

PG165-A00

TU116 6GB GDDR5, 192b, X32
DVI-D + DP + HDMI

TABLE OF CONTENTS

Page	Description
1	Table of Contents
2	Block Diagram
3	PCI Express
4	MEMORY: GPU FB_AB
5	MEMORY: FBA[31:0]
6	MEMORY: FBA[63:32]
7	MEMORY: FBB[31:0]
8	MEMORY: FBB[63:32]
9	MEMORY: GPU FB_CD
10	MEMORY: FBC[31:0]
11	MEMORY: FBC[63:32]
12	MEMORY: FBD[31:0]
13	MEMORY: FBD[63:32]
14	GPU PWR & GND
15	GPU DECOUPLING 1
16	GPU DECOUPLING 2
17	IO: IFPAB DVI-D-DL
18	IO: IFPA DP
19	IO: IFPB DP
20	IO: IFPE & IFPF NC
21	IO: IFPC HDMI
22	IO: IFPD DP
23	IO: NVHS INTERFACE AND FRAME LOCK
24	MISC1: JTAG,GPIO,ADC,I2C,OVERT
25	MISC2: ROM, XTAL,STRAPS

Page	Description
26	PS: 1V8_AON
27	PS: 5V
28	PS: PEXVDD
29	PS: FBVDDQ
30	PS: FBVDDQ PH2
31	PS: NVVDD Controller
32	PS: NVVDD Phase 6,4
33	PS: NVVDD Phase 3,5
34	PS: NVVDD Phase 2,1
35	PS: PEX_INPUT, 12V_EXT_INPUT, FILTERING
36	PS: CURRENT STEERING,UPB,HOT-UNPLUG
37	SEQ: 1V8_AON, 3V3_SEQ, NV3V3, DDC_5V, DP_AUX_PROT
38	SEQ: NVVDD, PEX, FBVDDQ ENABLE
39	SEQ: MISC
40	FAN
41	PS: OVRM_PWR SENSE
42	MECH

Page	Description
------	-------------

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

NV_PN

600-1G165-BASE-000

PCB REV

PG165-A00

FRGE

1 OF 42

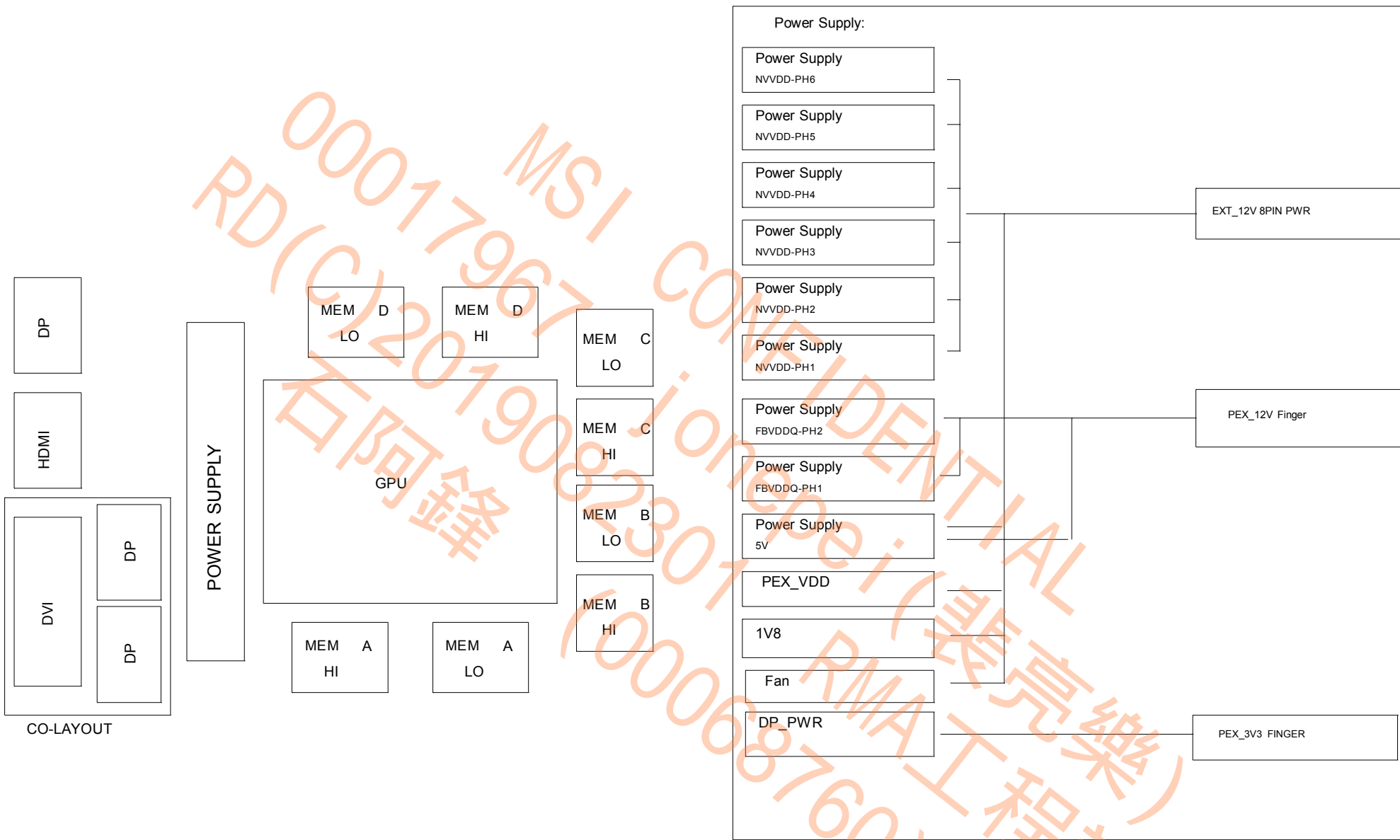
BOM REV

8

DATE

14-DEC-2018

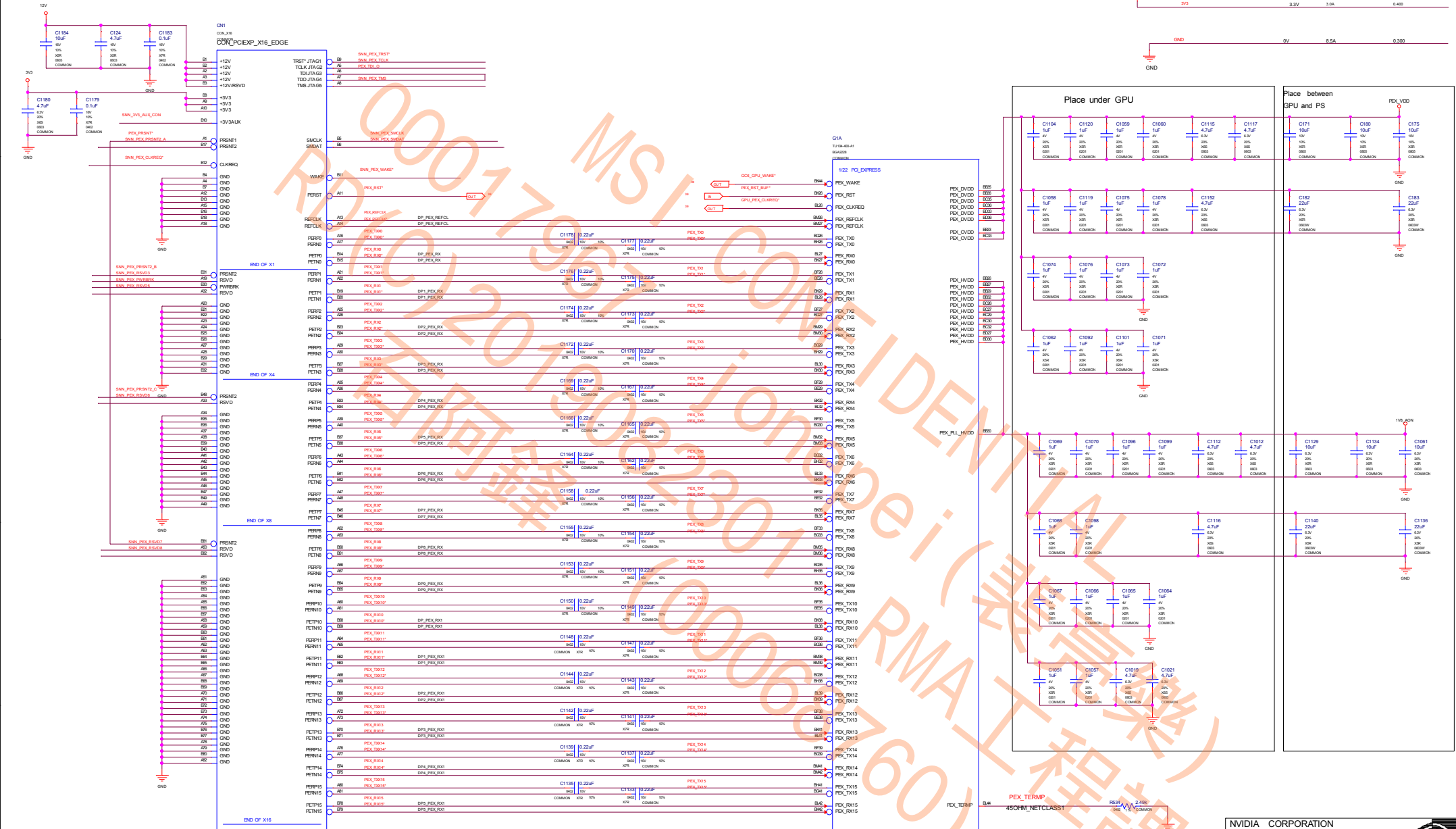




ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	ASSEMBLY DESCRIPTION
FIGURE DETAIL	Block Diagram

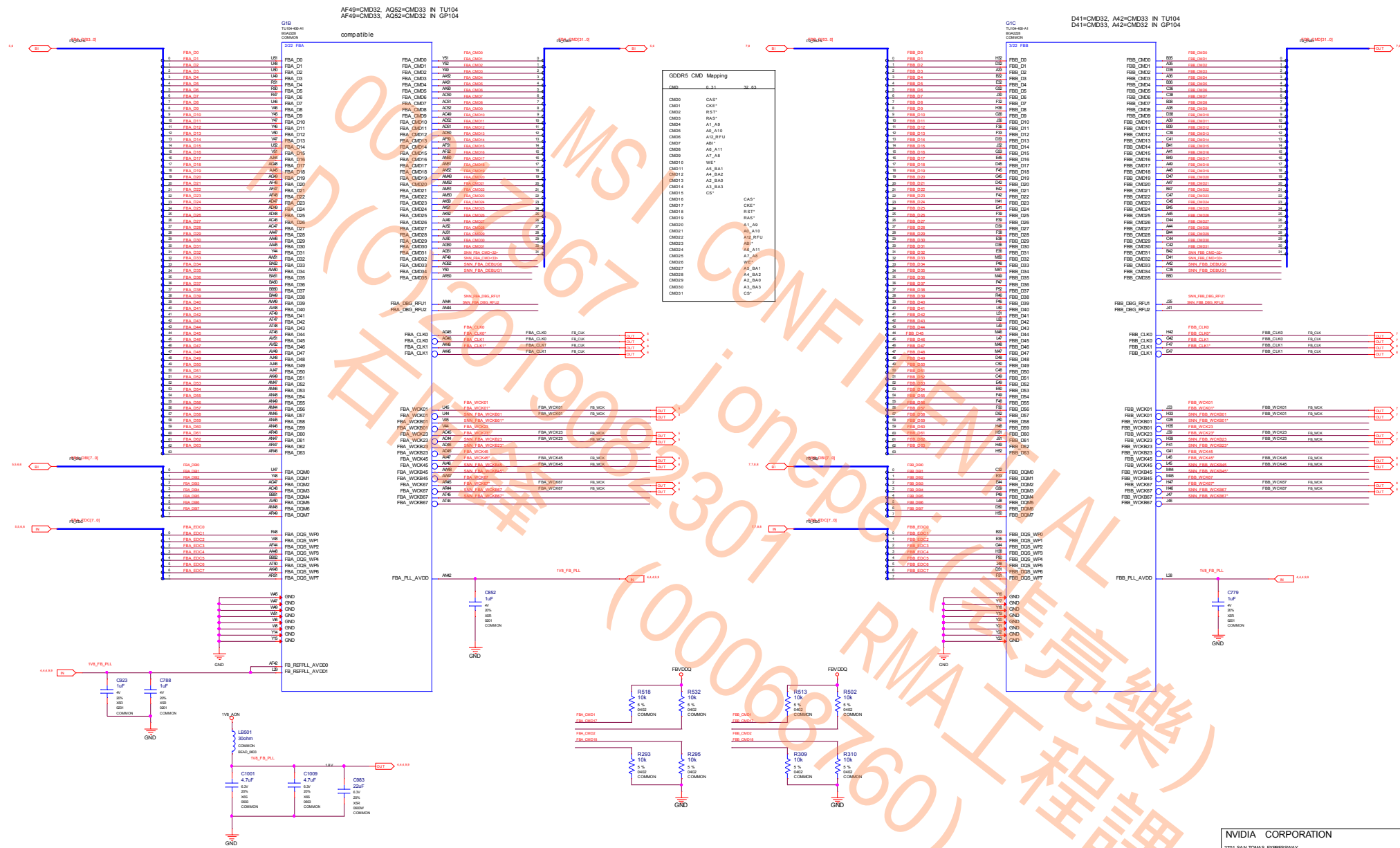
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G165-BASE-000		
PCB REV	PG165-A00	FIGURE	2 OF 42
BOM REV	8	DATE	14-DEC-2018

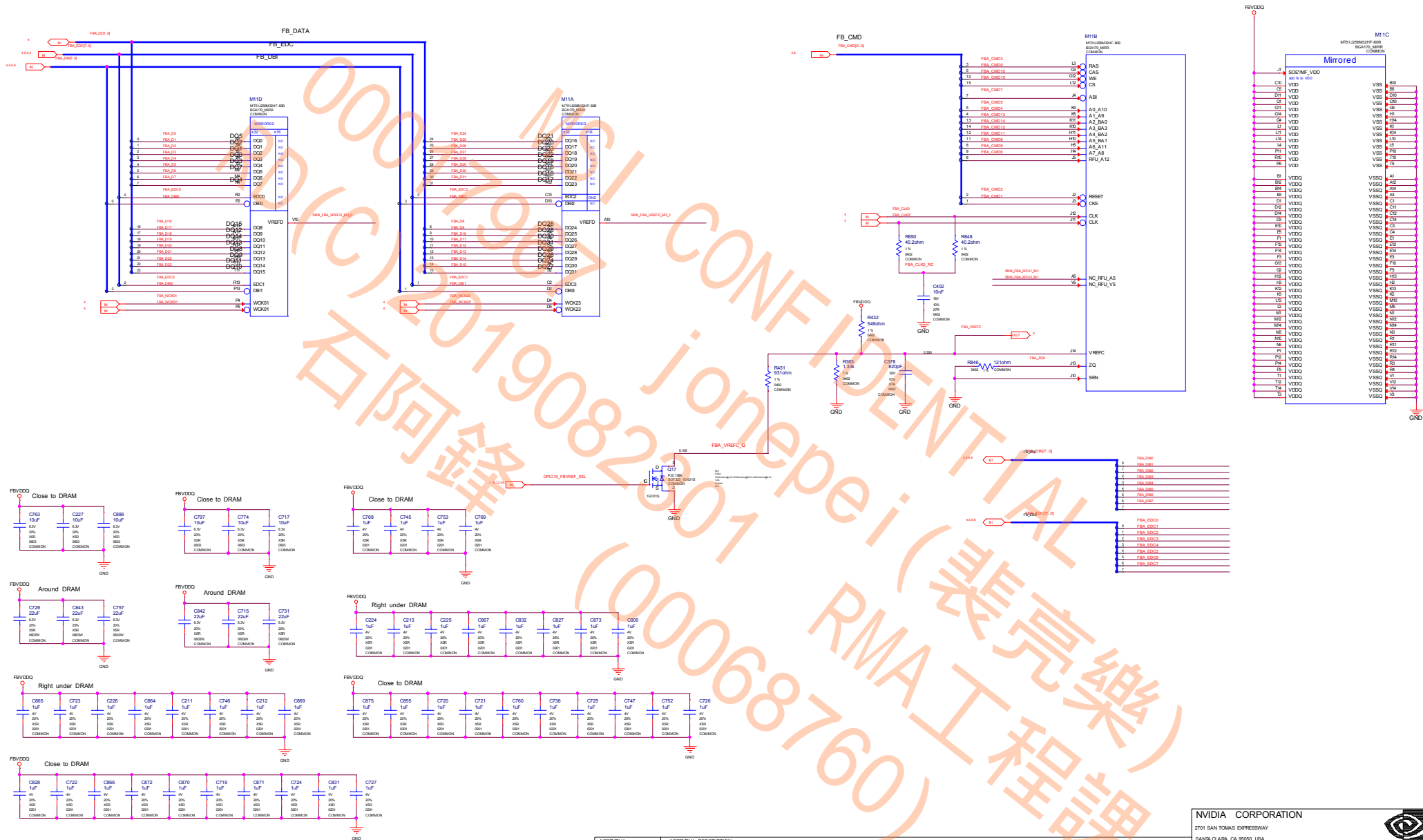


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	ASSEMBLY DESCRIPTION
PCI Express	PCI Express

NVIDIA CORPORATION	
2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95050 USA	
NV_PN	600-1G165-BASE-000
PCB REV	PG165-A00
BIOM REV	8
PRG	3 OF 42
DATE	14-DEC-2018





ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

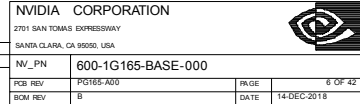
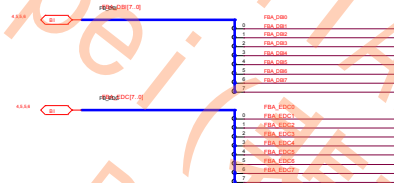
ASSEMBLY: <ASSEMBLY DESCRIPTION>
PAGE DETAIL: MEMORY: FBA[31:0]

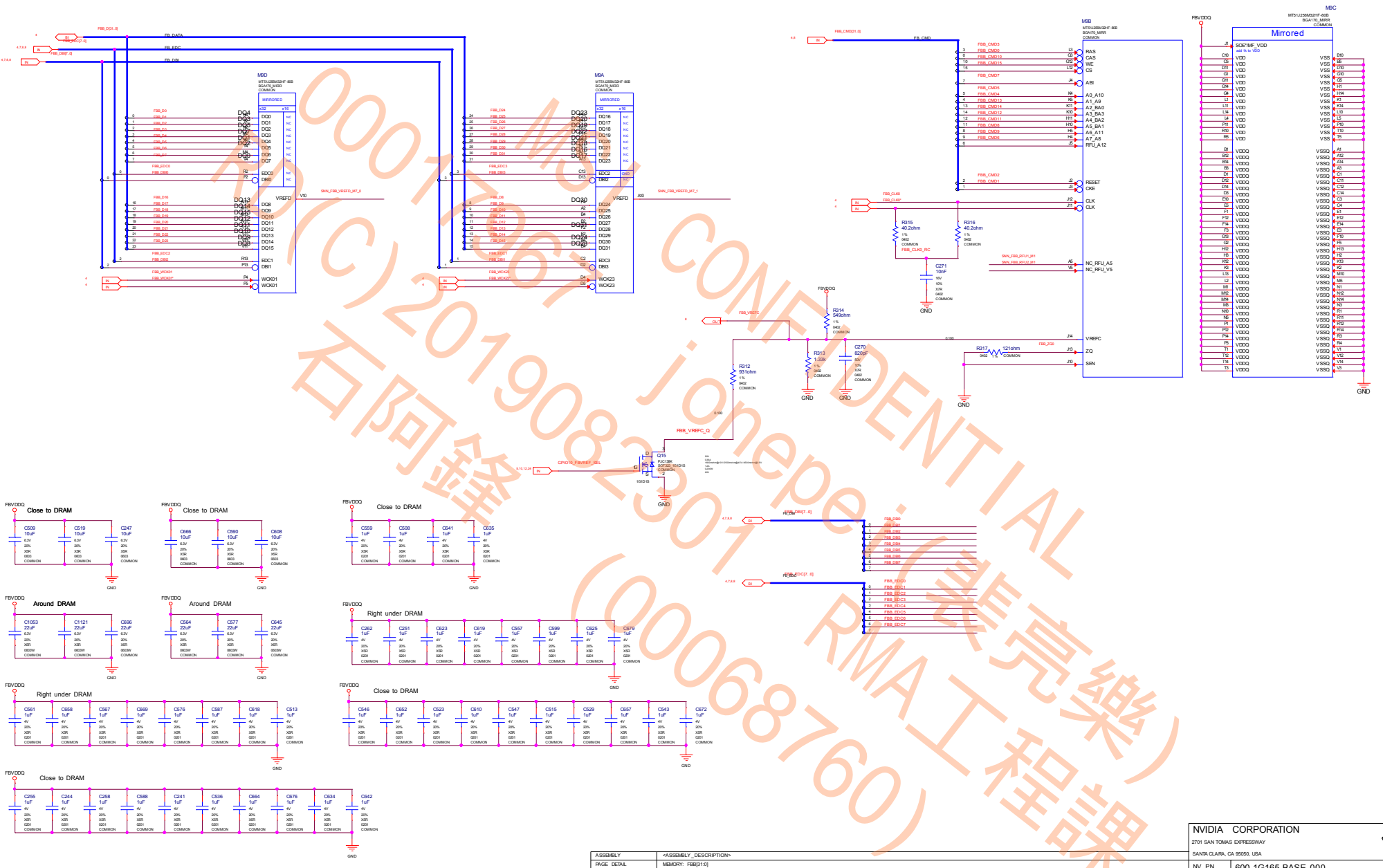
NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA


NV_PN 600-1G165-BASE-000

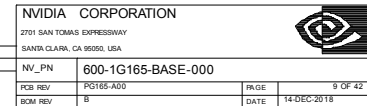
PCB REV: PG165-ADD
ICM REV: BPAGE: 5 OF 42
DATE: 14-DEC-2018

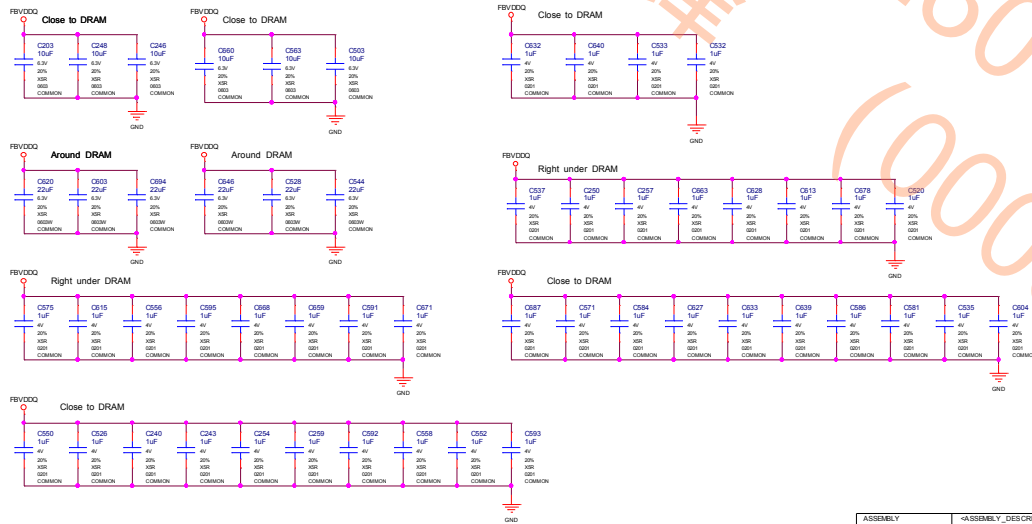





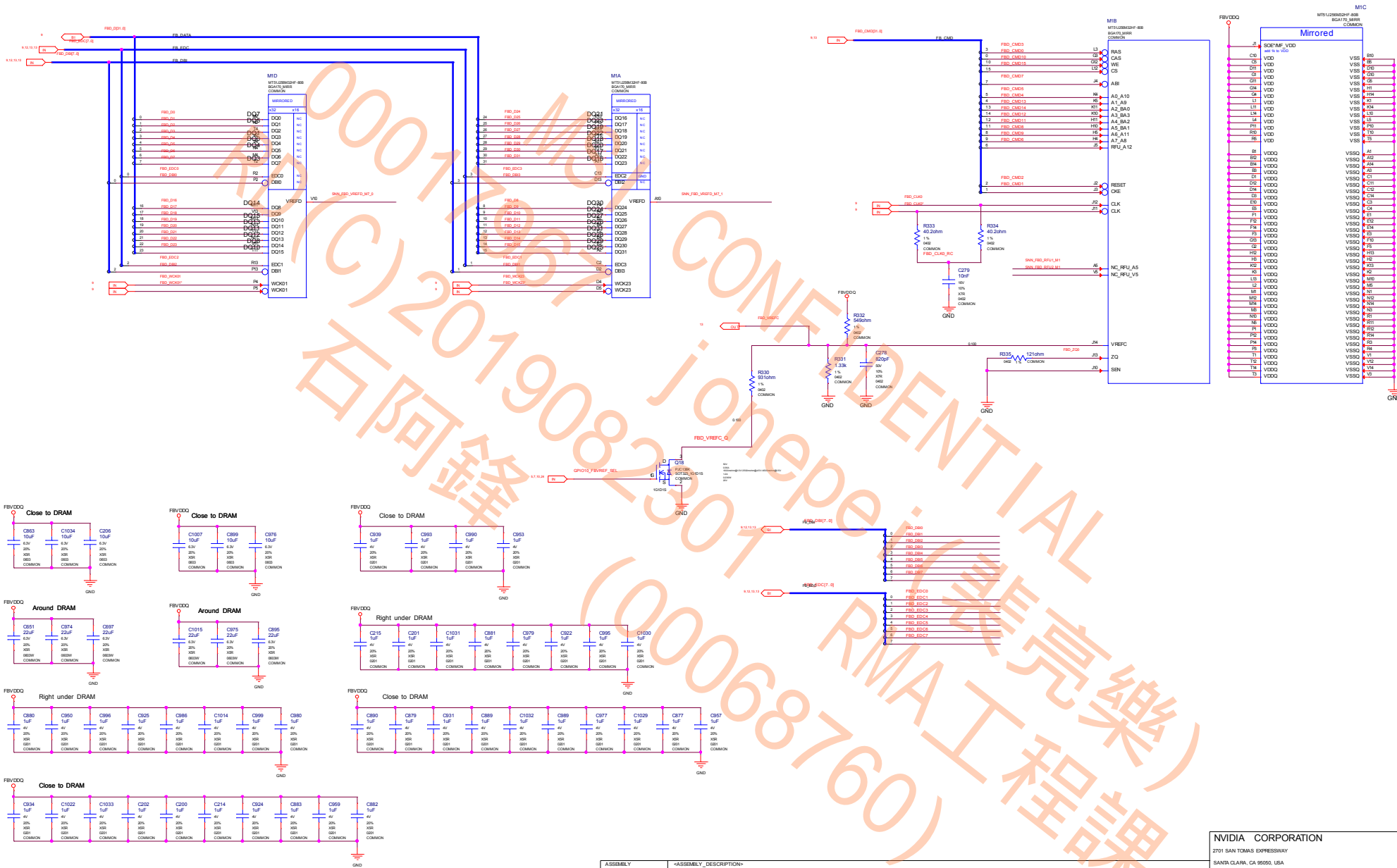


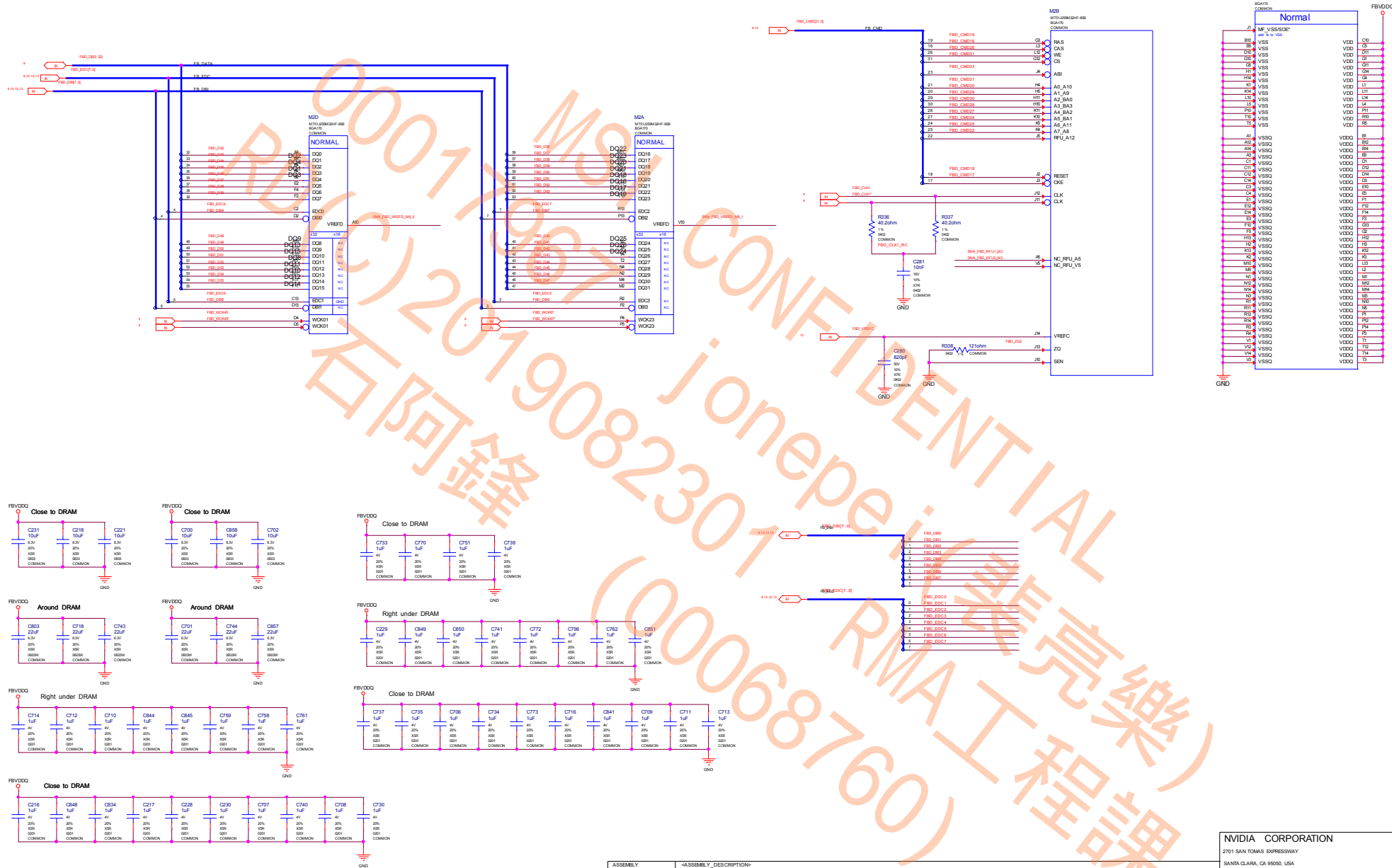
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN		600-1G165-BASE-000	
PCB REV	PG165-A00	PAGE	8 OF 42
BOM REV	B	DATE	14-DEC-2018





NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN		600-1G165-BASE-000	
PCB REV	PC165-ADD	PRG#	1T OF 42
BOM REV	B	DATE	14-DEC-2018





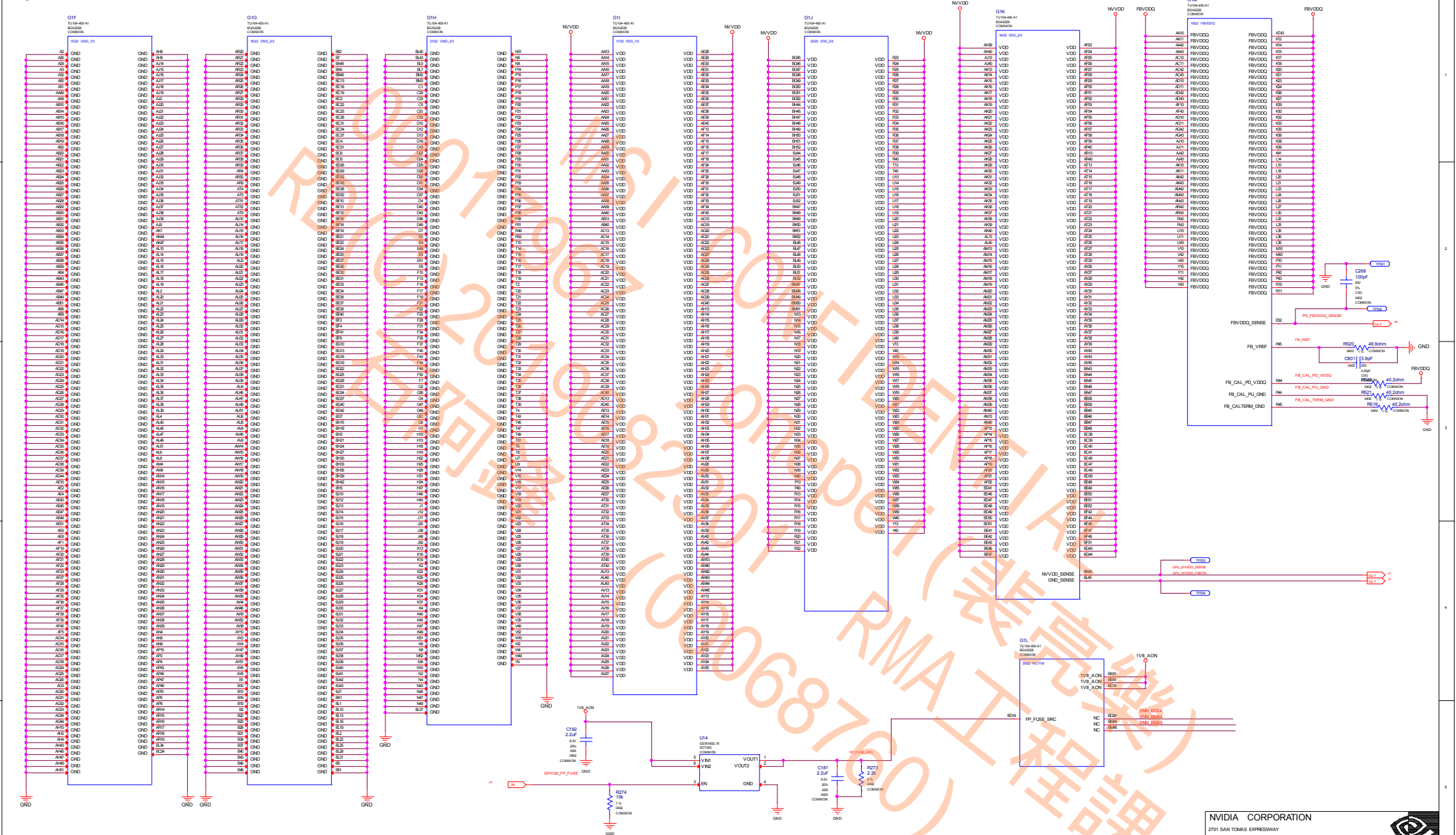
NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN 600-1G165-BASE-000

PCB REV	PG165-A00	PKG	13 OF 42
BCM REV	B	DATE	14-DEC-2018

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VULNERABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE, WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.



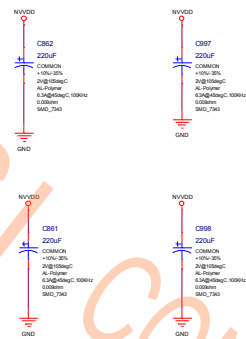
ASSEMBLY	ASSEMBLY_DESCRIPTION	SANTA CLARA, CA 95050, USA	
FRGE_DETAIL	GPU PWR & GND	600-1G165-BASE-000	
REV	REV	PCB REV	14 OF 42
STANDARDS	STANDARDS	BOM REV	DATE
			14-DEC-2018

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, RELEASES, WHITE PAPERS, BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

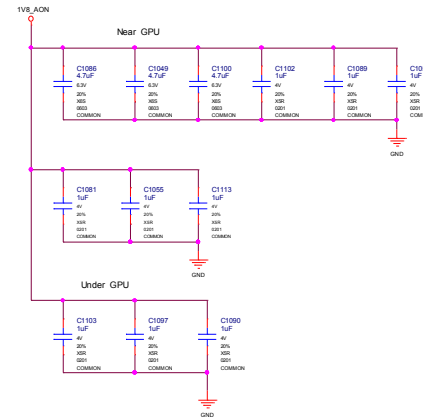
FBVDDQ



NVDD



1V8_AON

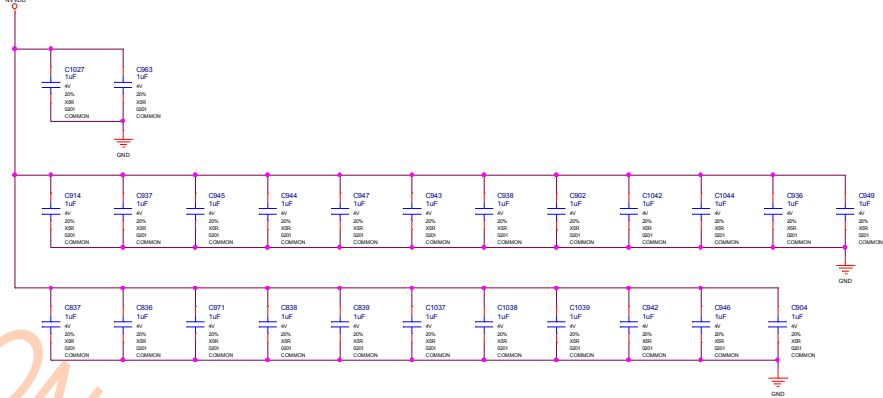
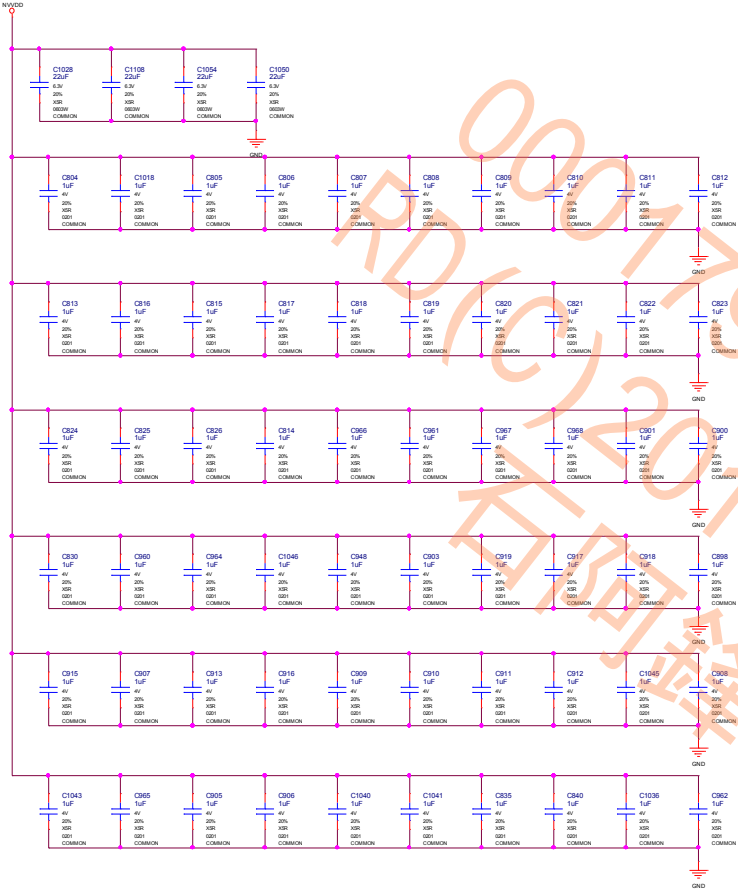


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	ASSEMBLY DESCRIPTION
FRIDGE DETAIL	GPU DECOUPLING 1

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G165-BASE-000	FRIDGE	15 OF 42
PCB REV	PG165-A00	DATE	14-DEC-2018
BOM REV	8		

NVDD

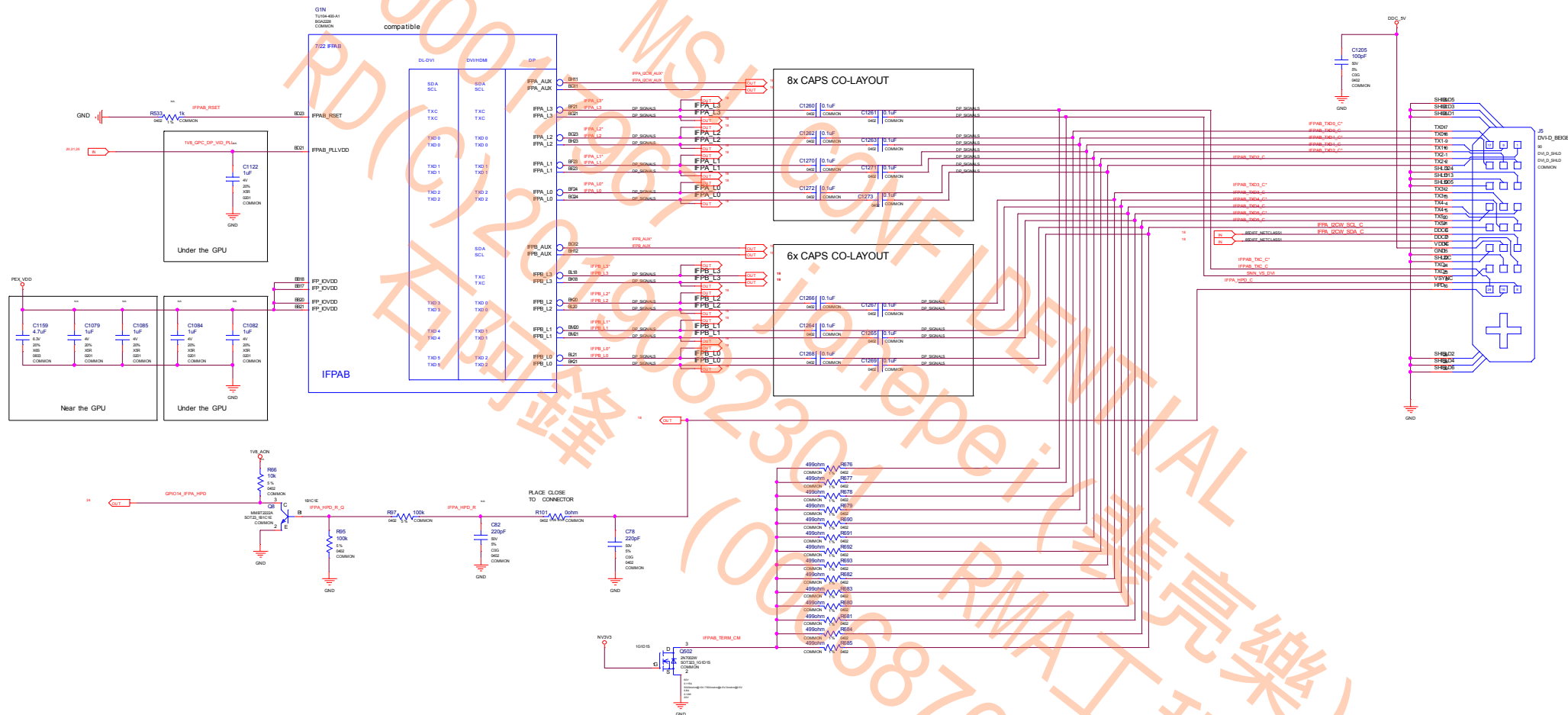


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	ASSEMBLY DESCRIPTION*
PCB DETAIL	GPU DECOUPLING 2

NVIDIA CORPORATION		2701 SAN TOMAS EXPRESSWAY	
		SANTA CLARA, CA 95050, USA	
Nv_PN		600-1G165-BASE-000	
PCB REV	PG165-ADD	PRG#	16 OF 42
BCM REV	B	DATE	14-DEC-2018

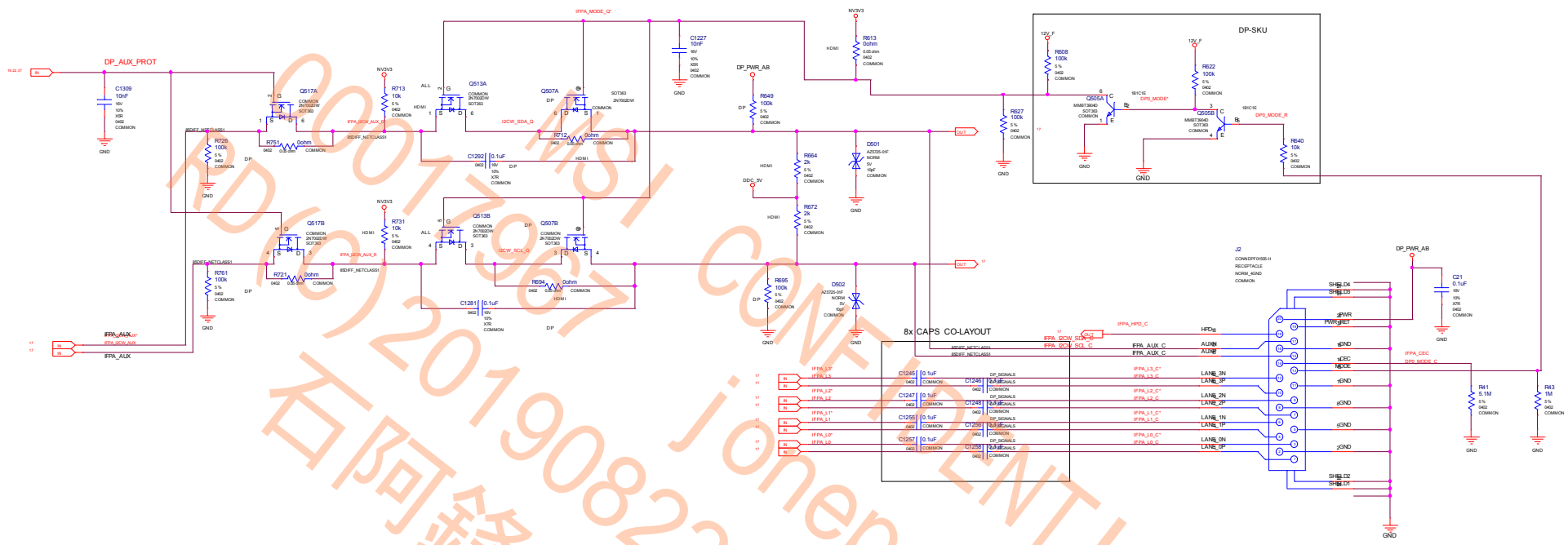




ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS" THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

NVIDIA CORPORATION	
2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95050, USA	
NV_PN	600-1G165-BASE-000
PCB REV	PG165-A00
ROM REV	B
DATE	14-DEC-2018

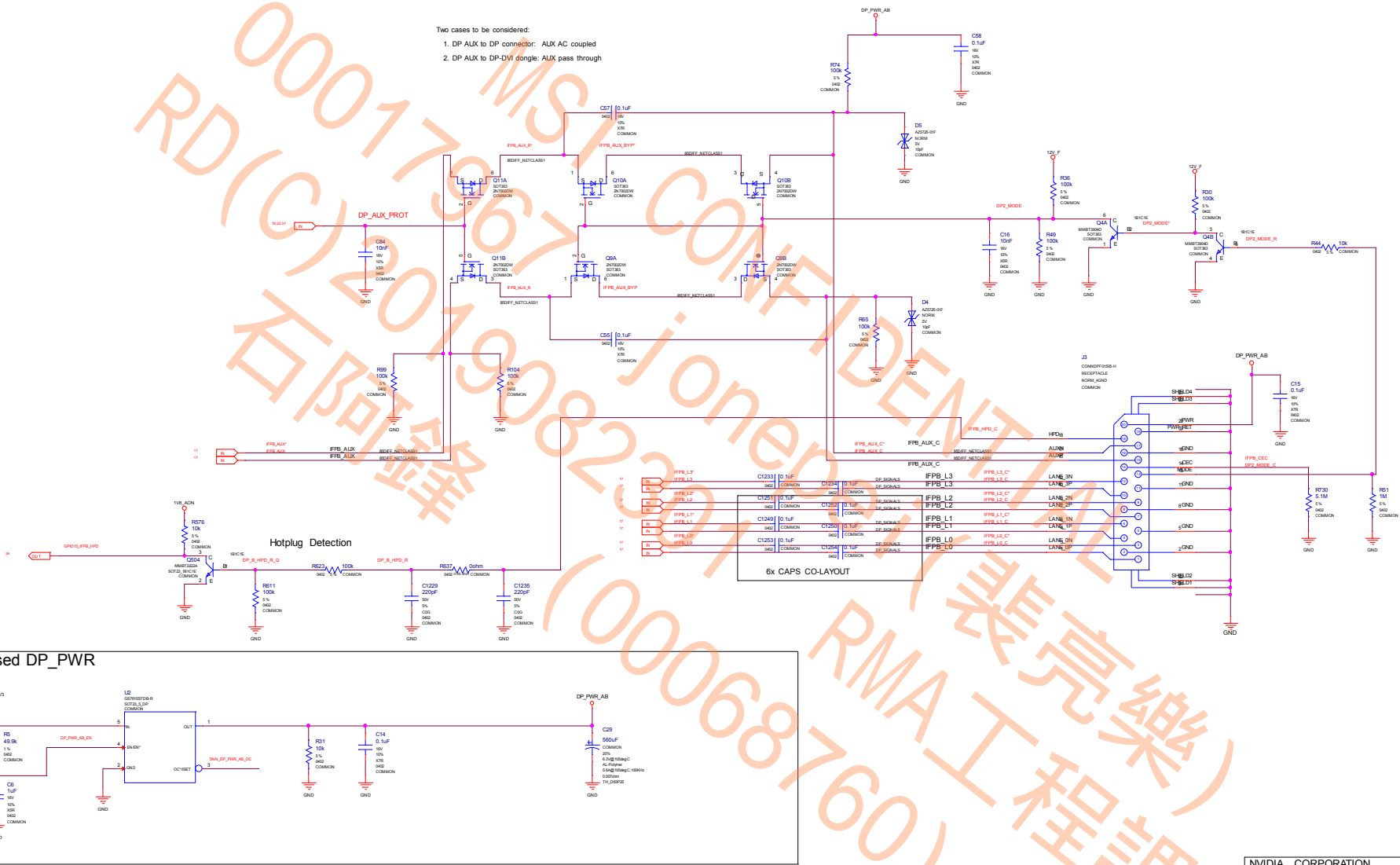




ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

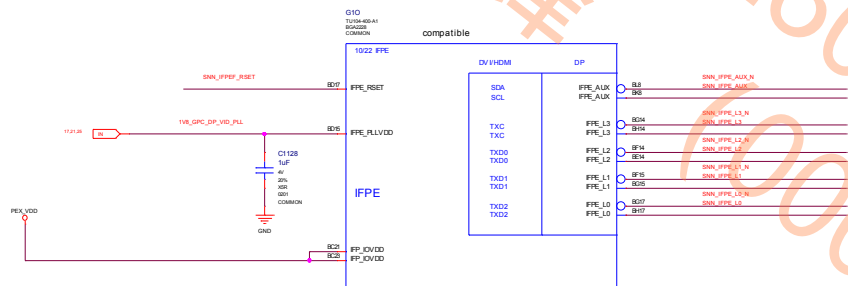
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PCB DETAIL	ID: IFPA_DP

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G165-BASE-000		
PCB REV	PG165-ADD	PKG	18 OF 42
ROM REV	B	DATE	14-DEC-2018



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE OR INDUSTRY STANDARDS.

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G165-BASE-000		
PCB REV	PG165-ADD	PKG	19 OF 42
ICM REV	B	DATE	14-DEC-2018



ASSEMBLY	<ASSEMBLY_DESCRIPTION
PAGE DETAIL	

IO: IFPE & IFFP NC

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN	600-1G165-BASE-000
-------	--------------------

PCB REV	PG165-A00
---------	-----------

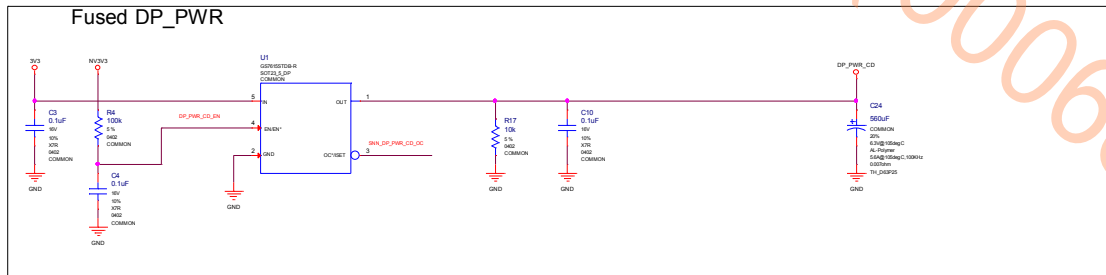
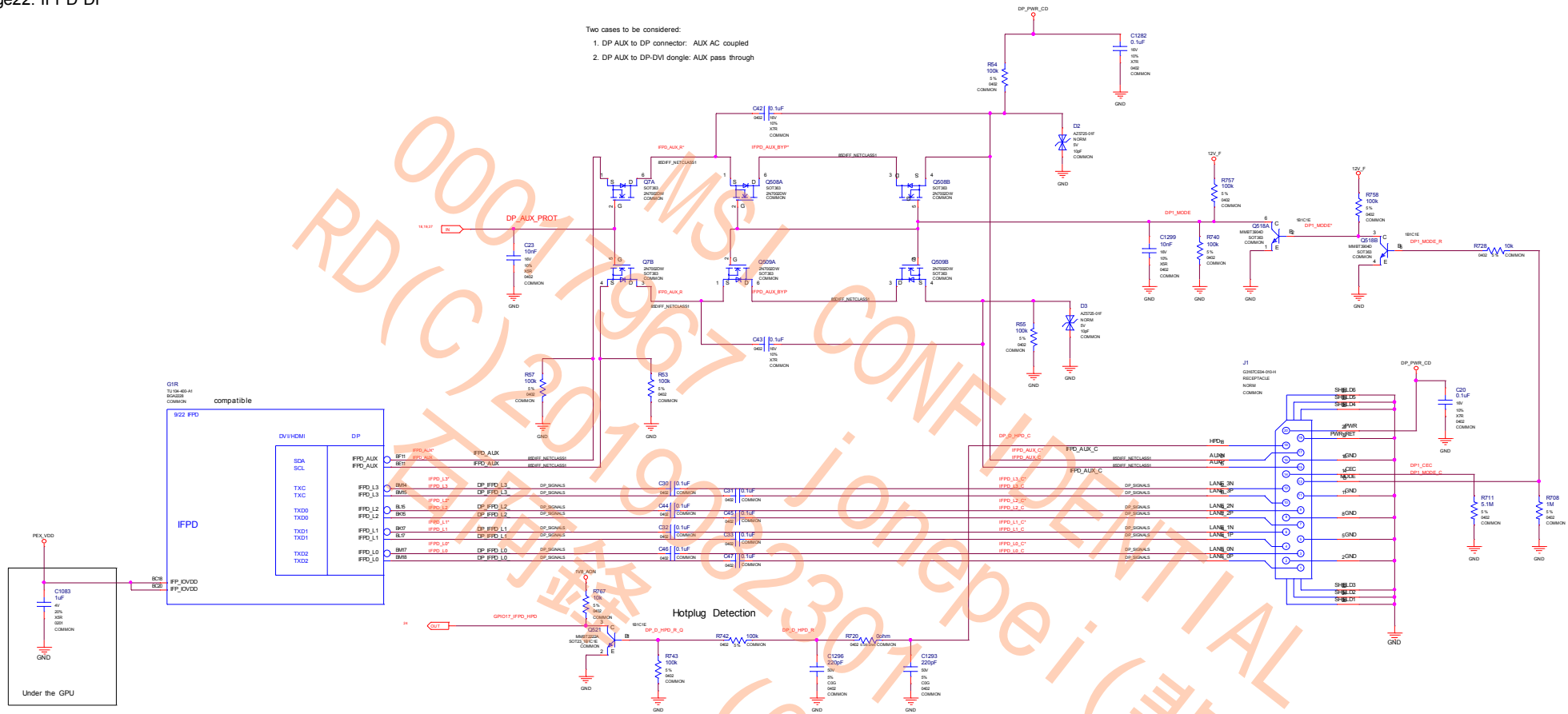
BOM REV	
---------	--

PAGE	20 OF 42
------	----------

	DATE	
--	------	--

14 DEC 2018

- Two cases to be considered:
1. DP AUX to DP connector: AUX AC coupled
 2. DP AUX to DP-DVI dongle: AUX pass through



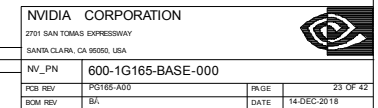
NVIDIA CORPORATION

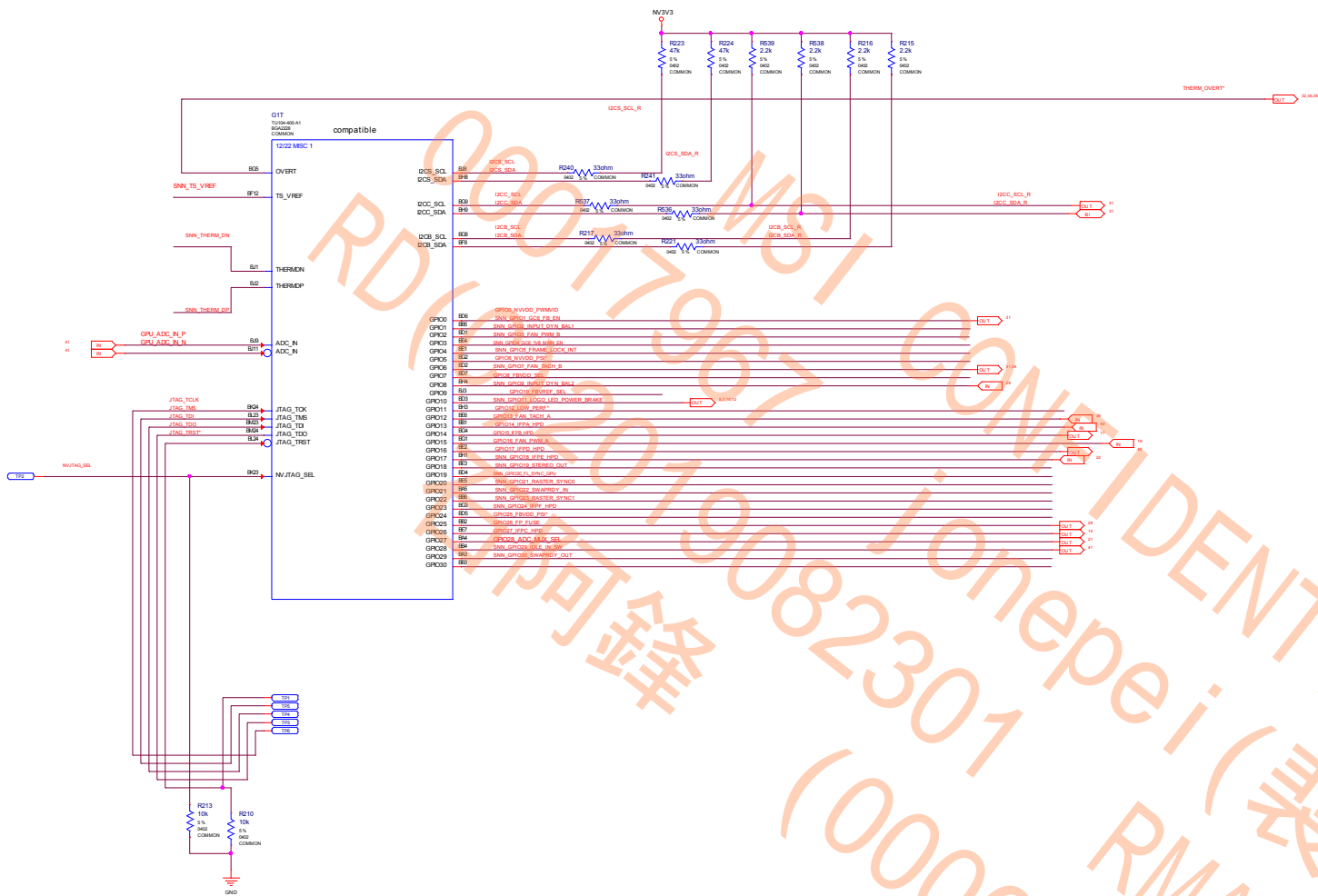
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN 600-1G165-BASE-000

PCB REV PG165-A00
BOM REV BPAGE 22 OF 42
DATE 14-DEC-2018

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.





ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

NVIDIA CORPORATION	
2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95050, USA	
NV_PN	600-1G165-BASE-000
PCB REV	PG165-A00
ROM REV	BA
PRGE	24 OF 42
DATE	14-DEC-2018

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

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	

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	

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 DEFAULT
L	L	L	0	0	0	0

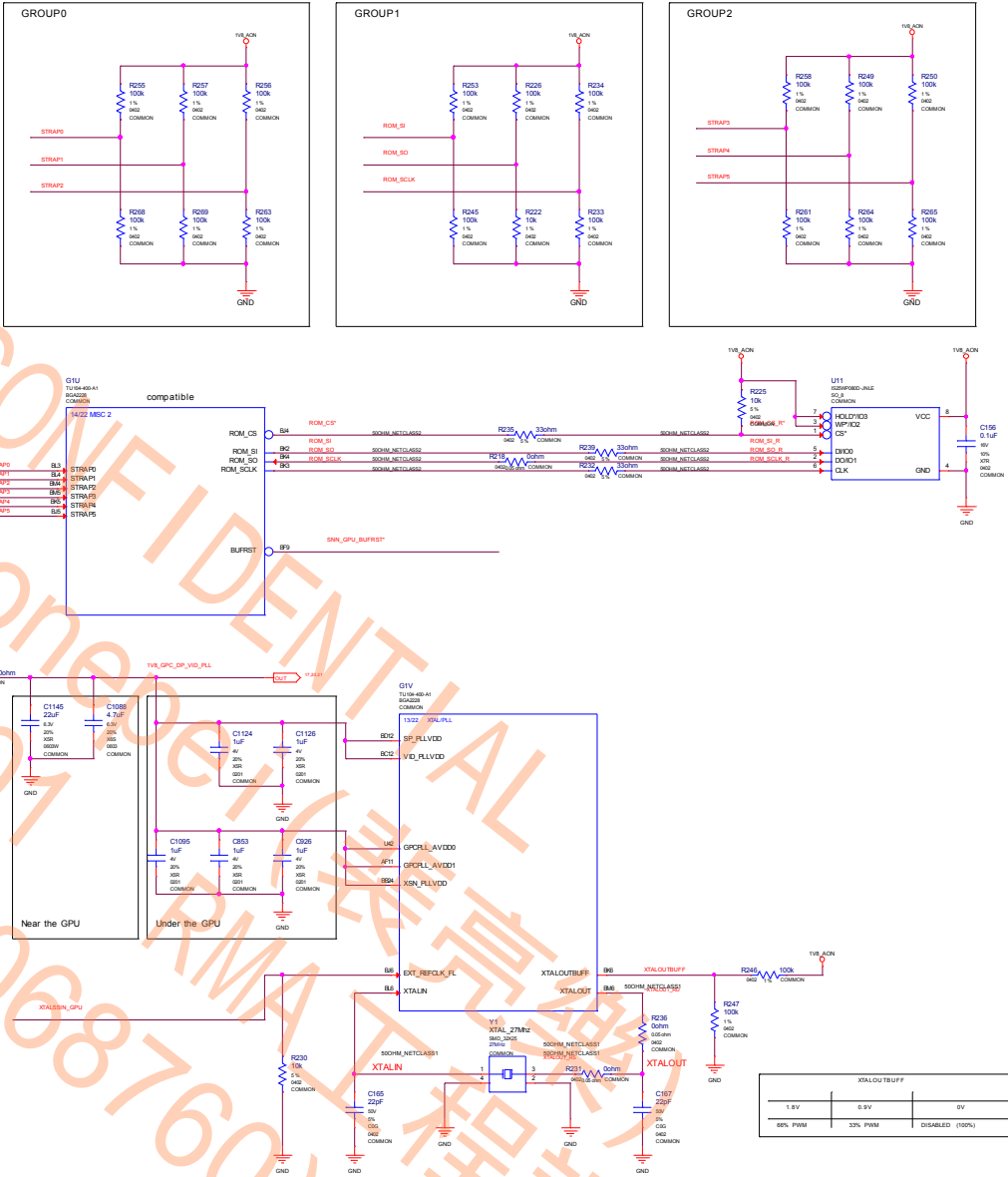
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

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

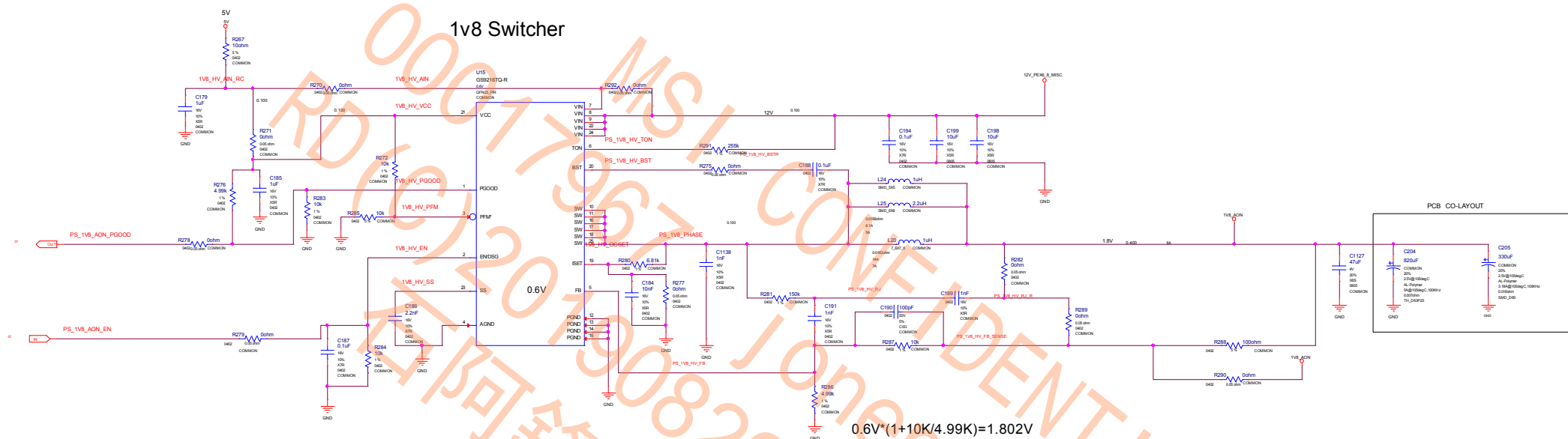


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	ASSEMBLY DESCRIPTION
PCB DETAIL	MISC2: ROM, XTAL, STRAPS


NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-1G165-BASE-000
PCB REV	PG165-ADD
ROM REV	BA
PRG	25 OF 42
DATE	14-DEC-2018

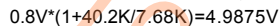


$$0.6V \cdot (1 + 10K/4.99K) = 1.802V$$

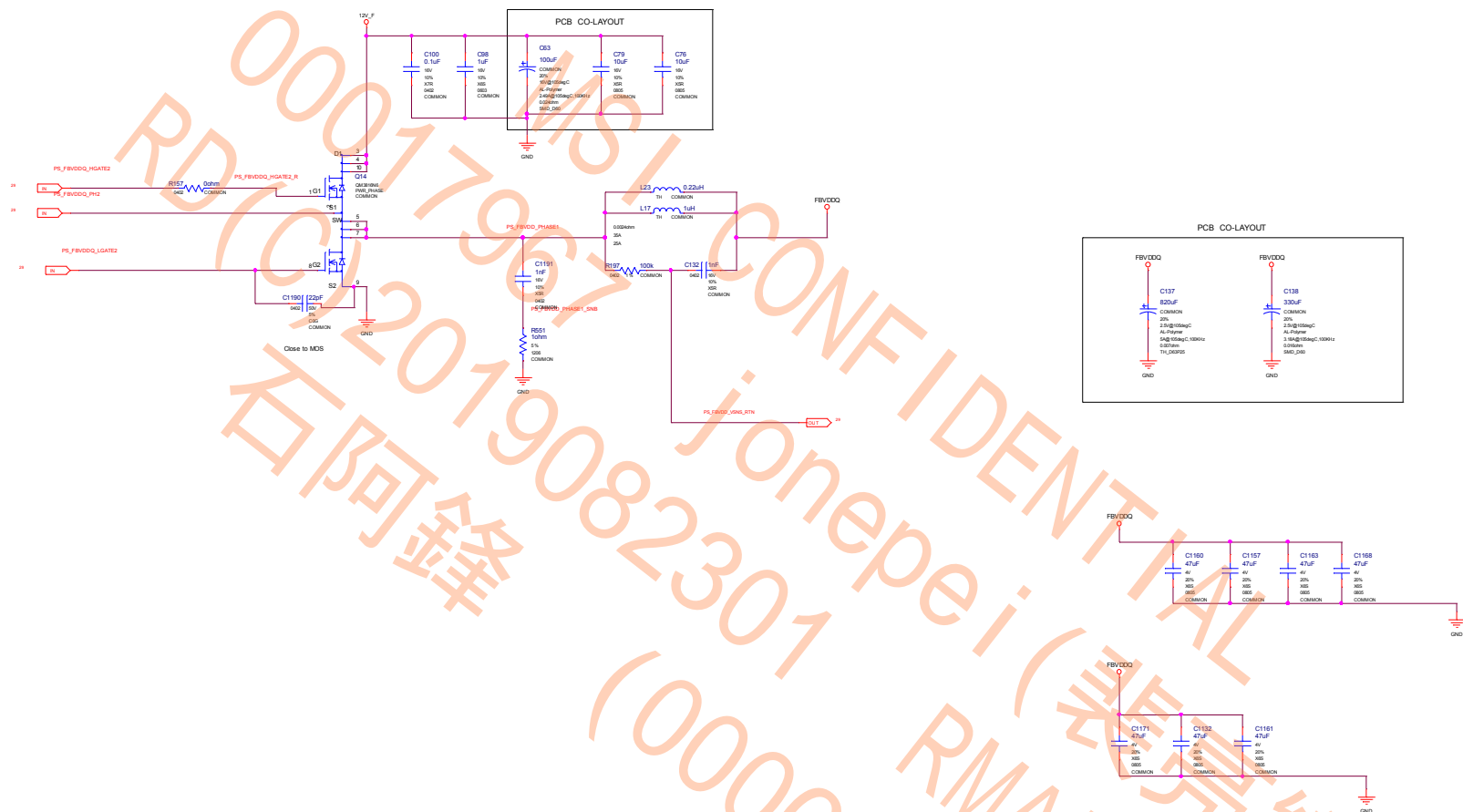
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: 1V8_AON

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN		600-1G165-BASE-000	
PCB REV	PG165-A00	PAGE	26 OF 4
BOM REV	B	DATE	14-DEC-2018

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.



A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

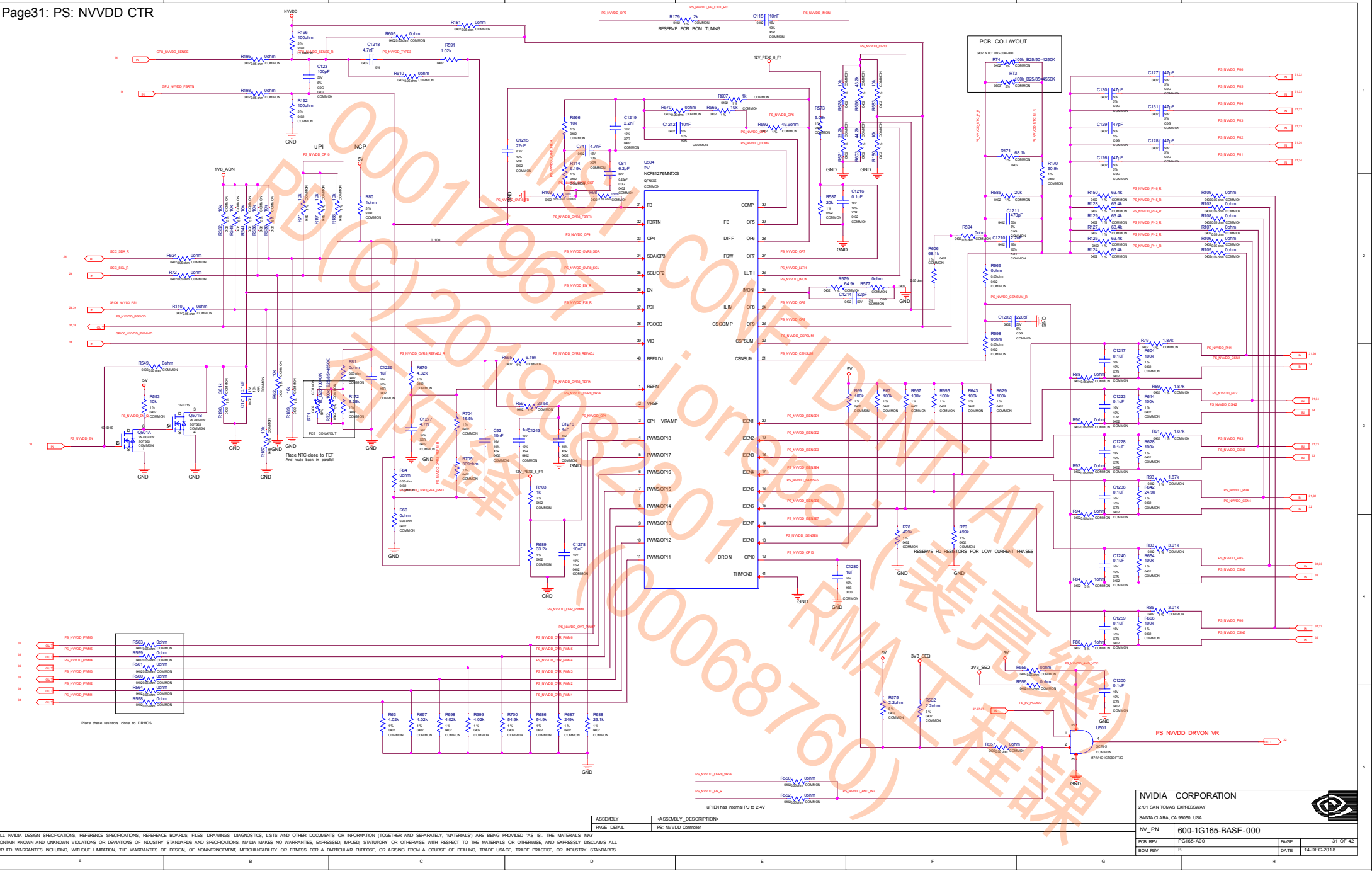
NV_PN	600-1G165-BASE-000
-------	--------------------

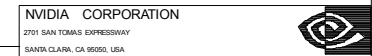
PCB REV	PG165-A00
---------	-----------

BOM REV	B
---------	---

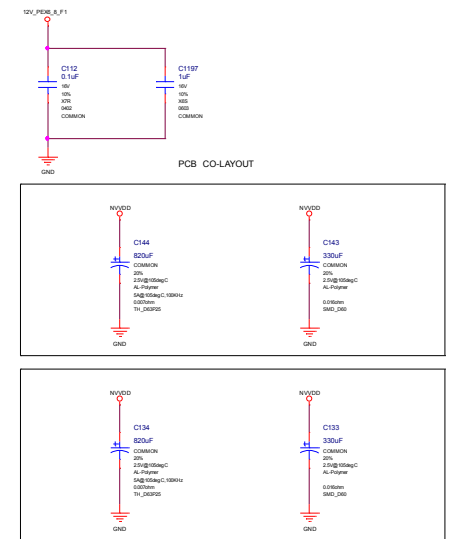
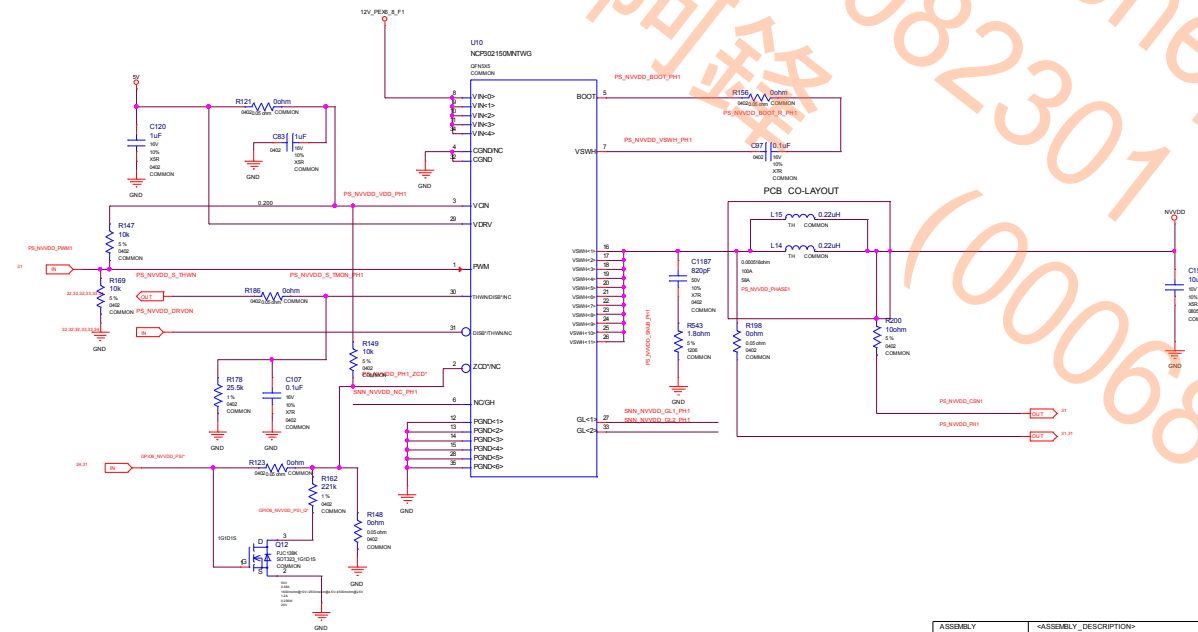
PAGE	30 OF 42
DATE	14-DEC-2018

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.





ASSEMBLY PAGE DETAIL	ASSEMBLY DESCRIPTION PS-NVVD Phase 3.5	SANTA CLARA, CA 95050, USA	
REV 35044MS ALL STANDARD		NV_PN 600-1G165-BASE-000	
		PCB REV P0165-A20	PAGE 33 OF 42
		BCM REV B	DATE 14-DEC-2018



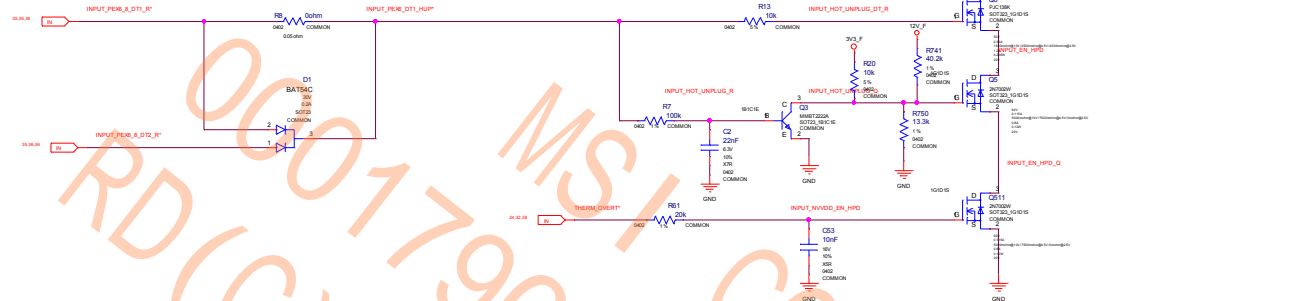
ASSEMBLY		ASSEMBLY DESCRIPTION		SANTA CLARA, CA 95050, USA	
PAGE DETAIL		PS-NVCD Plate 2.1		NV_PN 600-1G165-BASE-000	
REV				FOR REV PG165-A00	
SCALE: ALL				FRGE 34 OF 42	
STANDARD:				DATE 14-DEC-2018	



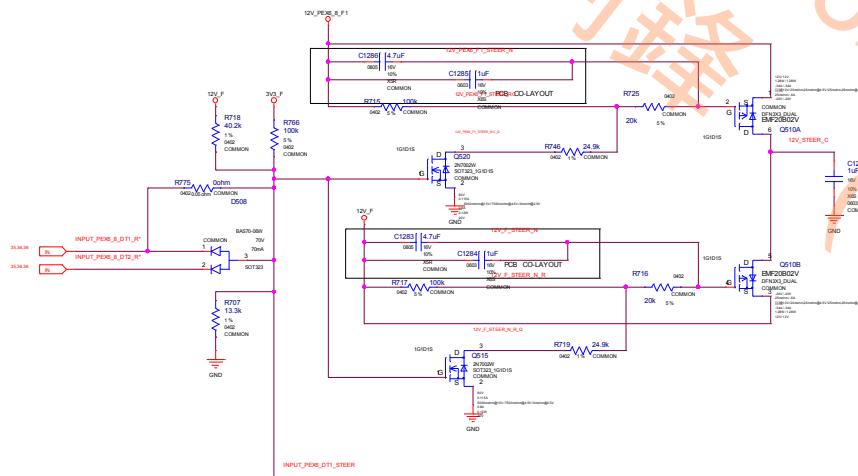


2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

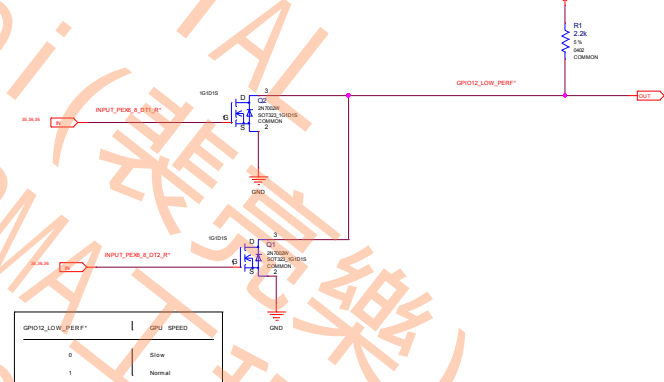
NV_PN	600-1G165-BASE-000		
PCB REV	PG165-A00	PAGE	35 OF 42
BOM REV	B	DATE	14-DEC-2018



GUIDES CURRENT FROM PEX EDGE TO PEX 6 PIN INPUT AREA



INPUT_PEX8_QT1_R*




2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN	600-1G165-BASE-000
-------	--------------------

PCB REV	PG165-A00	PAGE	36 OF 4
BOM REV	B	DATE	14-DEC-2018

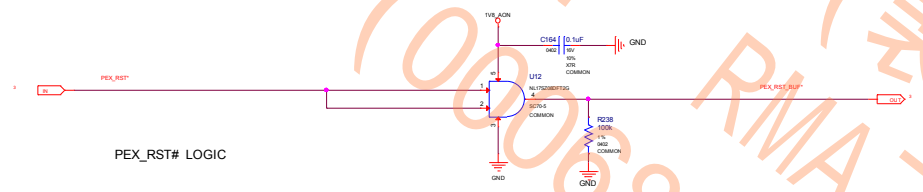
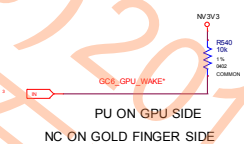


NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA				
NV_PN		600-1G165-BASE-000		
PCB REV	PG165-A00	PRGE	37 OF 47	
BOM REV	8	DATE	14-DEC-2018	



NV_PN	600-1G165-BASE-000
-------	--------------------

PCB REV	PG165-A00	PAGE	38 OF 42
BOM REV	B	DATE	14-DEC-2018



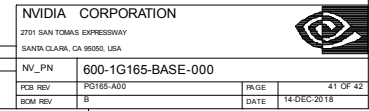
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-1G165-BASE-000		
PCB REV	PG165-A00	PRGE	39 OF 42
ROM REV	B	DATE	14-DEC-2018

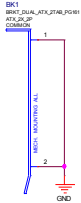


A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

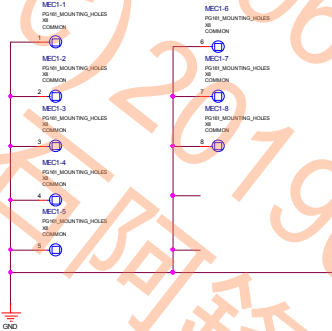


ENABLE PIN STATUS	MULTIPLEXER OPERATION
LOW	FULLY FUNCTIONAL
TRI-STATE(FLOATING)	LIMITED FUNCTION
HIGH	STANDBY

Bracket:



MOUNTING HOLES FOR HS:



BACK STIFFENER:



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN		600-1G165-BASE-000	
PCB REV	B	PG165-A00	42 OF 42
ROM REV	B	DATE	14-DEC-2018