

PG150-C03

384b GDDR6 x16

TALL DP + DP + DP + HDMI/DP + USB

TABLE OF CONTENTS

Page	Description
1	Table of Contents
2	BLOCK DIAGRAM
3	PCI EXPRESS
4	PCIE TERM
5	MEMORY: GPU PARTITION A/B
6	MEMORY: FBA PARTITION[31:0]
7	MEMORY: FBA PARTITION[63:32]
8	MEMORY: FBB PARTITION[31:0]
9	MEMORY: FBB PARTITION[63:32]
10	MEMORY: GPU PARTITION C/D
11	MEMORY: FBC PARTITION[31:0]
12	MEMORY: FBC PARTITION[63:32]
13	MEMORY: FBD PARTITION[31:0]
14	MEMORY: FBD PARTITION[63:32]
15	MEMORY: GPU PARTITION E/F
16	MEMORY: FBE PARTITION[31:0]
17	MEMORY: FBE PARTITION[63:32]
18	MEMORY: FBF PARTITION[31:0]
19	MEMORY: FBF PARTITION[63:32]
20	GPU PWR AND GND
21	GPU PWR, GND and NCs
22	GPU DECOUPLING
23	GPU DECOUPLING 2
24	IFPA/B DP
25	IFPE DP

Page	Description
26	IFPF USB
27	IFPC HDMI/DP
28	IFPD DP
29	NVHS X16
30	MISC: THERMAL, JTAG, GPIO, STEREO
31	MISC: ROM, STRAPS
32	MISC: XTAL, PLL
33	MISC: USB PPC
34	PS: USB_C VR
35	PS: 5V
36	PS: PEXVDD 1V8 Rail
37	PS: FBVDD Controller
38	PS: FBVDD Controller OVR3
39	PS: FBVDD Phase 1, 2
40	PS: FBVDD Phase 3
41	PS: NVVDD Controller_OVR8
42	PS: NVVDD Phase 1
43	PS: NVVDD Phase 2
44	PS: NVVDD Phase 3, 4
45	PS: NVVDD Phase 5
46	PS: NVVDD Phase 7, 8
47	PS: NVVDD Phase 9, 10
48	PS: NVVDD Phase 11, 12
49	PS: NVVDD Phase 13, 14
50	PS: INPUT SWITCH_RTD3

Page	Description
51	PS: INPUT SWITCH_RTD3 USB
52	PS: INPUT SWITCH RAIL BALANCE
53	PS: DISCRETE STEERING
54	PS: Input, filtering, and Monitoring
55	PS: Current Sterring, Hot Unplug
56	PS: Prefilter
57	Sequence: 5V, 1V8, NV3V3 EN
58	Sequence: NV, PEX, FB EN
59	Sequence: PCIE Voltage Monitor
60	Sequence: Discharge
61	Sequence: MISC
62	MISC: FAN & LED1
63	MISCL: LED 2
64	MCU ZERO POWER IDLE
65	MECH
66	VR Thermal Protection

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NV_PN

600-1G150-BASE-403

PCB REV

PG150-C03

BOB REV

A

PAGE

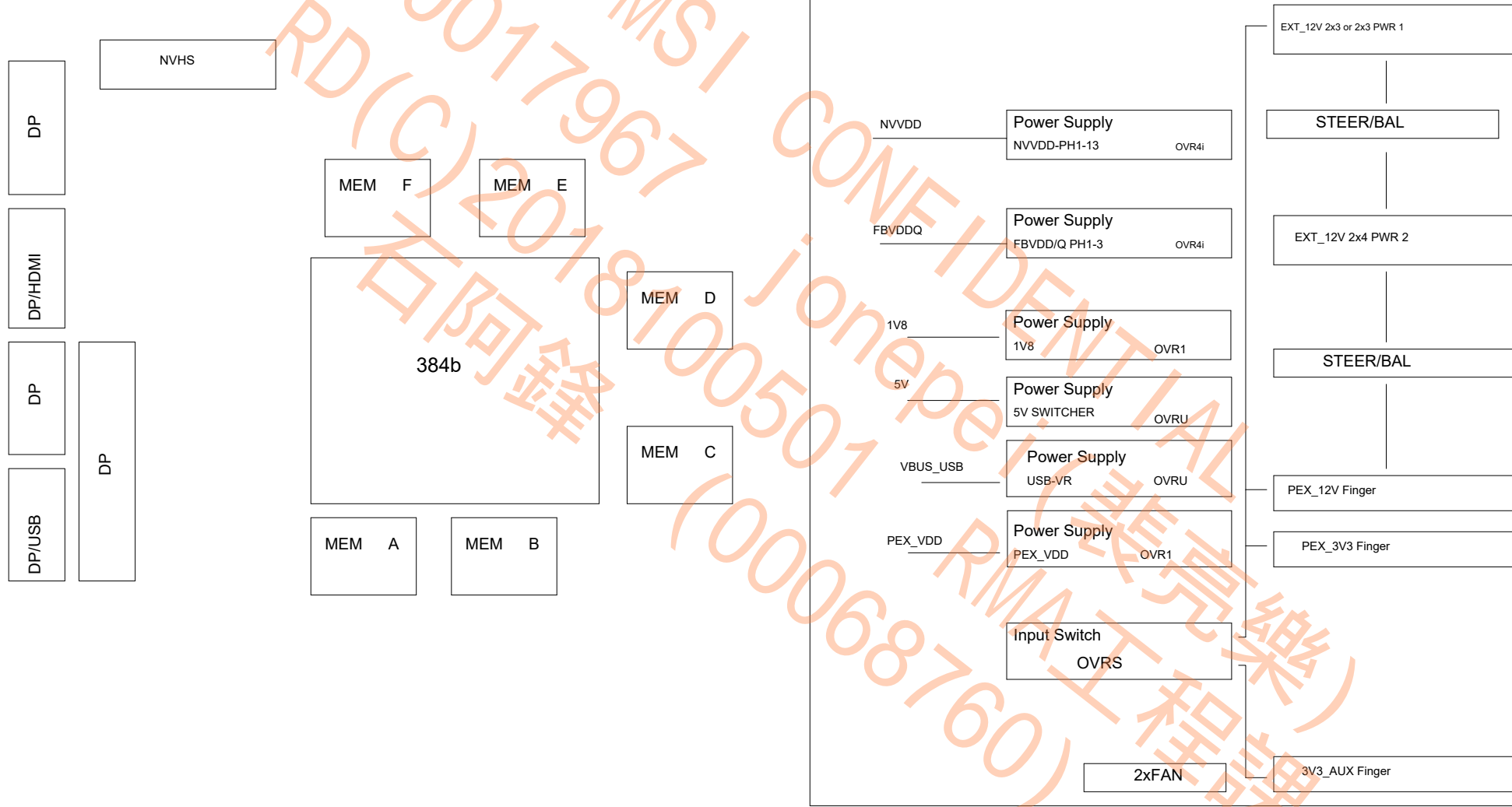
1 OF 66

DATE

09-JUL-2018



Block Diagram



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ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE DETAIL	BLOCK DIAGRAM

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NV_PN	600-1G150-BASE-403	PAGE	2 OF 68
PCB REV	PG150-C03	DATE	09-JUL-2018
BCM REV	A		

PCI Express



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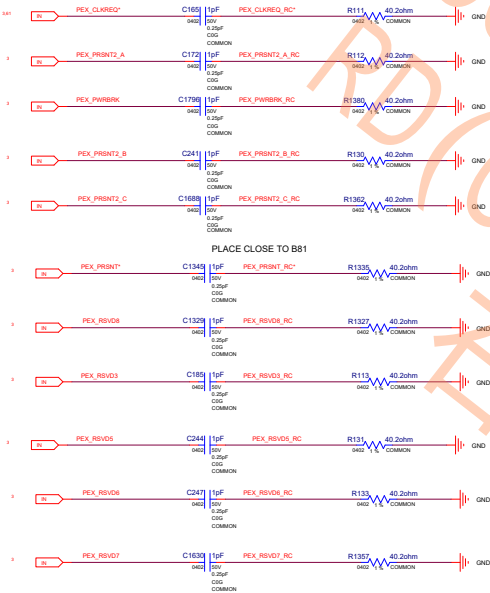
NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	3 OF 66
BOM REV	A	DATE	09-JUL-2018

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A	B	C	D
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PCI TERM



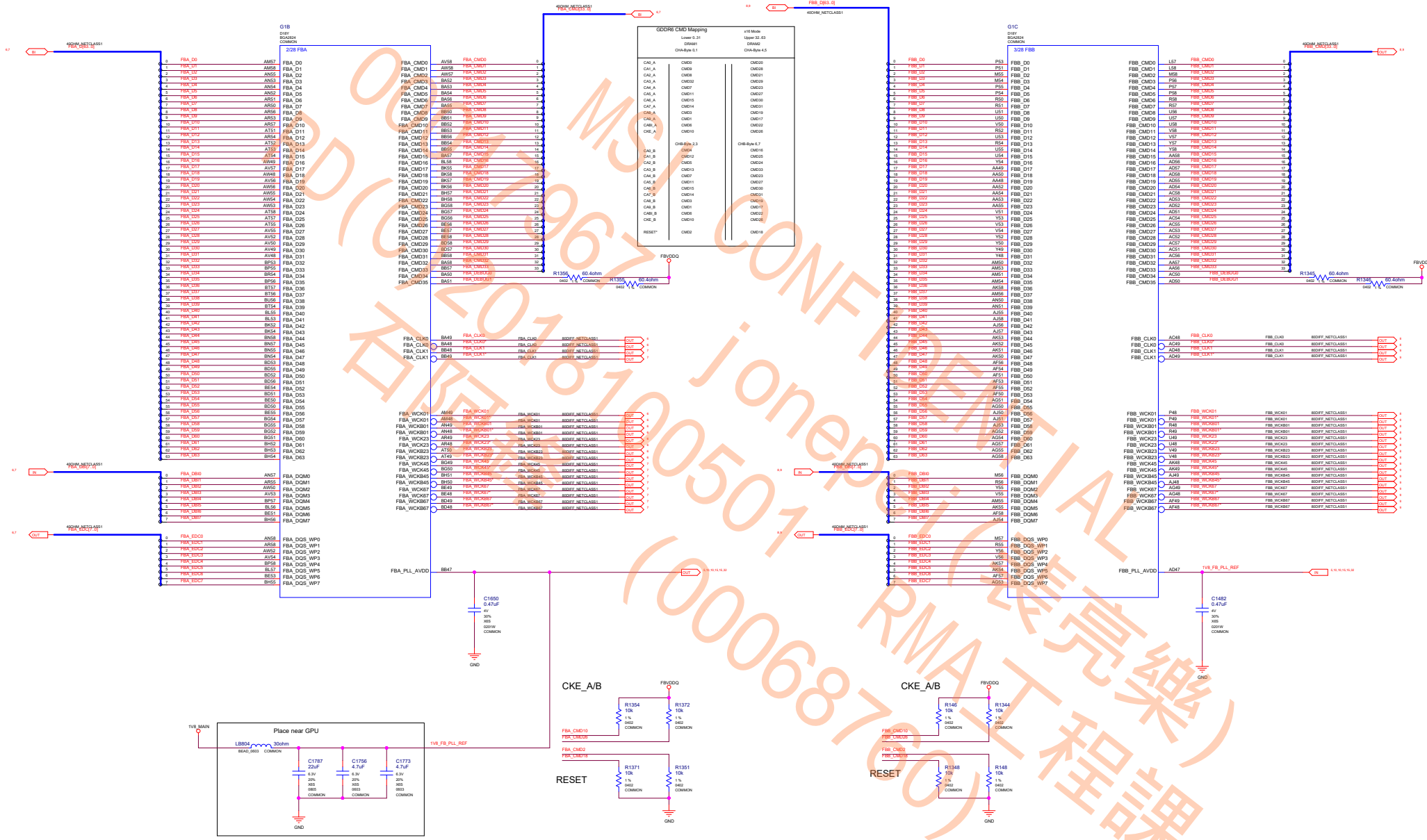
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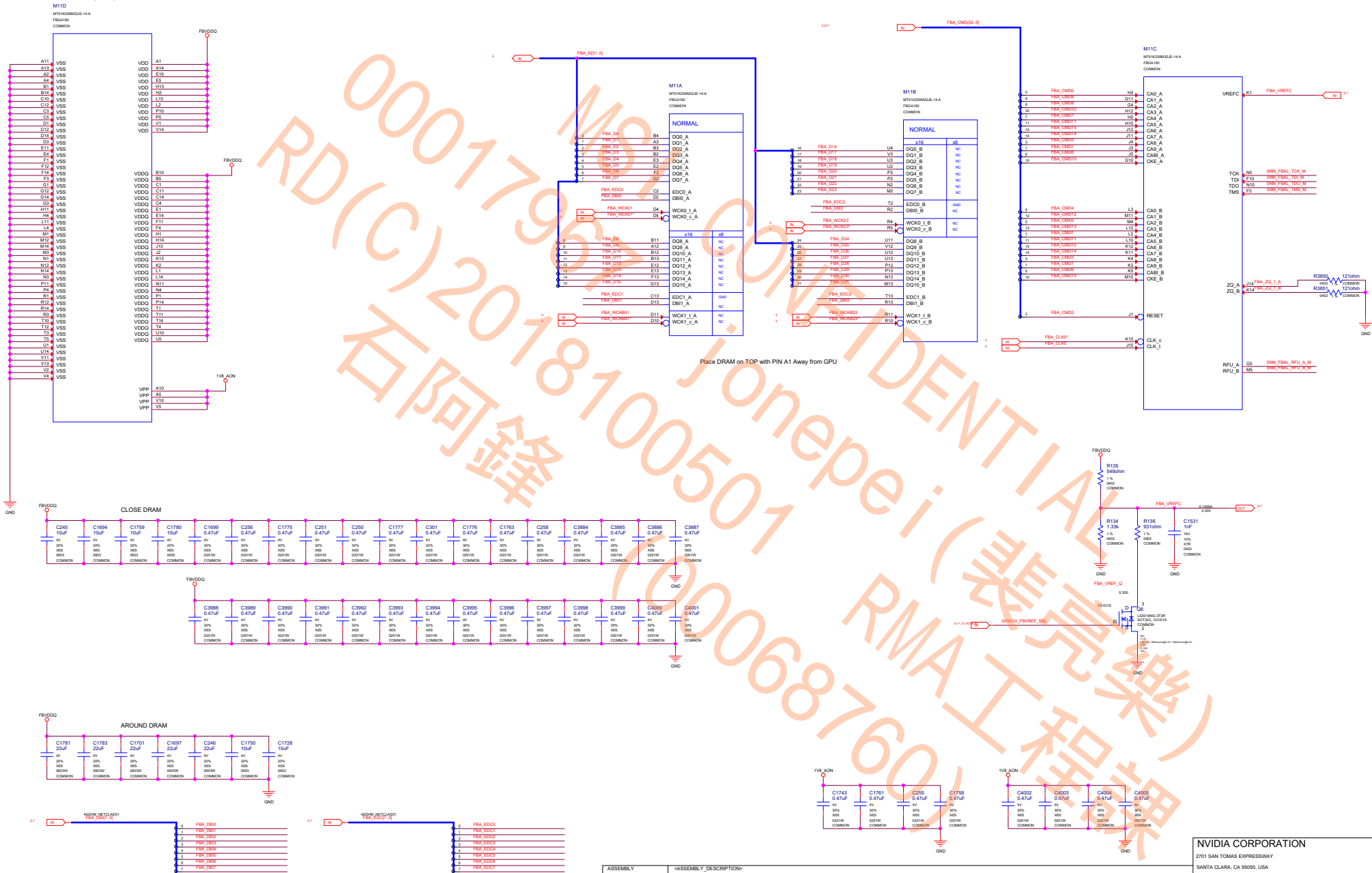
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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-003	PAGE	4 OF 60
BCM REV	A	DATE	09-JUL-2018

MEMORY: GPU Partition A/B





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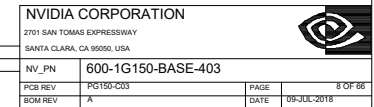
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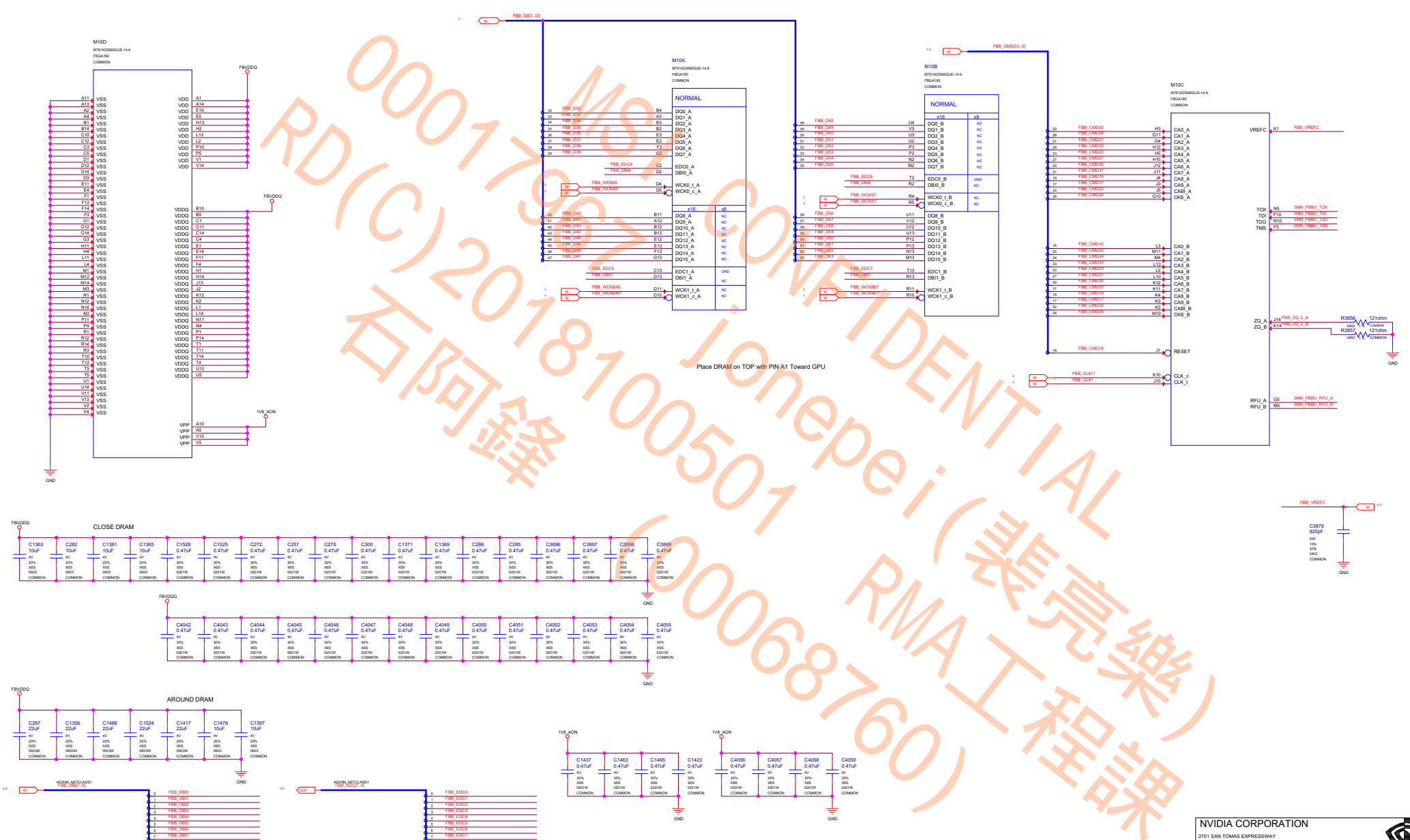


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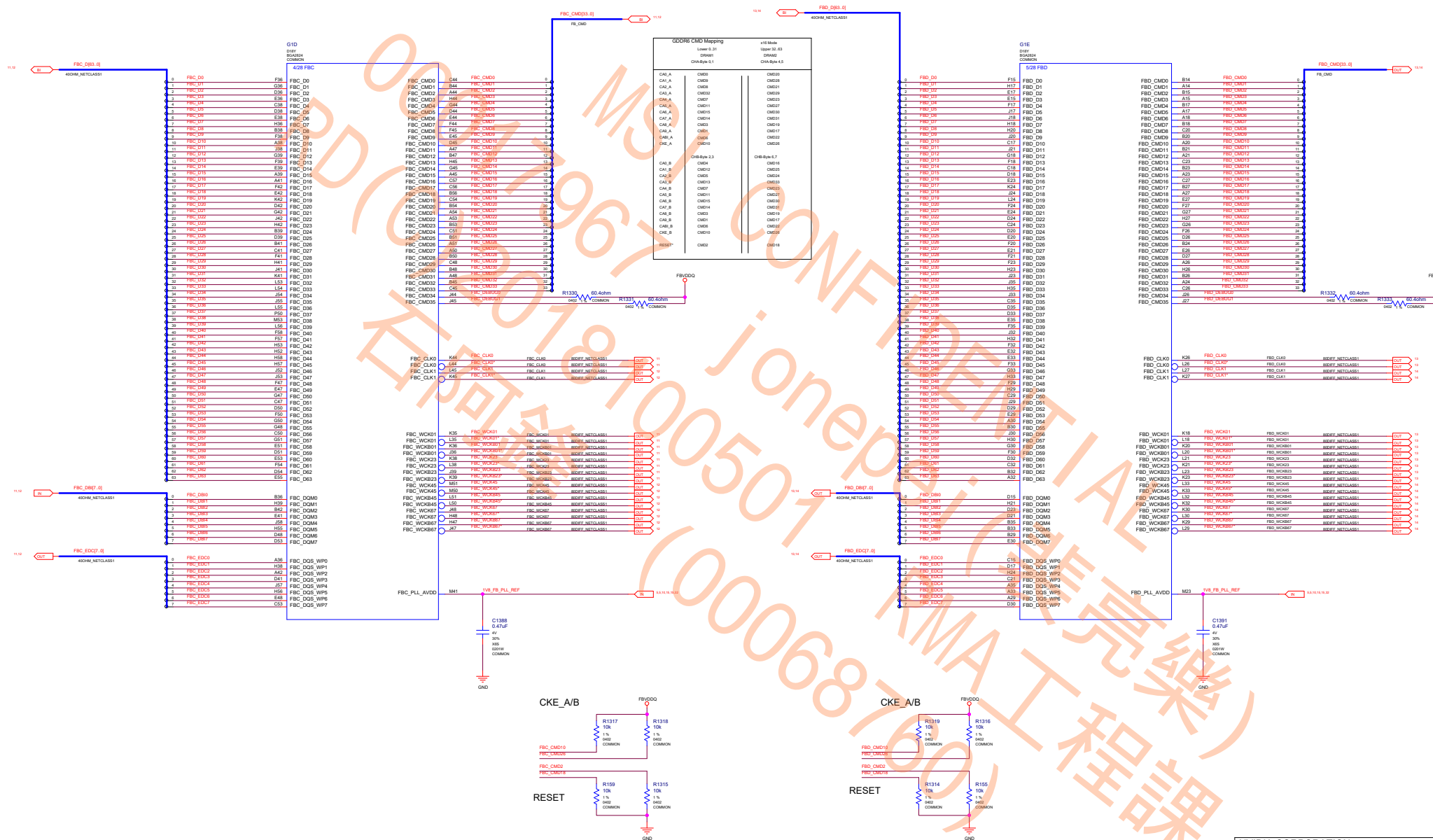
PCB REV	PG150-C03	PAGE	6 OF 66
BOM REV	A	DATE	09-JUL-2018



MEMORY: FBB Partition 63..32

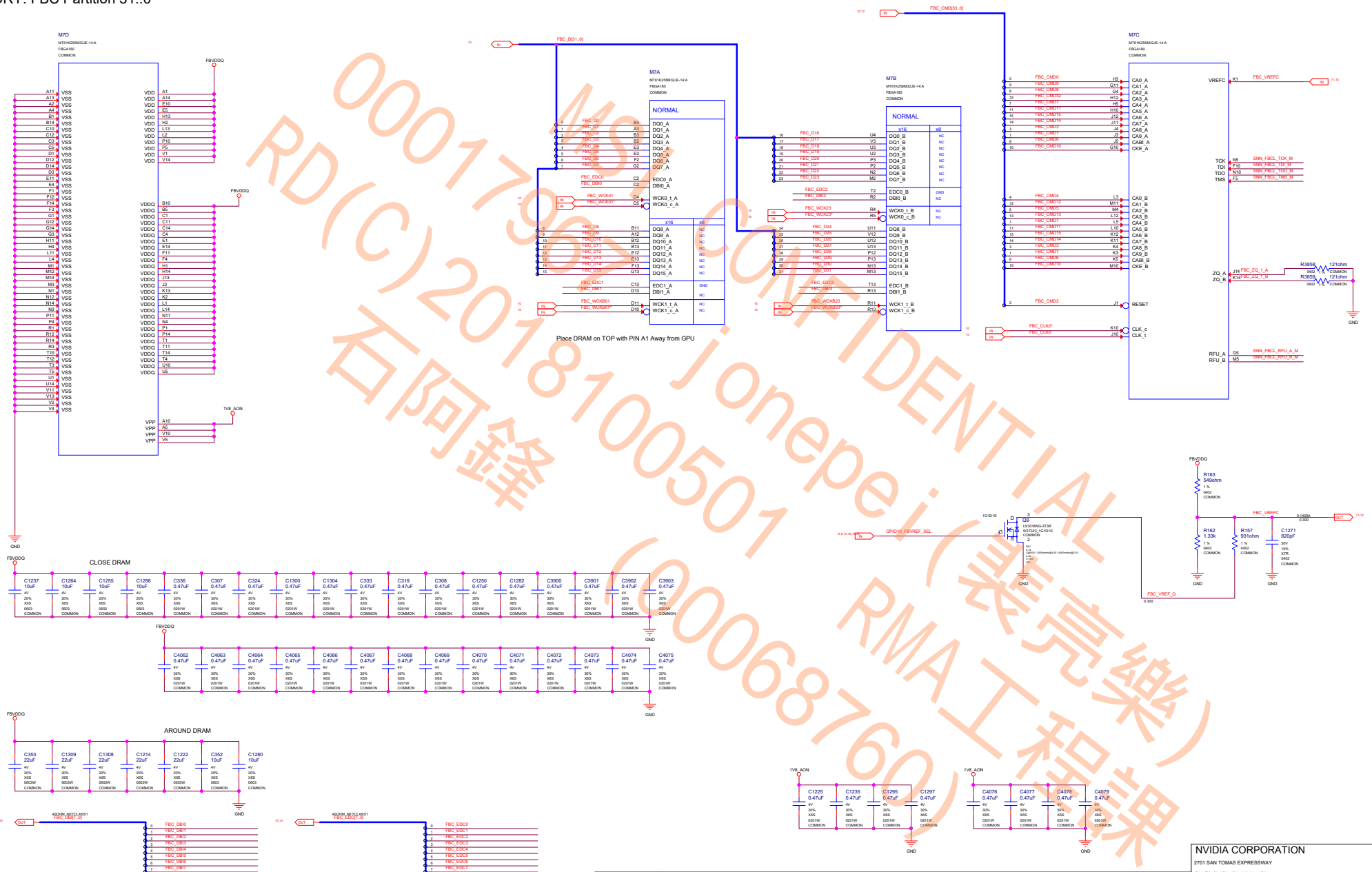


MEMORY: GPU Partition C/D



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MEMORY: FBC Partition 31..0



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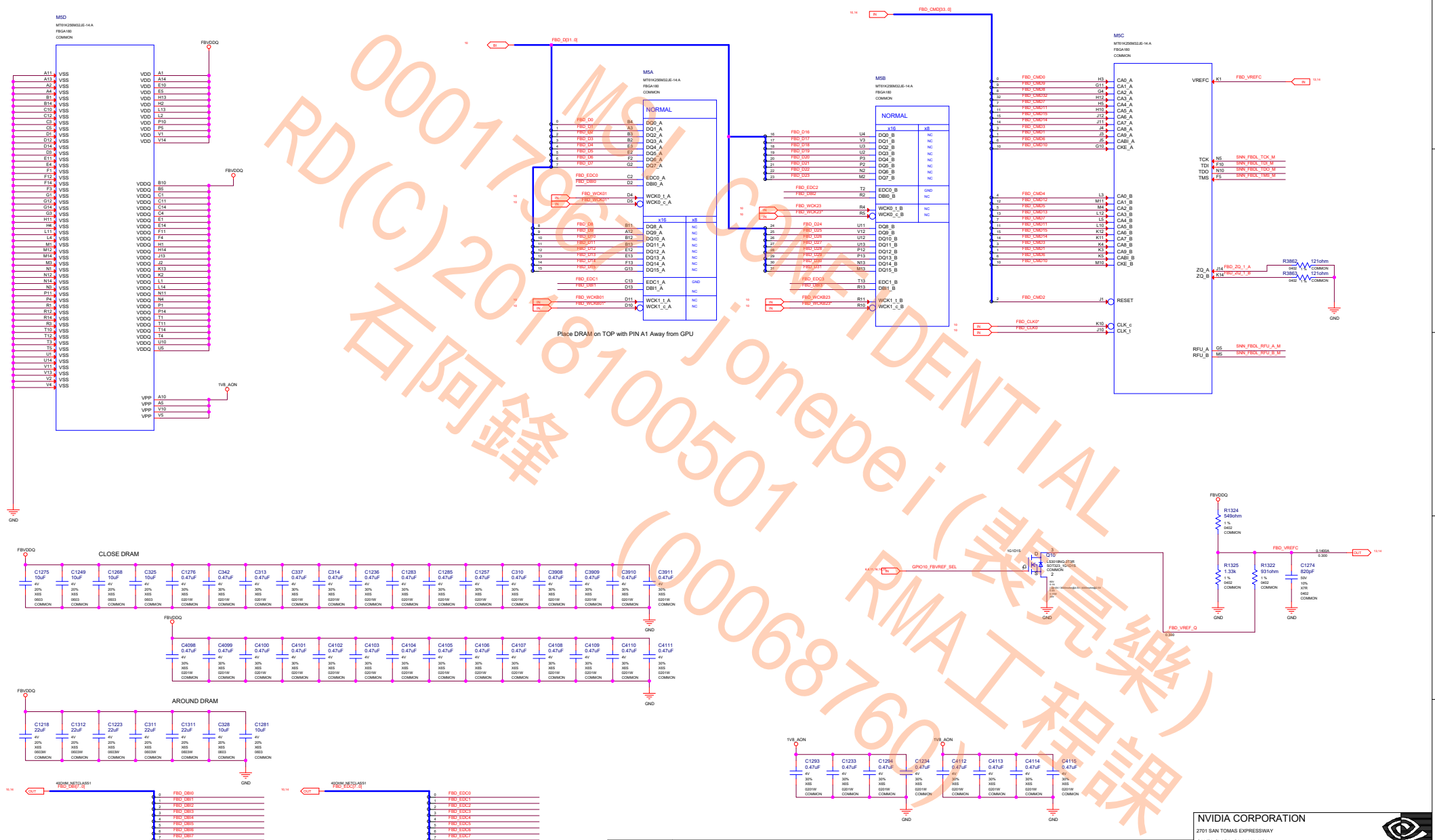
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NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	11 OF 66
BOM REV	A	DATE	09-JUL-2018

MEMORY: FBD Partition 31.0



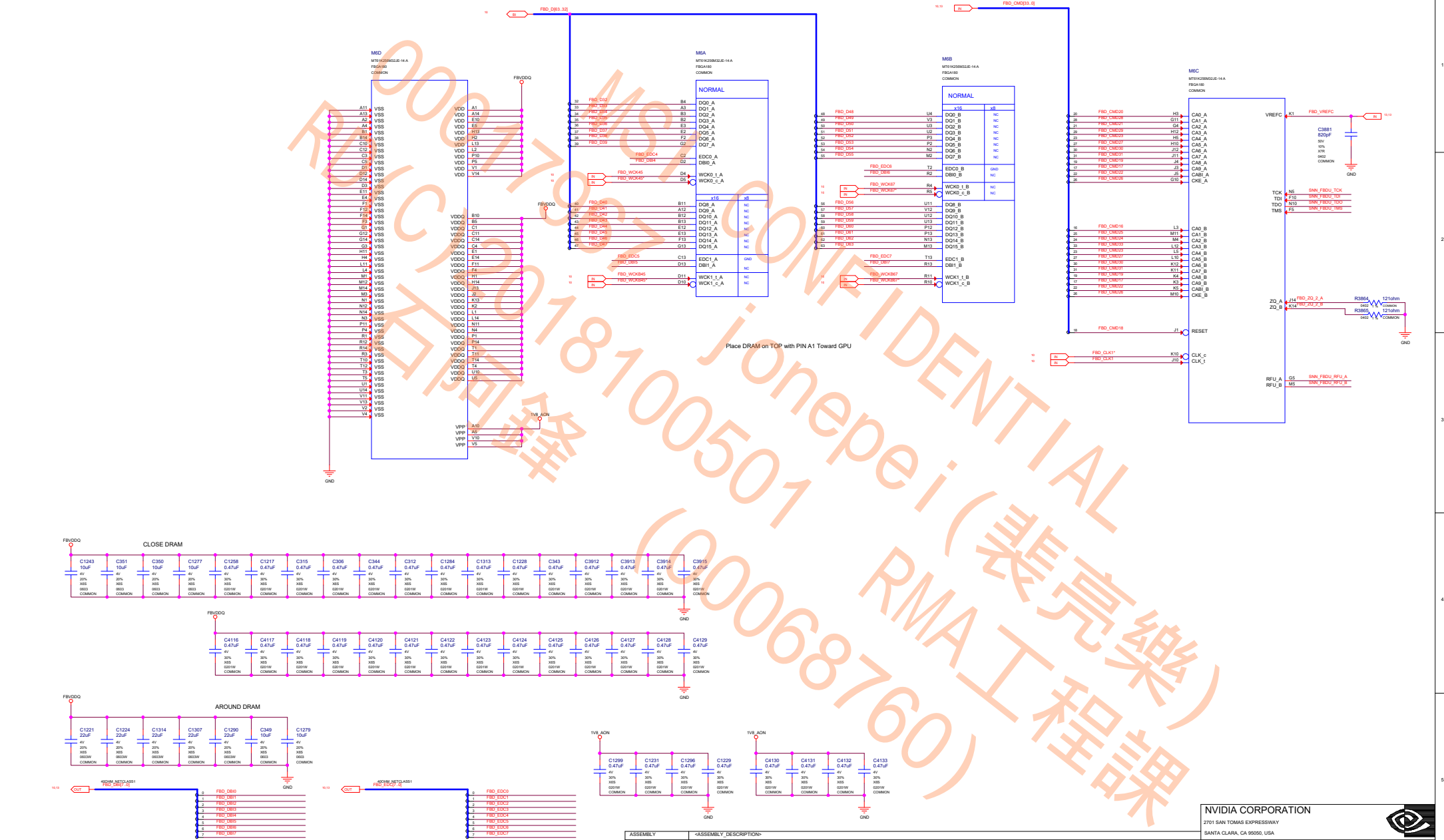
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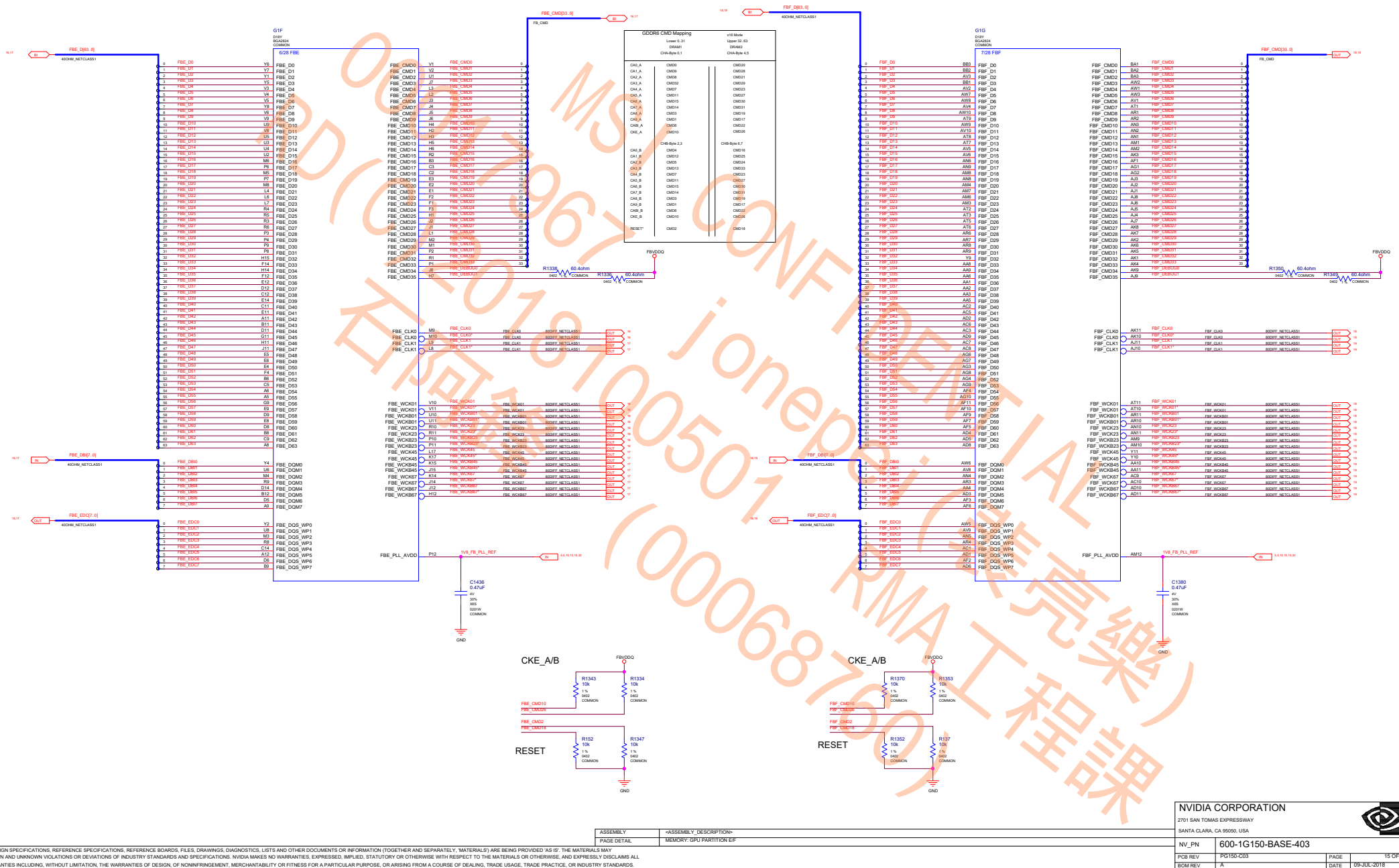
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NV_PN: 600-IG150-BASE-403
PCB REV: PG150-003
BOB REV: A

PAGE: 13 OF 60
DATE: 09-JUL-2018




MEMORY: GPU Partition E/F



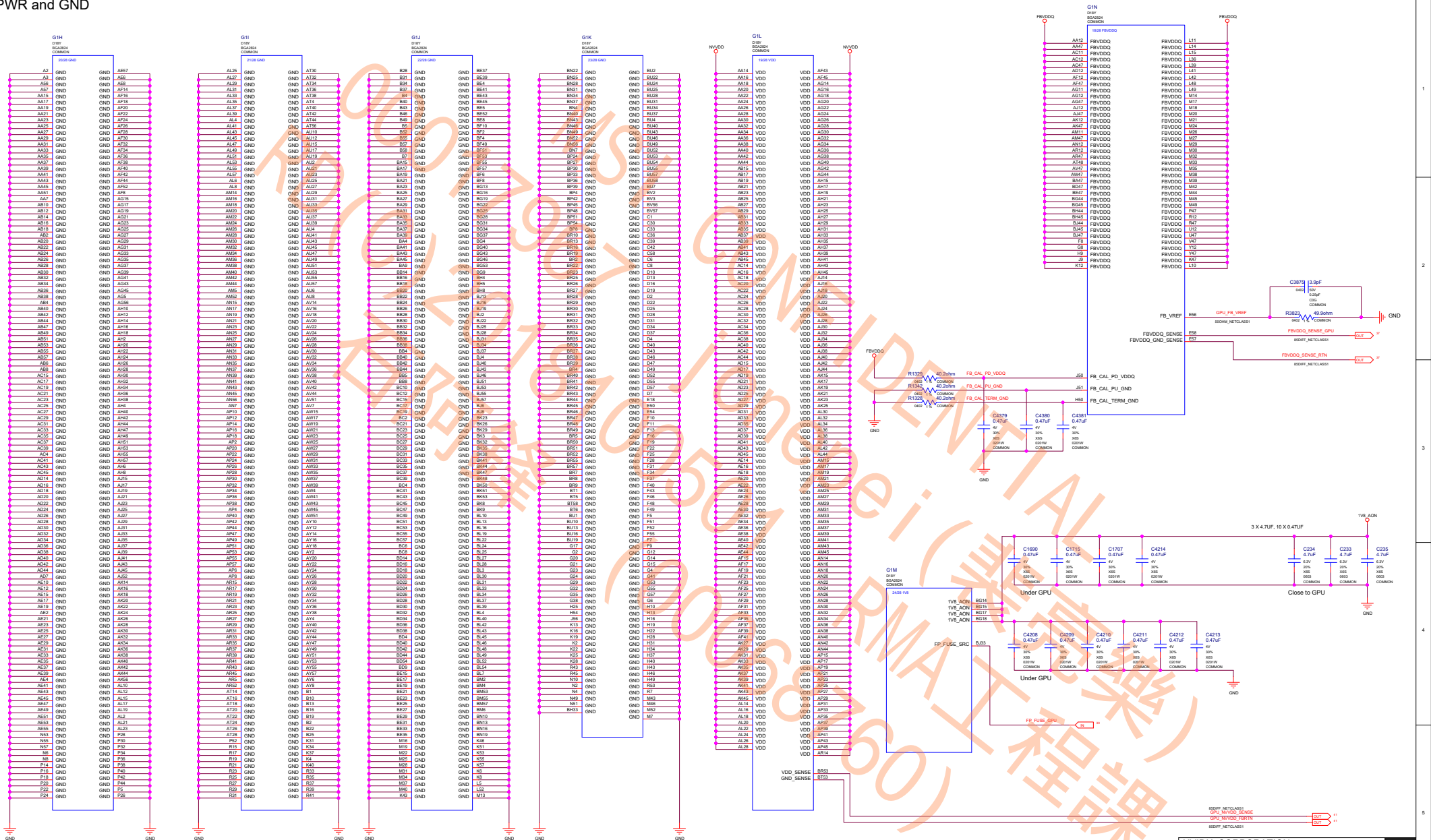
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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: GPU PARTITION E/F


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NV_PN		600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	15 OF 66	
BOM REV	A	DATE	09-JUL-2018	



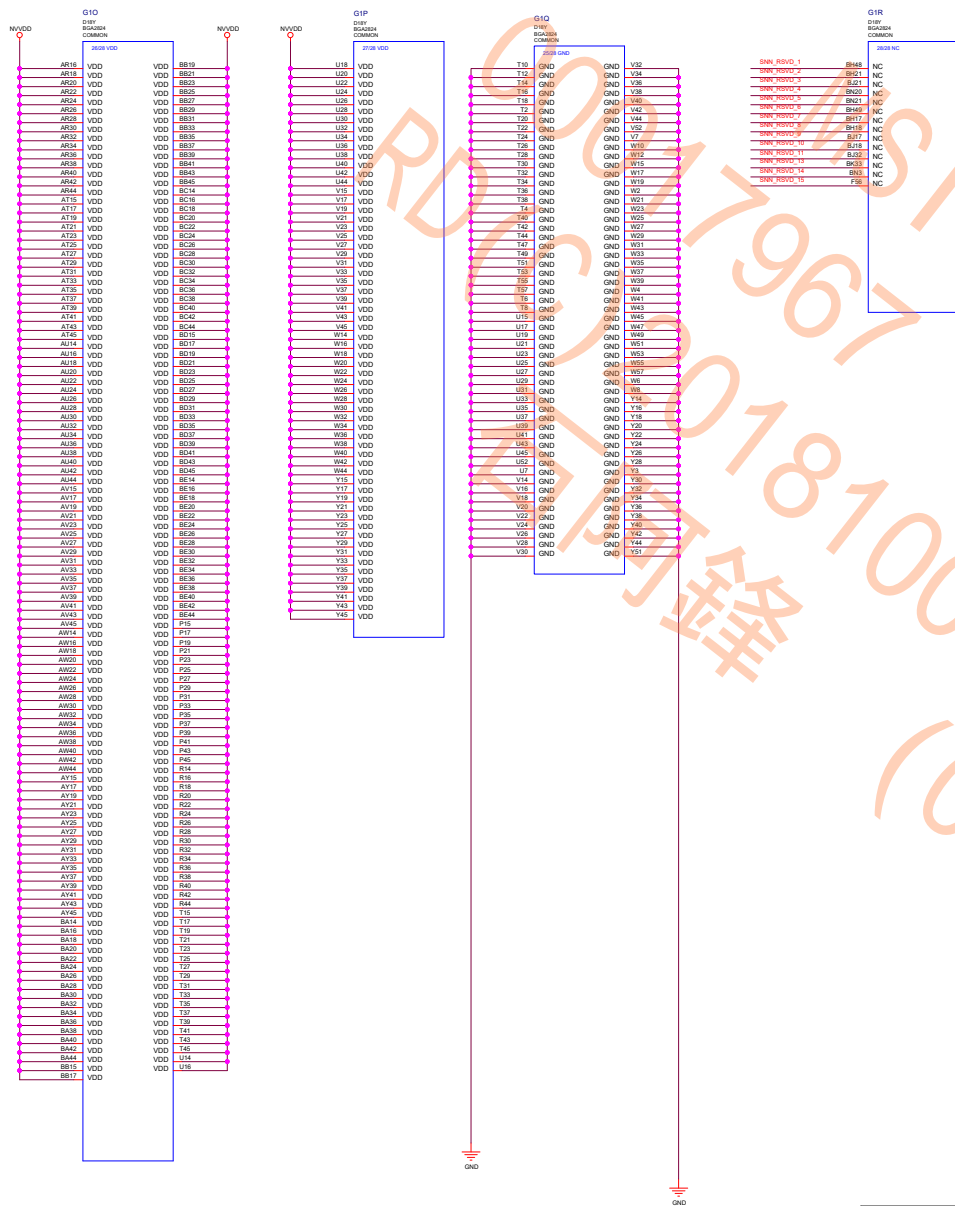
GPU PWR and GND



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PAGE DETAIL	GPU PWR and GND			
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GPU PWR GND NCs



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	GPU PWR, GND and NCs

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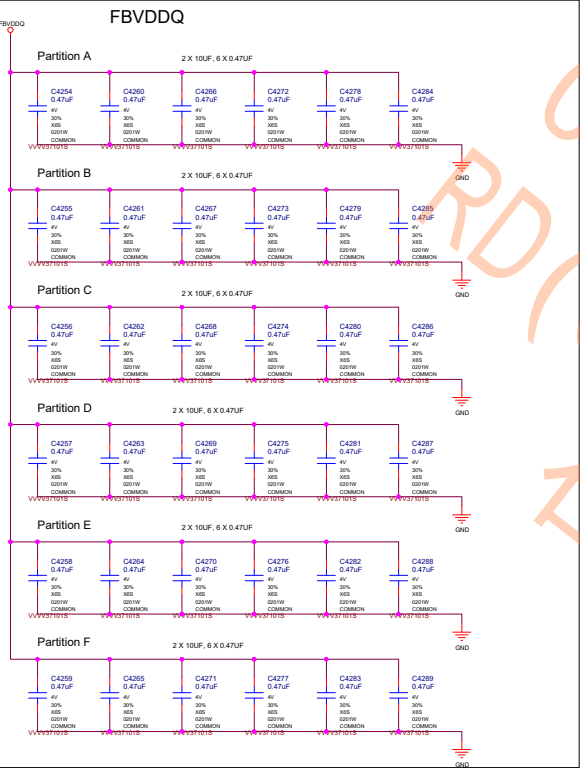
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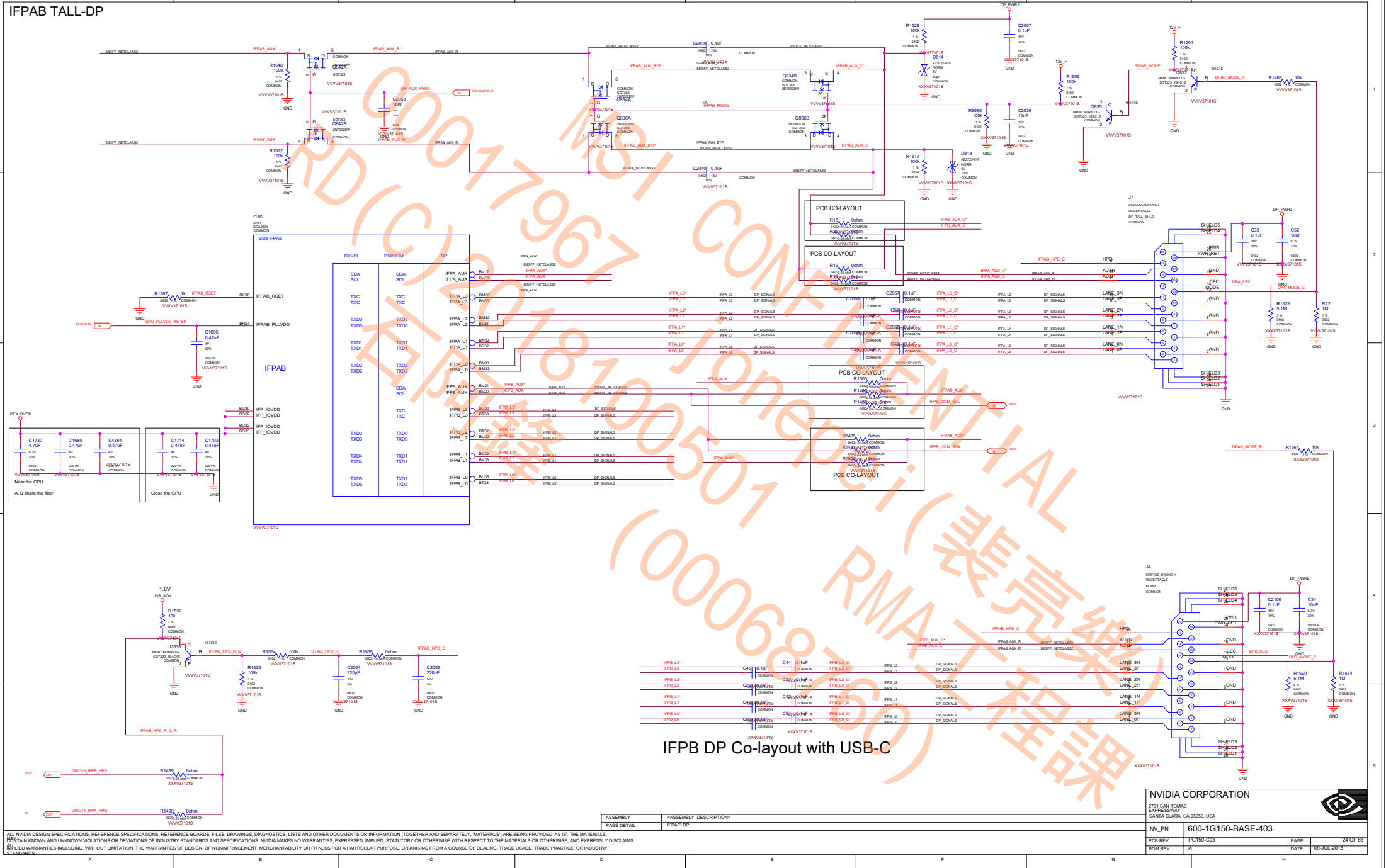
NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	21 OF 6
BOM REV	A	DATE	09-JUL-2018

GPU Decoupling




IFPAB TALL-DP

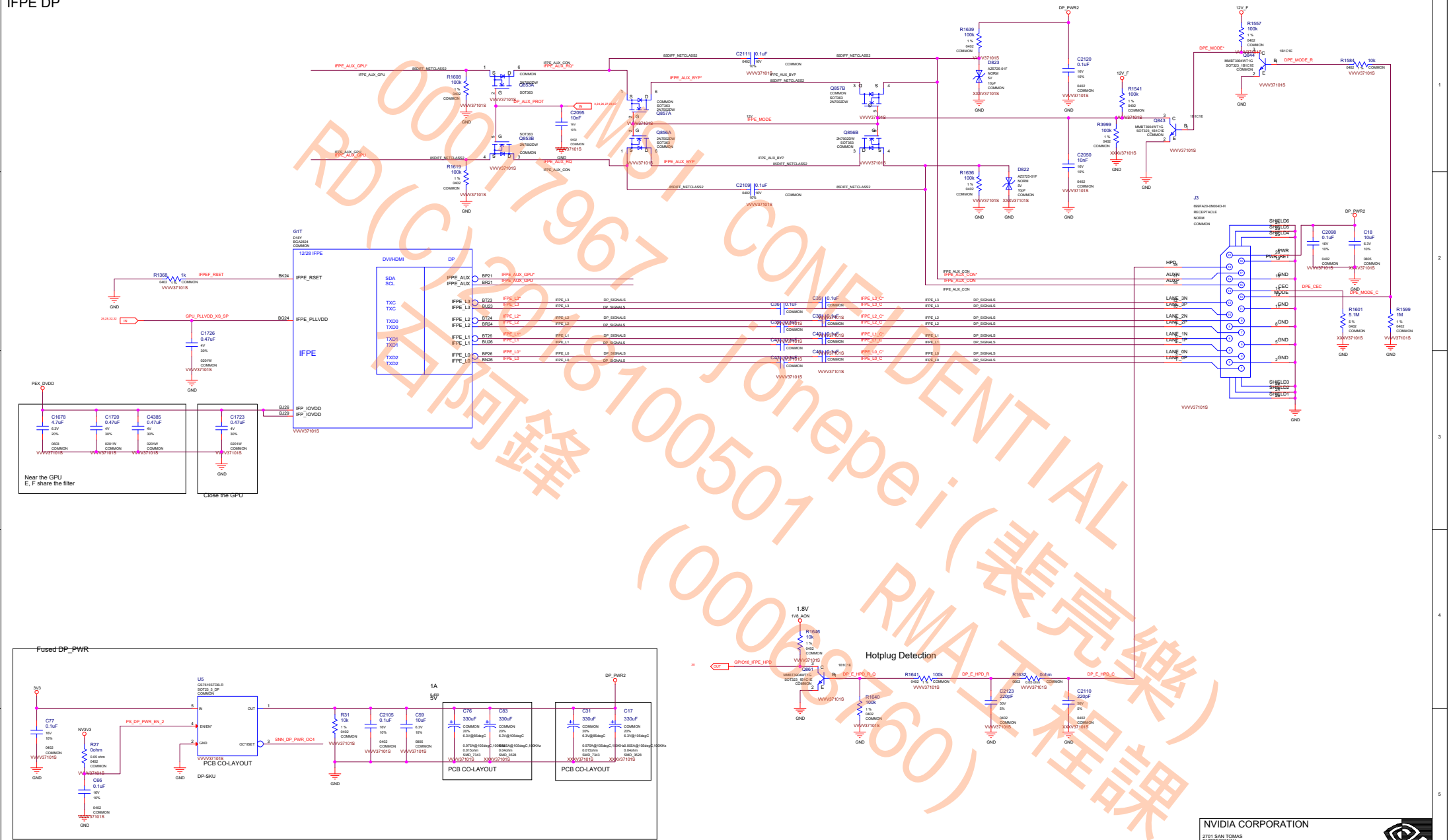


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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPA/B DP

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NV_PN		600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	24 OF 66	
BOM REV	A	DATE	09-JUL-2018	





ASSEMBLY		PAGE DETAIL	
IFPE DP		IFPE DP	

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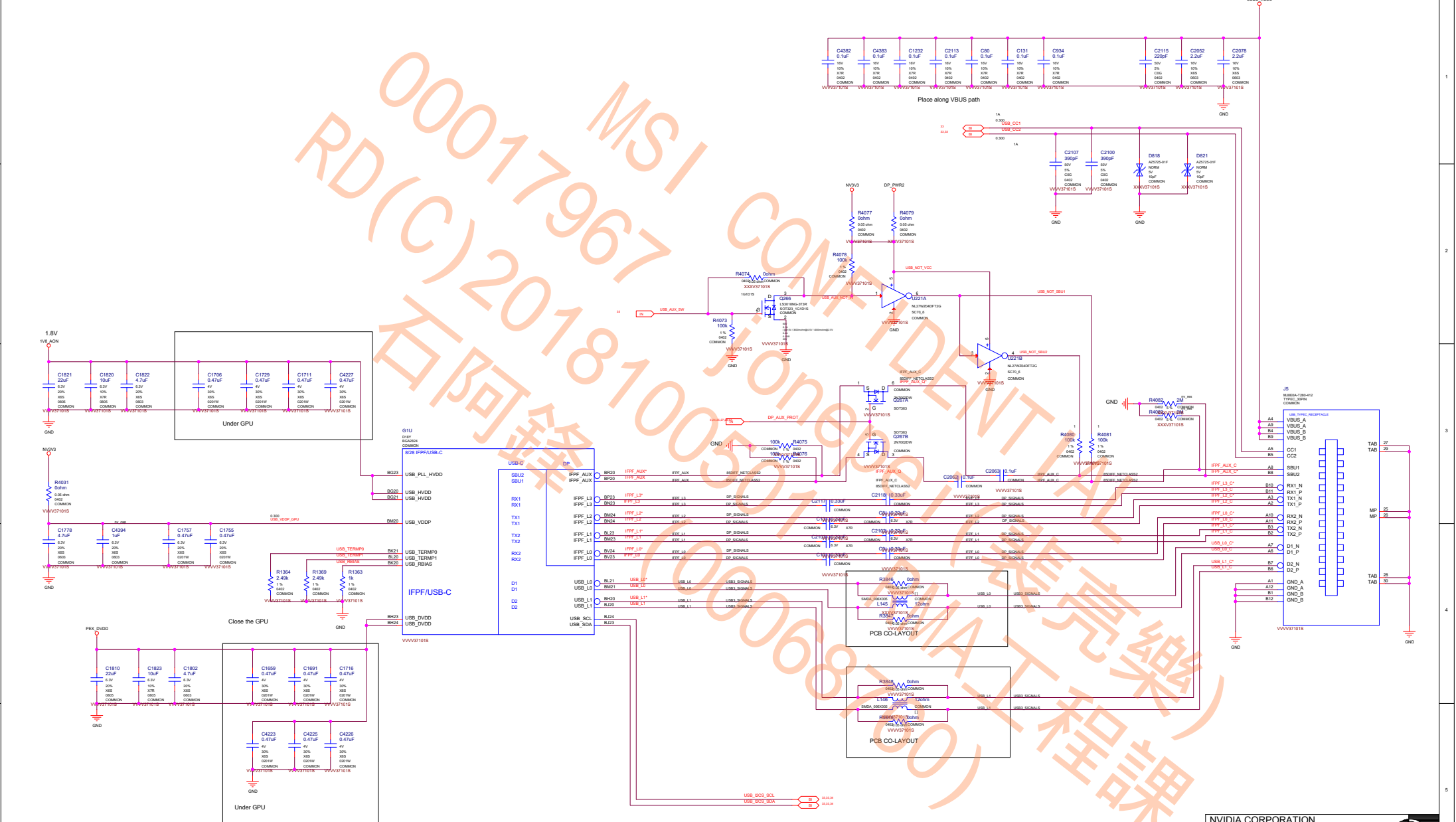
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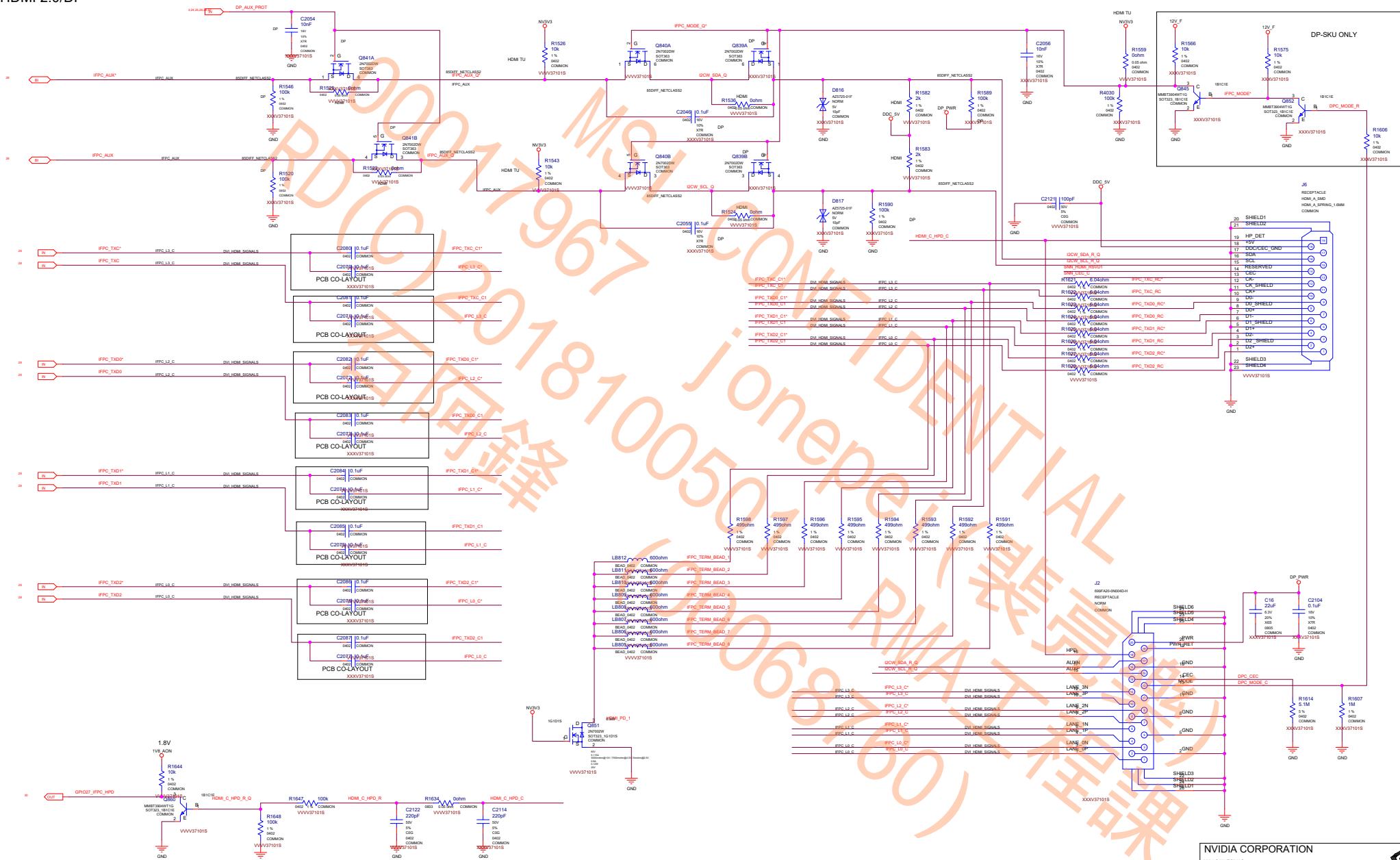
PCB REV PG150-003

DATE 09-JUL-2018

PAGE 25 OF 60

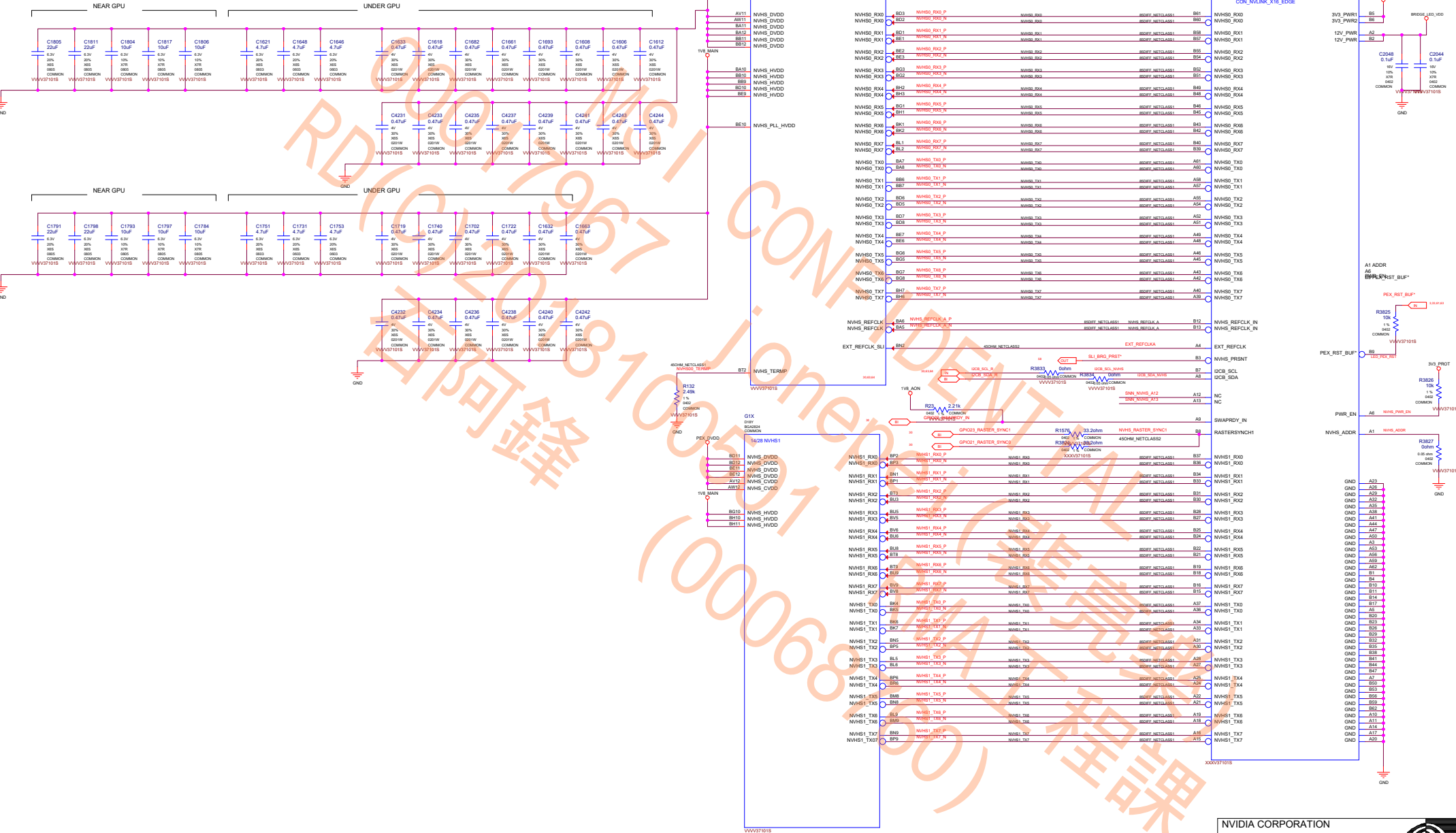


IFPC HDMI 2.0/DP



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SALES		PCB REV	PG150-C03
LESSLY DISCLAIM		BOM REV	A
ISTORY			DATE
			27 OF 66
			05-JUL-2018

NVHS Interface and FRAME LOCK



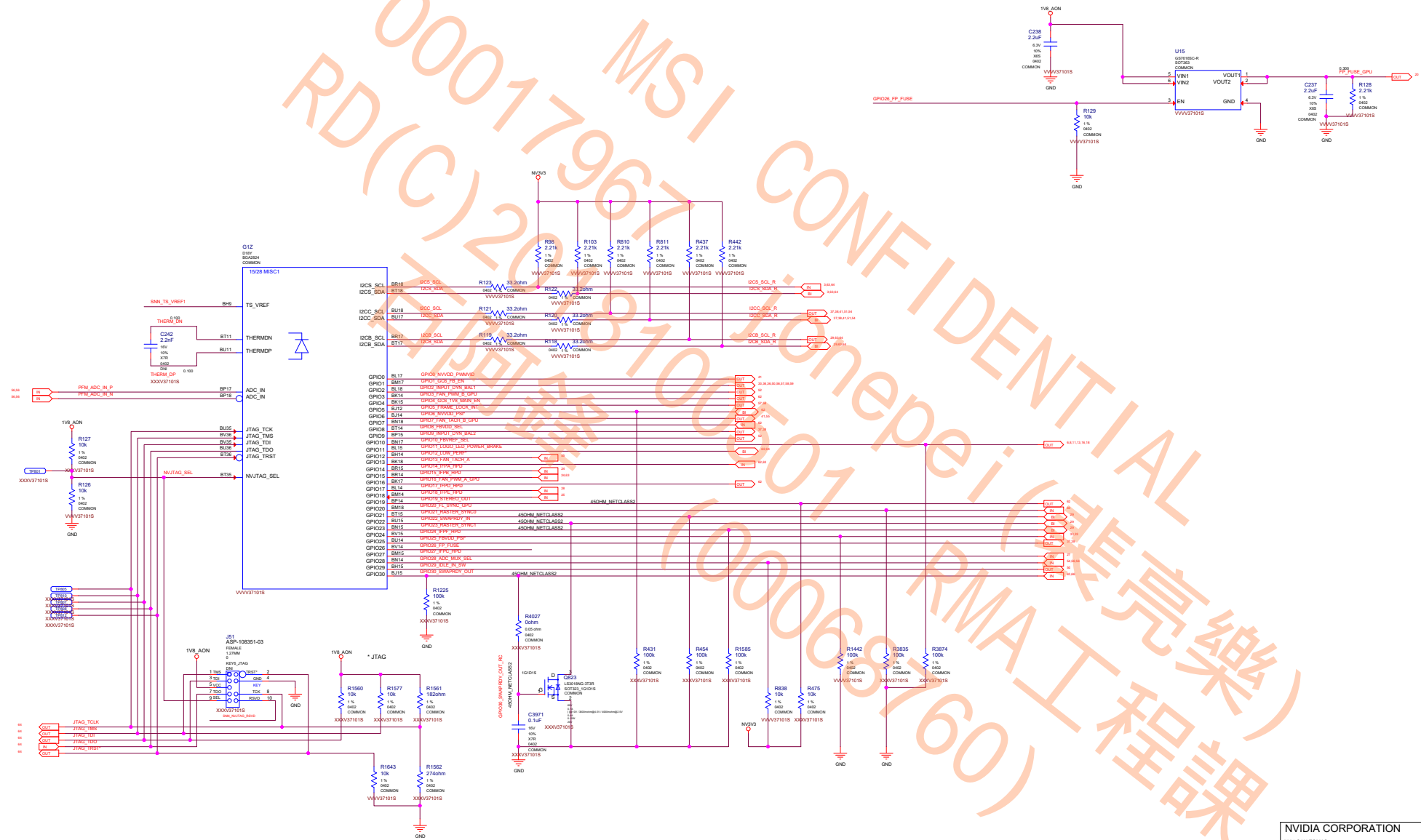
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ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE DETAIL	NVHS X16

MISC1: Fan, Thermal, JTAG, GPIO, STEREO



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PCB REV	PG150-C03	PAGE	30 OF 66
BOM REV	A	DATE	09-JUL-2018

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STANDARDS			
A	B	C	D

MISC2: ROM, Straps

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]
L	L	L	00000
L	L	H	00001
L	H	L	00010
L	H	H	00011
H	L	L	00100
H	L	H	00101
H	H	L	00110
H	H	H	00111
L	L	M	01000
L	M	L	01001

DEFAULT

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

ROM_SO	ROM_SI	ROM_SCLK	DUMMY[2:0],FS_OVERT	1:ENABLE 0:DISABLE
L	L	L	XXX1	FS_OVERT ENABLE
L	L	H	XXX0	FS_OVERT DISABLE

DEFAULT

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
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

Default

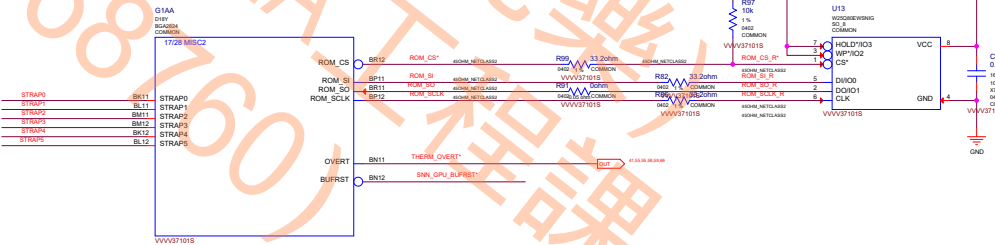
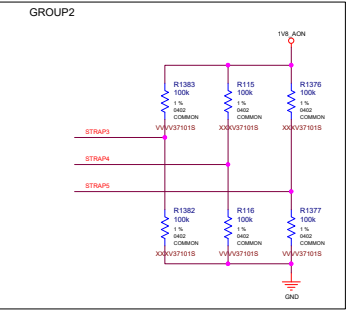
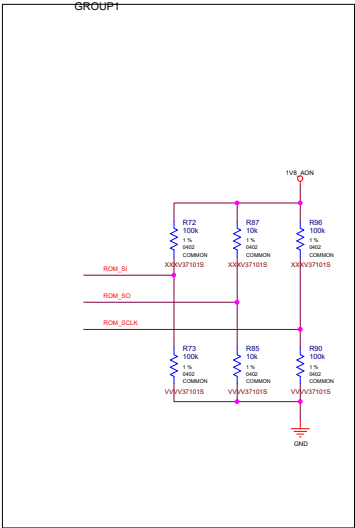
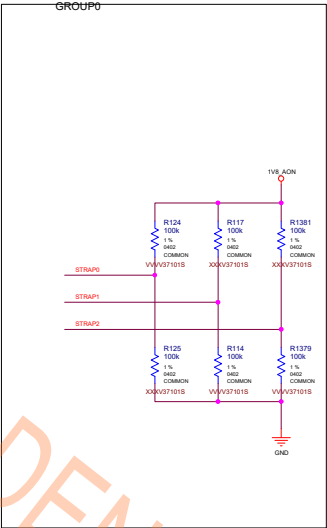
SKU 200

- 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



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SANTA CLARA, CA 95050, USA

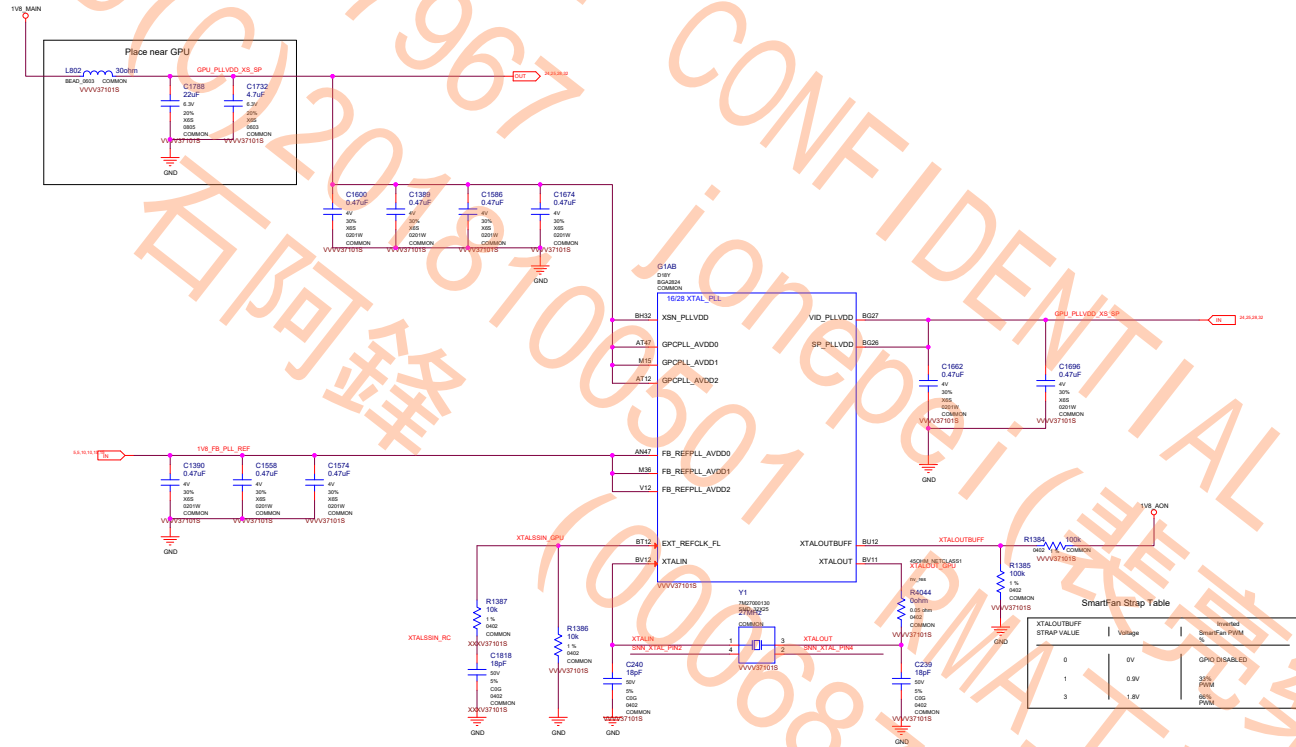


NV_PN 600-1G150-BASE-403

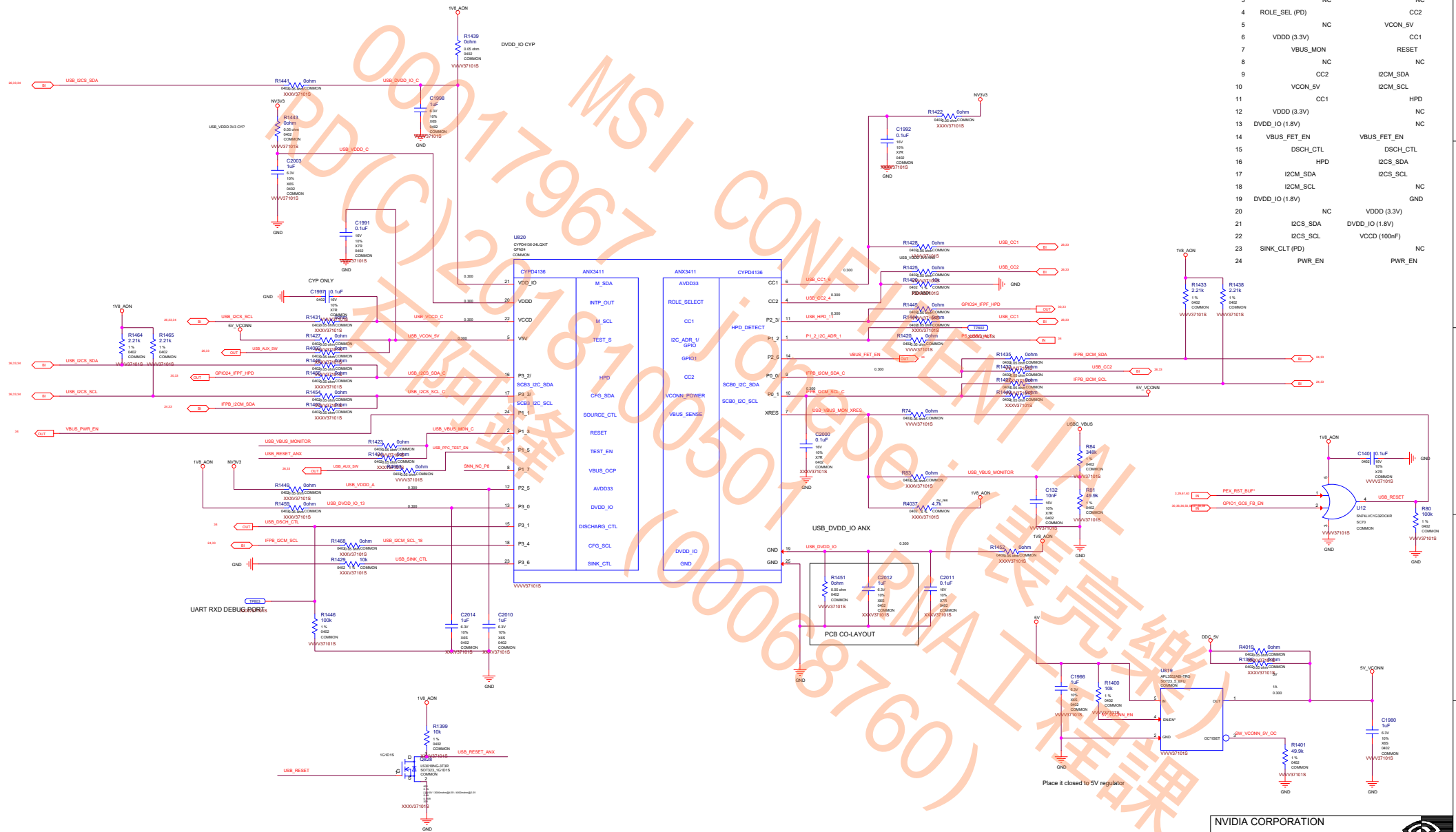
PCB REV PG150-003
BCM REV A


PAGE 31 OF 88
DATE 09-JUL-2018

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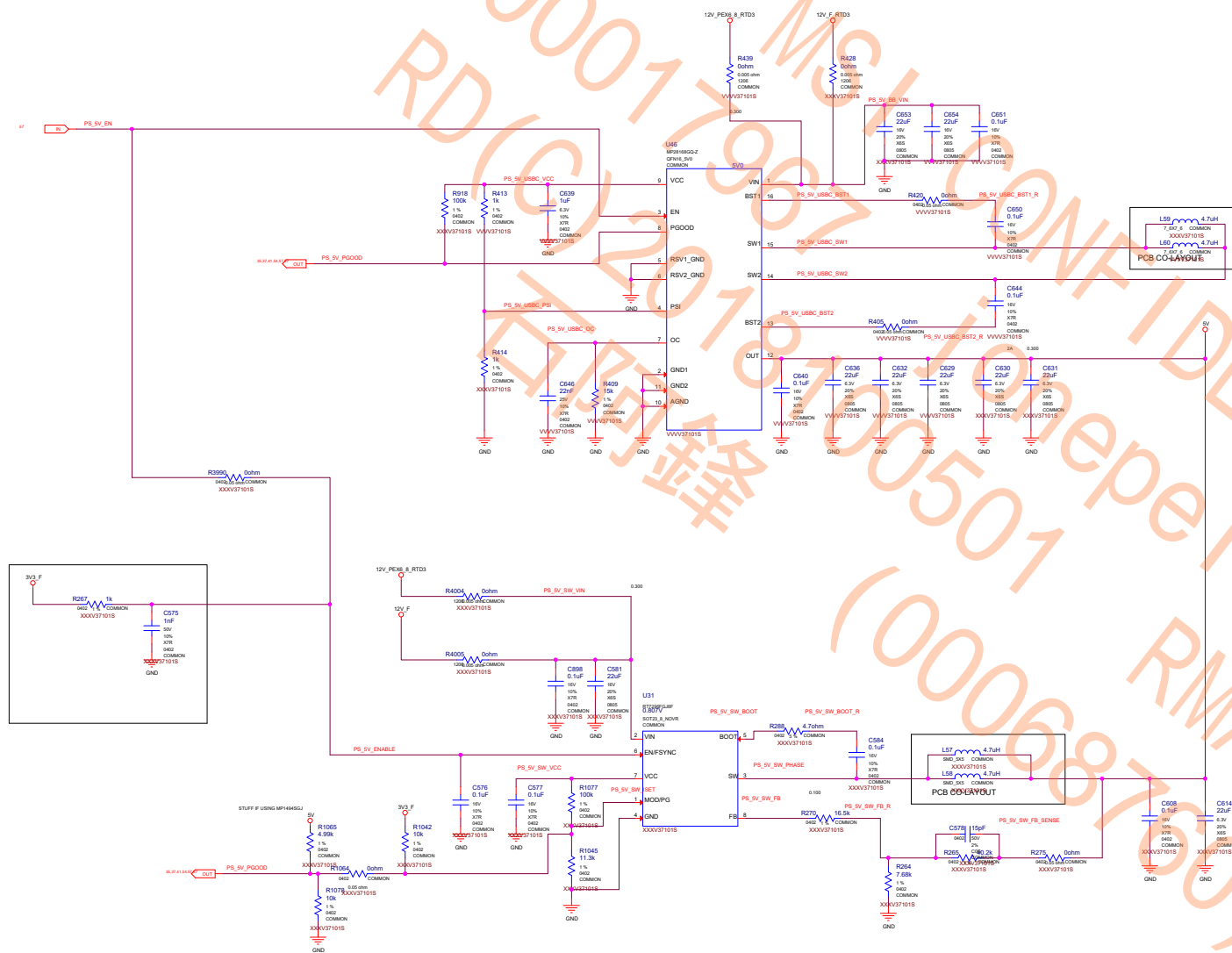



MISC: USB PPC



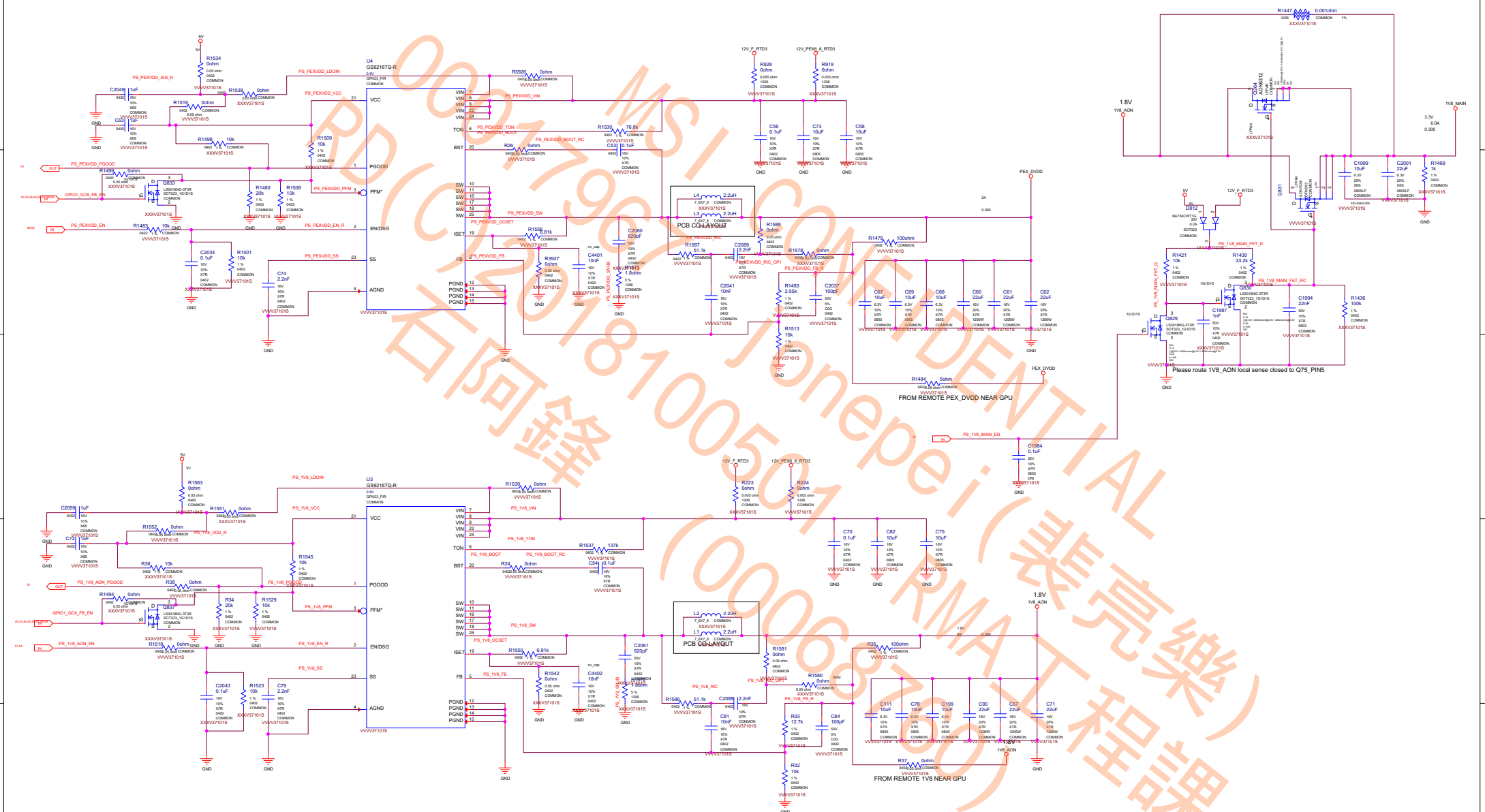
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA				
NV_PN		600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	33 OF 66	
BOM REV	A	DATE	09-JUL-2018	

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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	35 OF 6
BOM REV	A	DATE	09-JUL-2018

PS: PEXVDD 1V8 Rail



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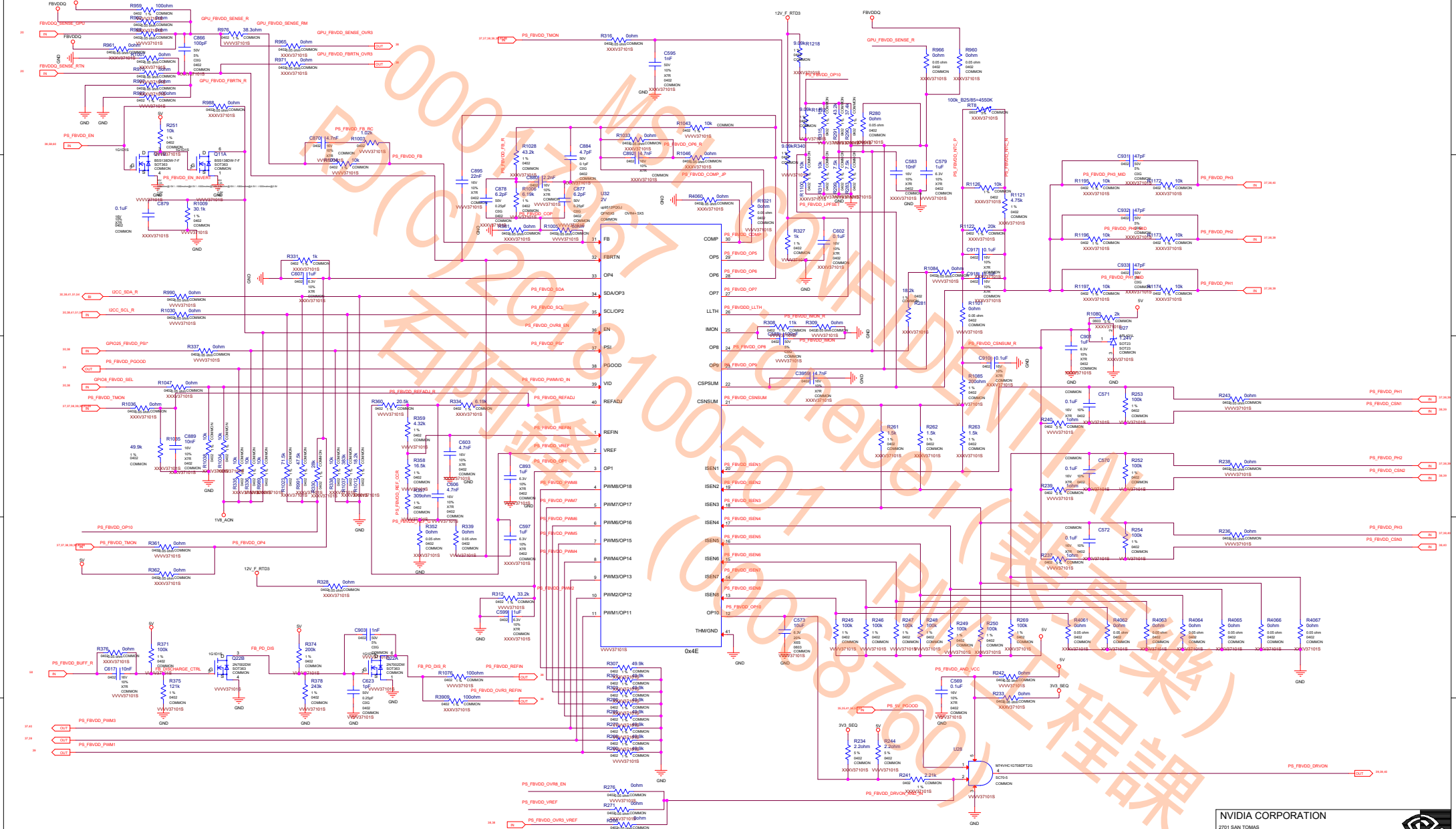
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NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	38 OF 68
BOM REV	A	DATE	09-JUL-2018

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PS: FBVDD Controller



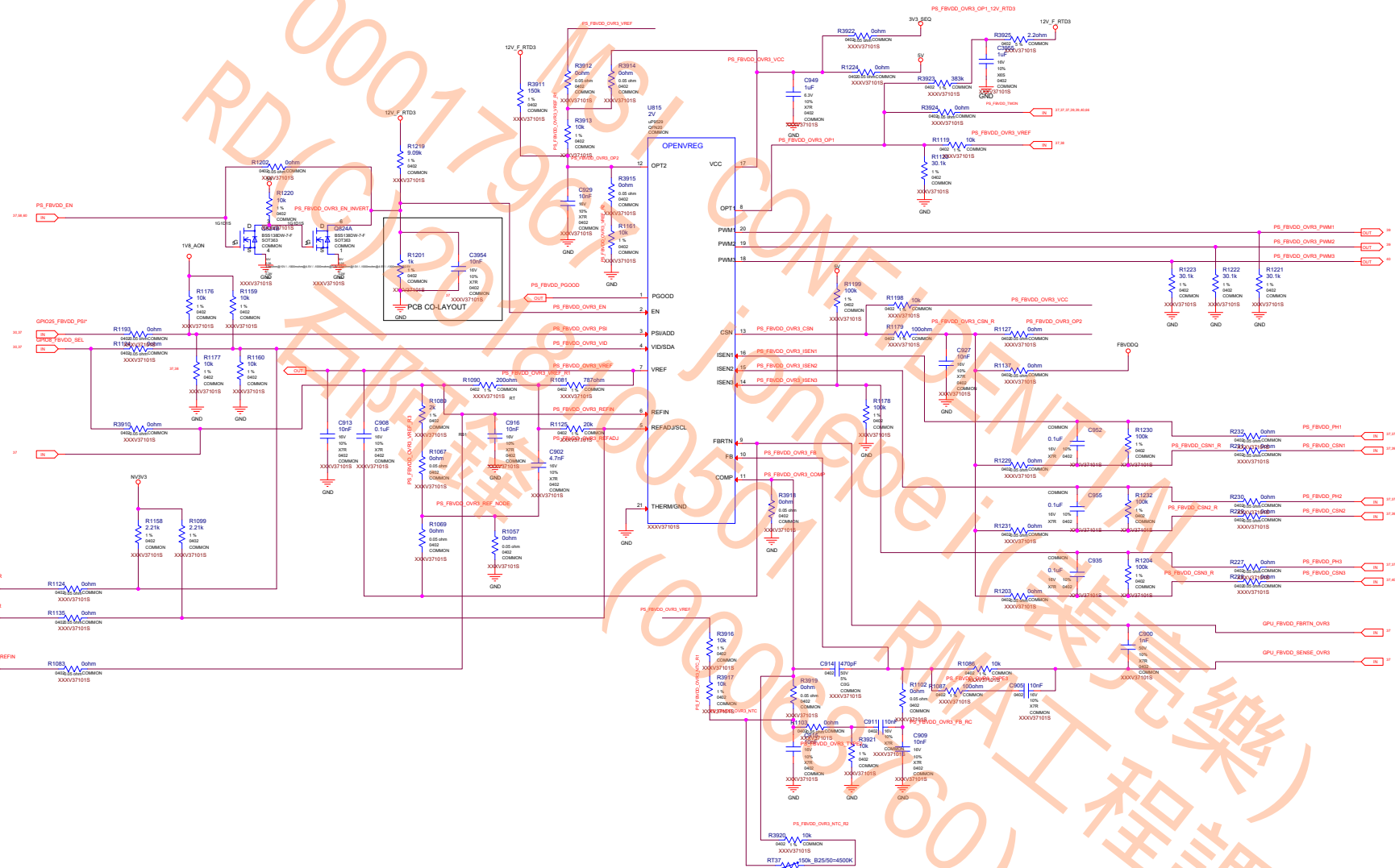
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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: FBVDD Controller

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2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA	
NV_PN	600-1G150-BASE-403
PCB REV	PG150-C03
BCM REV	A
PAGE	37 OF 88
DATE	09-JUL-2018



PS: FBVDD Controller OVR3



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: FBVDD Controller OVR3

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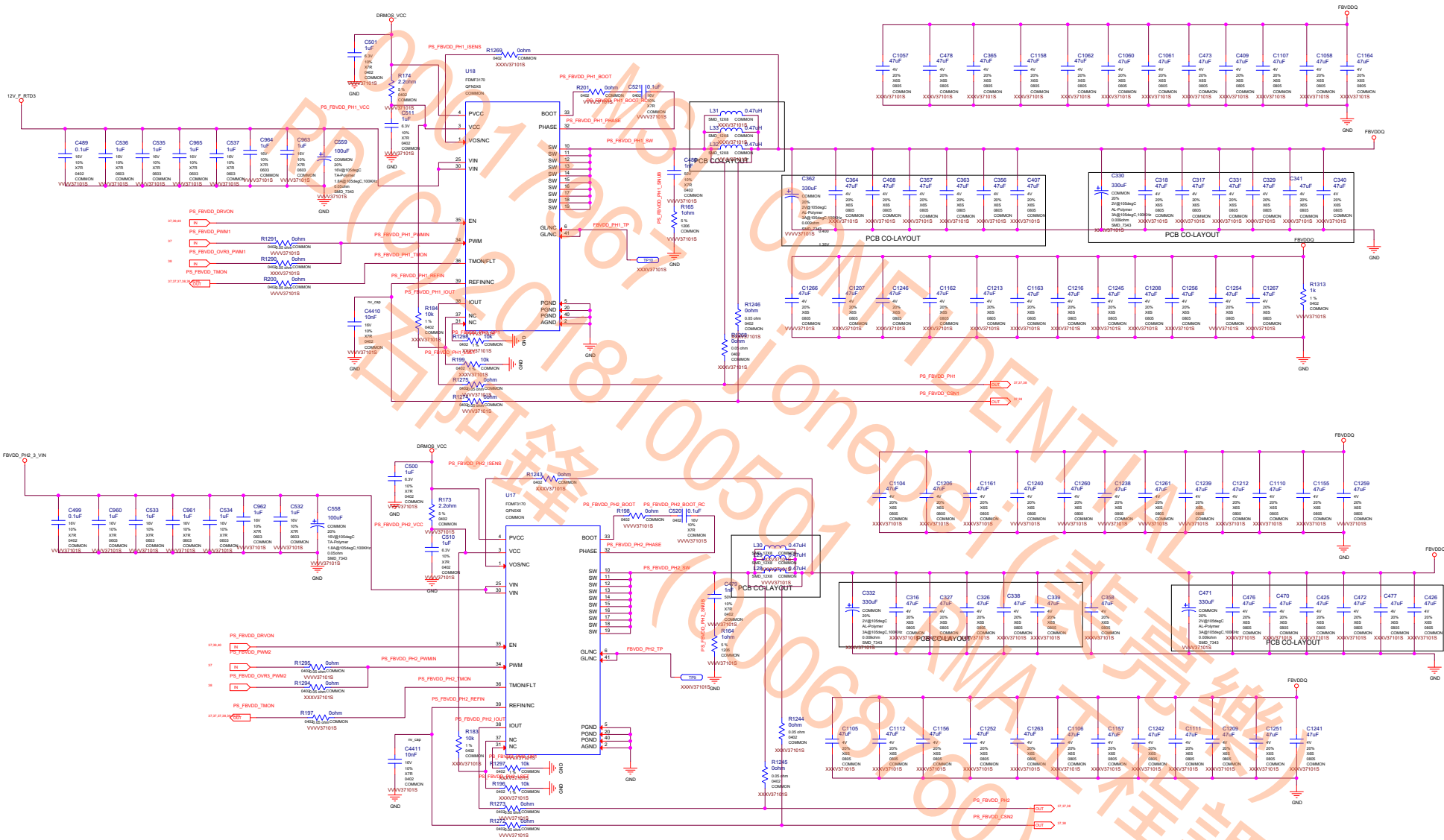


NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	38 OF 66
BOM REV	A	DATE	09-JUL-2018

BOM REV	A	DATE	09-JUL-2018
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PS: FBVDD PH1, 2



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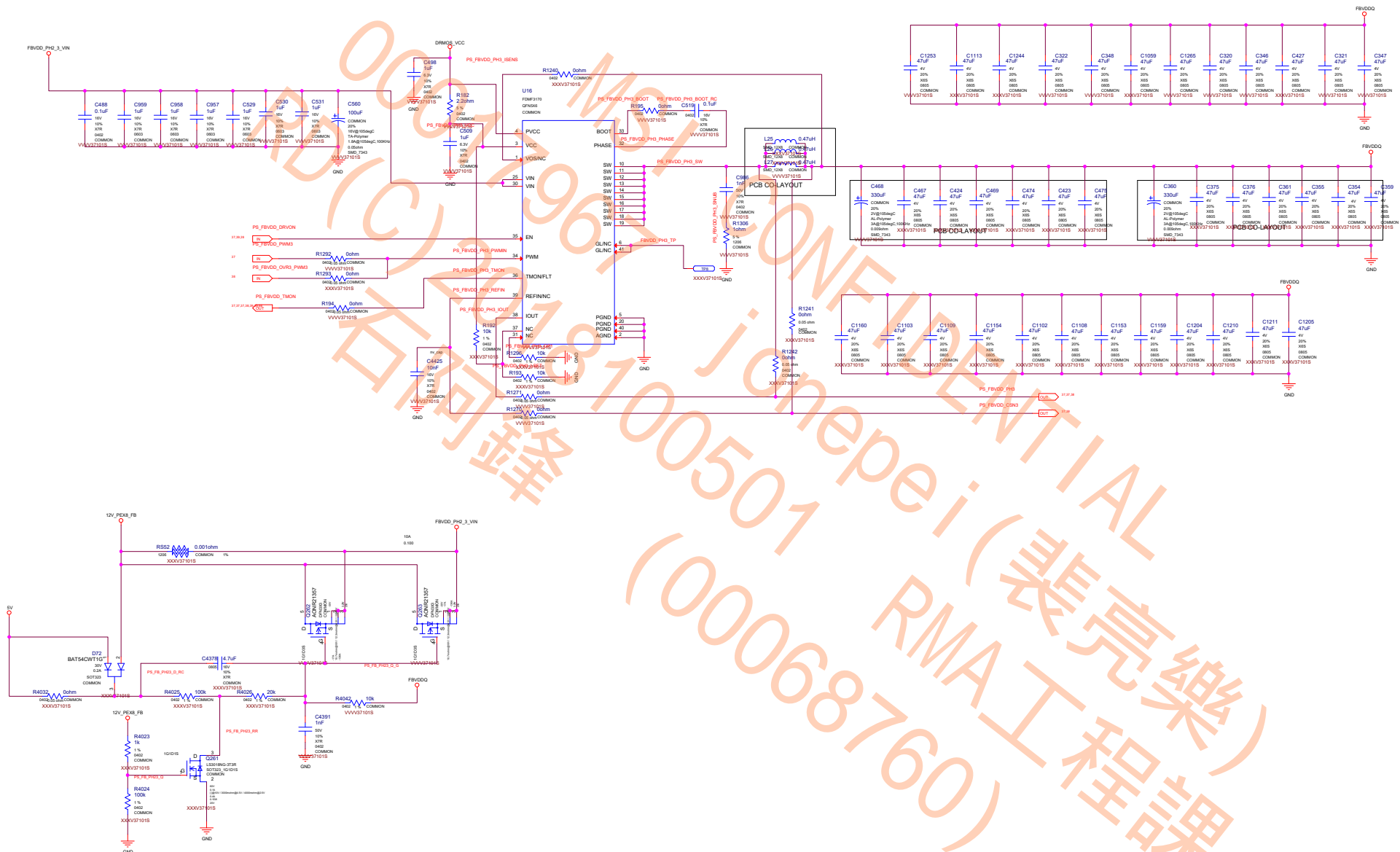
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NV_PN 600-1G150-BASE-403

PCB REV	PG150-C03	PAGE	39 OF 66
BCM REV	A	DATE	09-JUL-2018

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PS: FBVDD PH3



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NV_PN	600-1G150-BASE-403
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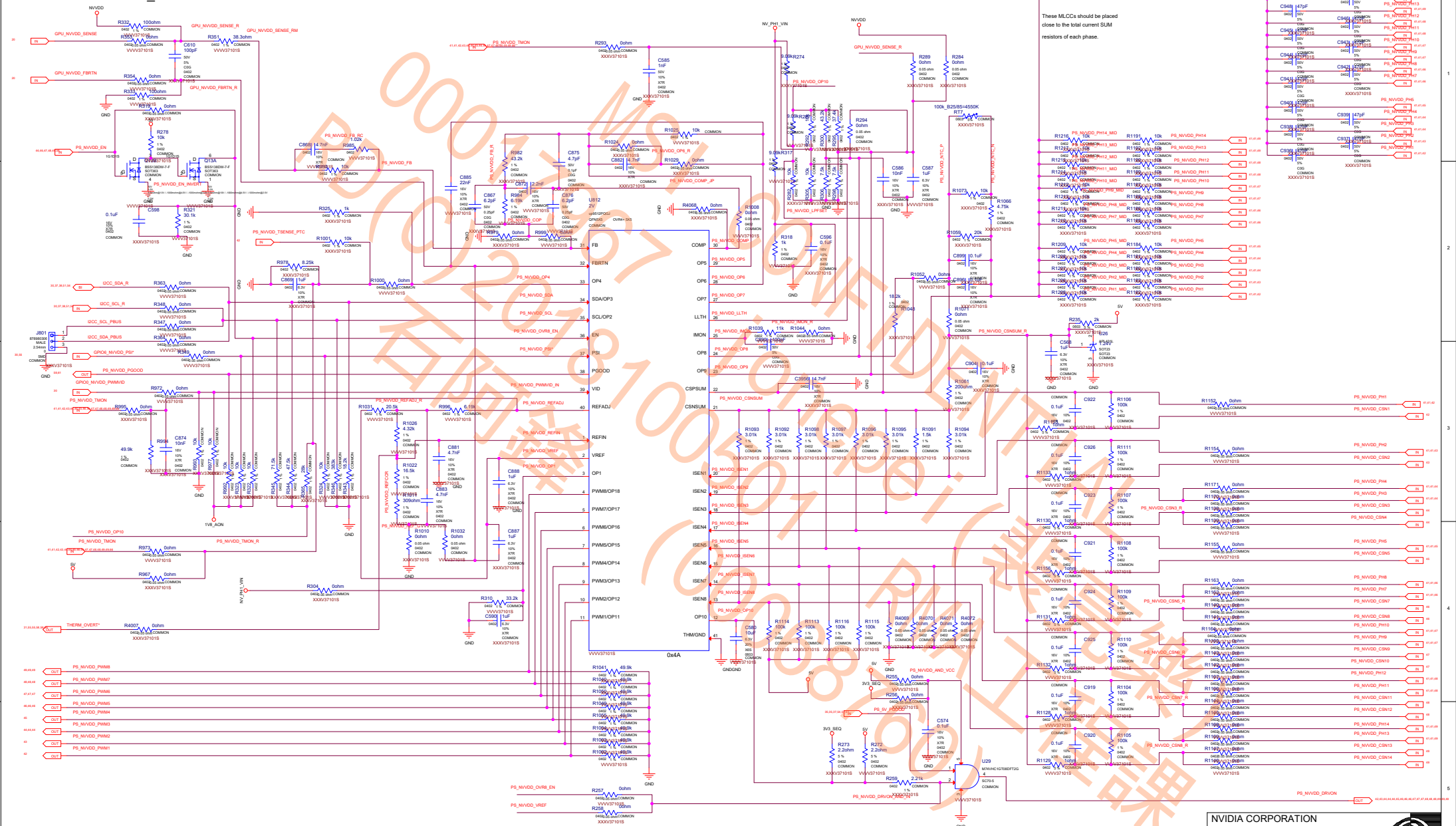
PCB REV	PG150-C03	PAGE	40 OF 66
BOM REV	A	DATE	09-JUL-2018

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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: FBVDD Phase 3

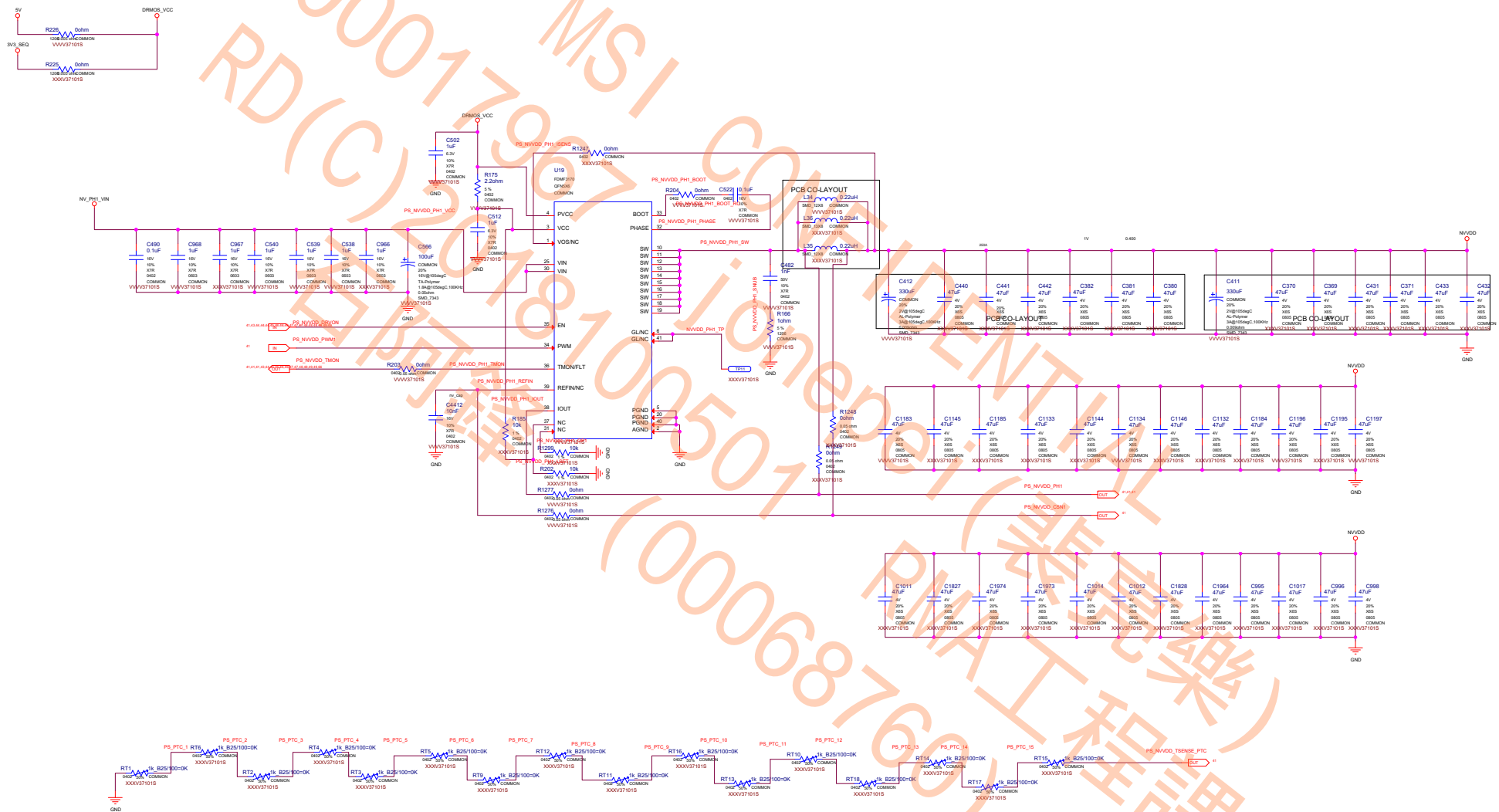
PS: NVVDD Controller_OVR8

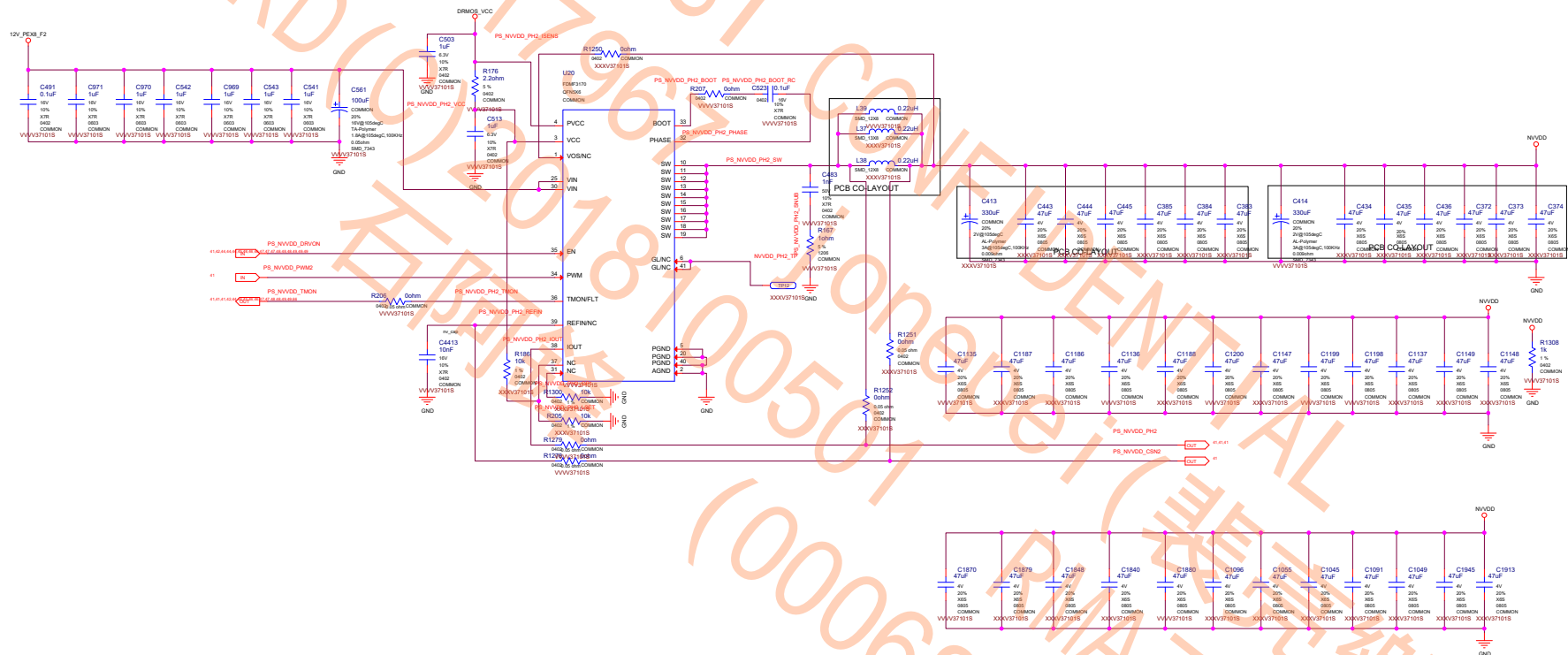


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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	41 OF 66
BOM REV	A	DATE	09-JUL-2018

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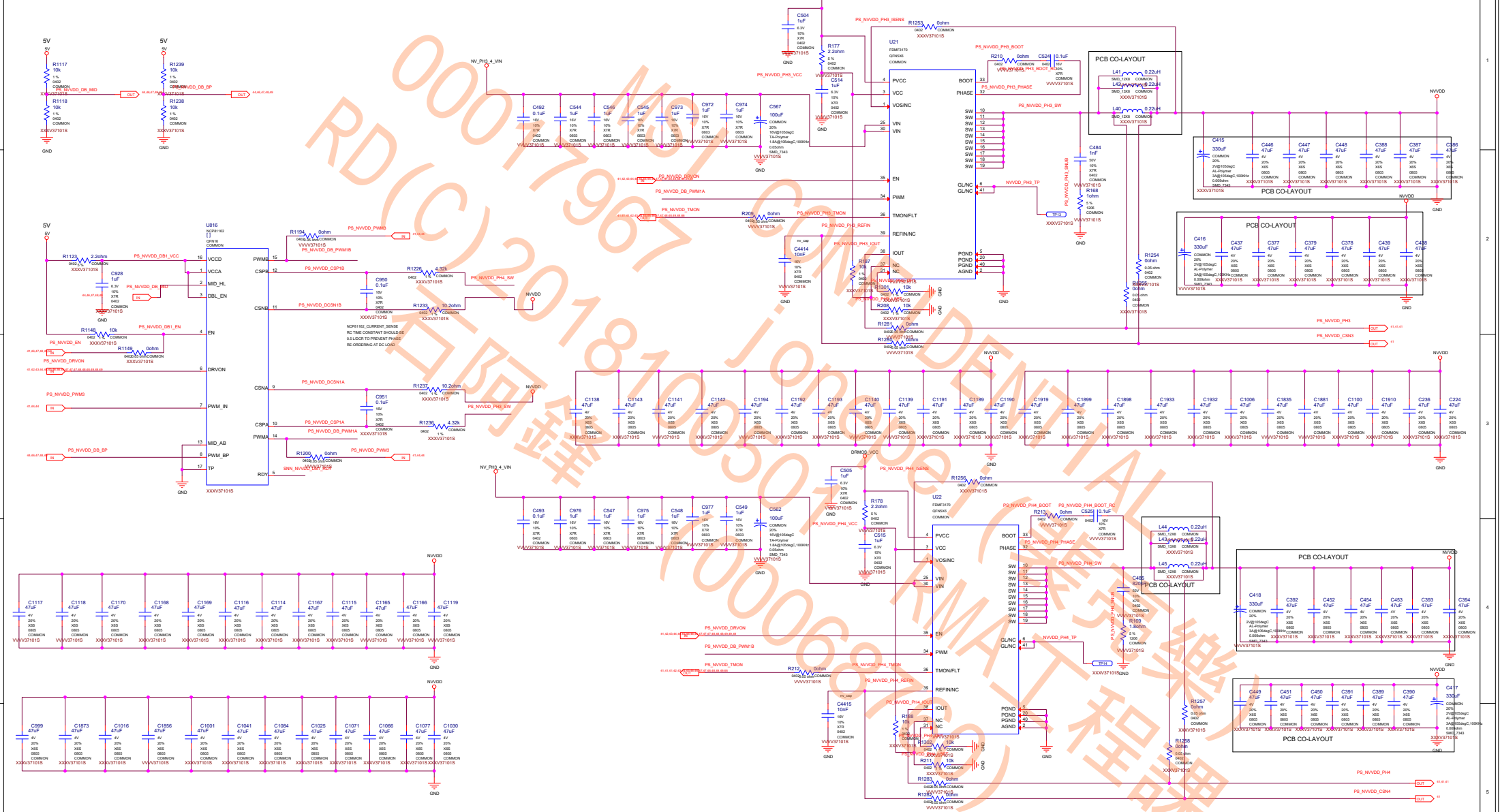
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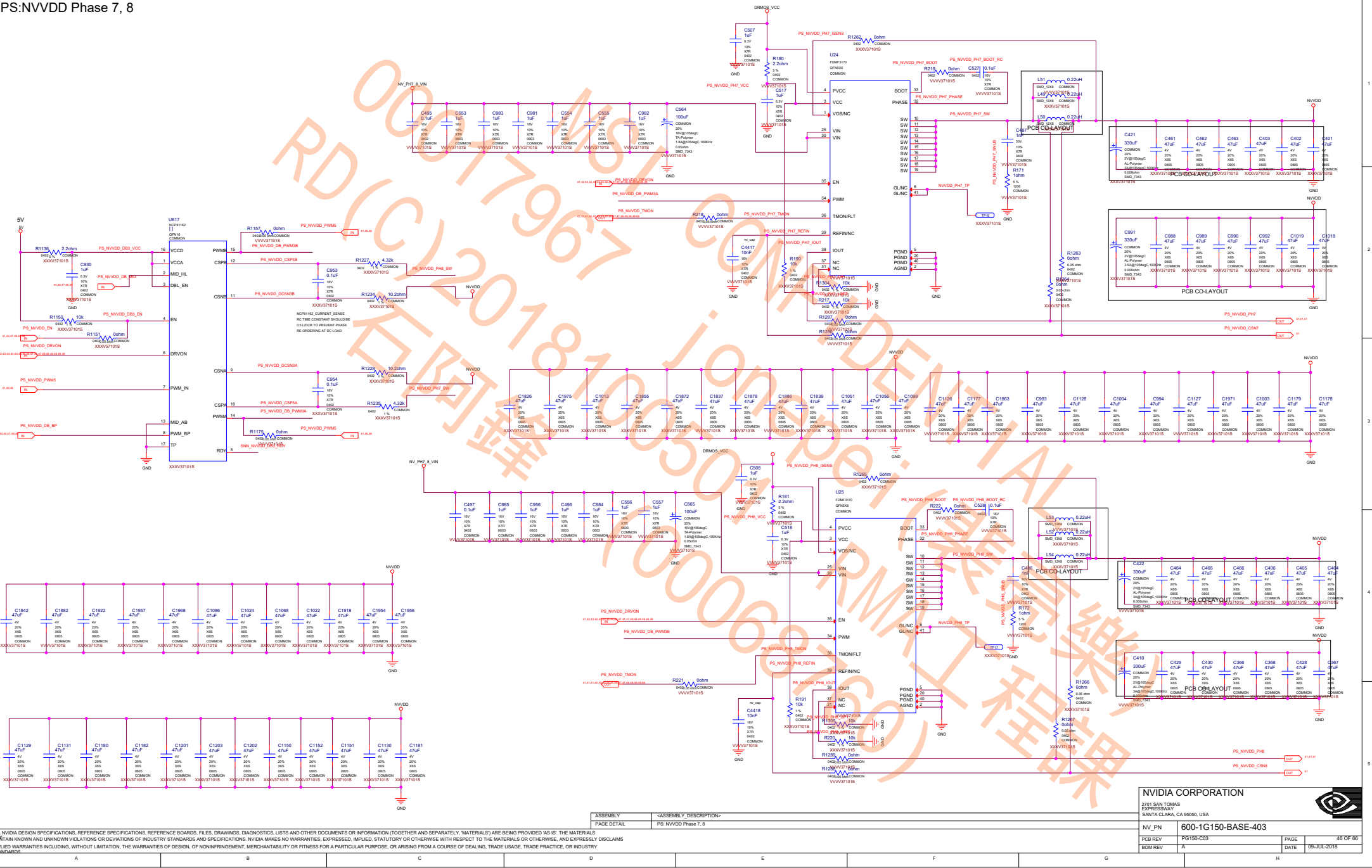
NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	43 OF 66
BOM REV	A	DATE	09-JUL-2018

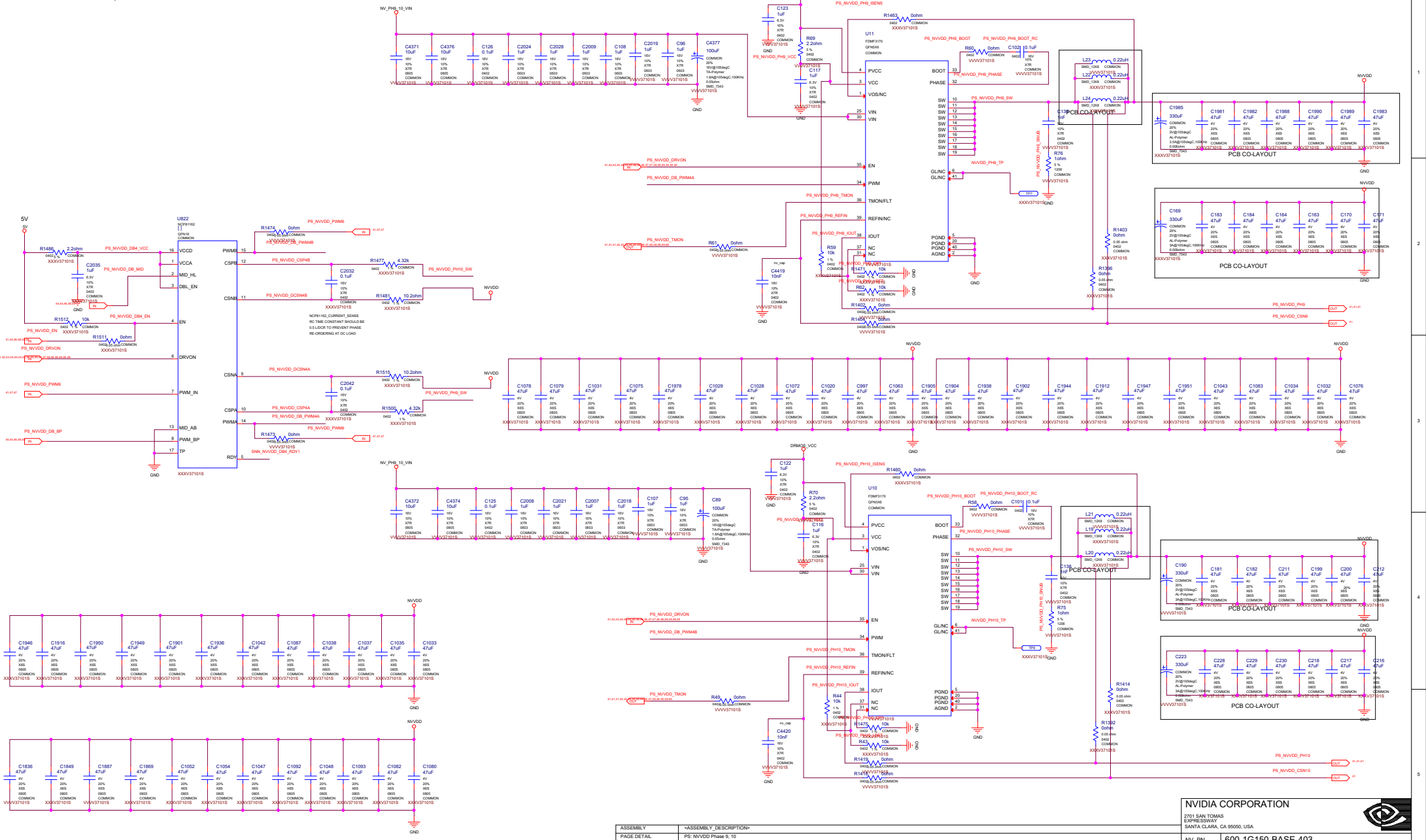
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PS: NVVDD Phase 3, 4





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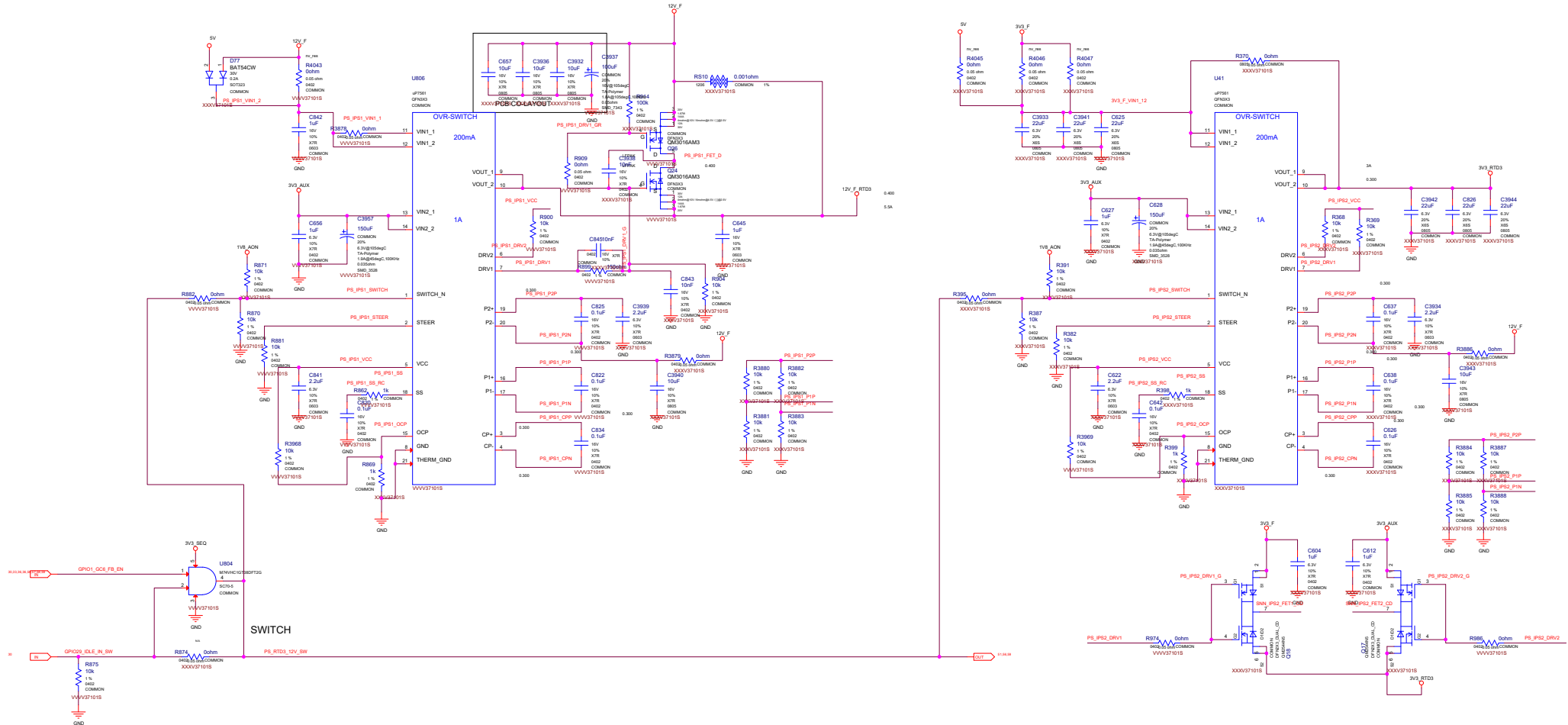
PS: INPUT SWITCH RTD3

AND GATE LOGIC FOR P-BOARD

GPIO1	GPIO29	SWITCH	VOUT
0	0	0	12V_F
0	1	0	12V_F
1	0	0	12V_F
1	1	1	3V3A

AND GATE LOGIC FOR P-BOARD

GPI01	GPI029	SWITCH	VOUT
0	0	0	3V3
0	1	0	3V3
1	0	0	3V3
1	1	1	3V3A



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NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	50 OF 66
BOM REV	A	DATE	09-JUL-2018

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PS: Input Switch Rail Balance

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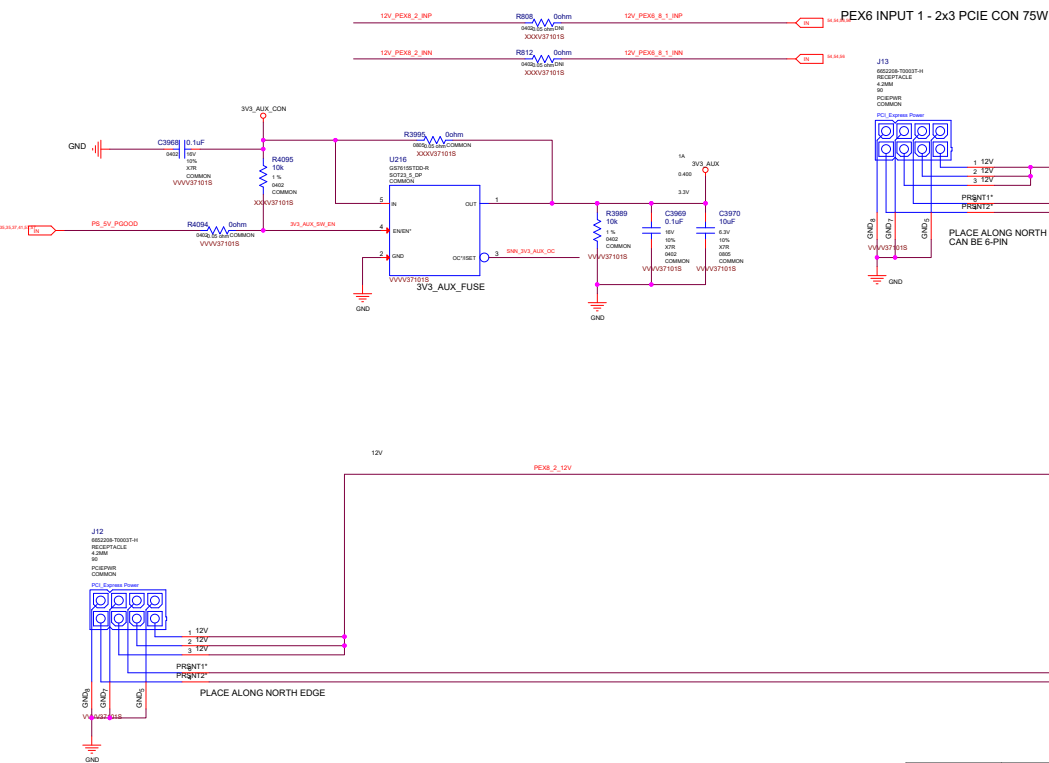
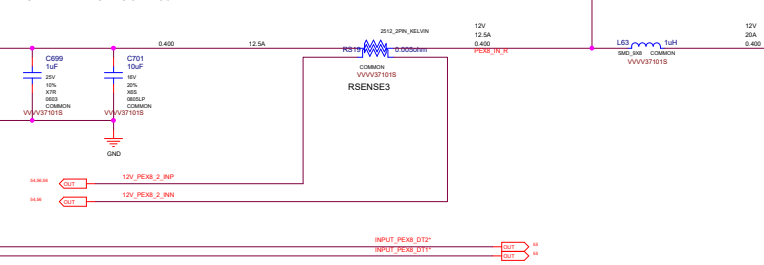
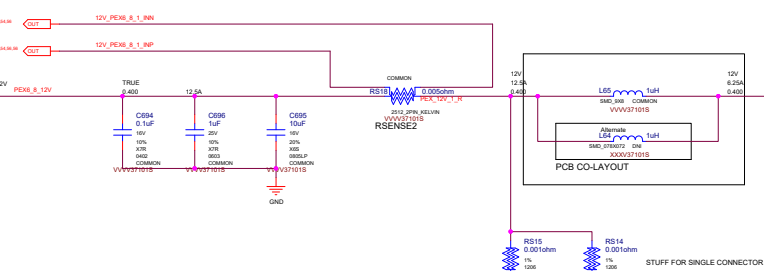
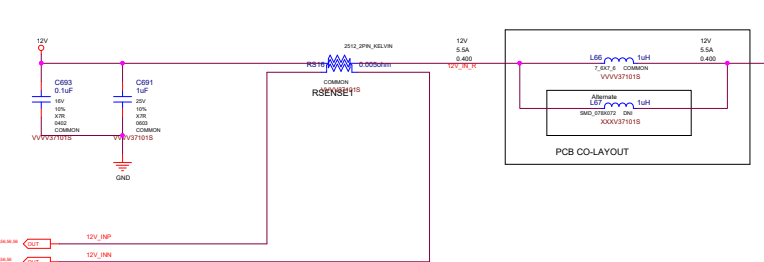
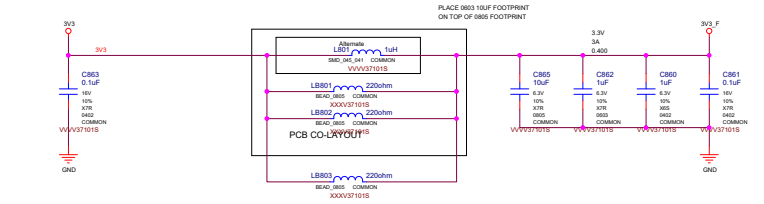
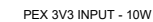
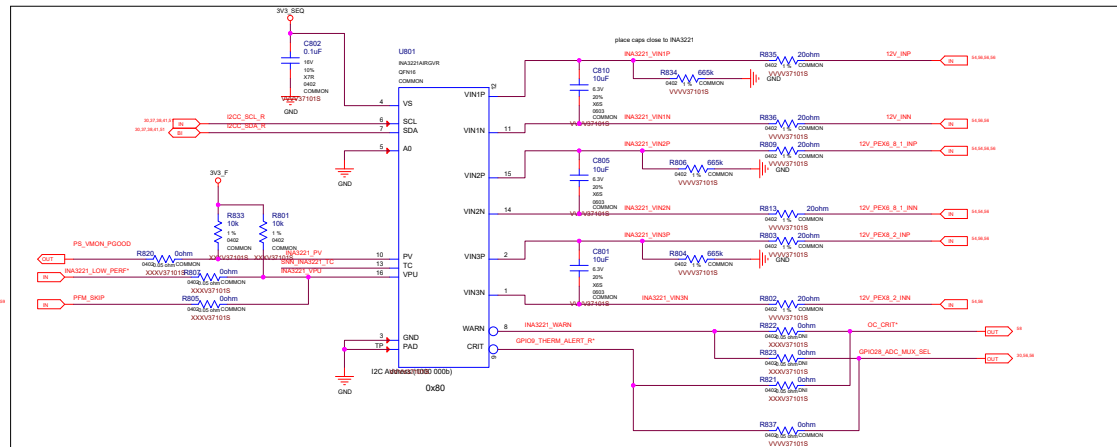
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PCB REV	PG150-C03
BOM REV	A

PS: Inputs, Filtering, and Monitoring



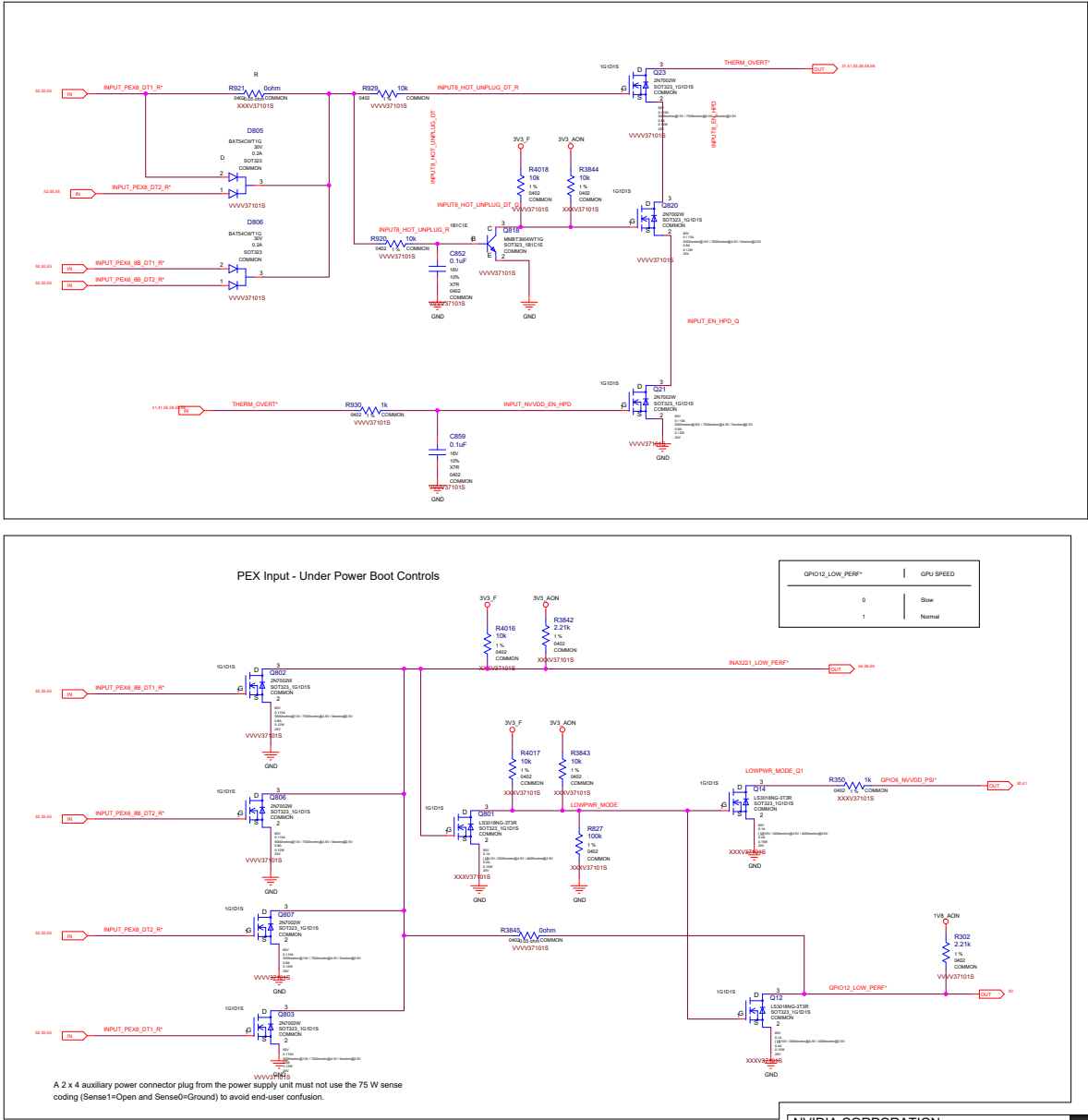
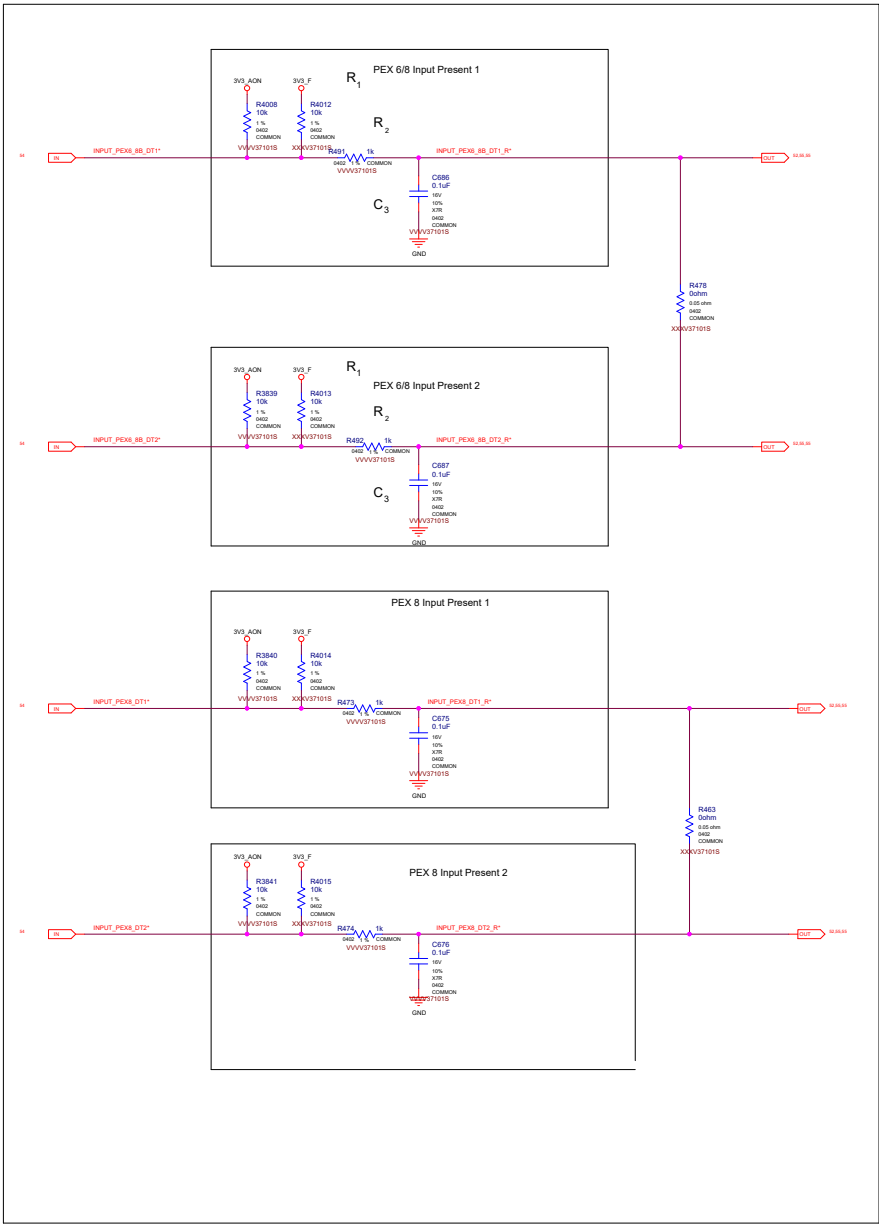
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PAGE DETAIL	PS: Input, filtering, and Monitoring

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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-C03	PAGE	54 OF 66
BOM REV	A	DATE	09-III-2018

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PS: 12V Current Steering & Hot Unplug Detect



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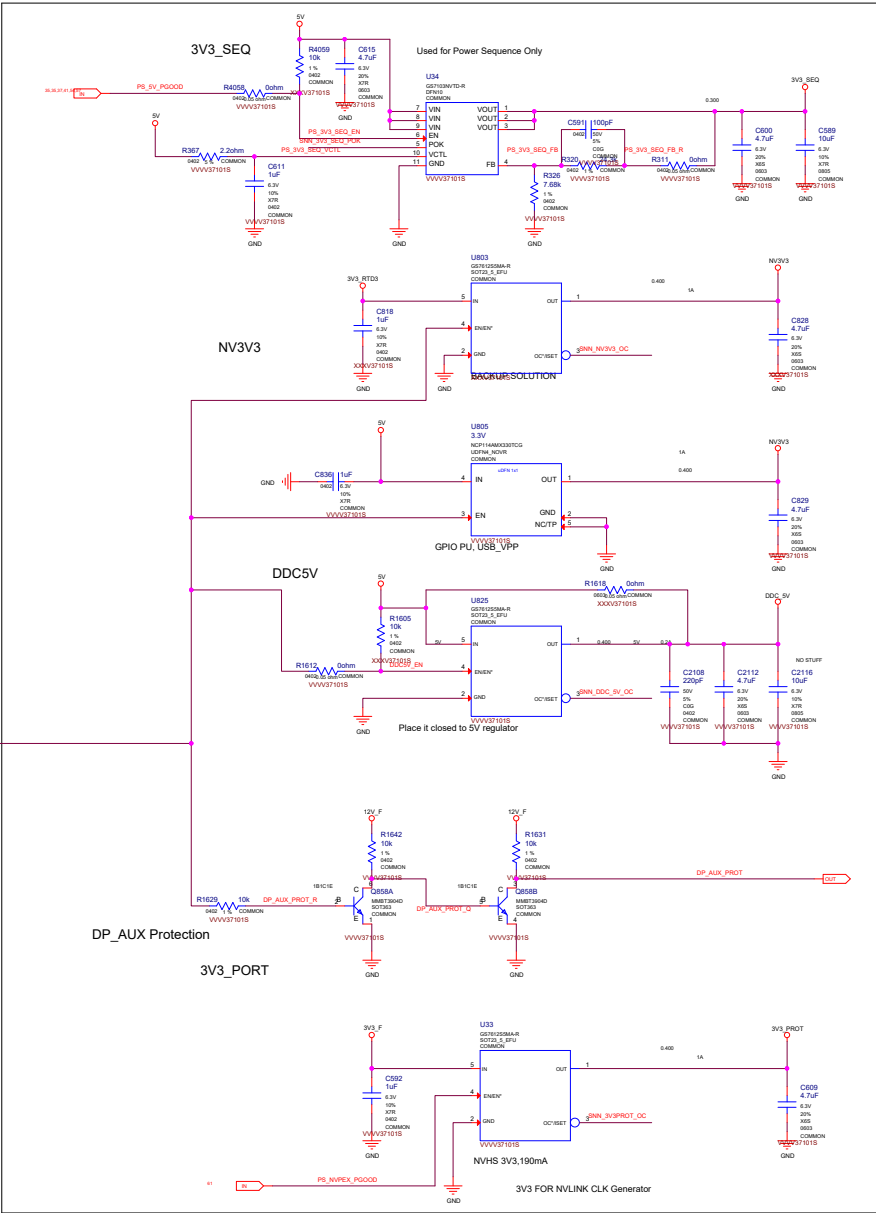
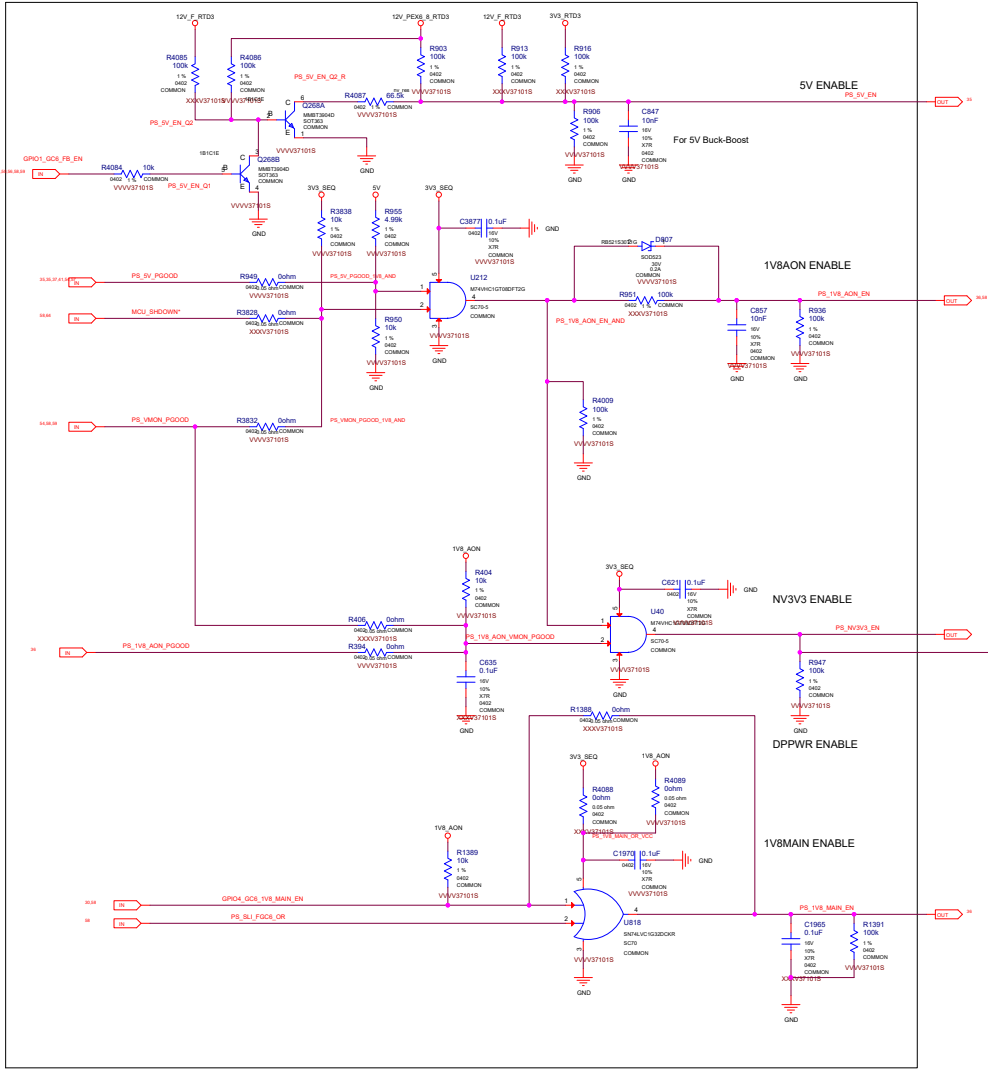
ASSEMBLY	ASSEMBLY DESCRIPTION
PS: Current Steering, Hot Unplug	

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NV_PN	600-1G150-BASE-403
PCB REV	PG150-003
BCM REV	A
PAGE	55 OF 60
DATE	09-JUL-2018



SEQUENCE:5V,1V8,NV3V3 ENABLE

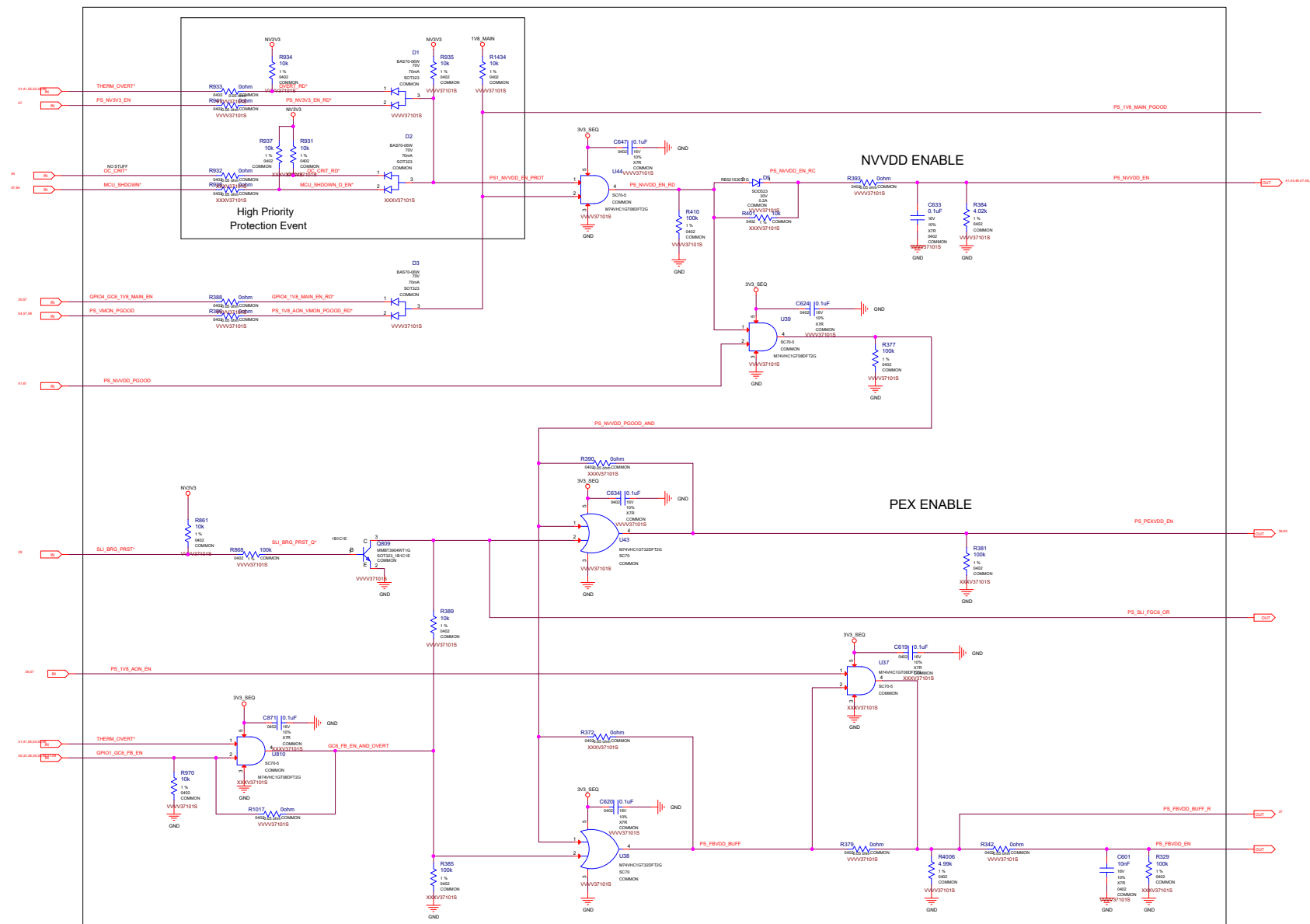


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ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE DETAIL	Sequence 5V, 1V8, NV3V3 EN

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NV_PN	600-1G150-BASE-403
PCB REV	PG150-003
BOB REV	A
PAGE	57 OF 60
DATE	09-JUL-2018

SEQUENCE:NV,PEX,FB ENABLE



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ASSEMBLY	<ASSEMBLY_DESCRIPTION
PAGE DETAIL	Sequence: NV, PEX, FB EN

NV_PN	600-1G150-BASE-403
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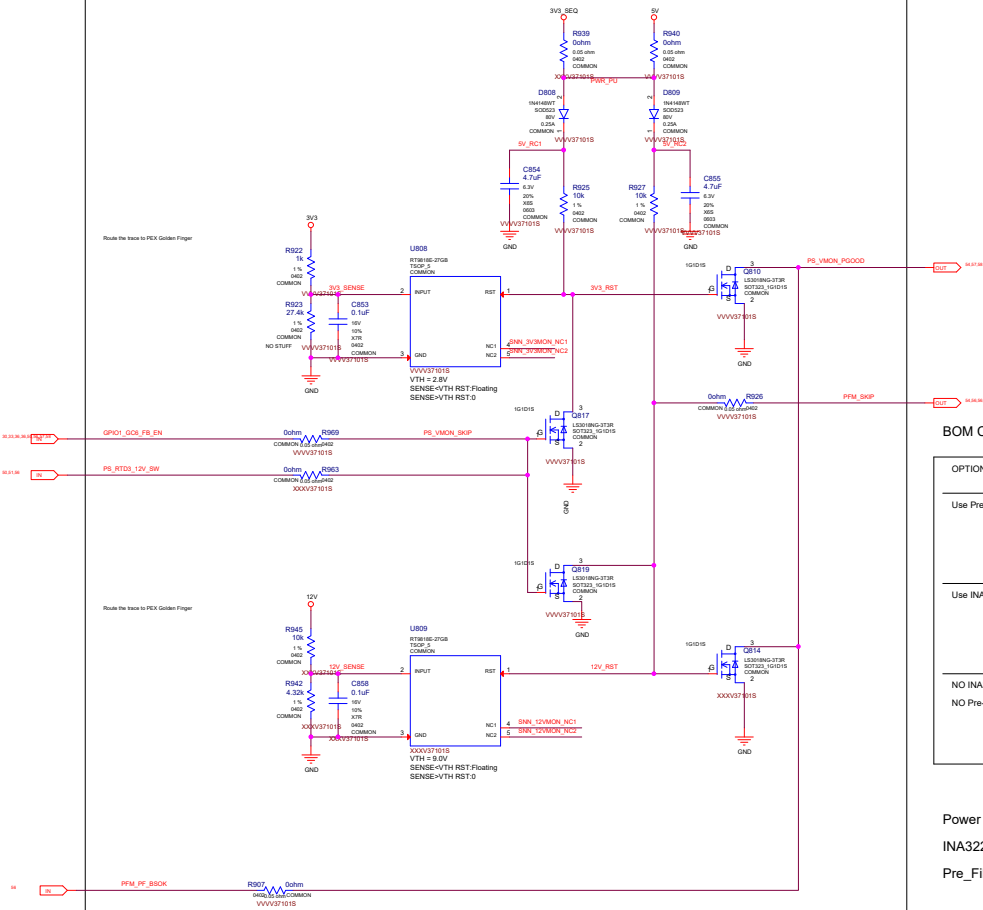
PCB REV	PG150-C03
BOM REV	A

PAGE	58 OF 6
DATE	09-JUL-2018

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SEQUENCE:PCIE Voltage Monitor

PCIE Voltage Monitor



BOM Configuration

OPTIONS	PEX3V3_SENSE	PEX12V_SENSE	OTHER_12V_SENSE
Use Pre-Filter	Pre-Filter NO STUFF U12 NO STUFF Q3,Q5 NO STUFF D15	Pre-Filter NO STUFF U13 NO STUFF Q4	Pre-Filter
Use INA3221	Voltage_Monitor	INA3221 NO STUFF U12 NO STUFF Q4	INA3221
NO INA3221 NO Pre-Filter	Voltage_Monitor	Voltage_Monitor	N/A

Power Supply

INA3221:3V3_SEQ

Pre_Filter(ADC_MUX):3V3(PEX)

Dual Pre-Filter case:

Only use the Primary Pre-Filter to sense 3V3PEX
and All Input 12Vs

Signal	Direction	Function
3V3	INPUT	Sense the 3V3 Voltage from PCIE golden finger
12V	INPUT	Sense the 12V Voltage from PCIE golden finger
PS_VMON_PGOOD	OPEN-DRAIN	Floating(H) once both 3V3 and 12V reach Vth
GC6_FB_EN	INPUT	Indicator for RTD3/GC6 residence,Use to Mask the VMON_PGOOD
PS_PFSKIP	INPUT	From INA3221(VPU) or Pre-filter(SKIP)
PS_PFSOK	INPUT	From INA3221(PV) or Pre-filter(BS_OK)
PS_RTD3_12V_SW	INPUT	GC6_FB_EN && IDLE_IN_SW

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	Sequence PCIE Voltage Monitor

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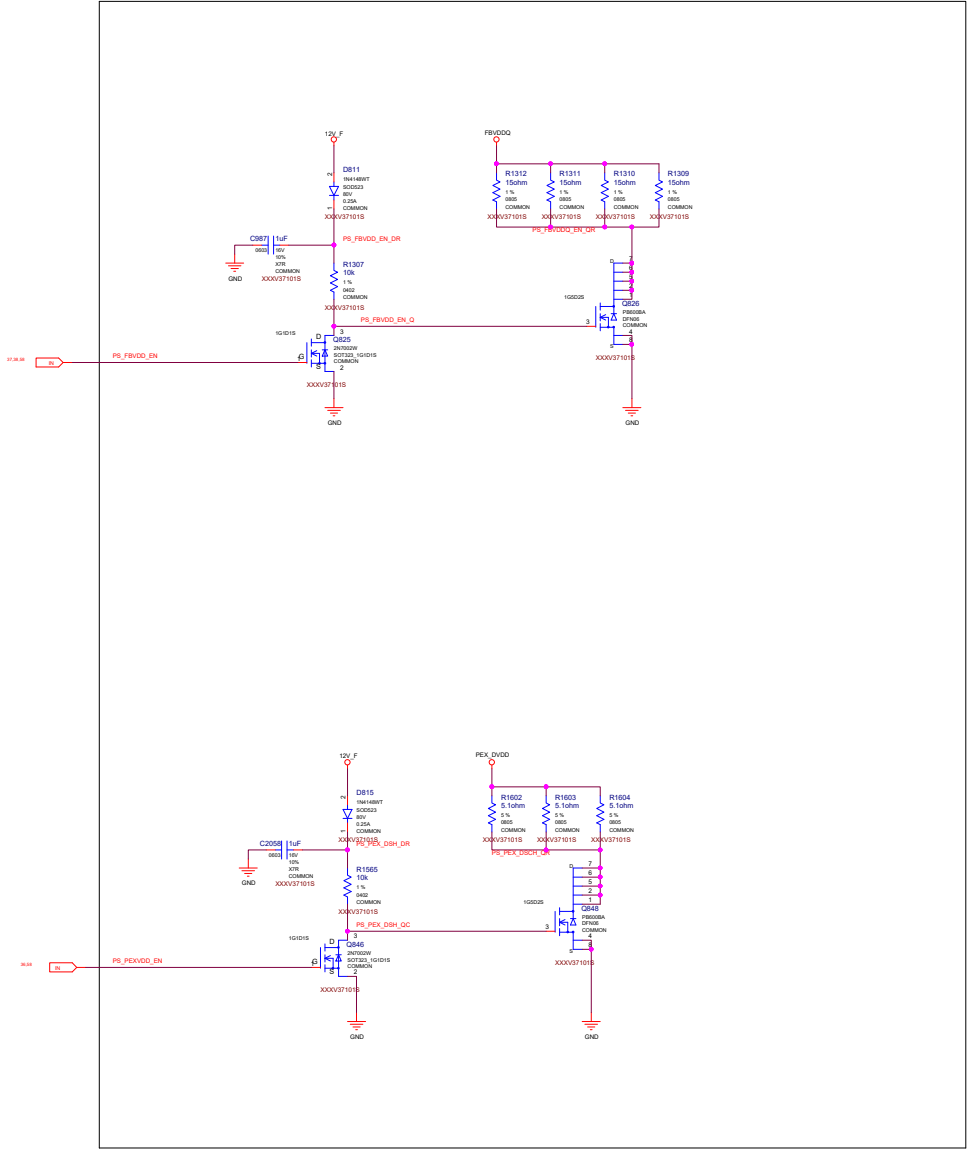
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NV_PN	600-1G150-BASE-403
PCB REV	PG150-003
BOM REV	A
PAGE	59 OF 60
DATE	09-JUL-2018


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SEQUENCE:Discharge



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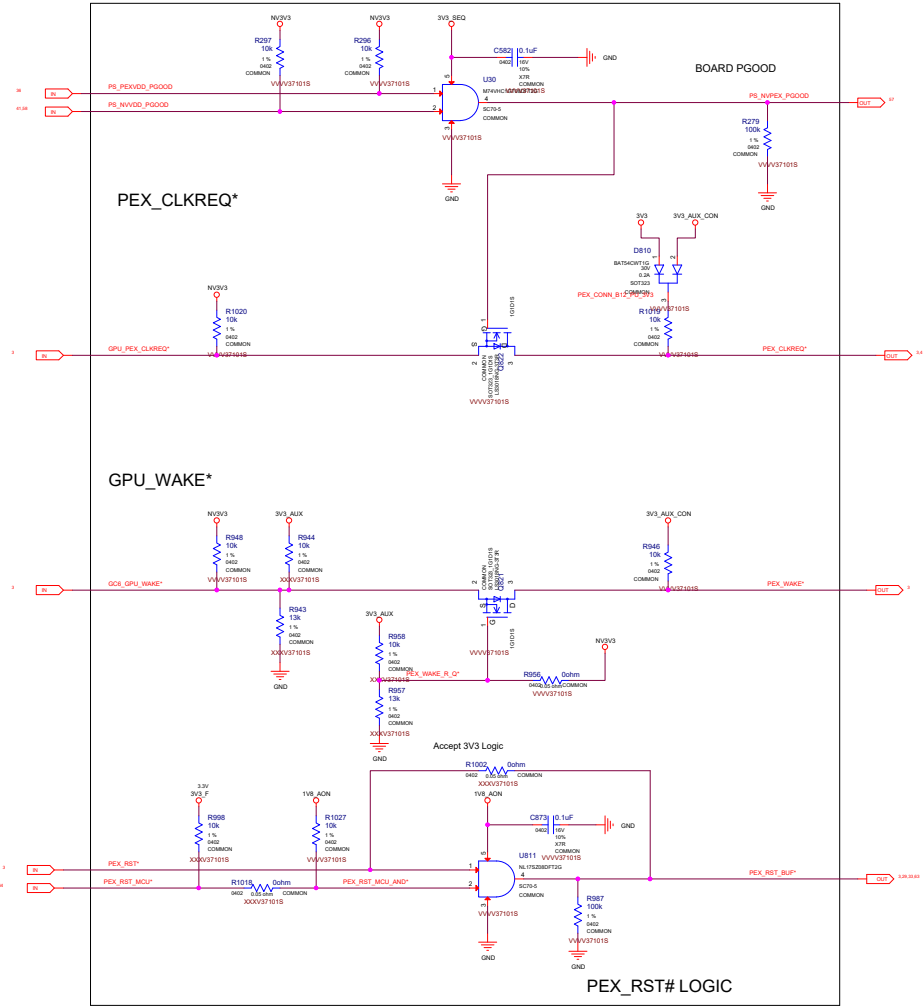
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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-003	PAGE	60 OF 60
BOM REV	A	DATE	09-JUL-2018

SEQUENCE:MISC



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NV_PN	600-1G150-BASE-403		
PCB REV	PG150-003	PAGE	61 OF 66
BOM REV	A	DATE	09-JUL-2018

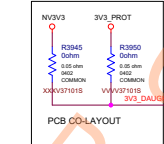
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PAGE DETAIL	Sequence MISC

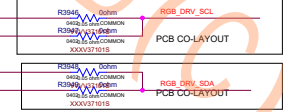
MISC: LED2

12V FROM FAN PAGE

PLACE CAPS CLOSE TO CONNECTOR

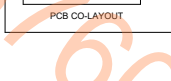
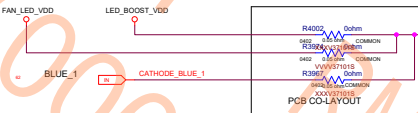
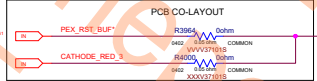
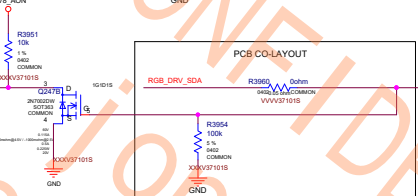
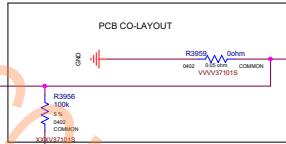
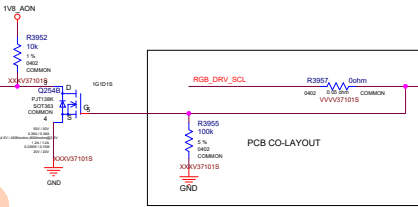


STUFF I2CB RESISTORS



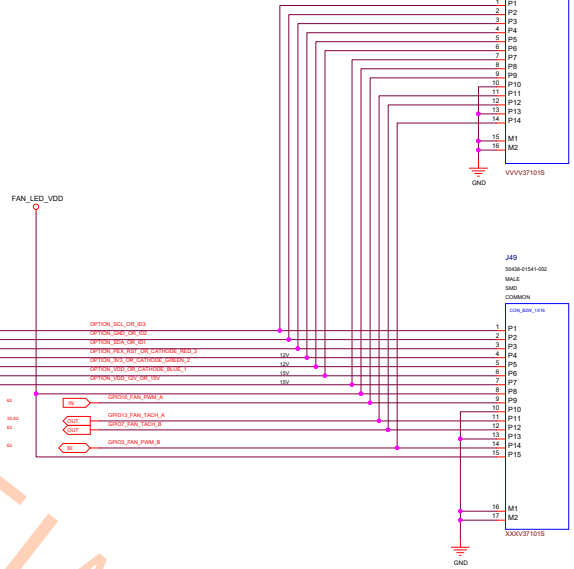
8-bit I2C Address of MCU on Daughter Board: 0x92

IC08_RANGES_IO_HEADER_PFN_ASSIGNMENT_NEW.qdms080208



14-PIN STRAIGHT PRIMARY SOURCE -> 080-1586-000: ACES \$0.115
14-PIN STRAIGHT SECOND SOURCE -> 080-1600-000: WIESON \$0.2

FOR MCU SOLUTION



FOR ONE ZONE RGB SOLUTION

15-PIN STRAIGHT PRIMARY SOURCE -> 080-1617-000: ACES \$0.1165
15-PIN STRAIGHT SECOND SOURCE -> 080-1628-000: WIESON \$0.23

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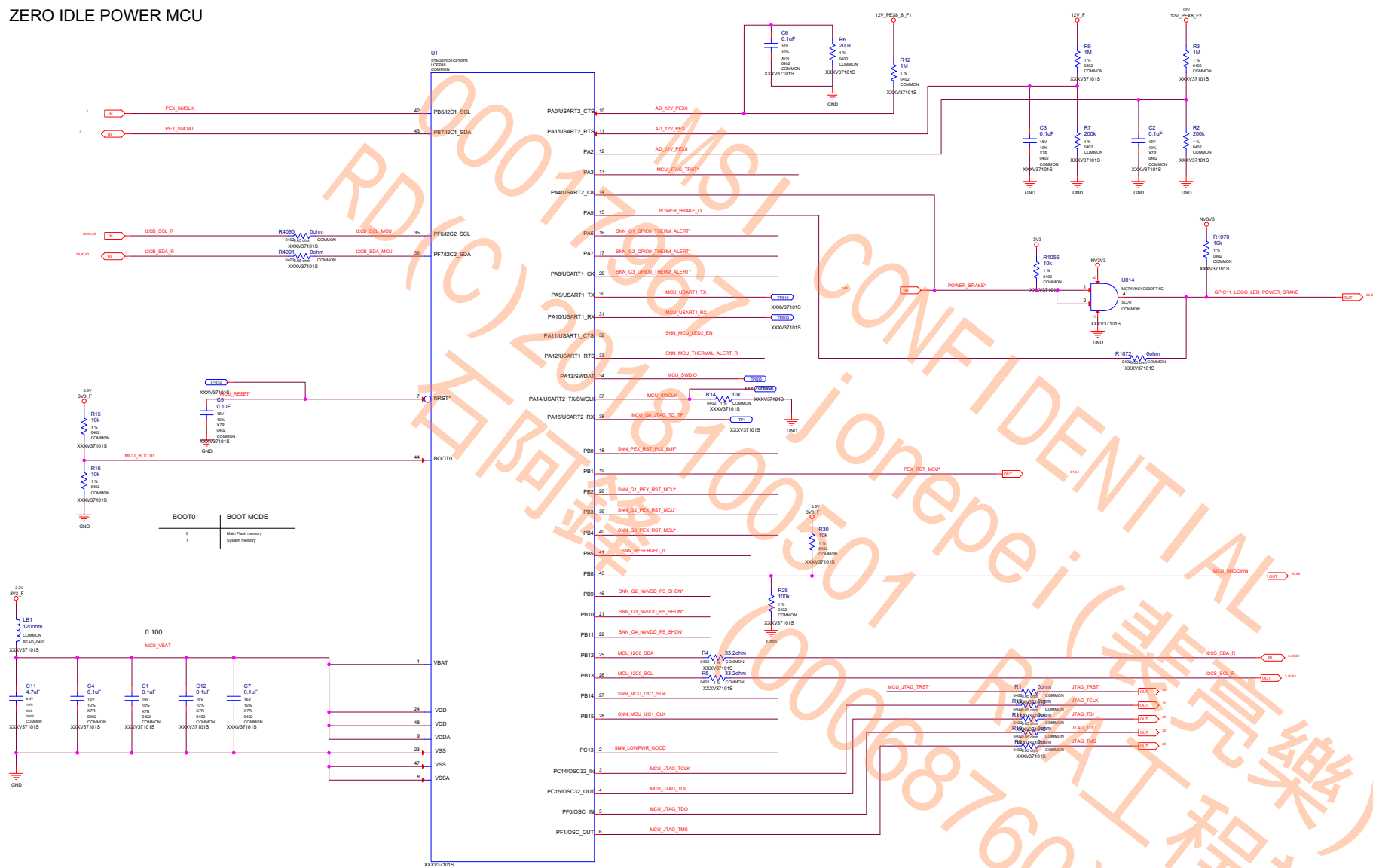
PCB REV PG150-003
BOM REV A

PAGE 63 OF 66
DATE 09-JUL-2018

ASSEMBLY <ASSEMBLY DESCRIPTION>
PAGE DETAIL MISC: LED 2

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ZERO IDLE POWER MCU



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MCU ZERO POWER IDLE

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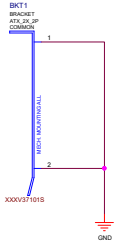


NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	64 OF 66
BOM REV	A	DATE	09-JUL-2018

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Brackets:



Bracket Screw



Back Cover



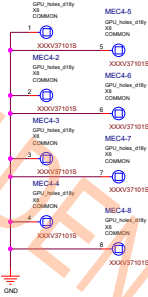
GPU Stiffener back side



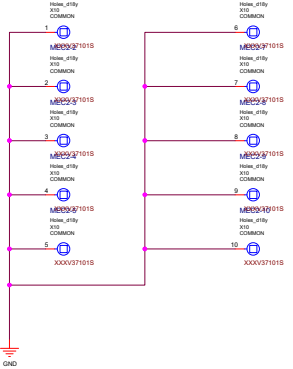
GPU Socket Symbol



GPU Mounting holes



Mechanical Holes Symbol



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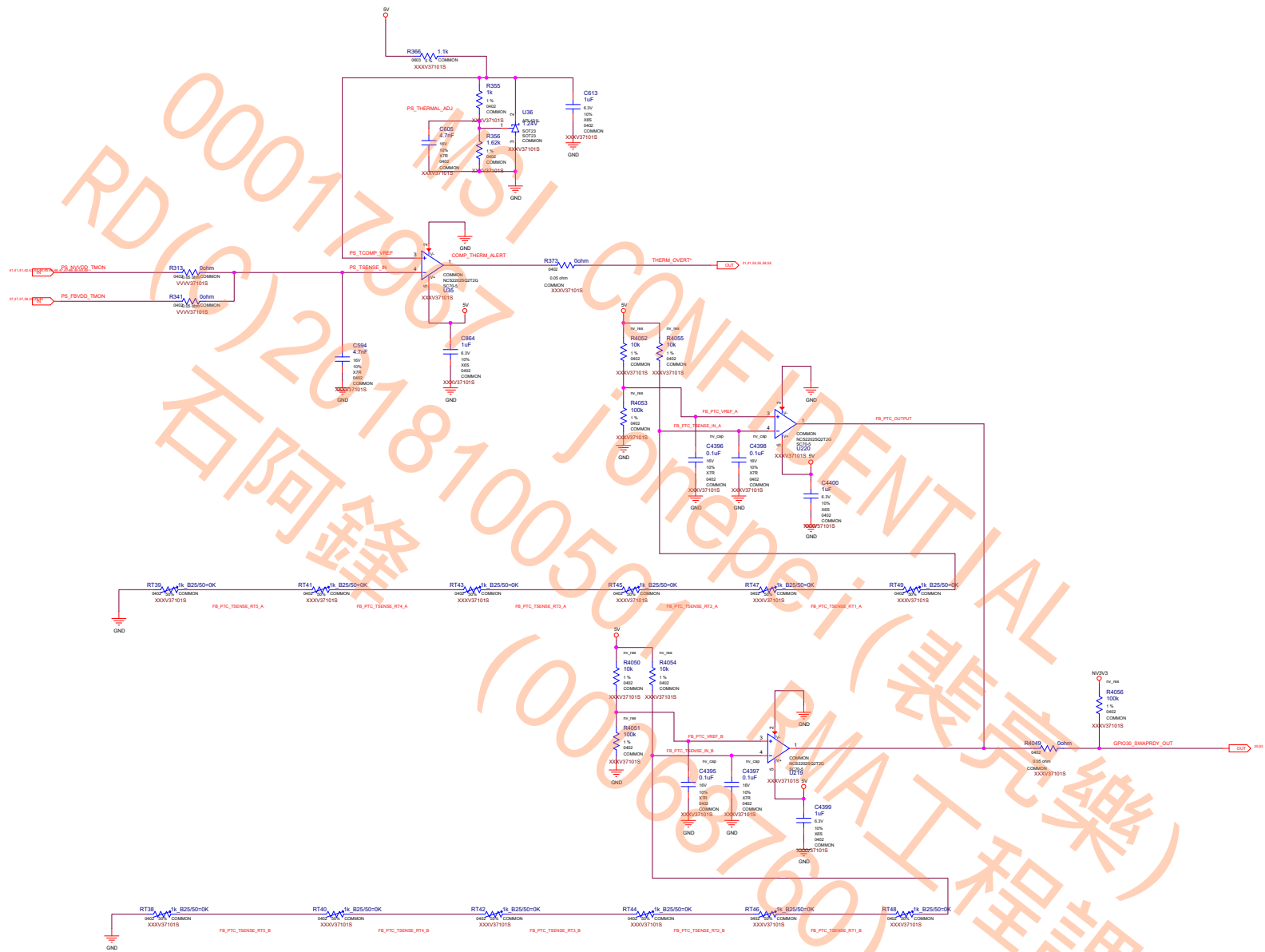
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NV_PN	600-1G150-BASE-403
PCB REV	PG150-003
BCM REV	A
PAGE	05 OF 60
DATE	09-JUL-2018

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VR THERMAL PROTECTION



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NV_PN	600-1G150-BASE-403
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PCB REV	PG150-C03	PAGE	66 OF 66
BOM REV	A	DATE	09-JUL-2018

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