

PG160-B02

8GB GDDR6, 256b, X16

Tall DVI-D + USB/DP + DP + HDMI/DP + DP

TABLE OF CONTENTS

Page Description

1	Table of Contents
2	Block Diagram
3	PCI Express
4	PCIe RC TERM
5	MEMORY: GPU FB_AB
6	MEMORY: FBA[31:0]
7	MEMORY: FBA[63:32]
8	MEMORY: FBB[31:0]
9	MEMORY: FBB[63:32]
10	MEMORY: GPU FB_CD
11	MEMORY: FBC[31:0]
12	MEMORY: FBC[63:32]
13	MEMORY: FBD[31:0]
14	MEMORY: FBD[63:32]
15	GPU PWR & GND
16	GPU Decoupling
17	GPU Decoupling2
18	IO: IFPAB DVI-D-DL
19	IO: IFPE DP
20	IO: IFPF USB/DP
21	IO: IFPC HDMI/DP
22	IO: IFPD DP
23	IO: NVHS Interface and Frame Lock
24	MISC1: Thermal, JTAG, GPIO, STEREO
25	MISC2: ROM, XTAL, STRAPS

Page Description

26	PS: 1V8_PLL, 1V8_AON
27	PS: 5V
28	PS: PEXVDD
29	PS: FBVDDQ
30	PS: FBVDDQ PH2
31	PS: NVVDD Controller
32	PS: NVVDD Controller OVR3i
33	PS: NVVDD Phase 1,2
34	PS: NVVDD Phase 3,4
35	PS: NVVDD Phase 5,6
36	PS: Input Power Balancing Switcher
37	PS: Input, Filtering, and Monitoring
38	PS: STEERING, UPB & HOT-UNPLUG
39	PS: Type-C BuckBoost
40	PD PPC
41	PS: 12V & 3V3_A SWITCHER
42	SEQ: 5V, 1V8, NV3V3 ENABLE
43	SEQ: NV, PEX, FB ENABLE
44	SEQ: VOLTAGE MONITOR
45	SEQ: DISCHARGE
46	SEQ: MISC
47	LOGO LED
48	LED DRIVER & BOOST
49	DUAL FAN
50	PS: Pre-filter

Page Description

51	MECH
52	PTC



MICRO-STAR INT'L CO., LTD

MS-V373

Size	Document Description	Rev
Custom	Table of Contents	4.0
Date: Thursday, August 30, 2018		Sheet 1 of 53

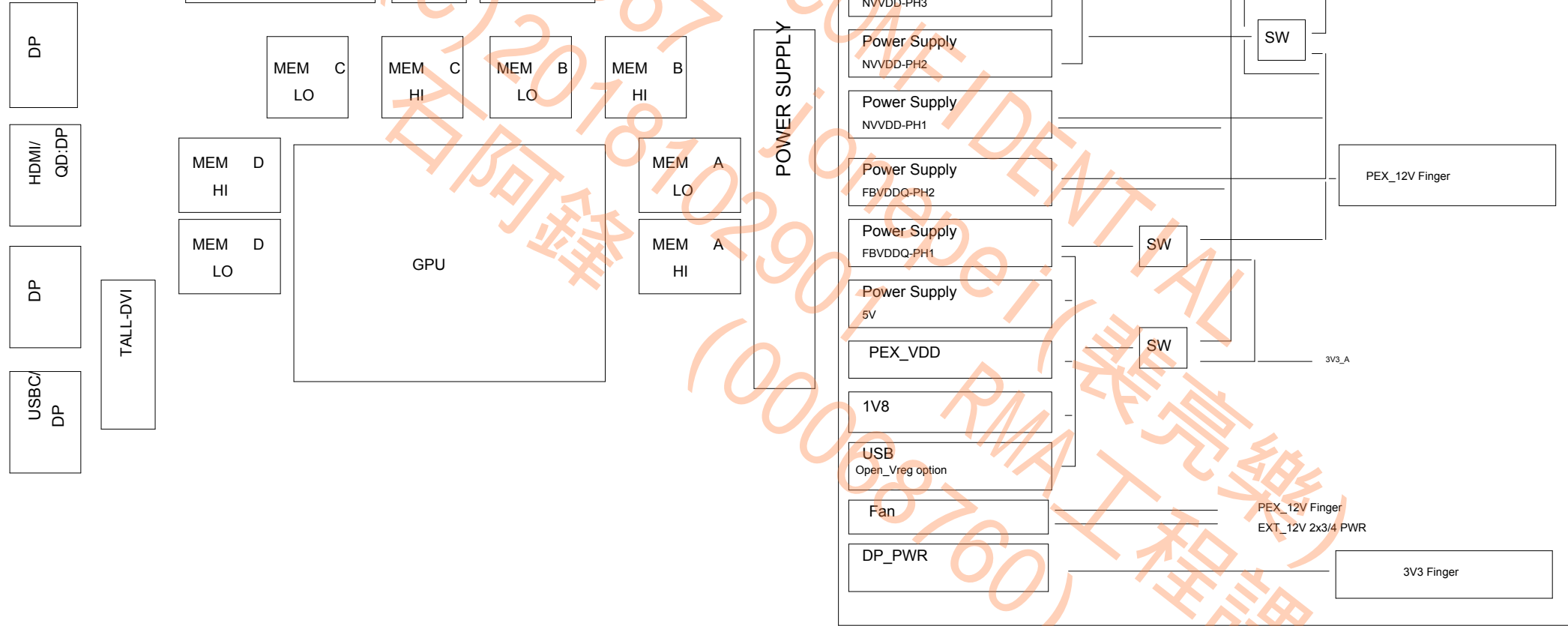
NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_P/N 600-1G160-BASE-300

PCB REV	PG160-B02	PAGE	1 OF 52
BCM REV	A	DATE	21-JUN-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 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.

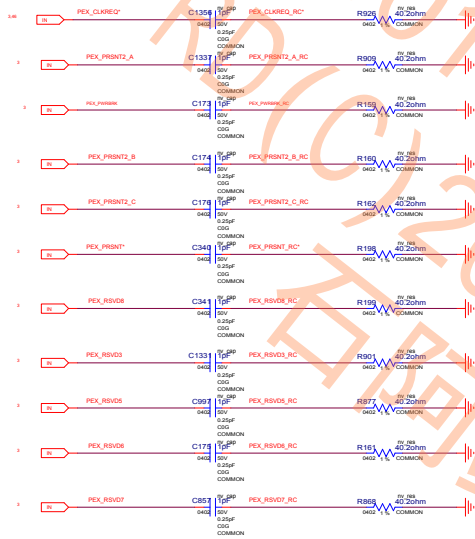


MICRO-STAR INT'L CO.,LTD			
MS-V373			
Size	Document Description	Rev	
Custom	Block Diagram	4.0	
Date	Thursday, August 30, 2018	Sheet	2 of 53


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 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>
PAGE DETAIL	Block Diagram

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G160-BASE-300		
PCB REV	PG160-B02	PAGE	2 OF 52
BCM REV	A	DATE	21-JUN-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 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.



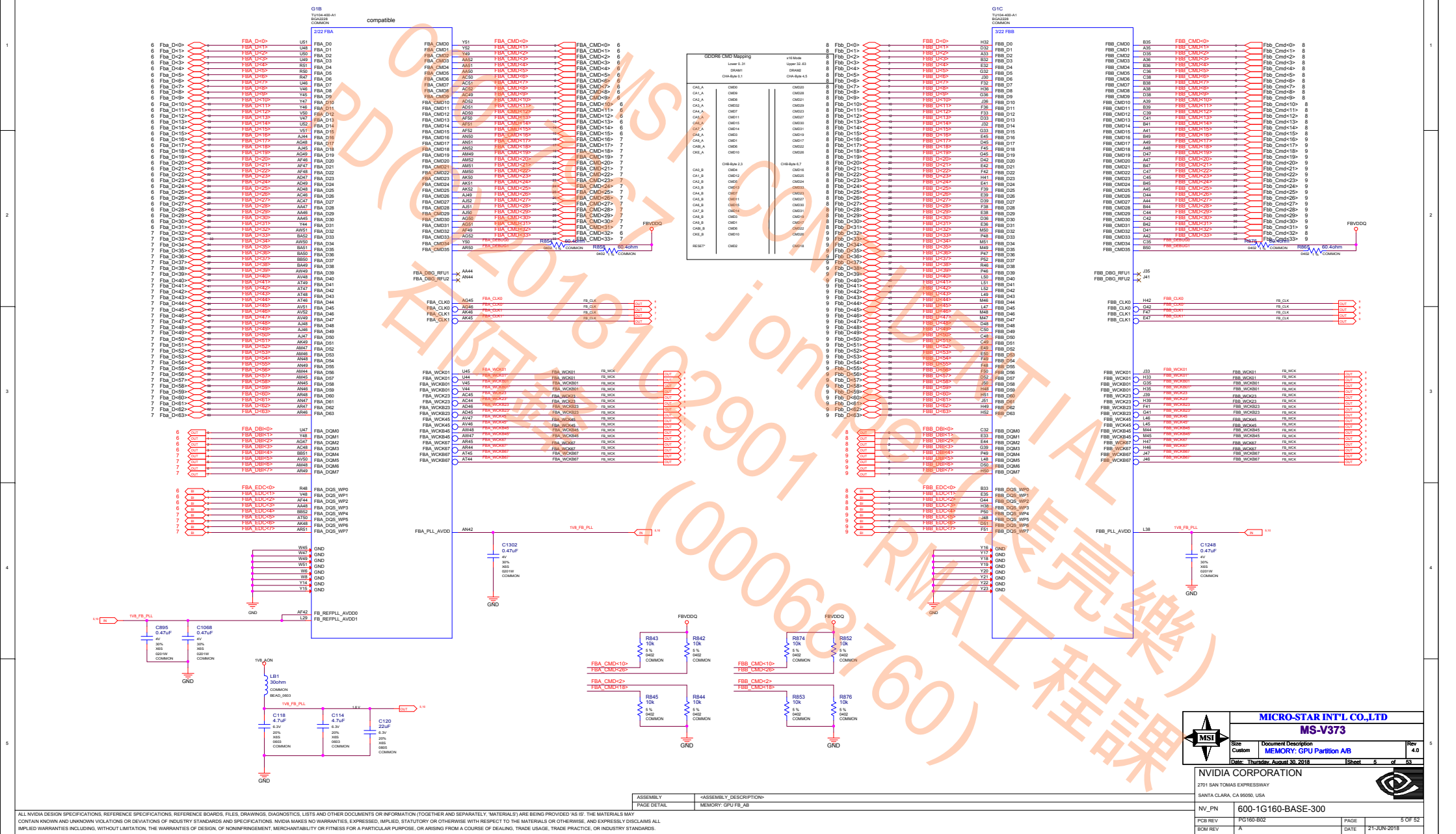
MICRO-STAR INT'L CO.,LTD
MS-V373

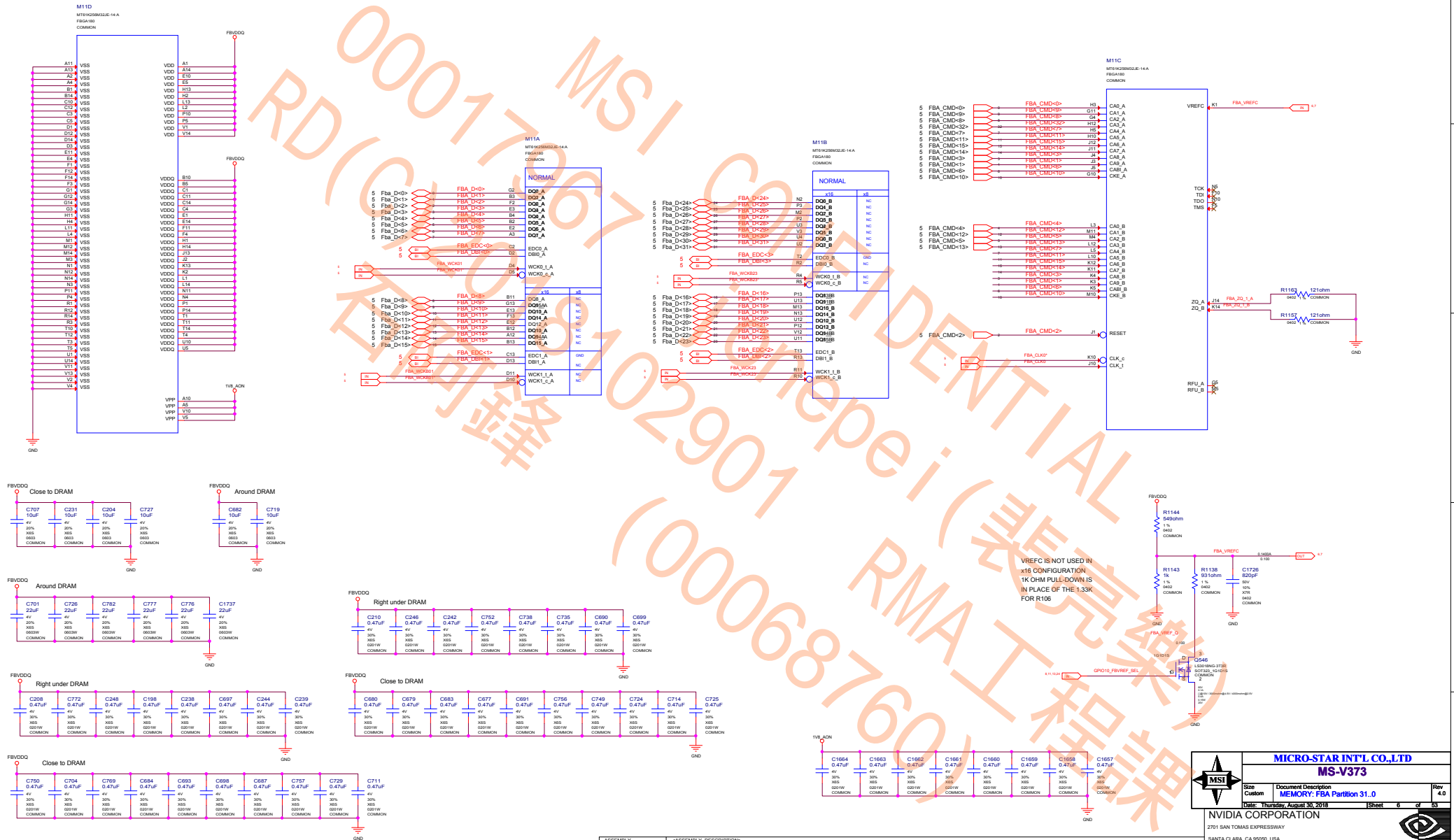
Size	Document Description	Rev
Custom	PCI Termination	4.0
Date:	Thursday, August 30, 2018	Sheet 4 of 53

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



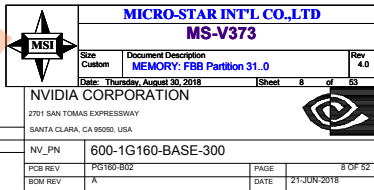
NV_PN	600-1G160-BASE-300		
PCB REV	PG160-B02	PAGE	4 OF 52
ROM REV	A	DATE	21-JUN-2018

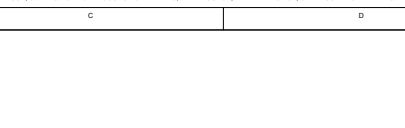
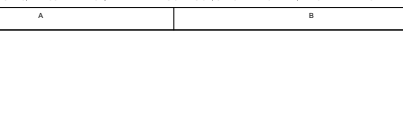
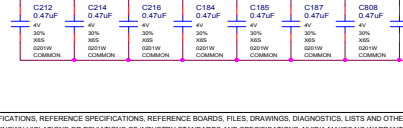
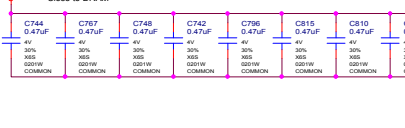
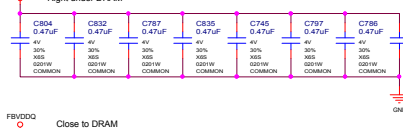
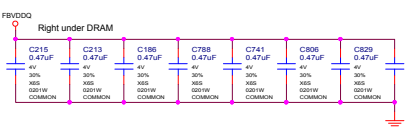
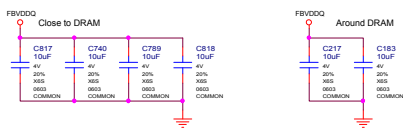
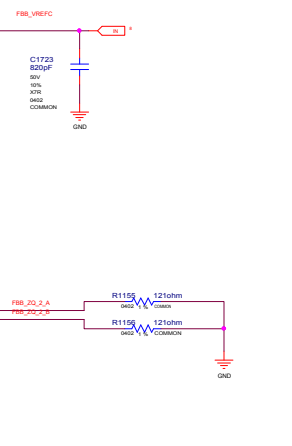
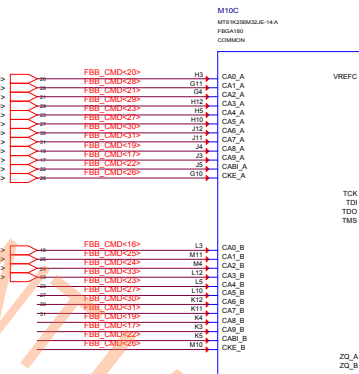
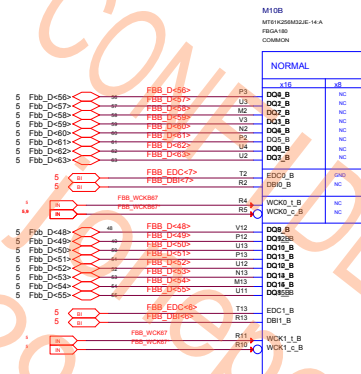
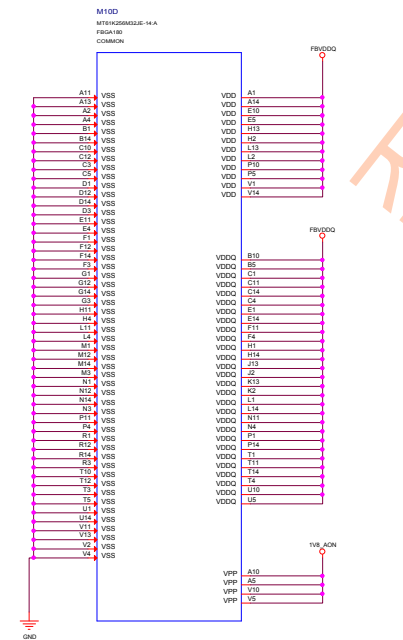






ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.





ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE DETAIL	MEMORY FB003.32

MICRO-STAR INT'L CO.,LTD
MS-V373

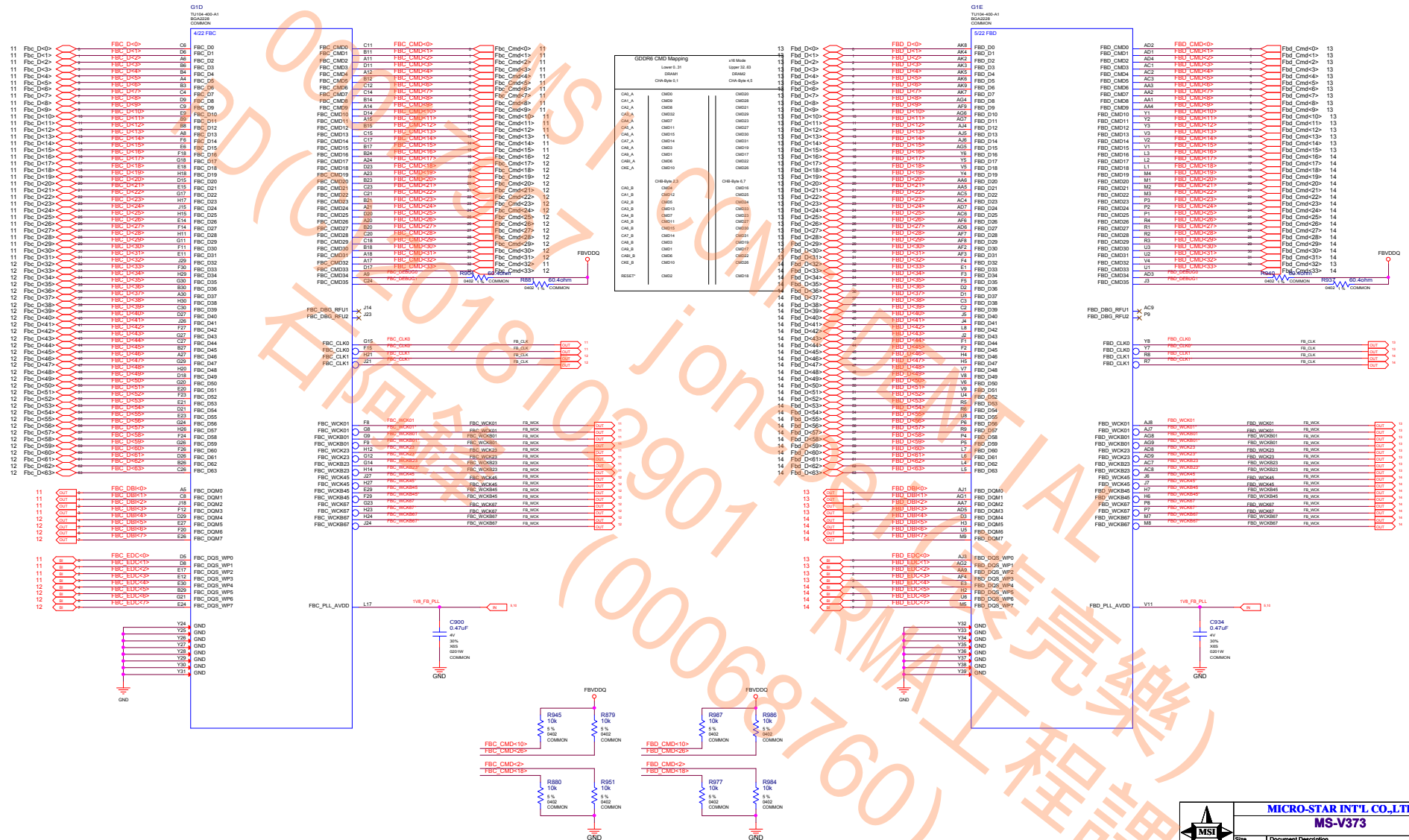
Size	Custom	Document Description	MEMORY: FBB Partition 63..32	Rev	4.0
Date:	Thursday, August 30, 2018	Sheet	9	of	53

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

NV_PN	600-1G160-BASE-300
PCB REV	PG160-B02
BOB REV	A

PAGE	9	OF	52
DATE	21-JUN-2018		

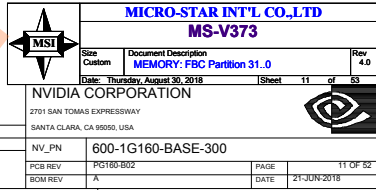
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA 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.

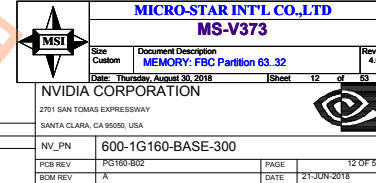
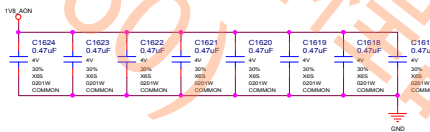
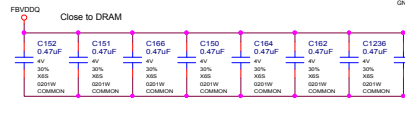
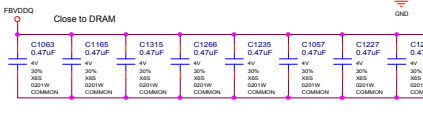
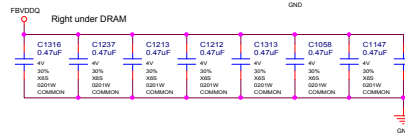
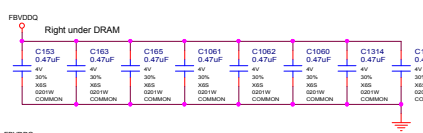
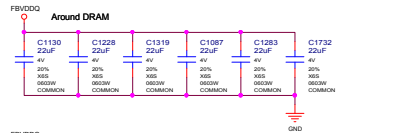
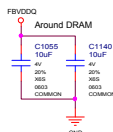
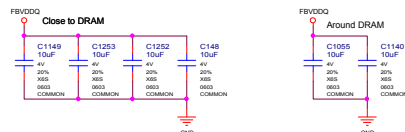
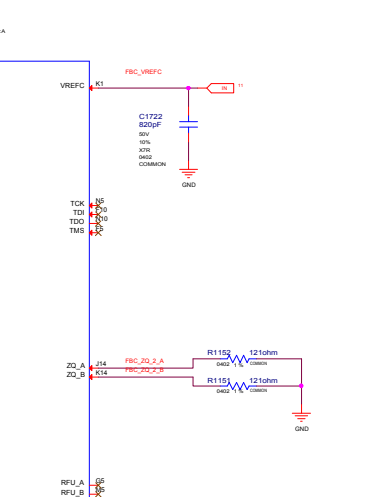
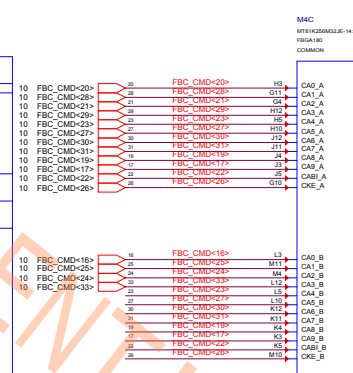
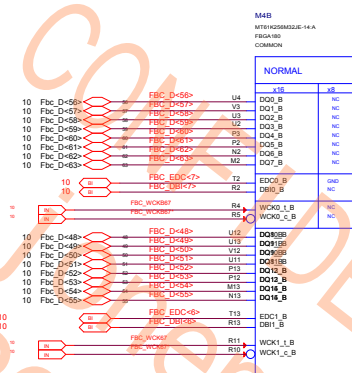
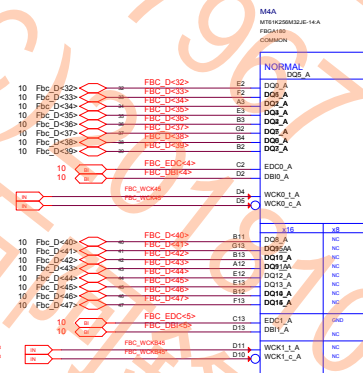
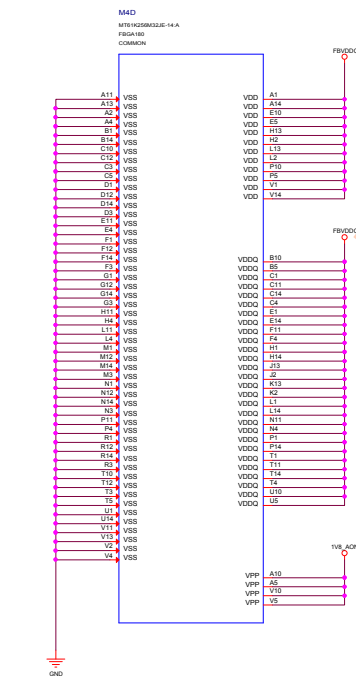


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. 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.

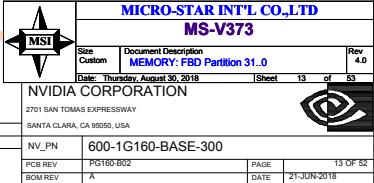
ASSEMBLY: <ASSEMBLY_DESCRIPTION>
PAGE DETAIL: MEMORY_GPU_PARTITION_C/D

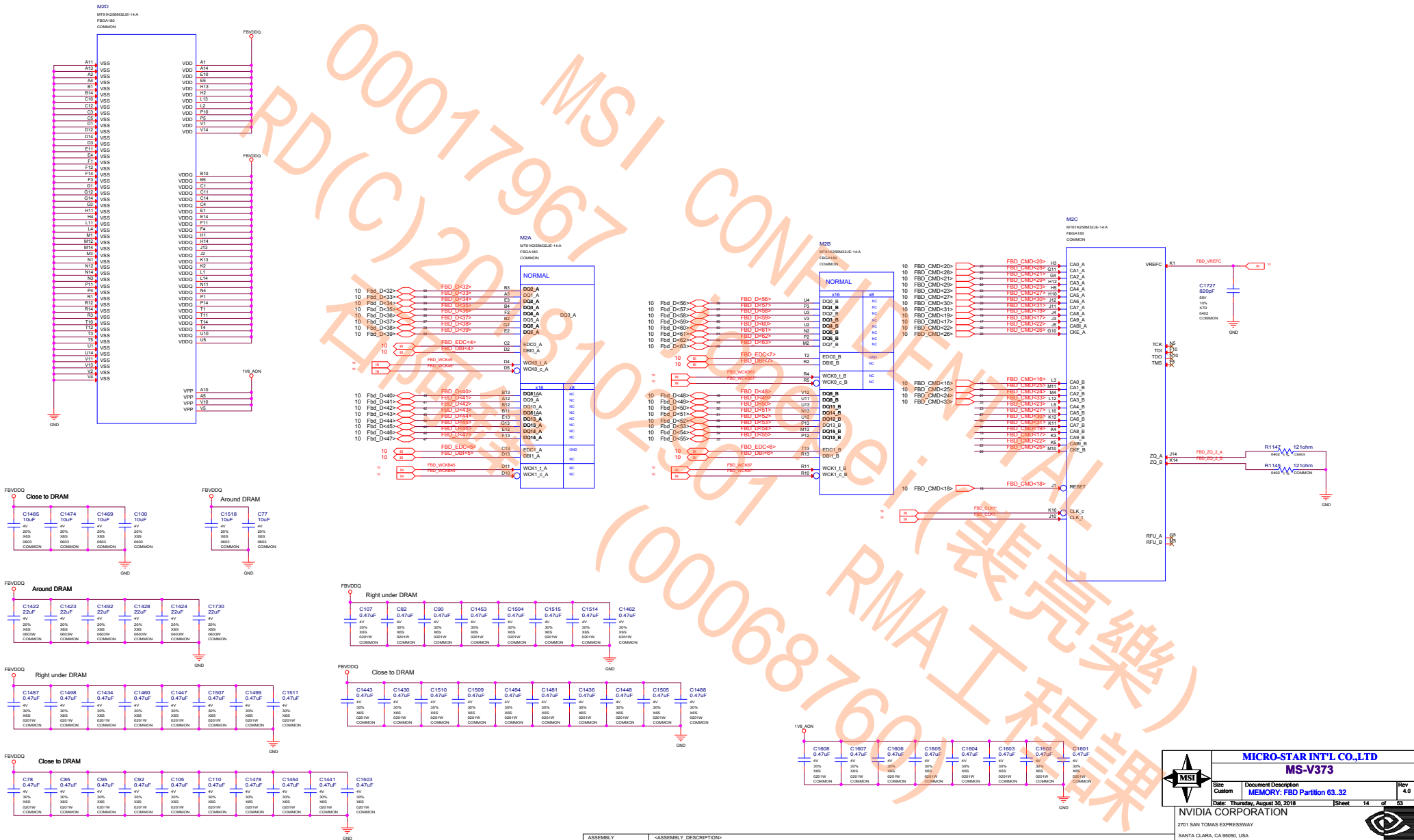
MSI			
MICRO-STAR INT'L CO., LTD			
MS-V373			
Doc	Doc	Doc	Doc
Order	Number	Revision	Date
1	1	1	1
Date: Thursday, August 30, 2018			
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
PN: 600-1G160-BASE-300			
PCB REV	PGT00-802	PAGE	10 OF 52
DOM REV	A	DATE	21-JUN-2018






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 VARIATIONS 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 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.



MICRO-STAR INT'L CO.,LTD


MS-V373

Size: Custom

Document Description: MEMORY: FBD Partition 63..32

Date: Thursday, August 30, 2018

Sheet 14 of 53



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

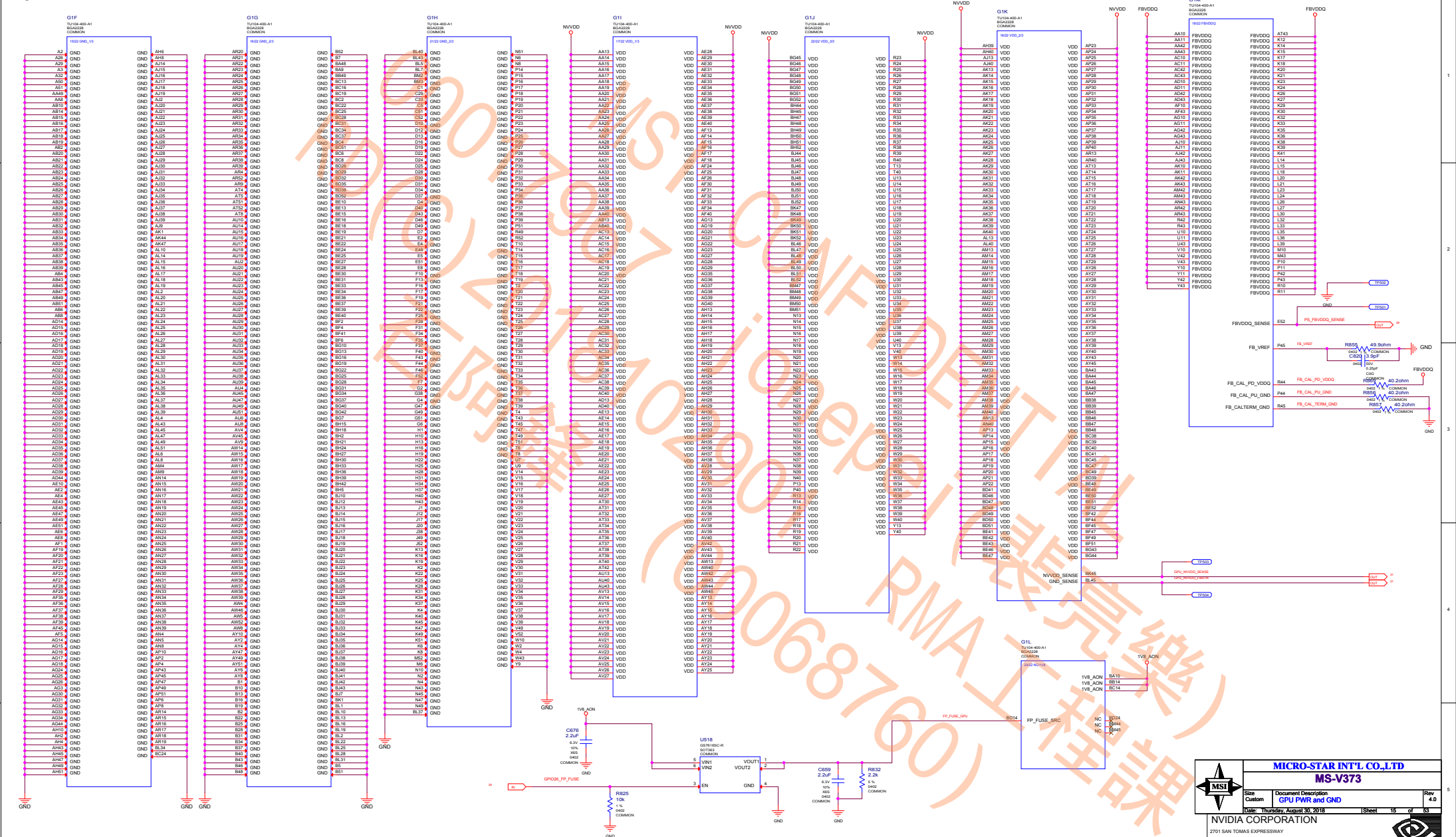
NV_PN: 600-1G160-BASE-300

PCB REV: PG160-B02

BCM REV: A

PAGE: 14 OF 52

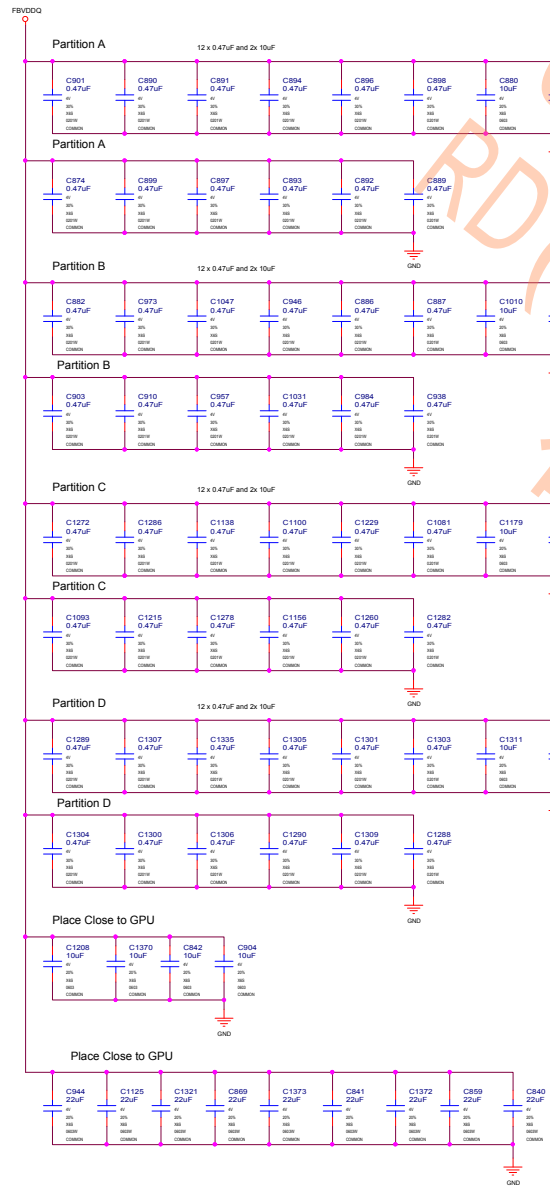
DATE: 21-JUN-2018



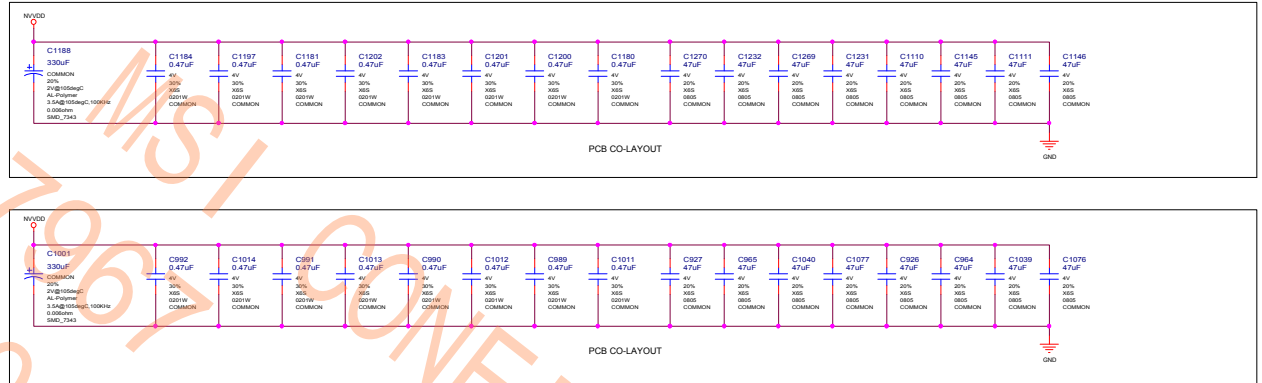
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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 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
PAGE DETAIL	GPU PWR & GND	NV_PN 600-1G160-BASE-300
CLAIMS ALL NDARDIS.		PCB REV A PAGE 15 OF 82 ROM REV DATE 21-JUN-2018

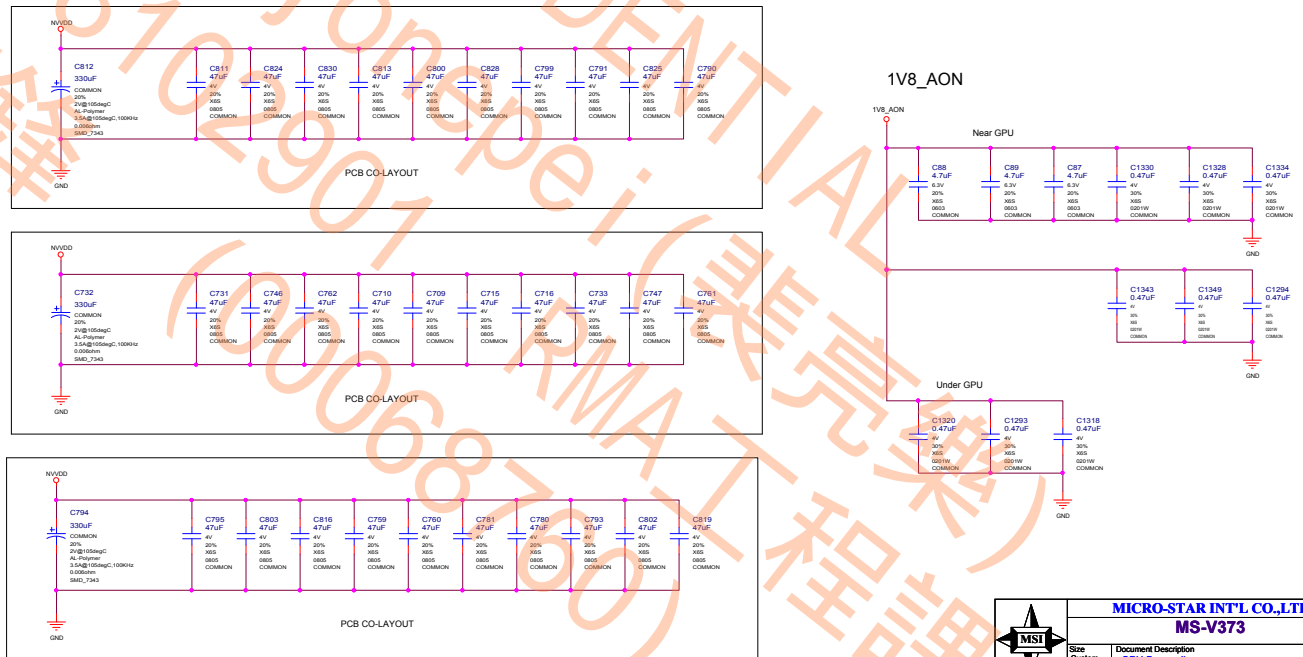
FBVDDQ



Under GPU



Near GPU



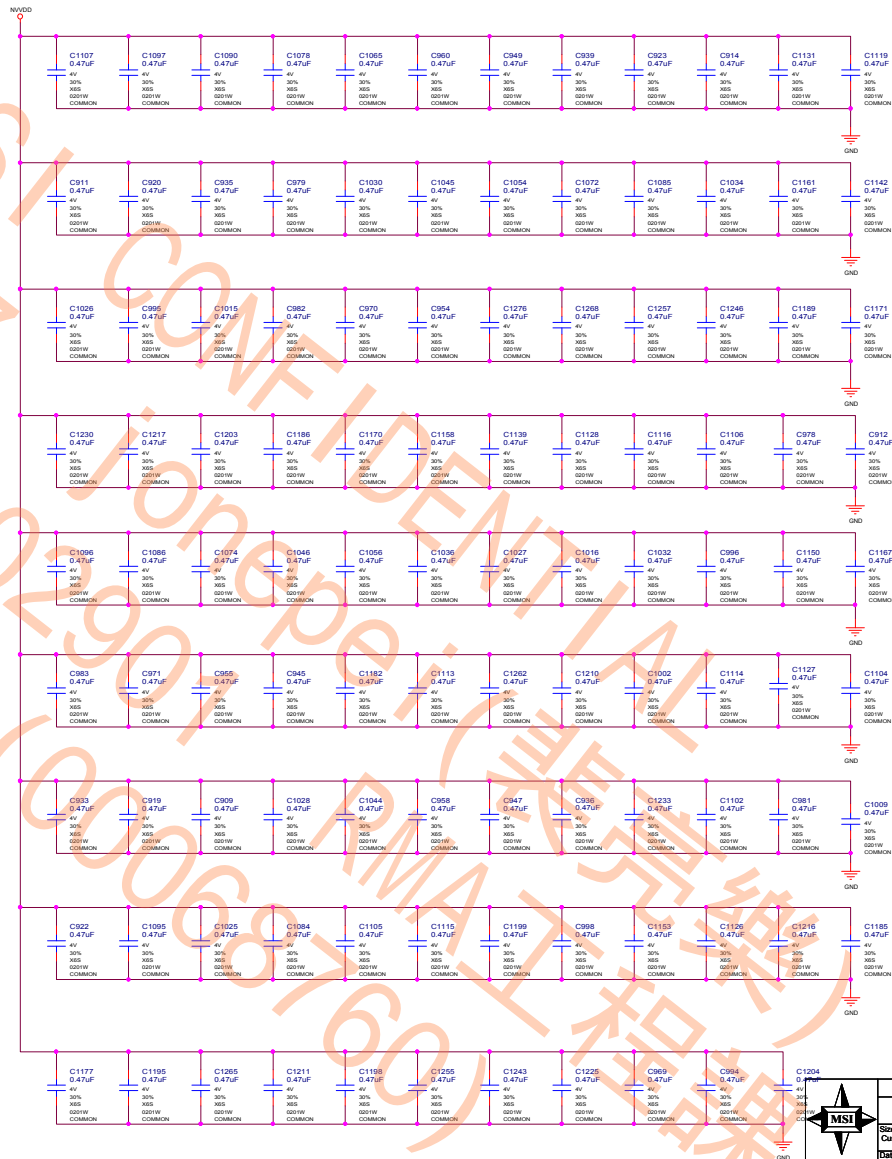
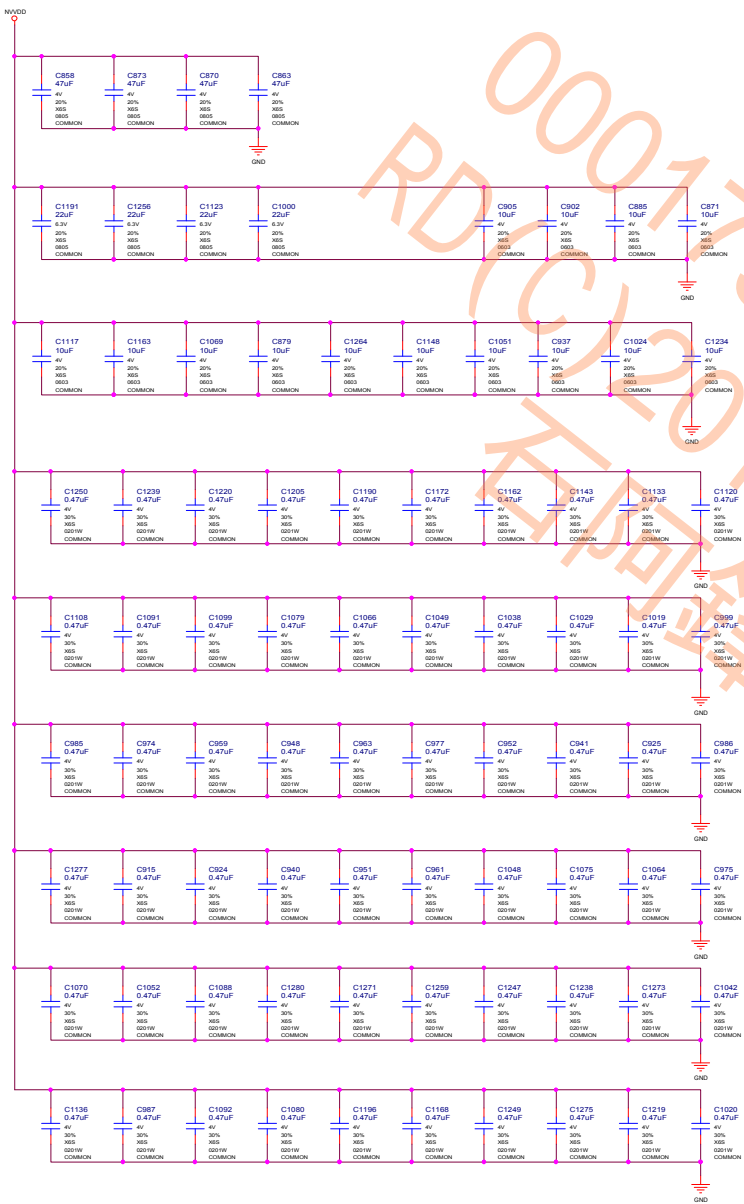
MICRO-STAR INT'L CO.,LTD			
MS-V373			
Size	Document Description	Rev	
Custom	CPU Decoupling	4.0	
Date: Thursday, August 30, 2018	Sheet	18	of 53
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G160-BASE-300		
PCB REV	PG160-B02	PAGE	16 OF 52
BCM REV	A	DATE	21-JUN-2018



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.

ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE: DETAIL	GPU Decoupling

NVVDD



MICRO-STAR INT'L CO., LTD
MS-V373

See Custom Document Description
Date: Thursday, August 30, 2018 Sheet 17 of 53

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

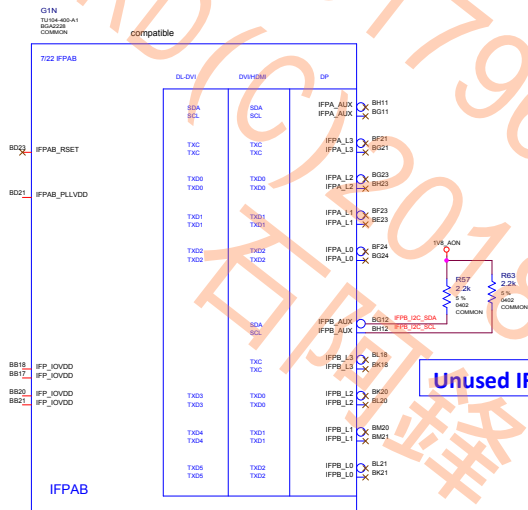
NV_PN 600-I G160-BASE-300

PCB REV PG160-B02
ICOM REV A

PAGE 17 OF 52
DATE 21-JUN-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 NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

delete Link AB °



9.3 UNUSED PINS

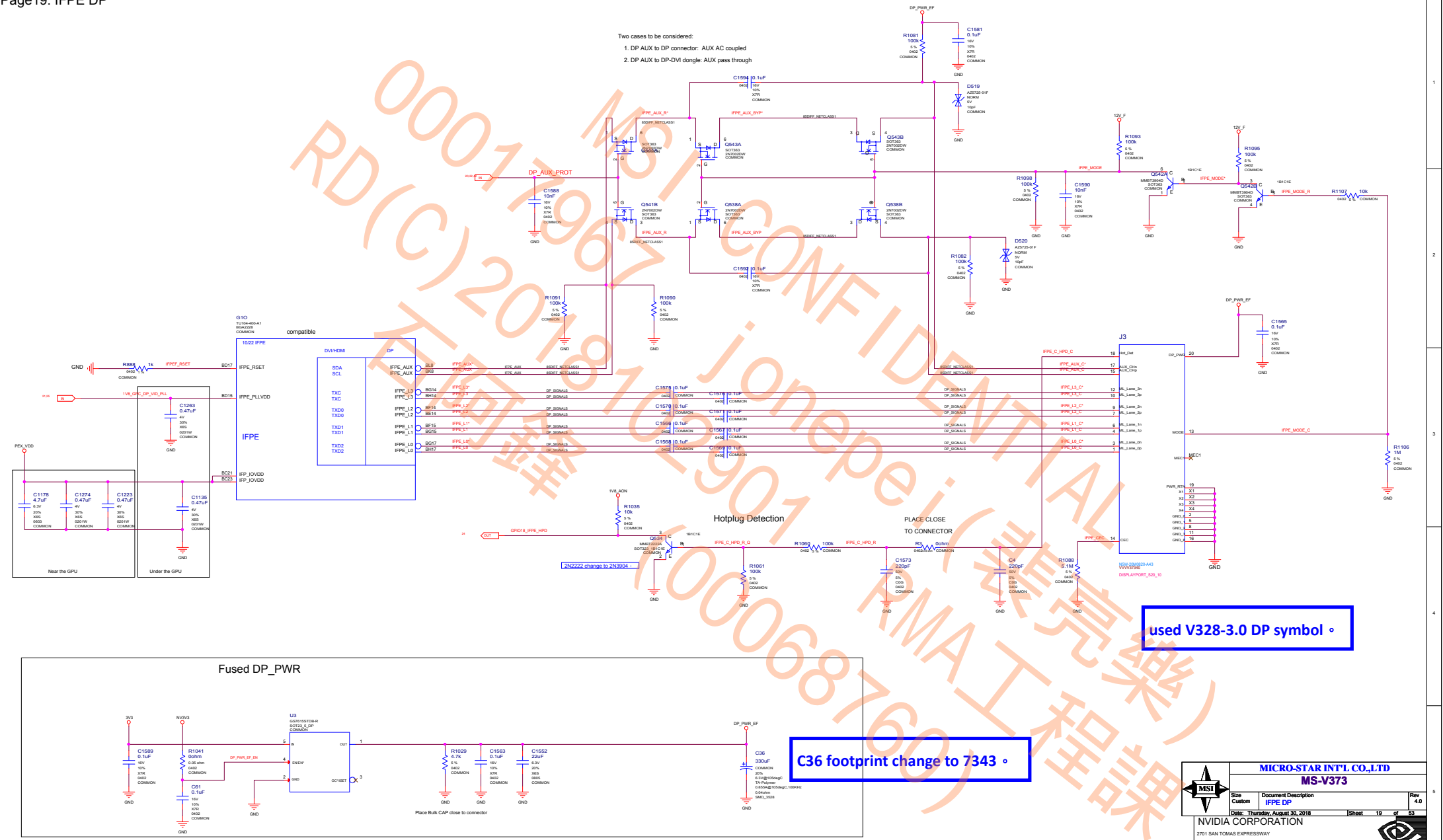
If an IFP link is unused, in general it should be left unconnected. This includes Main and Aux links. IFPxy_RSET and IFPxy_PLLVDD (xy=AB,CD,EF) can be left unconnected if neither of IFPx /IFPy is in use. For example, If neither link of the IFPA/IFPB macro is to be used, then IFPAB_PLLVDD and IFPAB_RSET should be left disconnected, and all signals and references associated with Link A and Link B should also be left unconnected.

IFP_IOVDD rail can be unconnected if no IFP link is used. If any IFP is used, all IFP_IOVDD balls must be connected to power rail.

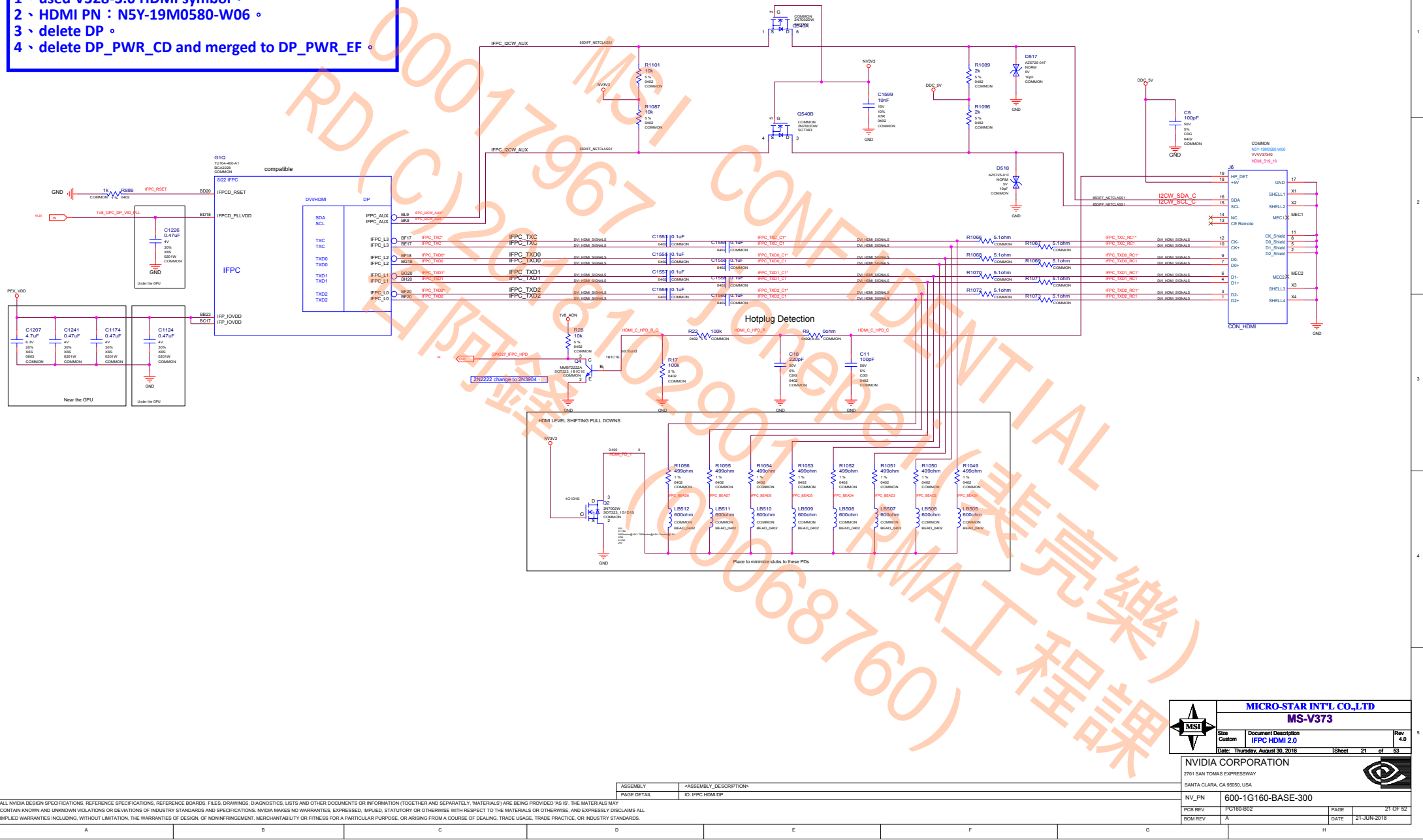
Unused IFPB_I2C* leaving Pull high resistor to 1.8V °

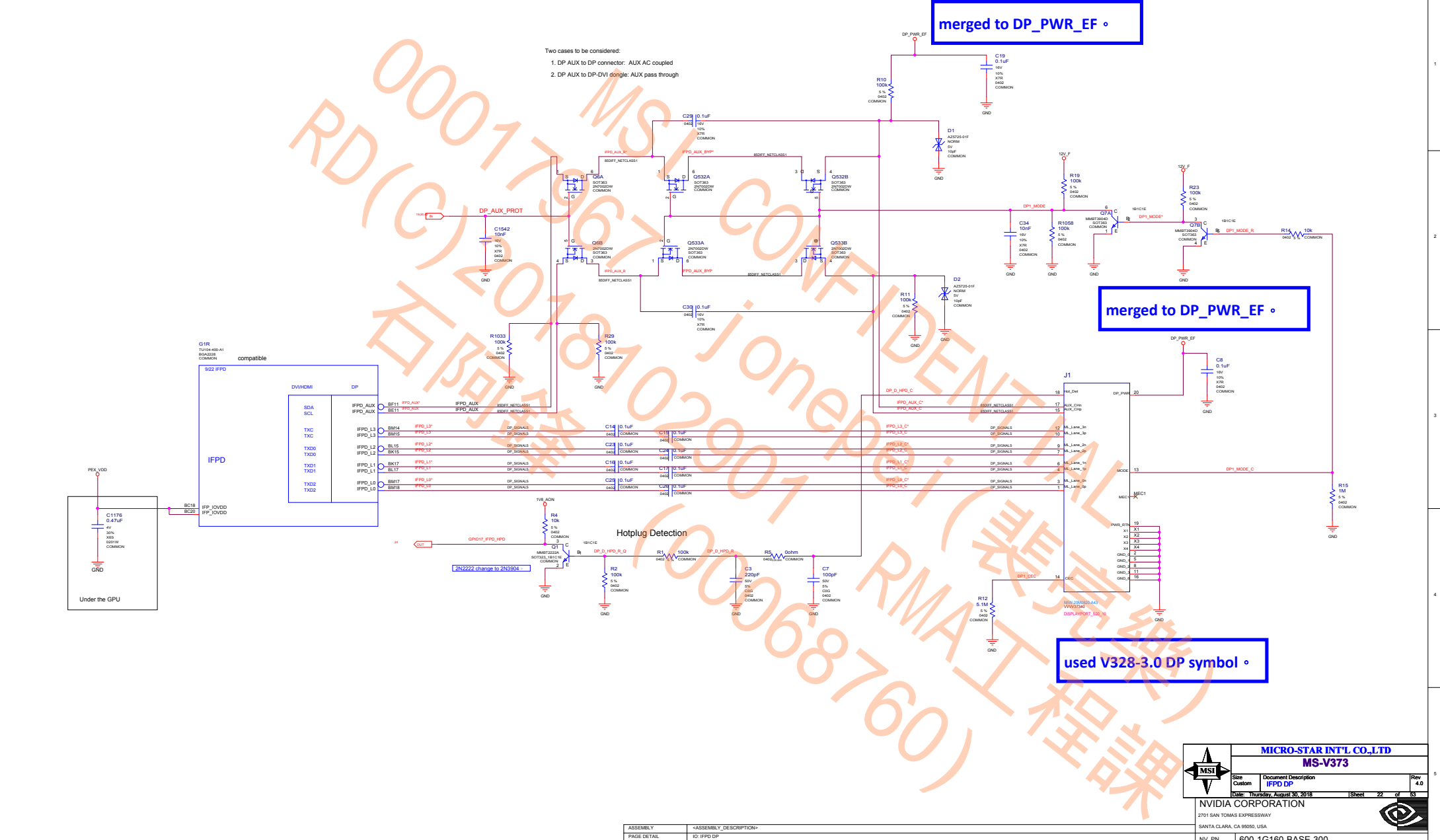
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. 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.

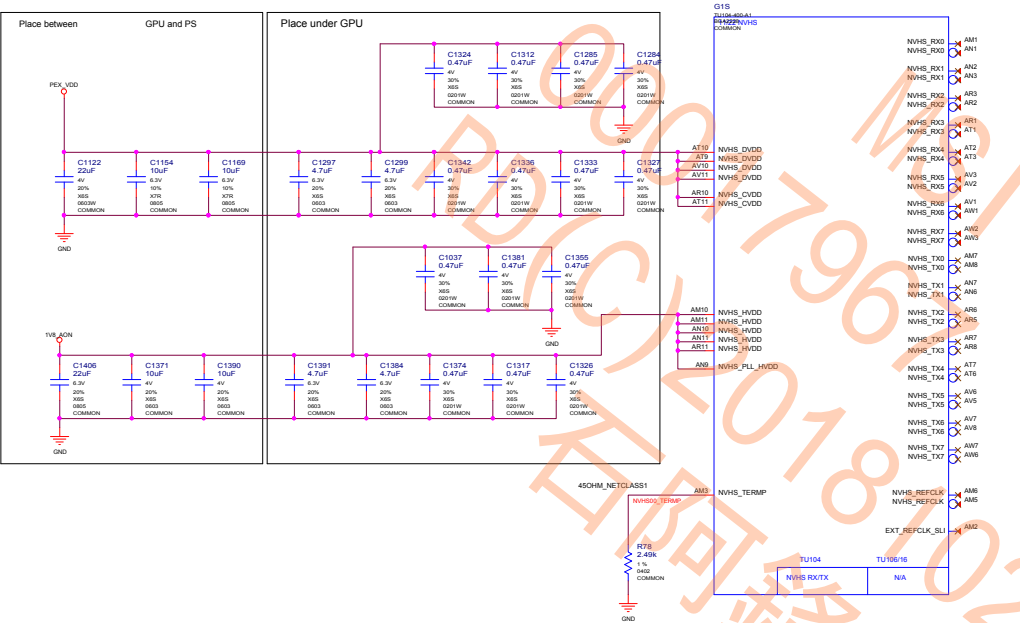
MICRO-STAR INT'L CO.,LTD	
MS-V373	
Size: Custom	Document Description: IFPAB DVI-D-DL
Date: Thursday, August 30, 2018	Sheet: 18 of 33
NVIDIA CORPORATION	
2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95050, USA	
NV_PN	600-1G160-BASE-300
PCB REV	PG160-B02
BOB REV	A
PAGE	18 OF 32
DATE	21-JUN-2018




- 1、used V328-3.0 HDMI symbol。
- 2、HDMI PN：N5Y-19M0580-W06。
- 3、delete DP。
- 4、delete DP_PWR_CD and merged to DP_PWR_EF。







delete Frame Lock



Size

Custom

Document Description

NVHS Interface

Date: Thursday, August 30, 2018

Sheet 23 of 53

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

NVIDIA CORPORATION

PG160-B02

BCM REV A

600-1G160-BASE-300

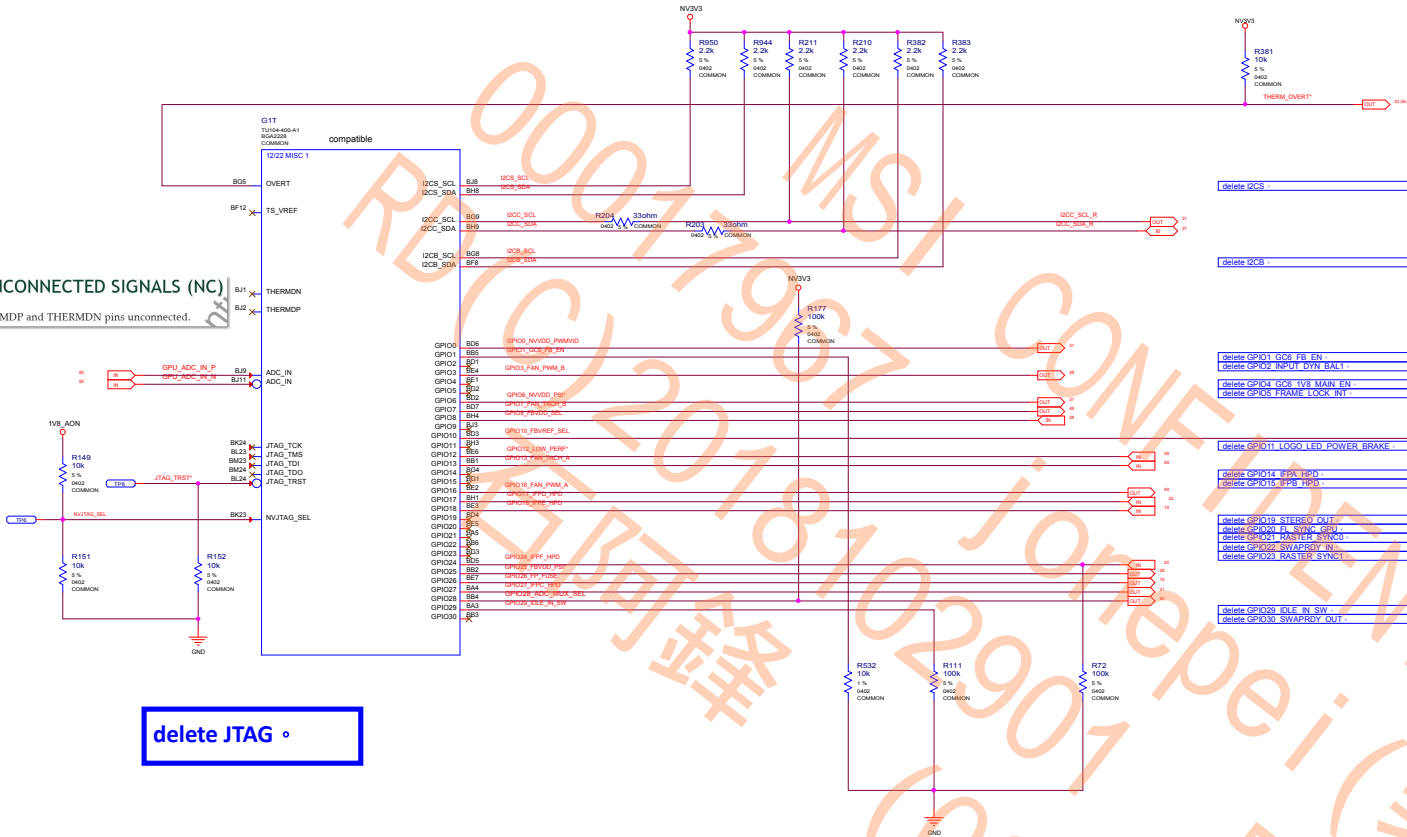
23 OF 52

DATE 21-JUN-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.

14.5 UNCONNECTED SIGNALS (NC)

Leave the THERMDP and THERMDN pins unconnected.



delete JTAG

Unused delete GPIO11_LOGO_LED_POWER_BRAKE

16.3.3.1.1 Unconnected I2C Pins
Do not route unused I2C signals on the PCB in order to protect the GPU from outside ESD risk. For unused I2C lines, pull up both the I2C_SCL and I2C_SDA lines to 1.8V or 3.3V using a 2.2 kΩ resistor. Any unused I2C lines can be soft-grounded (that is, grounded using a resistor). NVIDIA's diagnostic program expects them to be pulled up and will flag an error. So it is strongly recommended that unused I2C lines be pulled up.

15.2.1 Unconnected Signals
Unused GPIOs may be left floating (NC) on the board design.

Unused delete STEREO

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC 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 TRADES, 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 PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MISC1: Thermal, JTAG, GPIO, STEREO

MICRO-STAR INT'L CO., LTD
MS-V373

Size	Custom	Document Description	MISC: Fan, Thermal, JTAG, GPIO, STEREO	Rev	4.0
Date:	Thursday, August 30, 2018	Sheet	24	of	53

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

NV_PN	600-1G160-BASE-300		
PCB REV	PG100-B02	PAGE	24 OF 52
ICOM REV	A	DATE	21-JUN-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

RAMCFG[4:0]	DENSITY	WIDTH	VENDOR	DIE
00000	8Gb	256-bit	Samsung	C
00001	8Gb	256-bit	Micron	A
00010	8Gb	256-bit	Hynix	M
00011	8Gb	256-bit	Samsung	C
00100	8Gb	256-bit	Micron	A
00101	8Gb	256-bit	Hynix	M
00110	16Gb	256-bit	Samsung	M
00111				

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	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

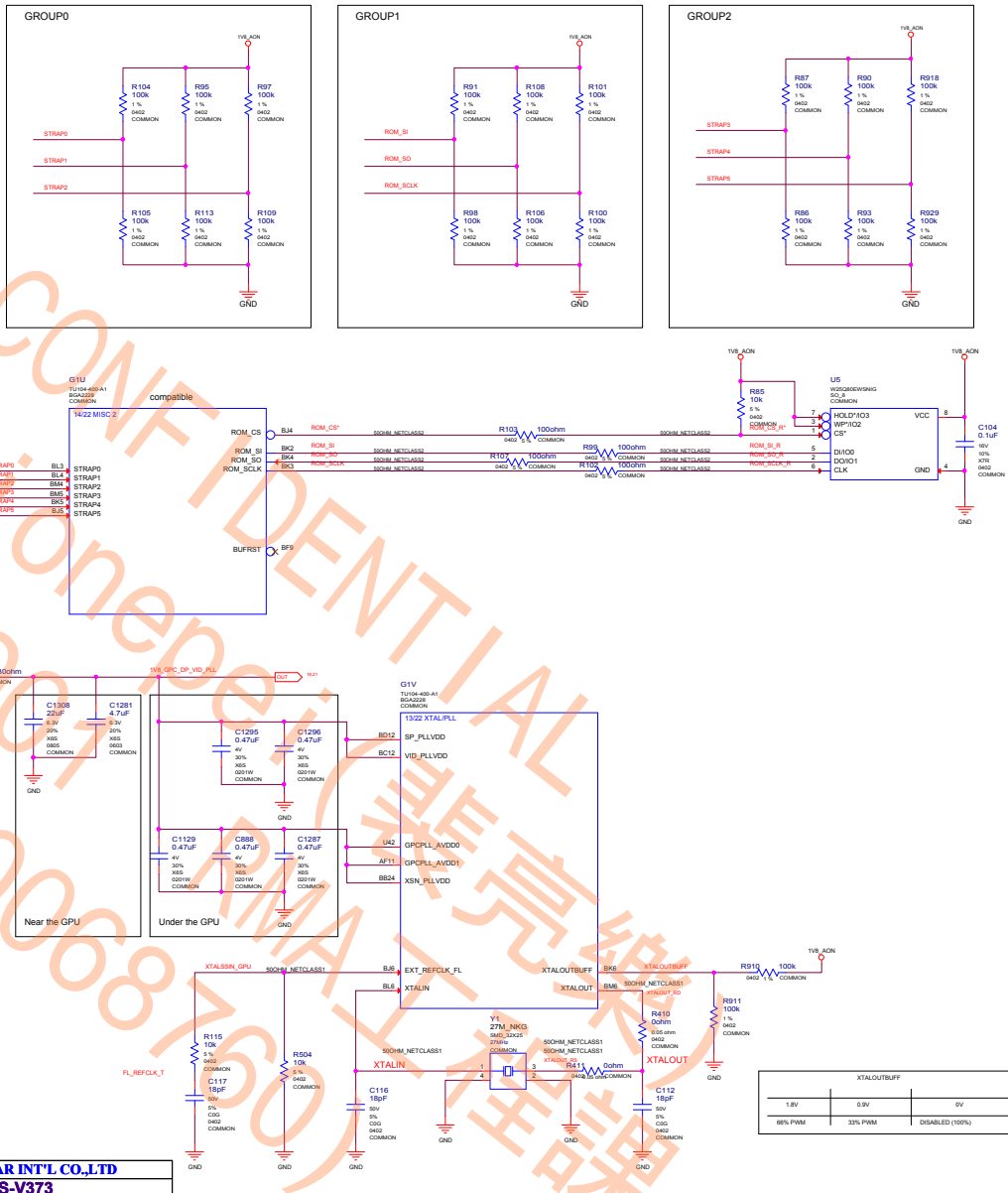
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

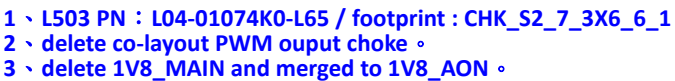
1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER



1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

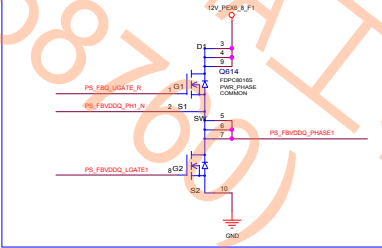



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. 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
PAGE DETAIL	PS: 1VB_PLL, 1VB_AON

	MICRO-STAR INT'L CO.,LTD MS-V373			
	Size Custom	Document Description PS: 1V8 PLL, V8_AON	Rev 4.0	
	Date: Thursday, August 30, 2018		Sheet	26 of 43
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA				
NV_PN PCB REV B0M REV	600-1G160-BASE-300 P0160 B02 A			
PAGE DATE		26 OF 52 21-JUN-2018		



	MICRO-STAR INT'L CO.,LTD			
	MS-V373			
	Size	Document Description	Rev	4.3
	Custom	PS-FBVDQ		
	Date:	Revised:	Sheet	of
	2018-04-26	2018-04-26	29	63
NVIDIA CORPORATION				
Z701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA				
NV_FLN	600-G160-BASE-300			
PCB REV	A0160 B02	PAGE	29 OF 32	
BOM REV	PC	DATE	21-JUN-2018	


ALL ILLUMINA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, ILLUSTRATIONS, PHOTOGRAPHS, SAMPLES, AND/OR OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VARIATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. ILLUMINA 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.

delete all , unused .

MSI CONFIDENTIAL
RD(C)2018102901 jonepei (裴亮樂)
石阿鋒 RMA工程課
(00068760)

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC 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.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: NVVDD Controller OVR3i



MICRO-STAR INT'L CO.,LTD


MS-V373

Size	Custom	Document Description	PS: NVVDD CTR OVR3i	Rev	4.0
Date:	Thursday, August 30, 2018	Sheet	32	of	53

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA




NV_PN	600-1G160-BASE-300				
PCB REV	PG100-B02	PAGE	32 OF 52		
BOM REV	A	DATE	21-JUN-2018		

- removed U511 for fixed NVVDD 12V input :
1 、merged 3V3_AON to 3V3_F 。
2 、unused and delete 3V3_AUX 。
3 、unused and delete 3V3_AUX_CON 。
4 、NVVDD_DYN_VIN merged to 12V_PEX6_8_F1 。

delete GP02 Input DYN BAL1
delete INPUT PEX6 D11 STEER

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.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: Input Power Balancing Switcher



MICRO-STAR INT'L CO.,LTD

MS-V373


Size: Custom

Document Description: Input Power Balancing Switcher

Date: Thursday, August 30, 2018

Rev: 4.0

Sheet 36 of 53



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

NV_PN

600-1G160-BASE-300

PCB REV

PG100-B02

BOM REV

A

PAGE

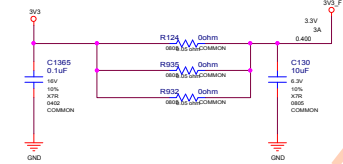
36 OF 52

DATE

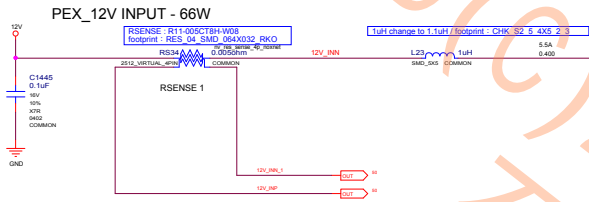
21-JUN-2018

- 1 、 changed EXT 12V 8pin PN and footprint 。
- 2 、 add EXT 12V 8pin Fuse 。
- 3 、 delete unused parts 。
- 4 、 RSENSE 3 change to sense NVVDD PEX 12V 。
- 5 、 RSENSE 4 change to sense NVVDD EXT 12V 。
- 6 、 change RSENSE parts and footprint 。

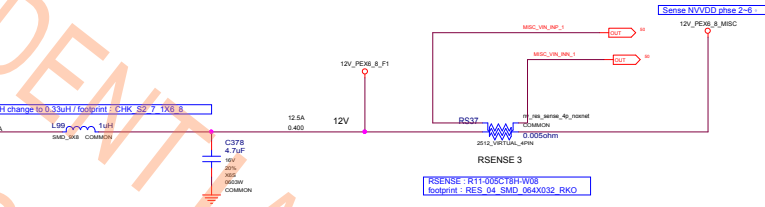
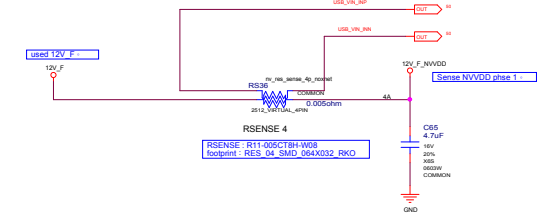
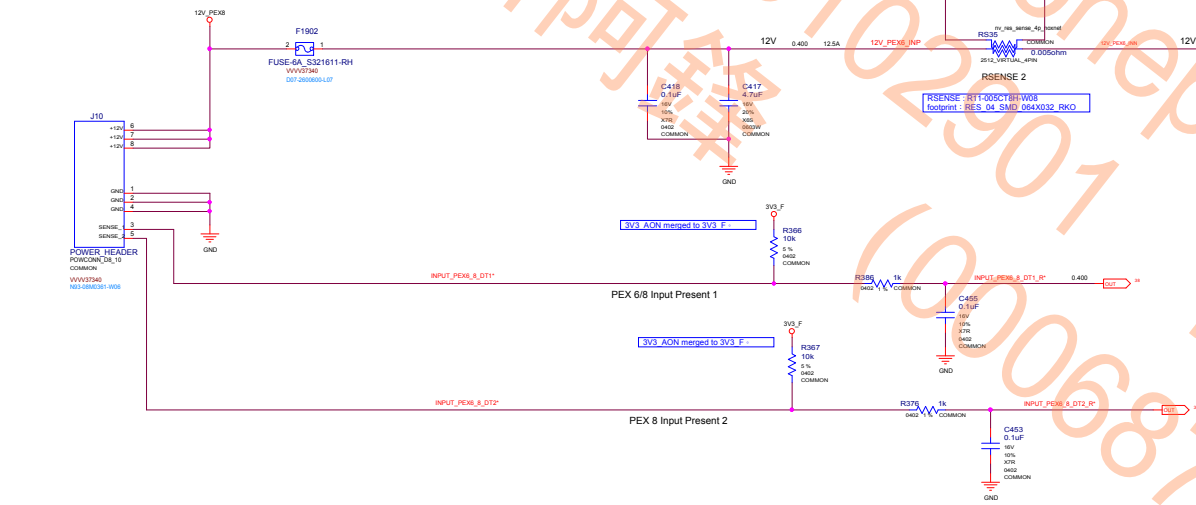
PEX 3V3 INPUT - 10W



PEX_12V INPUT - 66W



PEX8 INPUT 1 - 2x4 PCIE CON 150W



Sense resistors should be located as close as possible to the OVR-M input pins. Otherwise sensor output signals may exhibit larger measurement errors due to additional trace inductance and noise coupling in the signal from nearby noise-generating sections of the board.

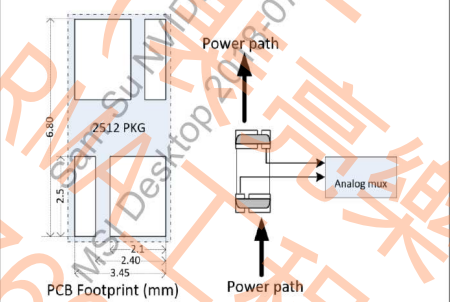


Figure 5.10 Connection for 2-Pin Sense Resistor (2512 Package)

If customer prefers using a 2-pin sense resistor instead, we recommend implementing a 4-pin footprint with two large PADs for the high current path and two small PADs for sensing line, to emulate the functionality of a 4-pin resistor.

Note: Two-pin sense resistor can be used, but the sensing signal MUST connect to resistor pad directly. Connect the sensing signal to nearby power plane may cause large measurement error.

MICRO-STAR INT'L CO.,LTD			
MS-V373			
Size	Document Description	Rev	
Custom	PS: Inputs, Filtering, and Monitoring	4.0	
Date:	Thursday, August 30, 2018	Sheet	37 of 53

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G160-BASE-300		
PCB REV	A	PAGE	37 OF 52
ICOM REV	A	DATE	21-JUN-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 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.

delete regulator for USBC_VBUS ◦

Unused USB_I2C* leaving Pull high resistor to 1.8V ◦

00017967 MSI CONFIDENTIAL
RD(C)2018102901 jonepei (裴亮樂)
石阿鋒 RMA工程課
(00068760)

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.

ASSEMBLY		<ASSEMBLY_DESCRIPTION>		SANTA CLARA, CA 95050, USA	
PAGE DETAIL		PS: Type-C Buckboost		600-1G160-BASE-300	
CLAIMS ALL STANDARDS.		NV_PN			
		PCB REV		PG160-B02	PAGE
		BOM REV		A	DATE
				39 OF 62	
				21-JUN-2018	

delete PPC °


Unused USB_I2C* leaving Pull high resistor to 1.8V °

Unused IFPB_I2C* leaving Pull high resistor to 1.8V °

delete GPI024 IFPB HPD °

delete DEX_RSY_BMP °

delete GPI001_GPIO_FAB_EN °



MICRO-STAR INT'L CO.,LTD

MS-V373

Rev 4.0

Size Custom

Document Description PPC


Date: Thursday, August 30, 2018

Sheet 40 of 53

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA



NV_PN 600-1G160-BASE-300

PCB REV PG100-B02

ROM REV A

PAGE 40 OF 52

DATE 21-JUN-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.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PD PPC

unused and delete all ◦


Delete GP101_C008_F01_EN
Delete GP2003_E01E_N1_SW

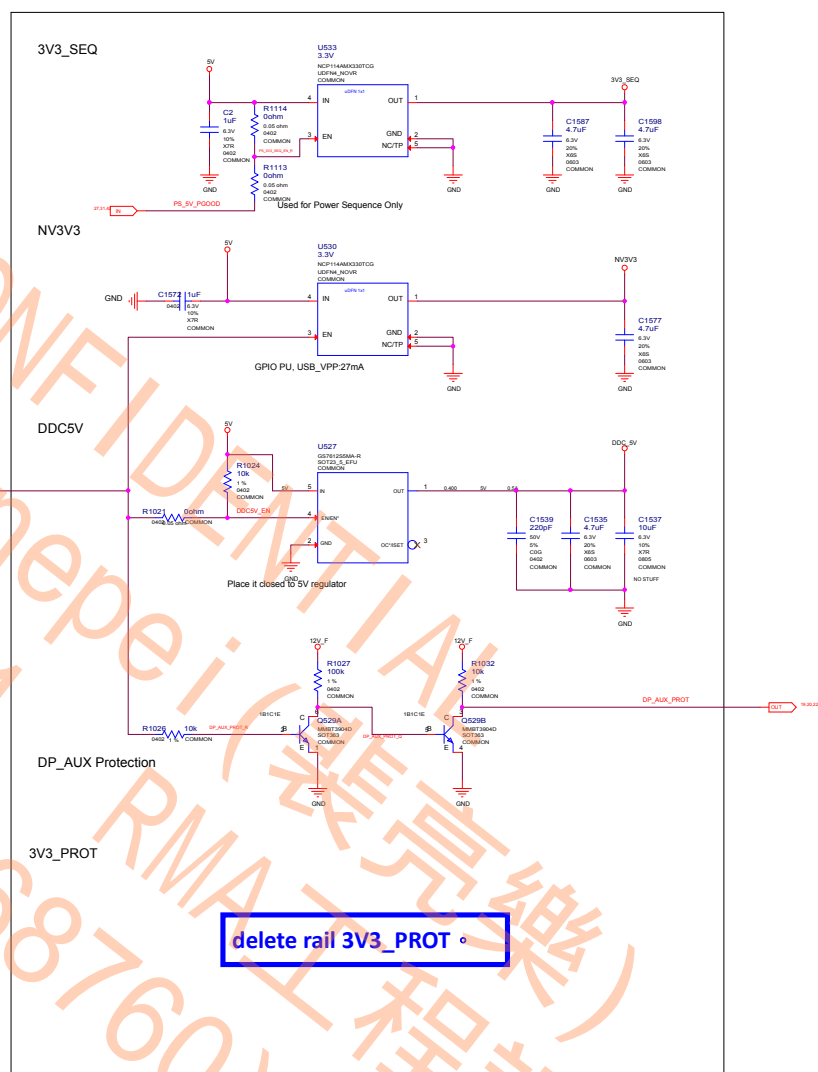
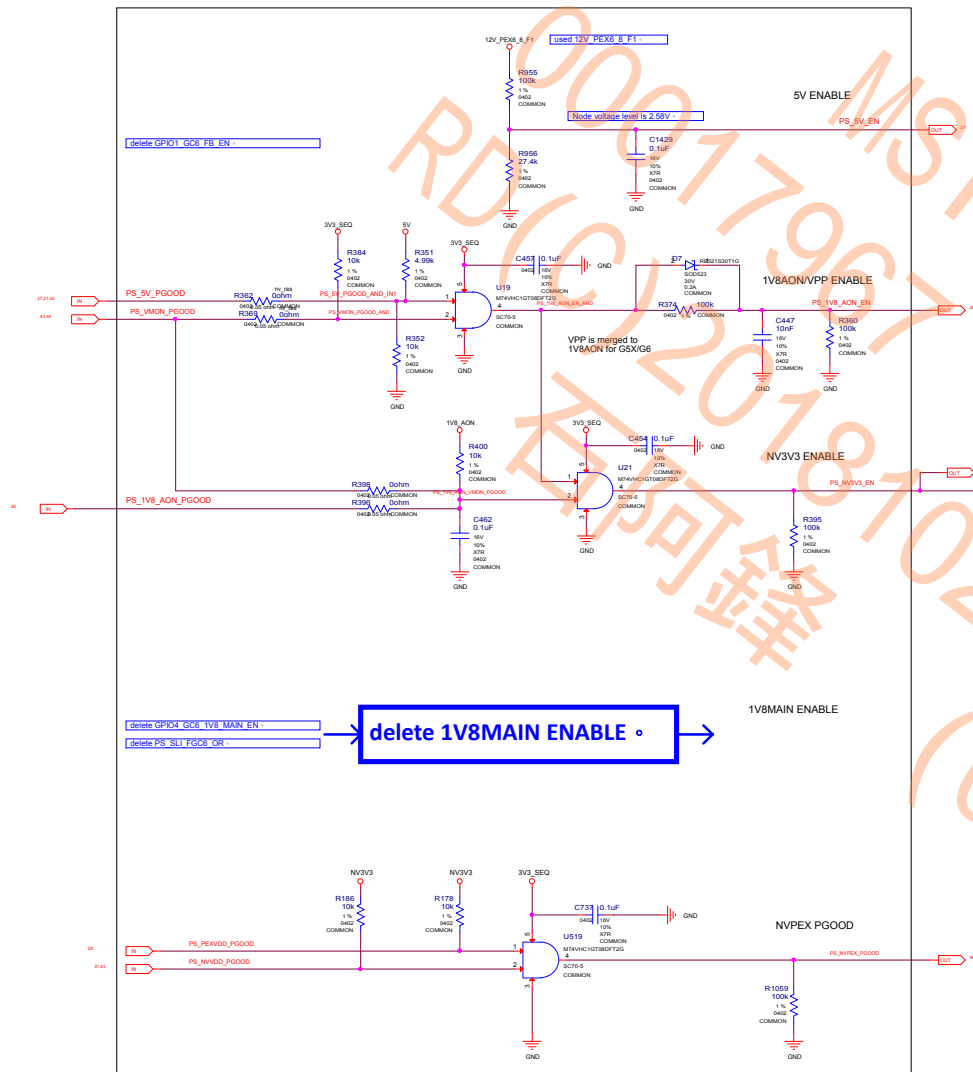
delete off page : PS_R101_SWITCH

unused and delete C404

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC 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.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: 12V & 3V3_A SWITCHER

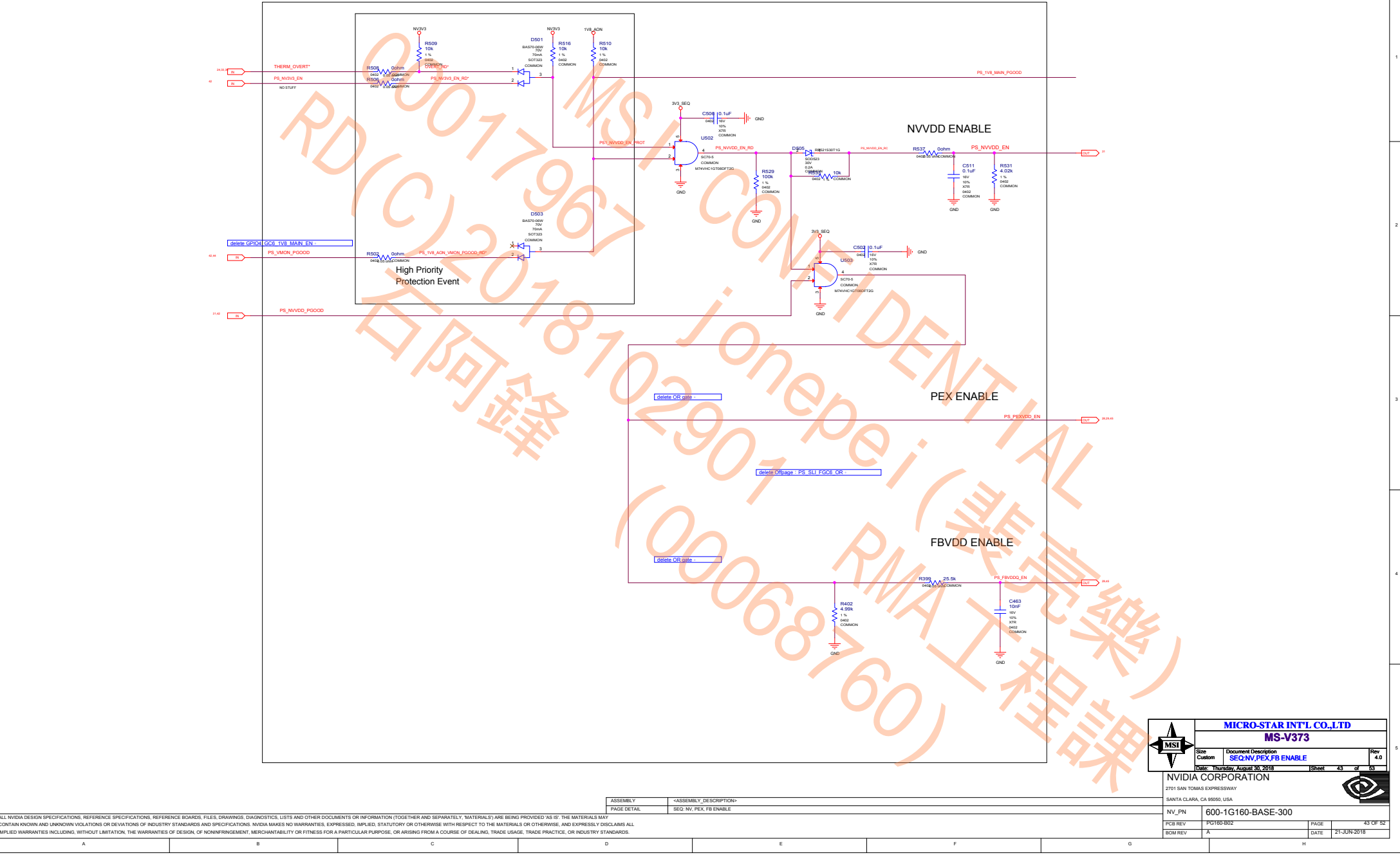
		MICRO-STAR INT'L CO.,LTD	
		MS-V373	
Size	Custom	Document Description	Rev
		12V & 3V3_A SWITCHER	4.0
Date:	Thursday, August 30, 2018	Sheet	41 of 53
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN		600-1G160-BASE-300	
PCB REV	PG160-B02	PAGE	41 OF 52
BCM REV	A	DATE	21-JUN-2018



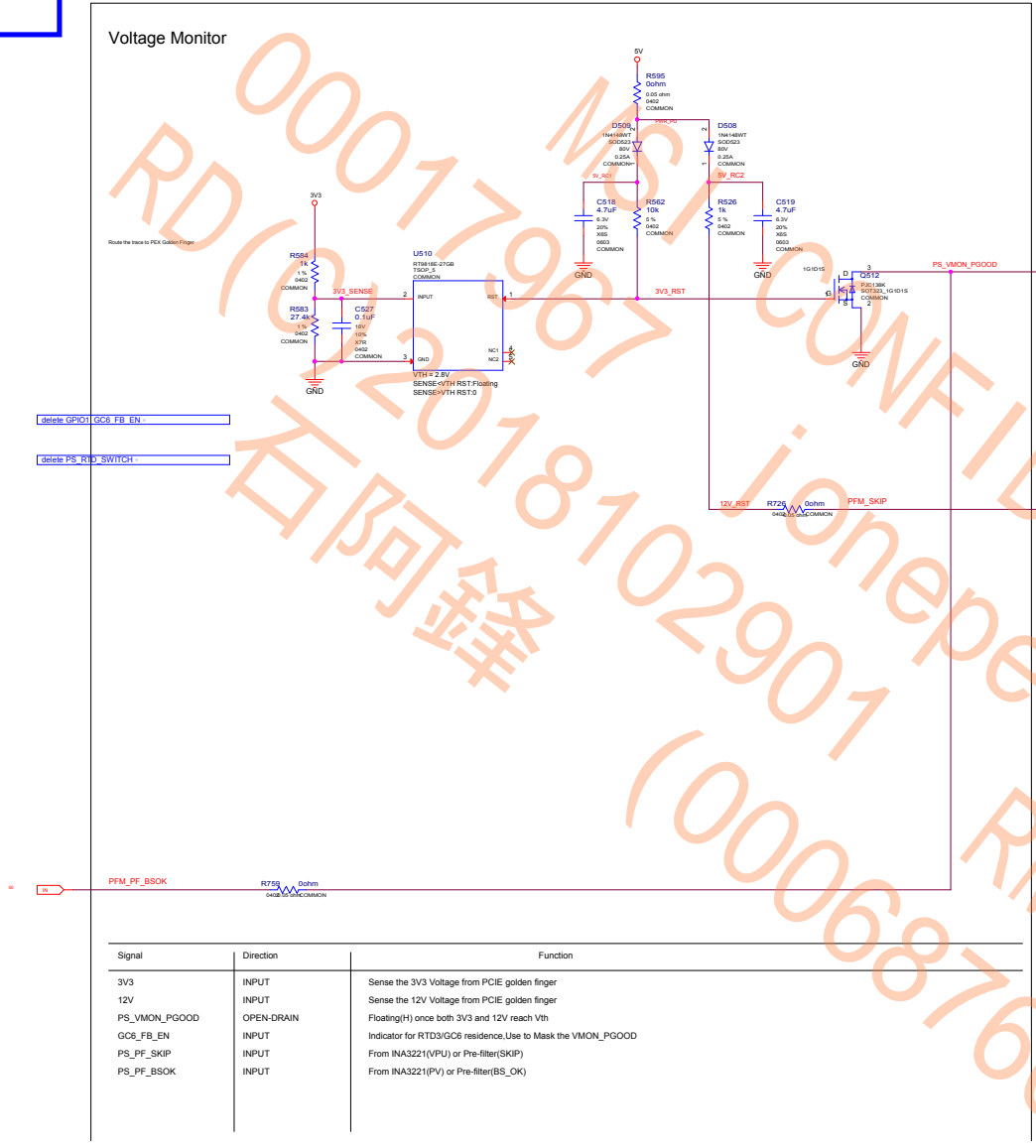
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. 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.

 MICRO-STAR INT'L CO.,LTD MS-V373		
Size	Document Description	Rev
Custom	SEQ:5V,1V8,NV3V3 ENABLE	4.0
Date:	Thursday, August 30, 2018	Sheet 42 of 53

NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA	
NV_PN	600-1G160-BASE-300
PCB REV	PG100-B02
ICOM REV	A
PAGE	42 OF 52
DATE	21-JUN-2018



delete unused parts ◦



BOM Configuration

OPTIONS	PEX3V3_SENSE	PEX12V_SENSE	OTHER_12V_SENSE
Use Pre-Filter	Pre-Filter	Pre-Filter	Pre-Filter
Use INA3221	Voltage_Monitor	INA3221	INA3221
NO INA3221 NO Pre-Filter	Voltage_Monitor	Voltage_Monitor	N/A

MICRO-STAR INT'L CO.,LTD
MS-V373

See Custom Document Description
SEQUENCE:Voltage Monitor

Date: Thursday, August 30, 2018 Sheet 44 of 53

Rev 4.0

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

NV_PN 600-1G160-BASE-300

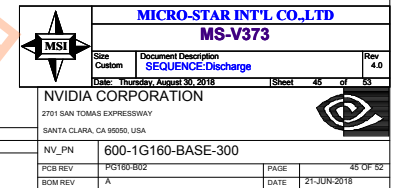
PCB REV PG100-B02

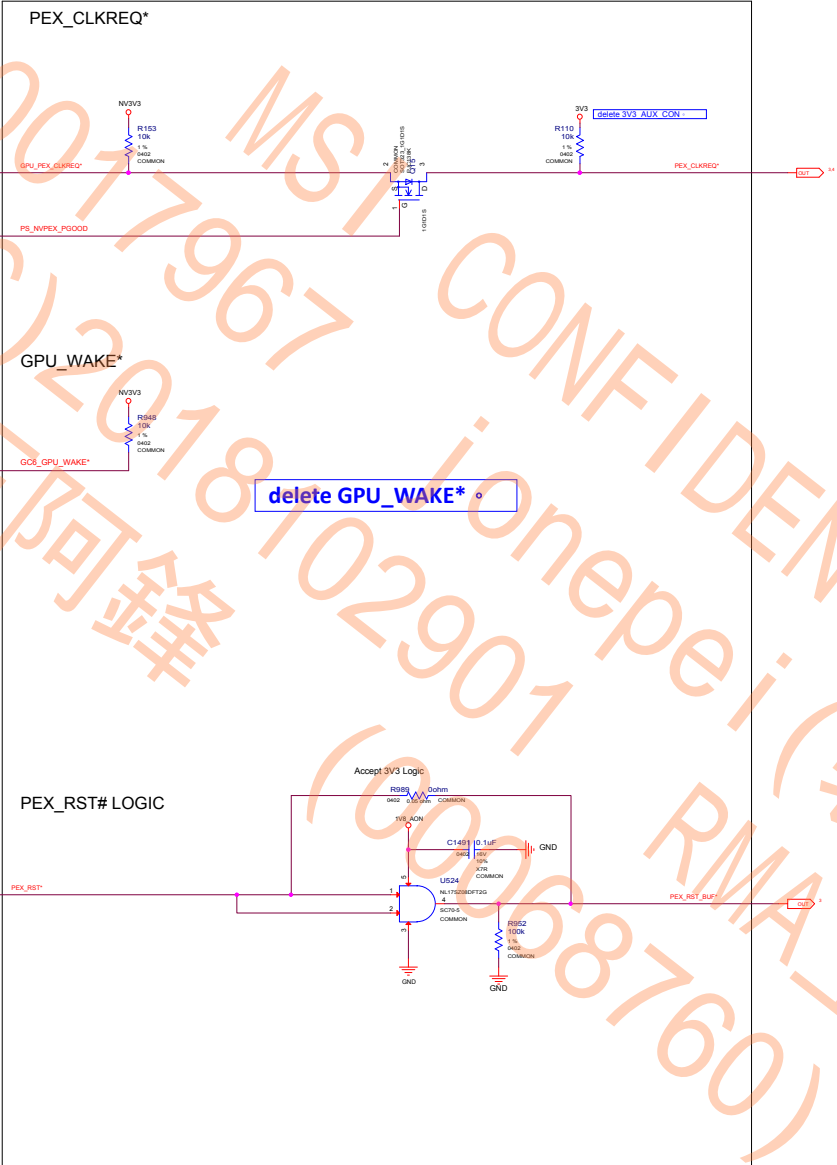
BOM REV A

PAGE 44 OF 52


DATE 21-JUN-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.






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.



MICRO-STAR INT'L CO.,LTD
MS-V373

Size	Custom	Document Description	SEQUENCE:MISC	Rev	4.0
Date	Thursday, August 30, 2018	Sheet	46	of	53



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


NV_PN	600-1G160-BASE-300		
PCB REV	PG100-B02	PAGE	46 OF 52
ROM REV	A	DATE	21-JUN-2018

delete all , unused ◦

MSI CONFIDENTIAL
RD(C)2018102901 jonepei (裴亮樂)
石阿鋒 (00068760) RMA工程課

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC 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 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>
PAGE DETAIL	LOGO LED

		MICRO-STAR INT'L CO.,LTD	
		MS-V373	
Size	Document Description	Rev	
Custom	LOGO LED	4.0	
Date: Thursday, August 30, 2018		Sheet	47 of 53
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN		600-1G160-BASE-300	
PCB REV	PG160-B02	PAGE	47 OF 52
BCM REV	A	DATE	21-JUN-2018




delete all · unused ·

MSI CONFIDENTIAL
00017967 jonepei (裴亮樂)
RD(C)2018102901 RMA工程課
石阿鋒 (00068760)

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTIC 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.

ASSEMBLY		<ASSEMBLY_DESCRIPTION>		SANTA CLARA, CA 95050, USA	
PAGE DETAIL		LED DRIVER & BOOST		600-1G160-BASE-300	
		NV_PN			
CLAIMS ALL STANDARDS.					
		PCB REV		PAGE	48 OF 52
		BOM REV		DATE	21-JUN-2018
		A			



MICRO-STAR INT'L CO.,LTD


MS-V373

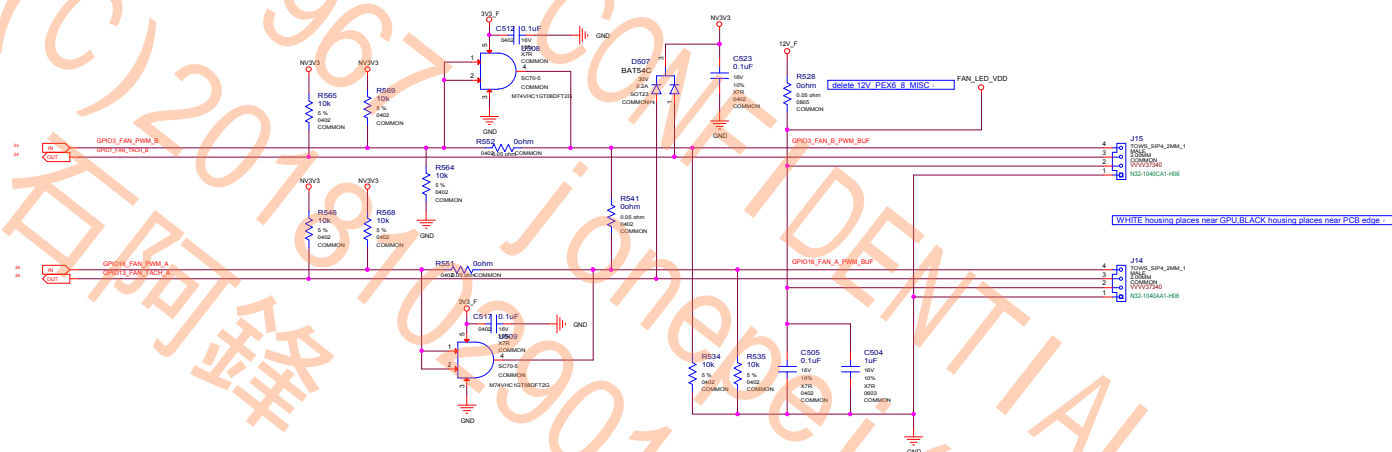
Size	Custom	Document Description	Rev
		LED DRIVER & Boost	4.0
Date:	Thursday, August 30, 2018	Sheet	48 of 53



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

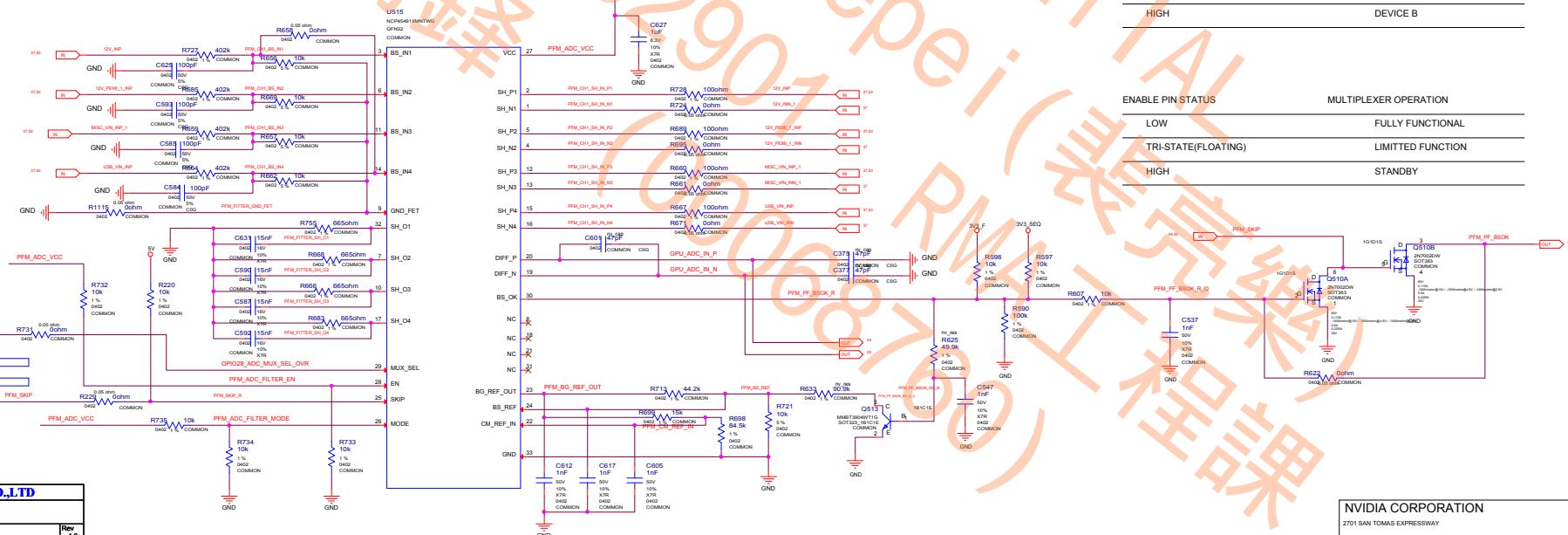
SANTA CLARA, CA 95050, USA





	MICRO-STAR INT'L CO.,LTD MS-V373		
	Size Custom	Description DUAL FAN	Rev 4
	Date: Thursday, August 30, 2018		Sheet 49 of 53
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
			
NV_PART	PC160-B102		PAGE 49 OF 53
REV A	DATE	21-JUN-2018	

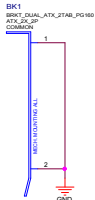
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOW OR UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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.



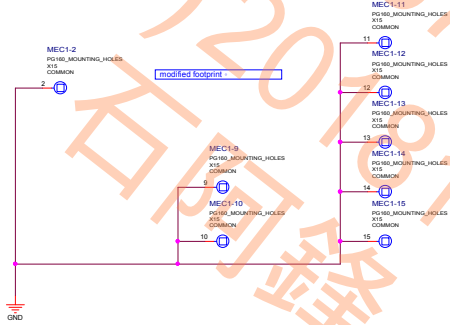
MODE PIN STATUS	MULTIPLEXER OPERATION
LOW	DEVICE A
TRI-STATE(FLOATING)	STAND-ALONE
HIGH	DEVICE B

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

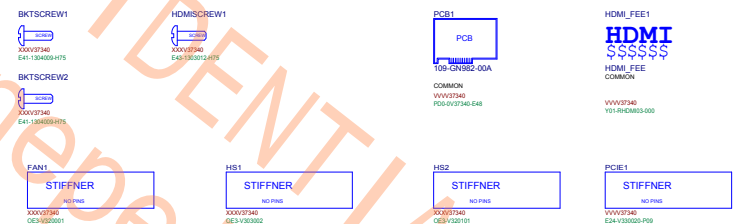
Brackets:



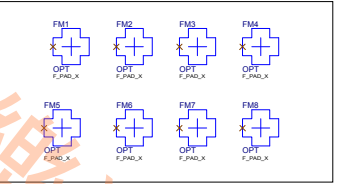
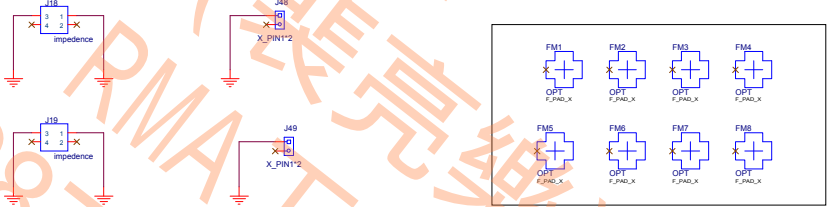
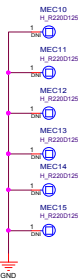
MOUNTING HOLES FOR HS:



Bracket Screw



Mechanical Holes Symbol



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>		SANTA CLARA, CA 95050, USA	
PAGE DETAIL		MECH		NV_PN 600-1G160-BASE-300	
BY					
DISCLAIMS ALL					
STANDARDS.					
PCB REV		PG100-B02		PAGE	51 OF 52
BOM REV		A		DATE	21-JUN-2018

MICRO-STAR INT'L CO.,LTD			
MS-V373			
Size	Custom	Document Description	Rev
MECH			4.0
Date:	Thursday, August 30, 2018	Sheet	51 of 53




improved FBVDDQ PSU parts don't require a PTC ◦

MSI CONFIDENTIAL
RD(C)2018102901 jonepei (裴亮樂)
石阿鋒 RMA工程課
(00068760)

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*		
PAGE DETAIL	PTC		

NV_PN		600-1G160-BASE-300	
PCB REV	PG160-B02	PAGE	52 OF 52
BOM REV	A	DATE	21-JUN-2018



MICRO-STAR INT'L CO.,LTD


MS-V373

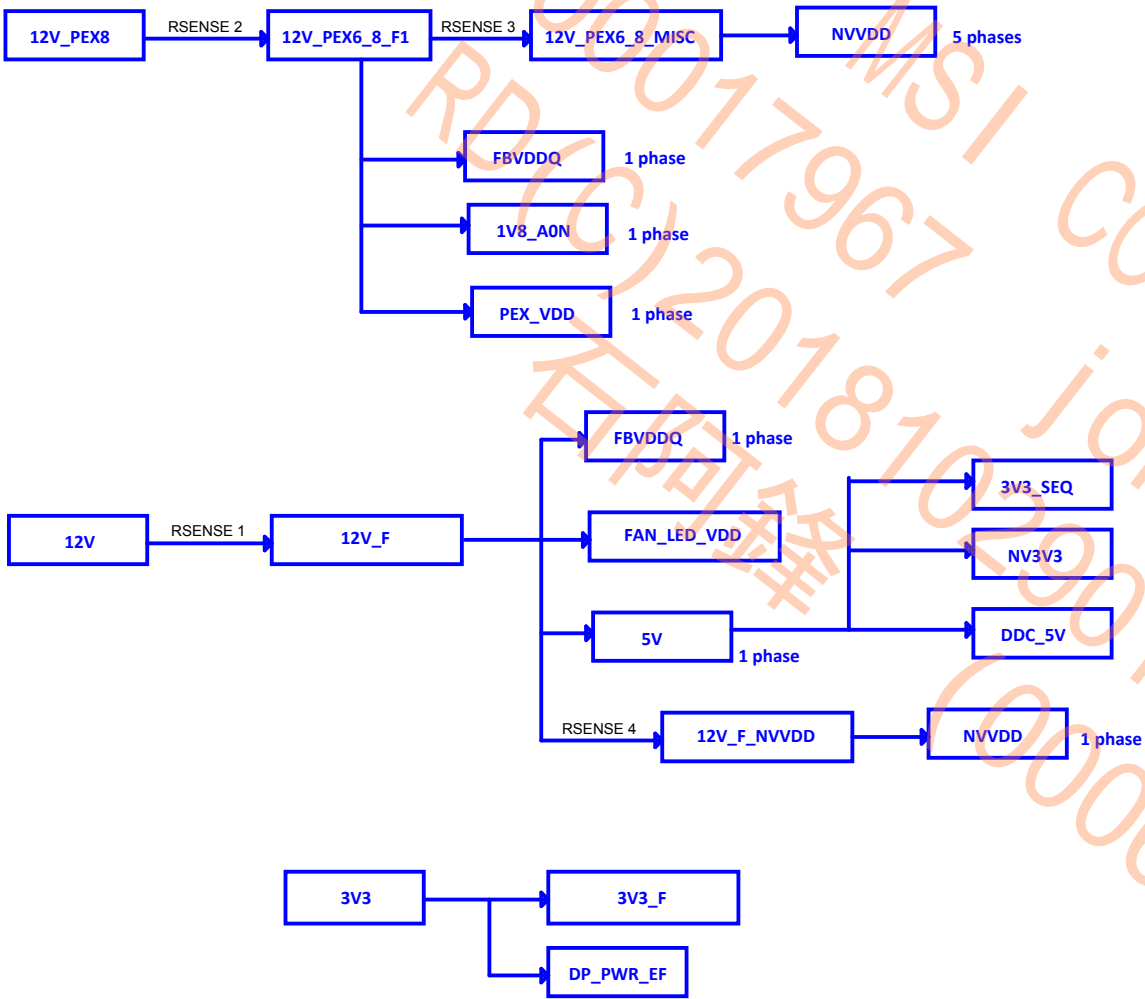
Size	Document Description	Rev
Custom	PTC	4.0
Date: Thursday, August 30, 2018		Sheet 52 of 53

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA





Power on Sequence

