

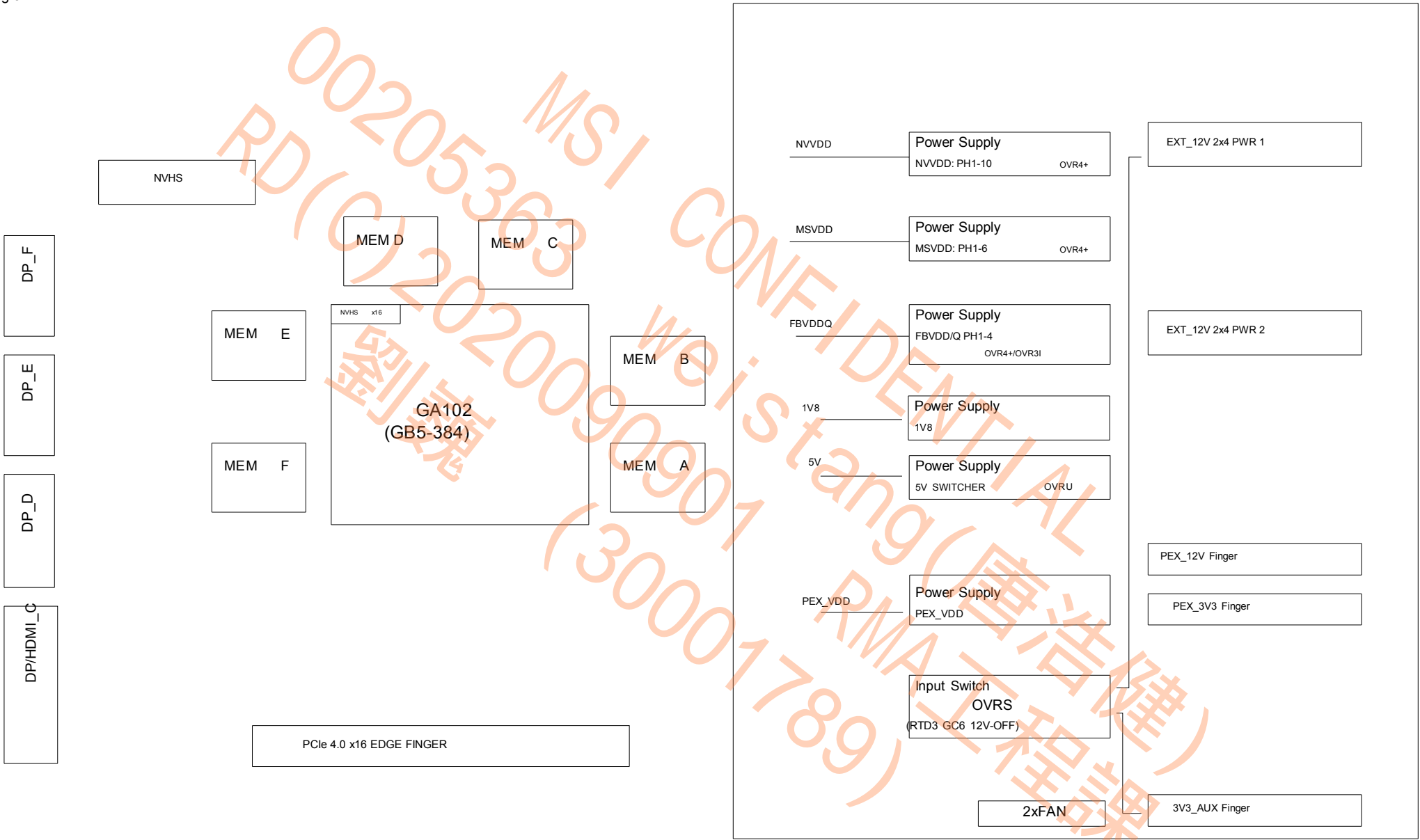
PG132-A02

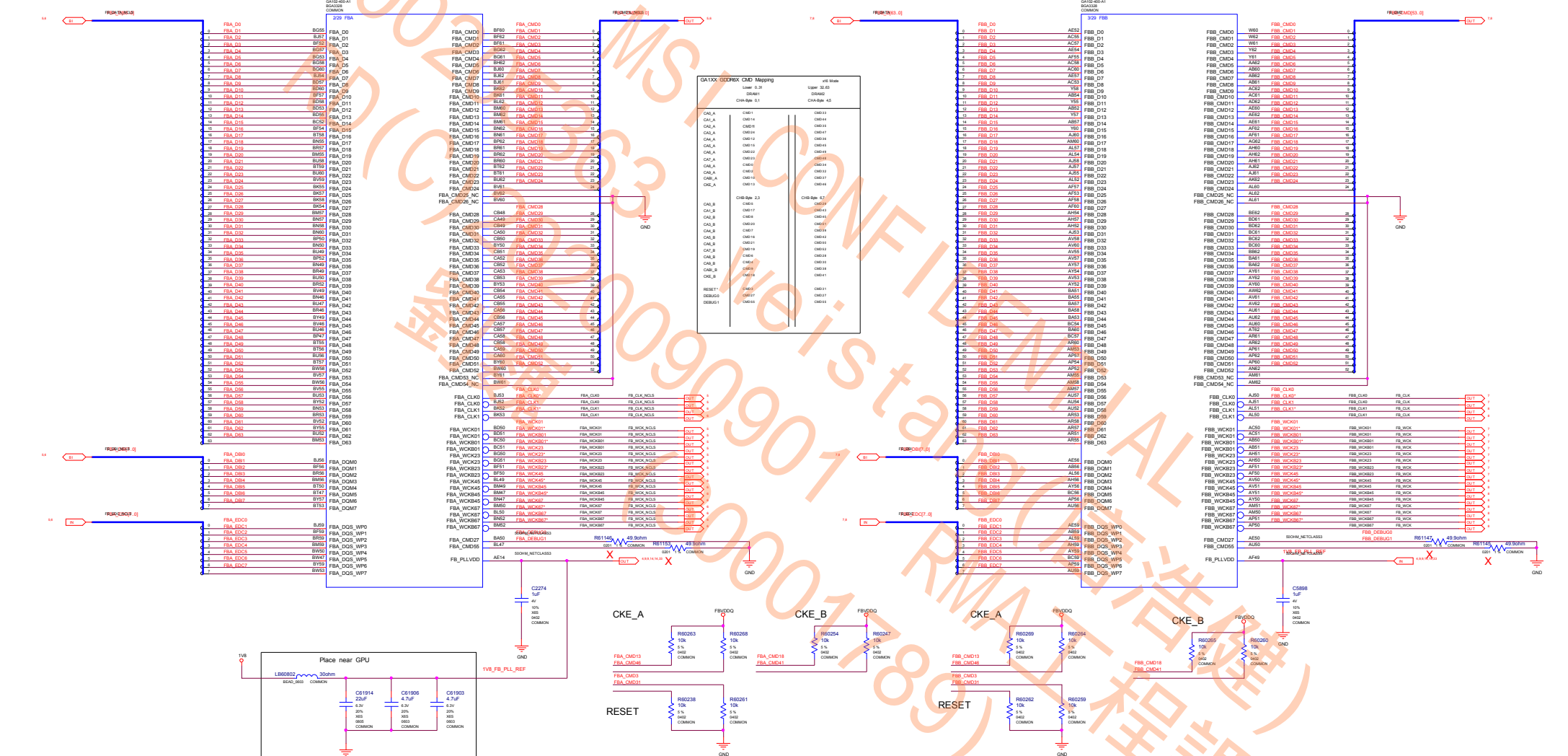
370W, FH Std PCB, 384b, GDDR6x 2CH X16
DP + DP + DP + HDMI/DP

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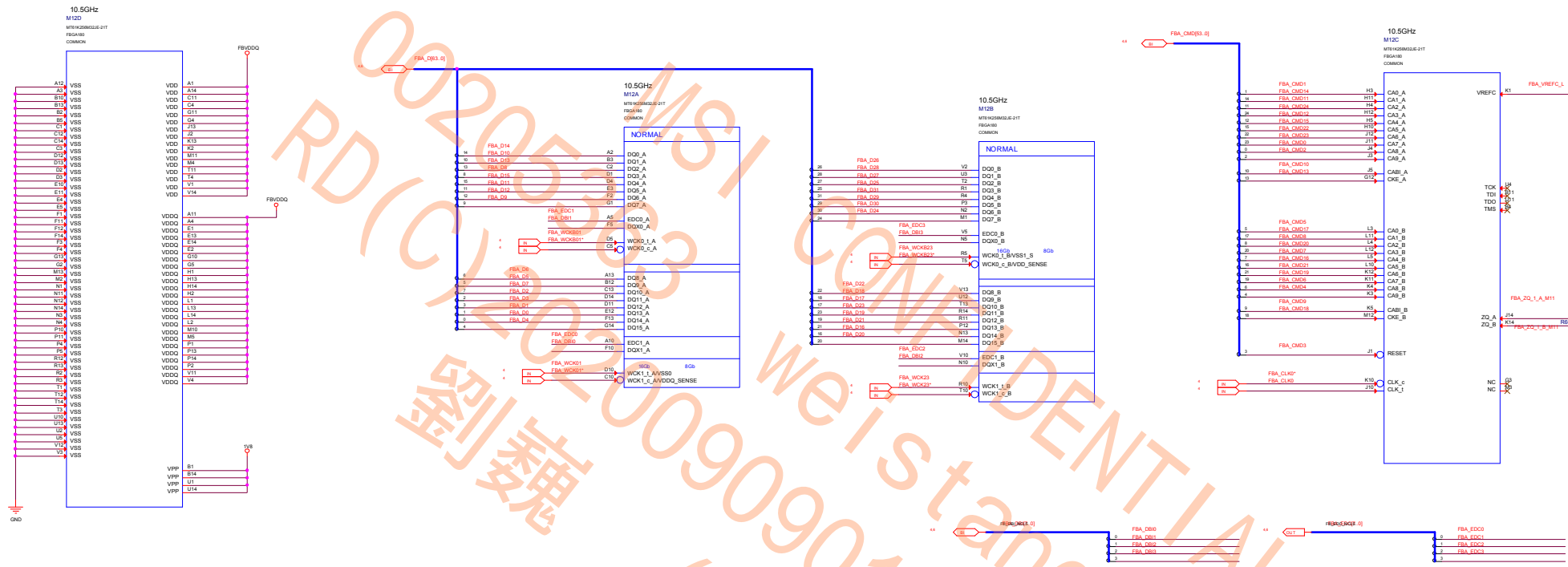
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Block Diagram

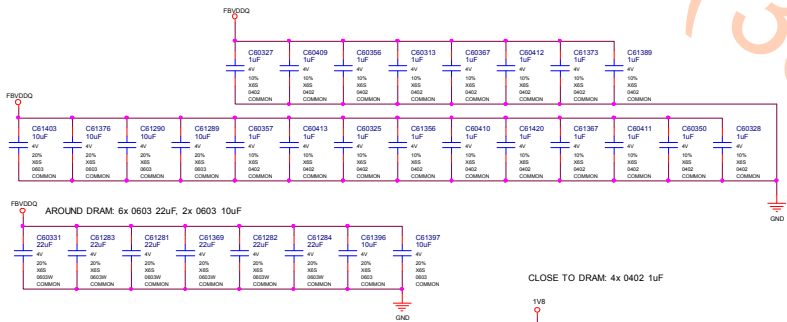




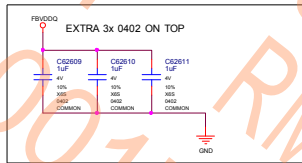
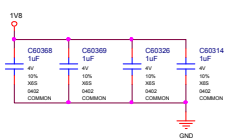
MEMORY: FBA Partition 31.0



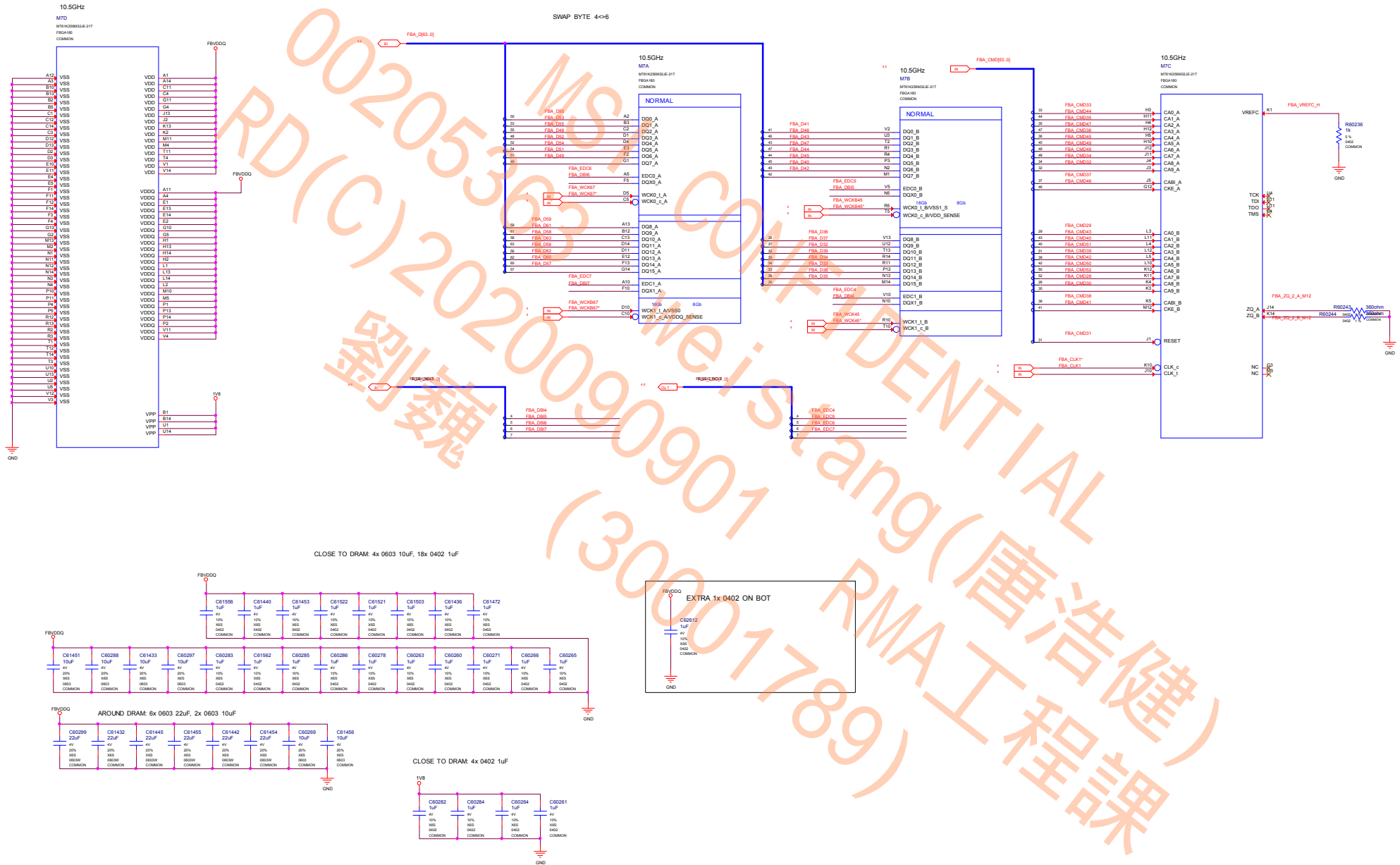
CLOSE TO DRAM: 4x 0603 10uF, 18x 0402 1uF



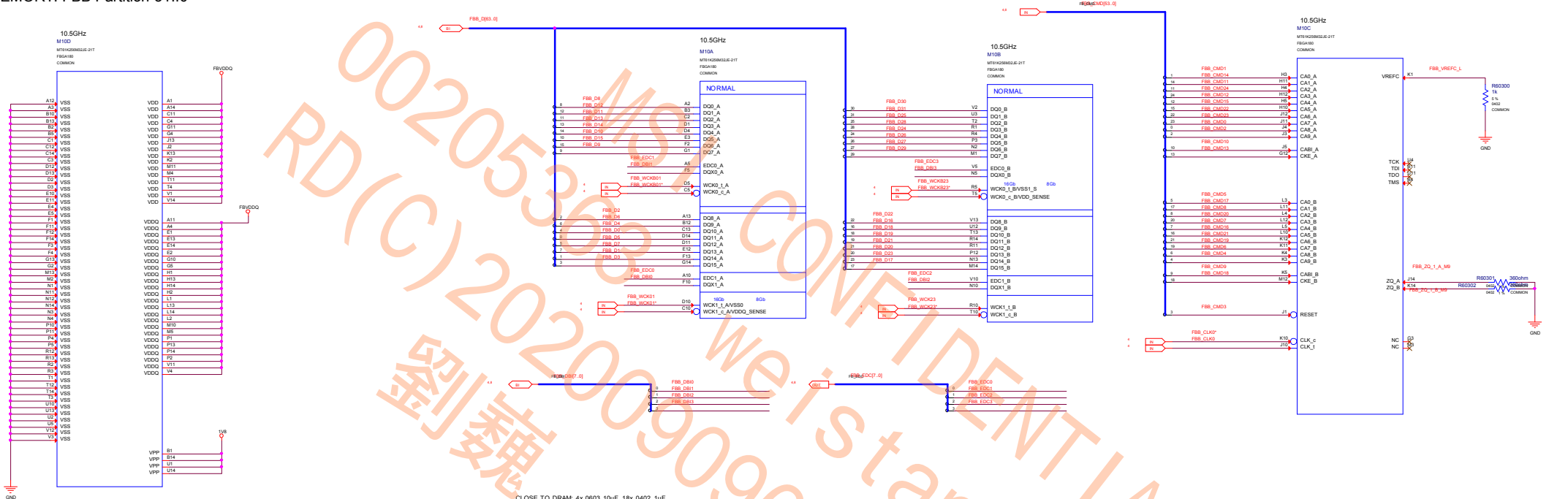
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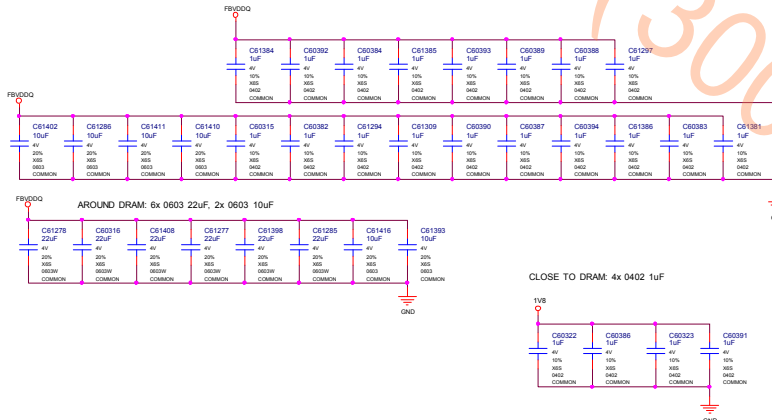
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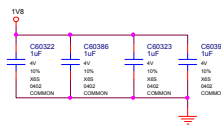
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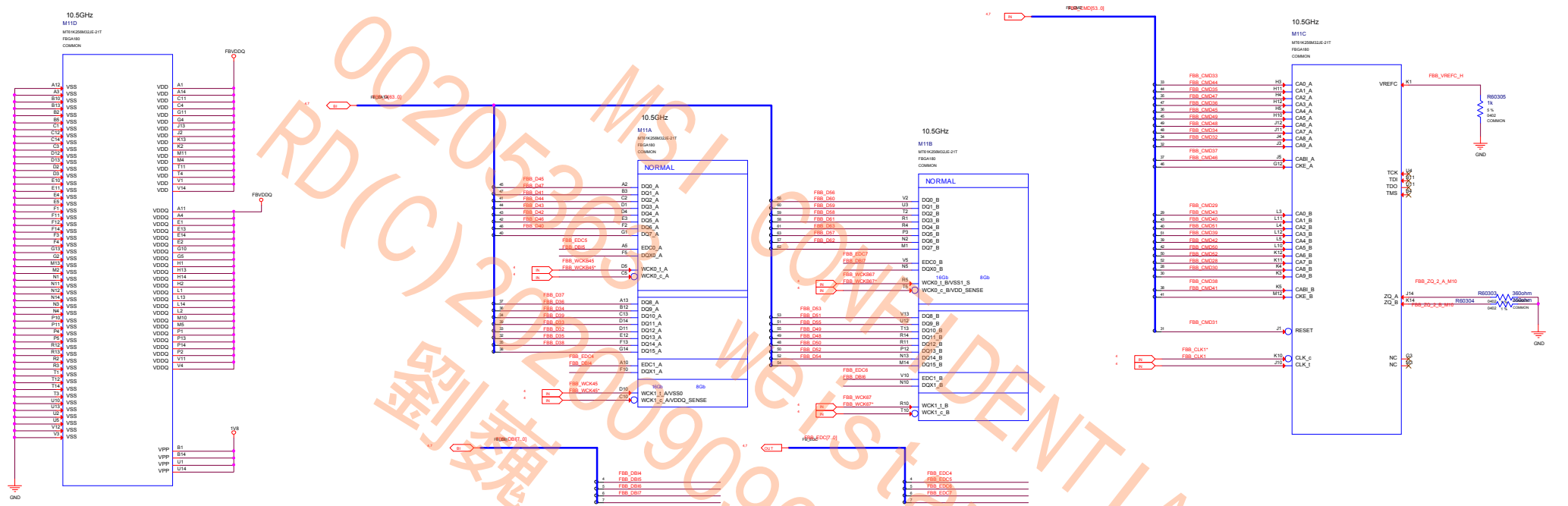
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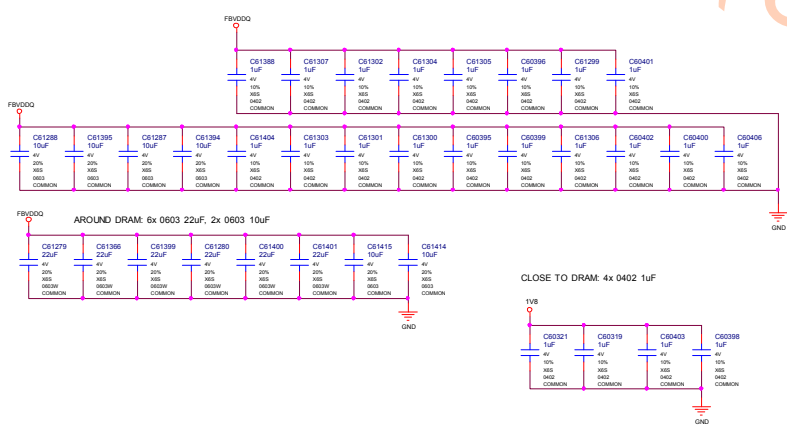
CLOSE TO DRAM: 4x 0402 1uF



MEMORY: FBB Partition 63..32

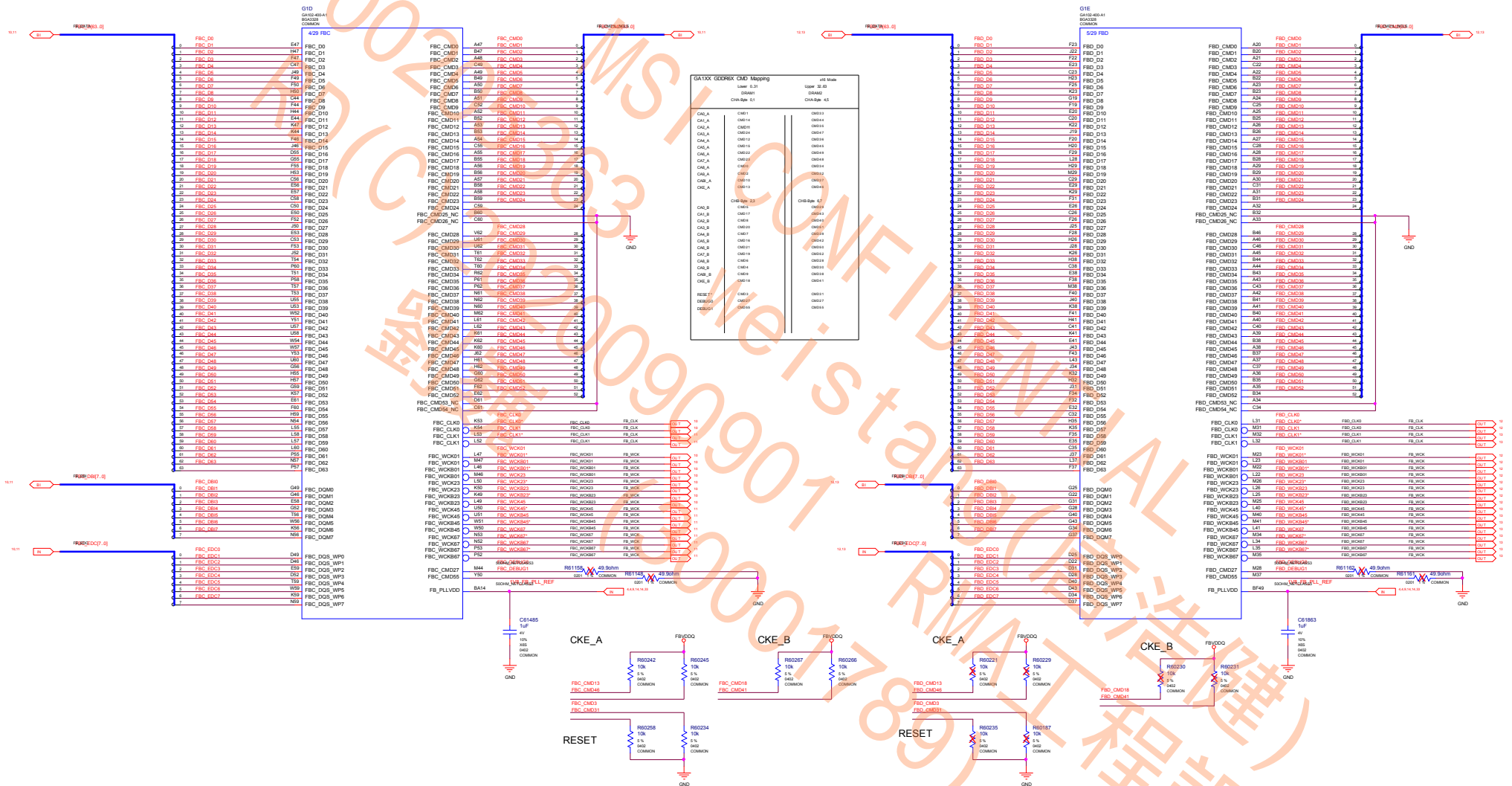


CLOSE TO DRAM: 4x 0603 10uF, 1x 0402 1uF

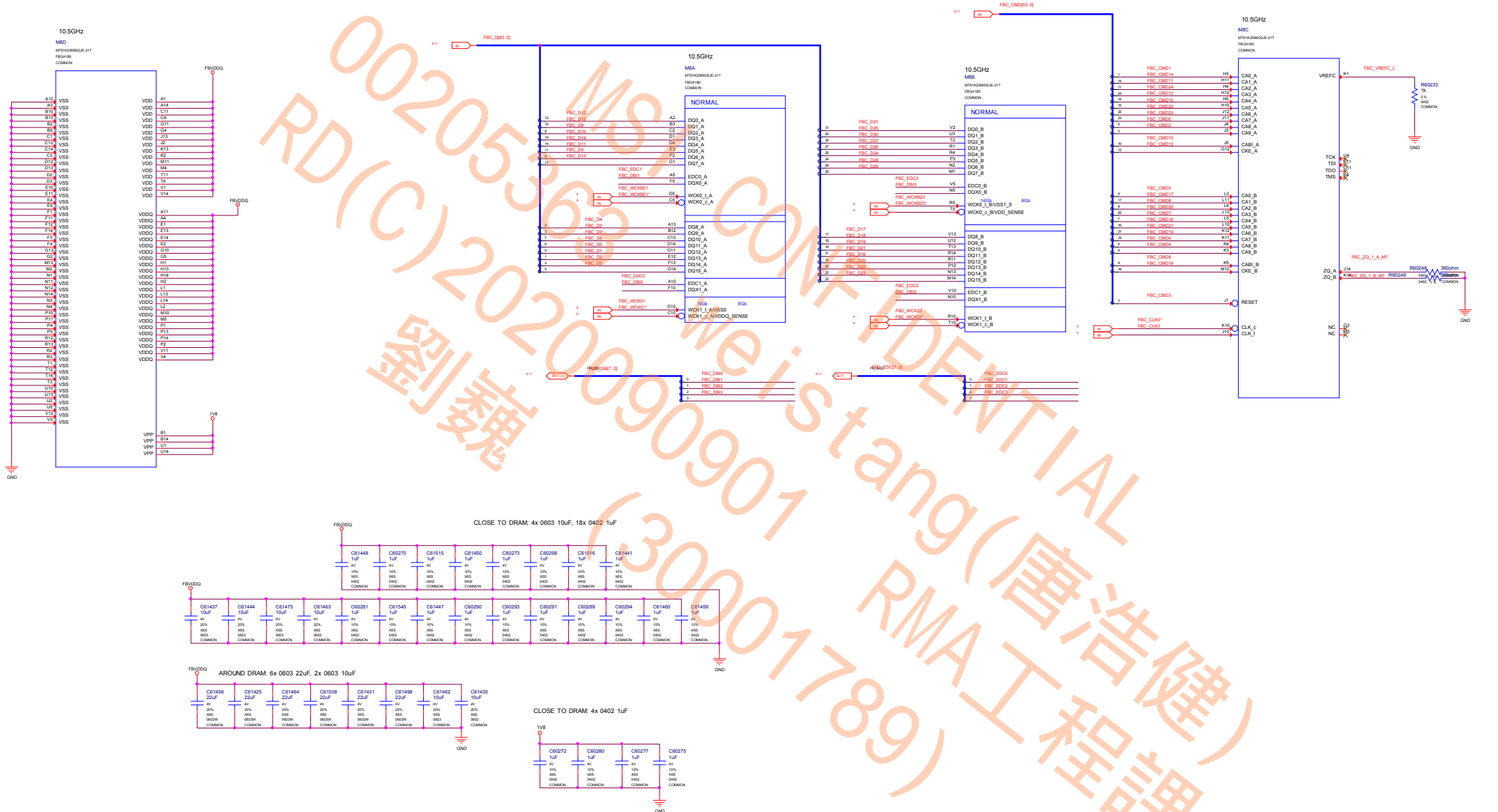


CLOSE TO DRAM: 4x 0402 1uF

MEMORY: GPU Partition C/D

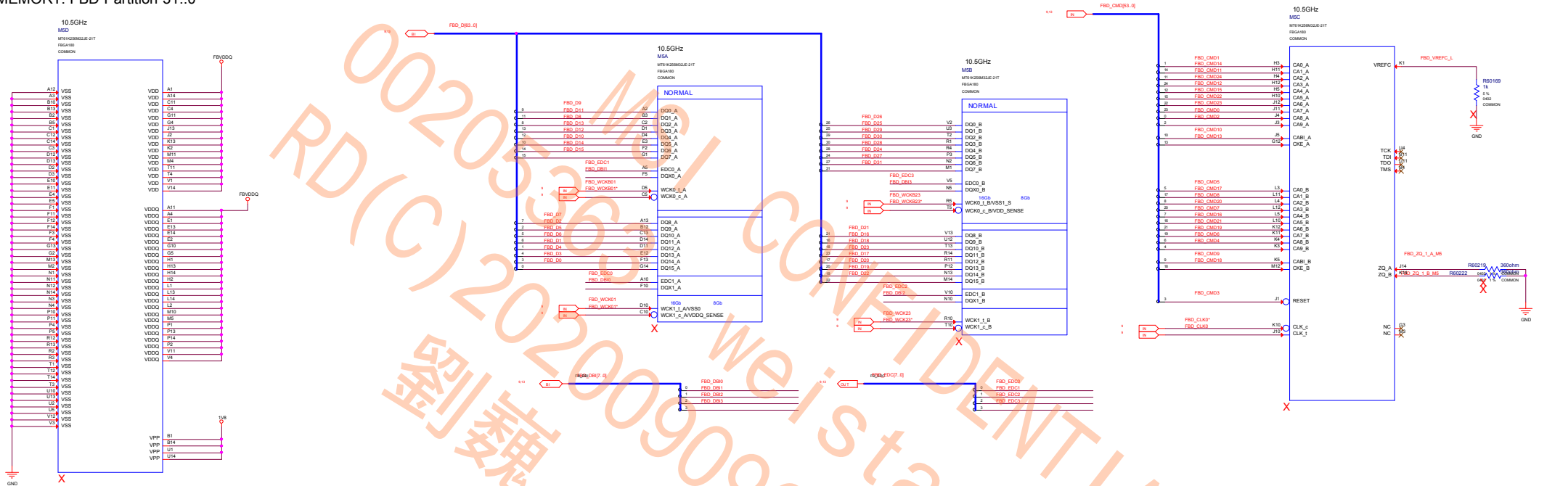


MEMORY: FBC Partition 31..0

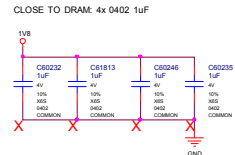
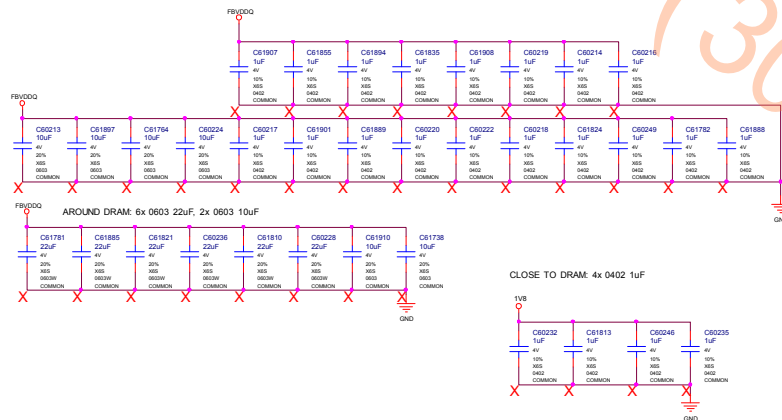


10.5GHz

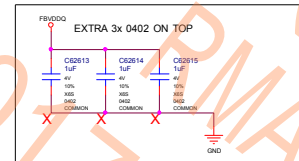
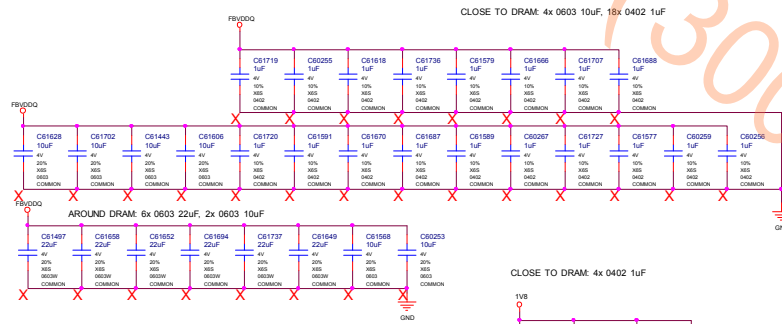
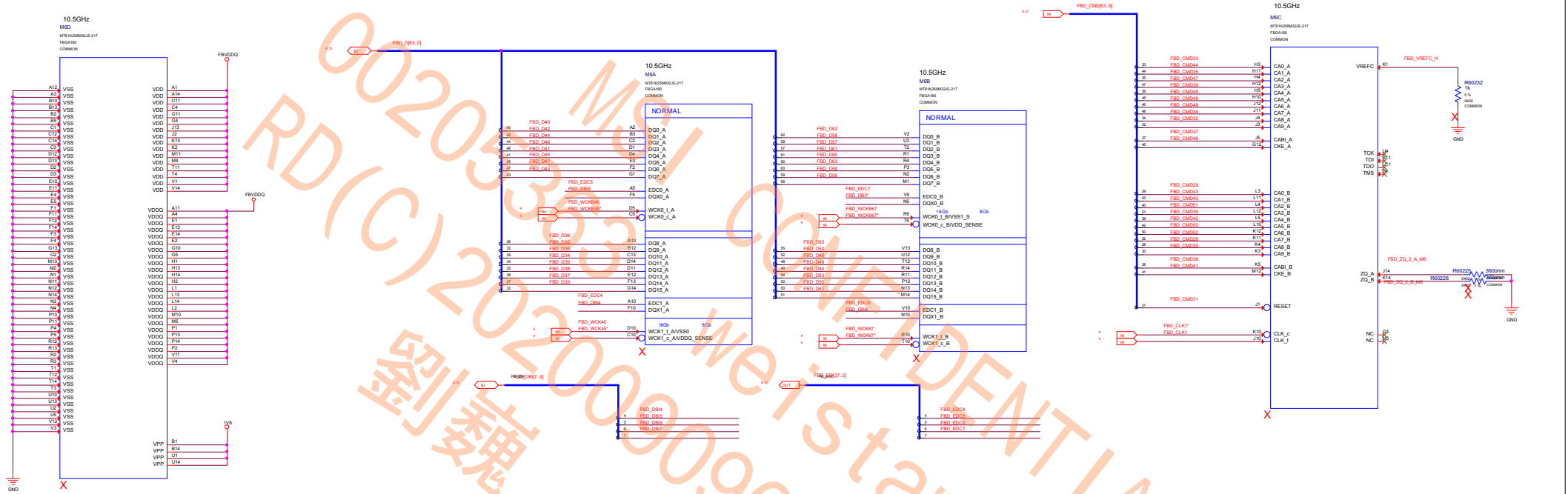
MEMORY: FBD Partition 31..0



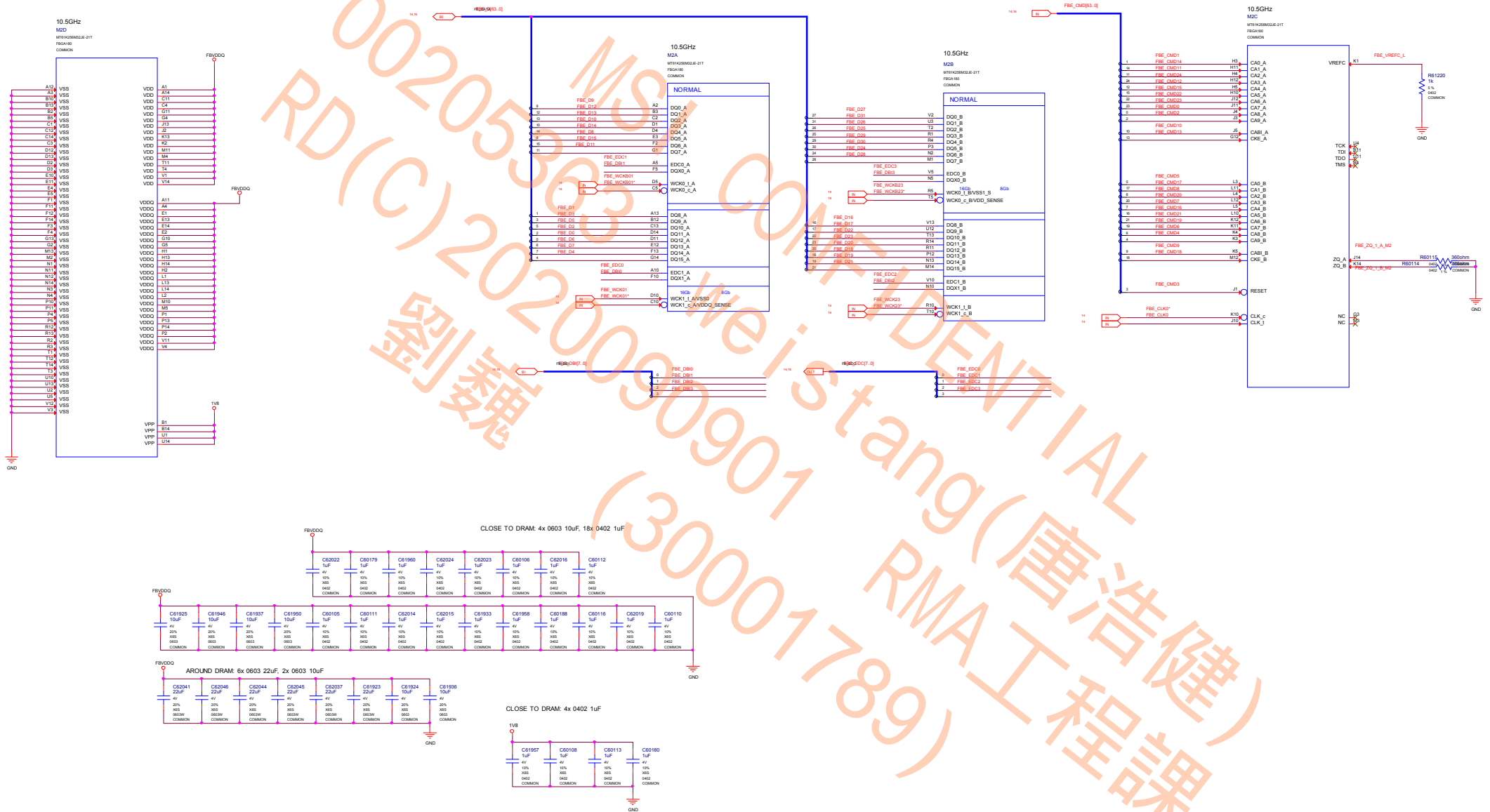
CLOSE TO DRAM: 4x 0603 10uF, 18x 0402 1uF



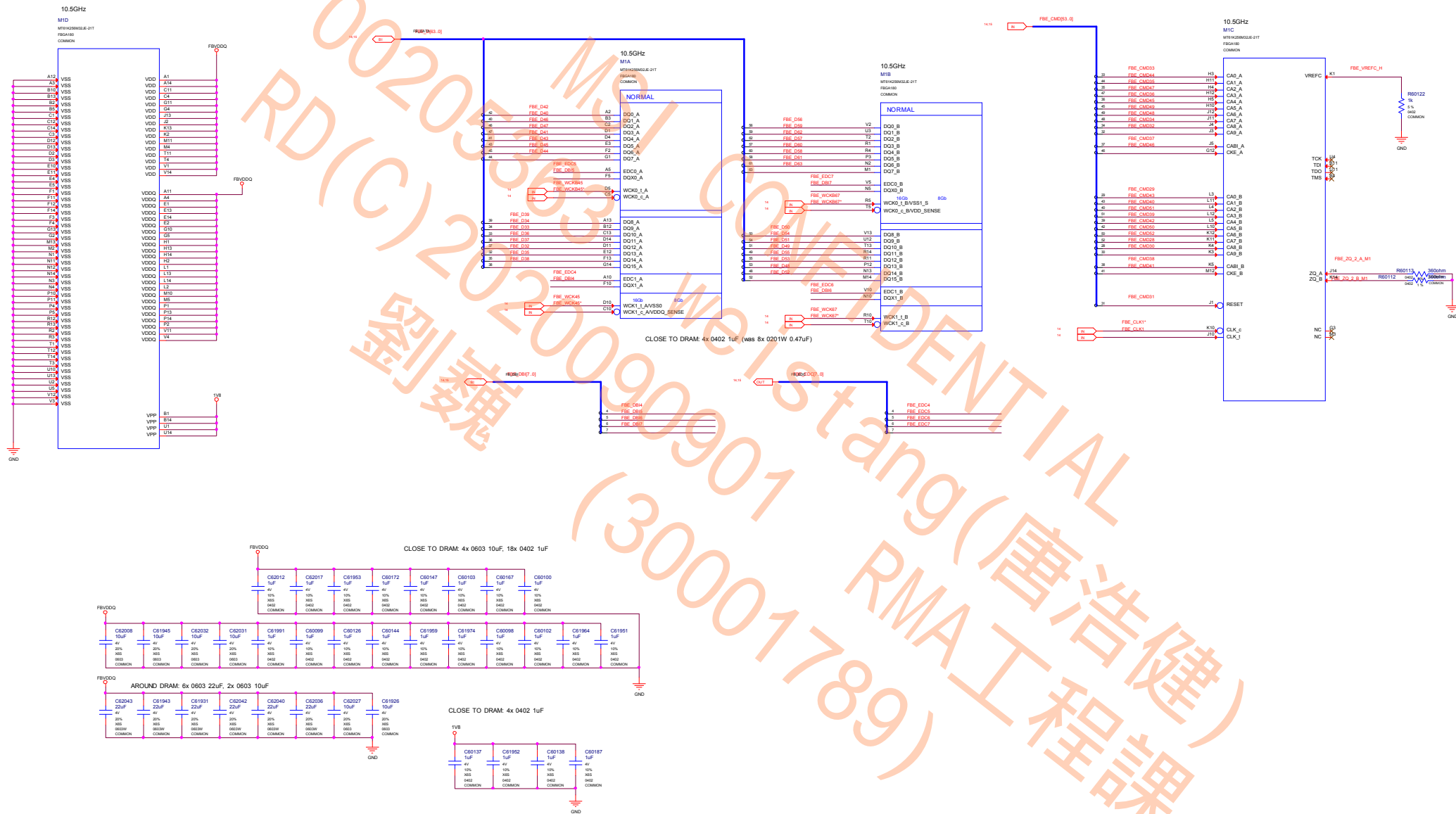
MEMORY: FBD Partition 63..32



MEMORY: FBE Partition 31..0

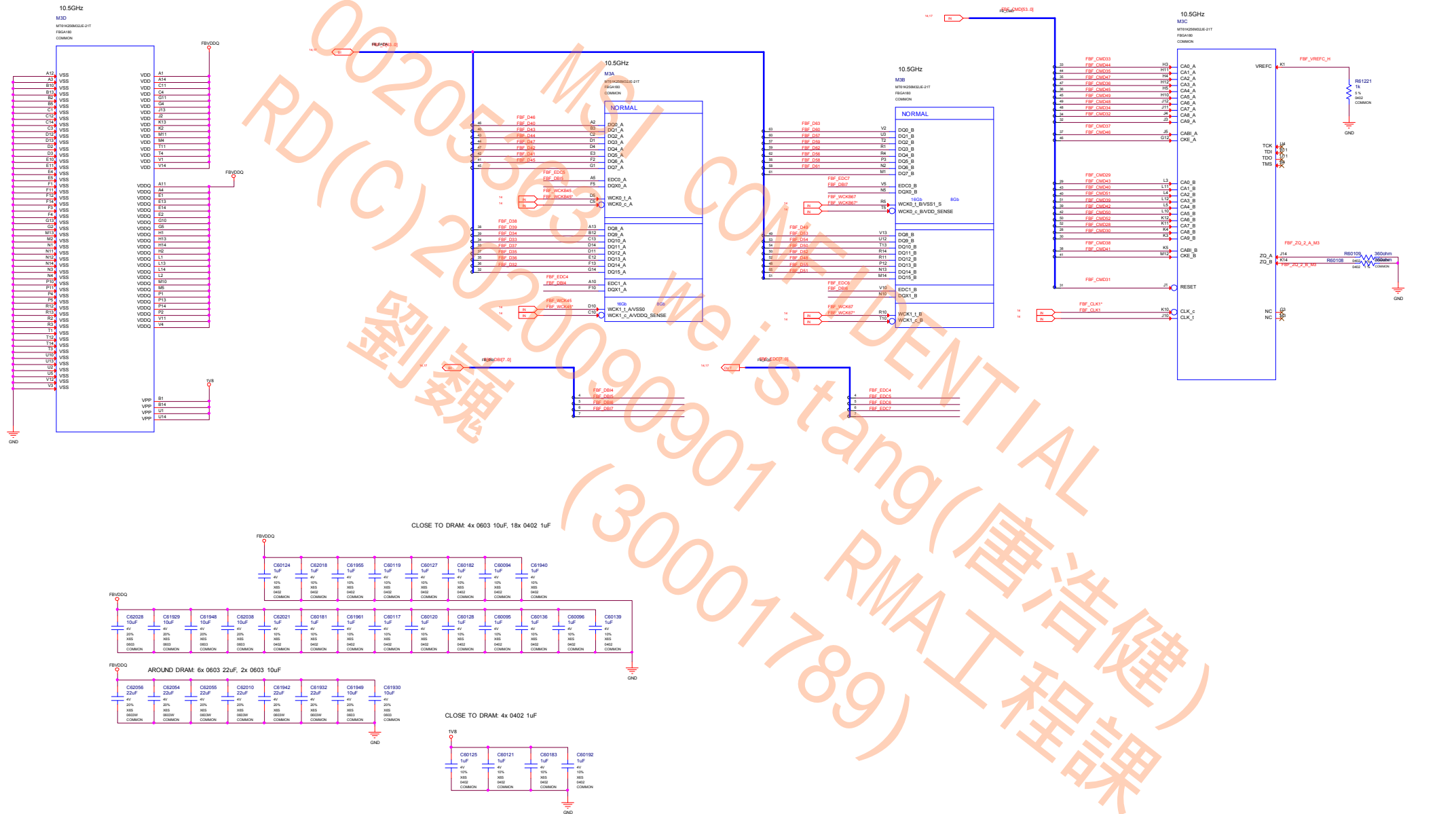


MEMORY: FBE Partition 63..32

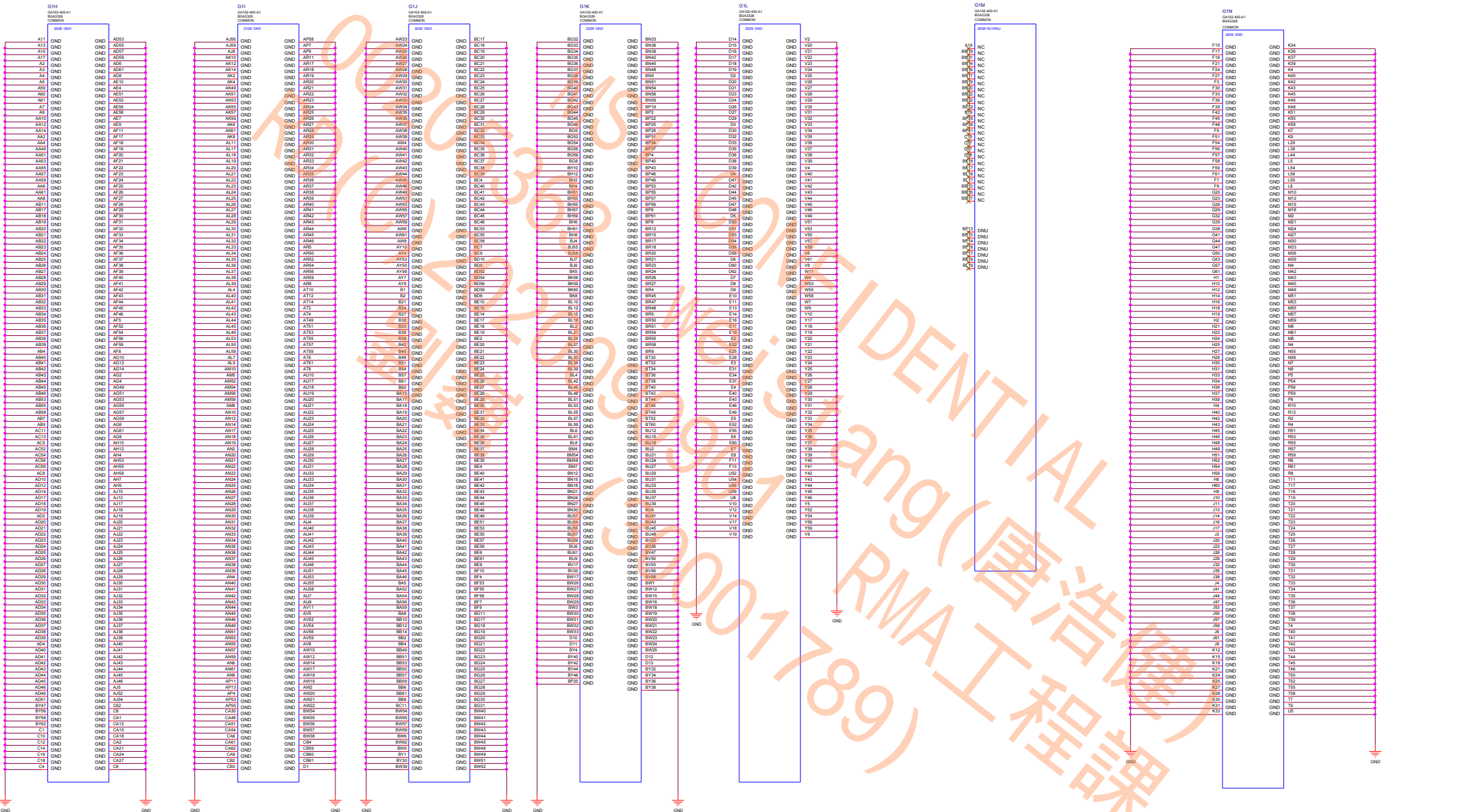




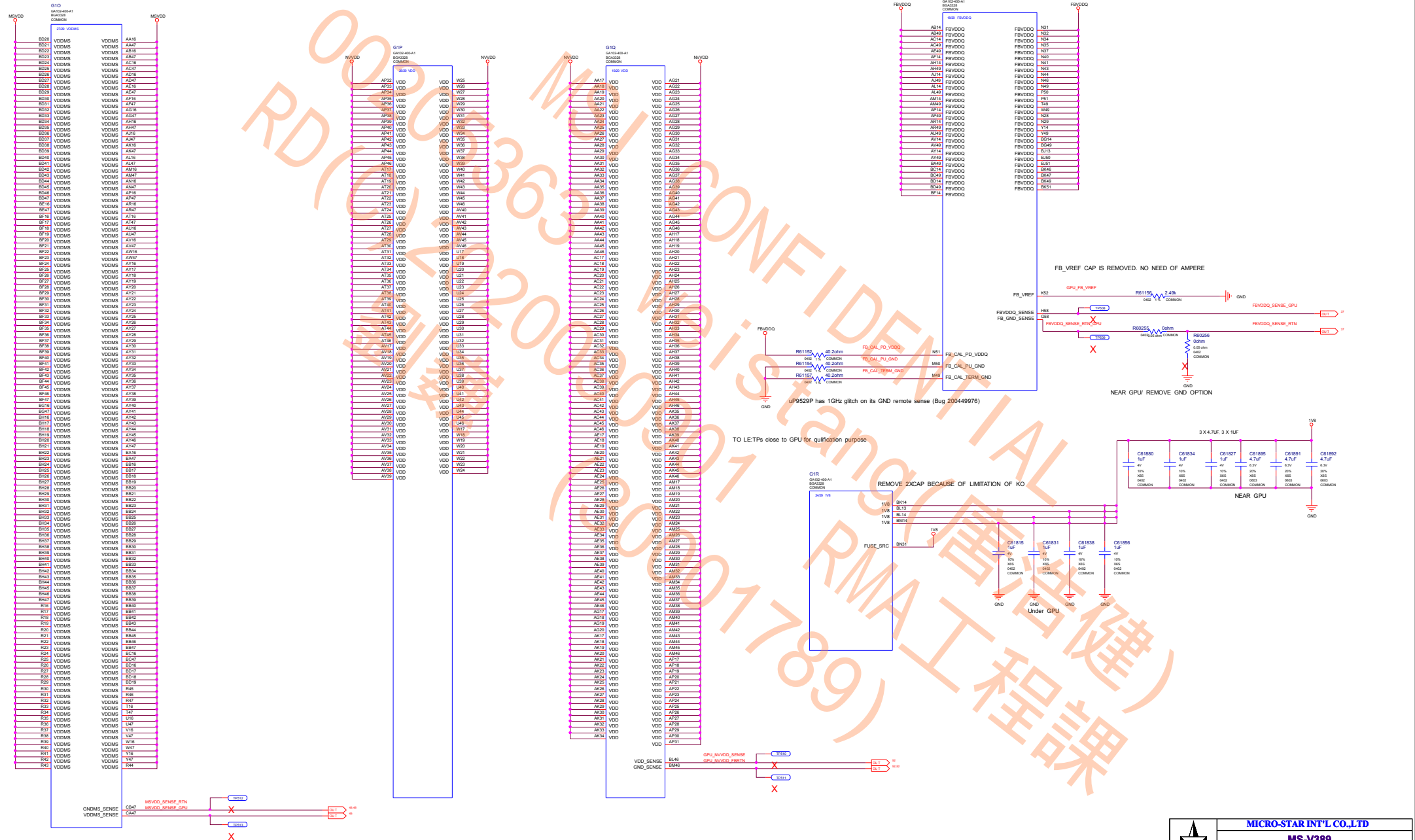
MEMORY: FBF Partition 63..32



GPU GND, RFUs & RSVD

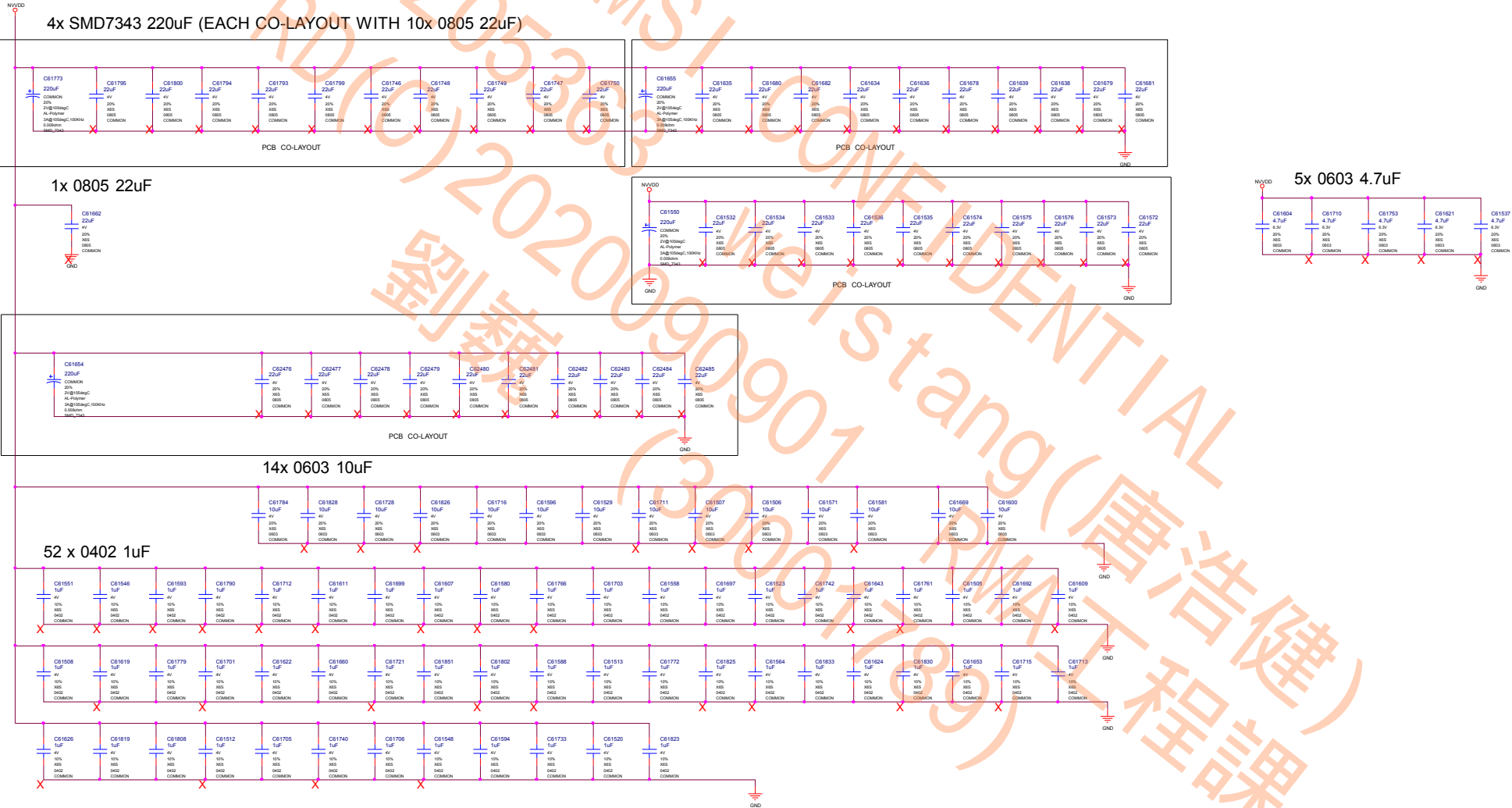


GPU PWR and GND

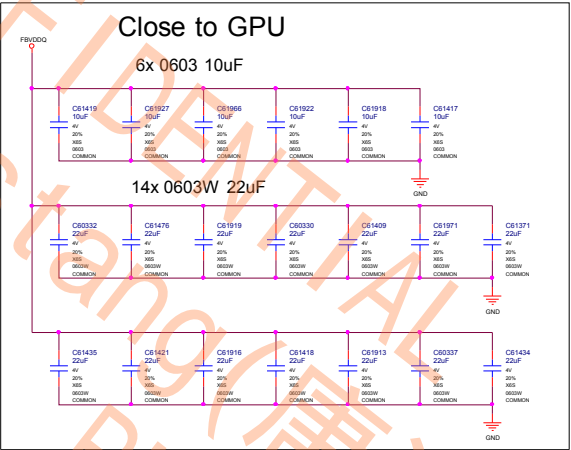


NVVDD

UNDER GPU

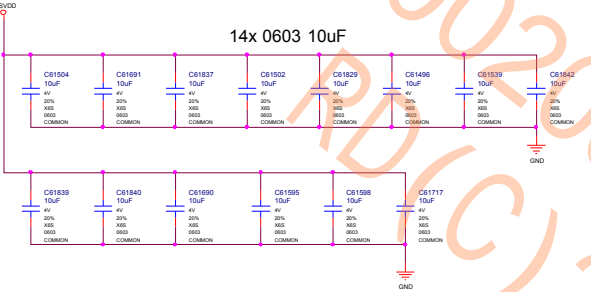


FBVDDQ

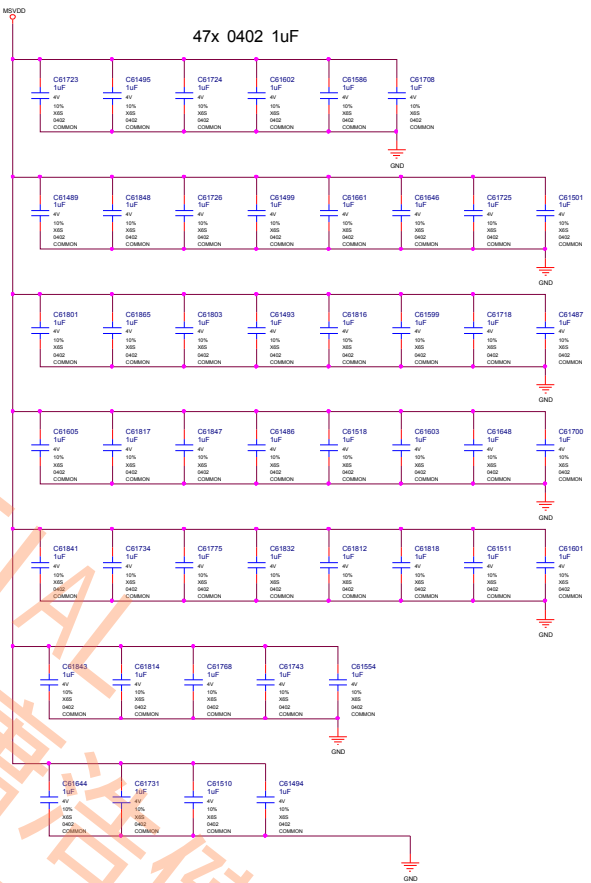
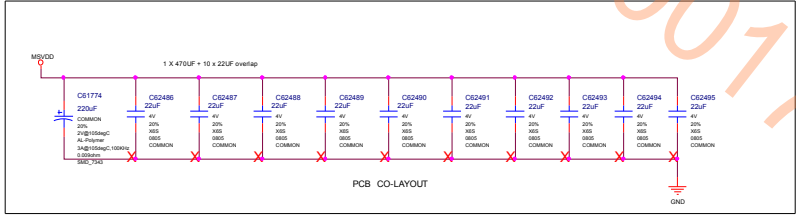
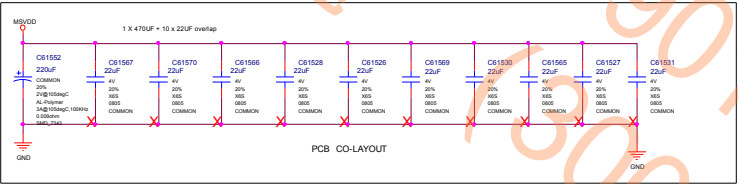


UNDER GPU

MSVDD



2x SMD7343 220uF (EACH CO-LAYOUT WITH 10x 22uF 0805)



REMOVED 3X 1uF 0402 DUE TO SPACE RESTRICTION

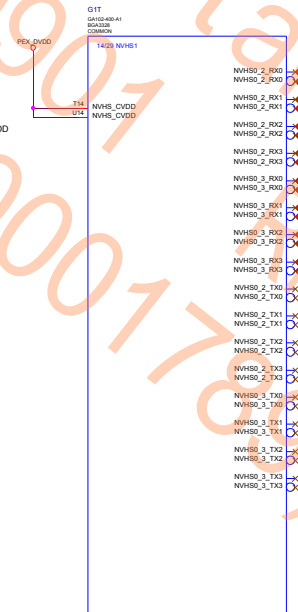
MSI CONFIDENTIAL
00205363
RD(C)2020090901
Weistang (唐浩健)
RMA工程課
(30001789)

BLANK

[illegible]

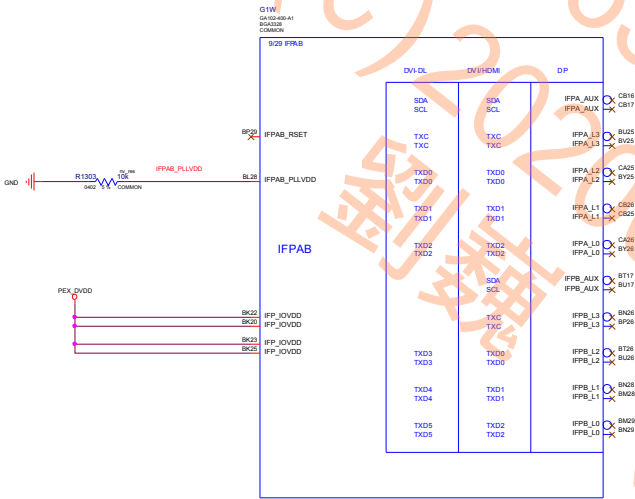
ID ROM ->YES

REMOVE ONE BECAUSE OF KO LIMITATION

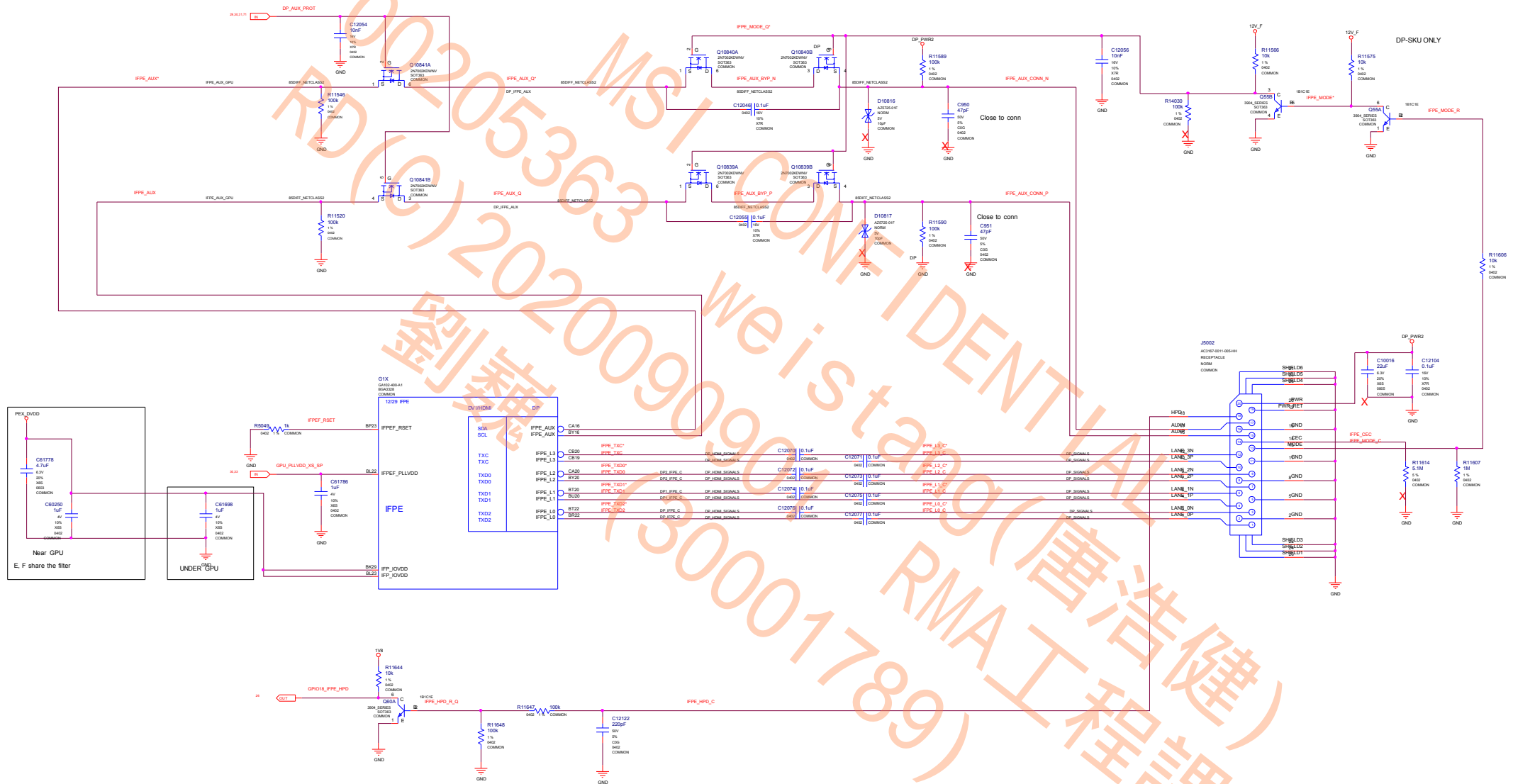


SHARE CAP WITH NVHS_DVDD

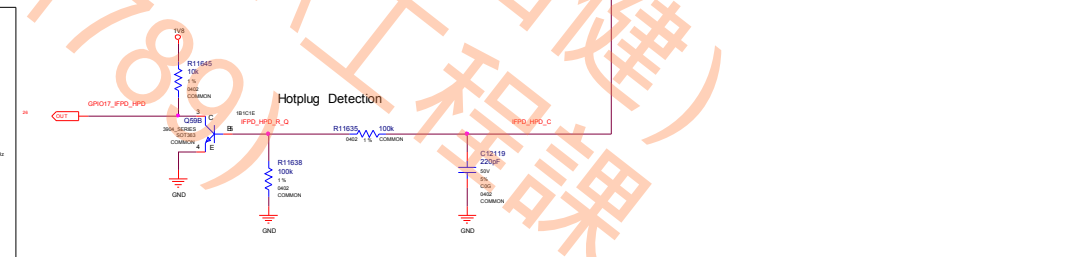
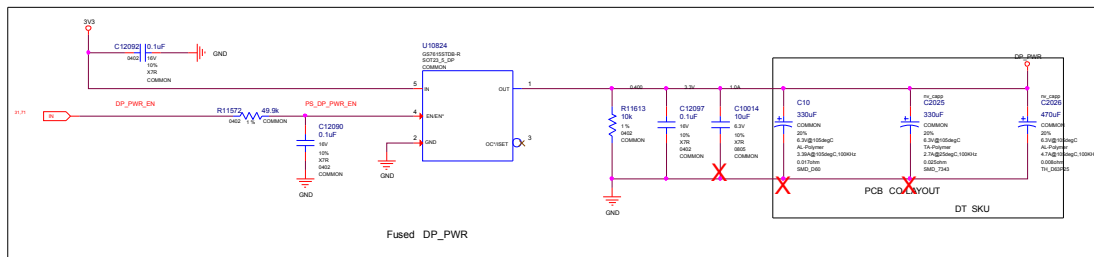
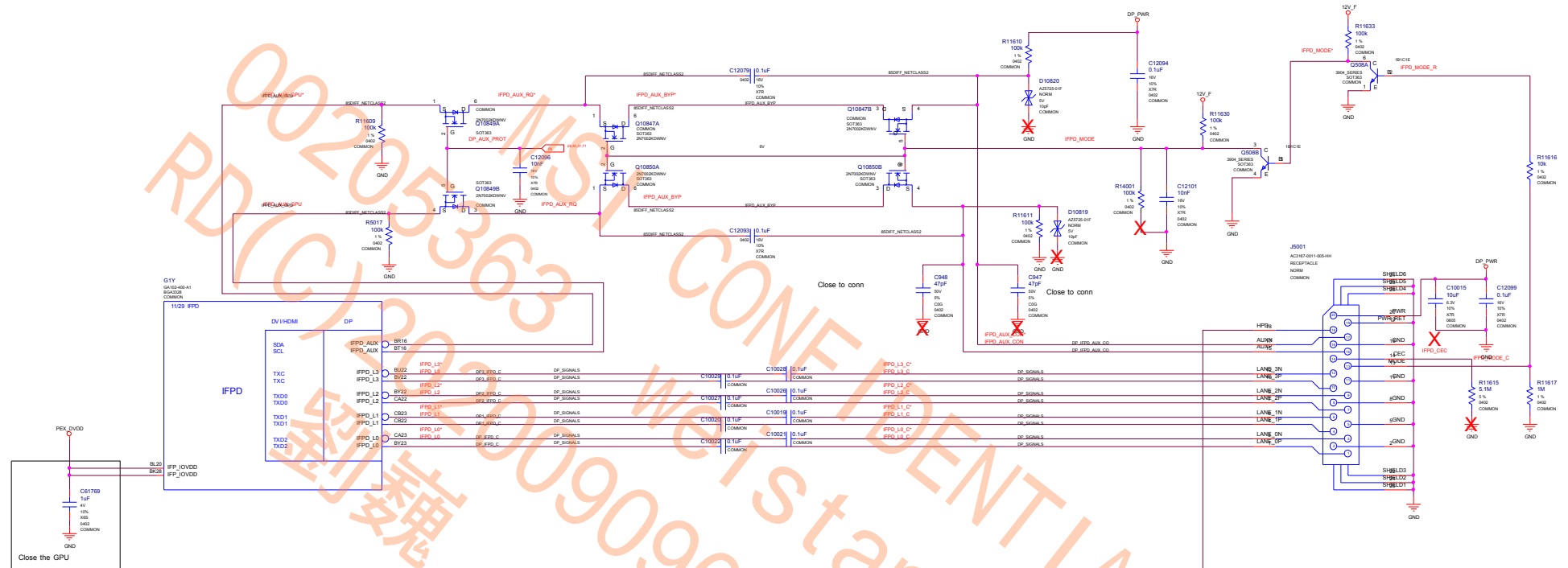
IFPA UNUSED, IFPB UNUSED



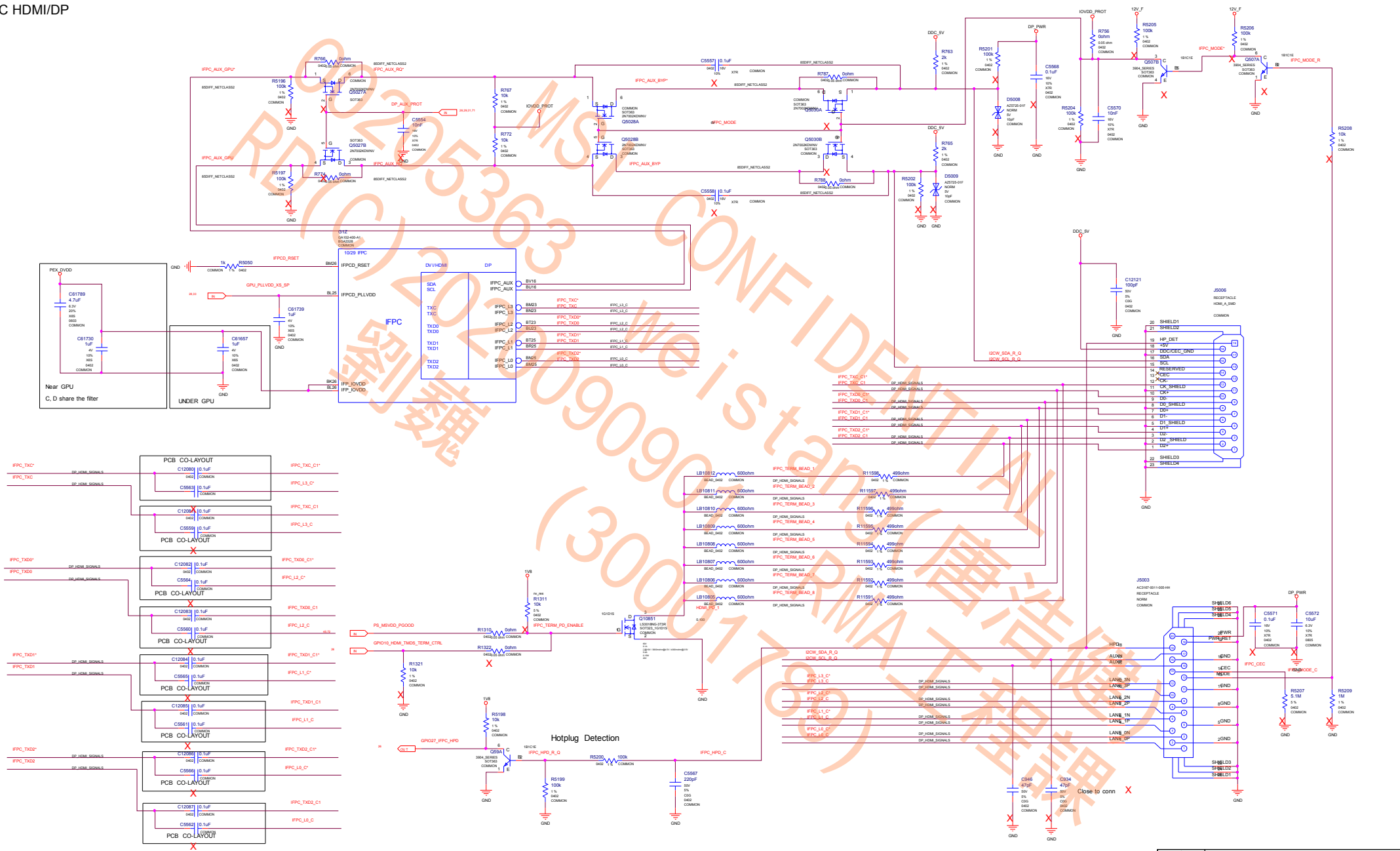
IFPE DP

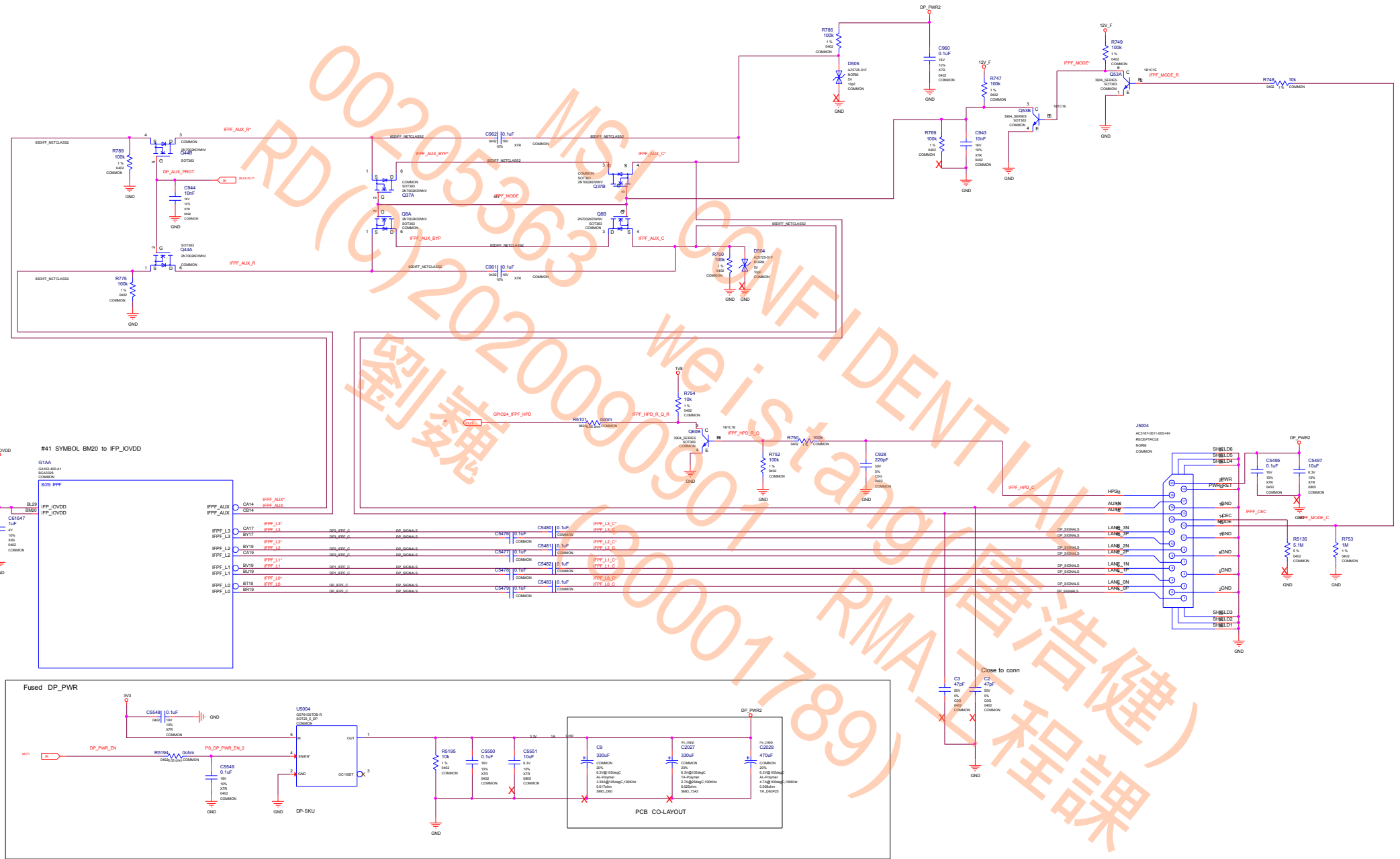


IFPD DP



IFPC HDMI/DP





MISC: ROM, Straps

GROUP0	STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
	L	L	L	00000	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)
	H	L	L	00100	RAMCFG MICRON 8Gb G6X 19Gbps x8 (161-0430-900)
	H	L	H	00101	RAMCFG MICRON 8Gb G6X 21Gbps x8 (161-0431-900)
	L	L	M	01000	RAMCFG MICRON 8Gb G6X 20Gbps x16 (161-0424-900)
	L	L	H	00001	RAMCFG MICRON 8Gb G6X 21Gbps x16 (161-0431-900)
	L	M	H	01010	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)

ROM_SO	ROM_SI	ROM_SCLK	SMARTFAN[2:0].FS_OVERT	1:ENABLE 0:DISABLE	DEFAULT
H	H	H	0111	FS_OVERT ENABLE	
L	L	L	0000	FS_OVERT DISABLE	

STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCE_CFG	VGA_DEVICE	
M	H	H	1	1	1	1	
M	H	L	1	1	1	0	
M	L	H	1	1	0	1	
M	L	L	1	1	0	0	
L	H	M	1	0	1	1	
L	M	H	1	0	1	0	
L	M	L	1	0	0	1	
L	L	M	1	0	0	0	
H	H	H	0	1	1	1	
H	H	L	0	1	1	0	
H	L	H	0	1	0	1	
H	L	L	0	1	0	0	
L	H	H	0	0	1	1	
L	H	L	0	0	1	0	
L	L	H	0	0	0	1	
L	L	L	0	0	0	0	

H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

<A01 PCB

<OLD

<LATEST A02 PCB

1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

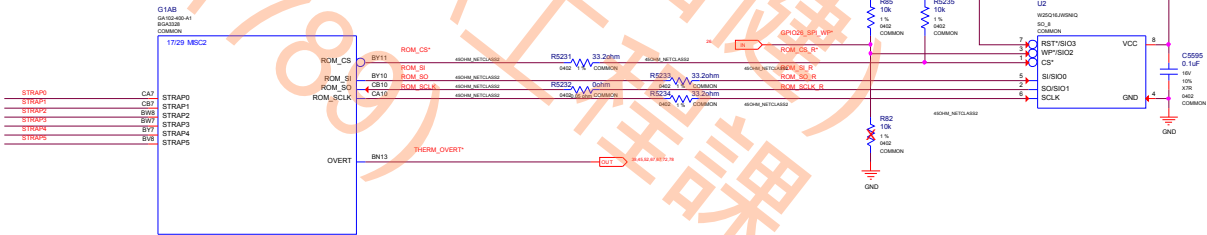
1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

Default

Default



00205363 MSI CONFIDENTIAL (30061789) 唐浩健

Place near GPU

UNDER GPU

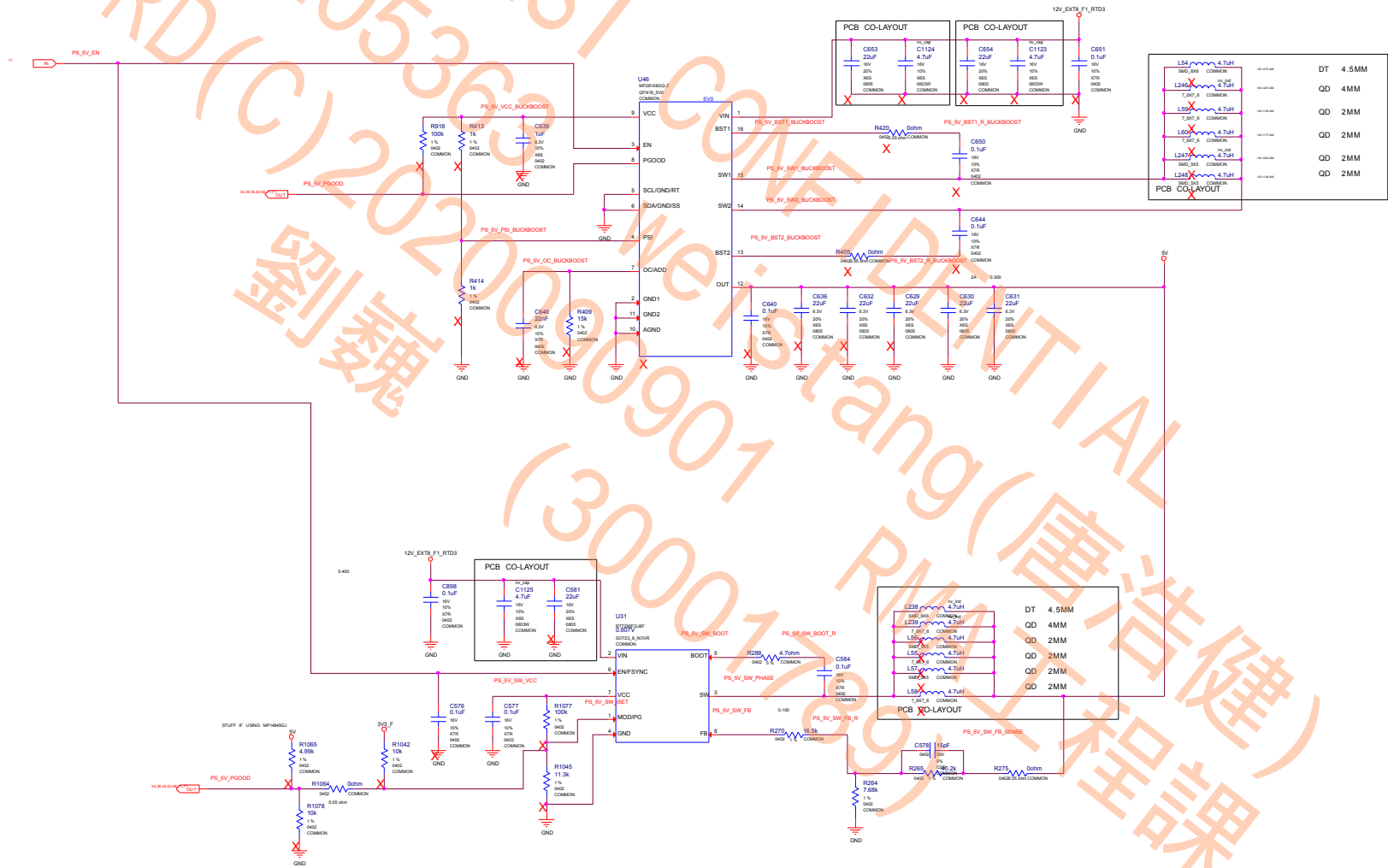
REMOVE ONE BECAUSE OF KO LIMITATION

UNDER GPU

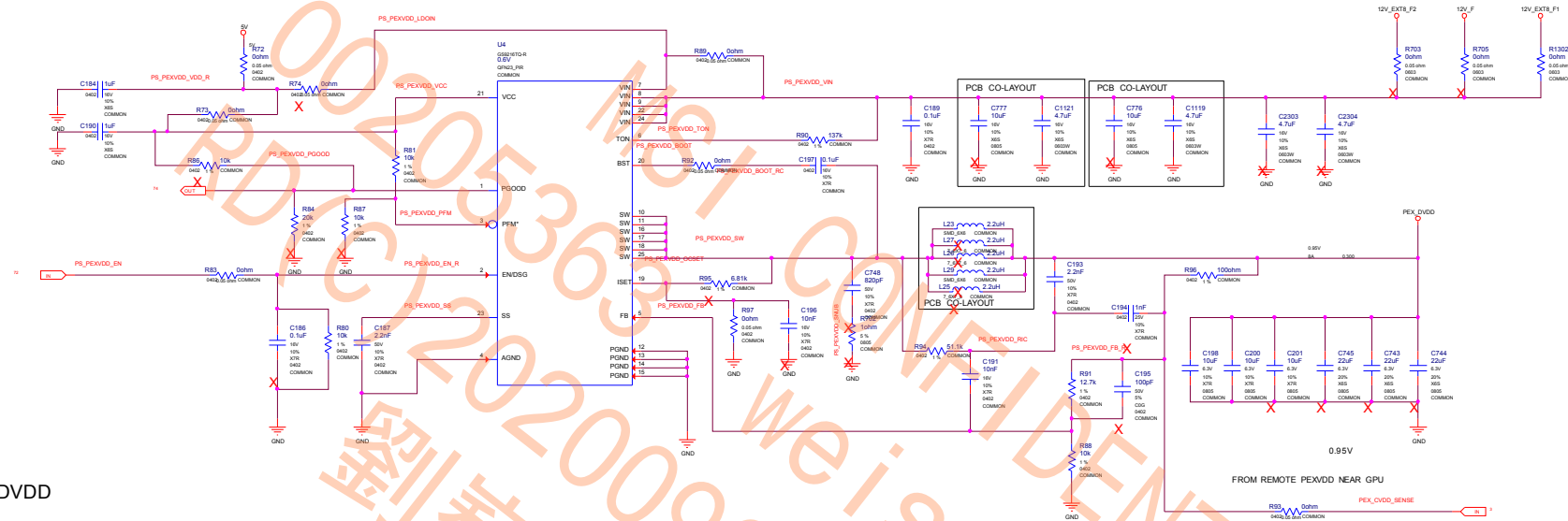
PLACE TOPSIDE

Xtaloutbuff is not smartfan strap anymore
Xtaloutbuff is dummy strap bits.

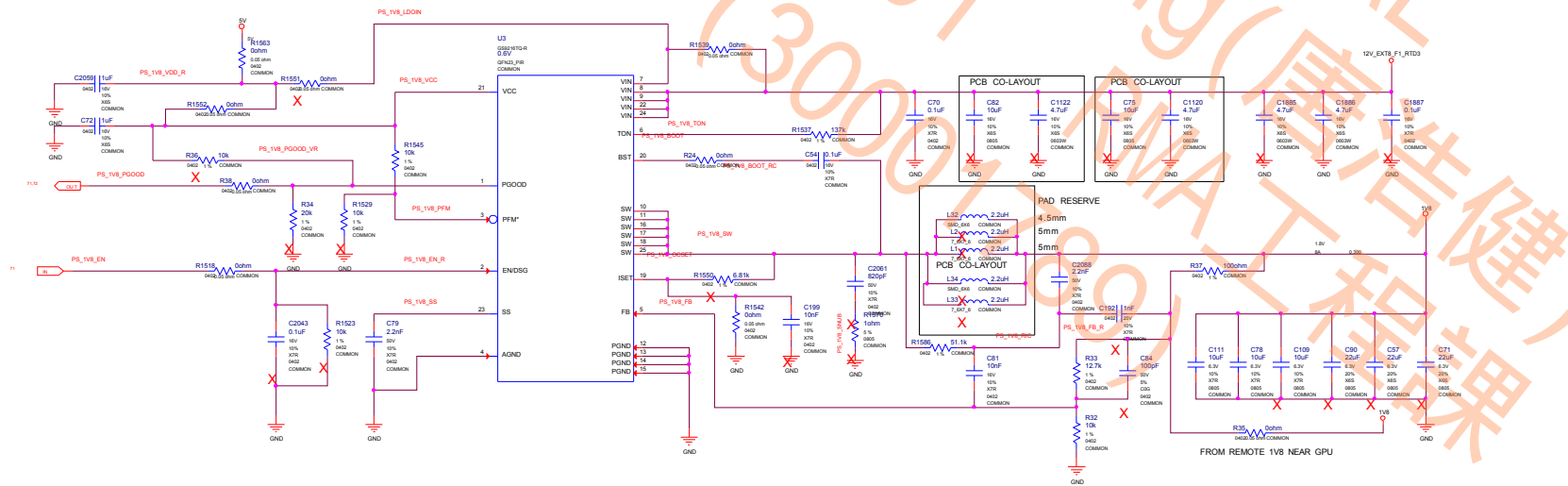
PS: 5V, 5V_BACKUP



PS: PEX_DVDD 1V8 Rail



PEX_DVDD



1V8

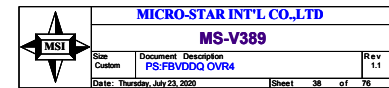
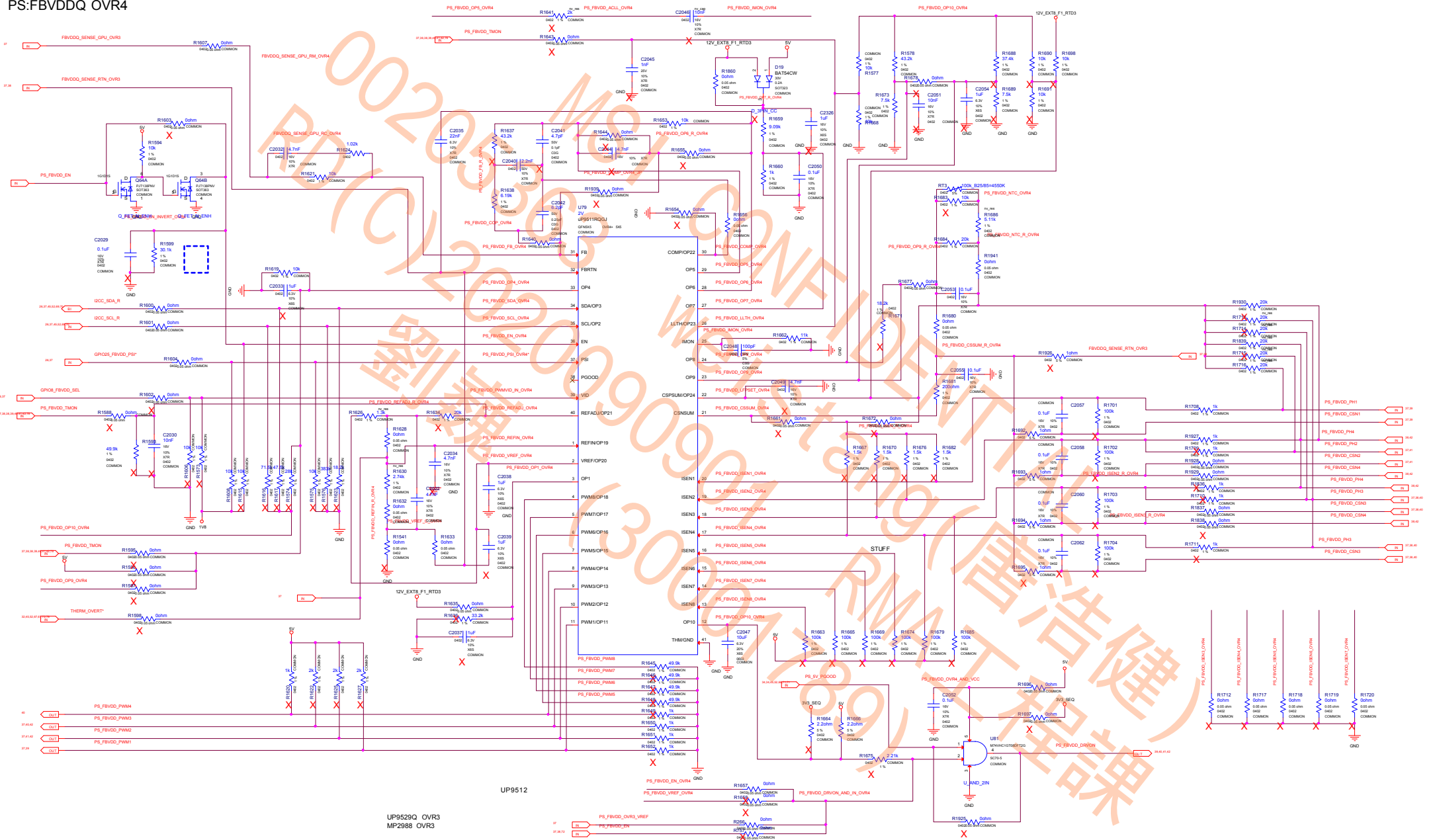
MSI CONFIDENTIAL
00205363
RD(C)2020-0901
Weistang (唐浩健)
RMA工程課
(30001789)

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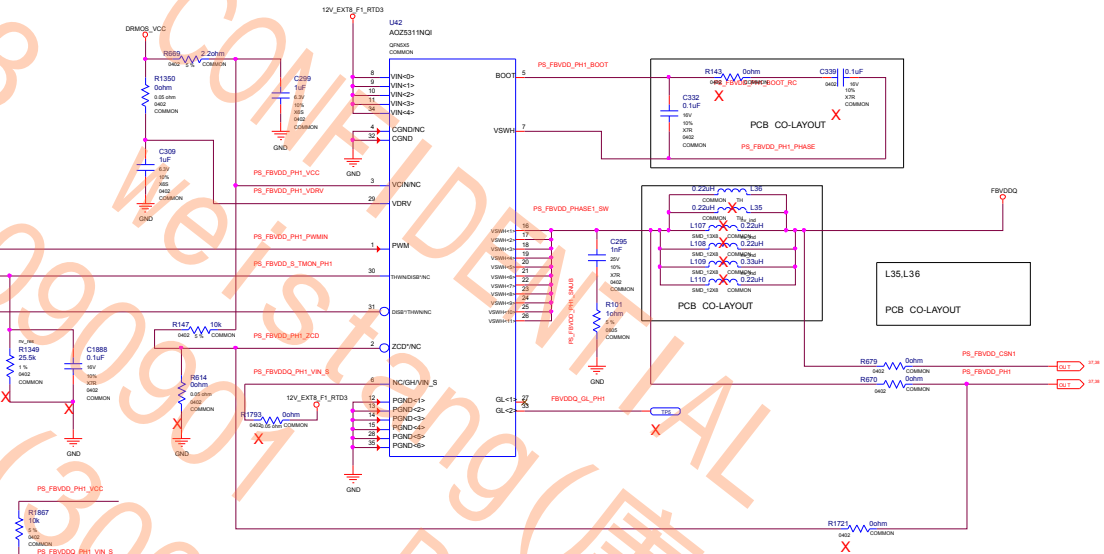
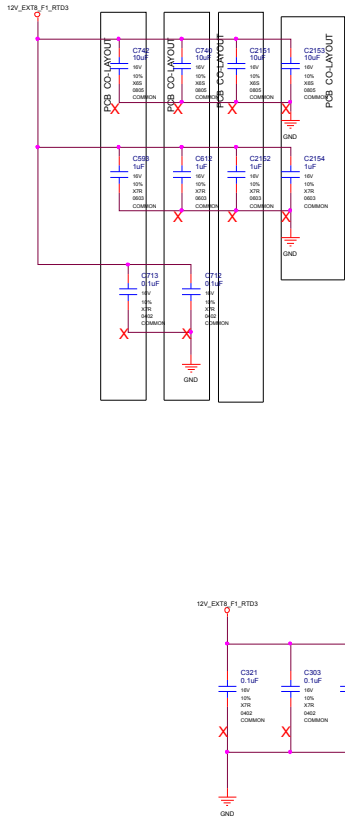
PIN12 MP2988 VIN SENSE 1/16 DIVIDER
PIN12 UP9529 REFOUT



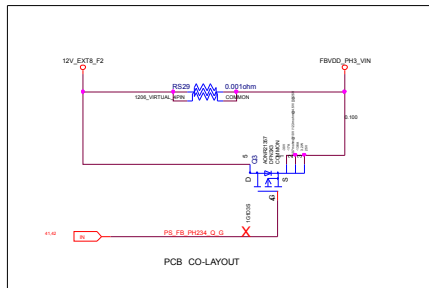
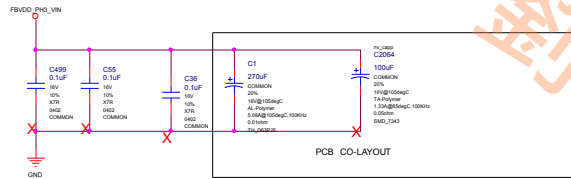
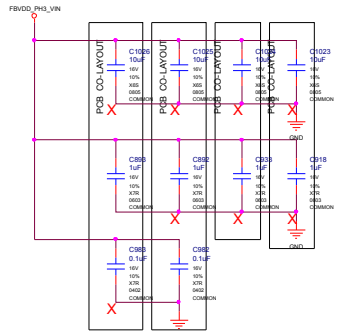
PS:FBVDDQ OVR4



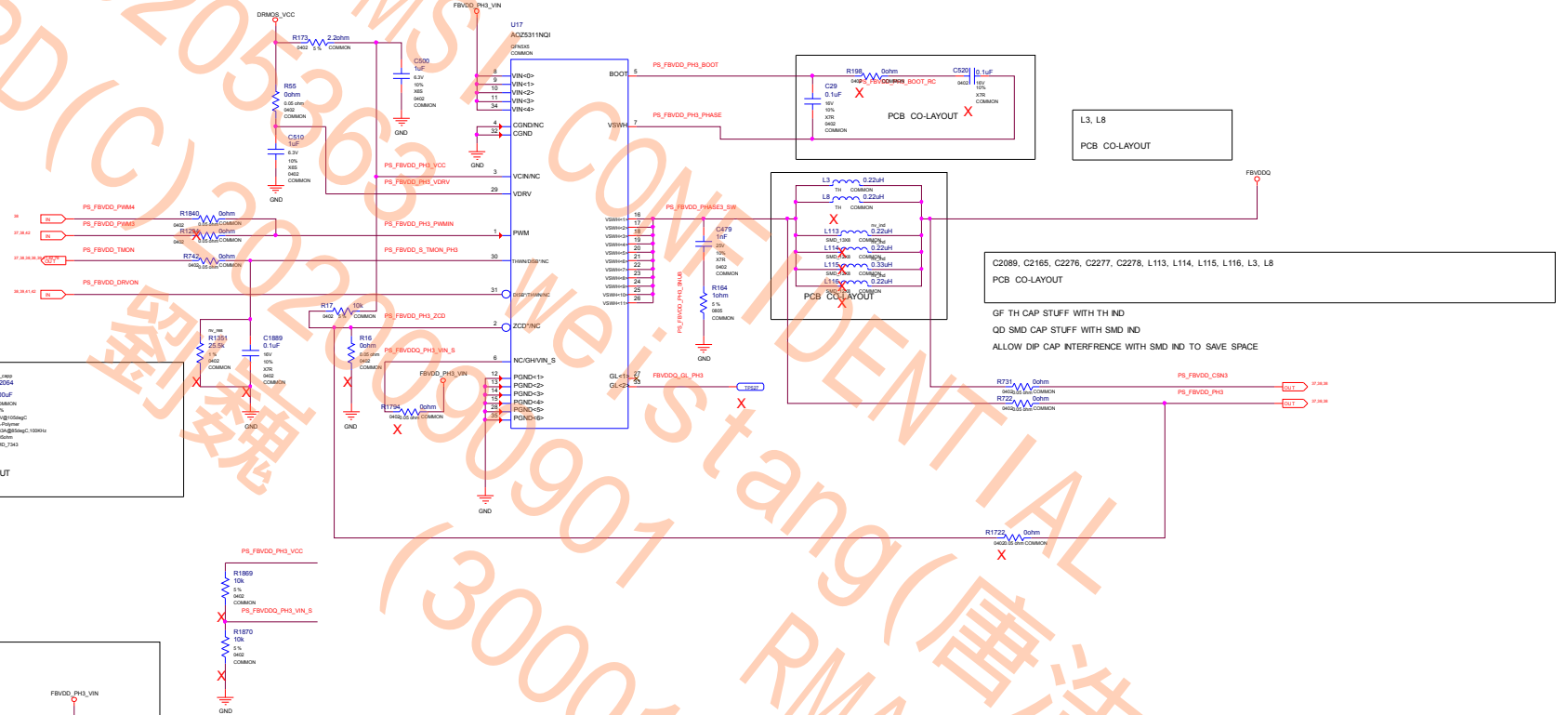
PS: FBVDD PH1



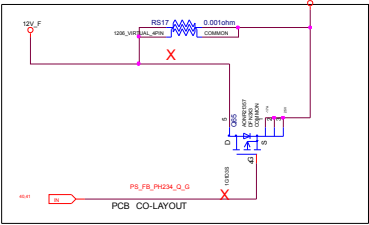
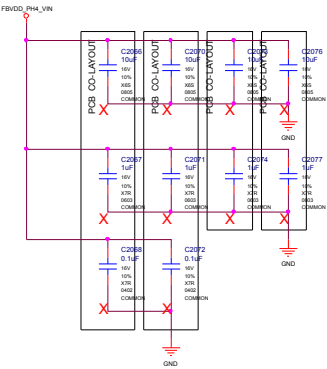
PS: FBVDD PH3



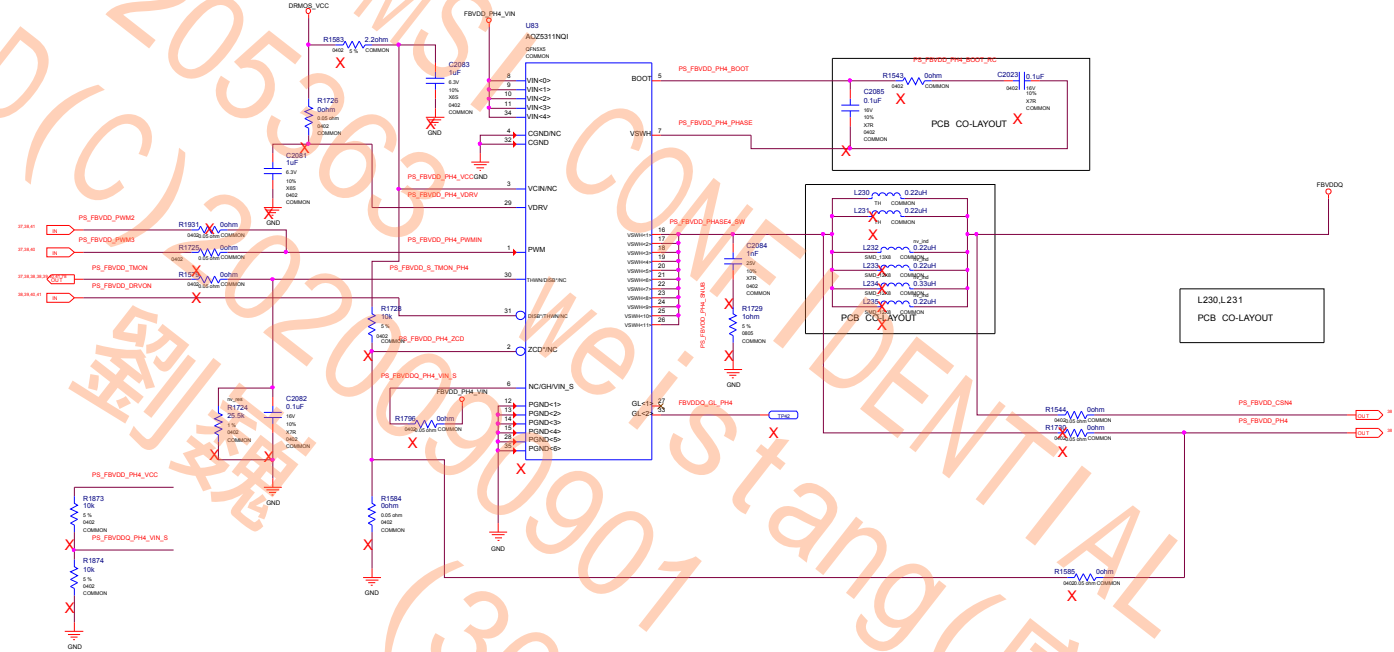
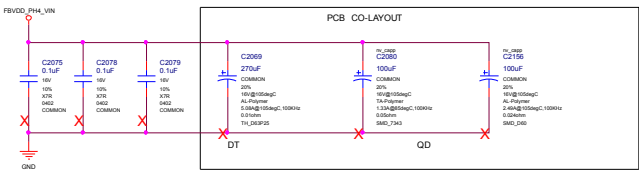
FBVDD PH3 INPUT ANTI-BACKDRIVE



PS: FBVDD PH4

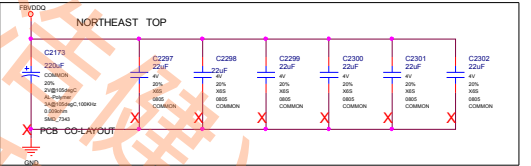
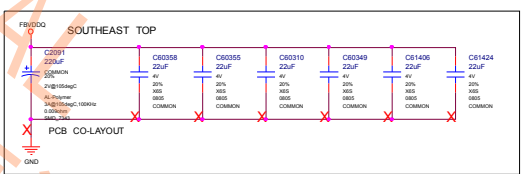
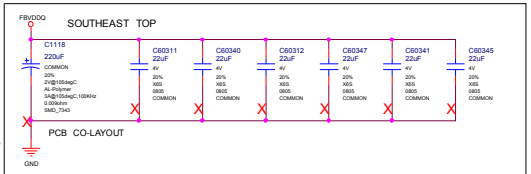
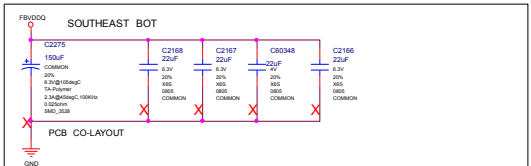
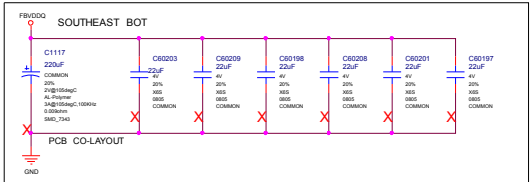
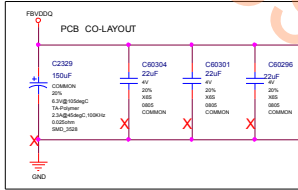
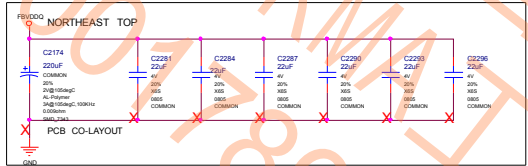
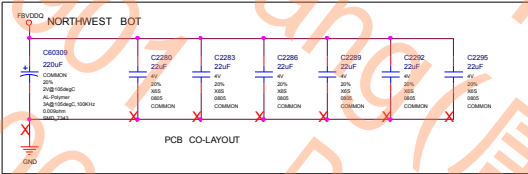
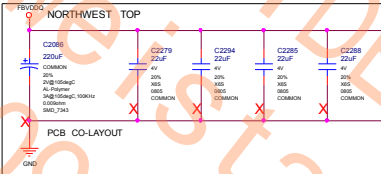
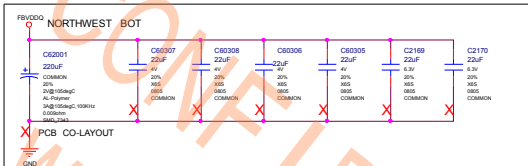
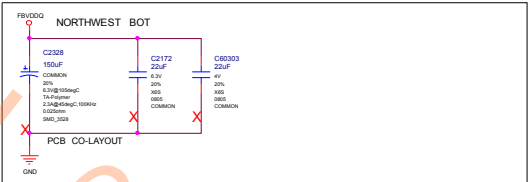
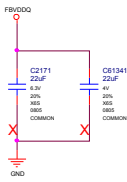
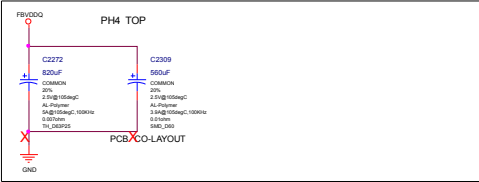
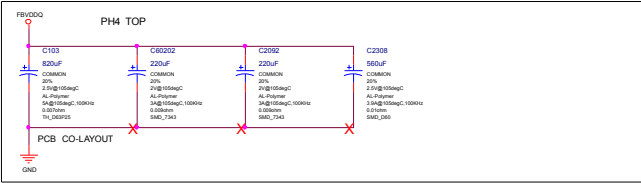
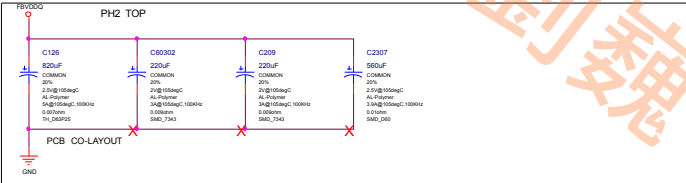
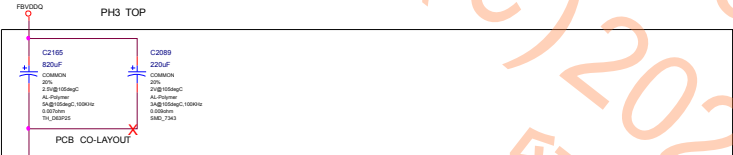


FBVDD PH3 INPUT ANTI-BACKDRIVE



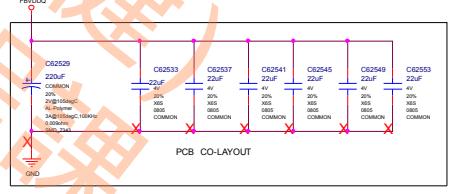
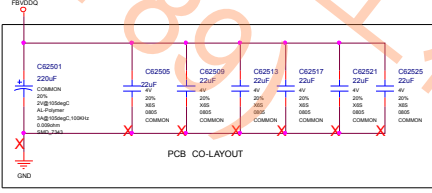
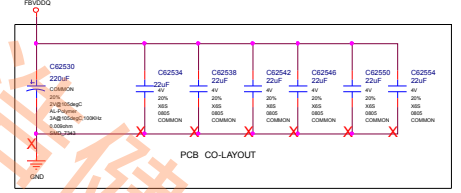
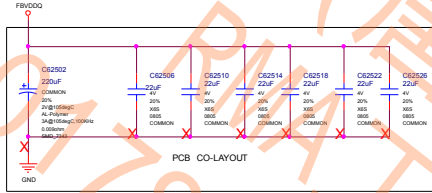
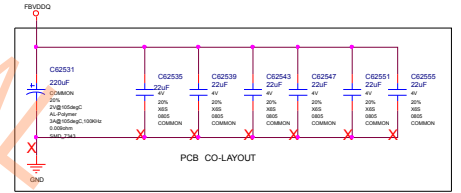
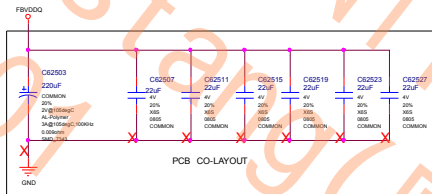
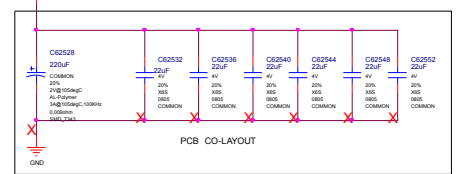
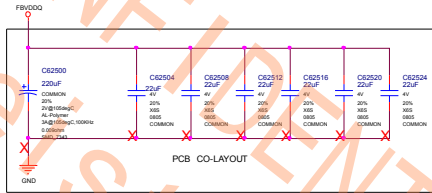
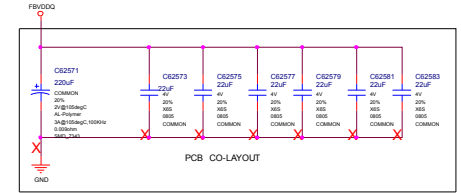
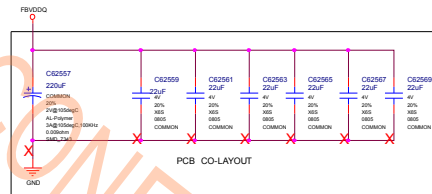
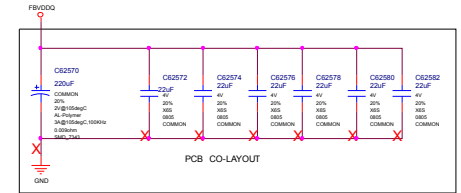
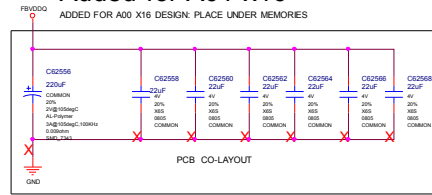
PS: FBVDD OUTPUT CAP

3x 820uF TH FBVDD OUTPUT BULK CAPS

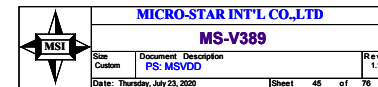
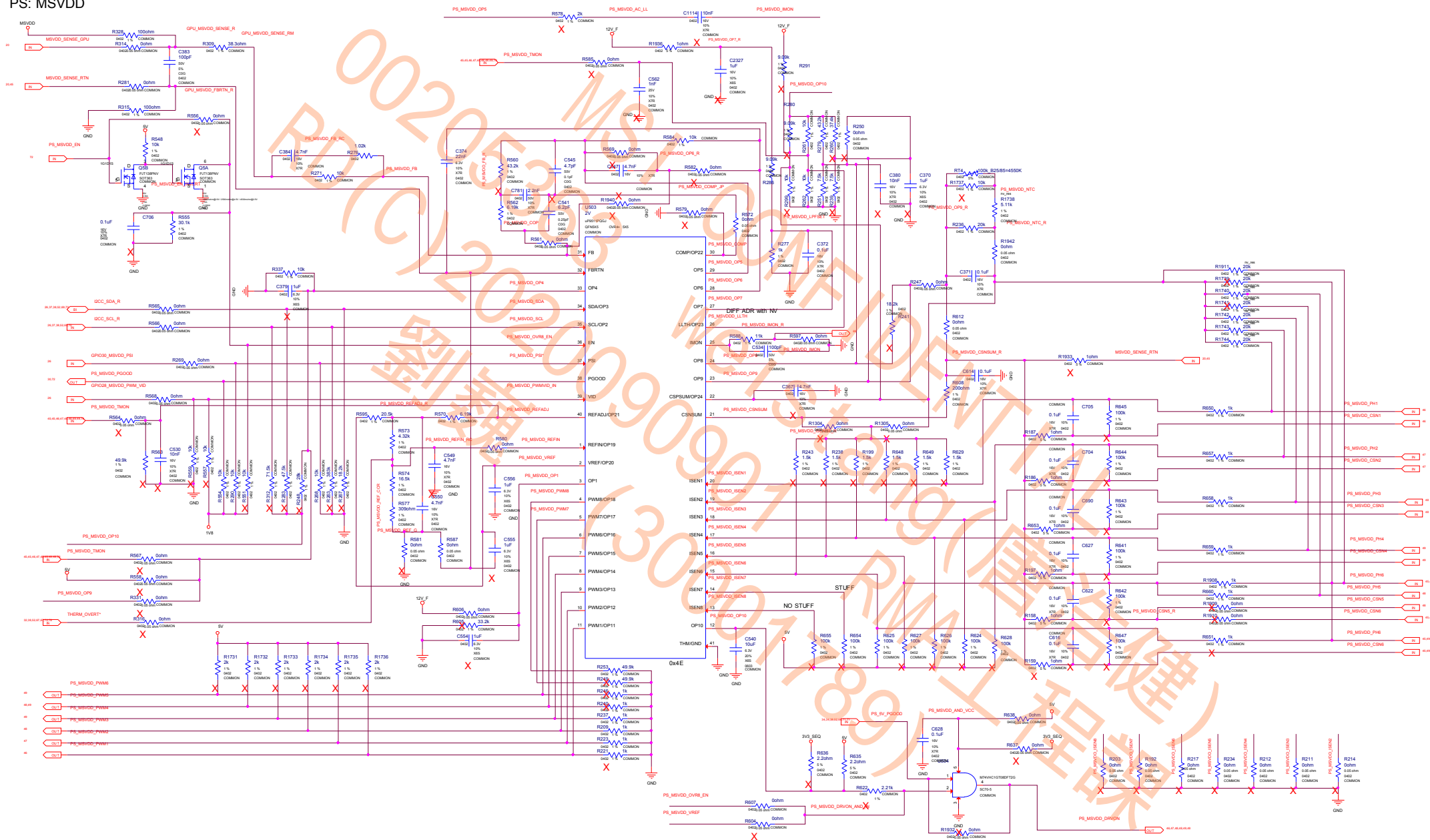


Added for A01 x16

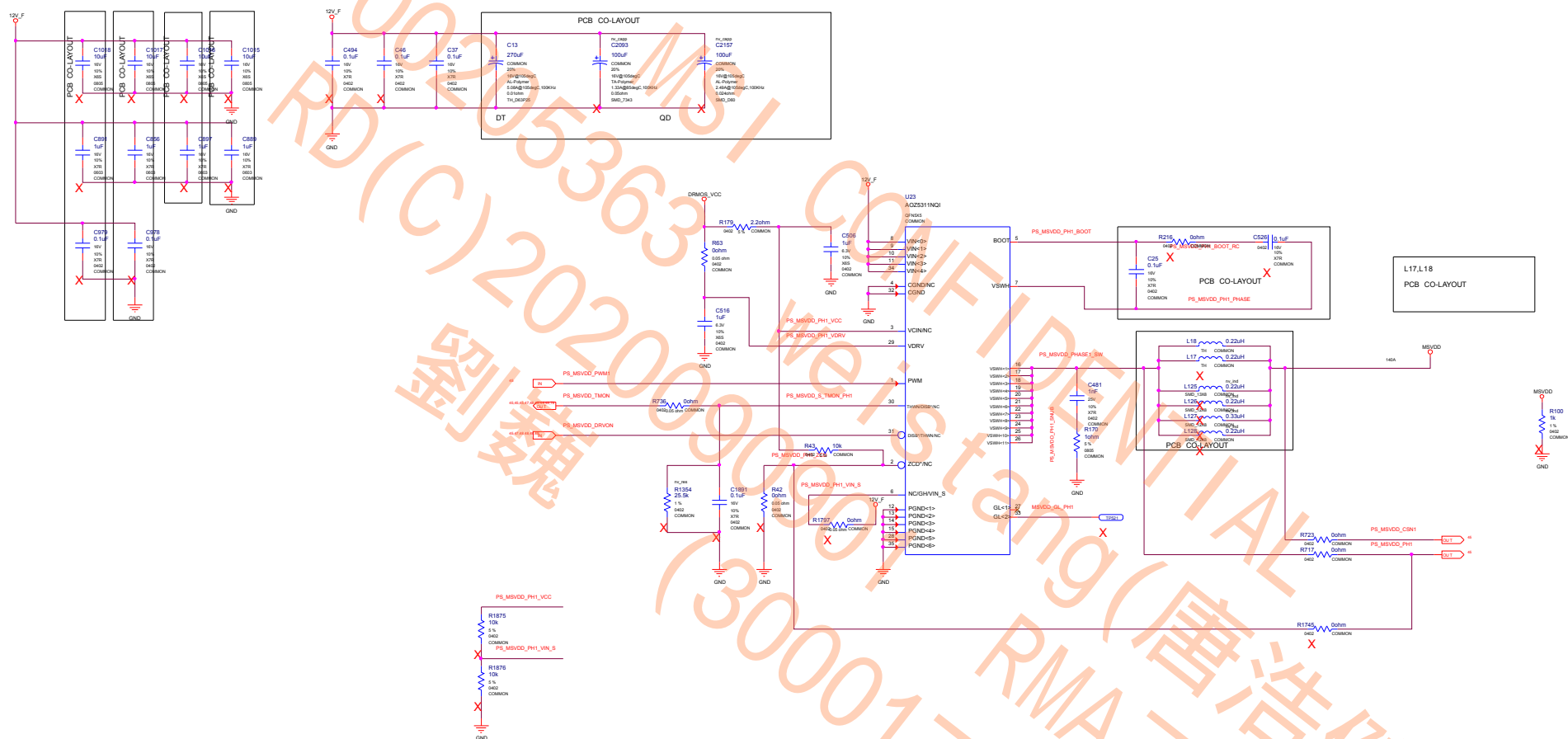
ADDED FOR A00 X16 DESIGN: PLACE UNDER MEMORIES



PS: MSVDD

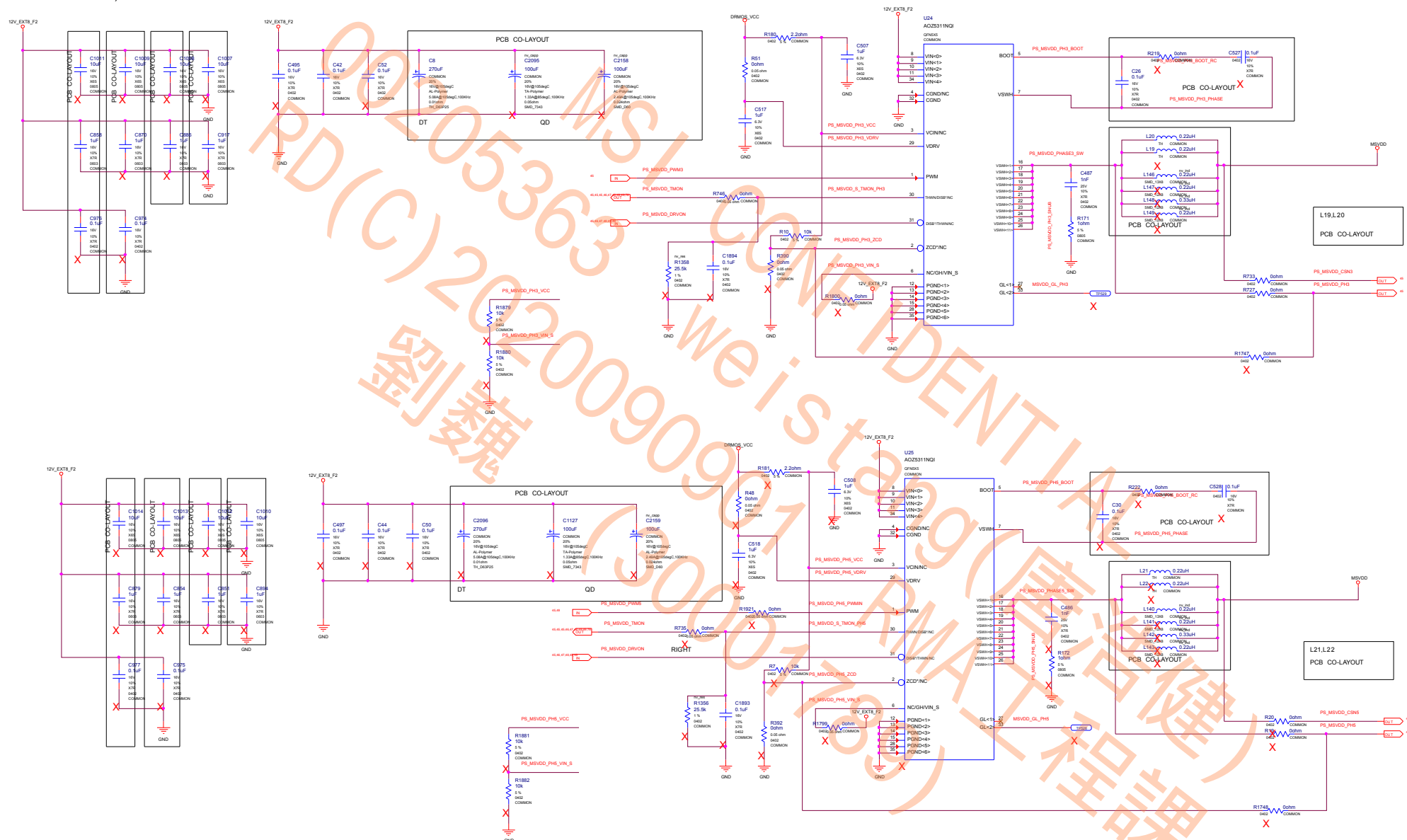


PS: MSVDD Phase 1

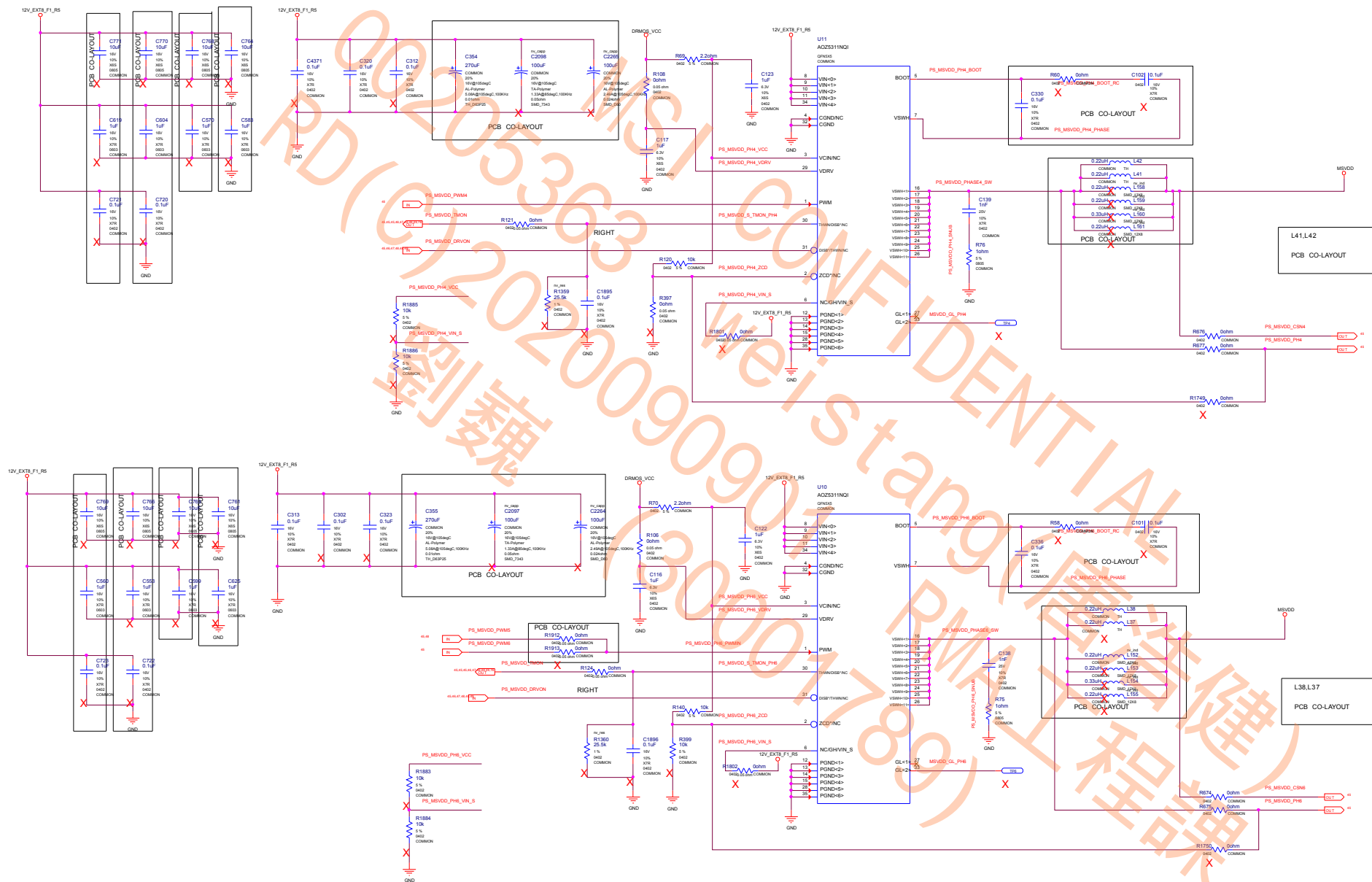




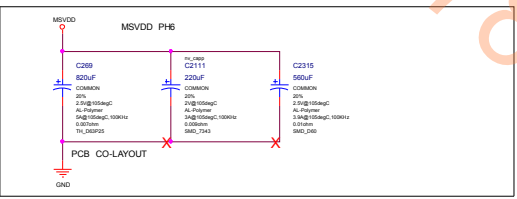
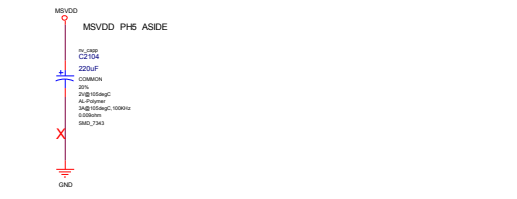
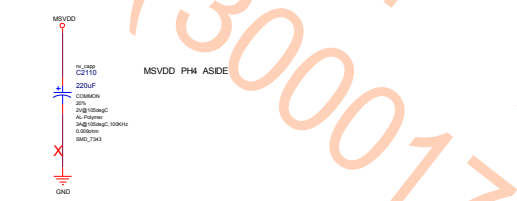
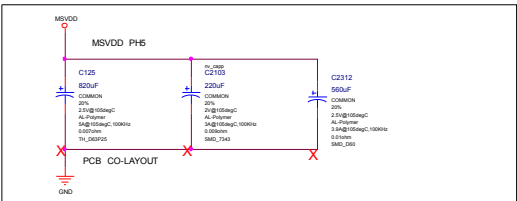
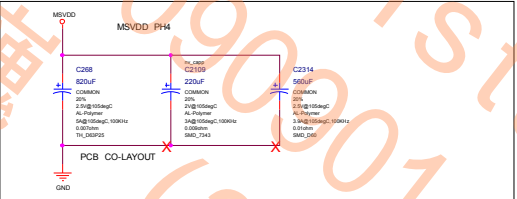
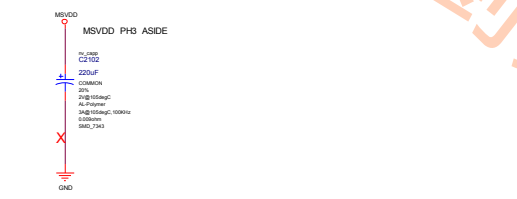
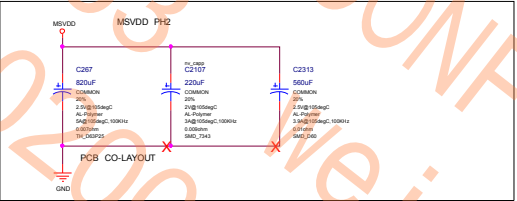
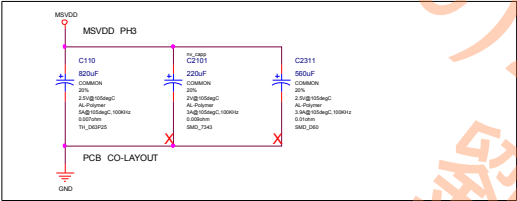
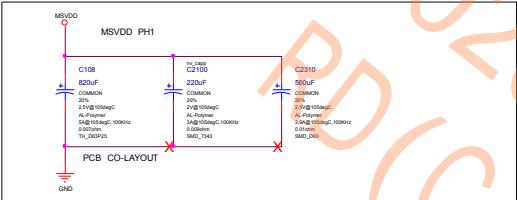
PS:MSVDD Phase 3, 5



PS: MSVDD PH 4,6



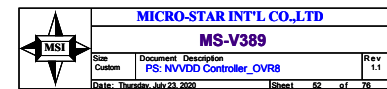
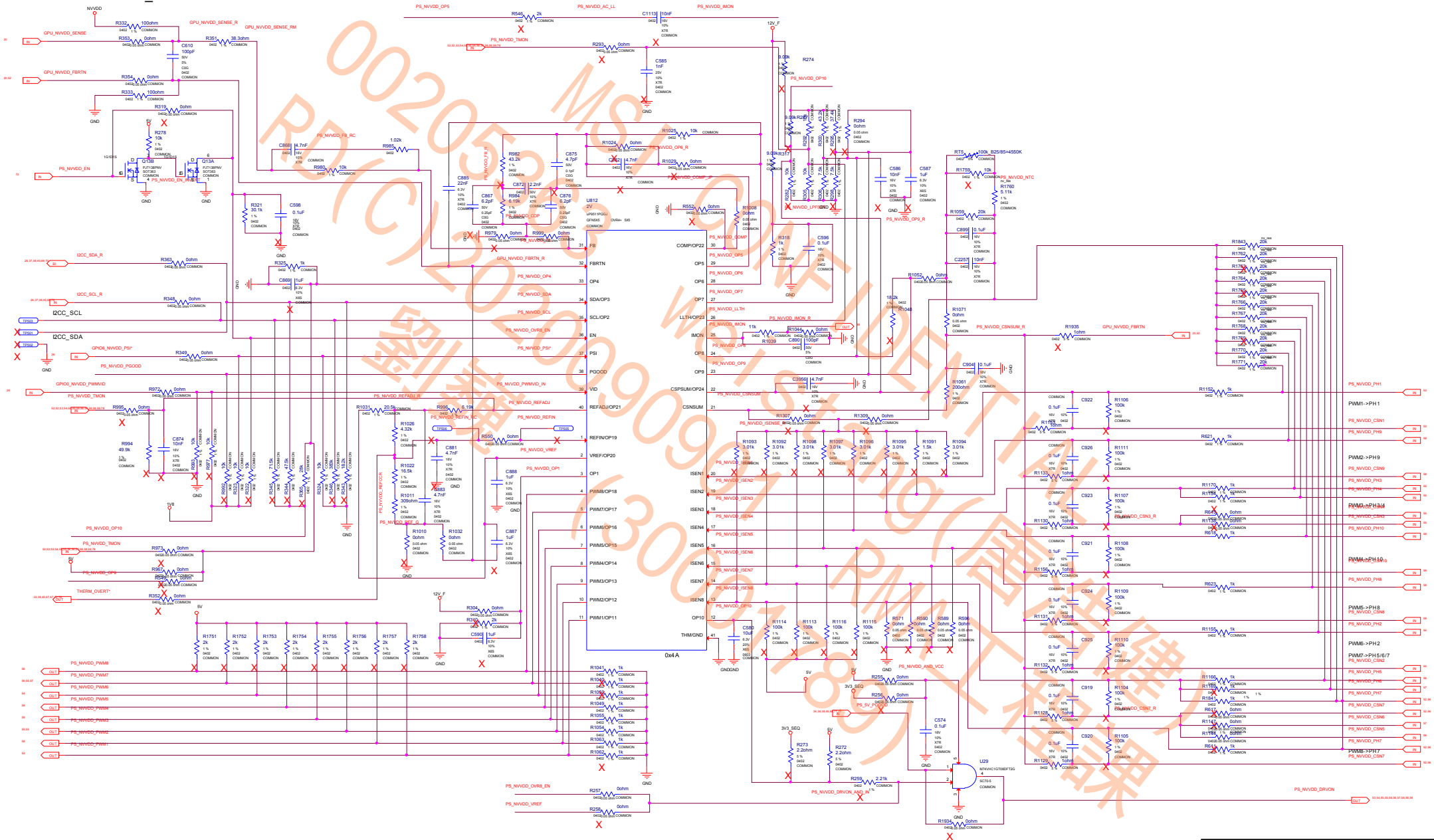
PS:MSVDD OUTPUT CAP (TOP)

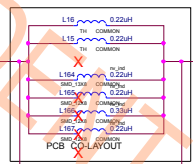
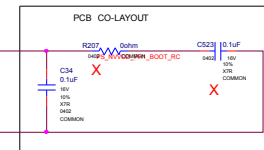
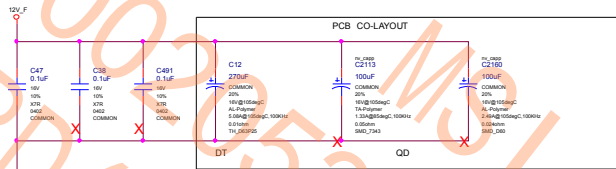


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RMA工程課
(30001789)

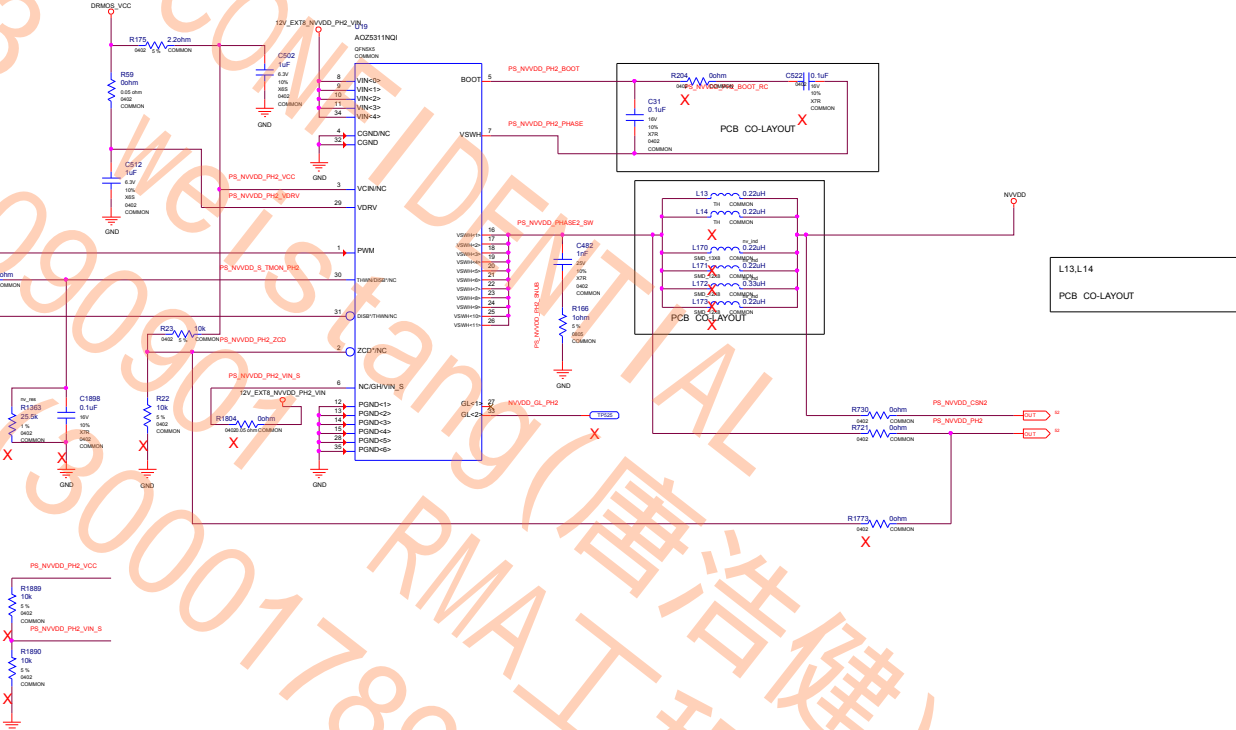
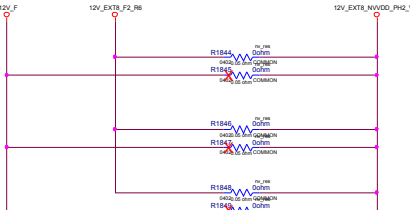
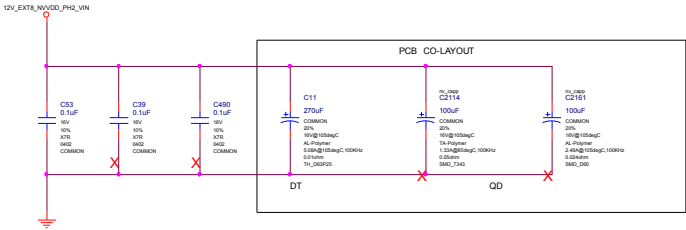
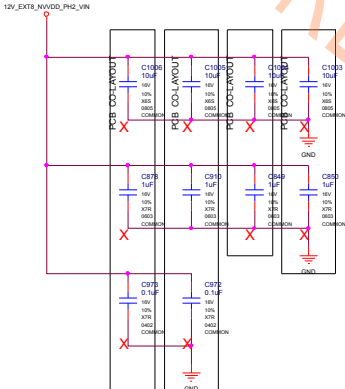
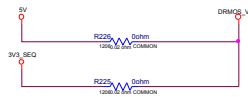
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PS: NVVDD Controller OVR8

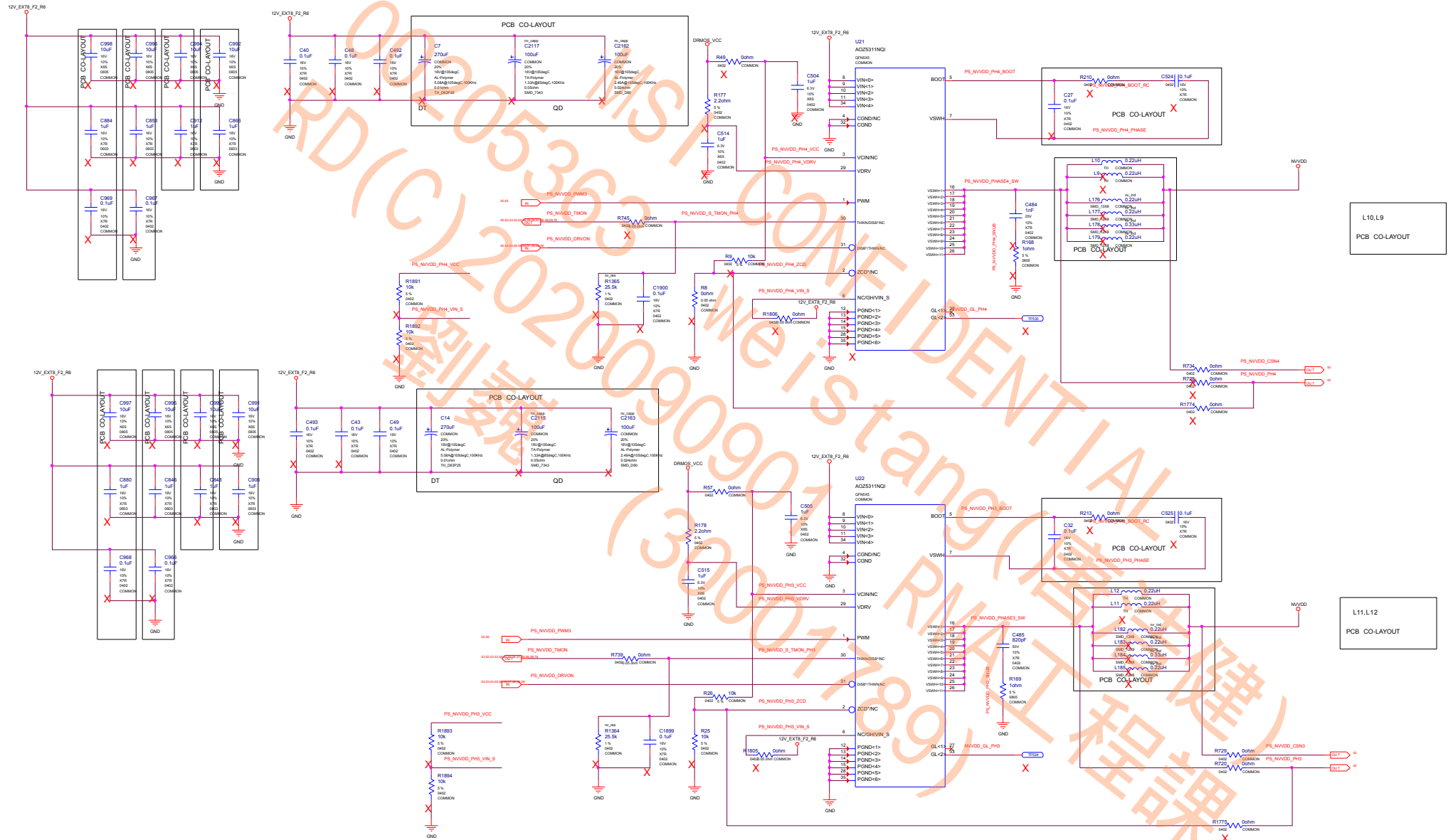




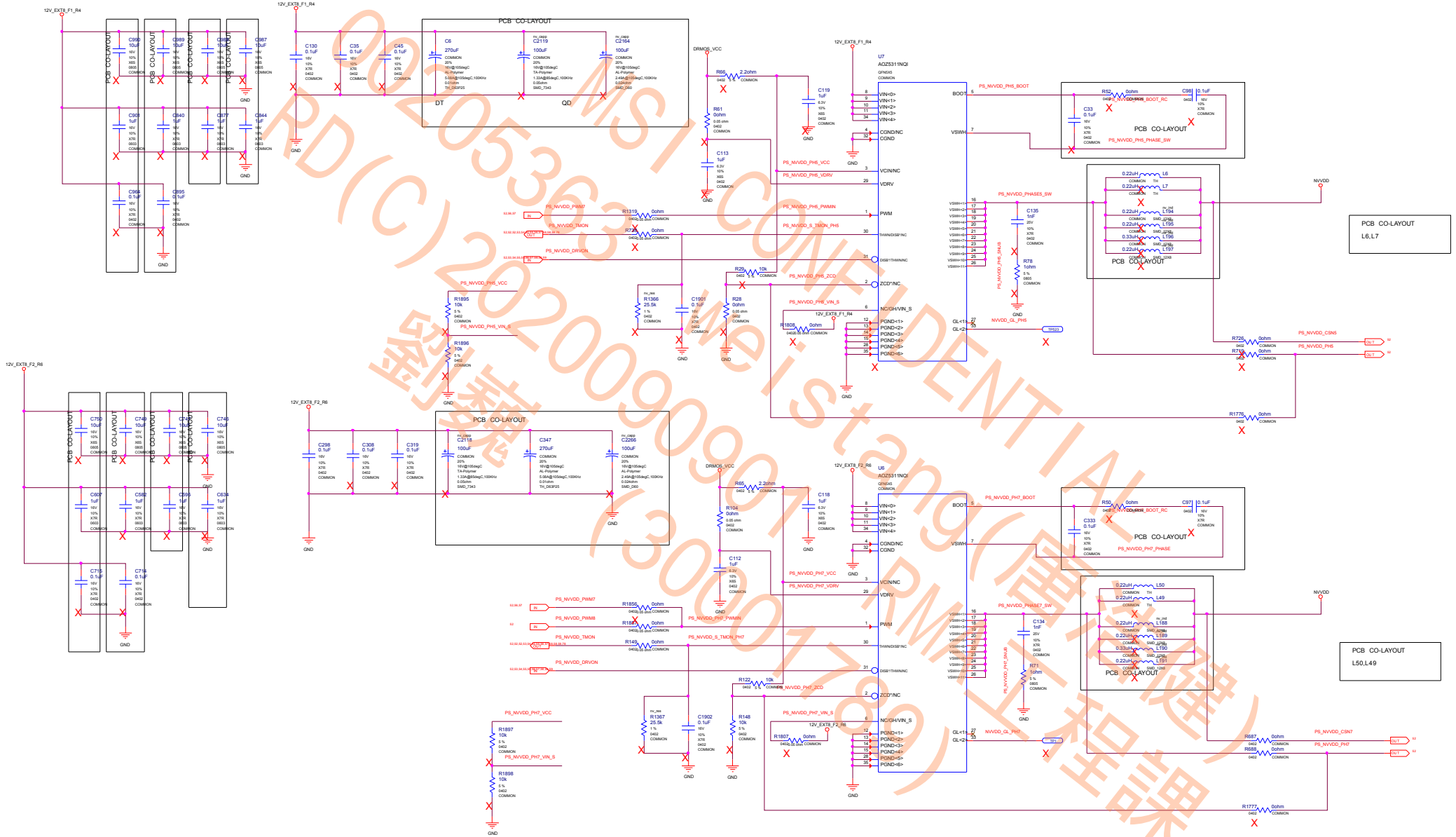
PS: NVVDD Phase 2



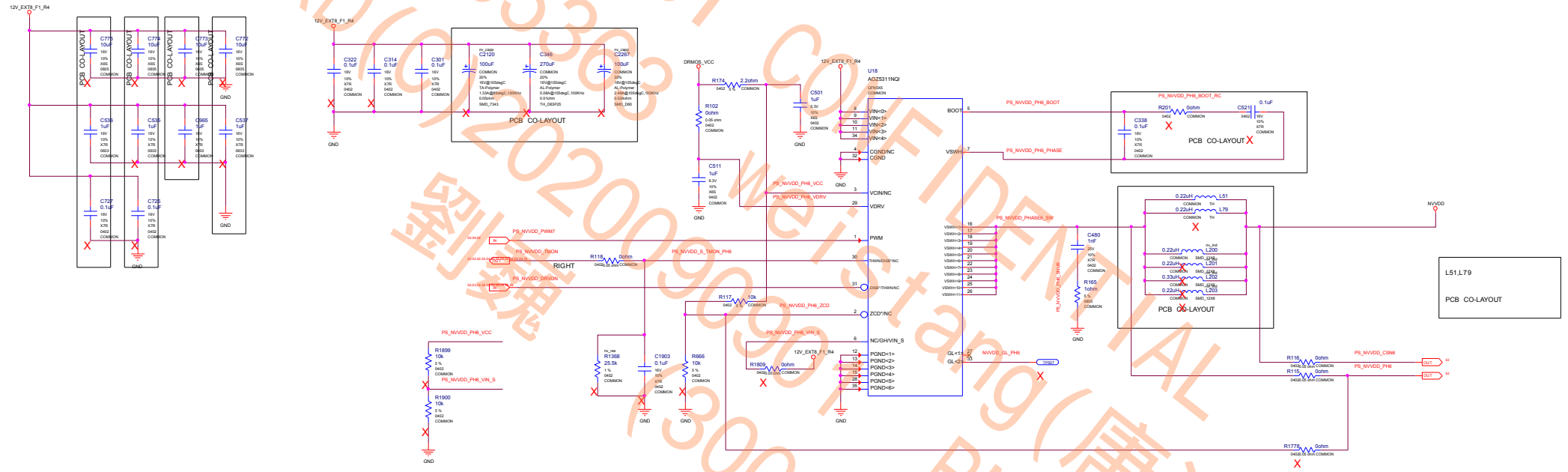
PS: NVVDD Phase 3 (PWM6), PHASE 4(PWM2)



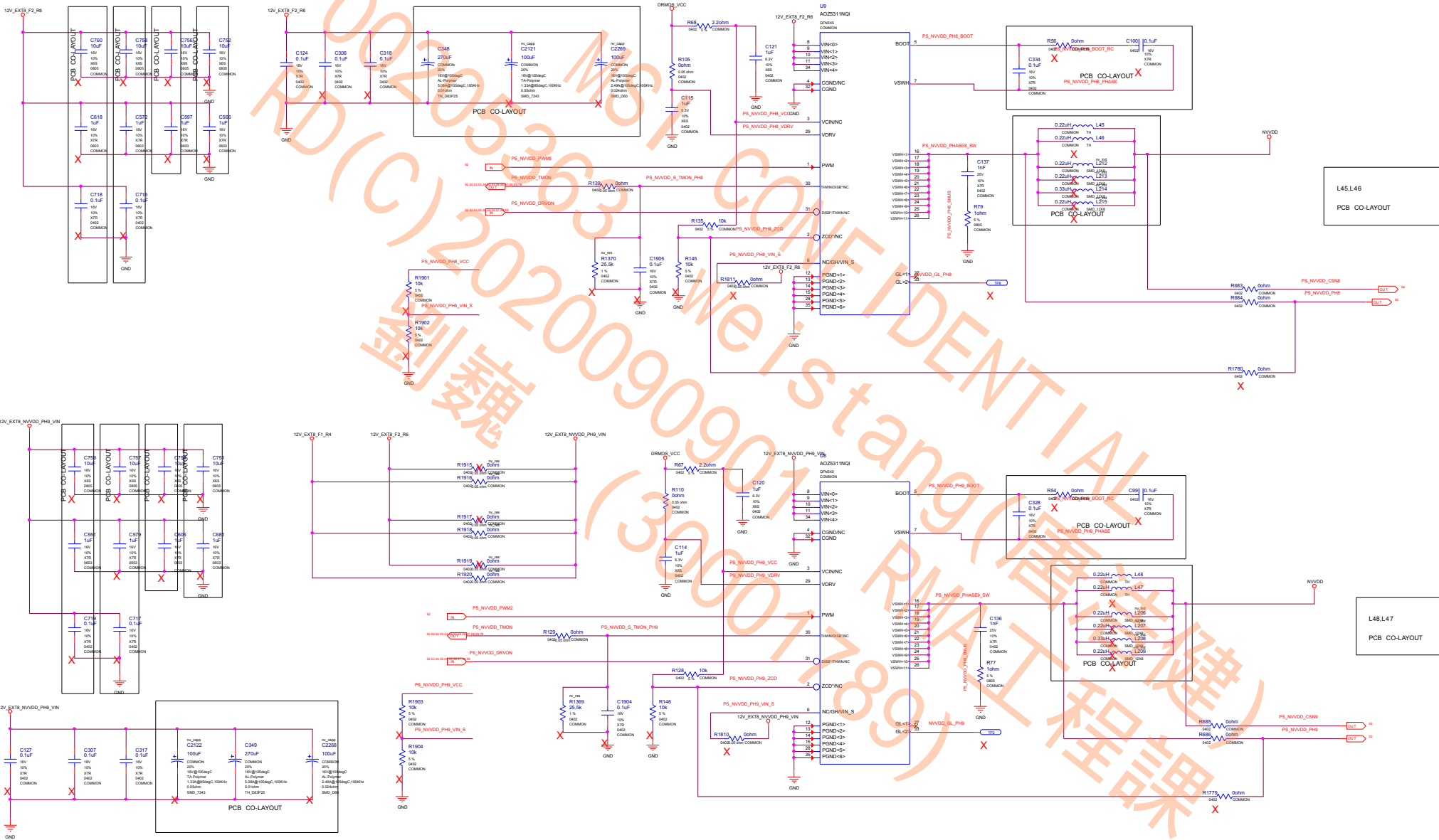
PS: NVVDD PH 5(PWM2), PH7(PWM3)



PS: NVVDD Phase 6(PWM7)



PS: NVVDD PH 8 (PWM5), PH 9(PWM8)



The diagram illustrates a complex PCB layout for a power supply system. Key components and connections include:

- Input Section:** Features a 12V input (VIN) connected to a network of capacitors (C300, C310, C320, C330, C340, C350, C360, C370, C380, C390, C400, C410, C420, C430, C440, C450, C460, C470, C480, C490, C500, C510, C520, C530, C540, C550, C560, C570, C580, C590, C600, C610, C620, C630, C640, C650, C660, C670, C680, C690, C700, C710, C720, C730, C740, C750, C760, C770, C780, C790, C800, C810, C820, C830, C840, C850, C860, C870, C880, C890, C900, C910, C920, C930, C940, C950, C960, C970, C980, C990, C1000, C1010, C1020, C1030, C1040, C1050, C1060, C1070, C1080, C1090, C1100, C1110, C1120, C1130, C1140, C1150, C1160, C1170, C1180, C1190, C1200, C1210, C1220, C1230, C1240, C1250, C1260, C1270, C1280, C1290, C1300, C1310, C1320, C1330, C1340, C1350, C1360, C1370, C1380, C1390, C1400, C1410, C1420, C1430, C1440, C1450, C1460, C1470, C1480, C1490, C1500, C1510, C1520, C1530, C1540, C1550, C1560, C1570, C1580, C1590, C1600, C1610, C1620, C1630, C1640, C1650, C1660, C1670, C1680, C1690, C1700, C1710, C1720, C1730, C1740, C1750, C1760, C1770, C1780, C1790, C1800, C1810, C1820, C1830, C1840, C1850, C1860, C1870, C1880, C1890, C1900, C1910, C1920, C1930, C1940, C1950, C1960, C1970, C1980, C1990, C2000, C2010, C2020, C2030, C2040, C2050, C2060, C2070, C2080, C2090, C2100, C2110, C2120, C2130, C2140, C2150, C2160, C2170, C2180, C2190, C2200, C2210, C2220, C2230, C2240, C2250, C2260, C2270, C2280, C2290, C2300, C2310, C2320, C2330, C2340, C2350, C2360, C2370, C2380, C2390, C2400, C2410, C2420, C2430, C2440, C2450, C2460, C2470, C2480, C2490, C2500, C2510, C2520, C2530, C2540, C2550, C2560, C2570, C2580, C2590, C2600, C2610, C2620, C2630, C2640, C2650, C2660, C2670, C2680, C2690, C2700, C2710, C2720, C2730, C2740, C2750, C2760, C2770, C2780, C2790, C2800, C2810, C2820, C2830, C2840, C2850, C2860, C2870, C2880, C2890, C2900, C2910, C2920, C2930, C2940, C2950, C2960, C2970, C2980, C2990, C3000, C3010, C3020, C3030, C3040, C3050, C3060, C3070, C3080, C3090, C3100, C3110, C3120, C3130, C3140, C3150, C3160, C3170, C3180, C3190, C3200, C3210, C3220, C3230, C3240, C3250, C3260, C3270, C3280, C3290, C3300, C3310, C3320, C3330, C3340, C3350, C3360, C3370, C3380, C3390, C3400, C3410, C3420, C3430, C3440, C3450, C3460, C3470, C3480, C3490, C3500, C3510, C3520, C3530, C3540, C3550, C3560, C3570, C3580, C3590, C3600, C3610, C3620, C3630, C3640, C3650, C3660, C3670, C3680, C3690, C3700, C3710, C3720, C3730, C3740, C3750, C3760, C3770, C3780, C3790, C3800, C3810, C3820, C3830, C3840, C3850, C3860, C3870, C3880, C3890, C3900, C3910, C3920, C3930, C3940, C3950, C3960, C3970, C3980, C3990, C4000, C4010, C4020, C4030, C4040, C4050, C4060, C4070, C4080, C4090, C4100, C4110, C4120, C4130, C4140, C4150, C4160, C4170, C4180, C4190, C4200, C4210, C4220, C4230, C4240, C4250, C4260, C4270, C4280, C4290, C4300, C4310, C4320, C4330, C4340, C4350, C4360, C4370, C4380, C4390, C4400, C4410, C4420, C4430, C4440, C4450, C4460, C4470, C4480, C4490, C4500, C4510, C4520, C4530, C4540, C4550, C4560, C4570, C4580, C4590, C4600, C4610, C4620, C4630, C4640, C4650, C4660, C4670, C4680, C4690, C4700, C4710, C4720, C4730, C4740, C4750, C4760, C4770, C4780, C4790, C4800, C4810, C4820, C4830, C4840, C4850, C4860, C4870, C4880, C4890, C4900, C4910, C4920, C4930, C4940, C4950, C4960, C4970, C4980, C4990, C5000, C5010, C5020, C5030, C5040, C5050, C5060, C5070, C5080, C5090, C5100, C5110, C5120, C5130, C5140, C5150, C5160, C5170, C5180, C5190, C5200, C5210, C5220, C5230, C5240, C5250, C5260, C5270, C5280, C5290, C5300, C5310, C5320, C5330, C5340, C5350, C5360, C5370, C5380, C5390, C5400, C5410, C5420, C5430, C5440, C5450, C5460, C5470, C5480, C5490, C5500, C5510, C5520, C5530, C5540, C5550, C5560, C5570, C5580, C5590, C5600, C5610, C5620, C5630, C5640, C5650, C5660, C5670, C5680, C5690, C5700, C5710, C5720, C5730, C5740, C5750, C5760, C5770, C5780, C5790, C5800, C5810, C5820, C5830, C5840, C5850, C5860, C5870, C5880, C5890, C5900, C5910, C5920, C5930, C5940, C5950, C5960, C5970, C5980, C5990, C6000, C6010, C6020, C6030, C6040, C6050, C6060, C6070, C6080, C6090, C6100, C6110, C6120, C6130, C6140, C6150, C6160, C6170, C6180, C6190, C6200, C6210, C6220, C6230, C6240, C6250, C6260, C6270, C6280, C6290, C6300, C6310, C6320, C6330, C6340, C6350, C6360, C6370, C6380, C6390, C6400, C6410, C6420, C6430, C6440, C6450, C6460, C6470, C6480, C6490, C6500, C6510, C6520, C6530, C6540, C6550, C6560, C6570, C6580, C6590, C6600, C6610, C6620, C6630, C6640, C6650, C6660, C6670, C6680, C6690, C6700, C6710, C6720, C6730, C6740, C6750, C6760, C6770, C6780, C6790, C6800, C6810, C6820, C6830, C6840, C6850, C6860, C6870, C6880, C6890, C6900, C6910, C6920, C6930, C6940, C6950, C6960, C6970, C6980, C6990, C7000, C7010, C7020, C70



PCB CO-LAYOUT
C131, C132, C133, C140, C141, C142, C2106, C2107, C2133, C2134, C2135, C2137, C264, C265, C266, C267, C61, C64, C65, C66, C67, C68, C69, C77, C80, C83, C88

PCB CO-LAYOUT
C103, C105, C106, C107, C108, C110, C1208, C125, C1254, C1256, C1267, C128, C144, C145, C146, C151, C152, C153, C154, C159, C160, C161, C162, C170, C173, C2092, C2100, C2101, C2102, C2103, C2104, C2138, C2139, C2140, C2141, C2142, C2143, C2144, C2272, C230, C231, C232, C233, C243, C245, C246, C248, C253, C254, C255, C256, C270, C274, C275, C276, C283, C289, C290, C291, C60202, C62004, C62005

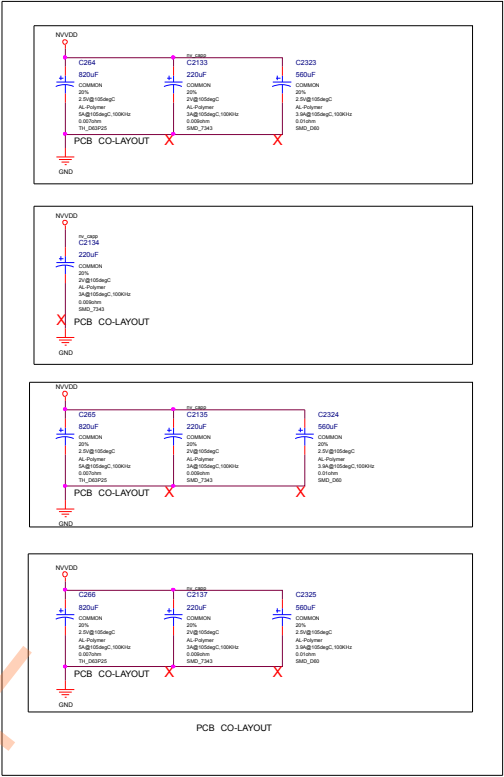
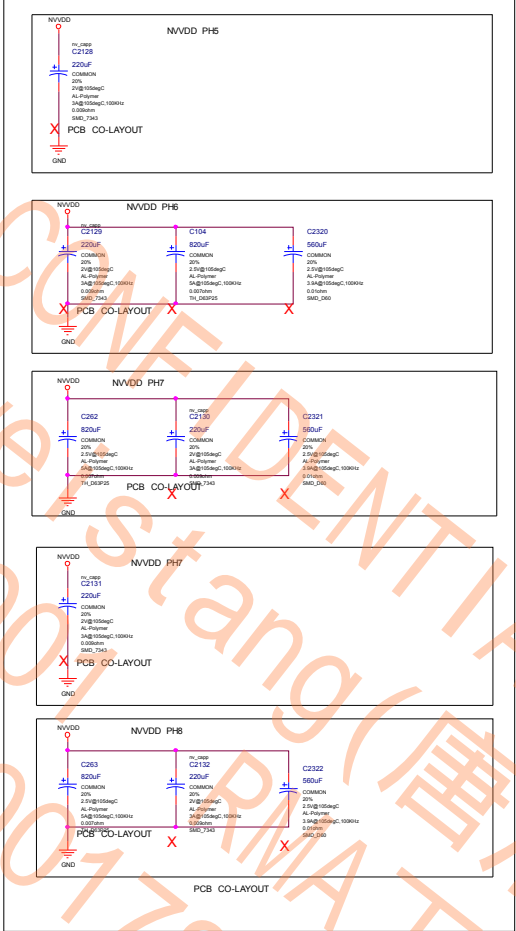
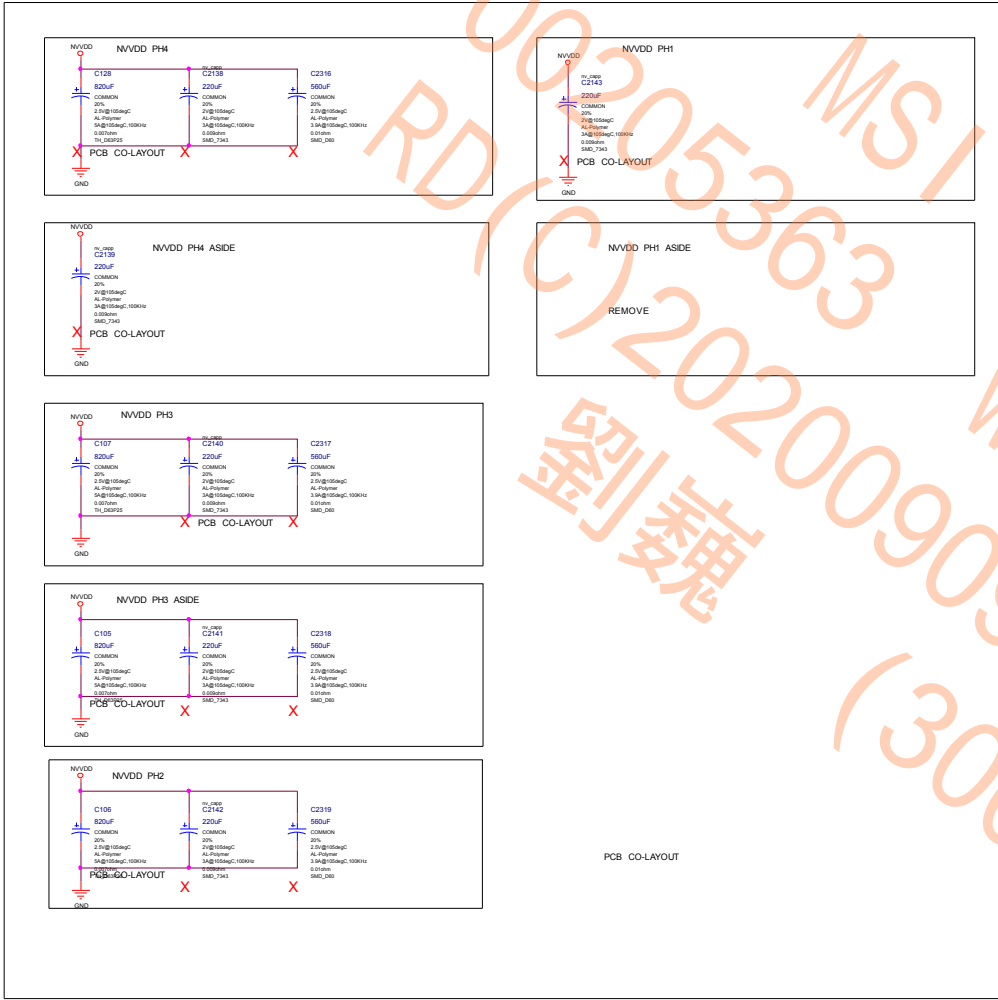
C163, C164, C166, C167, C2087, C2105, C2109, C2110, C2111, C224, C225, C261, C268, C269, C60354, C61428, C62, C63, C89, C91, C96
PCB CO-LAYOUT

2020_06_17

- 1.Fix J1,J2 to reverse 8 pins
- 2.Change L238,L52,L53 footprint

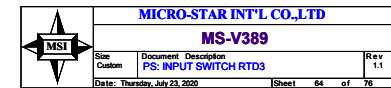
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weistang(唐浩健)
劉魏
(30001789)
RMA工程課

PS: NVDD OUTPUT CAP(TOP)



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RD(C)20200901
Weistang (唐浩健)
RMA工程課
(30001789)
BLANK

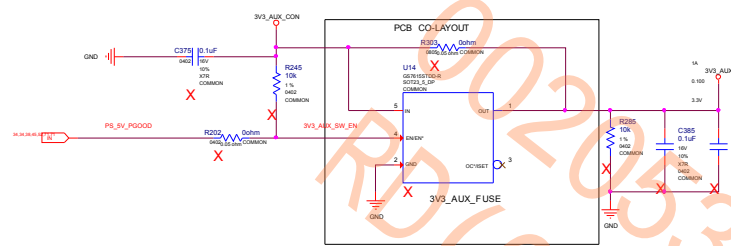
GPIO1	GPIO23	SWITCH	VOUT
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0	1	0	12V_F
1	0	0	12V_F
1	1	1	3V3A



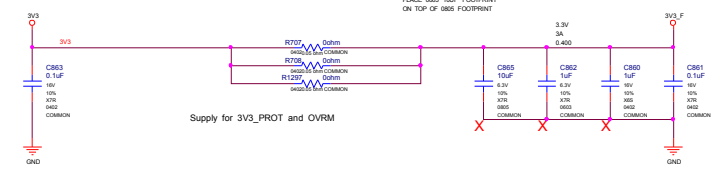
MSI CONFIDENTIAL
00205363
RD(C)2020090901
weistang (唐浩健)
RMA工程課
(30001789)

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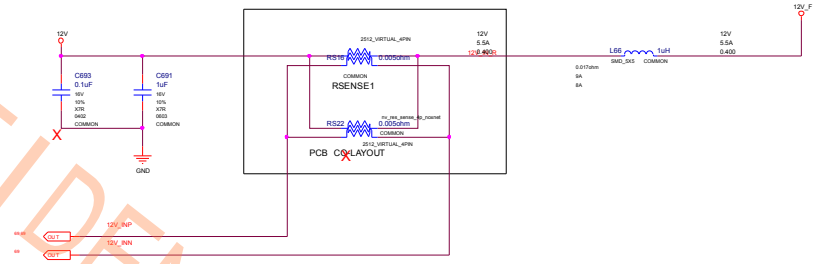
PS: Inputs, Filtering, and Monitoring



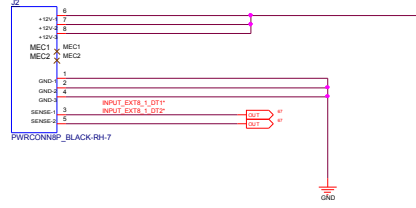
PEX 3V3 INPUT - 10W



PEX 12V INPUT - 66W

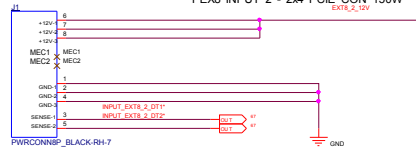


PEX8 INPUT 1 - 2x4 PCIe CON 150W

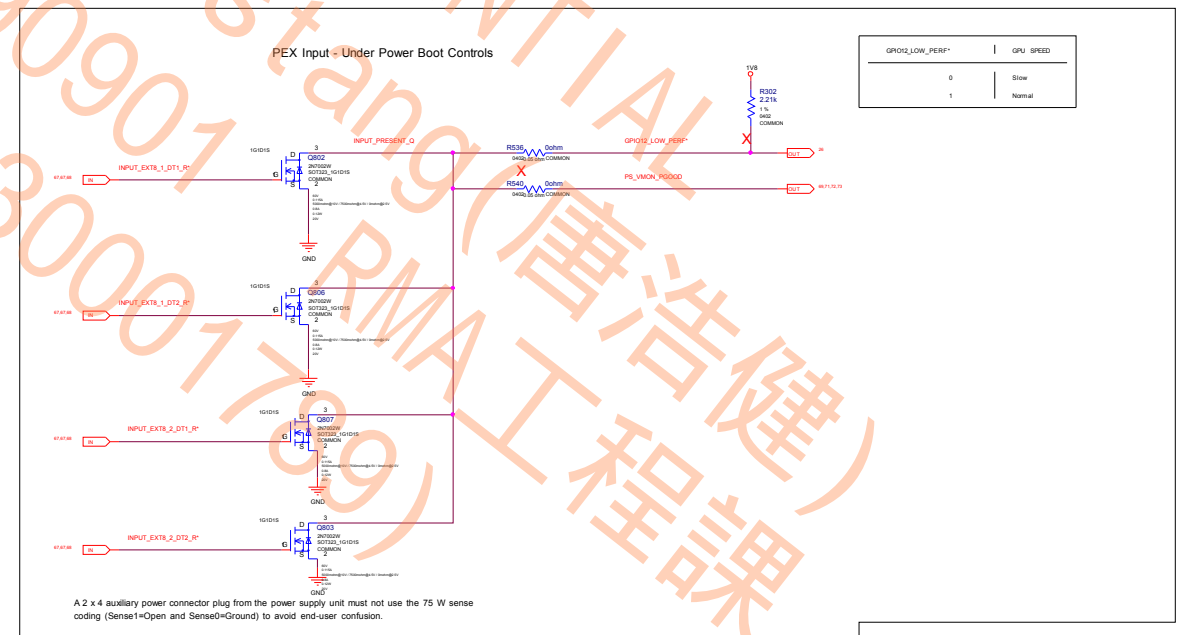
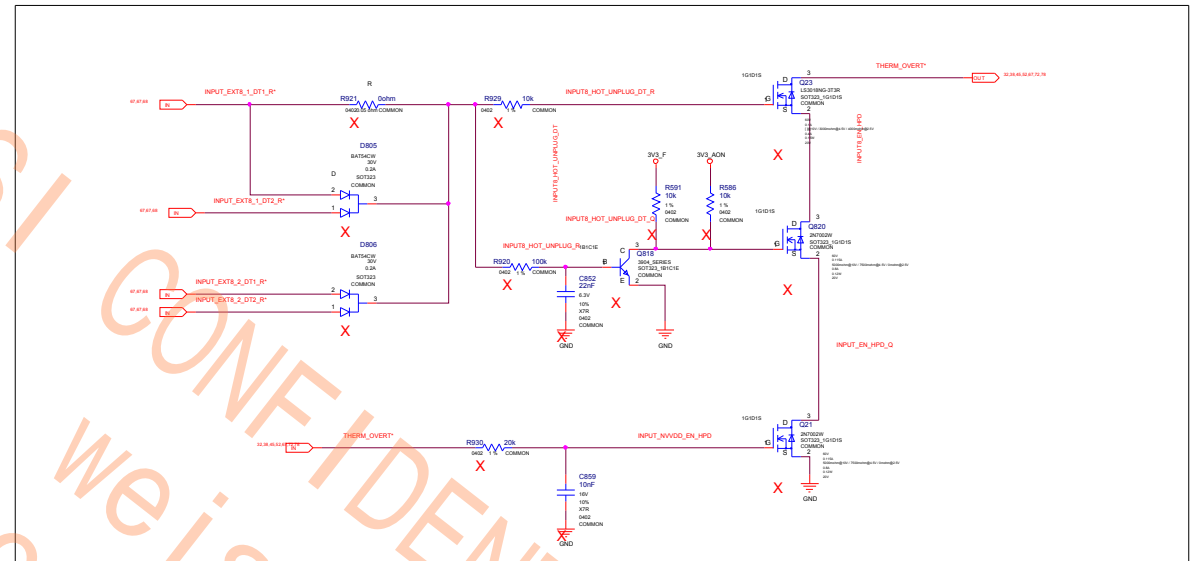
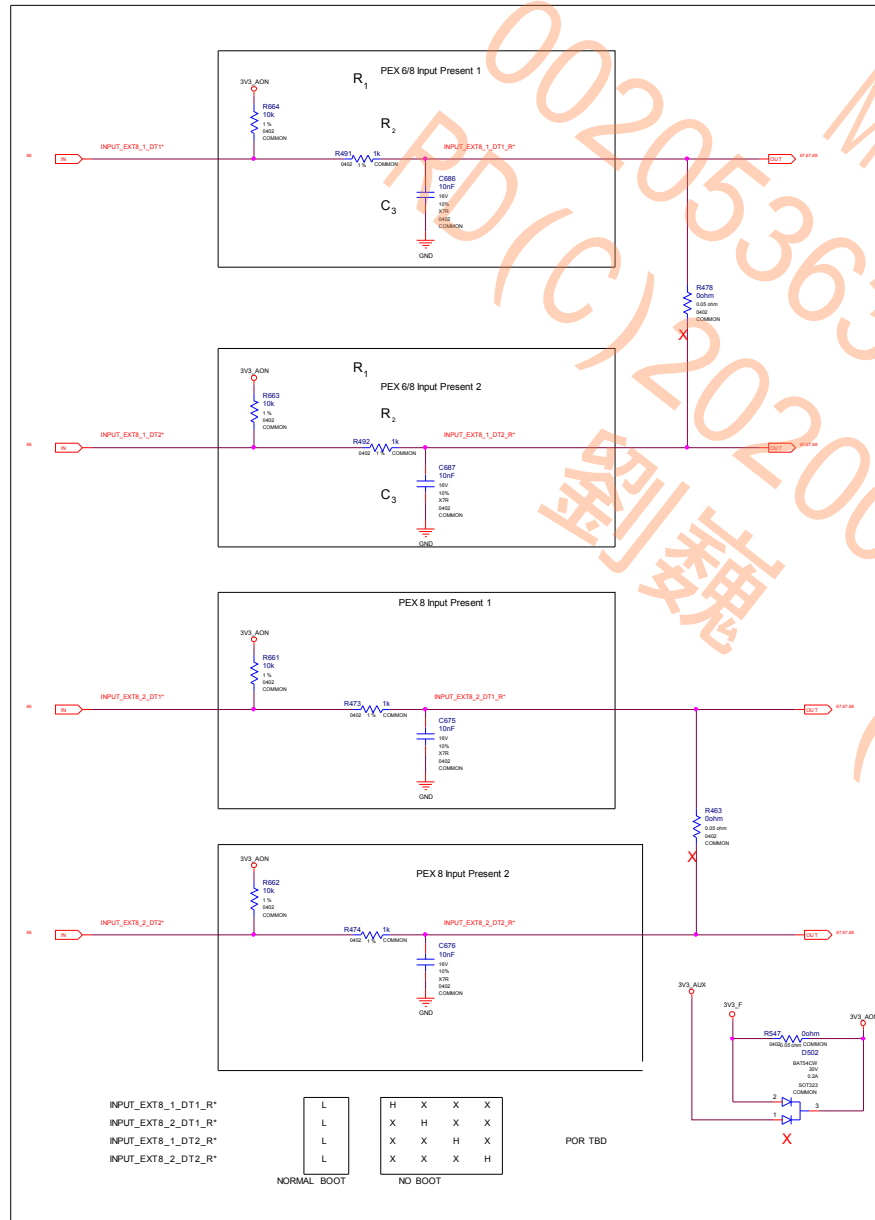


QD SKU CABLE

PEX8 INPUT 2 - 2x4 PCIe CON 150W



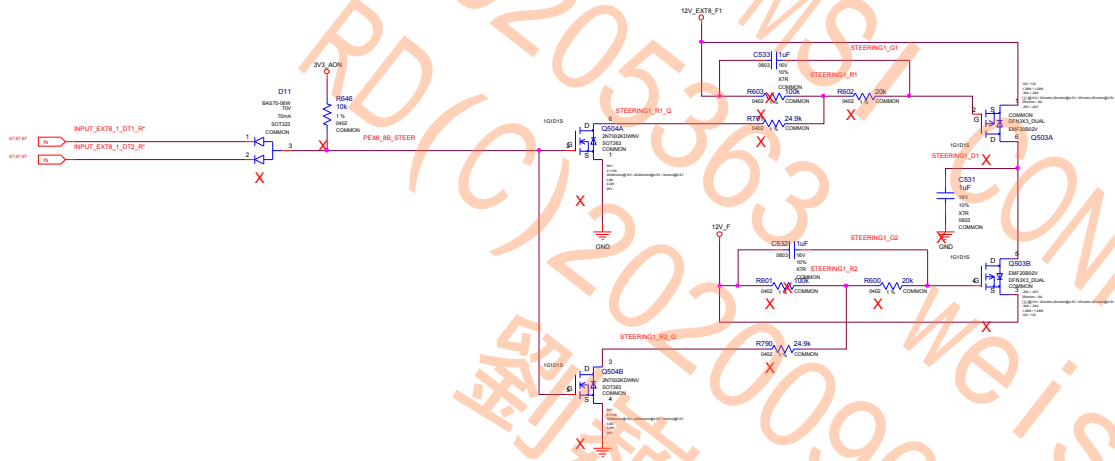
PS: 12V Current Steering & Hot Unplug Detect



PS: Discrete Steering

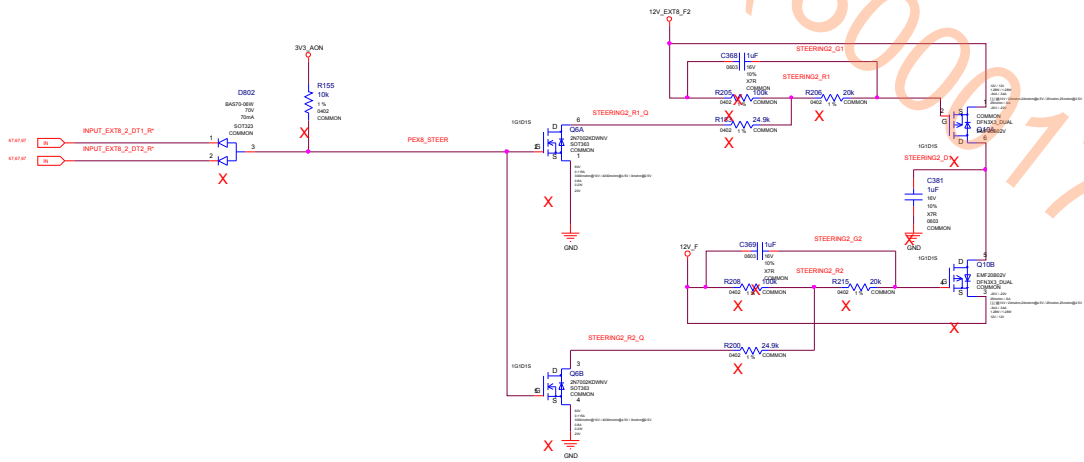
12V CURRENT STEERING (UNDER POWER BOOT):

PEX12V AND 12V_EXT8_F1



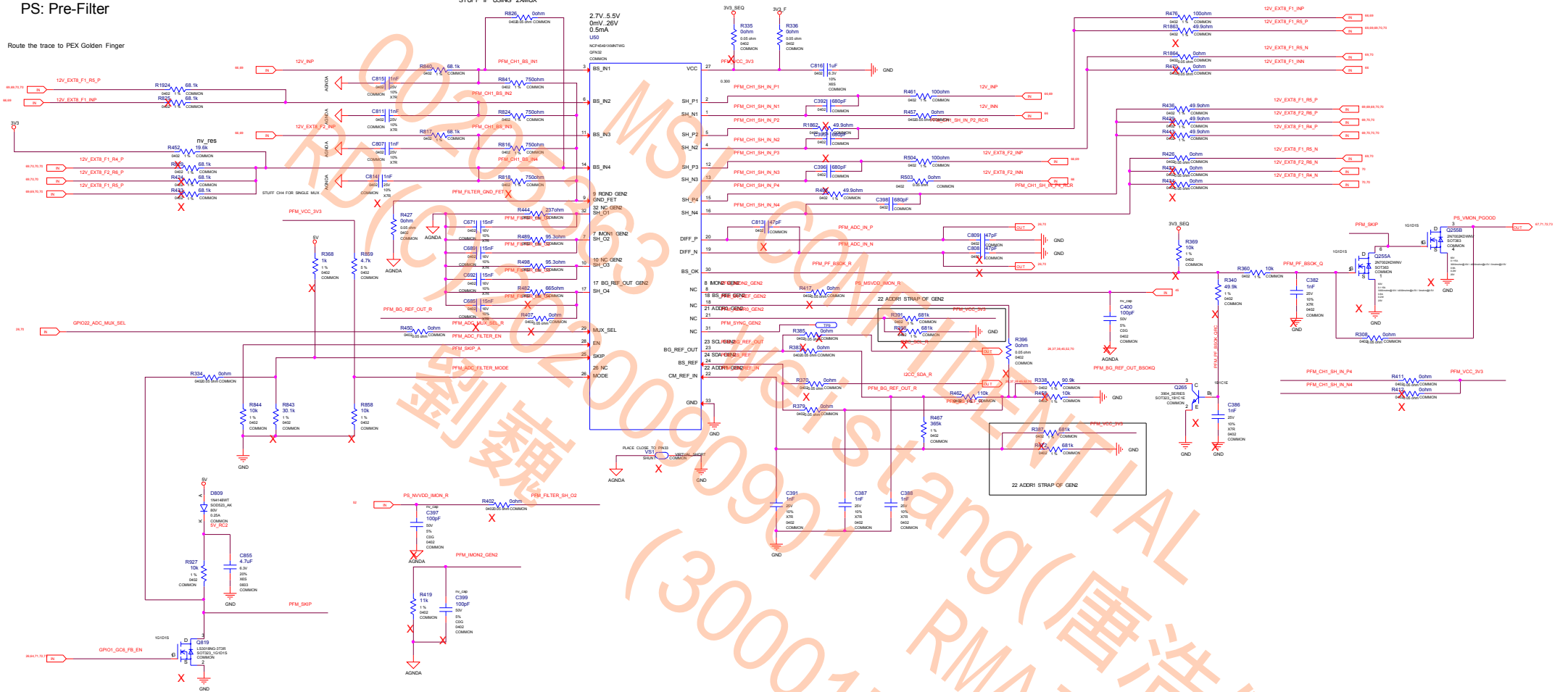
NO STUFF BY DEFAULT REF ONLY

PEX12V AND 12V_EXT8_F2

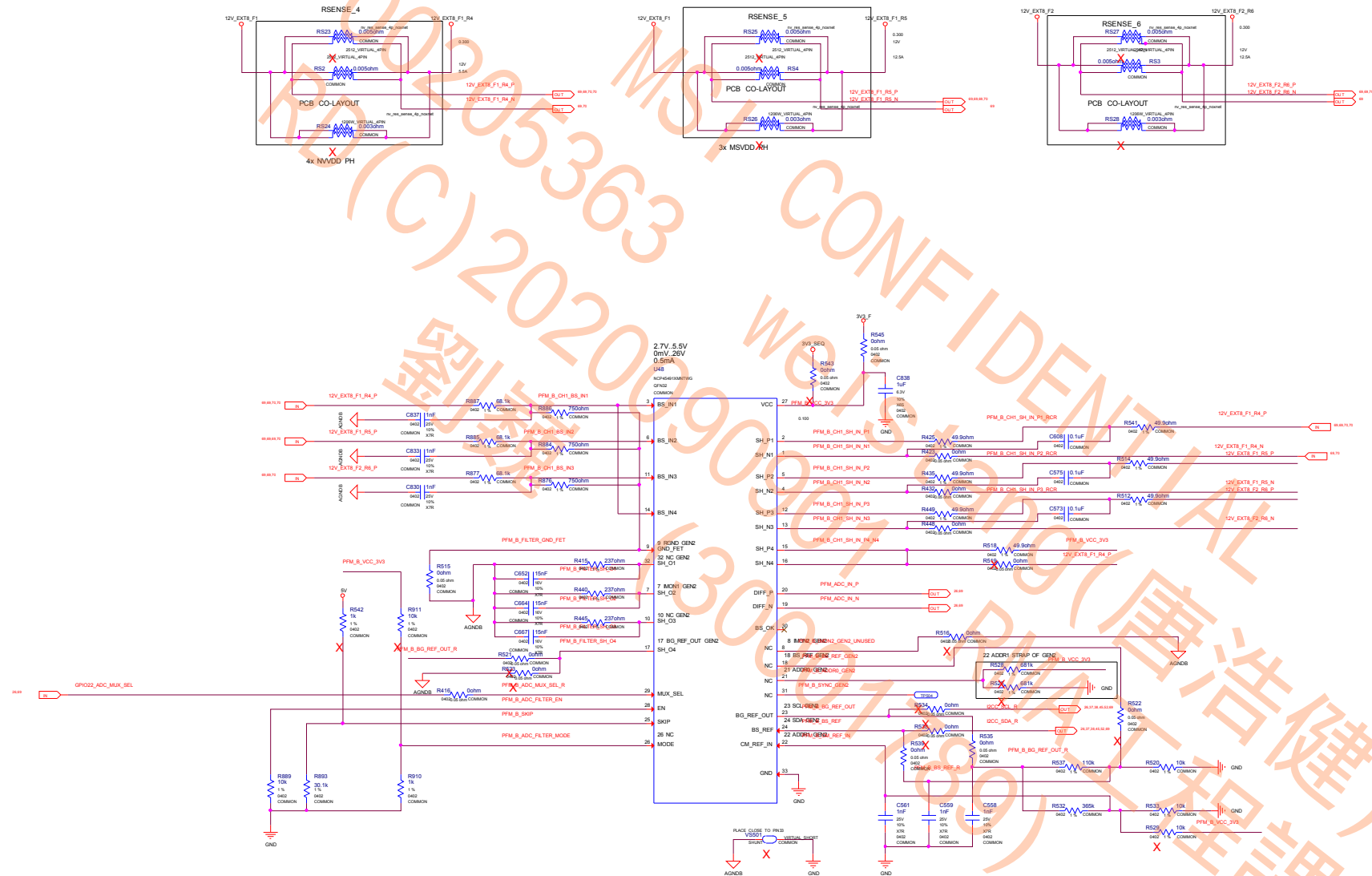


Route the trace to PEX Golden Finger

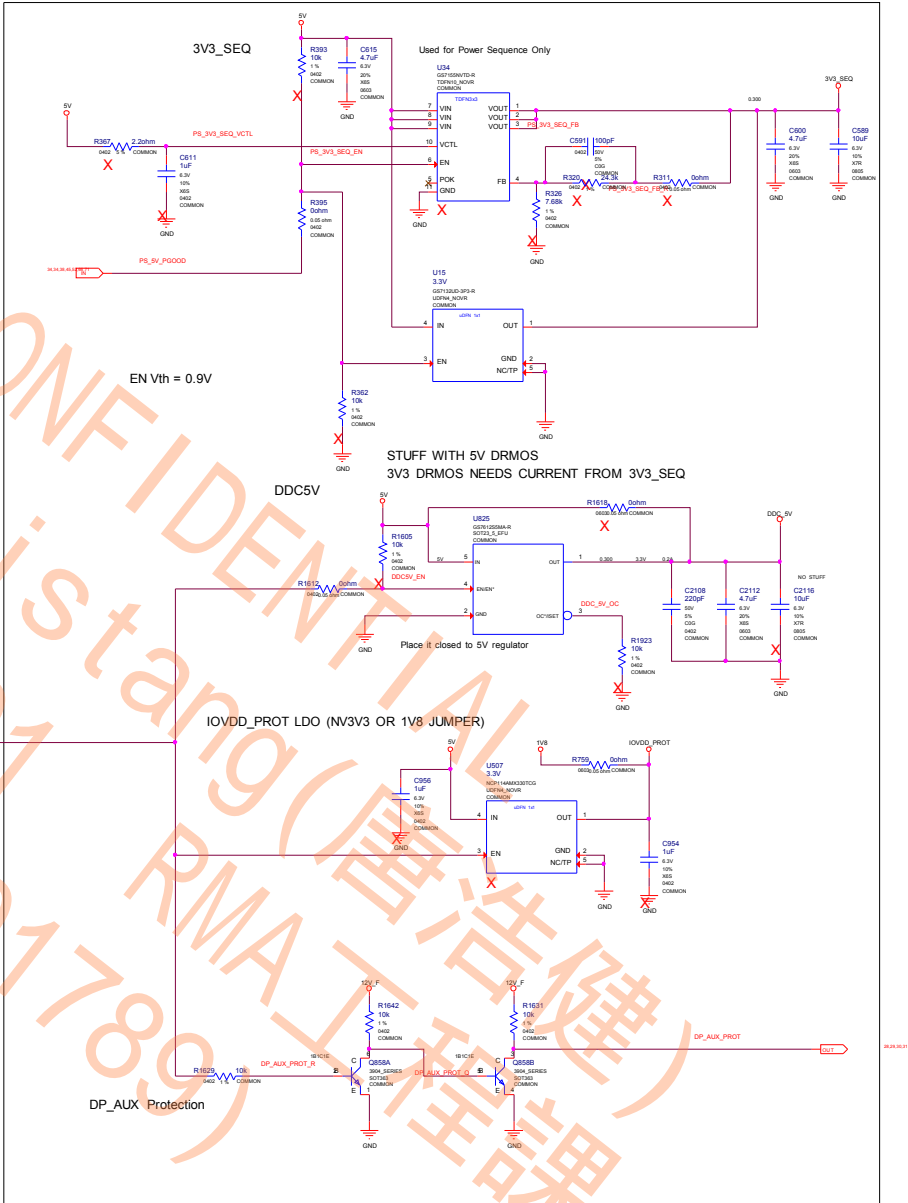
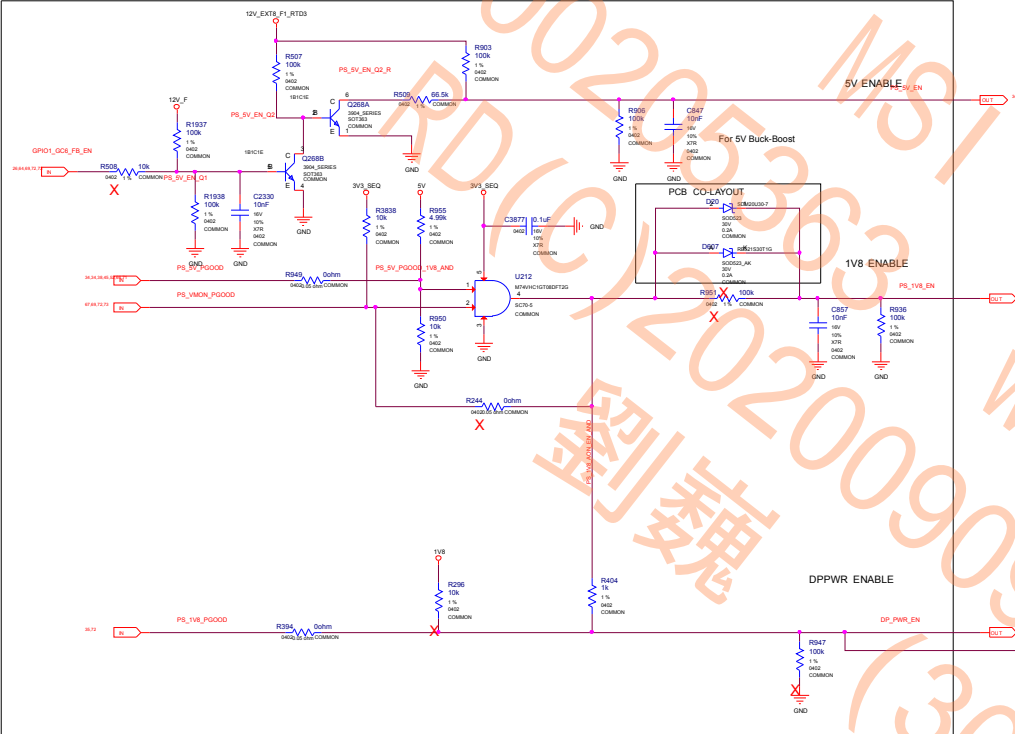
STUFF IF USING 2XMUX



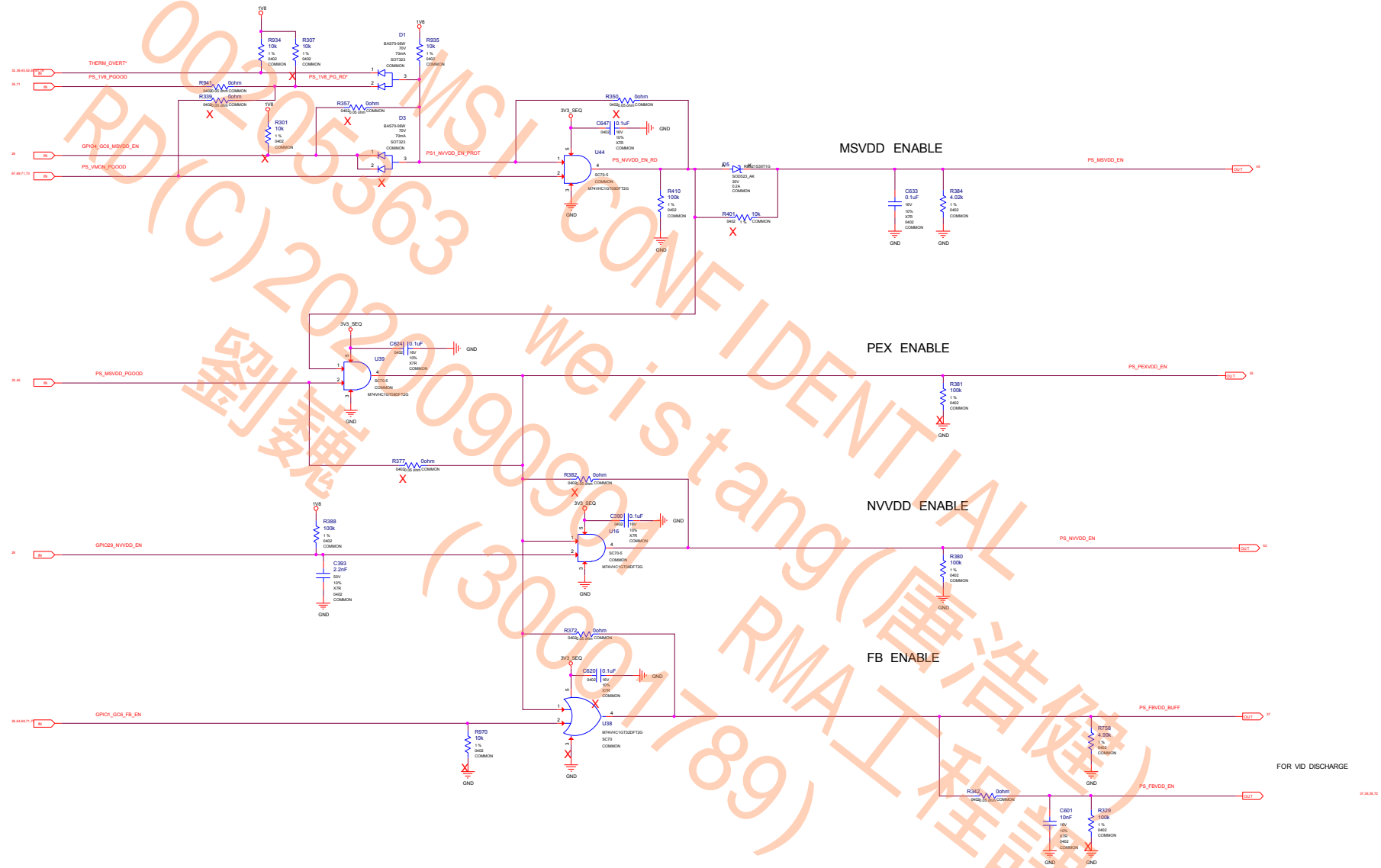
PS: Pre-Filter B



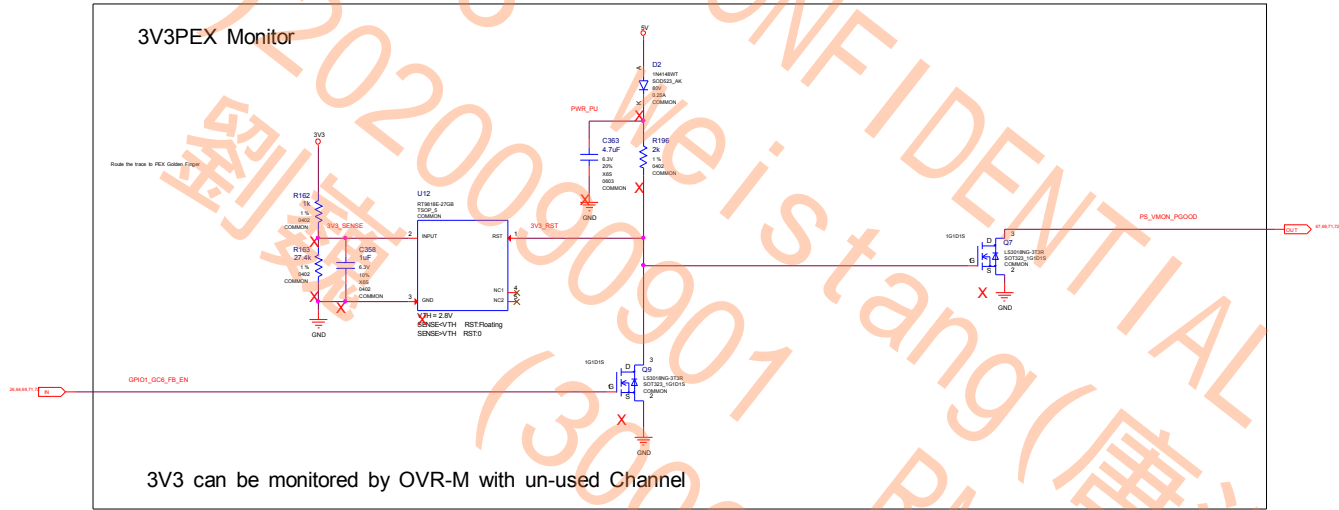
SEQUENCE:5V,1V8,3V3_SEQ ENABLE



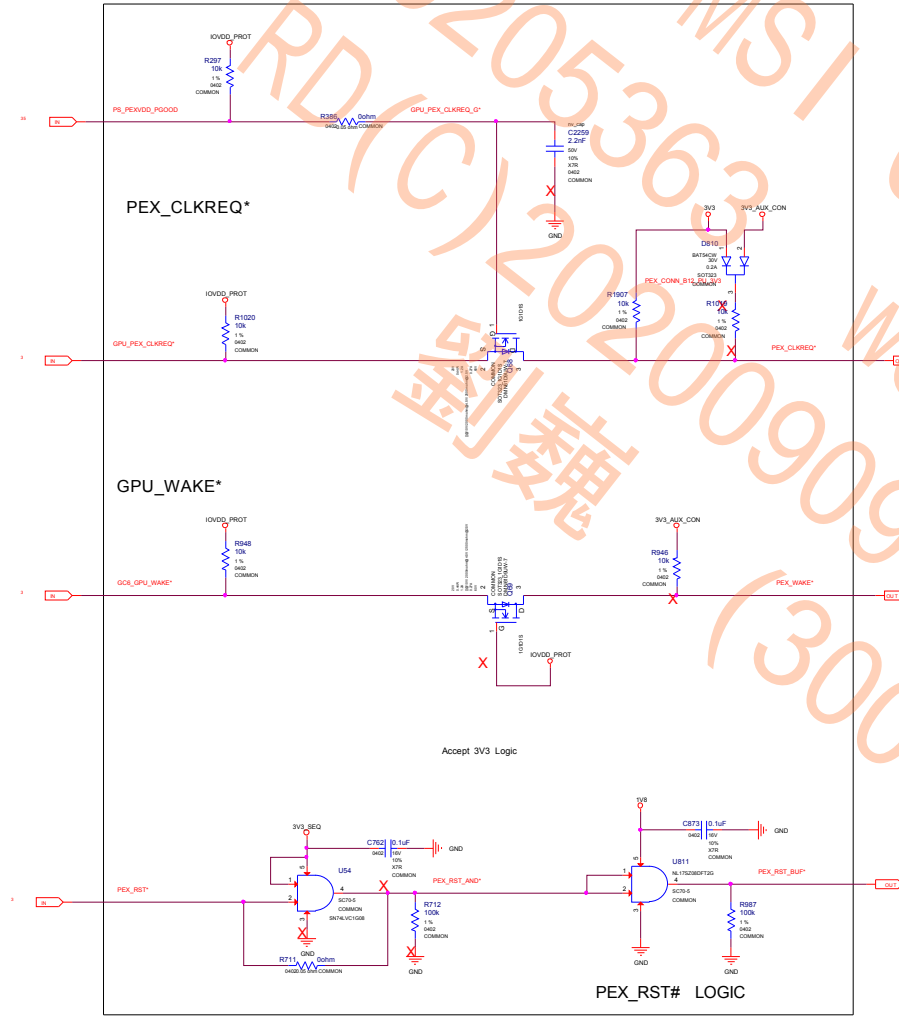
SEQUENCE:NV,PEX,FB ENABLE



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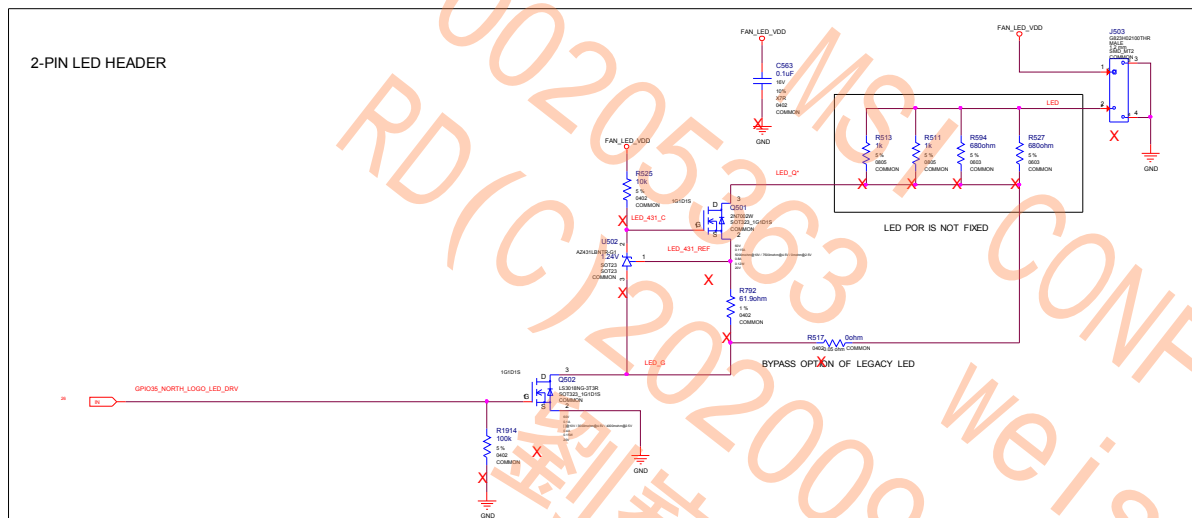


SEQUENCE:MISC

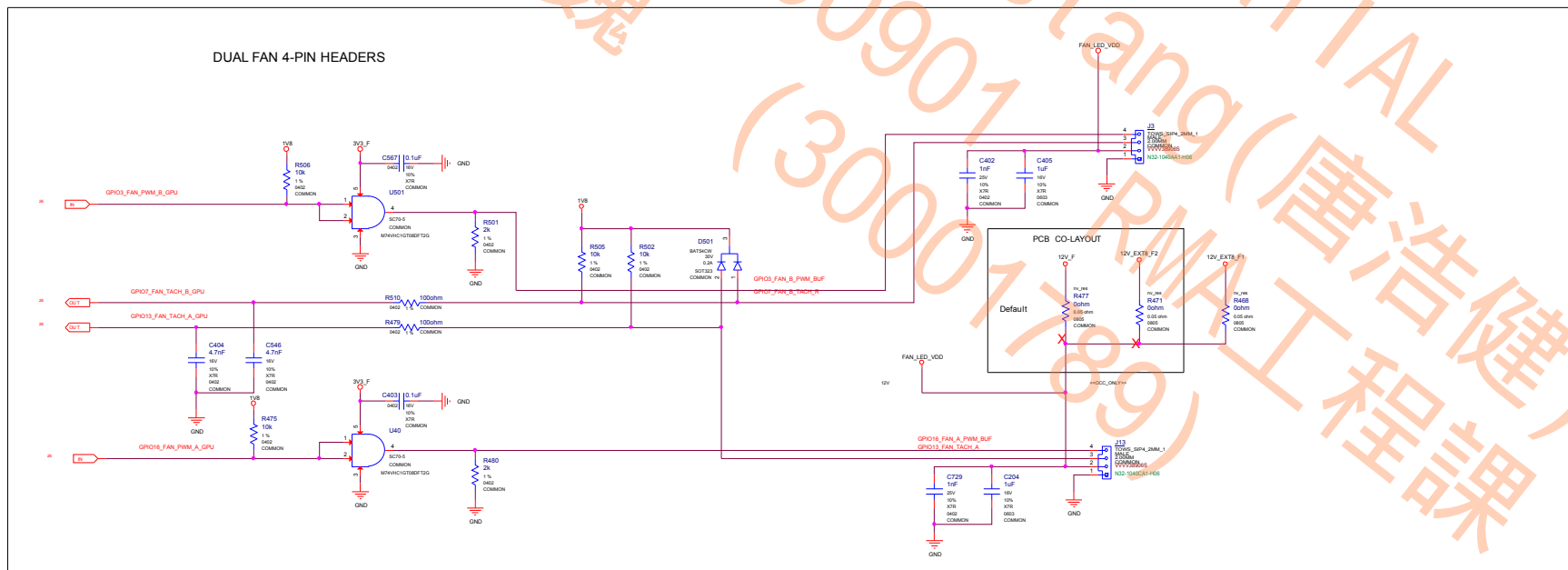


MISC: LED & FAN

2-PIN LED HEADER

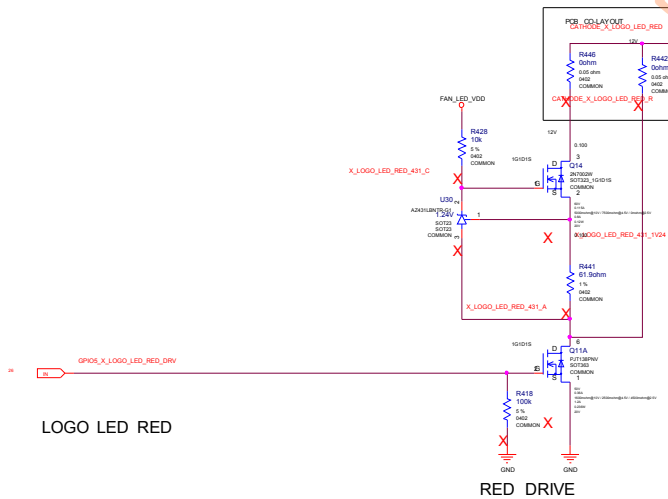
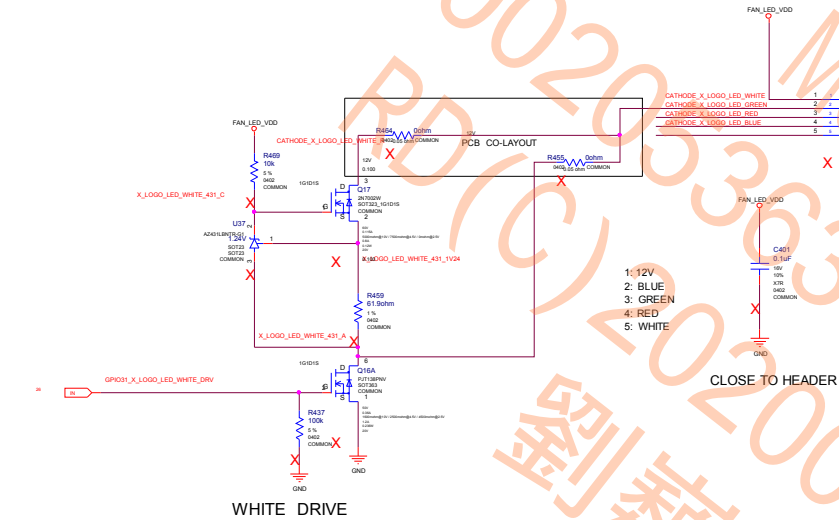


DUAL FAN 4-PIN HEADERS

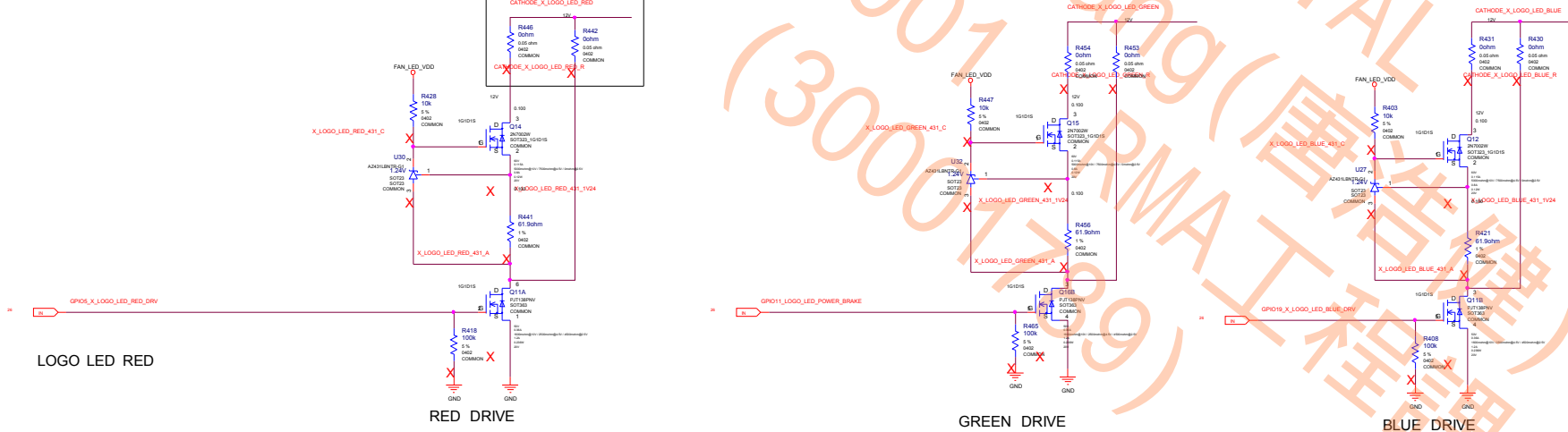
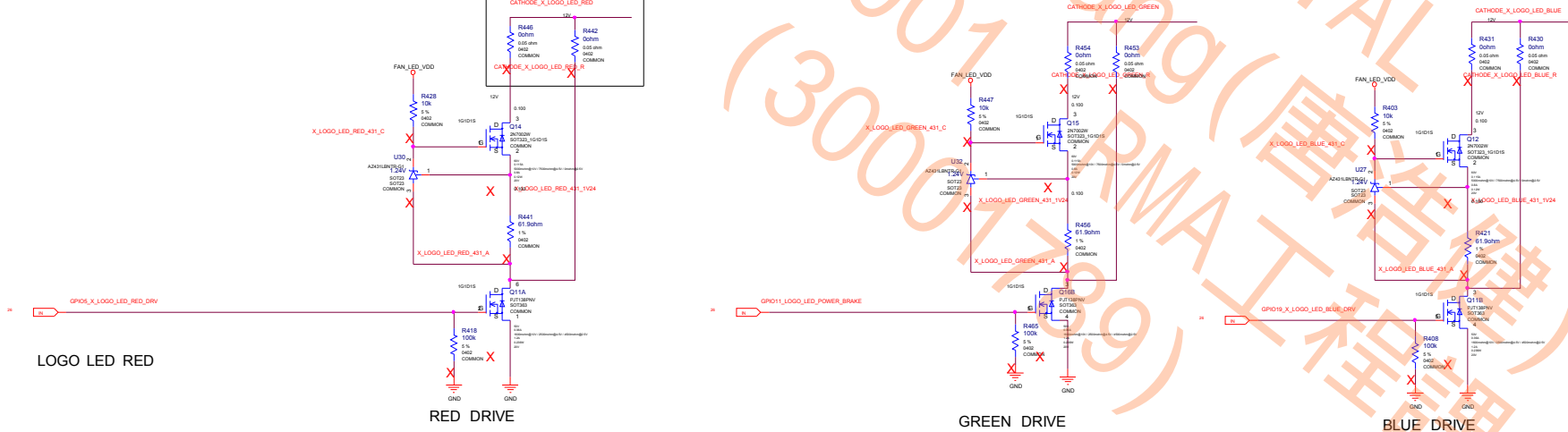


MISC: RGBW LED REF

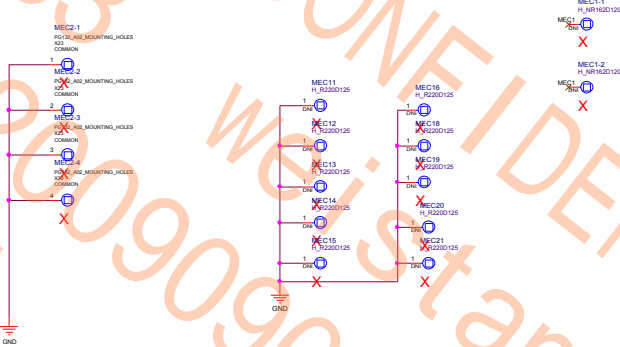
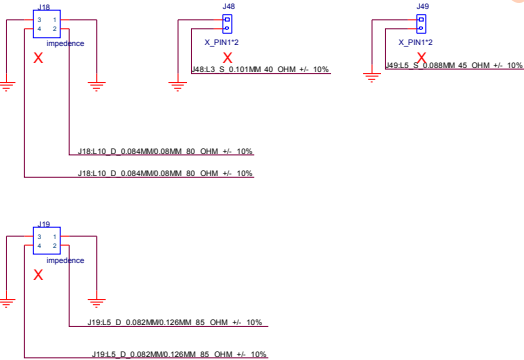
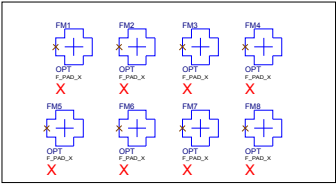
CONNECTOR SIZE TO FIT LAYOUT
ALL CIRCUIT NO STUFF BY DEFAULT
ALIGN WITH PASH
IF ADDITIONAL POWER CONSUMPTION R
NEEDED, IT SHOULD BE ON LED MOD.

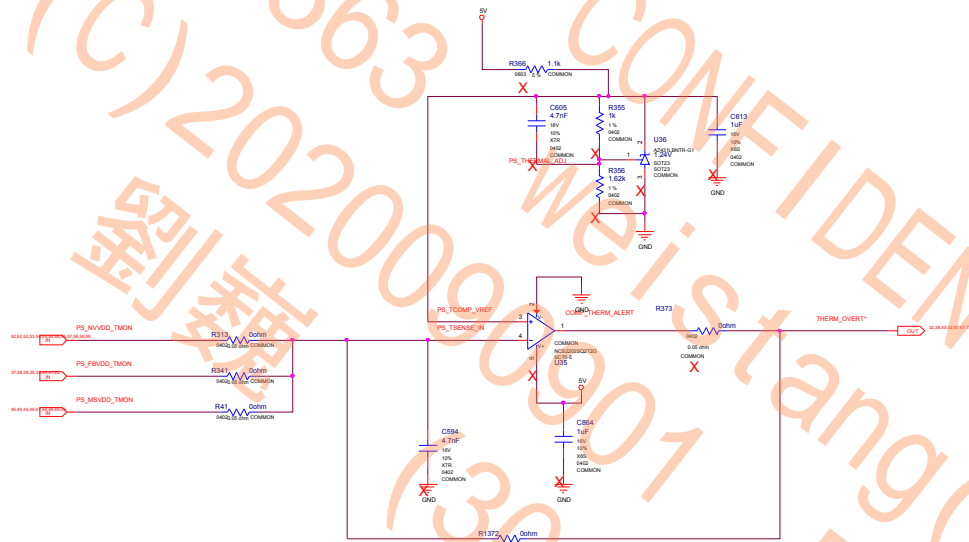


LOGO LED RED



Mechanical: Mounting holes



[illegible]

PCI TERM

