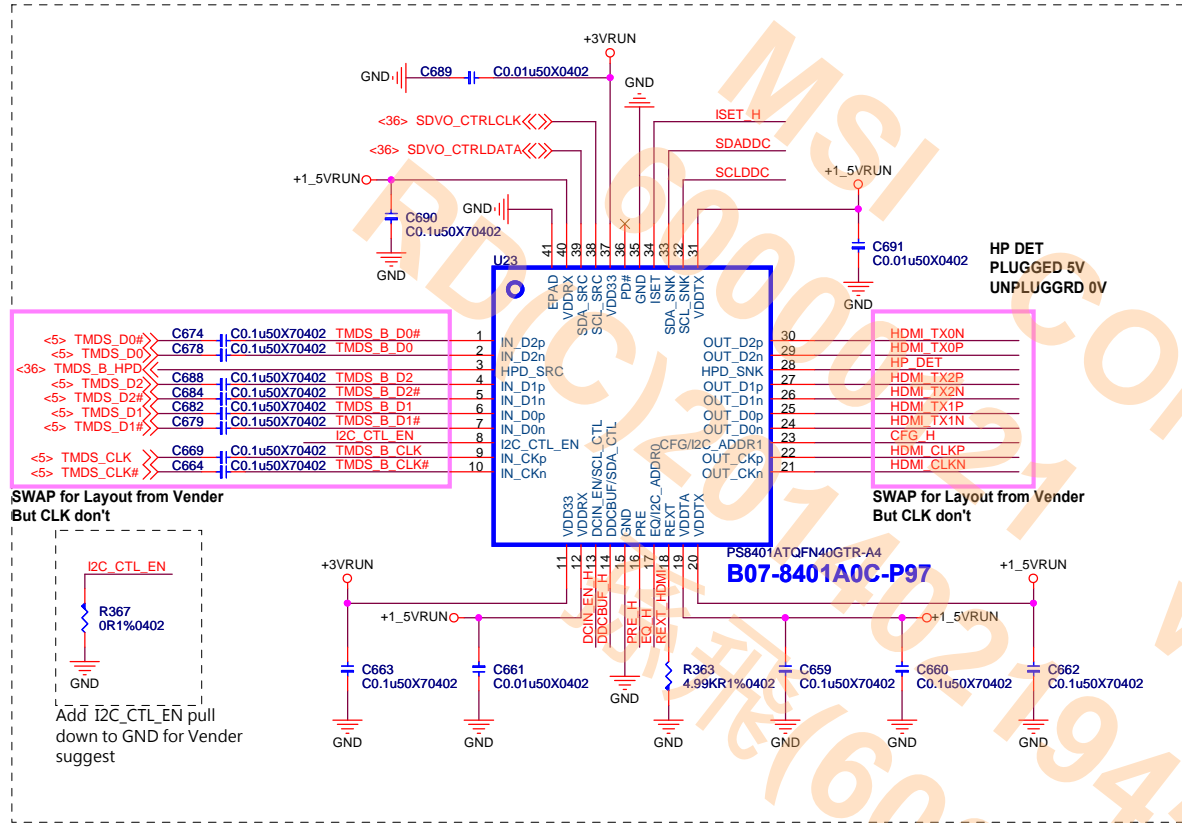


EMI Close Connector

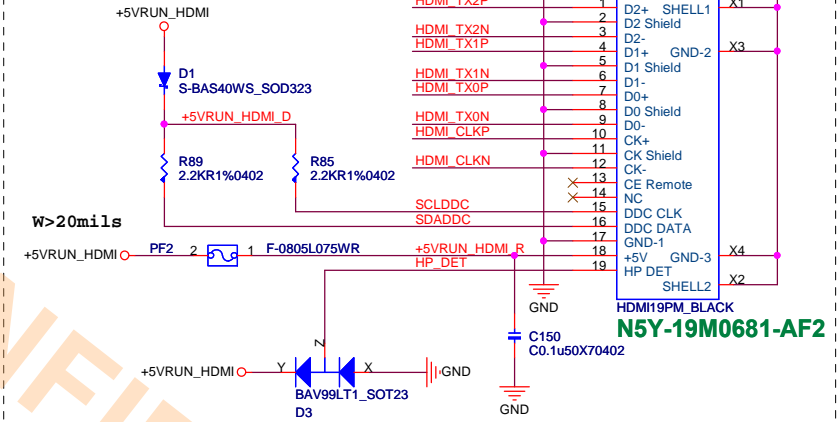
LANE0



HDMI Repeater



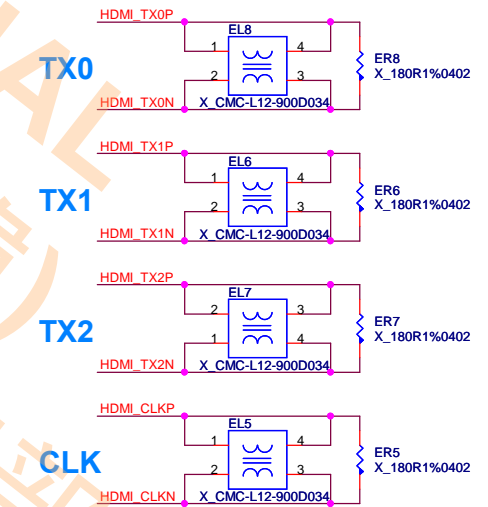
HDMI Connector



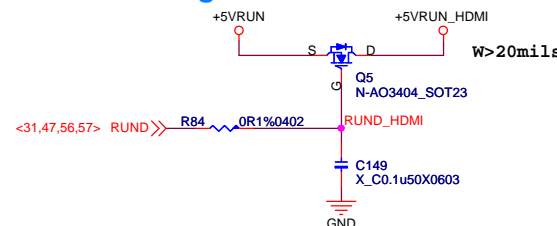
An HDMI Source shall have +5V Power signal over-current protection of no more than 0.5A.

HPD_SNK Internal PD 150kohm

EMI Close Connector

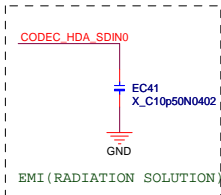
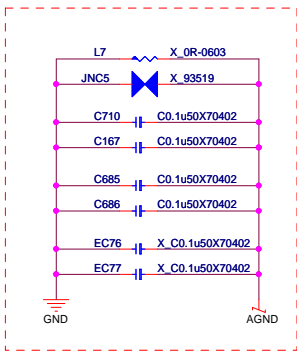


Avoid HDMI Leakage



ADDR1 (CFG)	ADDR0 (EQ)	I2C control bus address (Internal pull down at ~150kΩ, 3.3V I/O)
0	0	0x4C / 4D (default)
0	1	0x5C / 5D
1	0	0xCC / CD
1	1	0xEC / ED

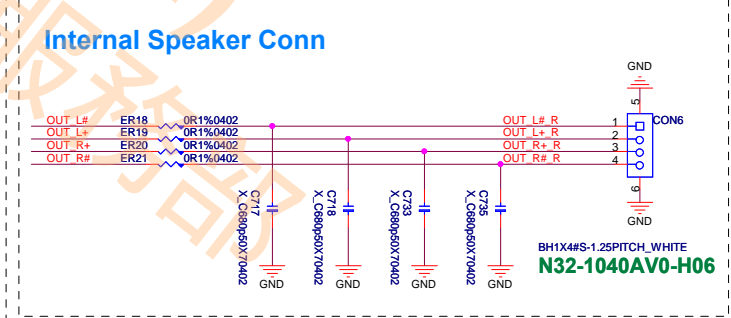
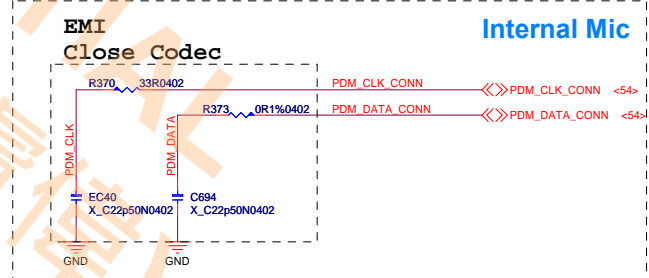
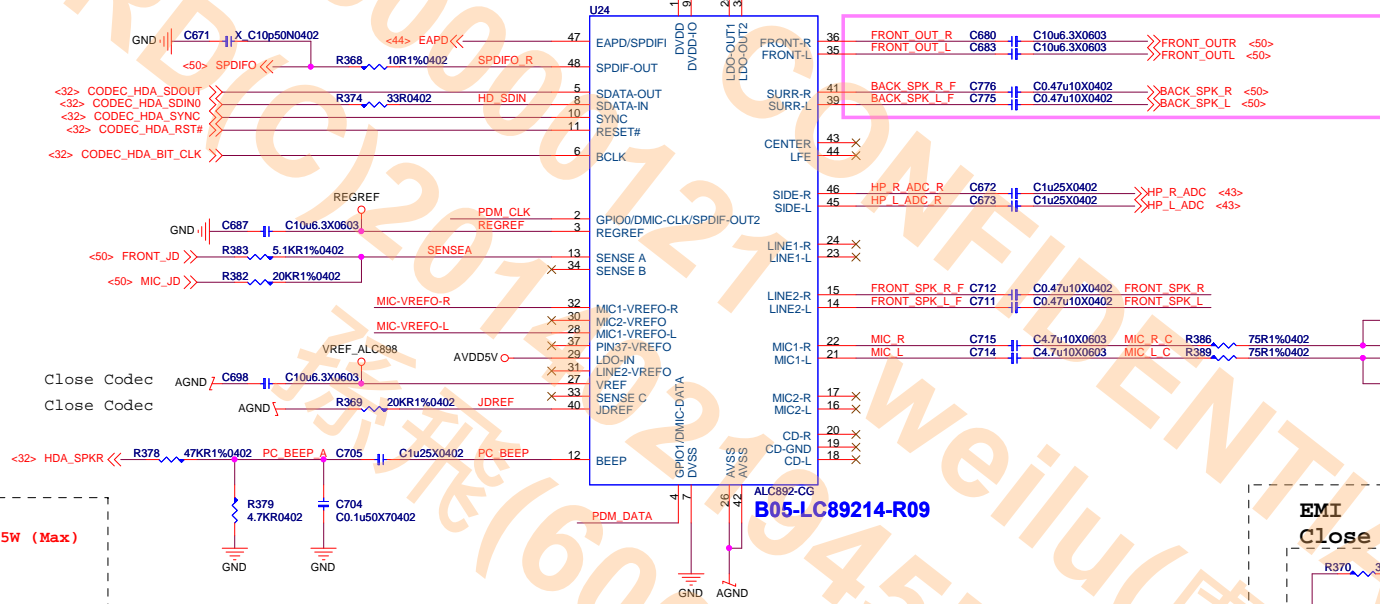
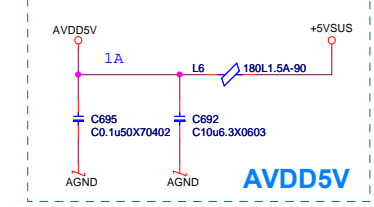
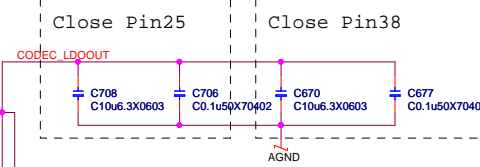
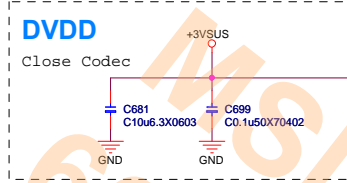
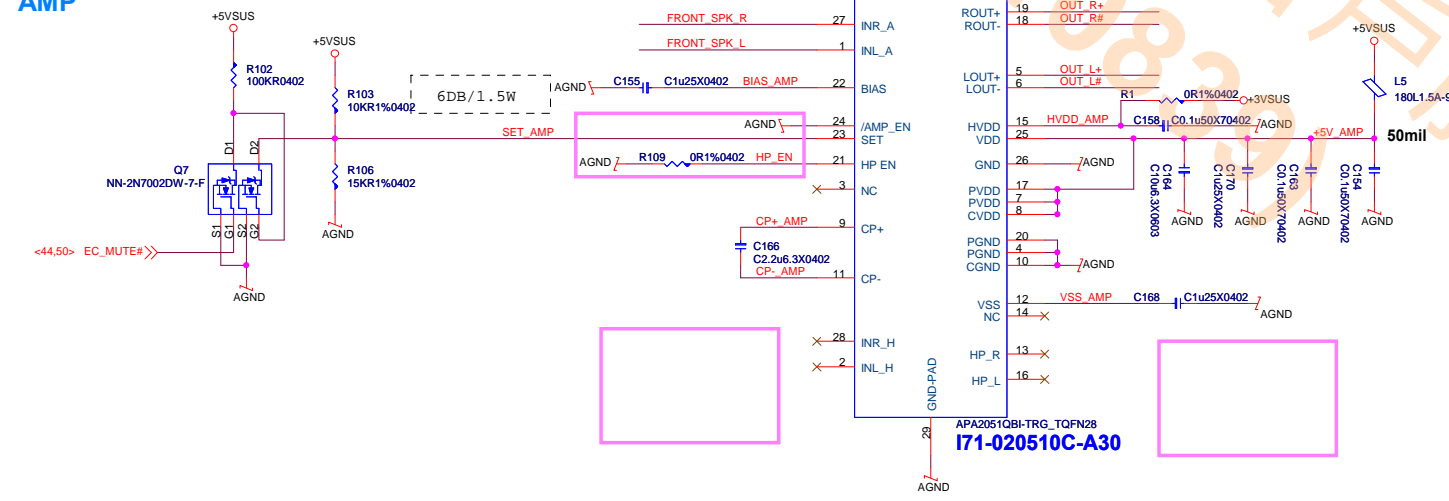
Audio CODEC/Audio AMP



APA2051 Pin23: Gain Setting
Speaker Spec: 2.0W(Normal), 2.5W (Max)
 $V_o = (2 \times 4)^{0.5} = 2.828$
 $dB = 20 \log(V_o/V_i)$
Gain: $2.828V_{rms}/1.2V_{rms} = 2.36$
 $7dB = -20 \log 2.36$
 $7dB$: Setting Pin23 on 3.1V
(R103:13Kohm, R106:22Kohm)

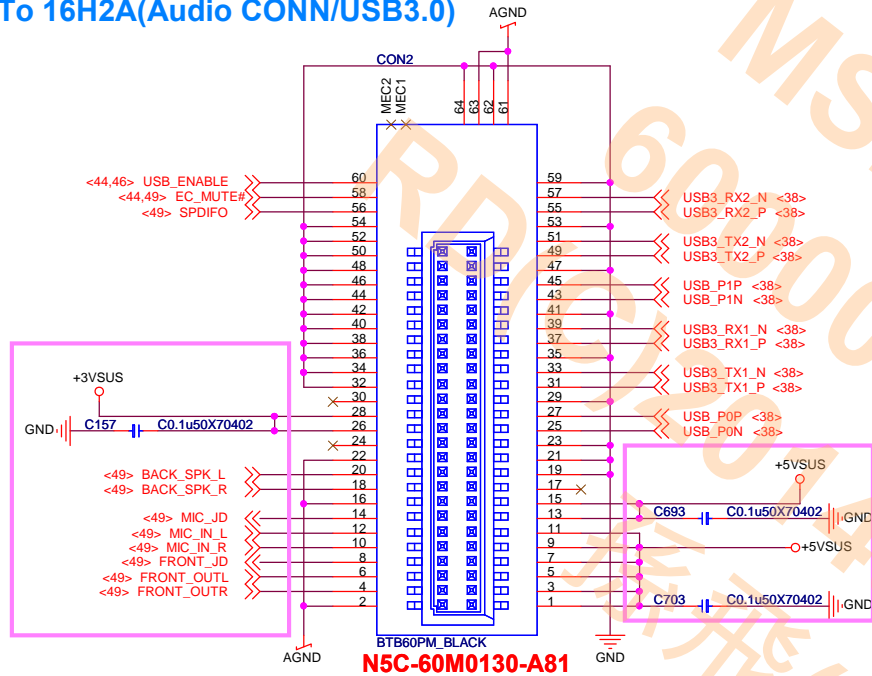
For 6dB When Using 1.5W (Normal)
(R103:10Kohm, R106:15Kohm)

AMP

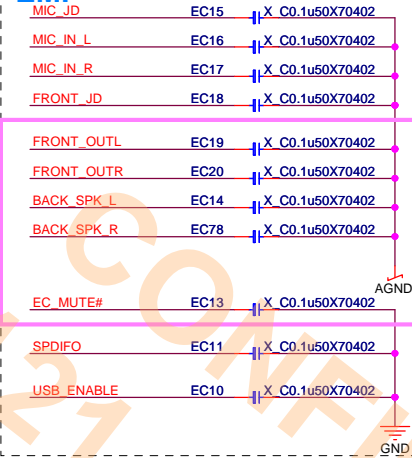


CPU FAN/BTB CONN

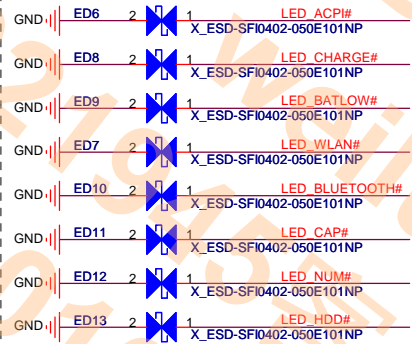
To 16H2A(Audio CONN/USB3.0)



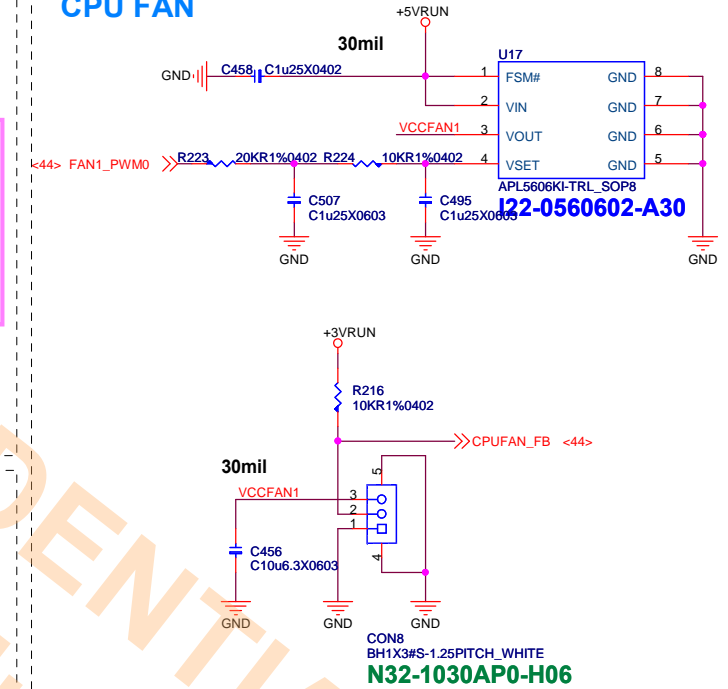
EMI



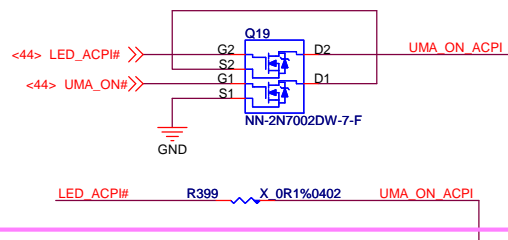
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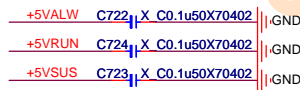
CPU FAN



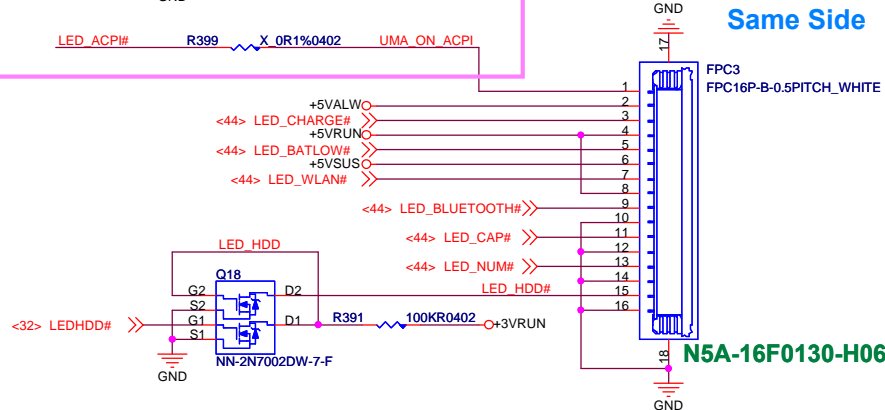
S3 Breath S0 No active



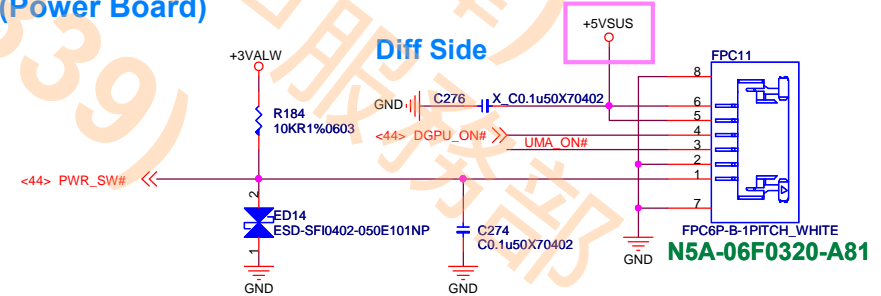
To 16H2B(LED Board)



Same Side



To 16H2C (Power Board)

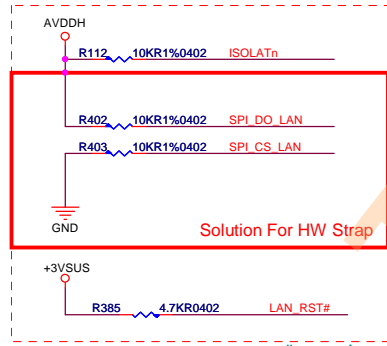


msi

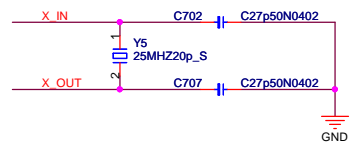
MICRO-STAR INT'L CO.,LTD.

Title			CPU FAN/BTB CONN	
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GIGA LAN(BigFoot BFN2205B)

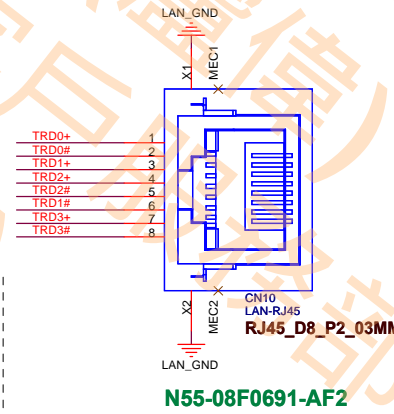
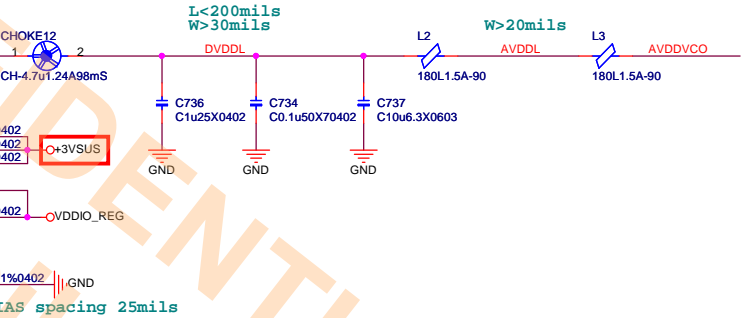
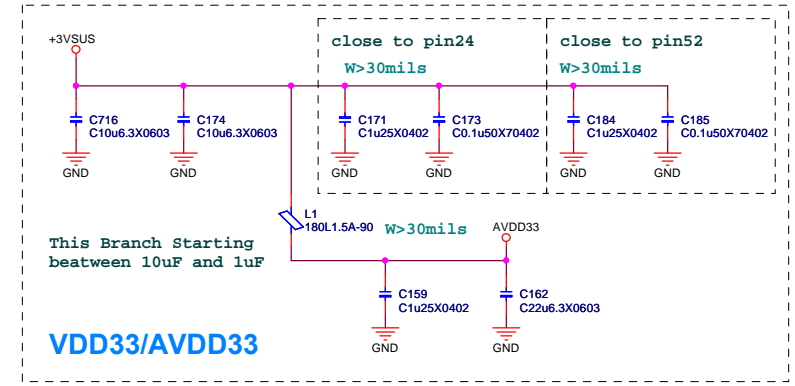
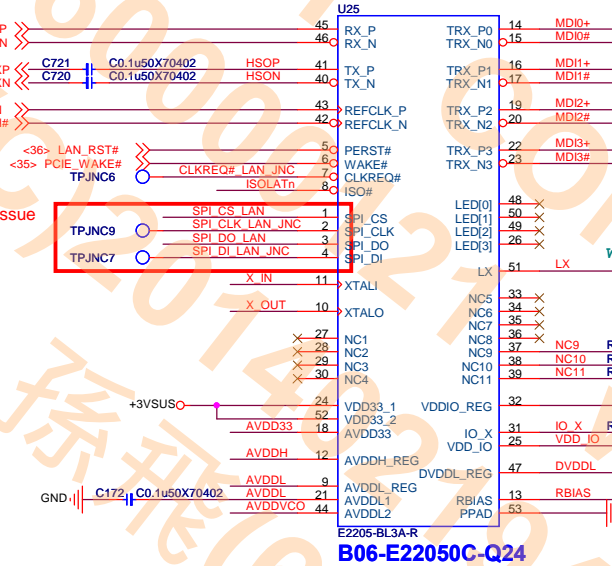
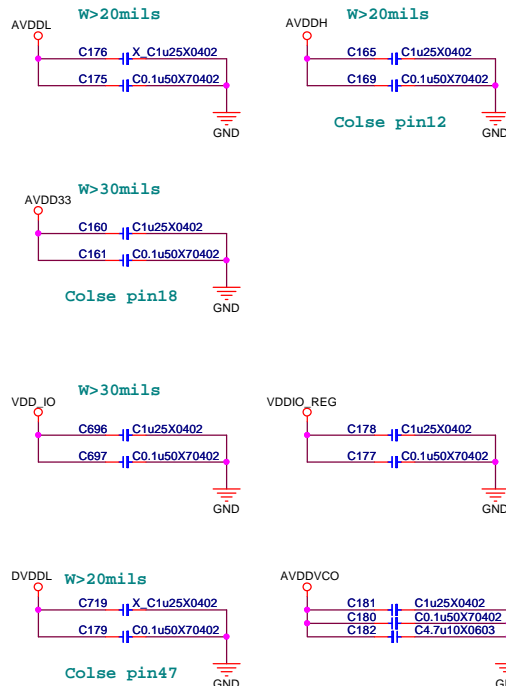


RST# spacing 20mils

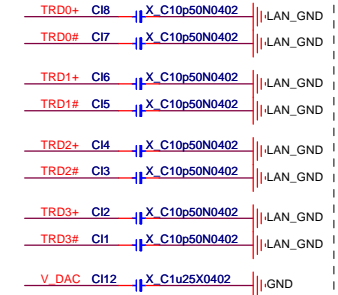


For LAN lost issue

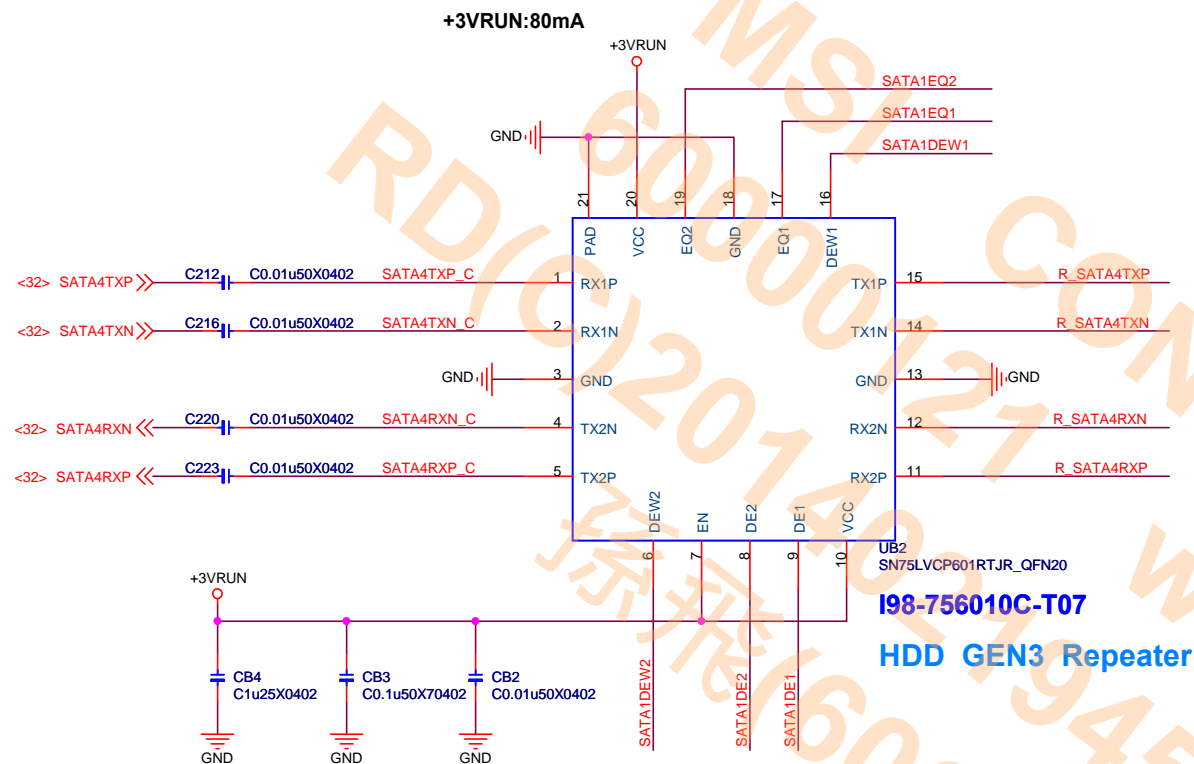
Power CAP



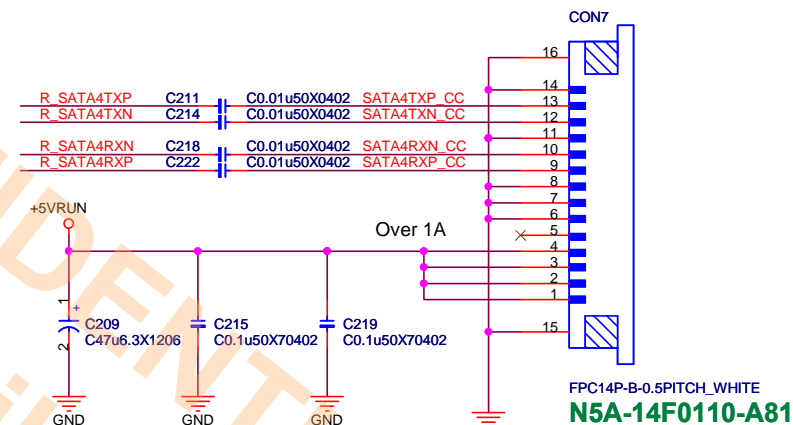
EMI



HDD (With Repeater)



BTB Connector



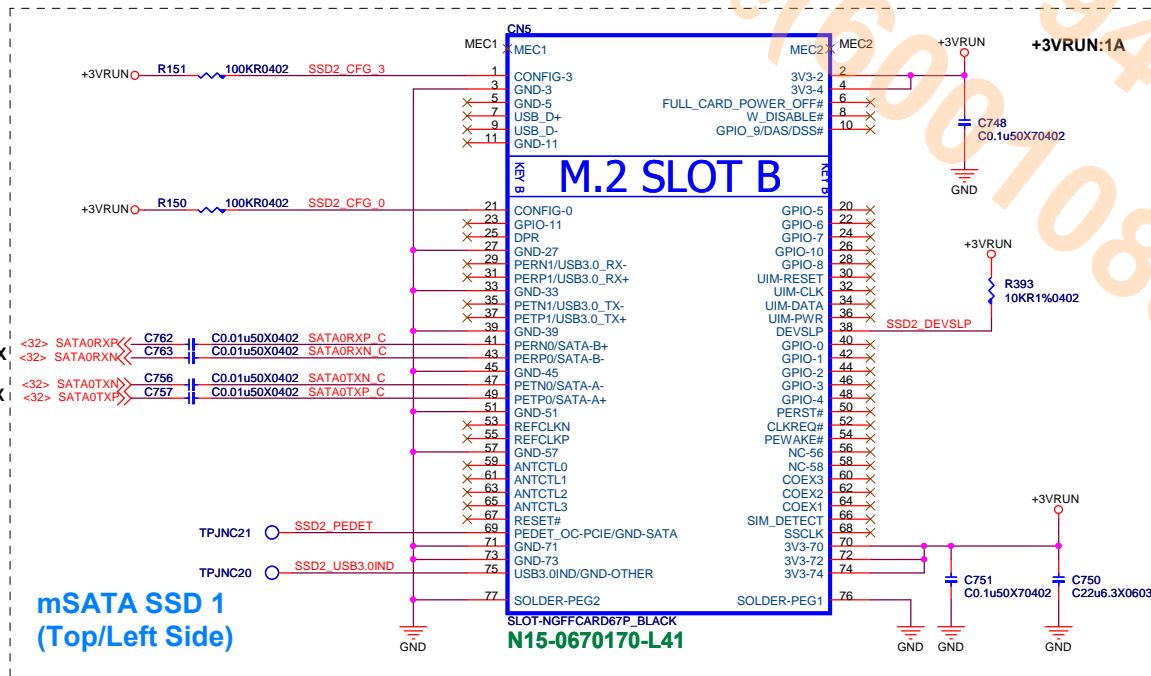
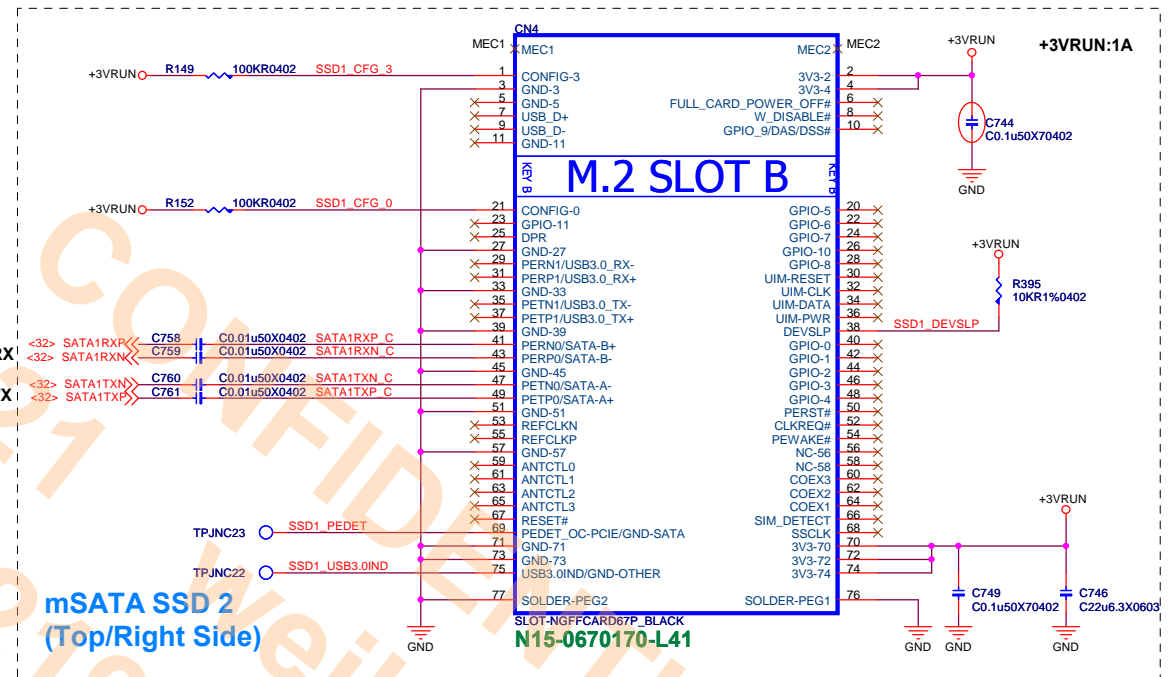
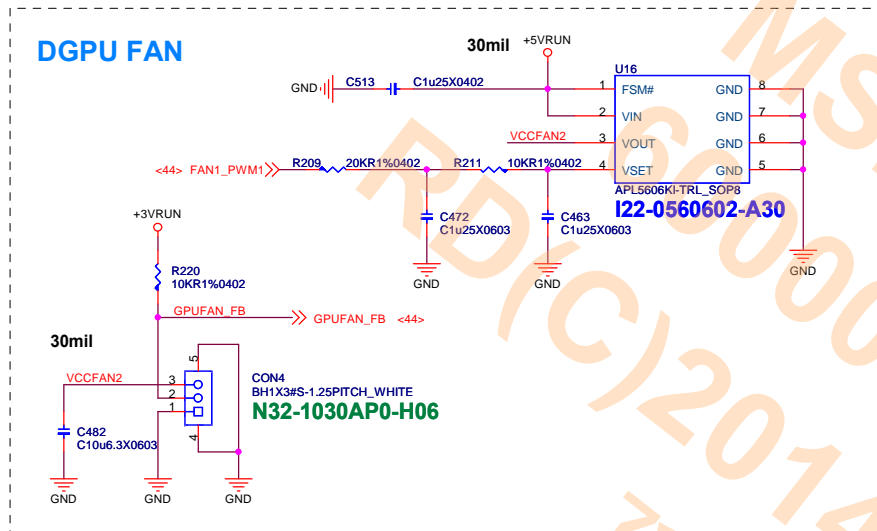
TI SN75LVCP601RTJR HW Setting

DE1/DE2	CH1/CH2De-Emphasis dB (at 6Gbps)	EQ1/EQ2	CH1/CH2Equalization dB (at 6Gbps)
NC (<i>default</i>)	−4	NC (<i>default</i>)	0
0	0	0	7
1	−2	1	14

DEW1/DEW2	Device Function → DE Width for CH1/CH2
0	De-emphasis pulse duration, short (recommended setting when link operates at SATA 1.5/3/6 Gbps)
1 (<i>default</i>)	De-emphasis pulse duration, long (recommended setting when link operates at SATA 1.5/3 Gbps speed only)

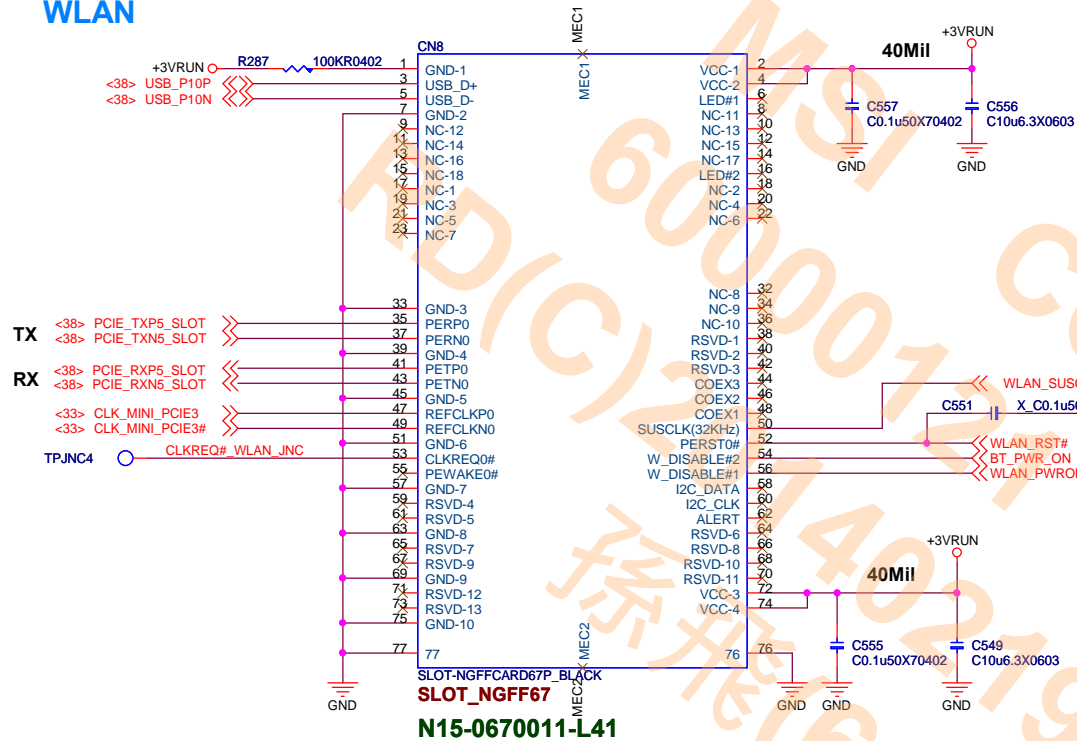


SSD/ DGPU FAN

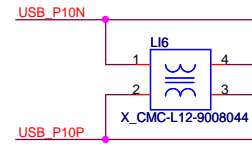


40	NC	No Connect
41	SATA-B+/PERn0	Host receiver differential signal pair
42	NC	No Connect
43	SATA-B-/PERp0	Host receiver differential signal pair
44	NC	No Connect
45	GND	Ground
46	NC	No Connect
47	SATA-A-/PETn0	Host Transmitter differential signal pair
48	NC	No Connect
49	SATA-A+/PETp0	Host transmitter differential signal pair

WLAN

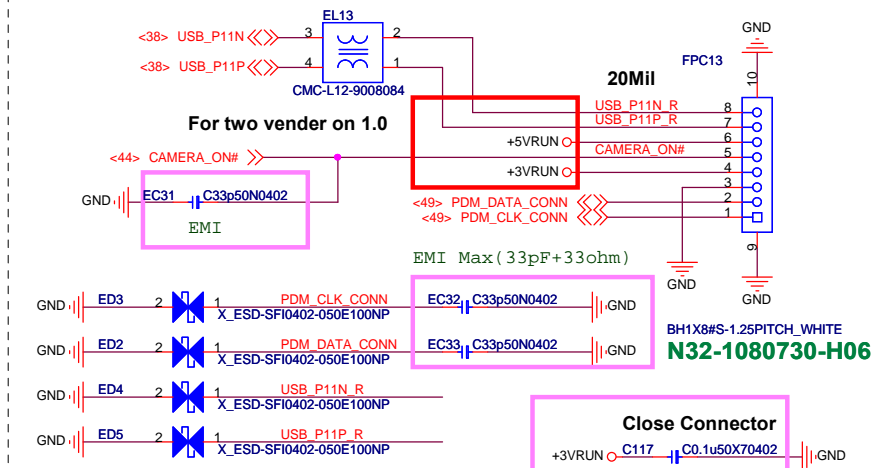


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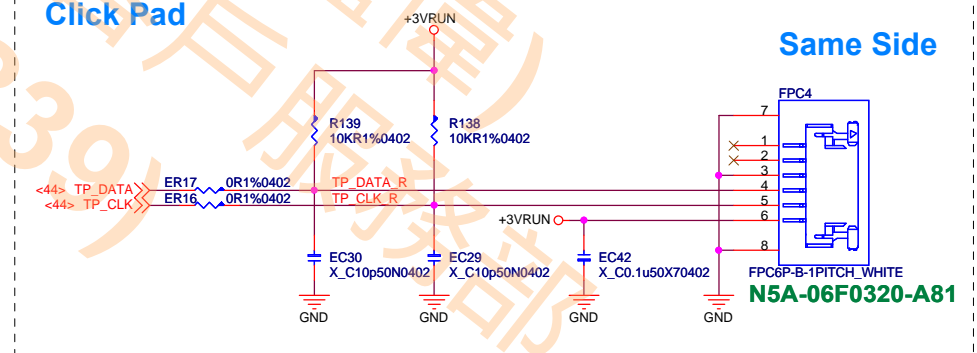


Pin 1	GND	Pin 2	3.3V
Pin 3	USB_D+	Pin 4	3.3V
Pin 5	USB_D-	Pin 6	LED1#
Pin 7	GND	Pin 8	Module Key
Pin 9	Module Key	Pin 10	Module Key
Pin 11	Module Key	Pin 12	Module Key
Pin 13	Module Key	Pin 14	Module Key
Pin 15	Module Key	Pin 16	LED2#
Pin 17	N/C	Pin 18	GND
Pin 19	N/C	Pin 20	N/C
Pin 21	N/C	Pin 22	N/C
Pin 23	N/C	Pin 24	Module Key
Pin 25	Module Key	Pin 26	Module Key
Pin 27	Module Key	Pin 28	Module Key
Pin 29	Module Key	Pin 30	Module Key
Pin 31	Module Key	Pin 32	N/C
Pin 33	GND	Pin 34	N/C
Pin 35	PERP0	Pin 36	N/C
Pin 37	PERN0	Pin 38	Click Reset (I 3.3V)
Pin 39	GND	Pin 40	N/C
Pin 41	PETP0	Pin 42	N/C
Pin 43	PETN0	Pin 44	N/C
Pin 45	GND	Pin 46	N/C
Pin 47	REFCLKP0	Pin 48	N/C
Pin 49	REFCLKN0	Pin 50	N/C (SUSCLK (32kHz) for DSx)
Pin 51	GND	Pin 52	PERST0#
Pin 53	CLKREQ0#	Pin 54	BT_EN (W_DISABLE2#)
Pin 55	DEWAKE0#	Pin 56	WLZN_EN (W_DISABLE2#)
Pin 57	GND	Pin 58	N/C
Pin 59	N/C	Pin 60	N/C
Pin 61	N/C	Pin 62	N/C
Pin 63	GND	Pin 64	Resever
Pin 65	N/C	Pin 66	N/C
Pin 67	N/C	Pin 68	N/C
Pin 69	GND	Pin 70	N/C
Pin 71	N/C	Pin 72	3.3V
Pin 73	N/C	Pin 74	3.3V
Pin 75	GND		

CAMERA

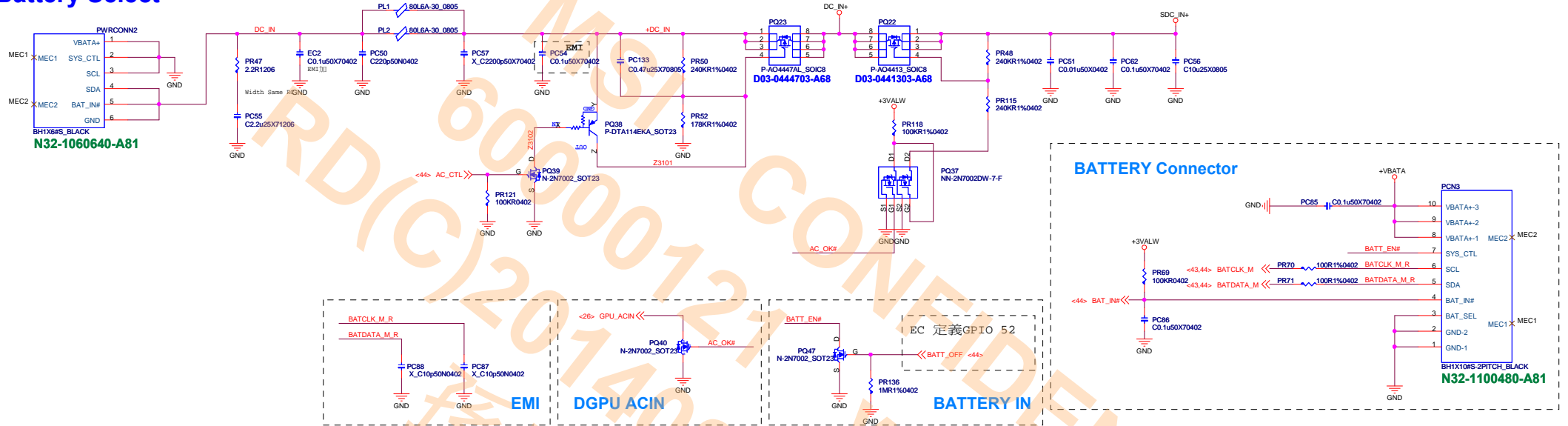


Click Pad

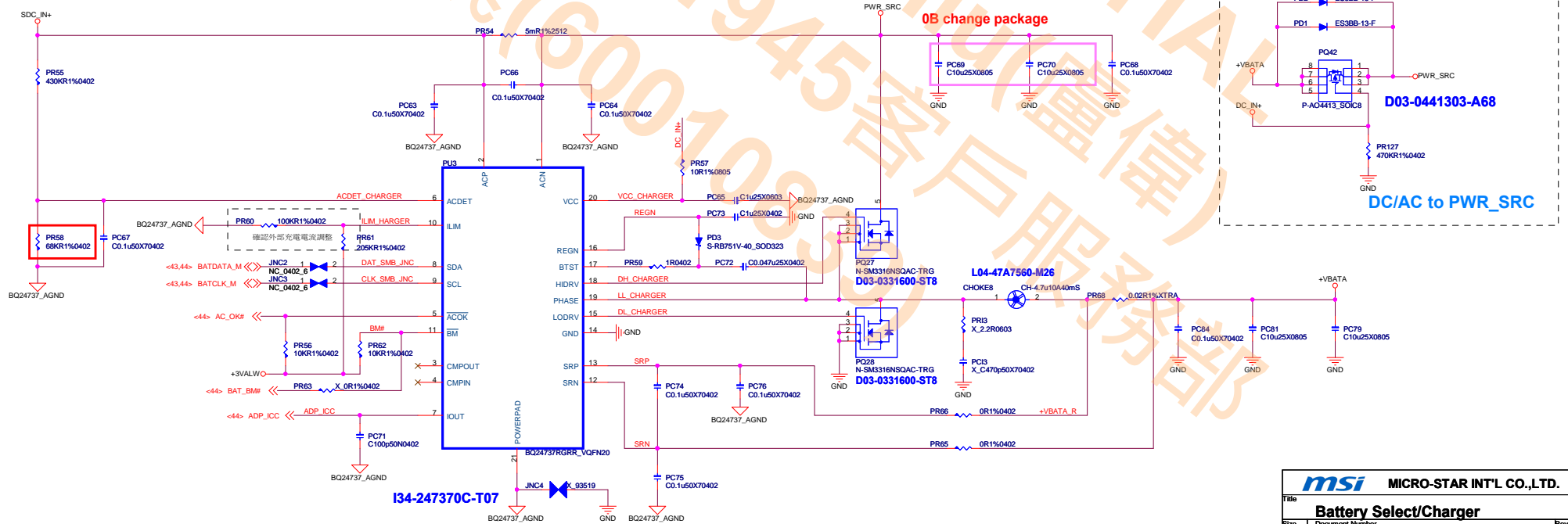


Battery Select/Charger

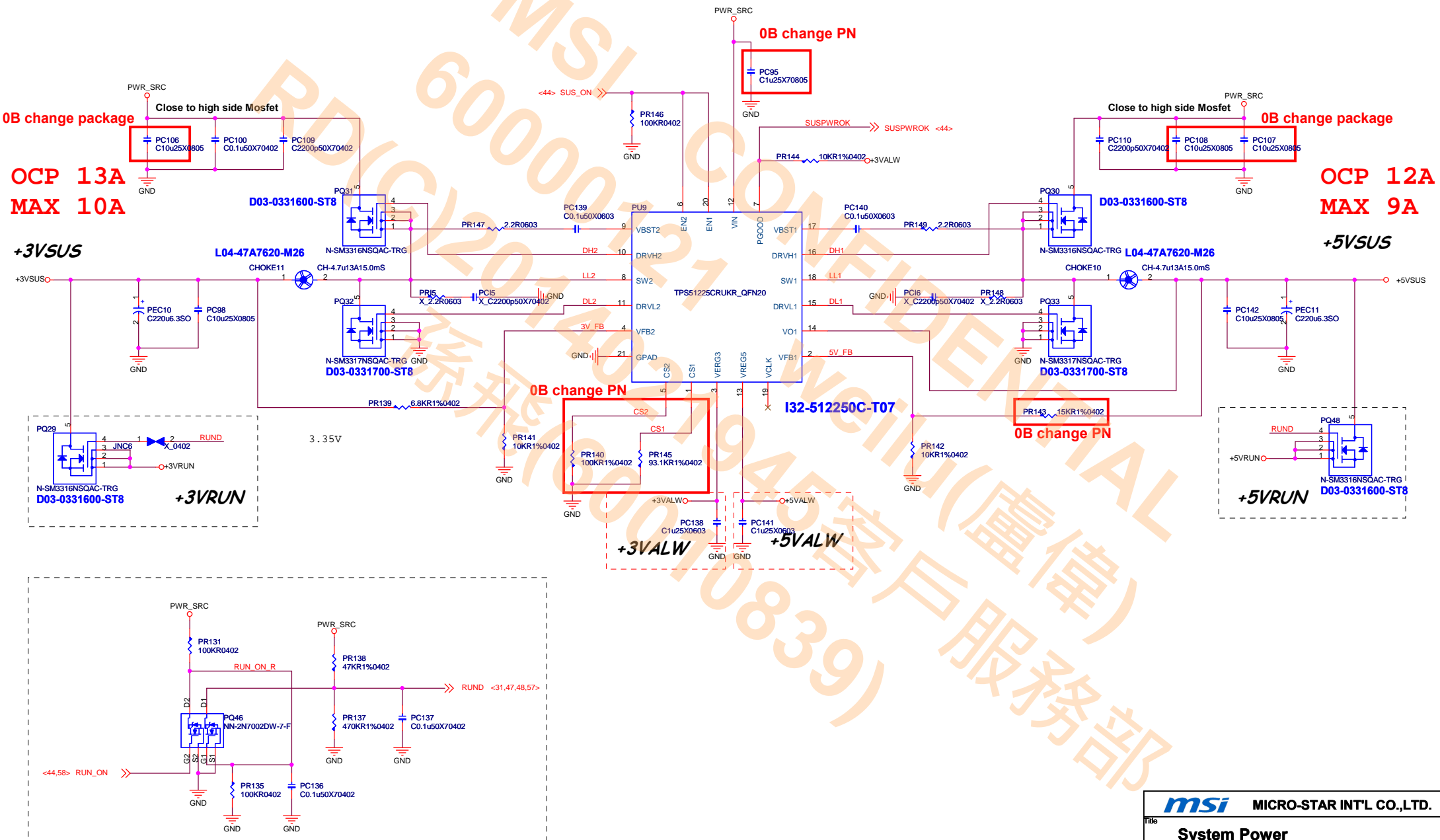
Battery Select



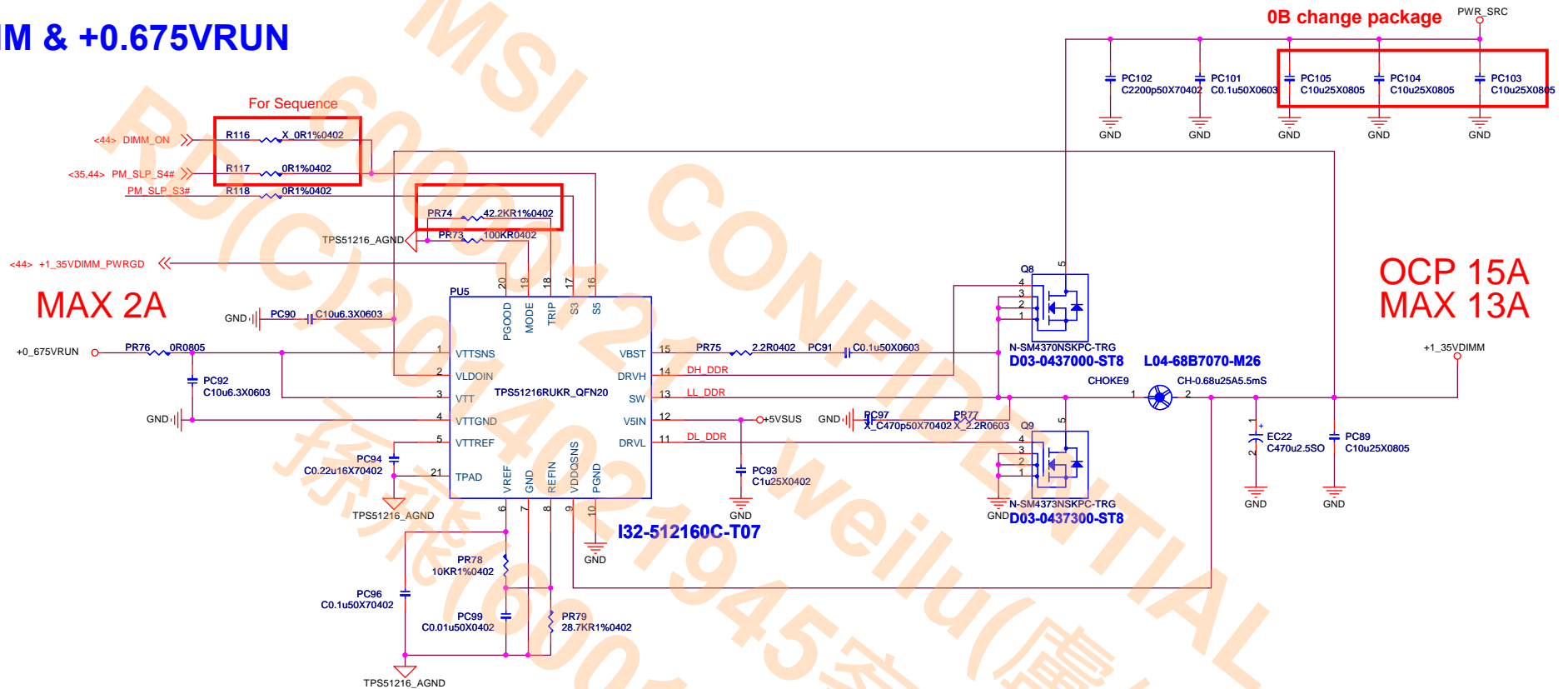
Battery Charger



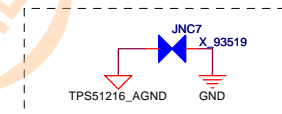
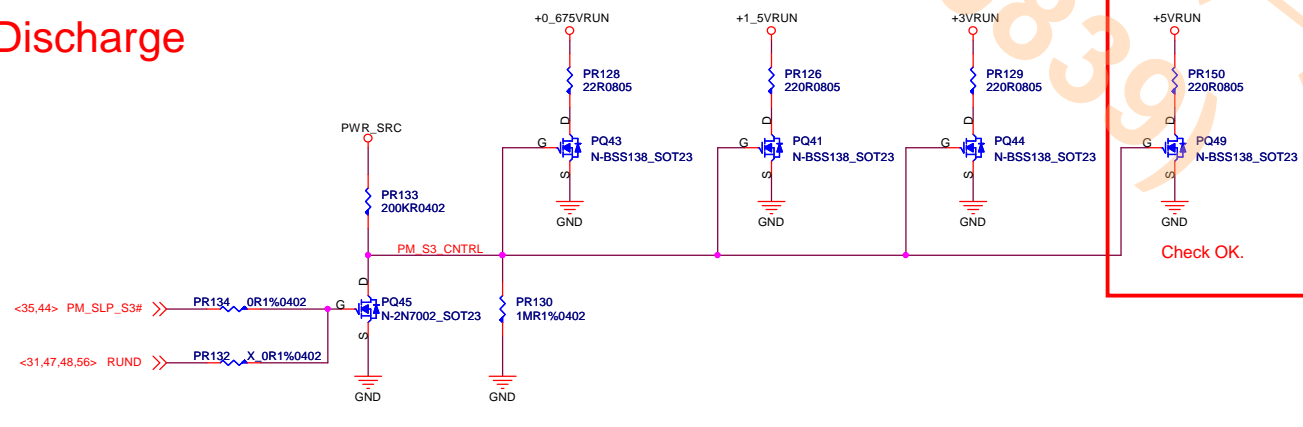
System Power



+1.35VDIMM & +0.675VRUN



Discharge

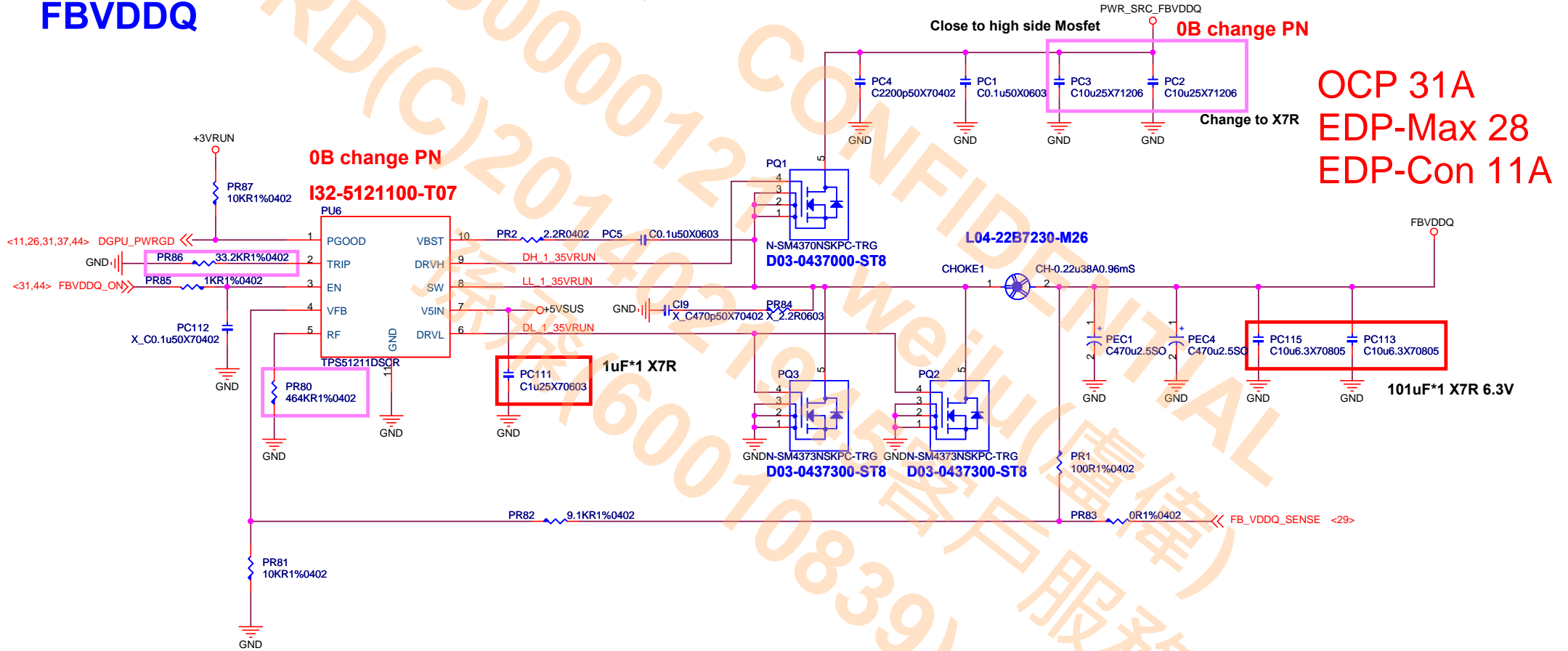


+1_05VRUN / +1_5VRUN



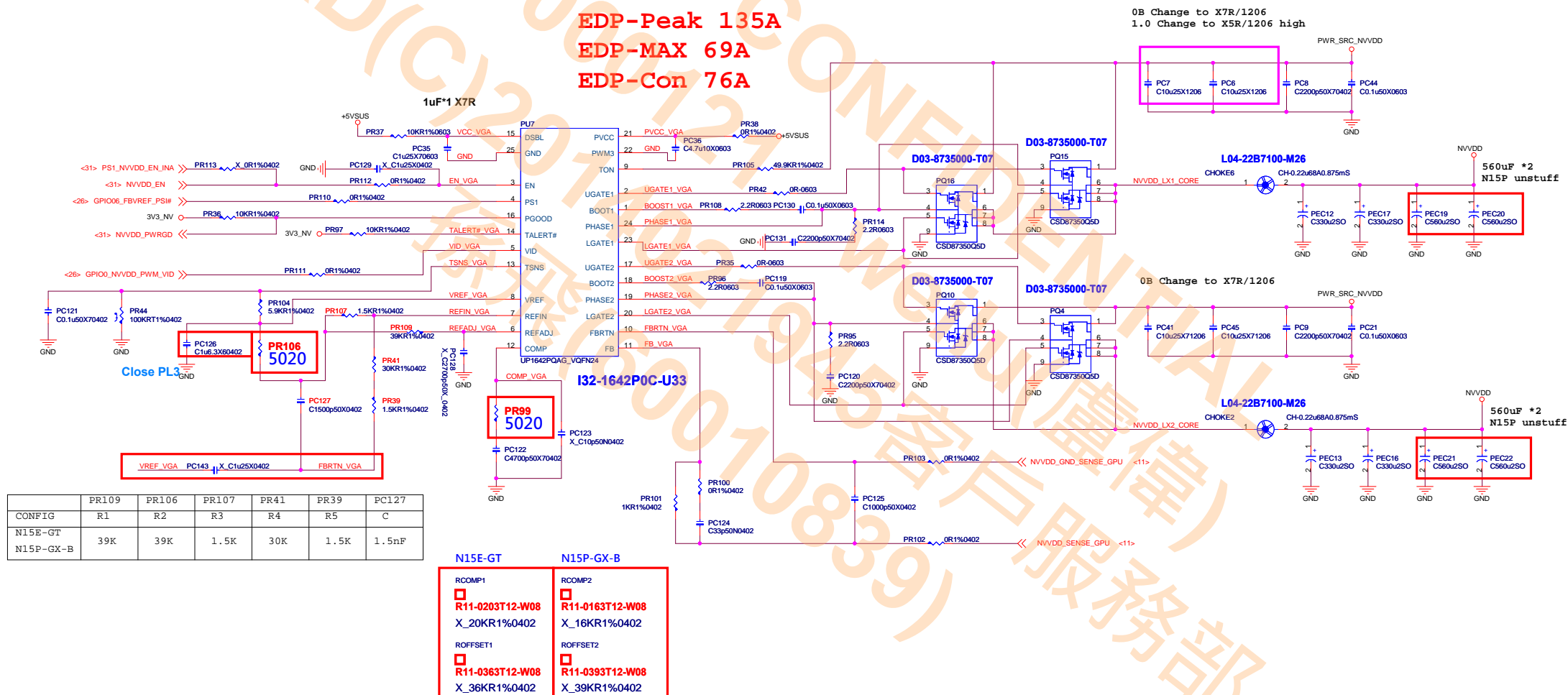
DGPU POWER FBVDDQ

FBVDDQ



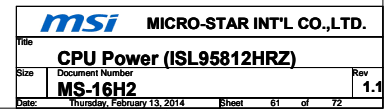
DGPU POWER / UP1642PQAG

EDP-Peak 135A
EDP-MAX 69A
EDP-Con 76A



CPU Power (+VCC_CORE)

MAX 95A
TDC 27A

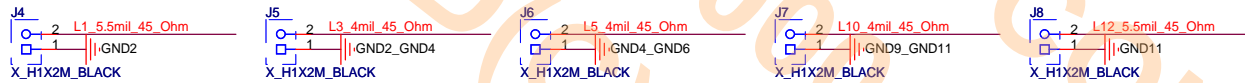


Impedance Connector No PN

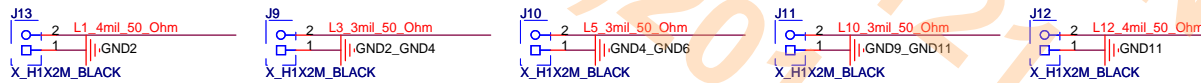
40 ohm



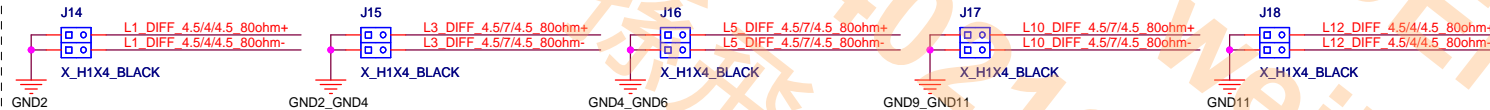
45 ohm



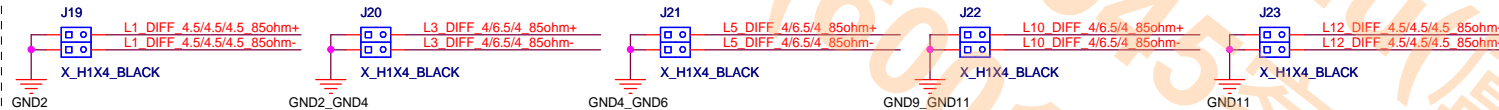
50 ohm



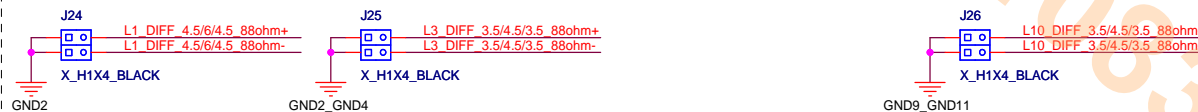
80 ohm



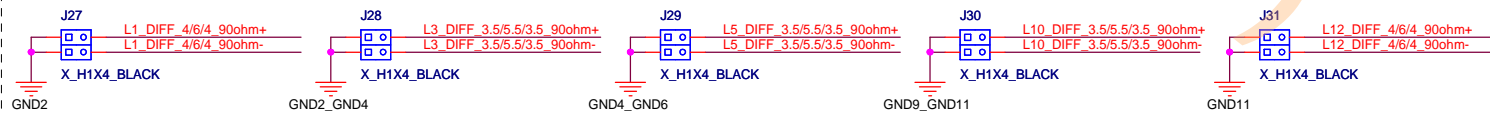
85 ohm



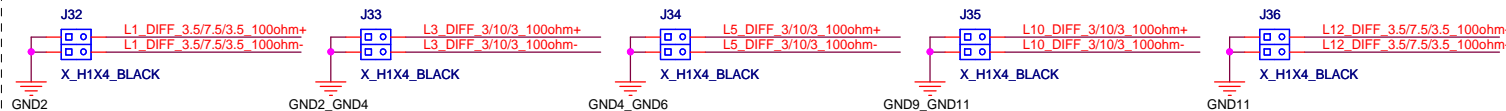
88 ohm



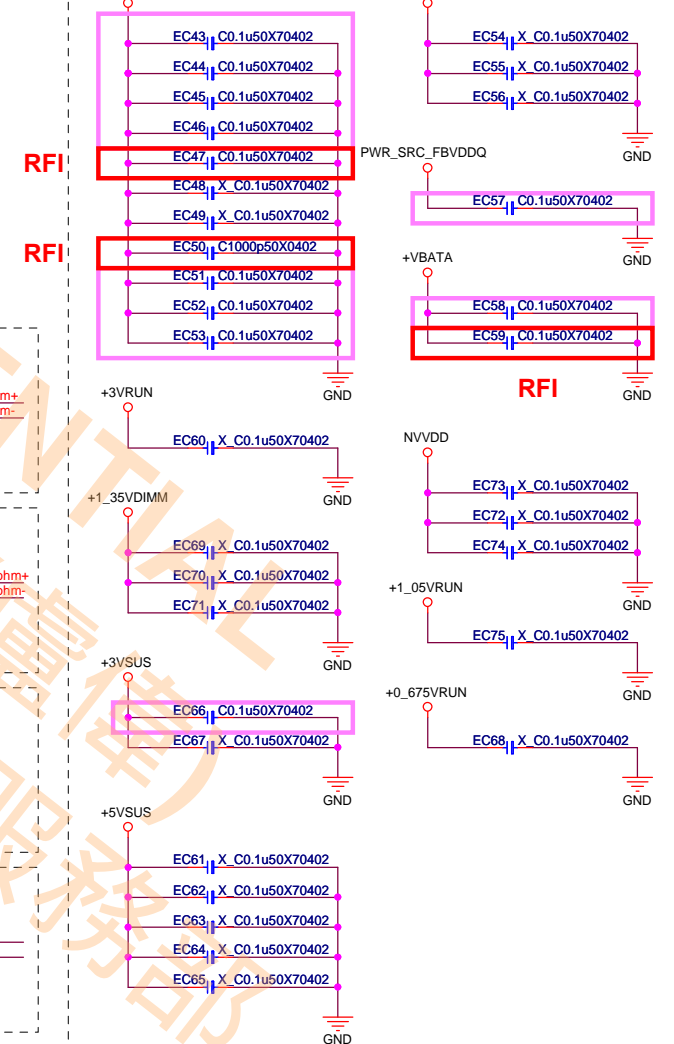
90 ohm



100 ohm

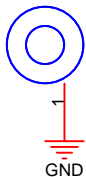
**EMI**

PWR_SRC 0B stuff

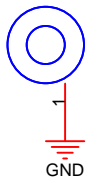


CPU/GPU Holes

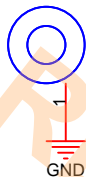
MCPU4 H_R200D150



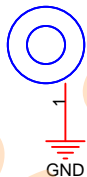
MCPU2 H_R200D150



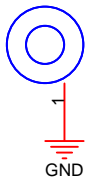
MCPU3 H_R200D150



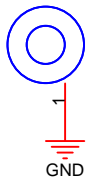
MCPU1 H_R200D150



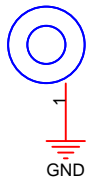
MGPU2 H_R276D169_PB



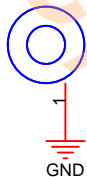
MGPU4 H_R276D169_PB



MGPU1 H_R276D169_PB

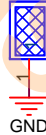


MGPU3 H_R276D169_PB



EMI

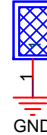
SPRING1 HS-MS-1721



E2M-7213211-CA7

ATE_C006_106

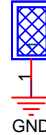
SPRING2 HS-MS1058



E2M-2142011-CA7

ATE_C006_106

SPRING3 HS-MS-1029



E23-1029060-CA7

ATE_C006_106

MYLAR2



E2M-6H21411-Y42

X_MYLAR

MYLAR3



E2P-6H22711-Y42

MYLAR

MYLAR4



E2P-6H23011-Y42

MYLAR

RUBBER1



E2Y-6H20711-Y40

RUBBER

RUBBER2



E2Y-6H21311-Y40

RUBBER

RUBBER3



E2Y-6H21311-Y40

RUBBER

GPU bot

MYLAR5



E2P-6H23111-Y42

MYLAR

BRACKET1



307-6H20111-C22

CPU_BRACKET

BRACKET2



307-6H20111-C22

CPU_BRACKET

BRACKET3



307-6H20211-C22

GPU_BRACKET

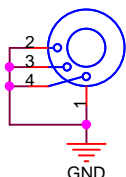
MYLAR1



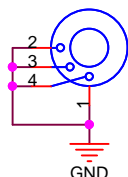
E2P-6H22111-Y42

MYLAR

M2
X_H_R197D118_PT_V3
H_R197D118_PT_V3



M7
X_H_R197D118_PT_V3
H_R197D118_PT_V3



FM1



FM2



FM3



FM4



FM5



FM6



FM7

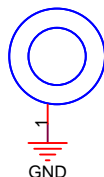


FM8



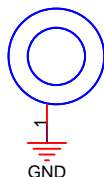
Fan Hole

MH1
H_R197D91
X_ME_SCREW HOLE

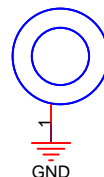


SSD Stand off

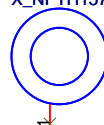
MH3
H_R220D146_PT
E2B-16H2020



MH2
H_R220D146_PT
E2B-16H2020



MH4
NPTH157
X_NPTH157



UME1

HDMI
Lable

X_HDMI ROYALTY

Y01-RHDMI03-000 G51-LA01678-A09

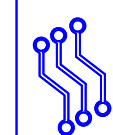
For MP

UME2

BIOS
Lable

X_BIOS_LABEL

PCB1



PF0-16H2111-H73

PF0-16H2111-H73

Hannstar: PF0-16H2110-H73

TRIPOD: PF0-16H2110-T53

msi

MICRO-STAR INT'L CO.,LTD.

Title

Screw/ME

Size

Document Number

MS-16H2

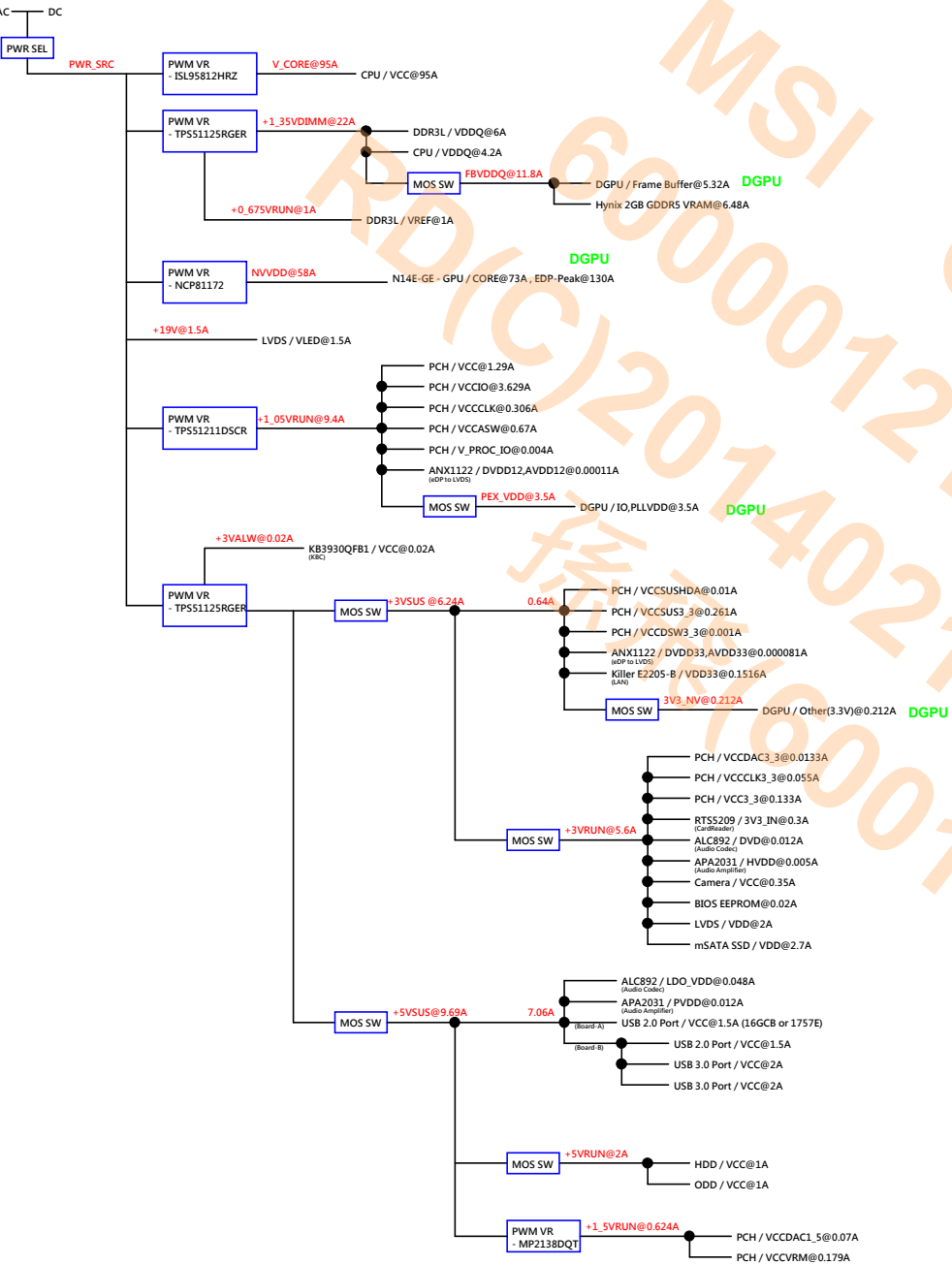
Rev

1.1

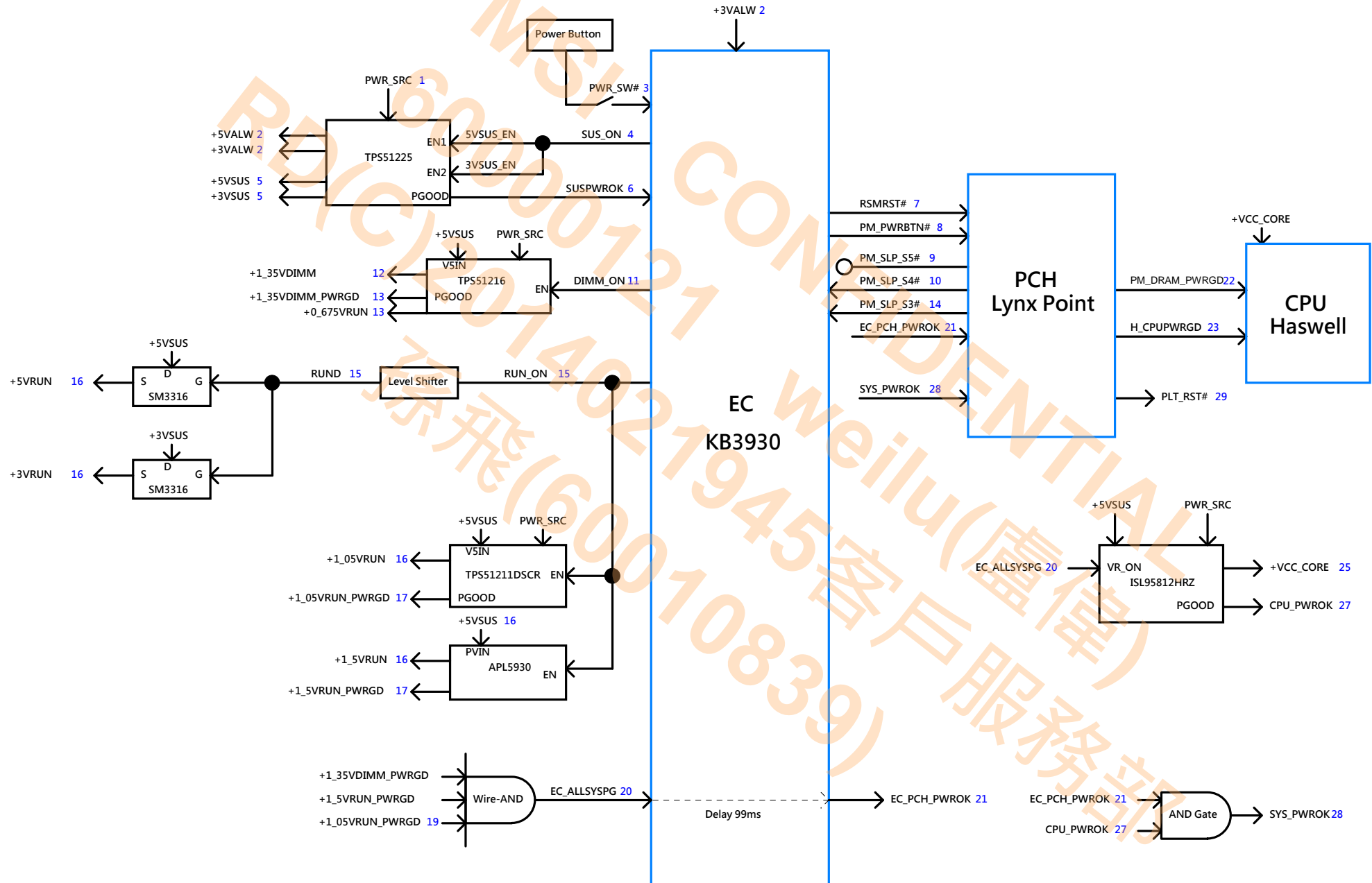
Date: Friday, February 14, 2014

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MS-16H2 Power Delivery Chart

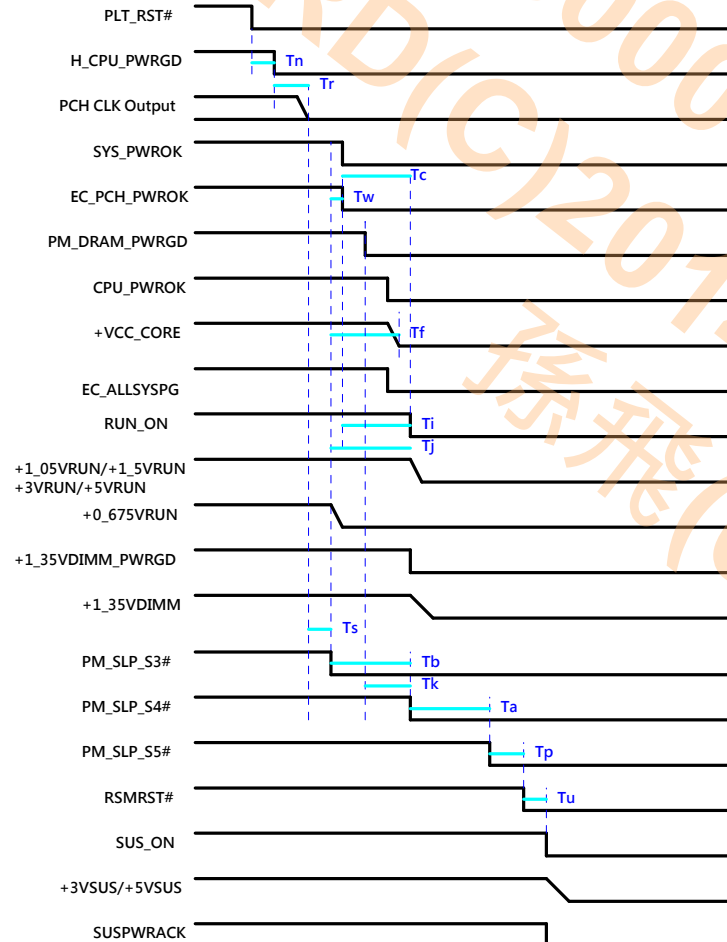


MS-16H2 Power on Block Diagram



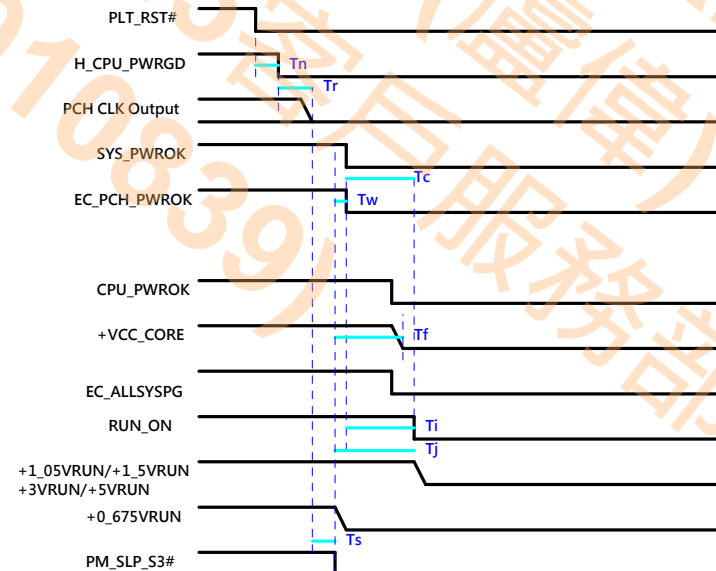
Power down Sequence

S0 -> G3



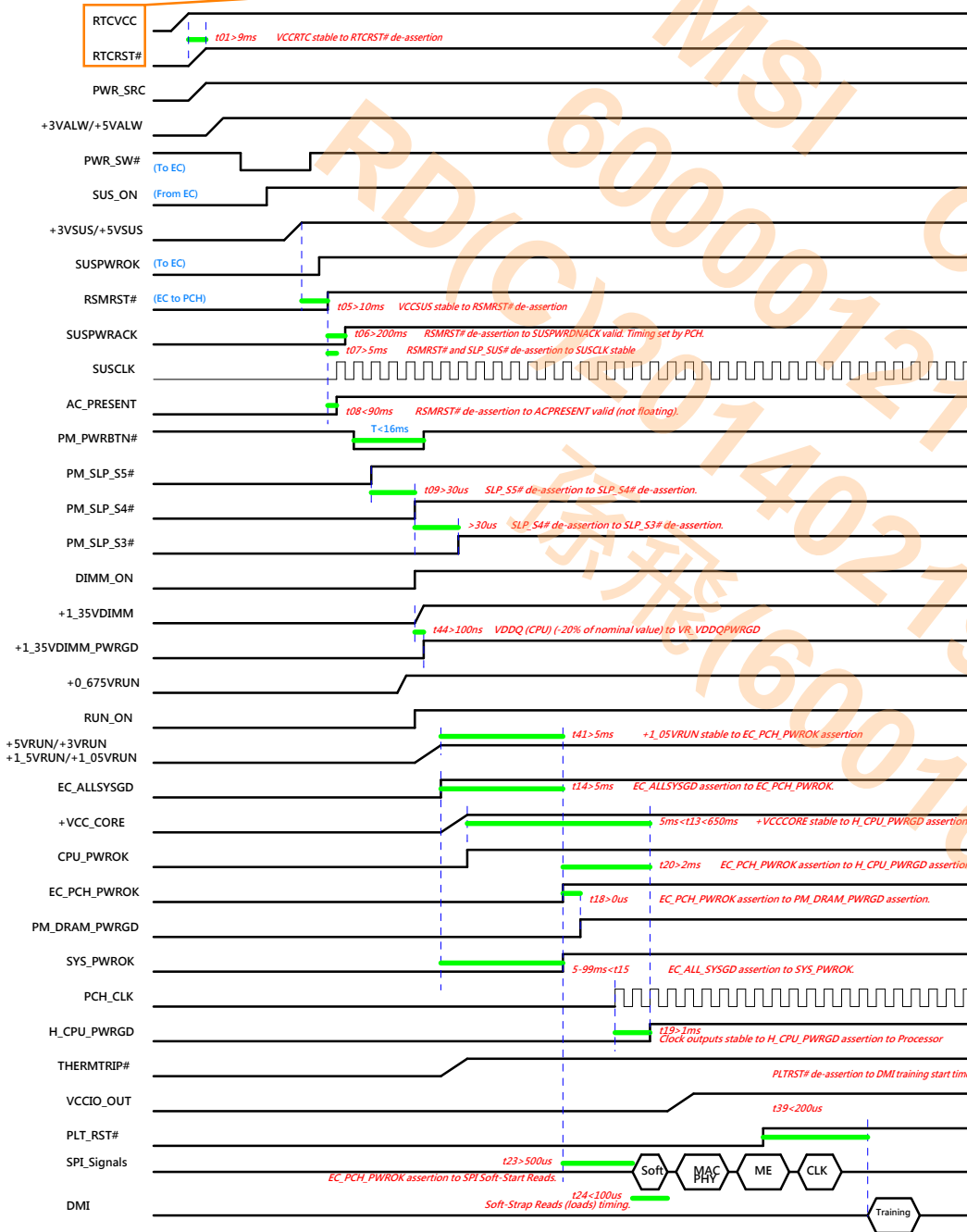
	MIN	MAX	Units	Description
Ta	30		us	SLP_S4# assertion to SLP_S5# assertion.
Tb	30		us	SLP_S3# assertion to SLP_S4# assertion.
Tc	40		ns	APWROK de-assertion to VCCASW/VCCSPI rails falling.
Tf		500	ms	SLP_S3# assertion to VCCIN(CPU) rail completely off.
Ti	40		ns	PWROK de-assertion to VCCCore (PCH) rail falling (-5% of nominal value).
Tj	5		us	SLP_S3# assertion to VCCCore (PCH) rails falling (-5% of nominal value).
Tk	-100		ns	DRAMPWROK de-assertion to SLP_S4# assertion
Tn	30		us	PLTRST# assertion to CPUPWRGOOD de-assertion.
Tp	500		us	Last SLP_Sx# or SLP_A# assertion to RSMRST# assertion
Tr	10		us	CPUPWRGOOD de-assertion to PCH clock outputs turning off.
Ts	1		us	PCH Clock outputs turning OFF to SLP_S3# assertion.
Tu	40		ns	RSMRST# assertion to VCCSUS rails falling (-5% of nominal value).
Tw	0		ms	SLP_S3# assertion to PWROK de-assertion.

S0 -> S3

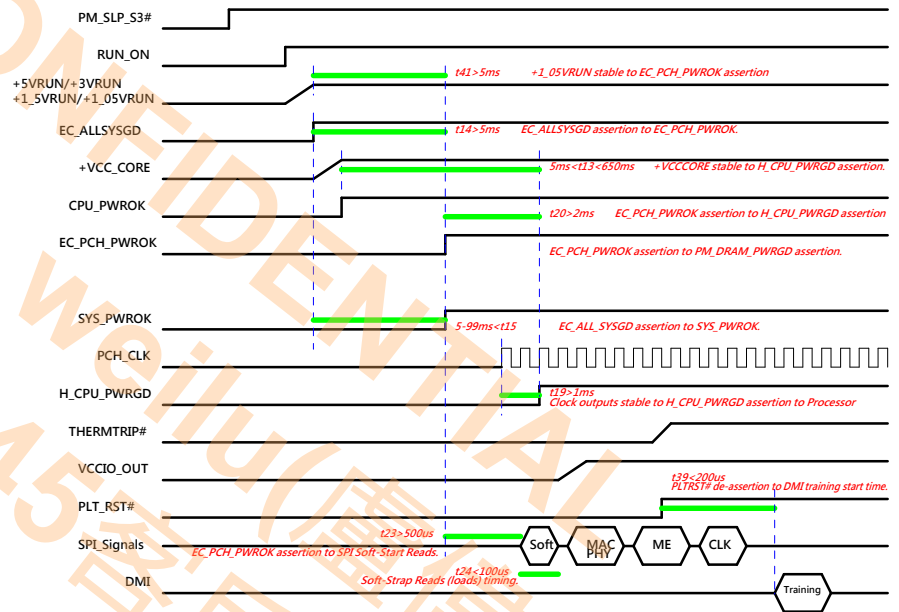


Power on Sequence

G3 -> S0



S3-> S0



History

0B: Hardware part

- 01. Remove All GAP for power parts.
- 02. Add 3V3_NV part for leakage
- 03. Change cardreader PN.
- 04. Change BTB PN
- 05. Change SPDIF/ Audio Jack PN
- 06. R116 unstuff, R117 stuff.
- 07. R346 unstuff
- 08. Remove SUBWOOFER
- 09. Add one more AMP for SPK

0B: Power part

- 01. PR33 2.2Kohm R11-0222T12-W08
- 02. PC29 82pF/50V C11-8201012-W08
- 03. PC30 100pF/16V C11-1011032-W08
- 04. PR34 unstuff
- 05. PC32 unstuff
- 06. PR27 2.7Kohm R11-0272T12-W08
- 07. PR90 8.06Kohm R11-8061T12-W08
- 08. PR32 910Rohm R11-0911T12-W08
- 09. PC27 560pF/16V C11-5611812-W08
- 10. PR31 80.6Kohm R11-8062T12-W08
- 11. PR23 21Kohm R11-0213T12-W08
- 12. PR88 6.8Mohm R11-0685T13-W08
- 13. PR8 453Rohm R11-4530T22-W08
- 14. PC19 unstuff
- 15. PR6 unstuff
- 16. PR140 100Kohm R11-0104T12-W08
- 17. PR145 93.1Kohm R11-9312T12-R01
- 18. PR143 15Kohm R11-0153T12-W08
- 19. PR124 95.3Kohm R11-9532T12-W08
- 20. PR86 28.7Kohm R11-2872T12-W08
- 21. PC69, PC70 change to 1206 package
- 22. PR88 6.8Mohm R11-0685T13-W08