

PG174-A01

TU117, 128b GDDR5 x32, 75W
DVI-D DL/DUAL DP + HDMI

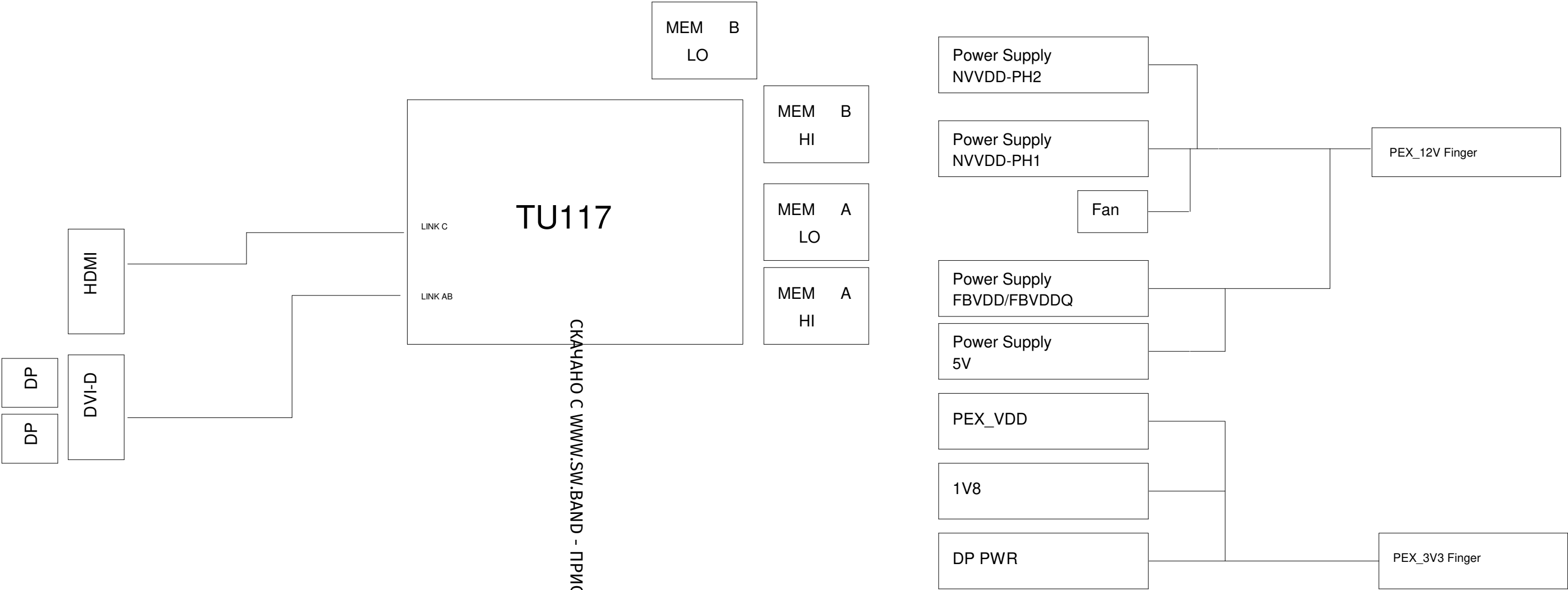
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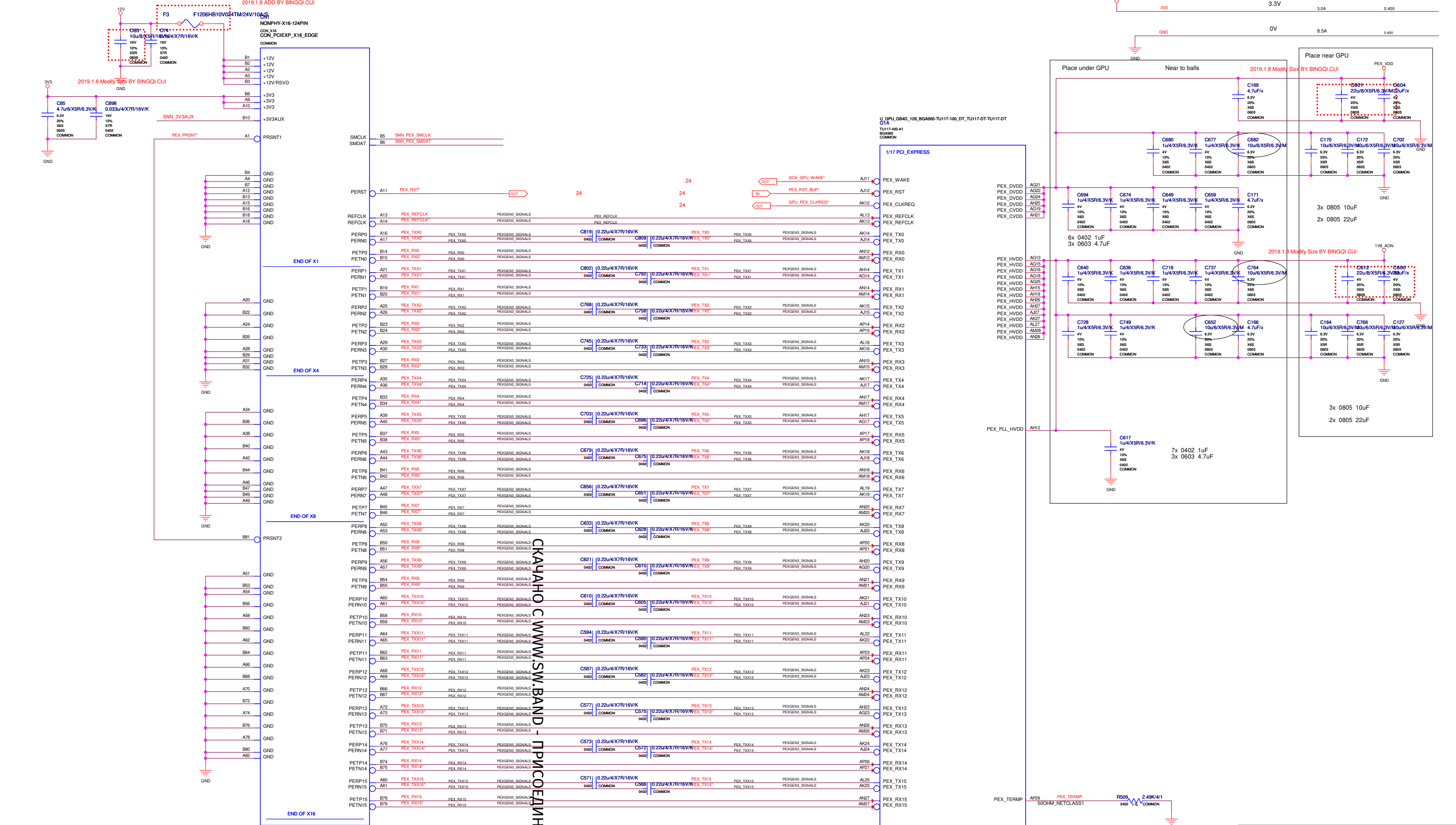
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СКАЧАНО С WWW.SW.BAND - ПРИСОЕДИНЯЙСЯ

Block Diagram



PCI Express

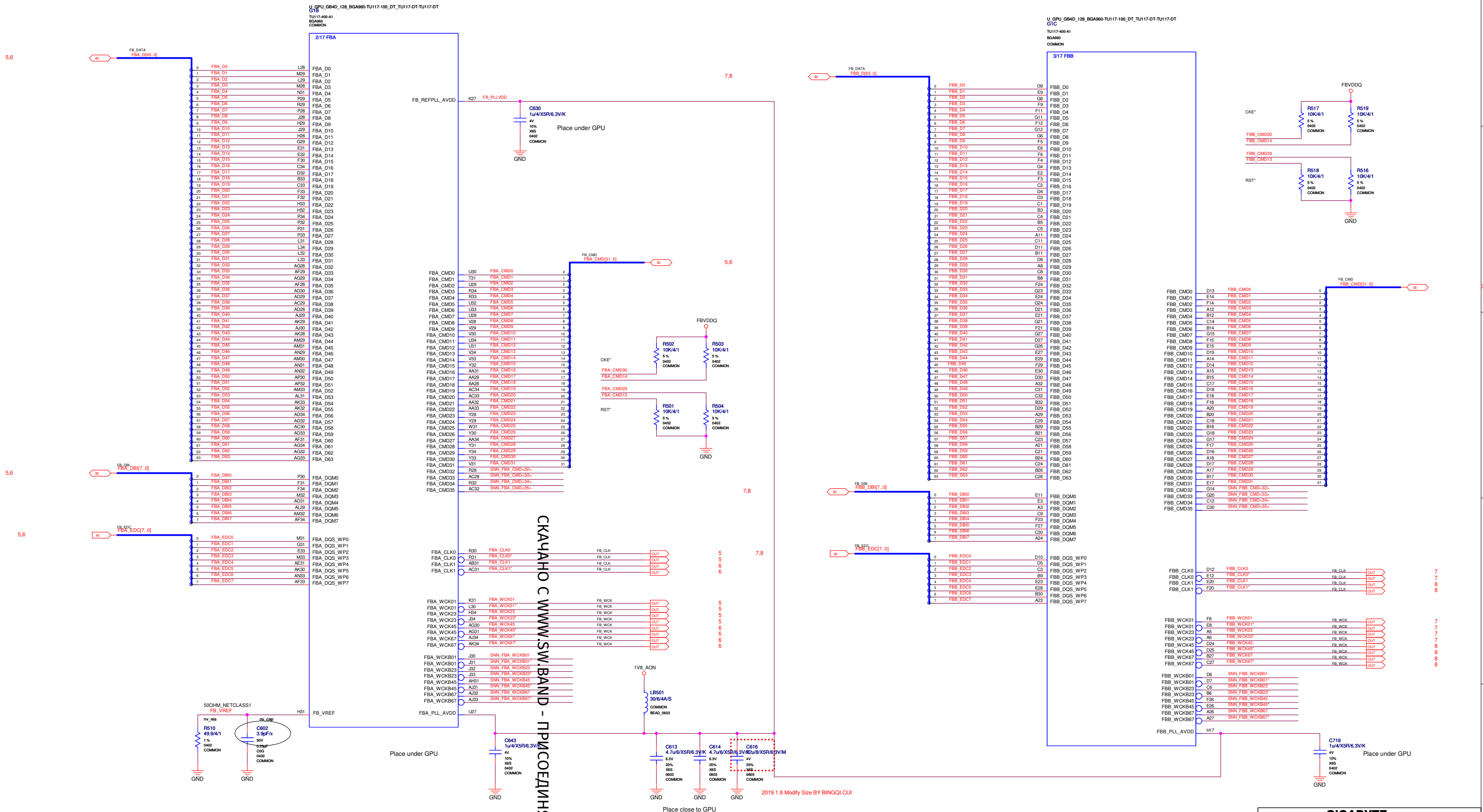


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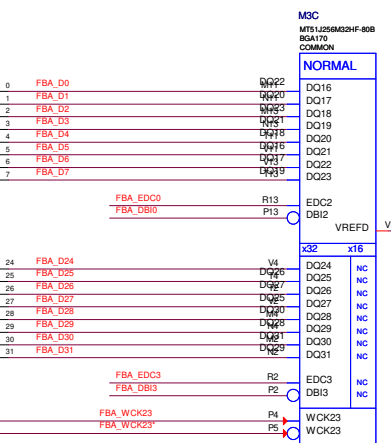
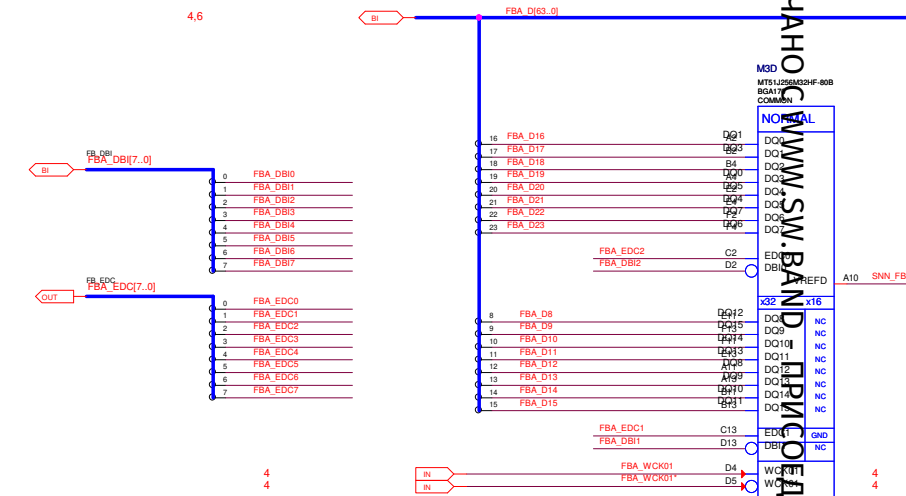
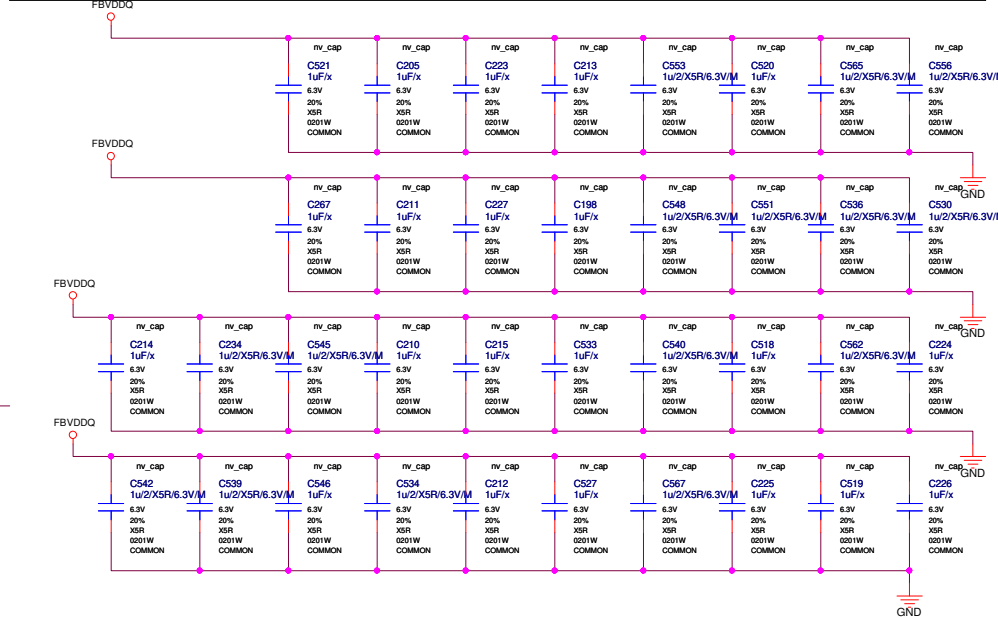
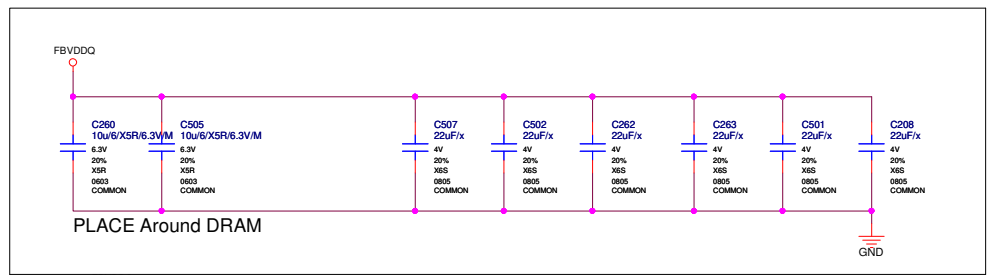
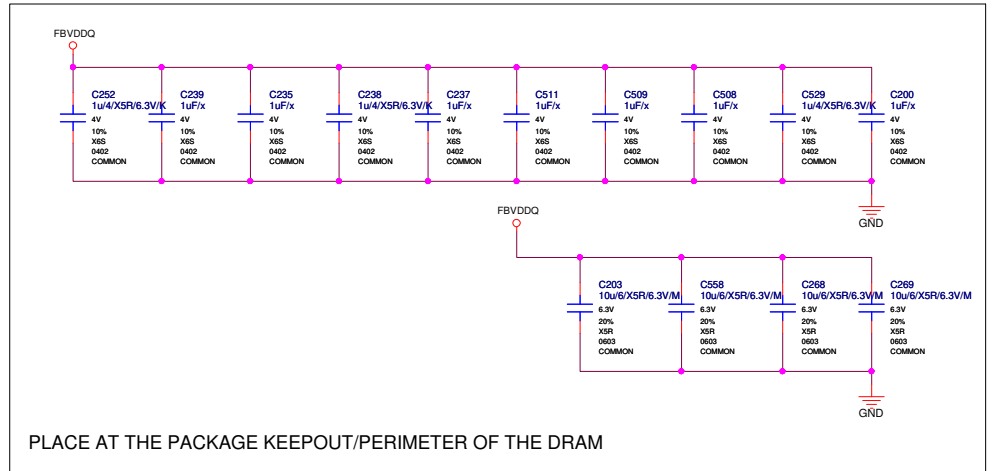
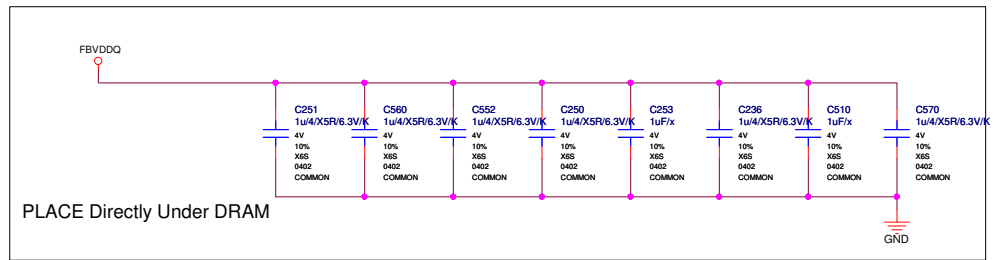
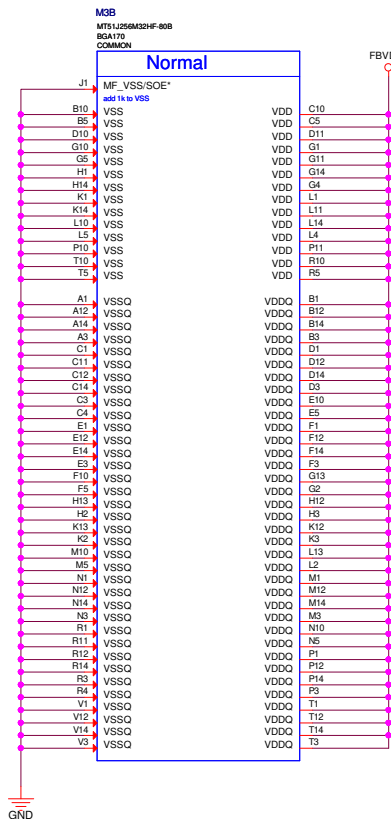
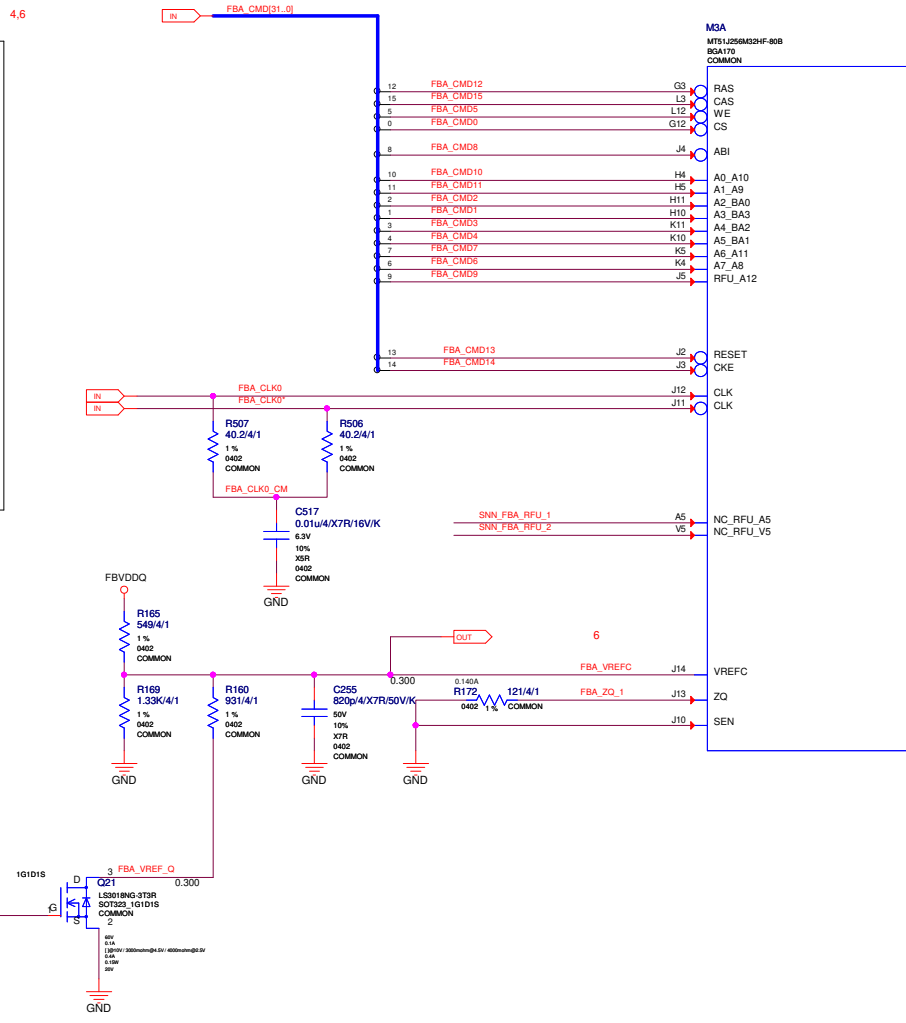
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MEMORY: GPU Partition A/B



MEMORY: FBA Partition 31..0

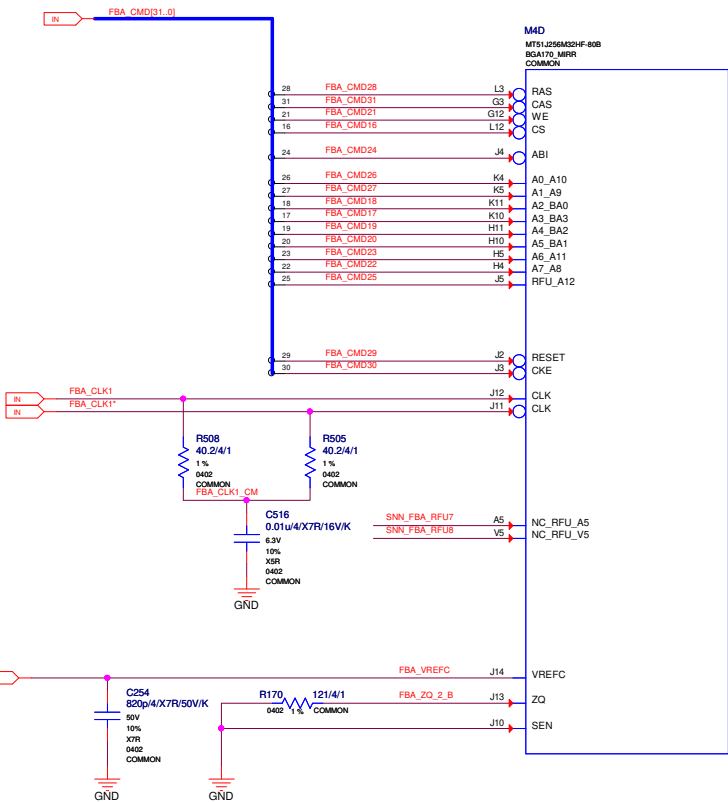
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CMD0	CS*	
CMD1	A3, BA3	
CMD2	A2, BA0	
CMD3	A4, BA2	
CMD4	A5, BA1	
CMD5	WE*	
CMD6	A7, A8	
CMD7	A6, A11	
CMD8	AB*	
CMD9	A12, RFU	
CMD10	A0, A10	
CMD11	A1, A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3, BA3
CMD18		A2, BA0
CMD19		A4, BA2
CMD20		A5, BA1
CMD21		WE*
CMD22		A7, A8
CMD23		A6, A11
CMD24		AB*
CMD25		A12, RFU
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CMD27		A1, A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



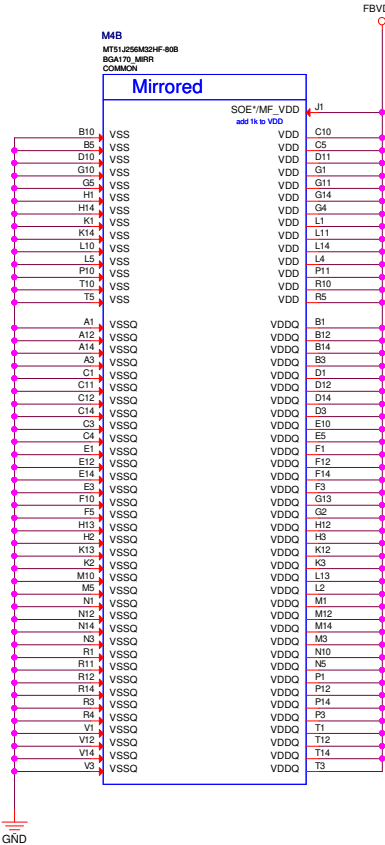
MEMORY: FBA Partition 63..32

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CMD0	CS*	
CMD1	A3_BA3	
CMD2	A2_BA0	
CMD3	A4_BA2	
CMD4	A5_BA1	
CMD5	WE*	
CMD6	A7_A8	
CMD7	A6_A11	
CMD8	AB1*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
CMD12	RAS*	
CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
CMD16		CS*
CMD17		A3_BA3
CMD18		A2_BA0
CMD19		A4_BA2
CMD20		A5_BA1
CMD21		WE*
CMD22		A7_A8
CMD23		A6_A11
CMD24		AB1*
CMD25		A12_RFU
CMD26		A0_A10
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CMD30		CKE*
CMD31		CAS*

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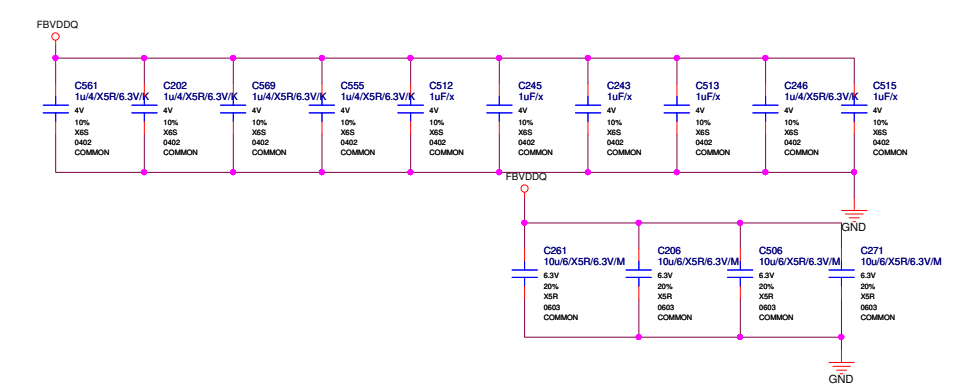


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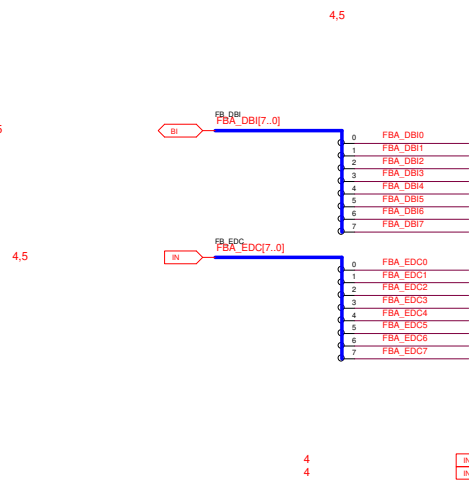
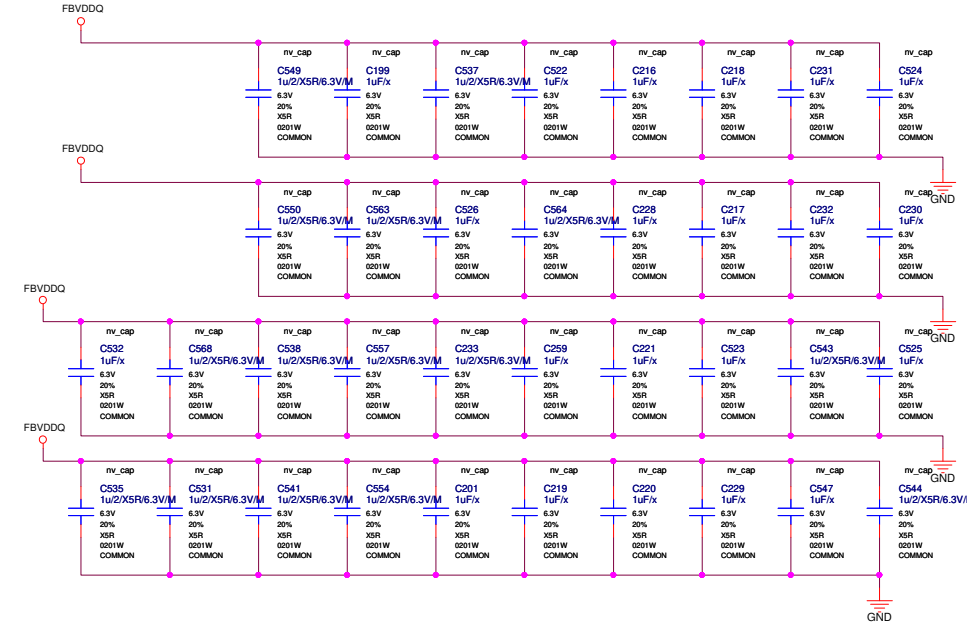
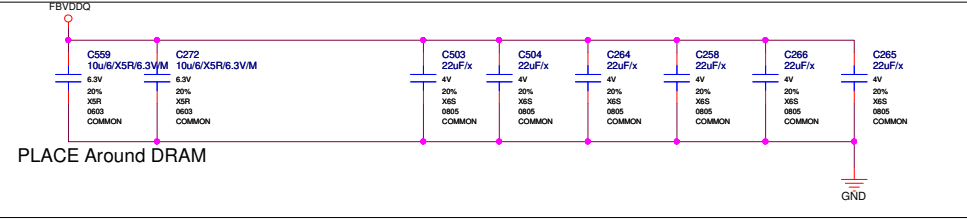


FBVDDQ

PLACE Directly Under DRAM



PLACE AT THE PACKAGE KEEPOUT/PERIMETER OF THE DRAM

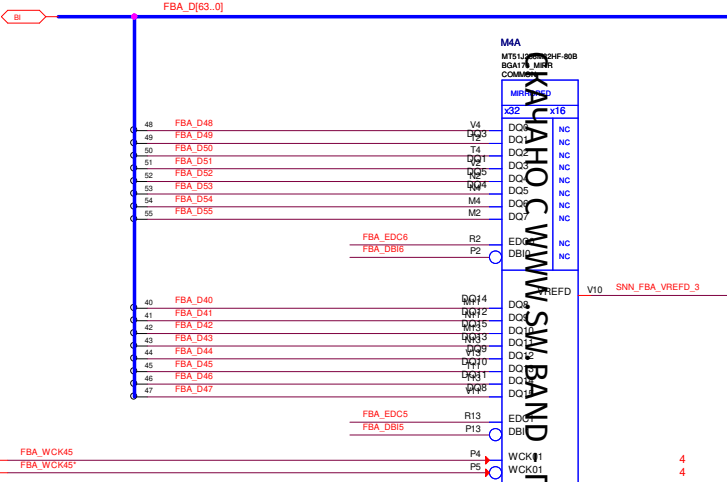


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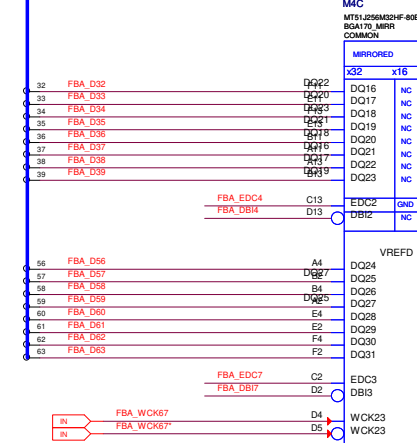
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4,5

4
4



4
4



VREFD

A10 SNV_FBA_VREFD_4

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PG174

Size Custom

Document Number

Rev 1.0

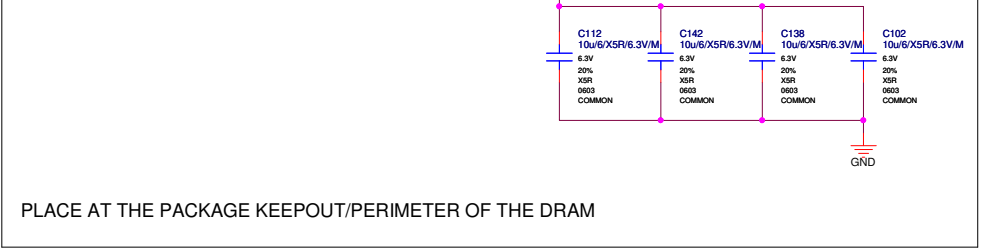
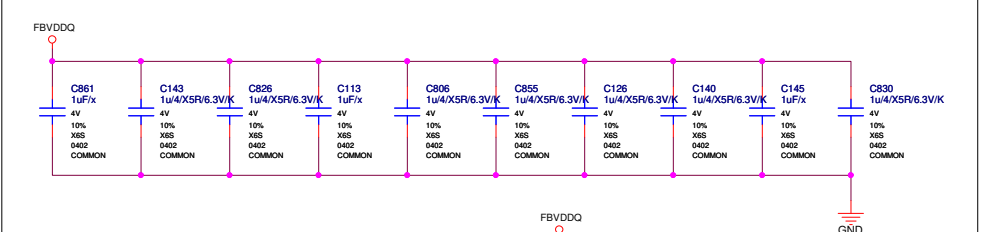
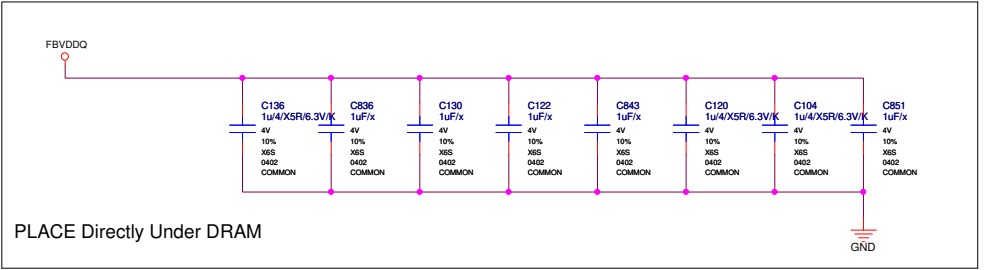
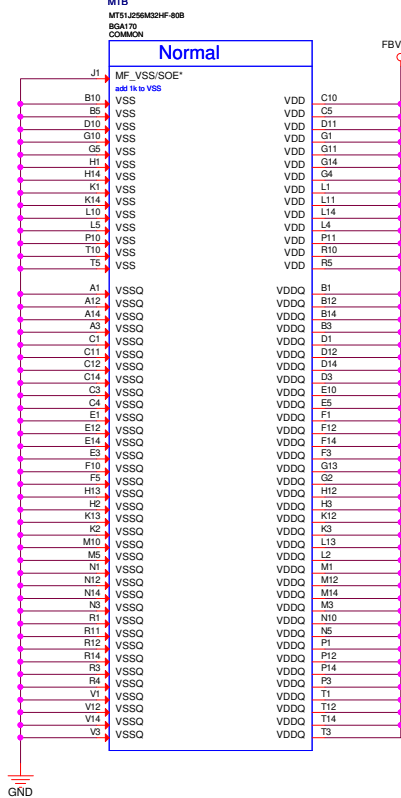
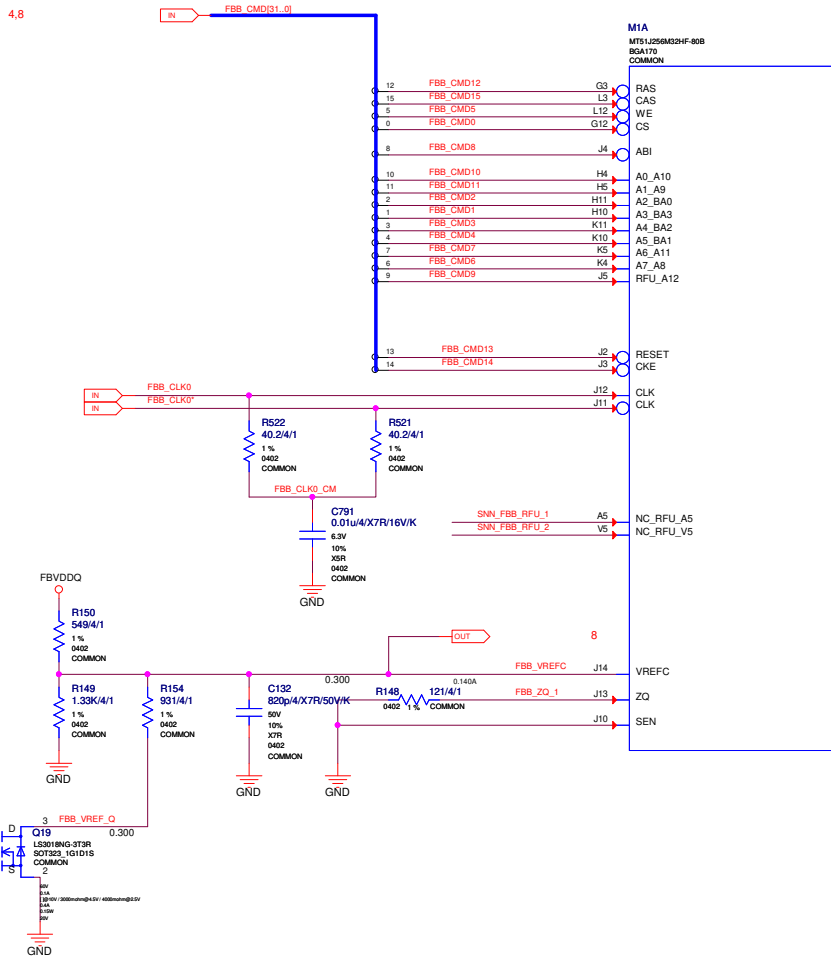
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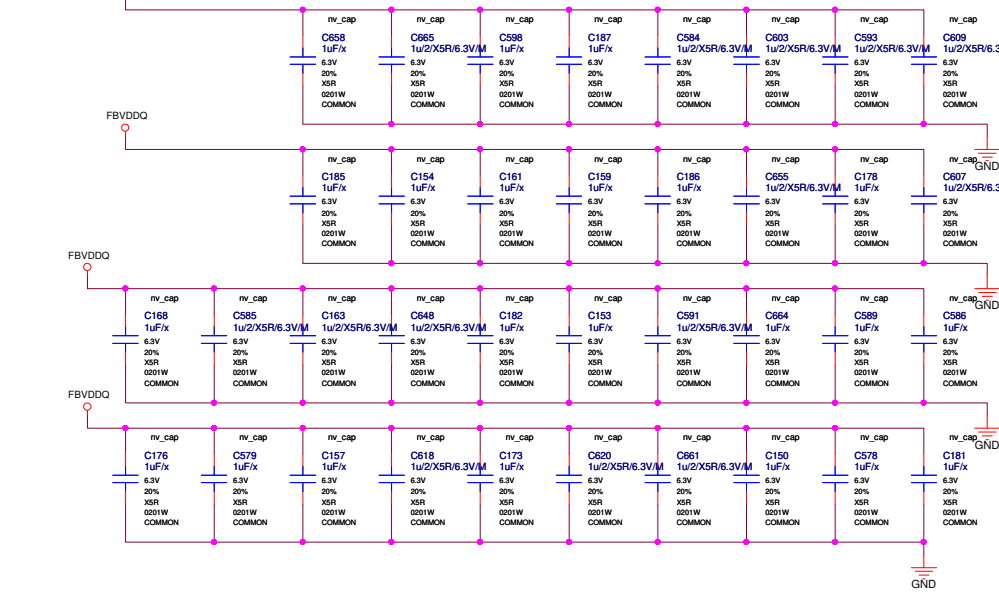
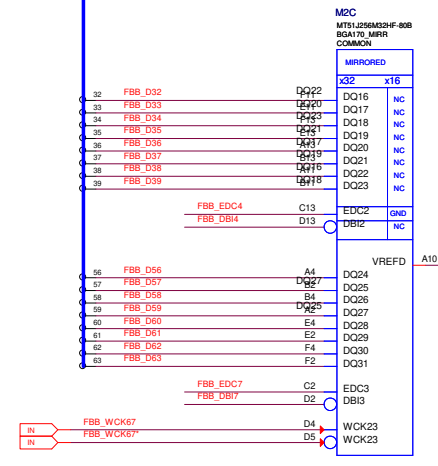
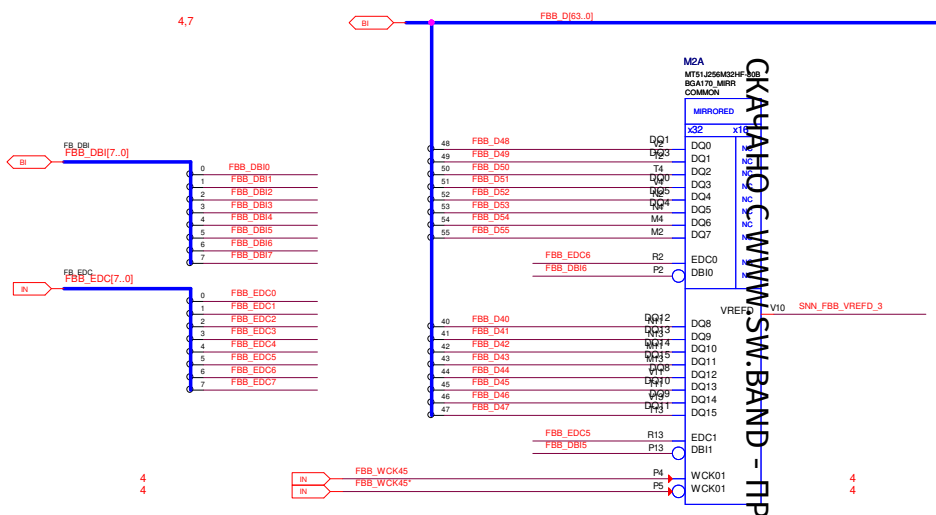
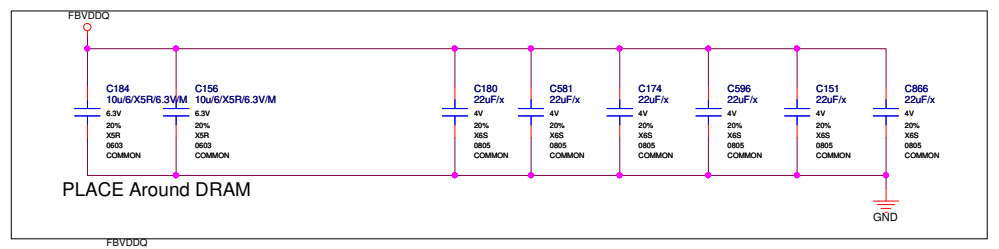
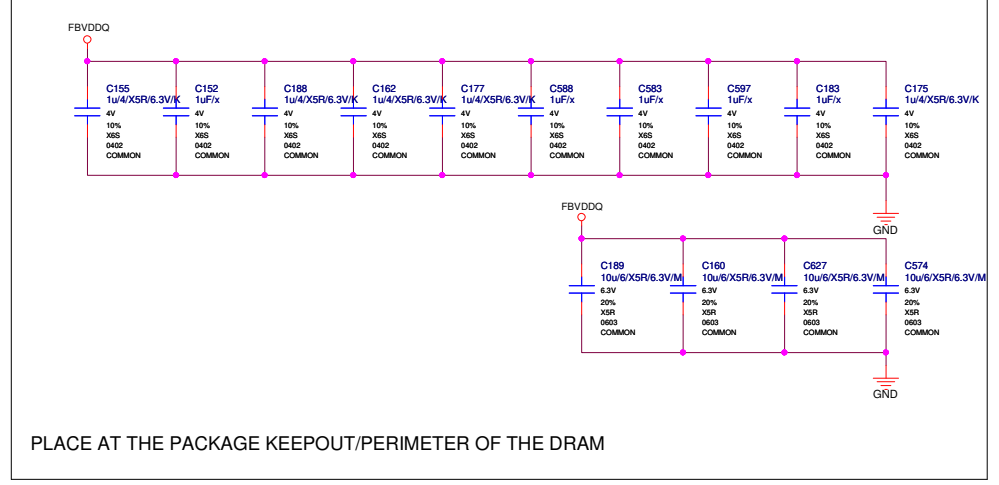
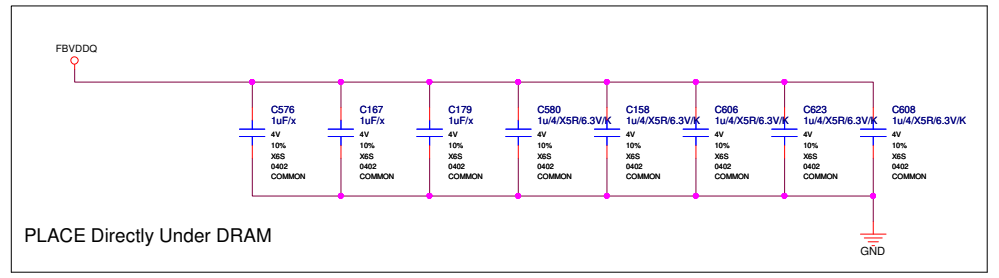
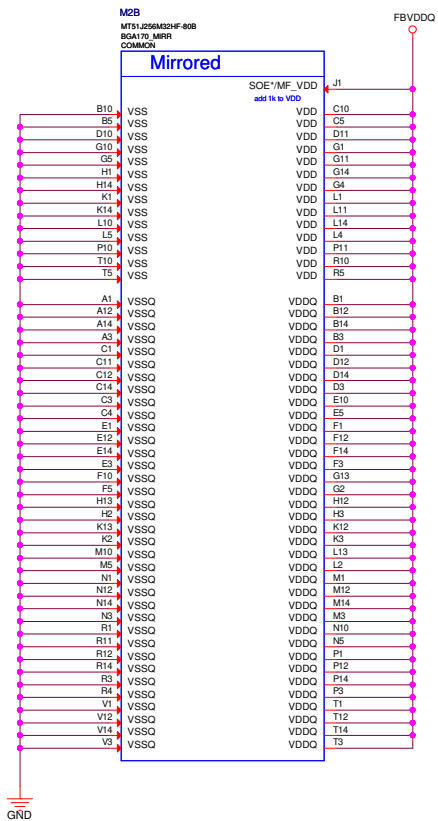
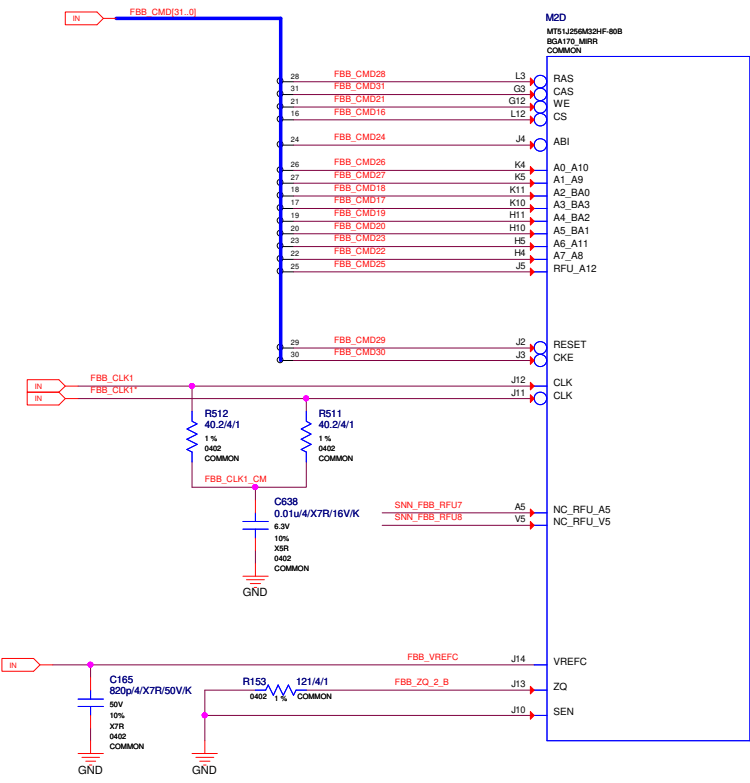
MEMORY: FBB Partition 31..0

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CMD7	A6_A11	
CMD8	AB1*	
CMD9	A12_RFU	
CMD10	A0_A10	
CMD11	A1_A9	
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CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
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CMD20		A5_BA1
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CMD22		A7_A8
CMD23		A6_A11
CMD24		AB1*
CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RAS*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*

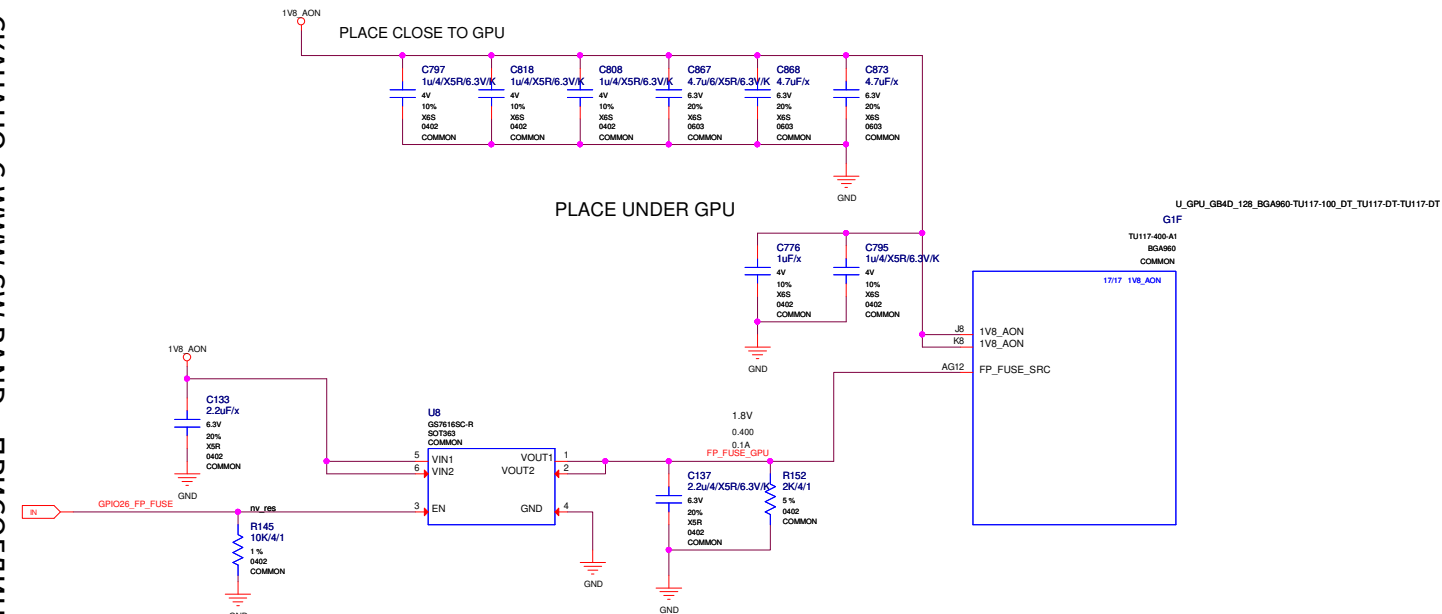
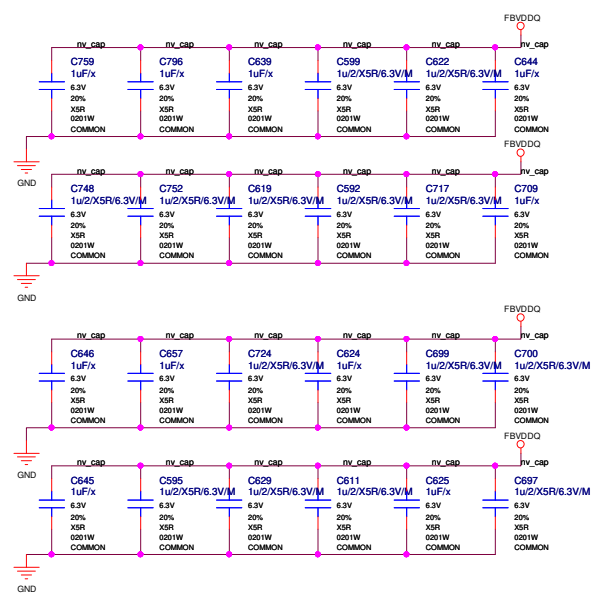
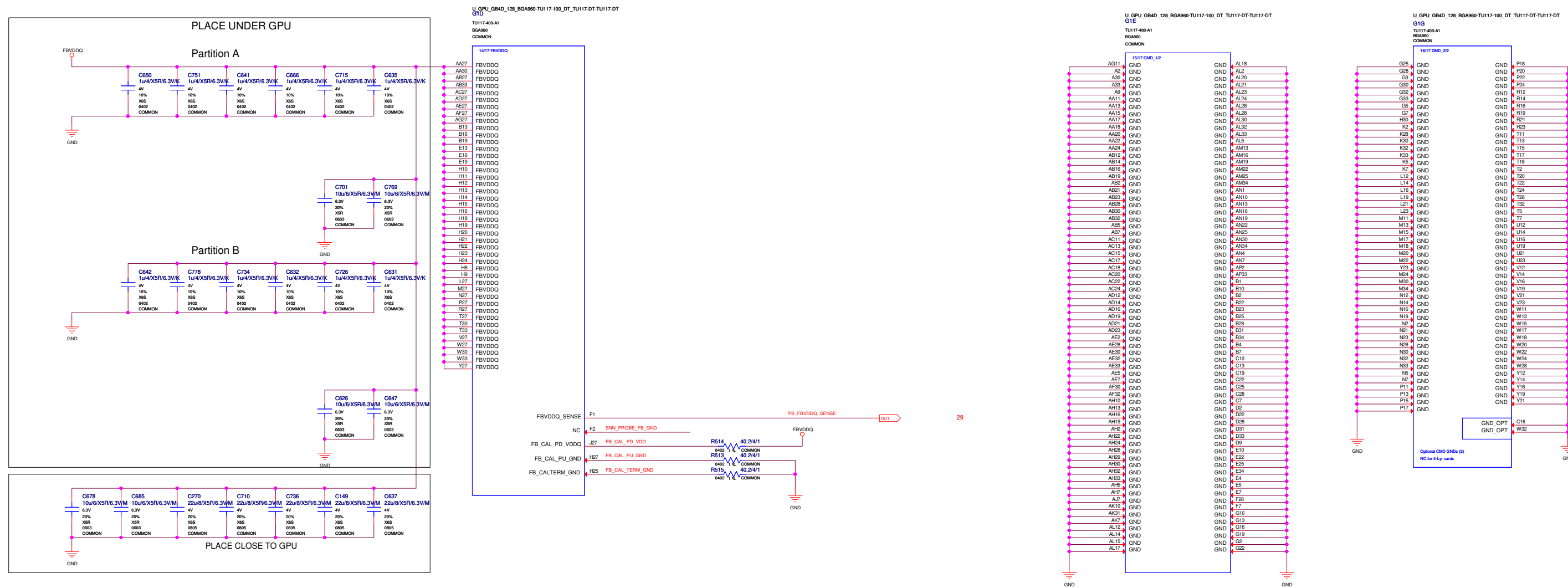


MEMORY: FBB Partition 63..32

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CMD13	RST*	
CMD14	CKE*	
CMD15	CAS*	
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CMD17		A3_BA3
CMD18		A2_BA0
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CMD21		WE*
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CMD25		A12_RFU
CMD26		A0_A10
CMD27		A1_A9
CMD28		RA5*
CMD29		RST*
CMD30		CKE*
CMD31		CAS*



GPU FBVDDQ & 1V8 Decoupling



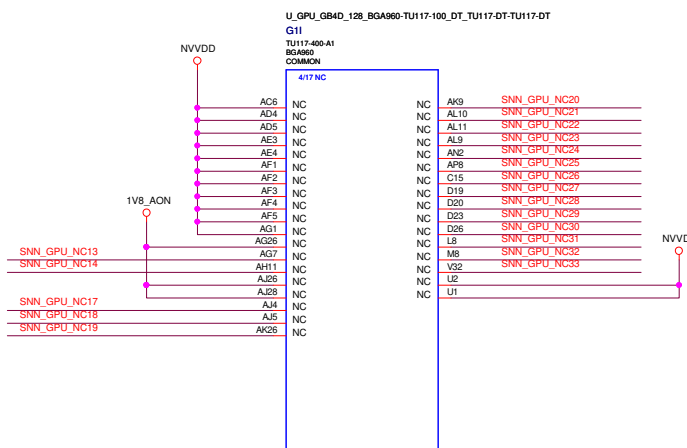
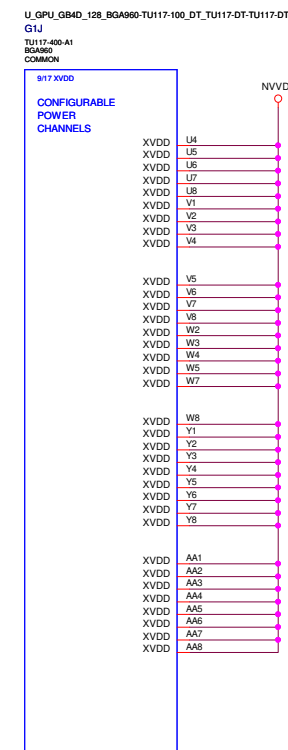
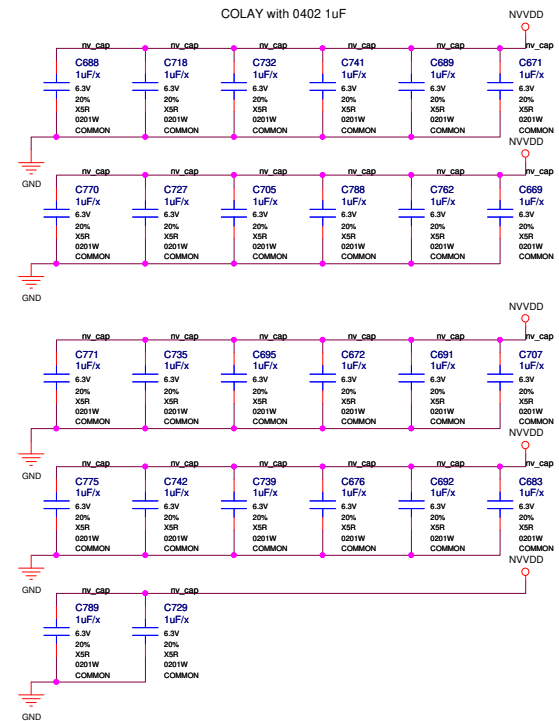
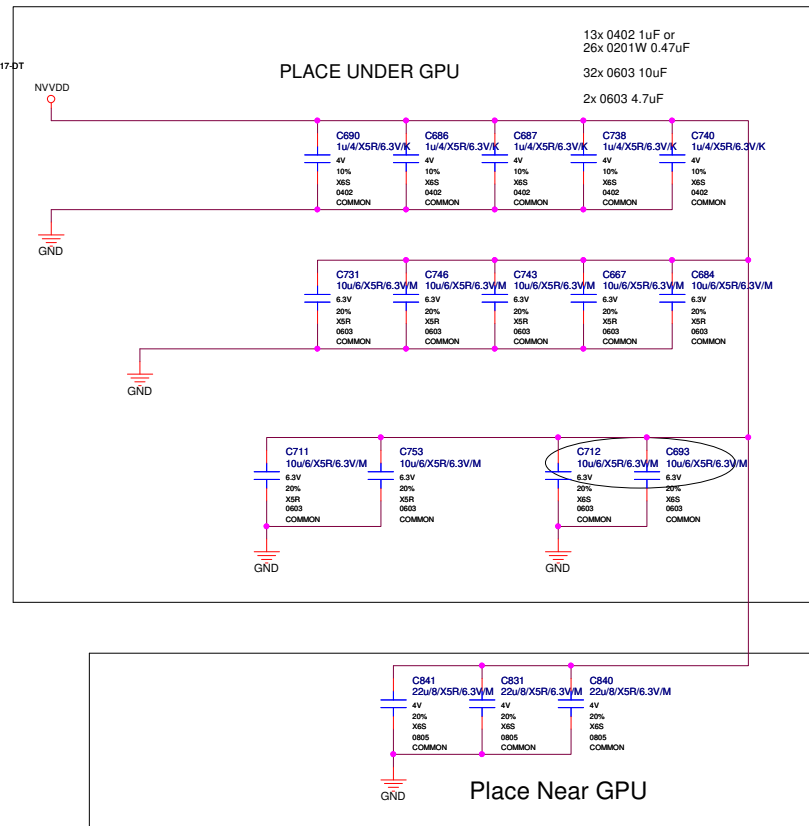
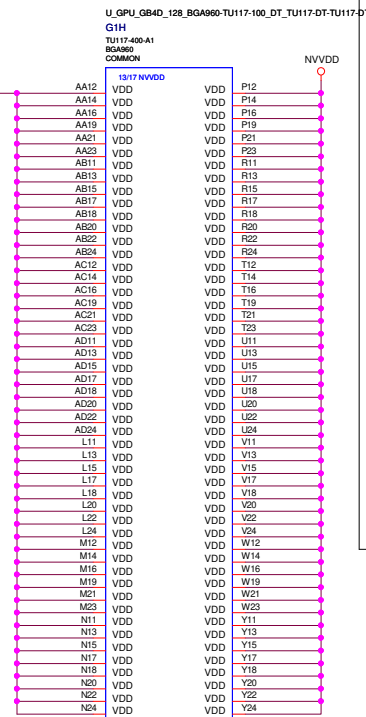
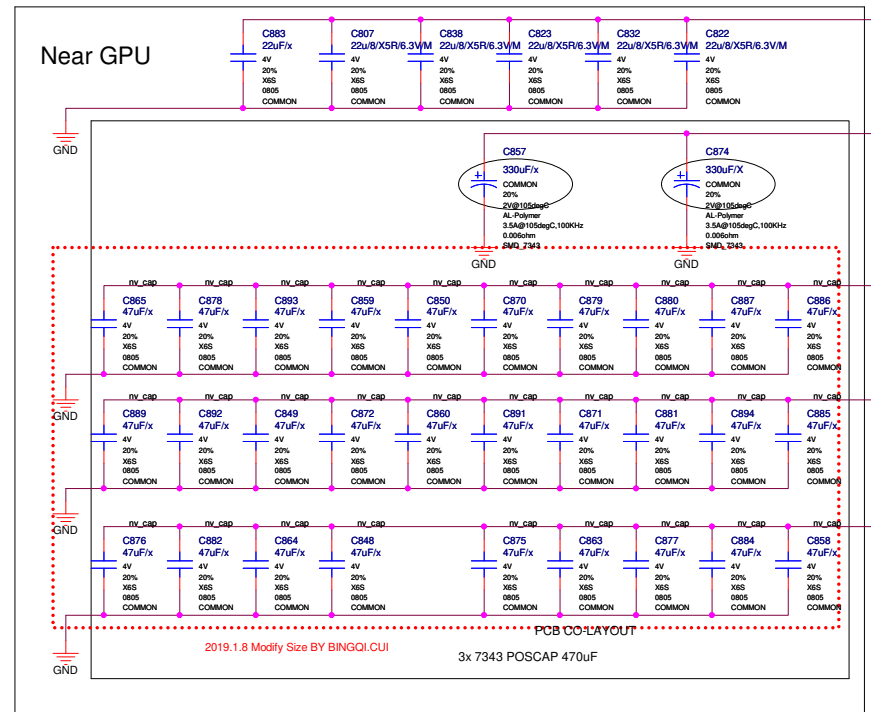
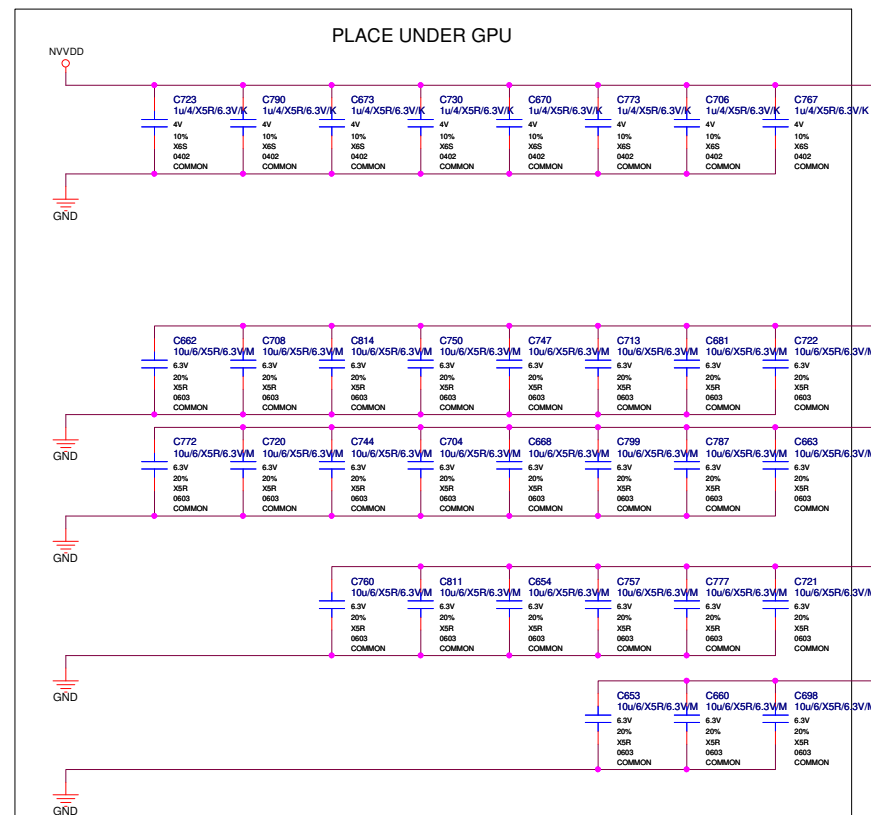
СКАЧАНО С WWW.SW.BAND - ПРИСОЕДИНЯЙСЯ

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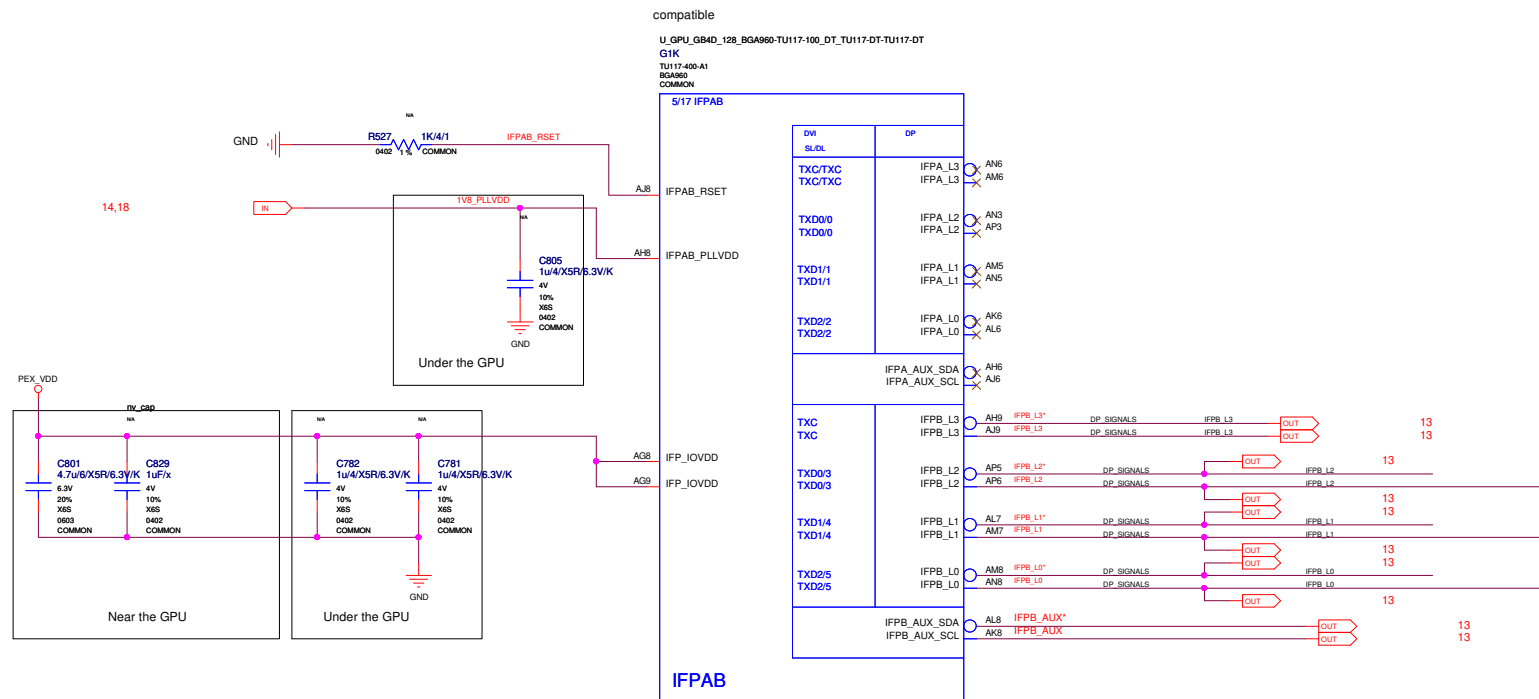
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GPU NVVDD Decoupling



IFPAB DVI-D-DL CO-LAYOUT WITH 2x DP



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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPAB DVI-DL

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IFPA DP CO-LAYOUT WITH IFPAB DVI-D-DL

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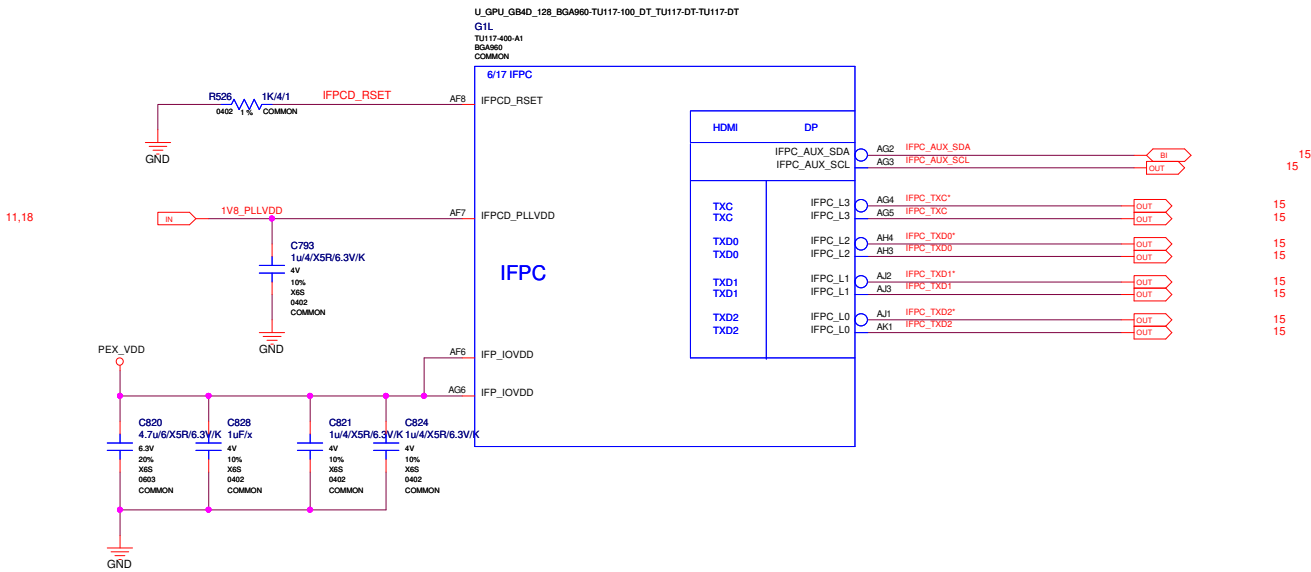
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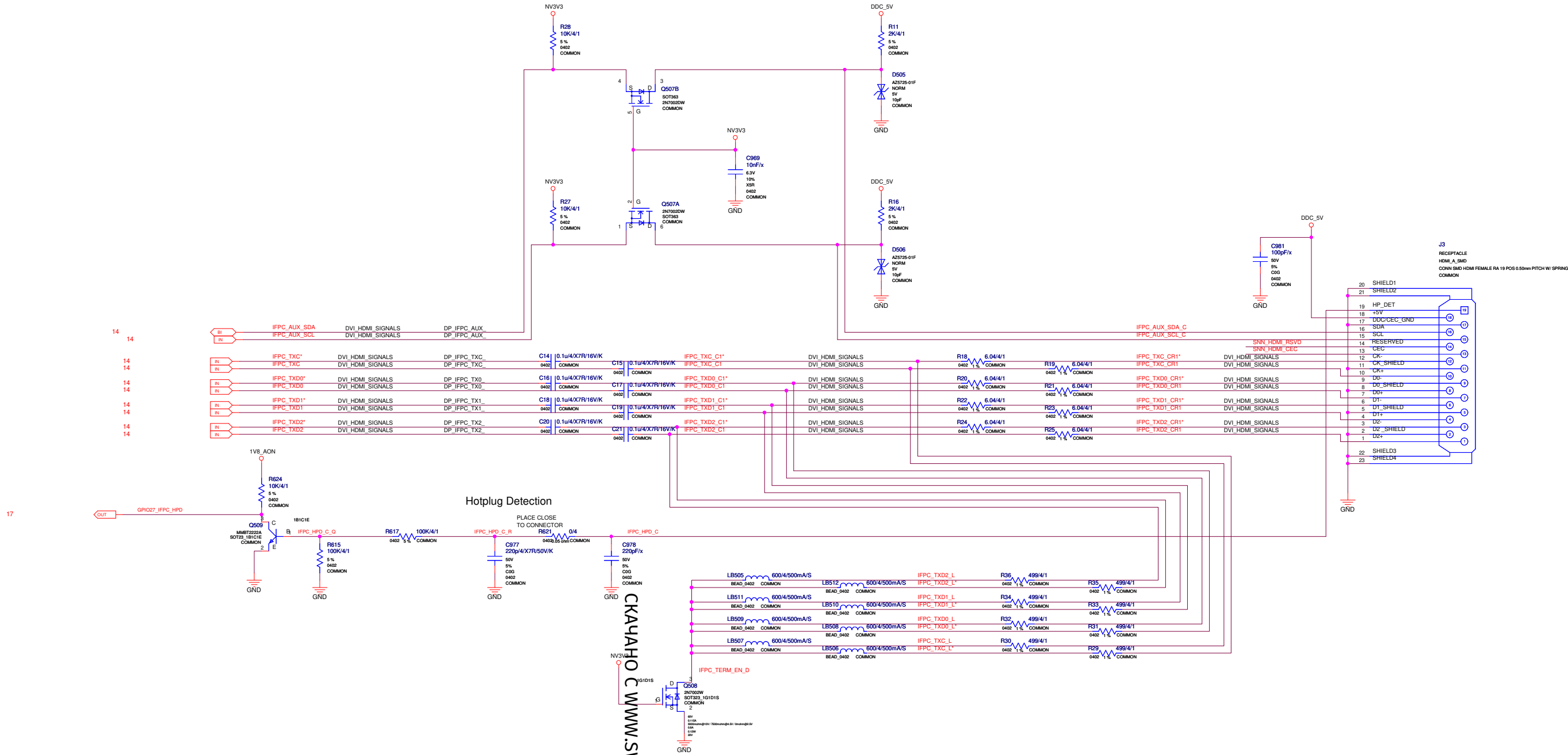


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IFPC HDMI

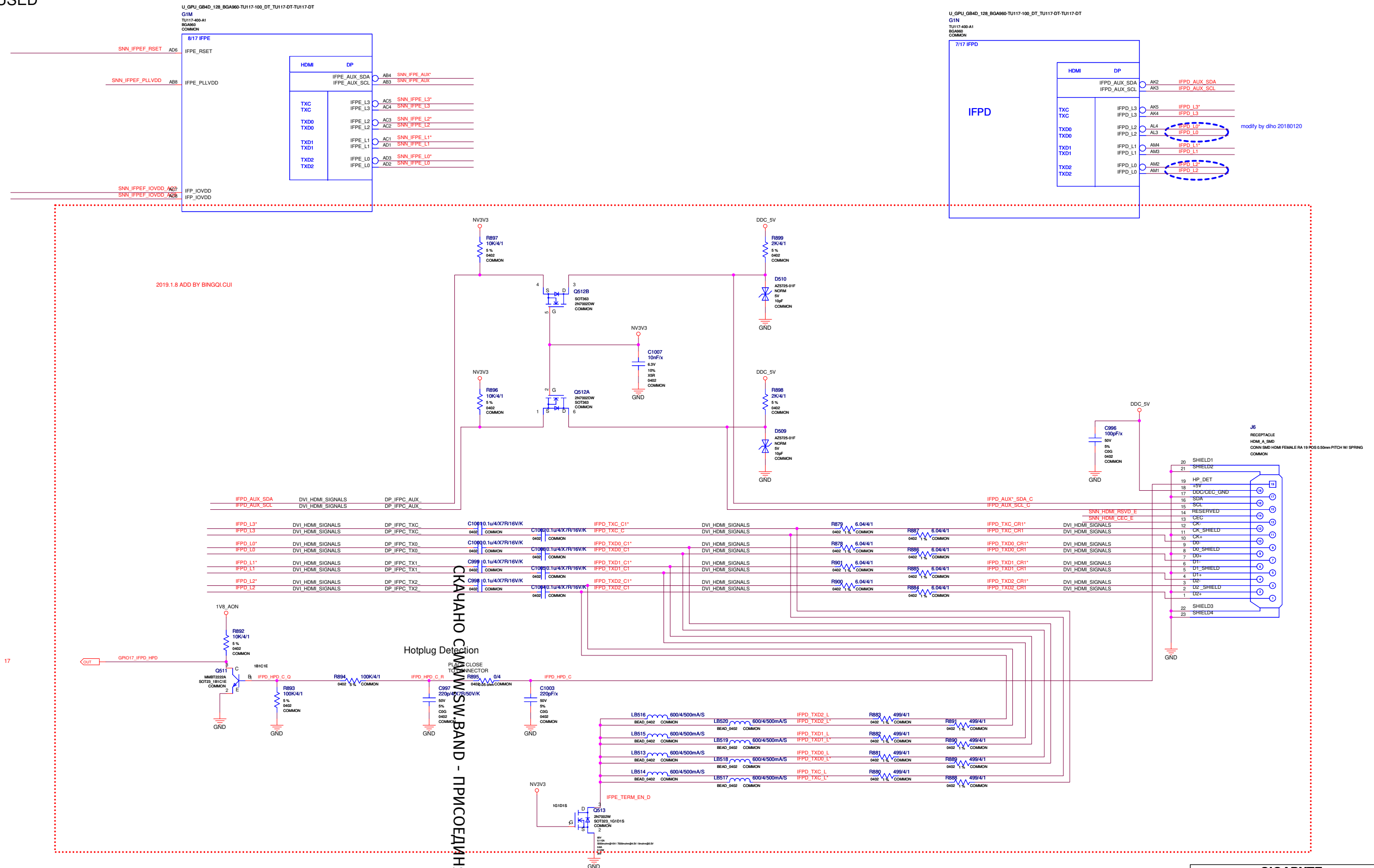


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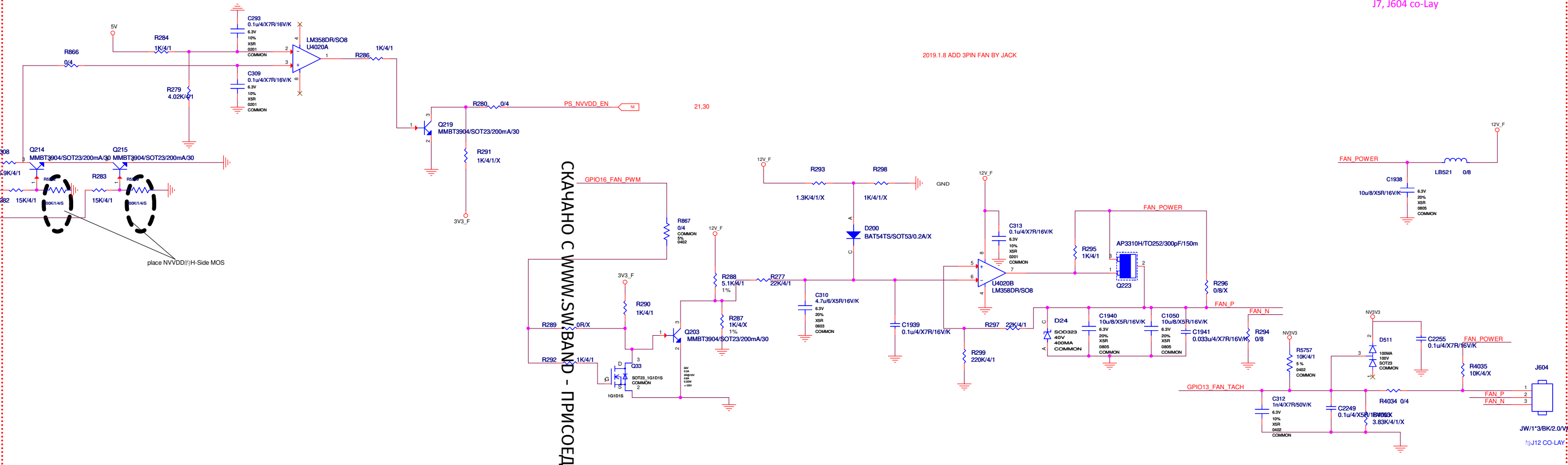
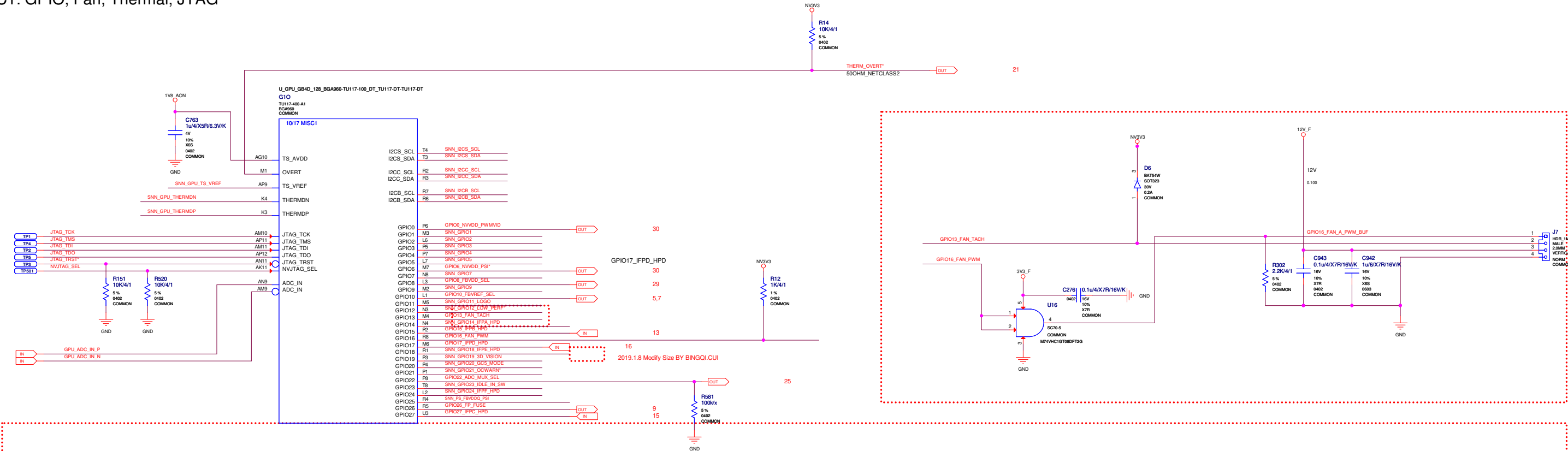
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IFPDEF UNUSED

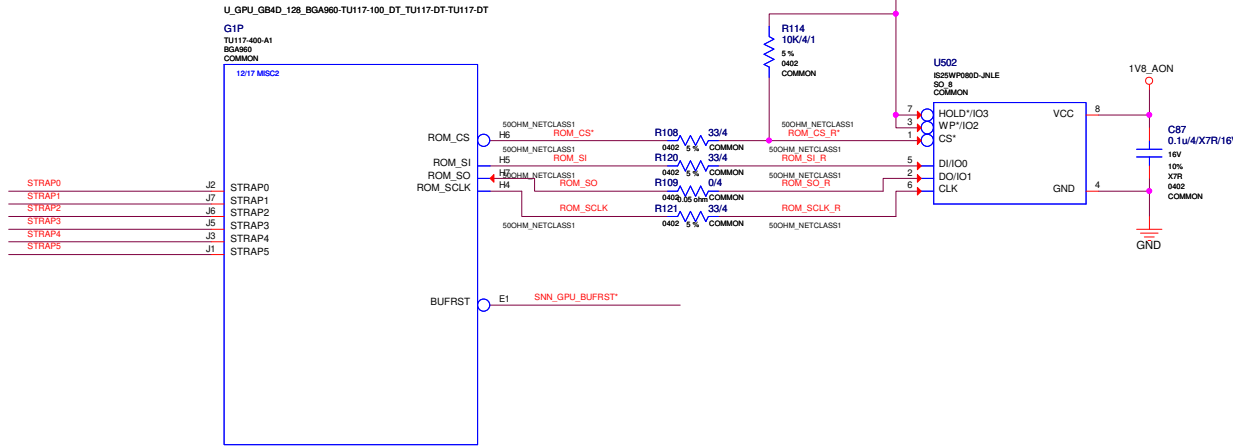
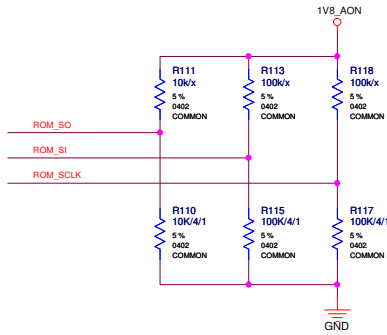


MISC1: GPIO, Fan, Thermal, JTAG



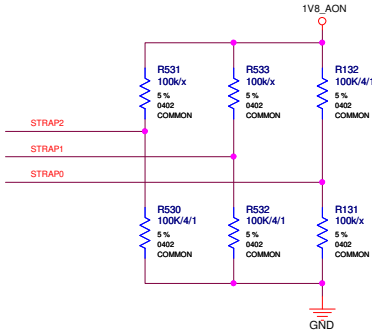
MISC2: ROM, XTAL, Straps

ROM_SO	ROM_SI	ROM_SCLK	DUMMY[2:0],FS_OVERT	1:ENABLE 0:DISABLE	
L	L	L	xxx1	FS_OVERT ENABLE	Default
L	L	M	xxx0	FS_OVERT DISABLE	

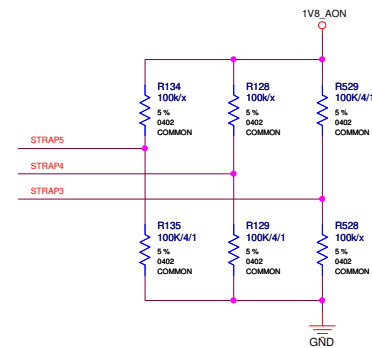


H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
L	L	L	0000	Samsung 8Gb 256Mx32 K4G80325FC-HC25
L	L	H	0001	Micron 8Gb 256Mx32 MT51J256M32HF-80:B
L	H	L	0010	Hynix 8Gb 256Mx32 H5GC8H24AJR-R2C
L	H	H	0011	Hynix 8Gb 256Mx32 H5GQ8H24MJR-R4C
H	H	L	0110	
H	H	H	0111	
L	L	M	1000	
L	M	L	1001	



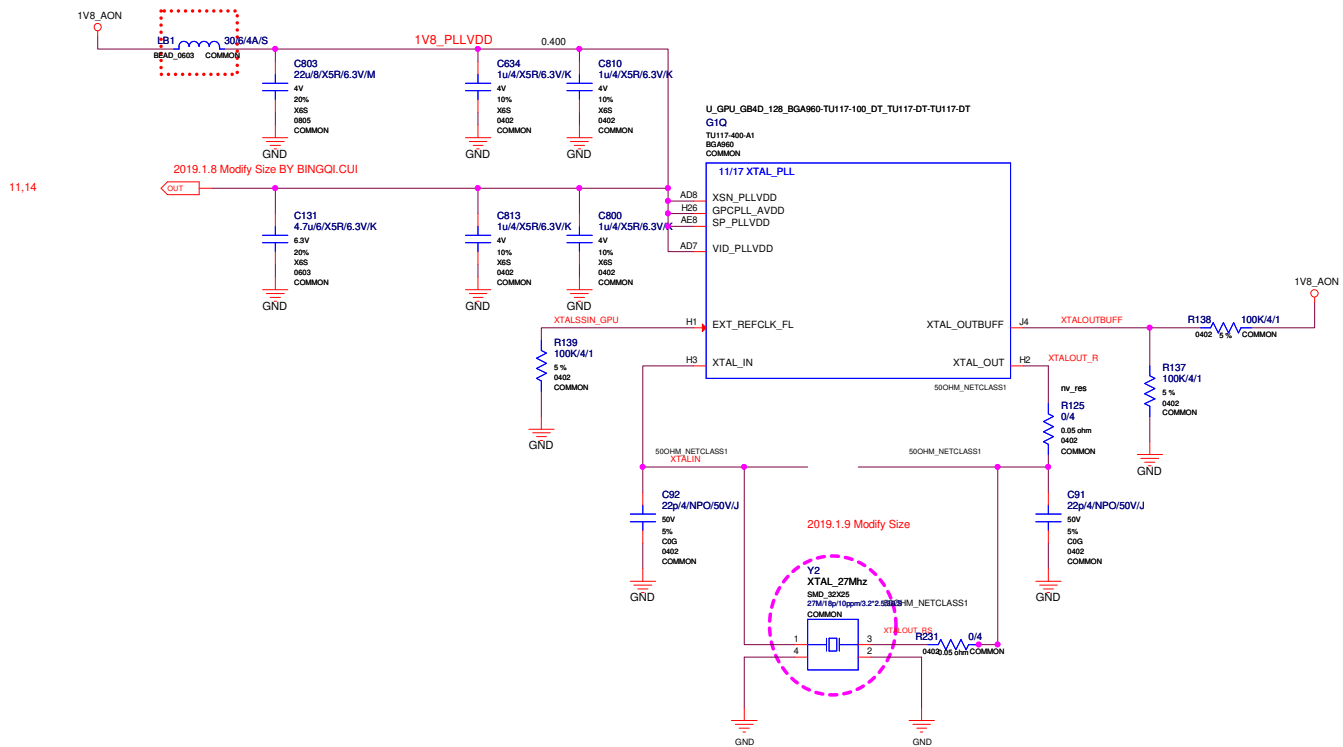
STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1 DEFAULT
L	L	L	0	0	0	0



- 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

Smart Fan

XTALOUTBUFF	Volatge	SmartFan PWM	GPIO/PWM at the FAN
Low	0V	GPIO Disabled	100%
Middle	0.9V	66% PWM	33% PWM (Typical)
High	1.8V	33% PWM	66% PWM



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ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> MISC2: ROM, XTAL, Straps
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GIGABYTE

TitlePG174

SizeCustom

Document NumberGV-N16500C-4GD

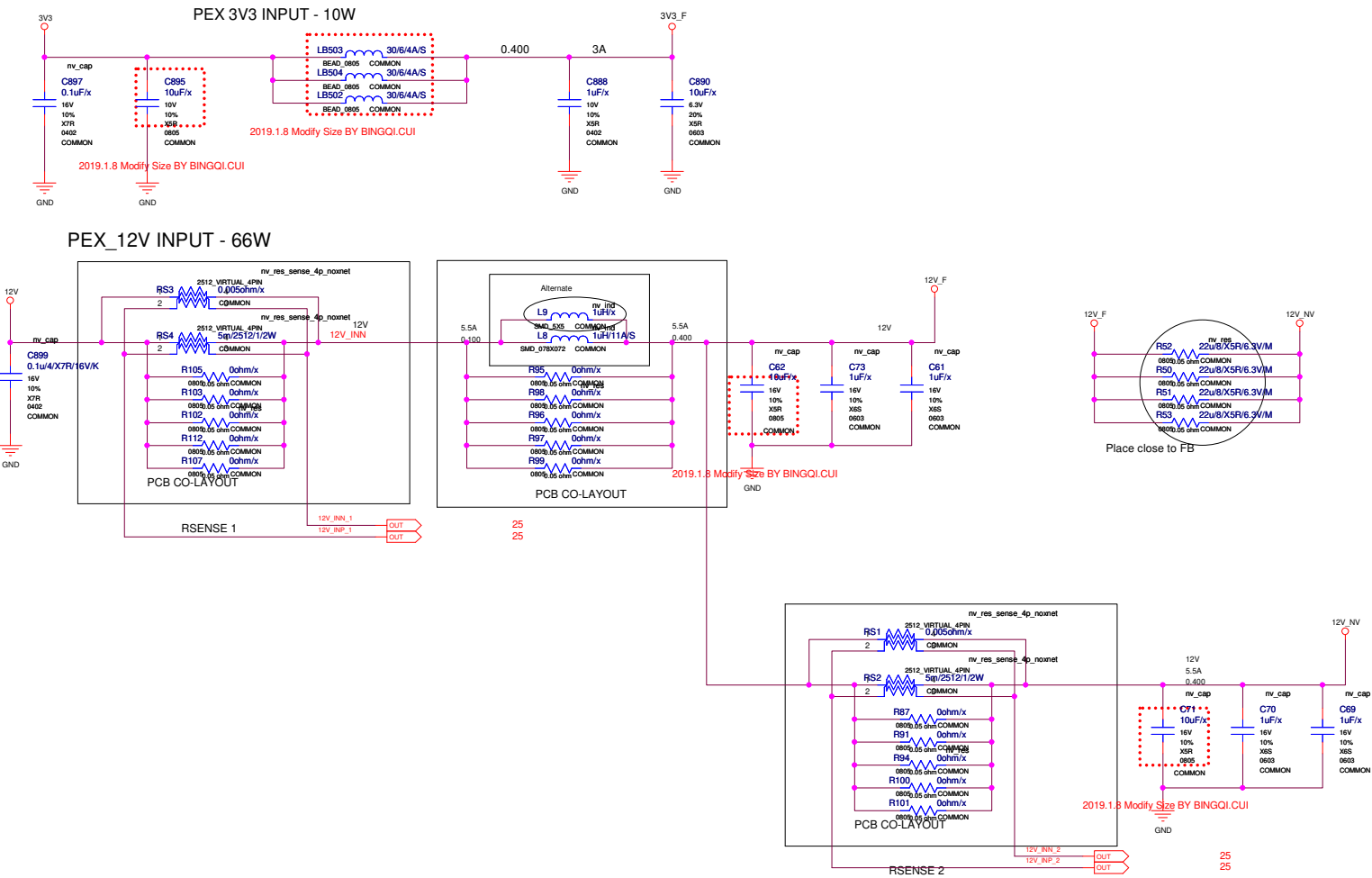
DateTuesday, February 19, 2019

Sheet18

of35

Rev1.0

Power Inputs and Filtering



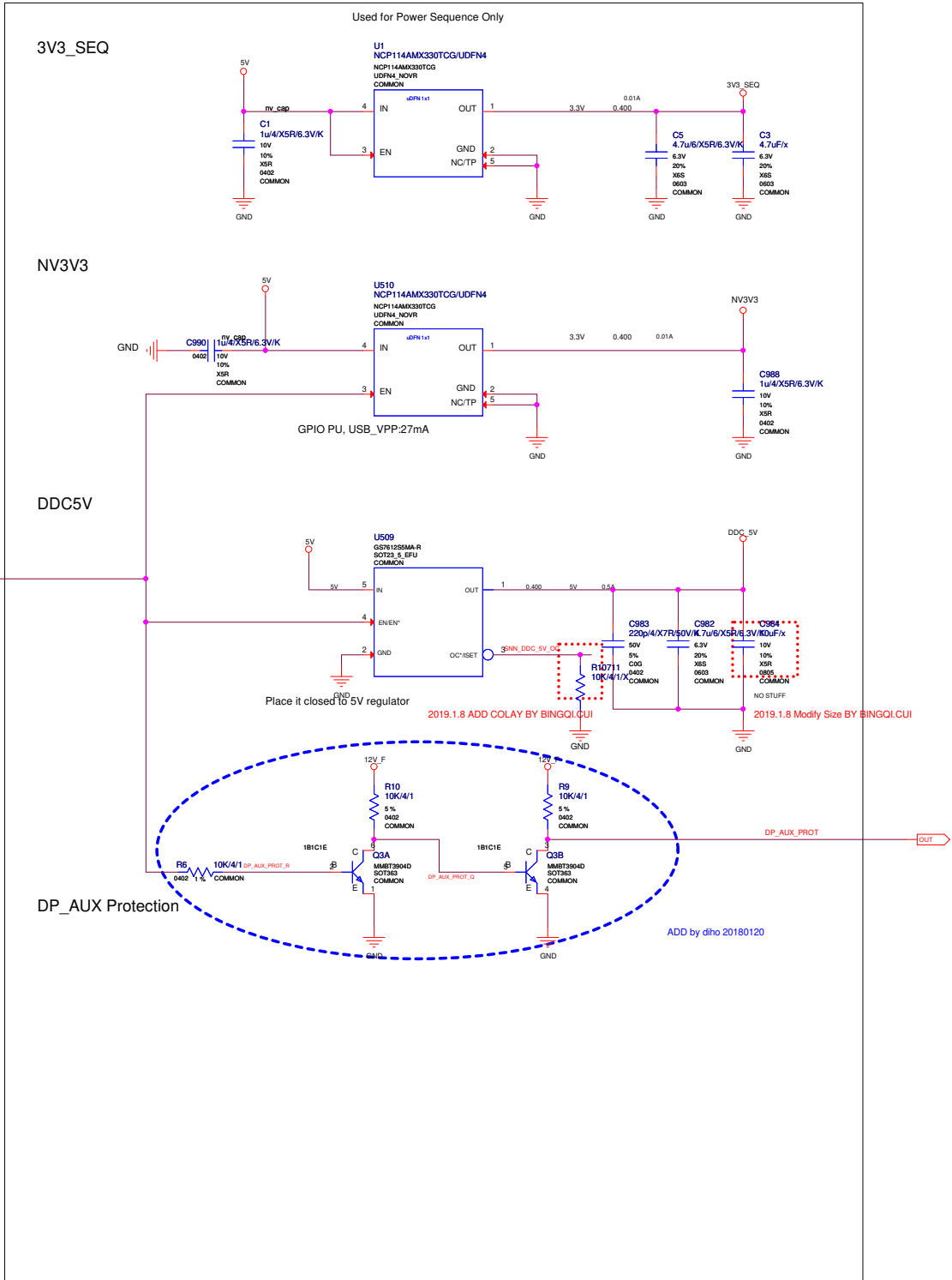
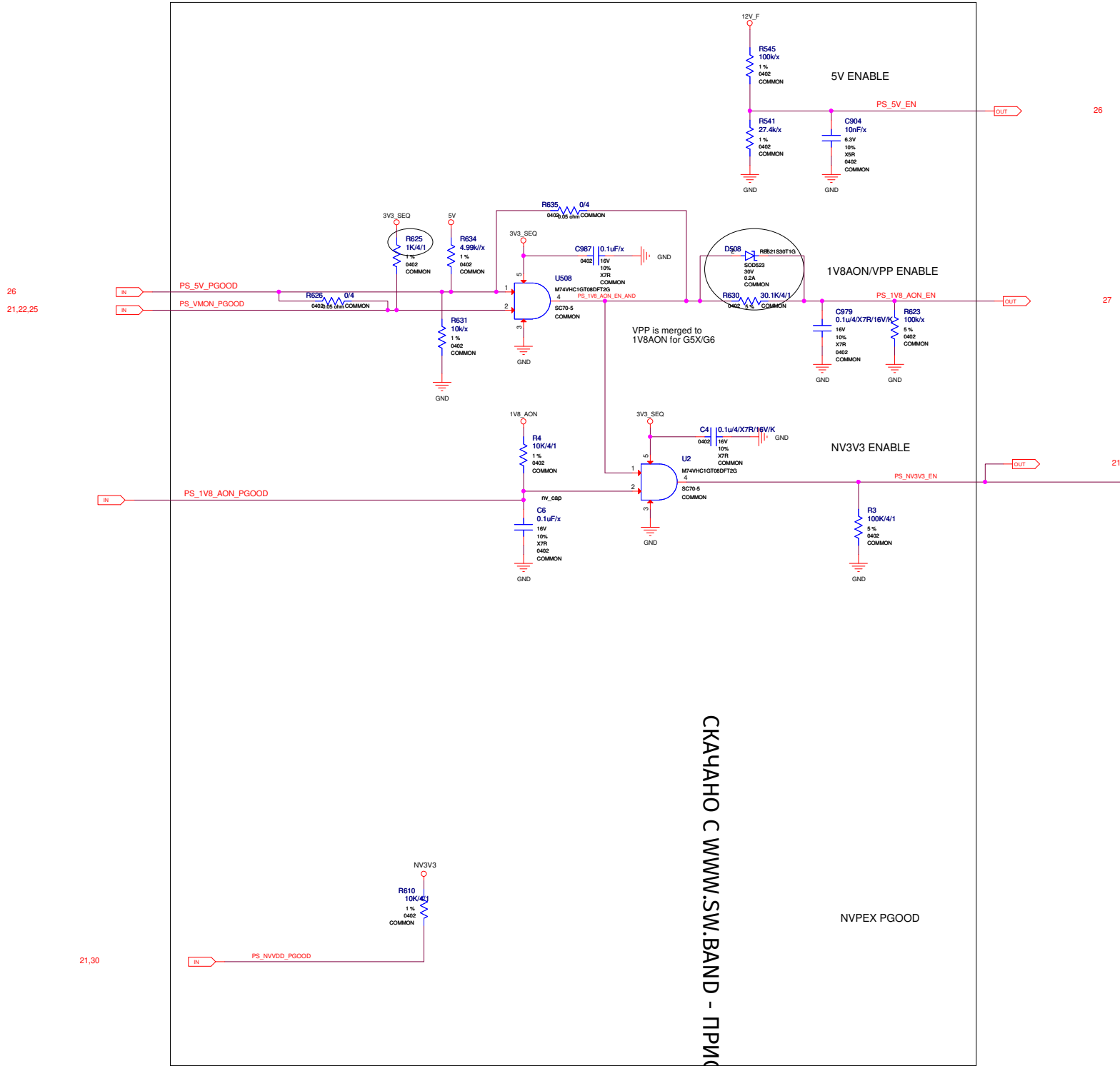
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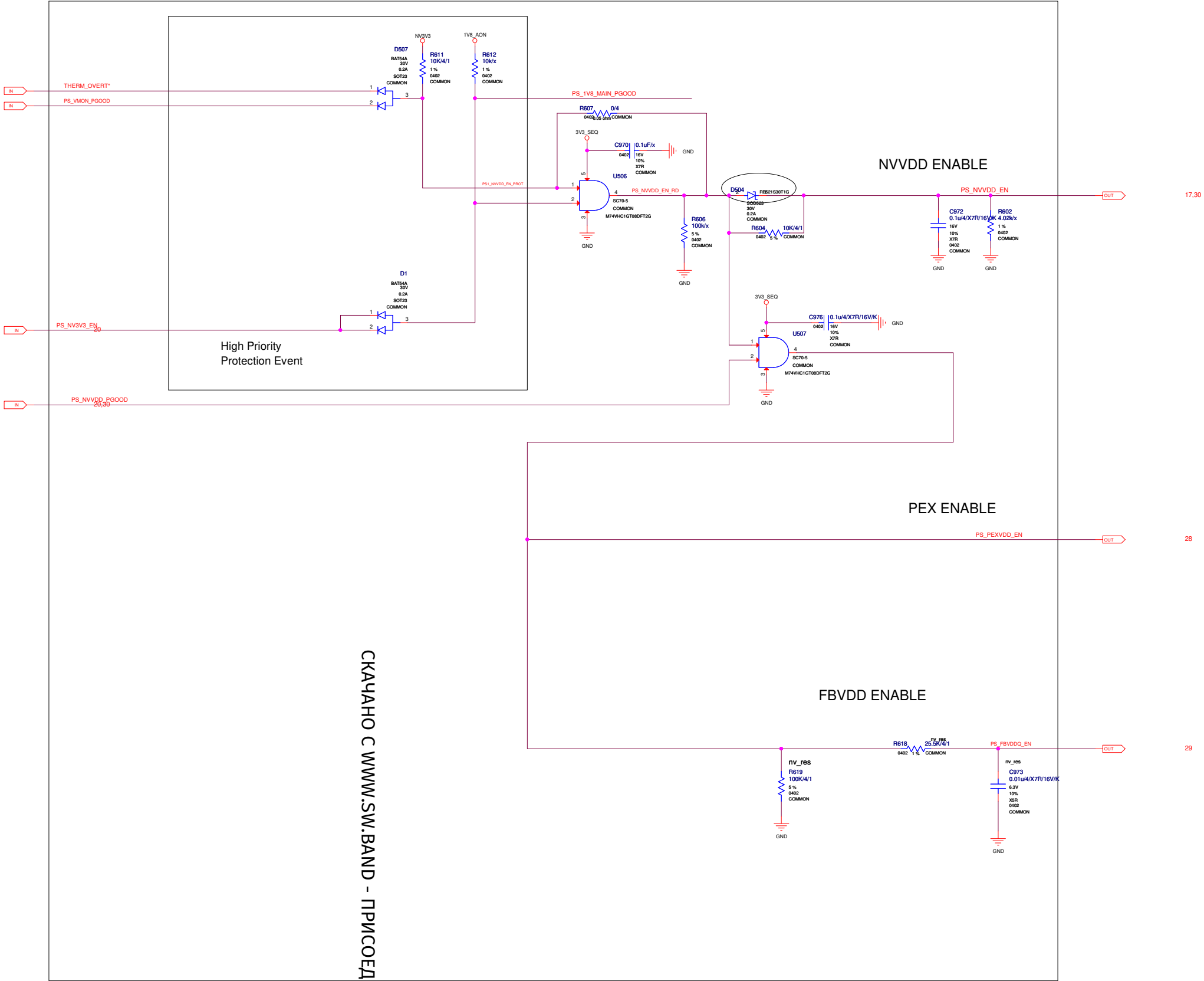
ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> Power Inputs and Filtering
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GIGABYTE			
Title		PG174	
Size	Custom	Document Number	Rev
		GV-N1650OC-4GD	
Date: Tuesday, February 19, 2019		Sheet	19 of 35

SEQ:5V,1V8,NV3V3 ENABLE



SEQ:NV,PEX,FB ENABLE



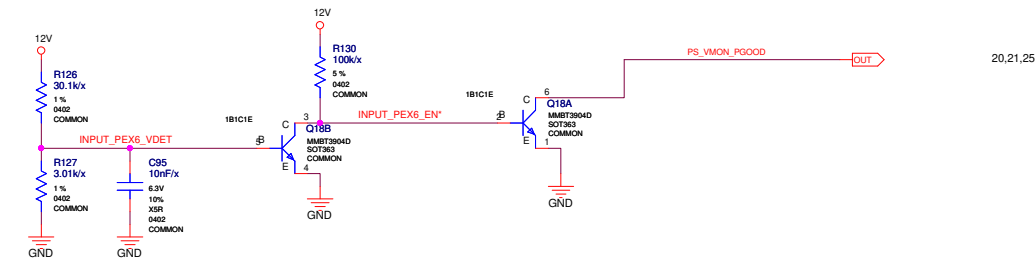
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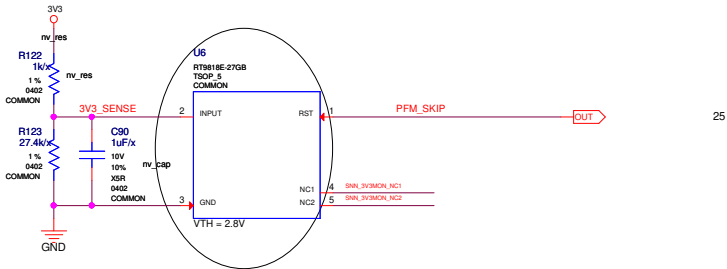
ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> SEQ: NV, PEX, FB ENABLE
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GIGABYTE			
Title		PG174	
Size	Custom	Document Number	Rev
GV-N1650OC-4GD		1.0	
Date: Tuesday, February 19, 2019		Sheet	21 of 35

SEQUENCE:Voltage Monitor



Route the trace to PEX Golden Finger

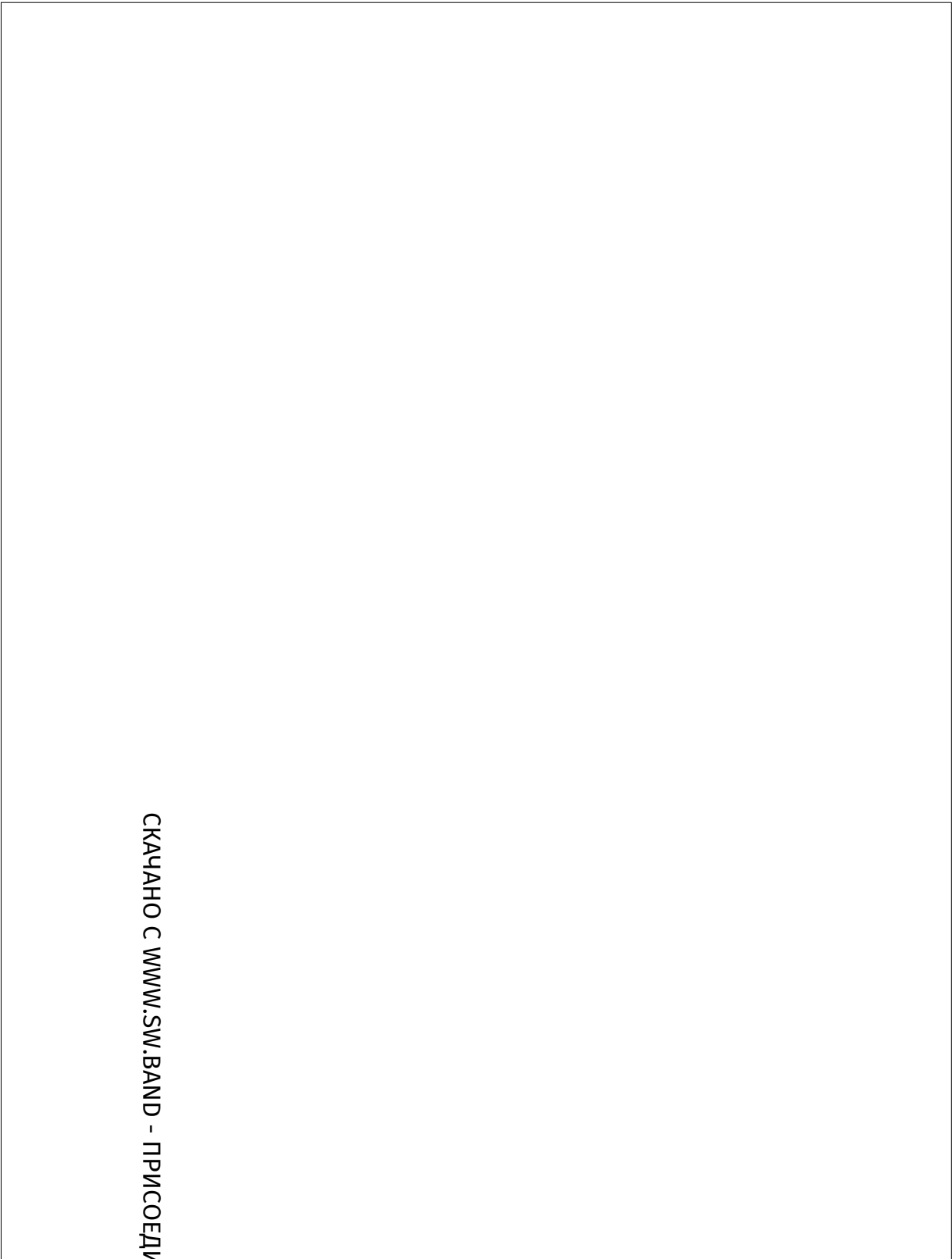


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GIGABYTE			
Title		PG174	
Size	Document Number	Rev	
Custom	GV-N1650OC-4GD	1.0	
Date:	Tuesday, February 19, 2019	Sheet	22 of 35

SEQUENCE:Discharge



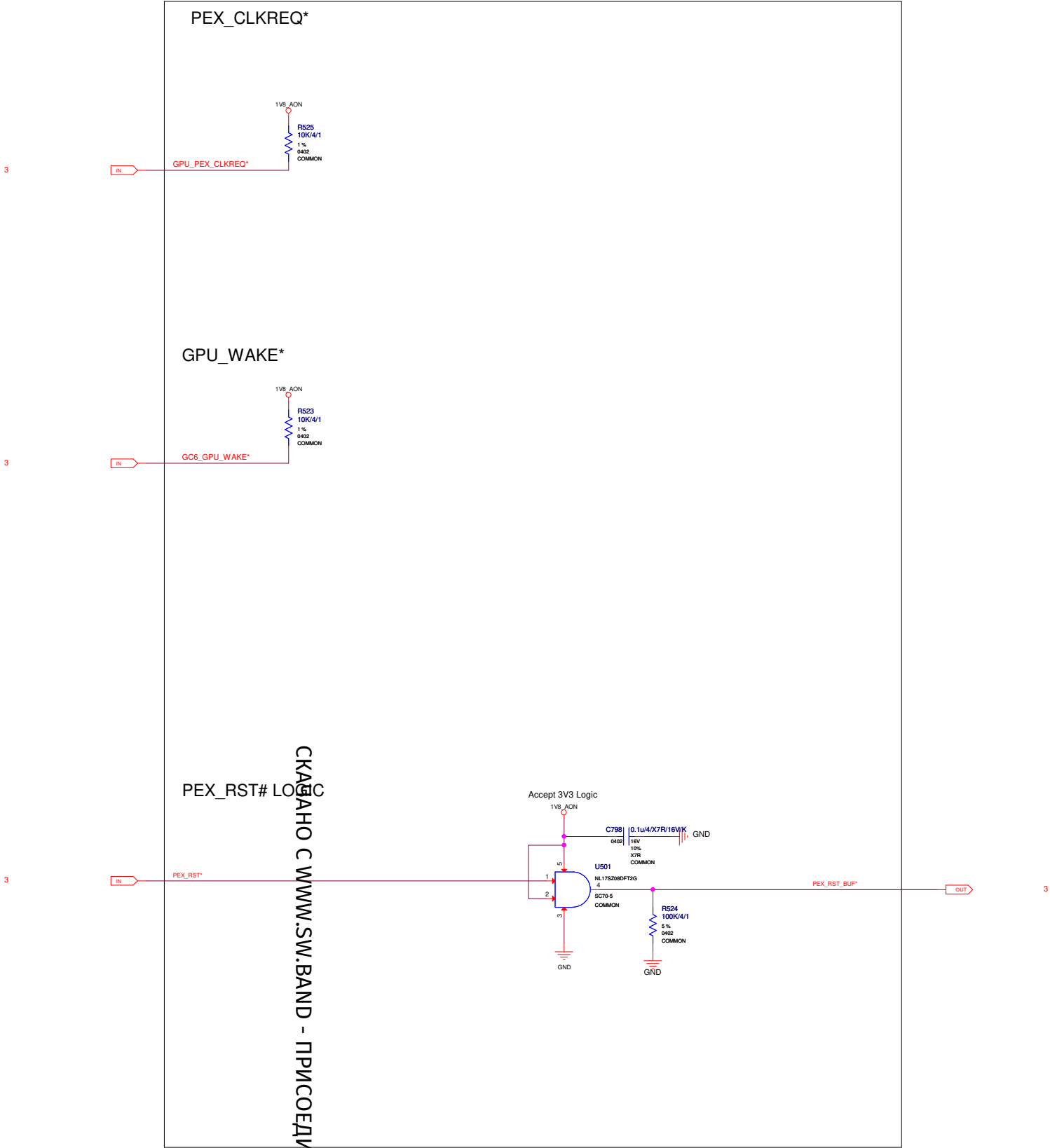
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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	SEQ: DISCHARGE

GIGABYTE			
Title		PG174	
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SEQUENCE:MISC



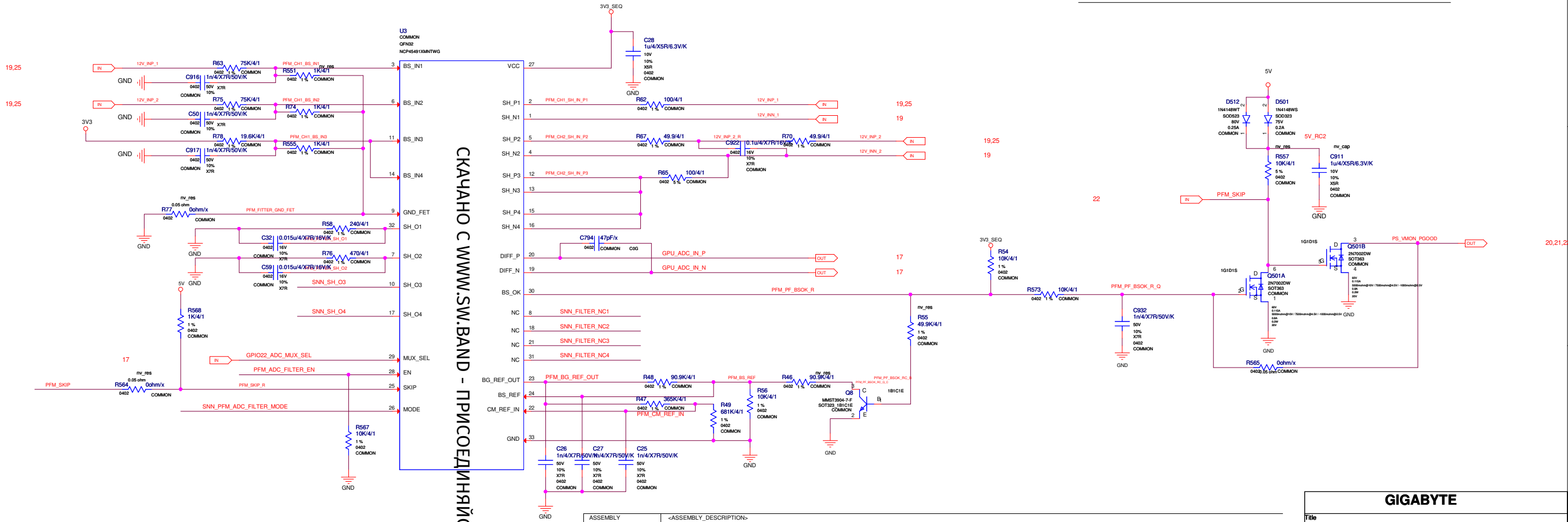
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PWR SENSE

MODE PIN STATUS	MULTIPLEXER OPERATION
LOW	DEVICE A
TRI-STATE(FLOATING)	STAND-ALONE
HIGH	DEVICE B

ENABLE PIN STATUS	MULTIPLEXER OPERATION
LOW	FULLY FUNCTIONAL
TRI-STATE(FLOATING)	LIMITED FUNCTION
HIGH	STANDBY



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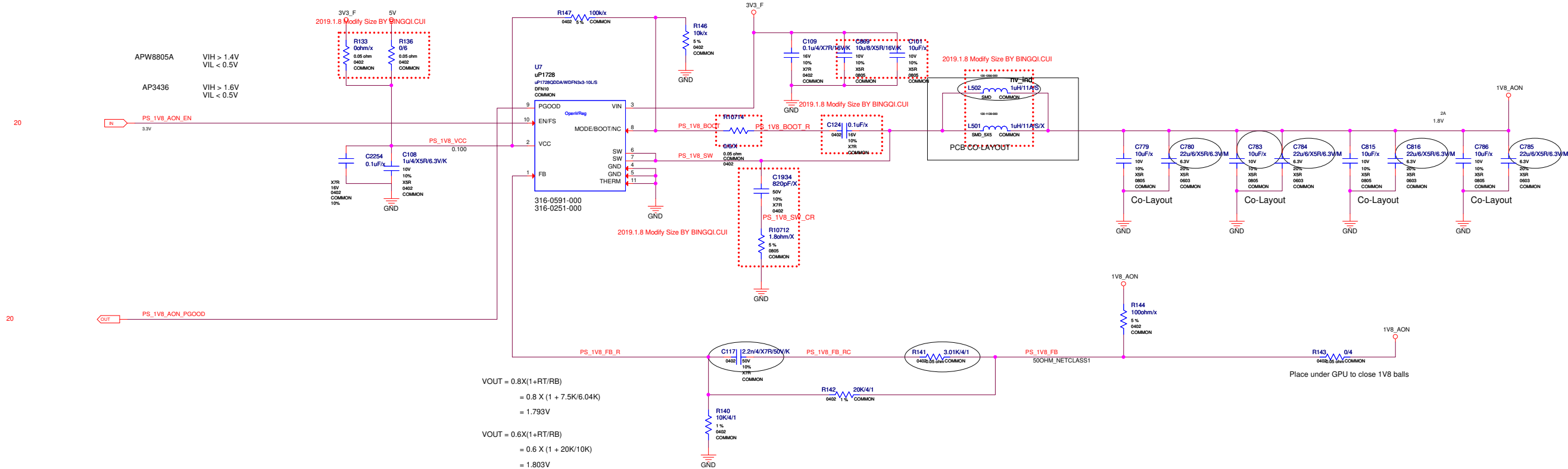
GIGABYTE			
Title	PG174		
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PS: 5V

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Title		PG174	
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		GV-N16500C-4GD	1.0
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PS: 1V8



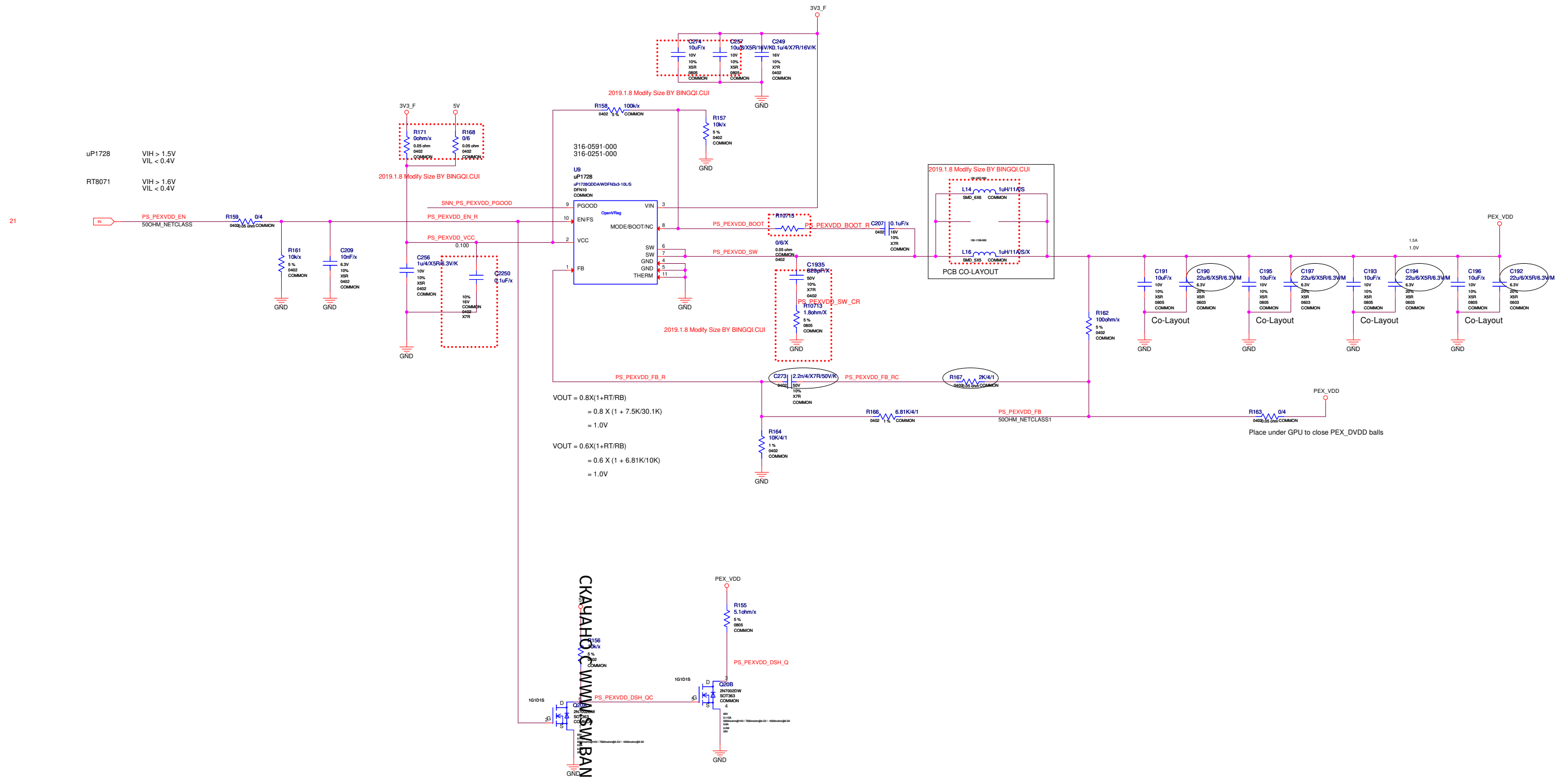
СКАЧАНО С WWW.SW.BAND - ПРИСОЕДИНЯЯСЯ

ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> PS: 1V8
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Title PG174			
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PS: PEXVDD



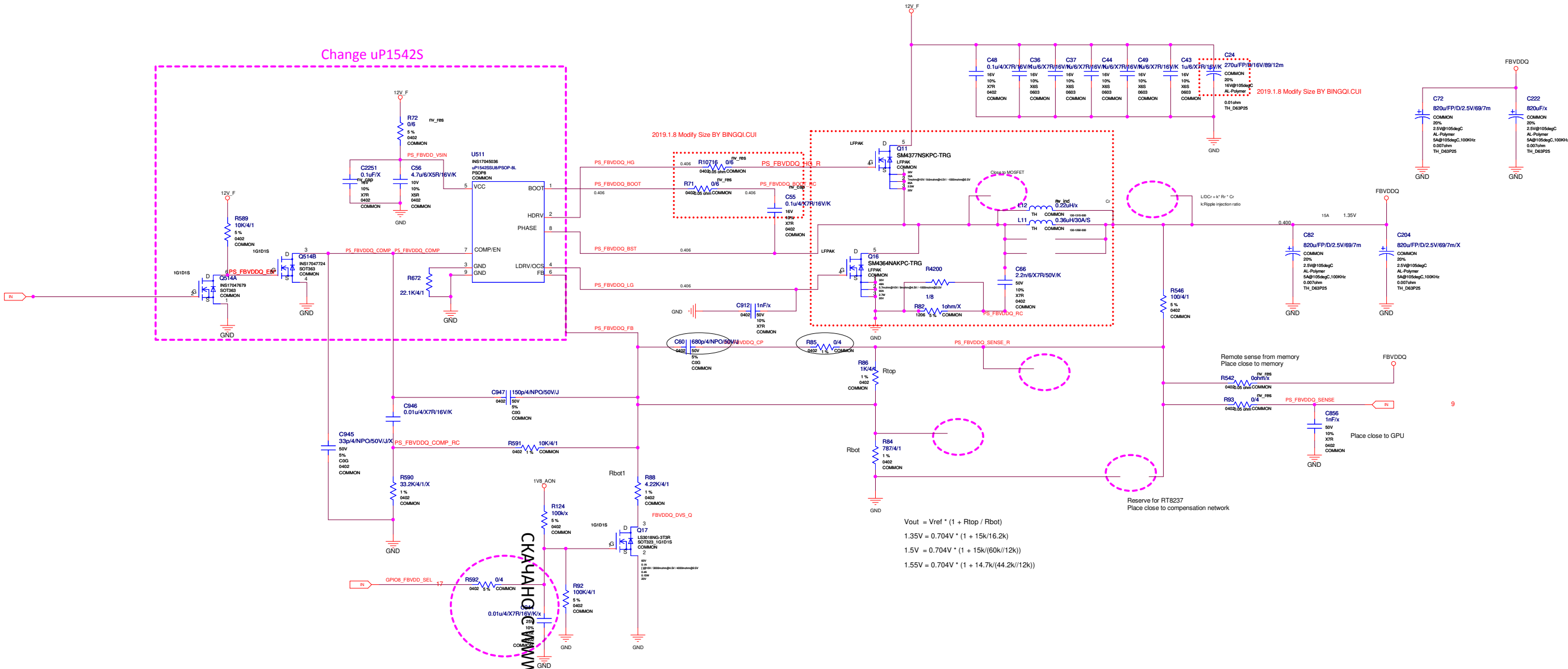
СКАЧАНО С WWW.SW.BAND - ПРИСОЕДИНЯЙСЯ

ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> PS: PEXVDD
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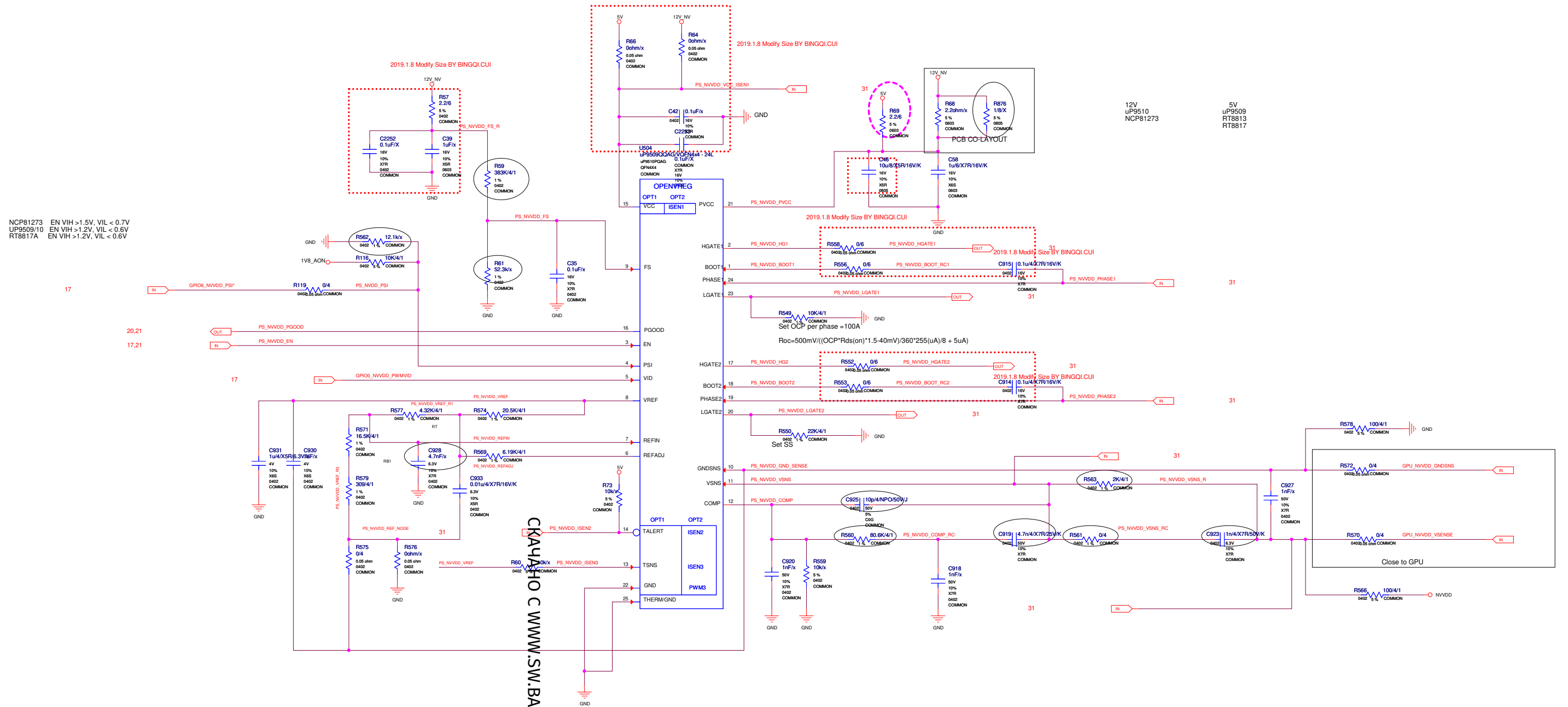
GIGABYTE			
Title PG174			
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1
2
3
4
5



СКАЧАНО С WWW.S.W.BAND - ПРИСОЕДИНЯЙСЯ

PS: NVVDD OVR2+1



NVPN	Name	PVCC(21)	VCC(15)
316-0478-000	NCP81273 12v LDO_OUT		<--Default
316-0476-000	up9510 12v ISENSE		<--2nd source
316-0484-000	RT8817A 5v NC		

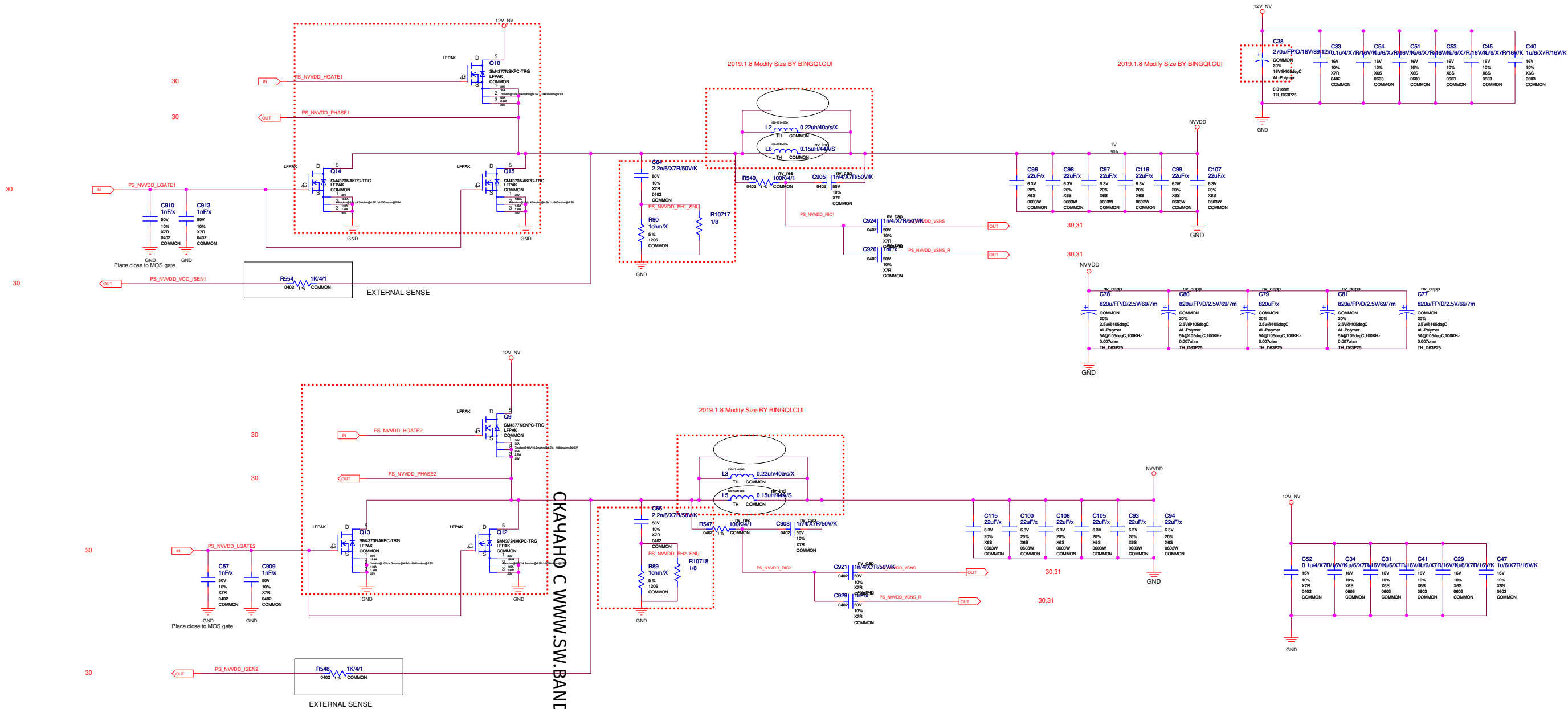
СКАЧАНО С WWW.SW.BAND - ПРИСОЕДИНЯЯСЯ

ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> PS: NVVDD OVR2+1
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GIGABYTE			
Title PG174			
Size	Custom	Document Number	Rev
		GV-N1650OC-4GD	1.0
Date:	Tuesday, February 19, 2019	Sheet	30 of 35

PS: NVVDD Phase 1,2



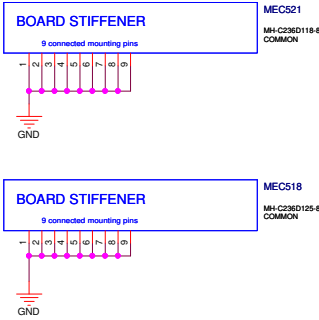
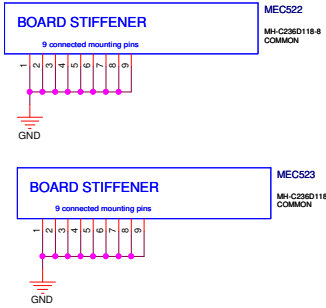
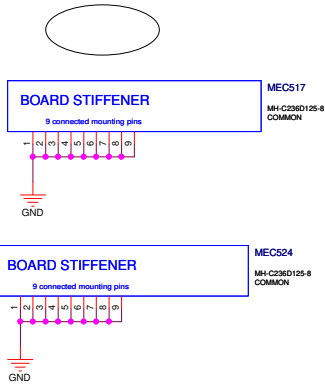
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ASSEMBLY PAGE DETAIL	<ASSEMBLY_DESCRIPTION> PS: NVVDD Phase 1,2
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GIGABYTE			
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Mechanical: Bracket/Thermal Solution

Brackets:



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ASSEMBLY
PAGE DETAIL

<ASSEMBLY_DESCRIPTION>
MECH: Bracket/Thermal

GIGABYTE

Title			PG174	
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A	B	C	D	E	F	G	H
1							
2							
3							
4							
5							

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ASSEMBLY
PAGE DETAIL

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GIGABYTE			
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A	B	C	D	E	F	G	H
1							
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5							

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ASSEMBLY
PAGE DETAIL

<ASSEMBLY_DESCRIPTION>
MECH

GIGABYTE			
Title		PG174	
Size	Document Number	Rev	
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History

Date	Modify
2019.01.04	First version

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