

PG611 A00

12GB GDDR5X, 384b, 256Mx32
TALL DVI-D + DP + DP + HDMI/DP + DP

TABLE OF CONTENTS

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

Page	Description
26	MIOA/B INTERFACE & FRAME LOCK
27	MISC: FAN, THERMAL, JTAG, GPIO, STEREO
28	MISC: ROM, STRAPS
29	MISC: XTAL, PLL
30	PS: 5V, PEXVDD
31	PS: 1V8 Rails
32	PS: FBVDDQ
33	PS: NVVDD Controller_OVR8
34	PS: NVVDD Controller_PWR-MODULE
35	PS: NVVDD Phase 1, 2
36	PS: NVVDD Phase 3, 4
37	PS: NVVDD Phase 5
38	PS: NVVDD Phase 6, 7
39	PS: Dynamic power balance phase
40	PS: Dynamic power balance logic
41	PS: Input, filtering, and Monitoring
42	PS: Current Sterring, Hot Unplug
43	PS: NVVDD ENABLE
44	PS: GC6 MISC
45	GEFORCE LED AND SLI LED
46	PS: NV3V3, NV12V
47	PS: MCU
48	MECH
49	VR Thermal Protection

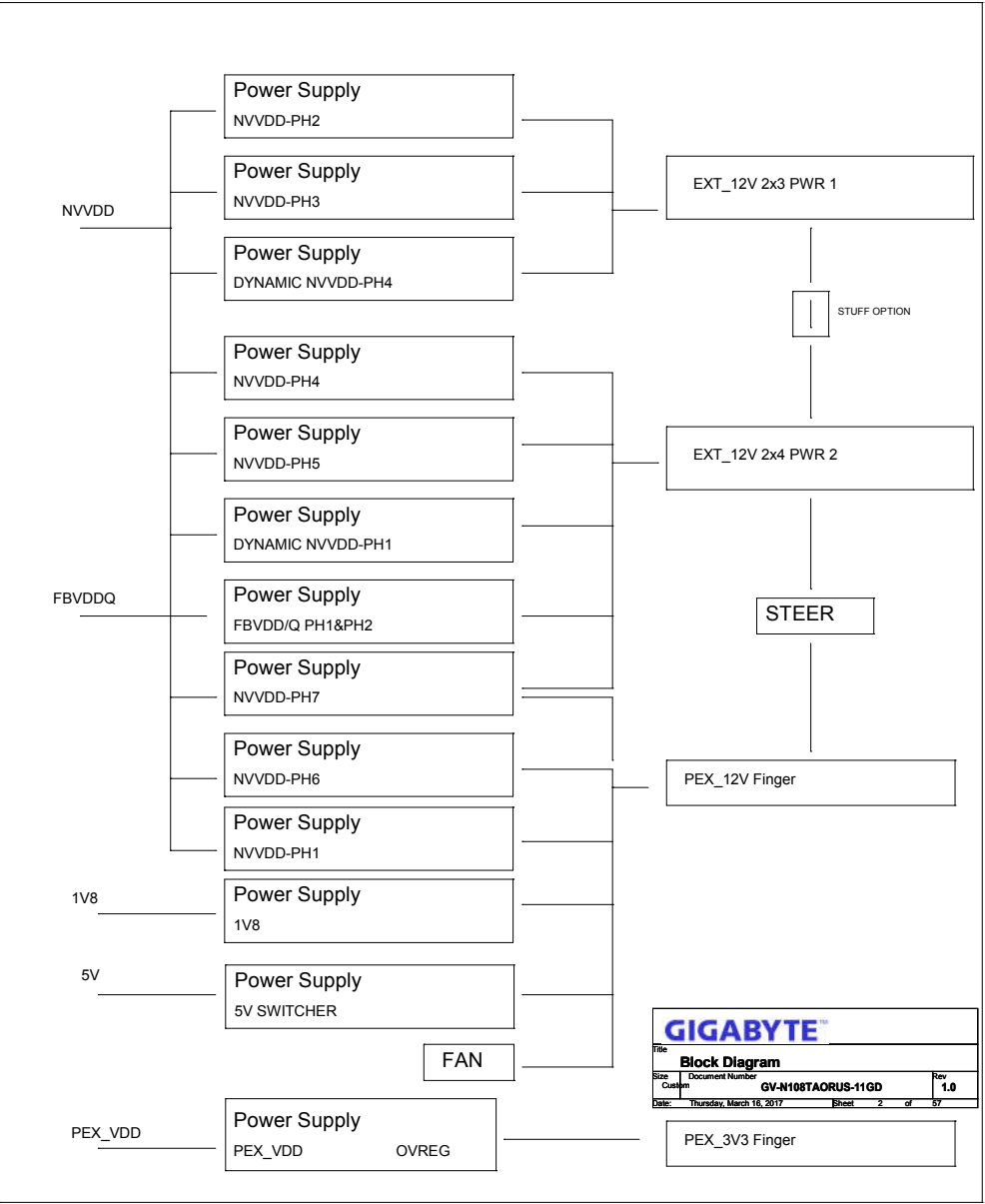
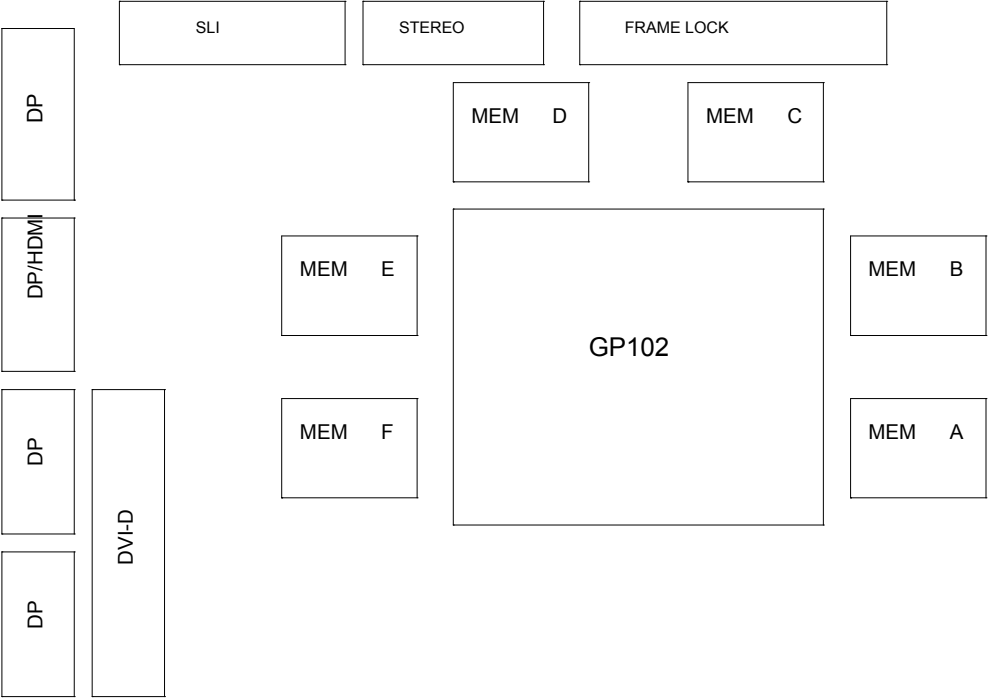
GIGABYTE™			
TABLE OF CONTENTS			
Size	Document Number	Rev	
Custom	GV-N108TAORUS-11GD	1.0	
Date:	Thursday, March 16, 2017	Sheet	1 of 49

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G611-BASE-000		
PCB REV	PG611-A00	PAGE	1 OF 49
BCM REV	A	DATE	09-MAR-2016



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	Table of Contents



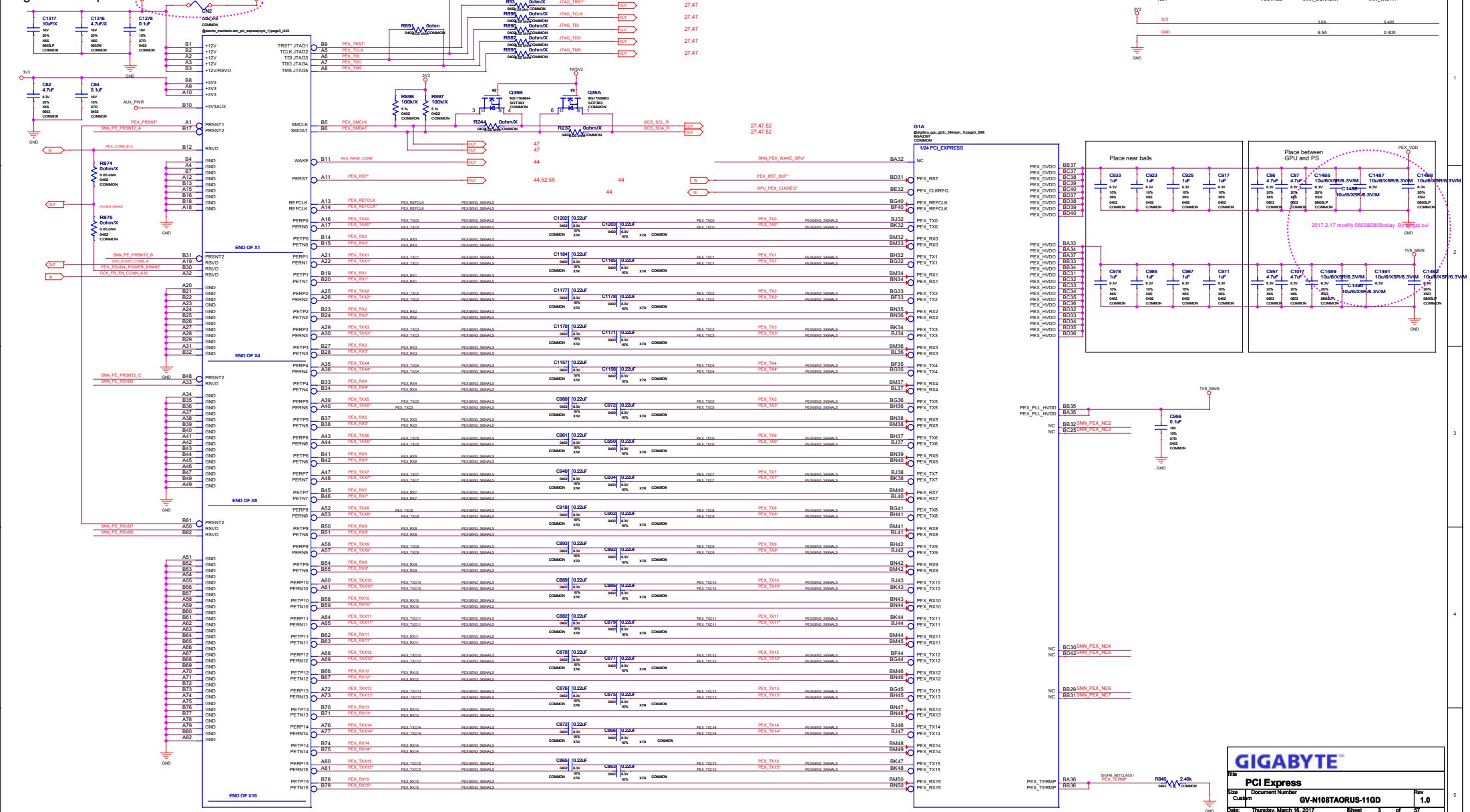
File			
Block Diagram			
Size	Document Number	Rev	
Custn	GV-N108TAORUS-11GD	1.0	
Date	Thursday, March 16, 2017	Sheet	2 of 57

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	BLOCK DIAGRAM

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G611-BASE-000	PAGE	2 OF 49
PCB REV	PG811-A00	DATE	09-MAR-2016
BCM REV	A		





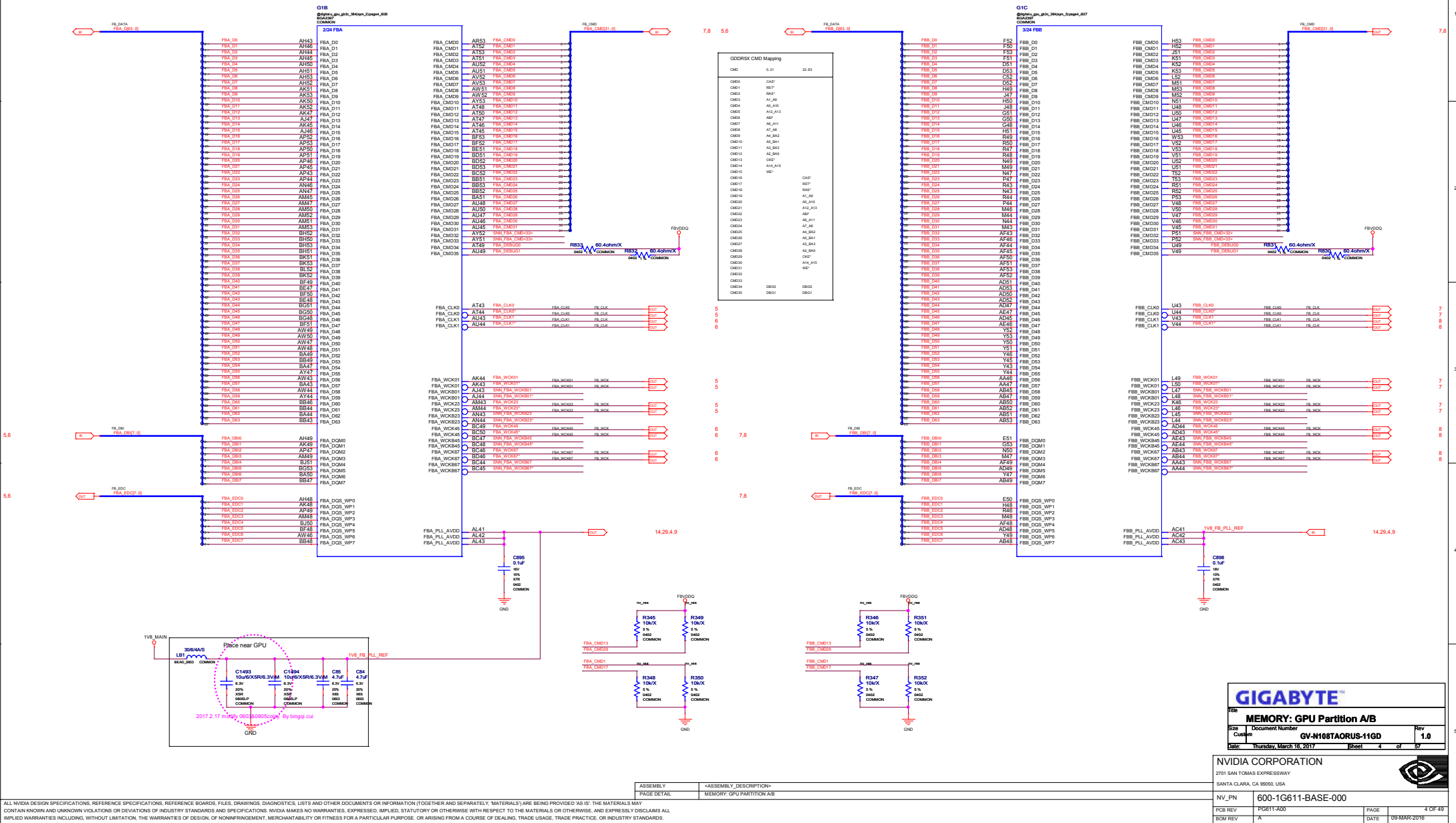
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PCI EXPRESS

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.

			
PCL Express			
Size	Document Number		Rev
Custom	GV-N108TAORUS-11GD		1.0
Date	Thursday, March 18, 2017	Sheet	3 of 57

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

NV_PN	600-1G611-BASE-000
PCB REV	PCB11A00
DATE	3 OF 49
PAGE	US-MAR-2016



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.

MEMORY: GPU Partition A/B

Size Custom Document Number **GV-N108TAORUS-11GD** Rev **1.0**

Date: Thursday, March 16, 2017 Sheet 4 of 5

NVIDIA CORPORATION

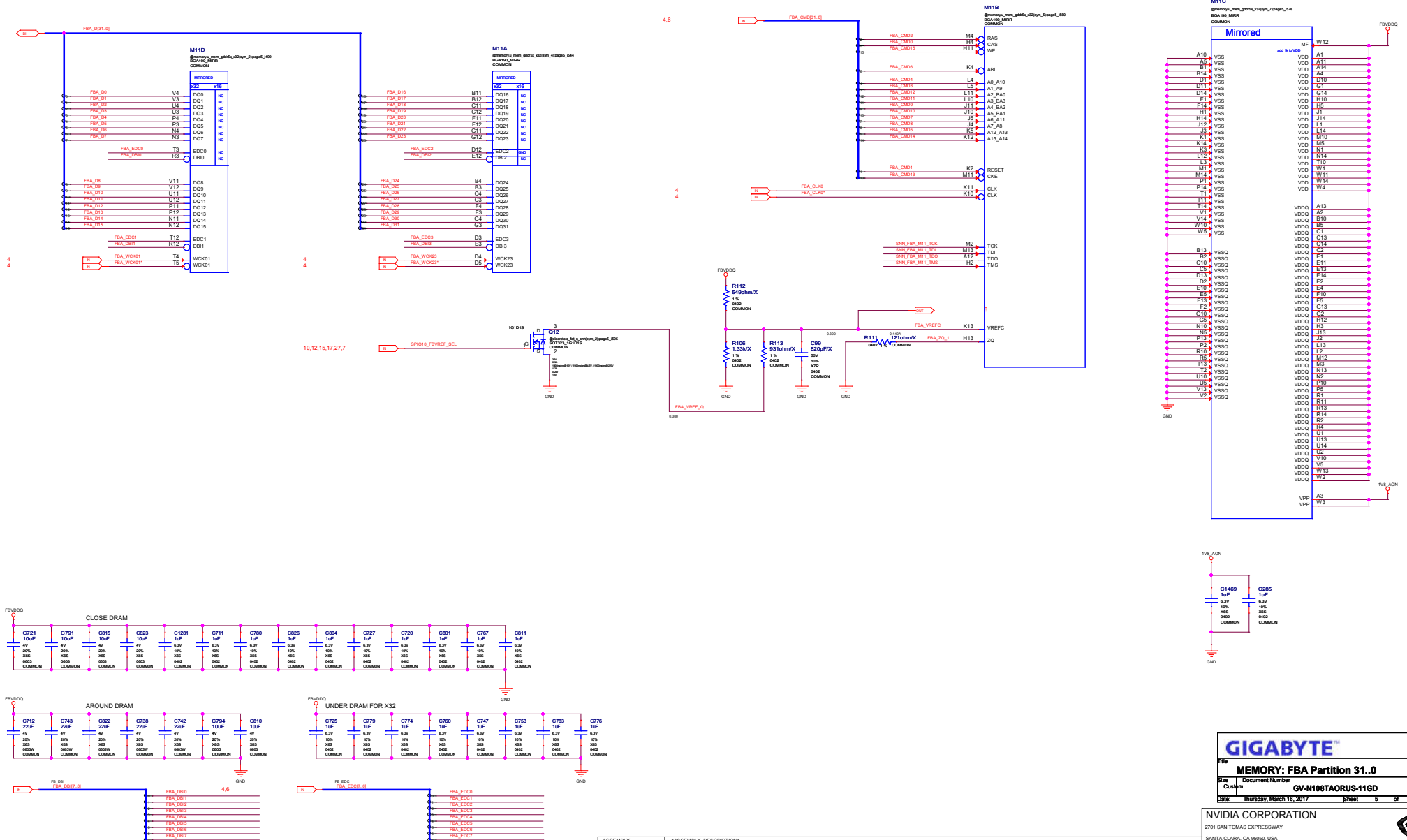
2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

NV_PN **600-1G611-BASE-000**

PCB REV PG81T-A00 PAGE 4 OF 49

BOB REV A DATE 09-MAR-2016



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	MEMORY: FBA PARTITION 31..0

MEMORY: FBA Partition 31..0

Size Custom Document Number GV-N108TAORUS-11GD Rev 1.0

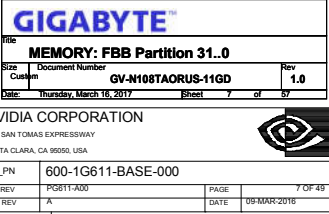
Date: Thursday, March 16, 2017 Sheet 5 of 5

NVIDIA CORPORATION

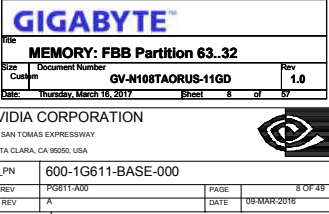
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

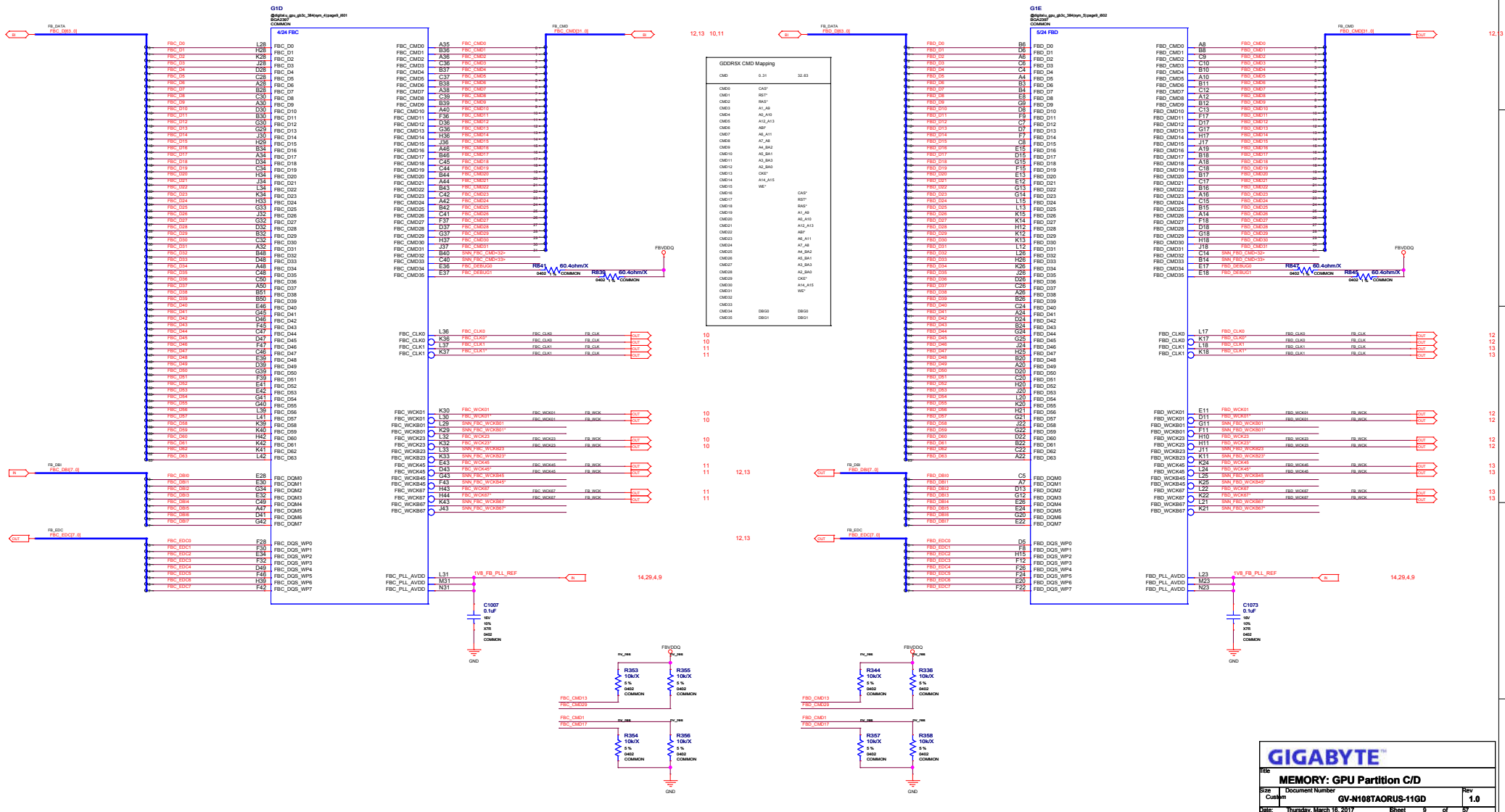
NV_PN 600-1G611-BASE-000

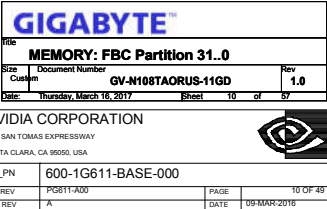
PCB REV PG811-A00	PAGE 5 OF 49
BOX REV A	DATE 09-MAR-2016

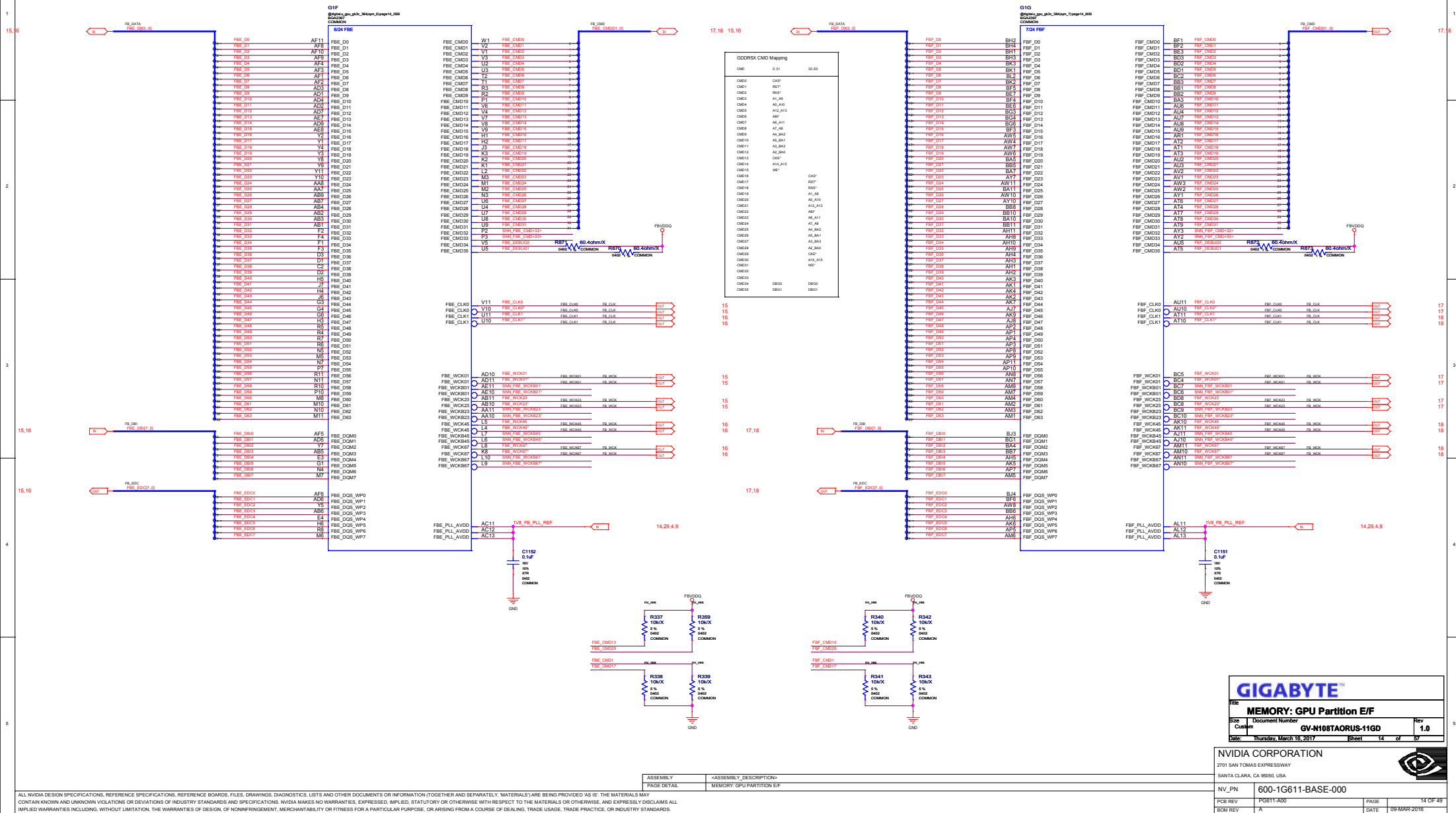


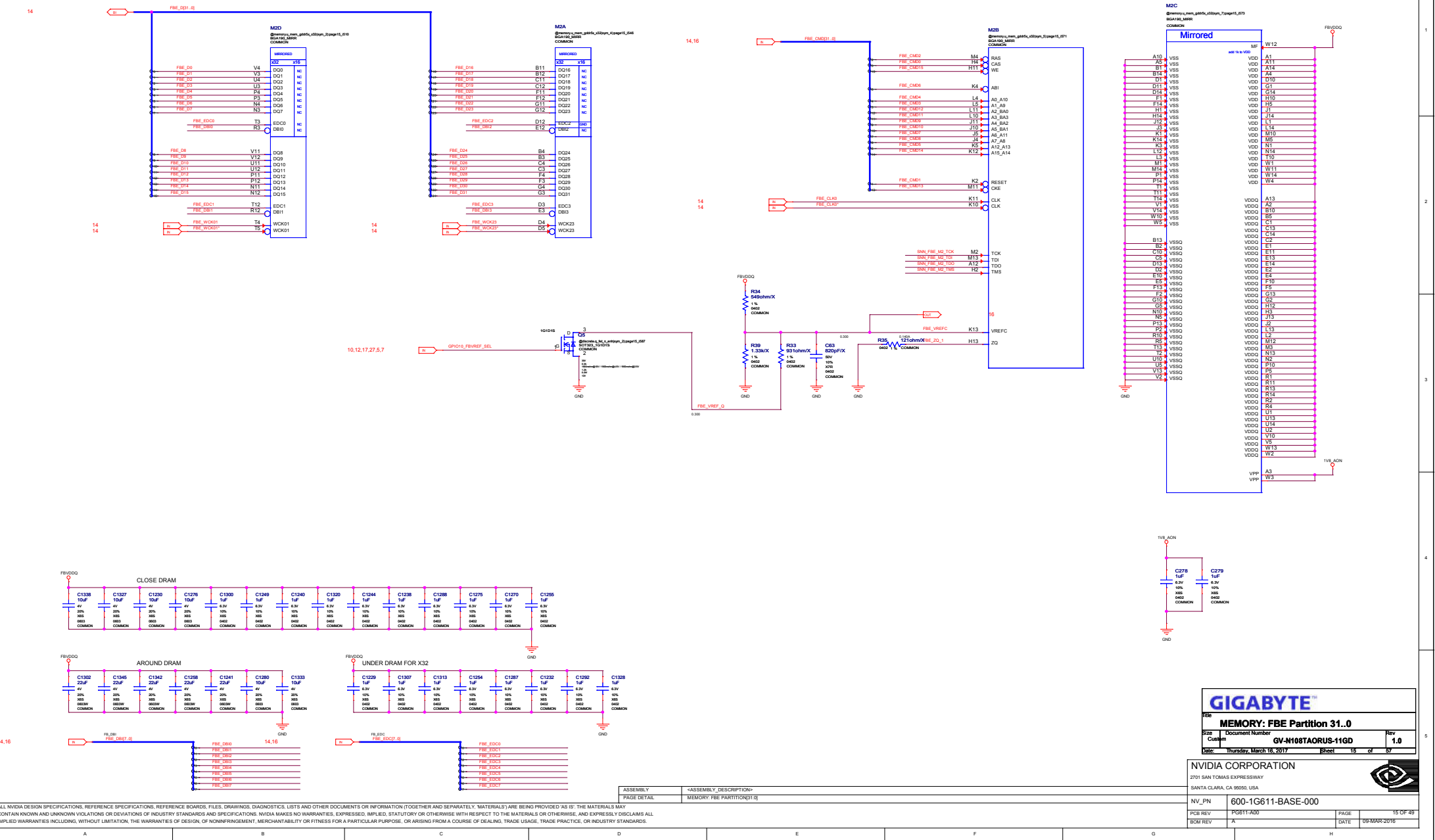
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBB PARTITION[31:0]







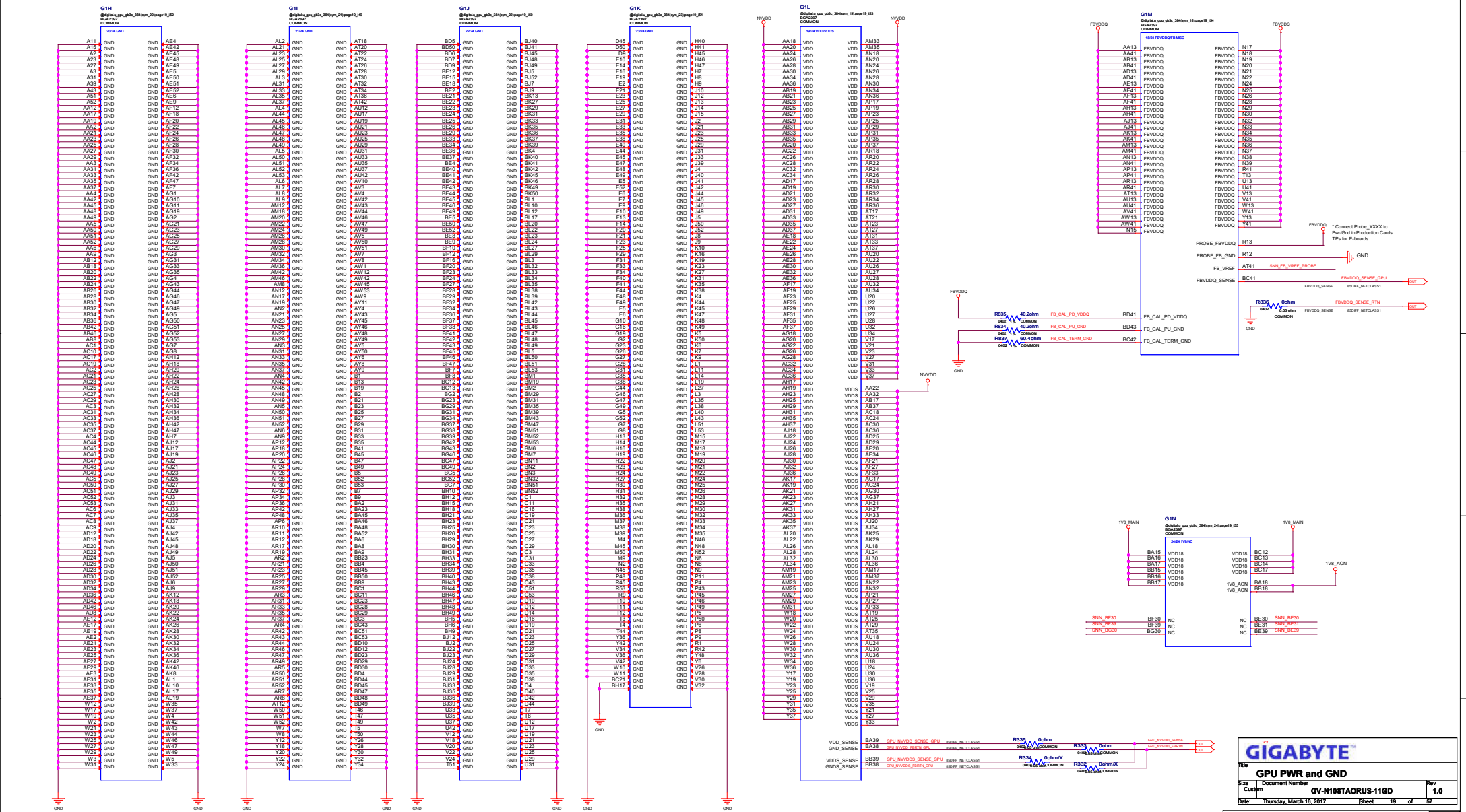




ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS.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

GIGABYTE
MEMORY: FBE Partition 31..0
Size Custom Document Number **GV-N108TAORUS-11GD** Rev **1.0**
Date: Thursday, March 16, 2017 Sheet 15 of 37

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA
NV_P/N **600-1G611-BASE-000**
PCB REV PG81T-A00 PAGE 15 OF 49
BOM REV A DATE 09-MAR-2016



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
PAGE DETAIL

ASSEMBLY DESCRIPTION
GPU PWR AND GND

GIGABYTE

GPU PWR and GND

Document Number: **GV-N108TAORUS-11GD**

Rev: **1.0**

Date: Thursday, March 16, 2017

Sheet: 19 of 37

NVIDIA CORPORATION

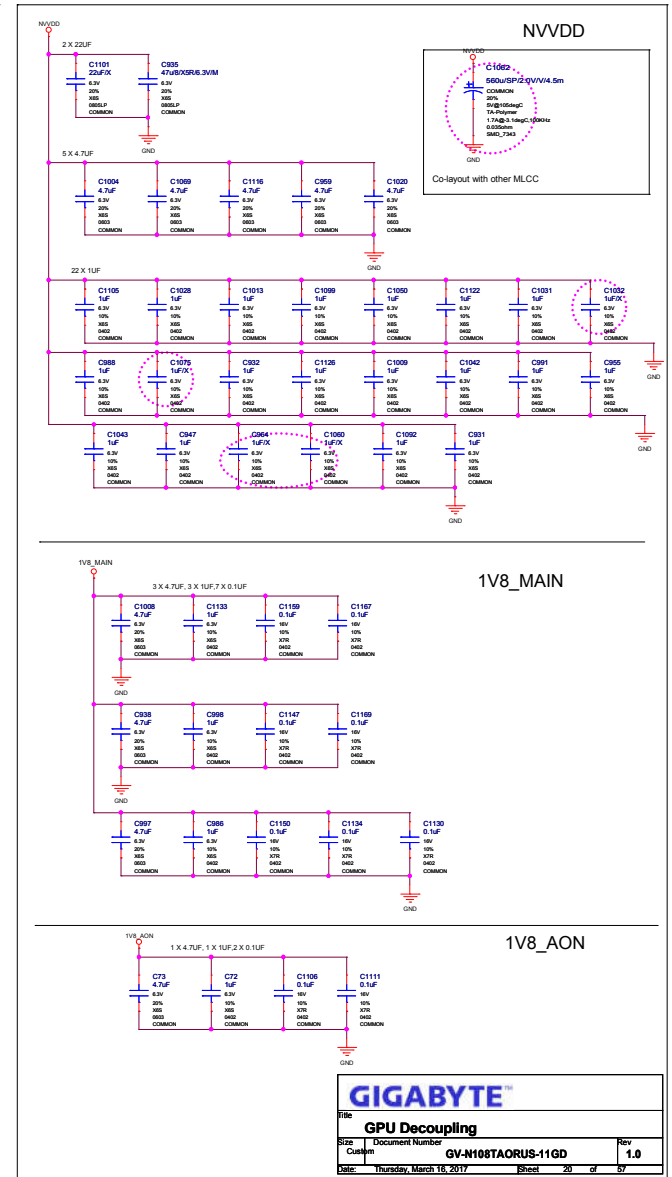
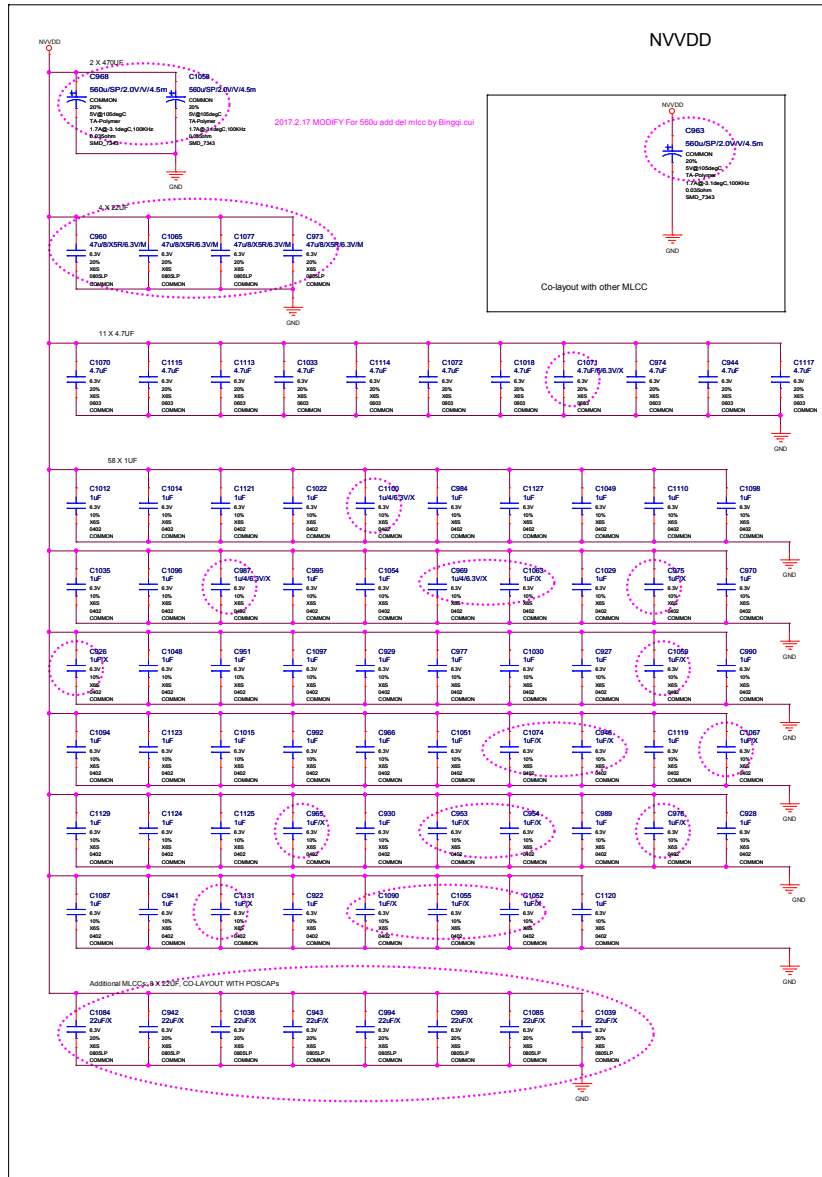
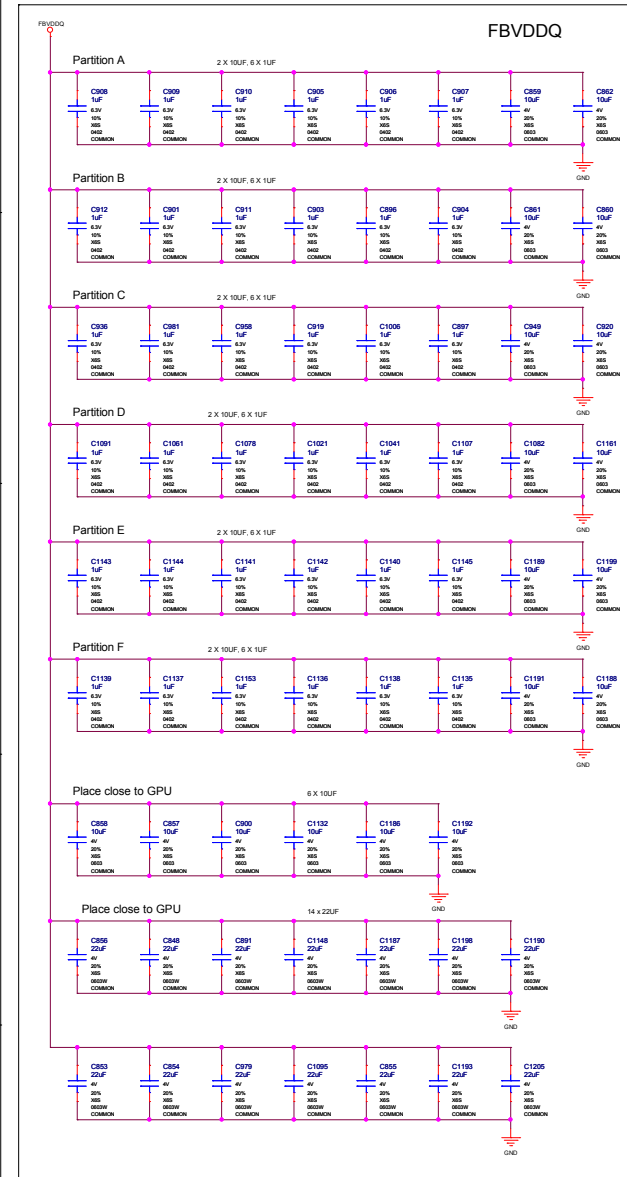
2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

Rev: **PG011-ADD**

Page: **19 OF 49**

Date: **09-MAR-2016**



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
PAGE DETAIL

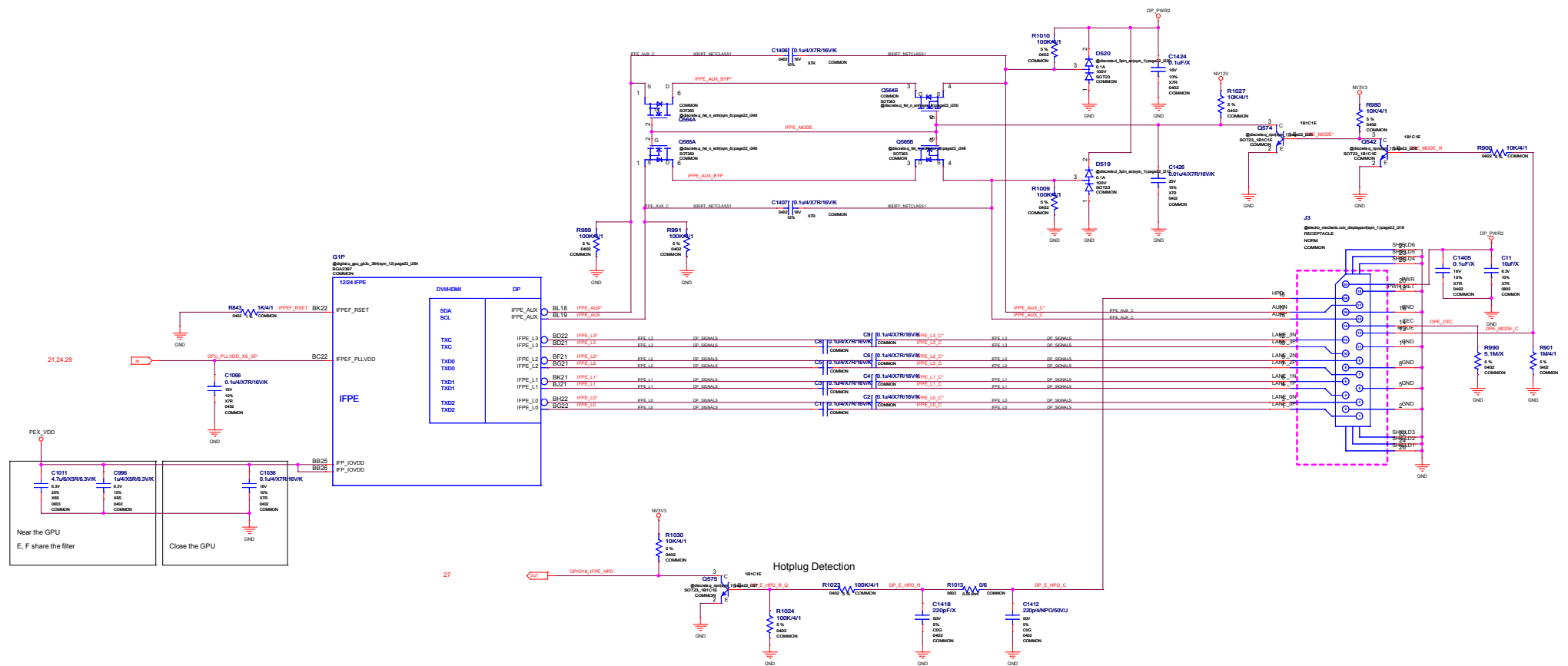
ASSEMBLY DESCRIPTION
GPU DECOUPLING

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN 600-1G611-BASE-000

PCB REV	PG811-A00	PAGE	20 OF 49
BOX REV	A	DATE	09-MAR-2016



GIGABYTE™			
Title			
IFPE DP			
Size	Document Number		Rev
Custom	GV-N108TAORUS-11GD		1.0
Date:	Thursday, March 16, 2017	Sheet	22 of 57

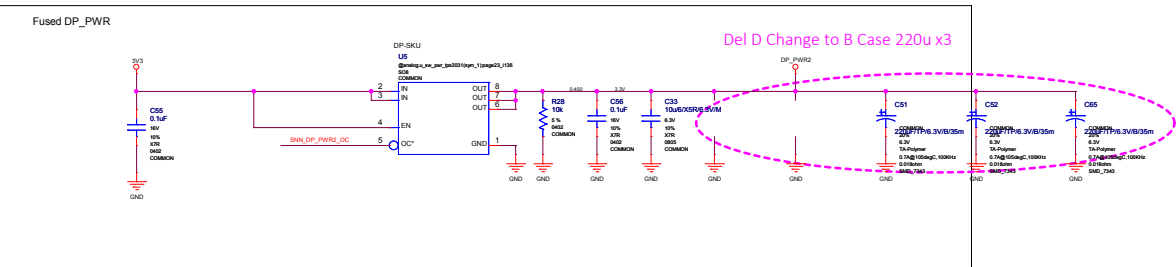
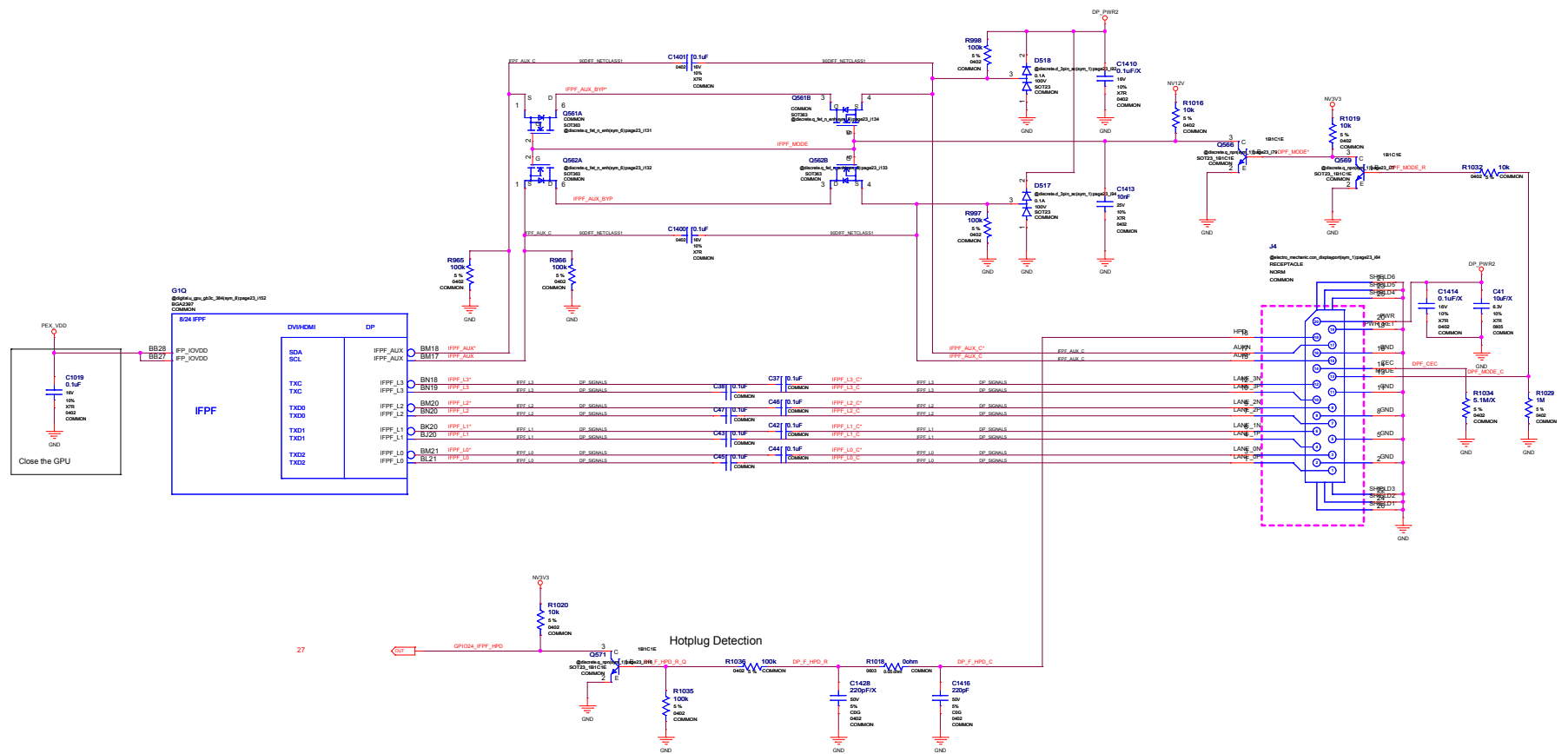
NVIDIA CORPORATION



NV_PN	600-1G611-BASE-000		
PCB REV	PG611-A00	PAGE	22 OF 49
BOM REV	A	DATE	09-MAR-2016

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IFPE DP

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.

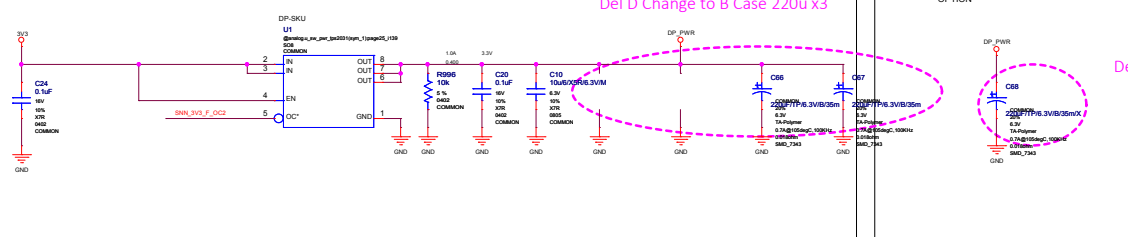
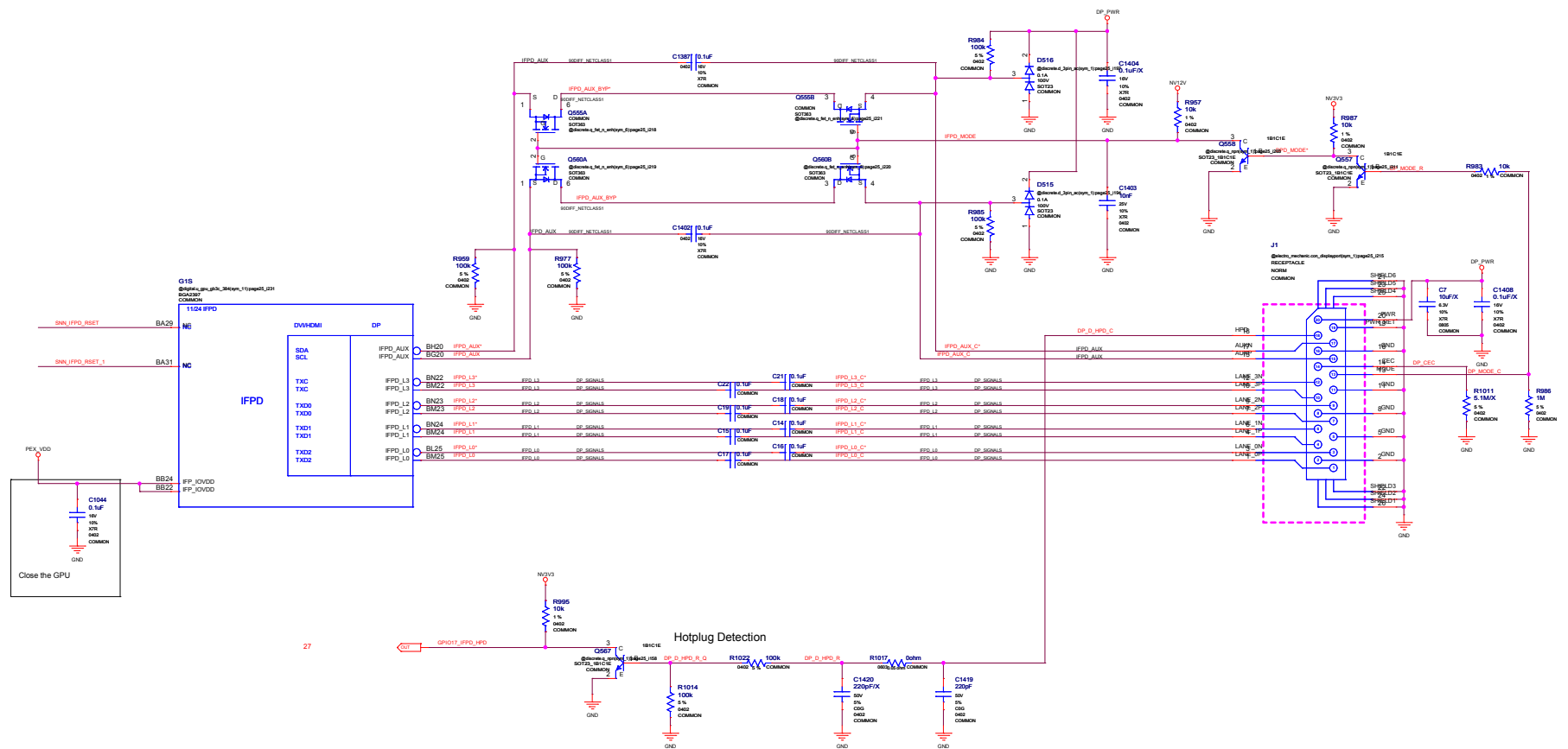


GIGABYTE		
File	IFPE DP	
Size	Document Number	Rev
Custom	GV-N108TAORUS-11GD	1.0
Date:	Thursday, March 16, 2017	Sheet 23 of 97

NVIDIA CORPORATION		
2701 SAN TOMAS EXPRESSWAY		
SANTA CLARA, CA 95050, USA		
INV_PN	600-1G611-BASE-000	
PCB REV	PG811-A00	PAGE 23 OF 49
BOB REV	A	DATE 09-MAR-2016

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	IFPF DP



			
Title			
IFPD DP			
Size	Document Number		Rev
Custom	GV-N108TAORUS-11GD		1.0
Date:	Thursday, March 16, 2017	Sheet	25 of 57

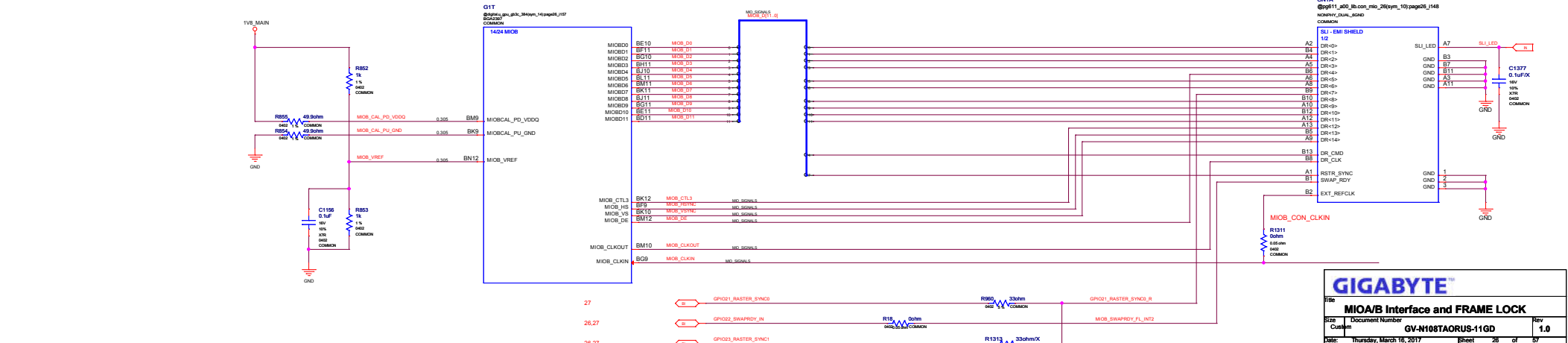
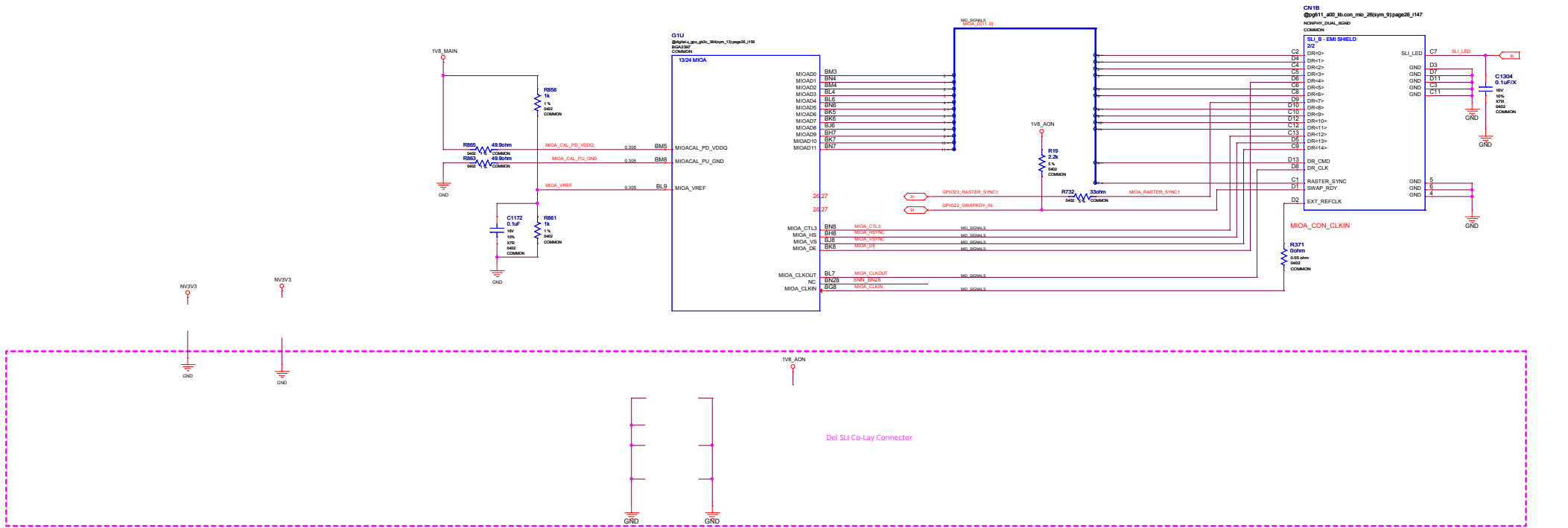
NVIDIA CORPORATION



NV_PN	600-1G611-BASE-000		
PCB REV	PG611-A00	PAGE	25 OF 49
BOM REV	A	DATE	09-MAR-2016

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>
PAGE DETAIL	IFPD DP



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.



MIOA/B Interface and FRAME LOCK

Document Number: **GV-N108TAORUS-11GD**

Date: Thursday, March 16, 2017



NVIDIA CORPORATION

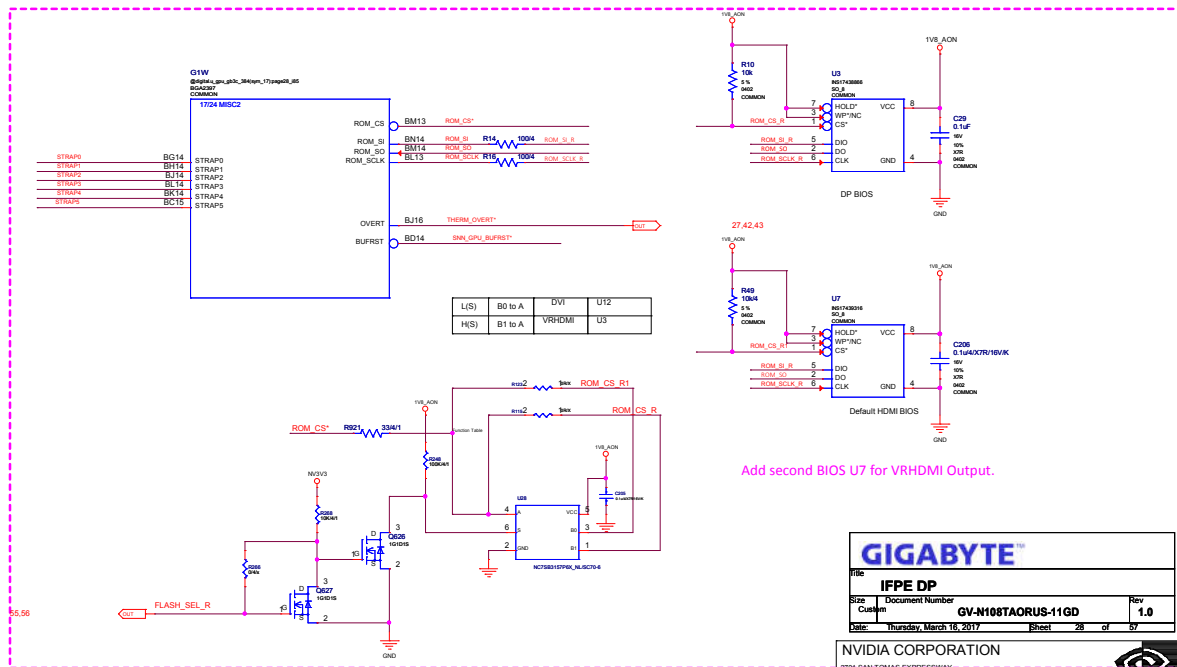
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_IPN	600-1G611-BASE-000	PAGE	26 OF 49
PCB REV	PG611-A00	DATE	09-MAR-2016
ECN REV	A		

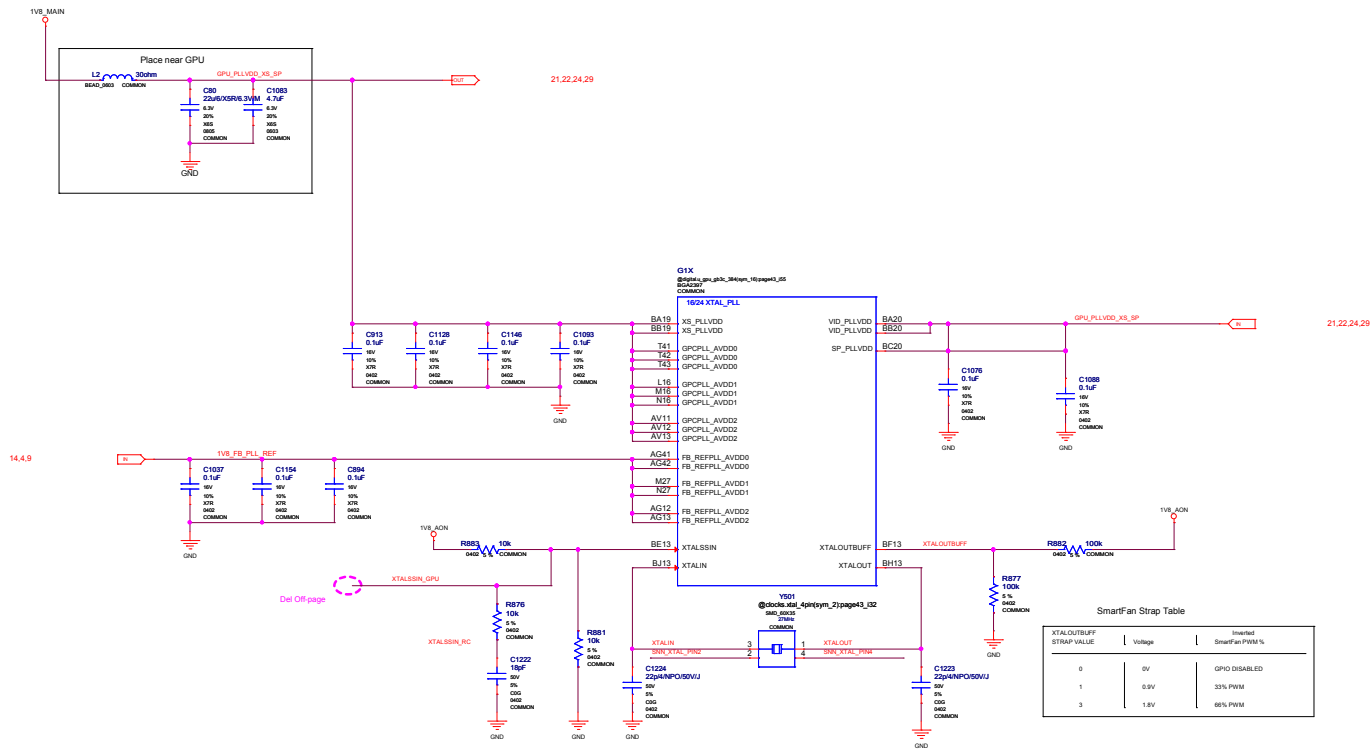
STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
H	L	L	0	1	0	0
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1 DEFAULT
L	L	L	0	0	0	0

```
1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE
```



GIGABYTE™			
file IFPE DP			
Size	Document Number	Rev	
Custom	GV-NH081AORUS-11GD	1.0	
Date	Thursday, March 16, 2017	Sheet	28 of 57
NVIDIA CORPORATION 2735 SANTA CLARA EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV, PN 600-16G11-BASE-000			
PCB REV	PCB1T.A00	PAGE	28 of 57
BOM REV	A	DATE	05-MAR-2016



GIGABYTE

File: **IFPE DP**

Size: Custom Document Number: **GV-N108TAORUS-11GD** Rev: **1.0**

Date: Thursday, March 16, 2017 Sheet: 29 of 37

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

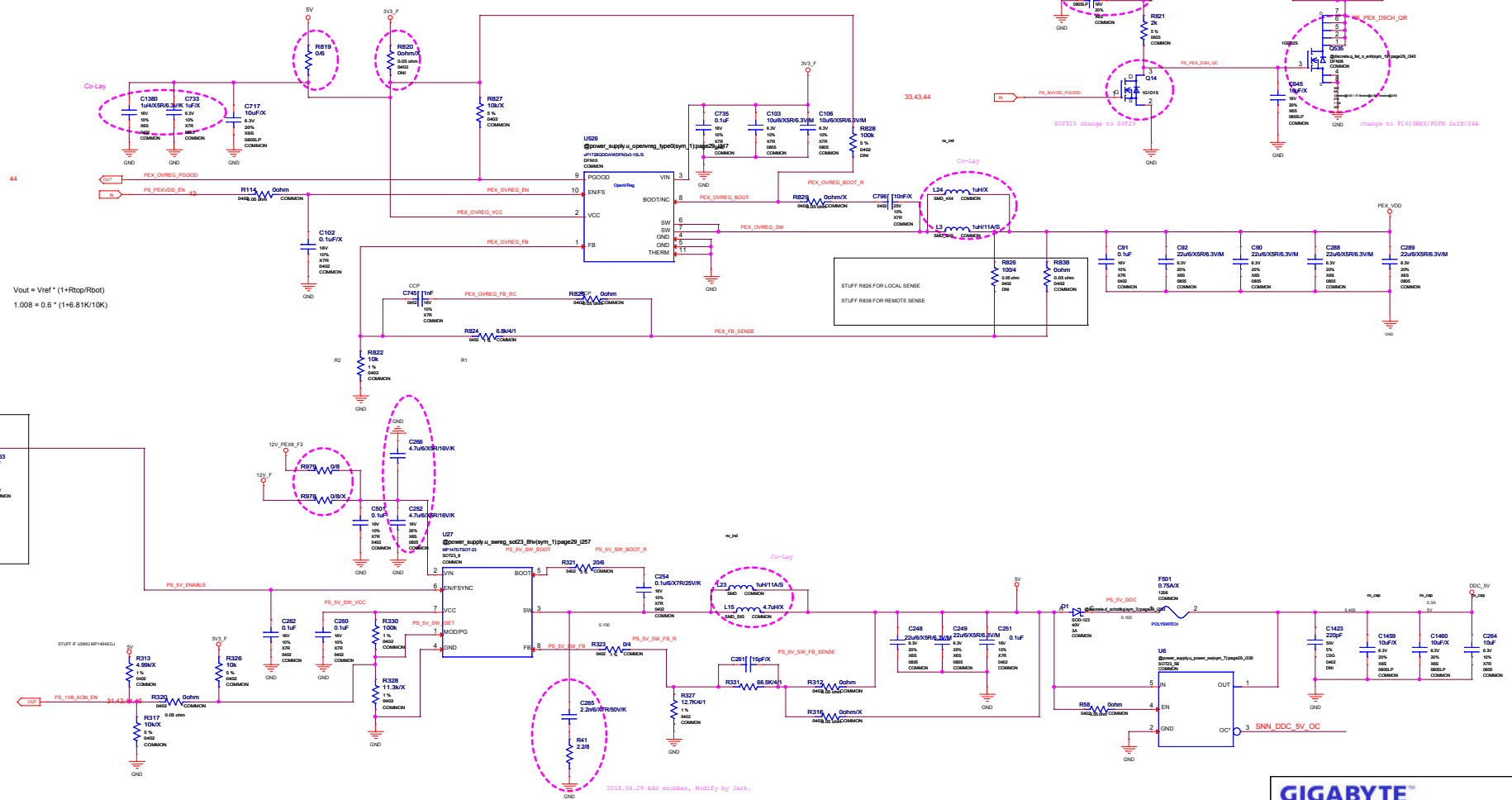
NV_PN: **600-1G611-BASE-000**

PCB REV: PG611-A00 PAGE: 29 OF 49

BCM REV: A DATE: 09-MAR-2016

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.

PEX PLL Switcher



2016.04.29 Add snubber, Modify by Jack.



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN	600-1G611-BASE-000		
PCB REV	PG611-A00	PAGE	30 OF 49
BOM REV	A	DATE	09-MAR-2016

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: 5V, PEXVDD

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. NVIDIA 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.

30,43,44,46

47

$$1.8 = 0.8 * (1 + 18.7K/15K)$$

$$V_{out} = V_{ref} * (1 + R_{top}/R_{bot})$$

ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE DETAIL	PS: 1V8 Rails

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.

GIGABYTE [®]		
File	IFPE DP	
Size	Document Number	Rev
Custom	GV-N108TAORUS-11GD	1.0
Date	Thursday, March 16, 2017	Sheet 31 of 37

NVIDIA CORPORATION		
2701 SAN TOMAS EXPRESSWAY		
SANTA CLARA, CA 95050, USA		
		
INV_P/N	600-1G611-BASE-000	
PCB REV	PG811-A00	PAGE 31 OF 49
BOX REV	A	DATE 09-MAR-2016

Del PWM MODULE

CO-LAYOUT: CHOOSE ONE ONLY

Del P-Board CAP



Title

IFPE DP

Size

Document Number

GV-N108TAORUS-11GD

Rev

1.0

Custom

Date

Thursday, March 16, 2017

Sheet

34

of

97

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA



NV_PN

600-1G611-BASE-000

PCB REV

PG611-A00

PAGE

34 OF 49

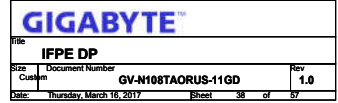
BCM REV

A

DATE

09-MAR-2016

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	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: NVDD Dynamic Switch Phases

	NV PN	600-1G
--	-------	--------

Delete



File

IFPE DP

Size

Custom

Document Number

GV-N108TAORUS-11GD

Rev

1.0

Date

Thursday, March 16, 2017

Sheet

39

of

97

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA



NV_PN

600-1G611-BASE-000

PCB REV

PCB11-A00

BOB REV

A

PAGE

39 OF 49

DATE

09-MAR-2016

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: Dynamic power balance phase

1

2

2

3

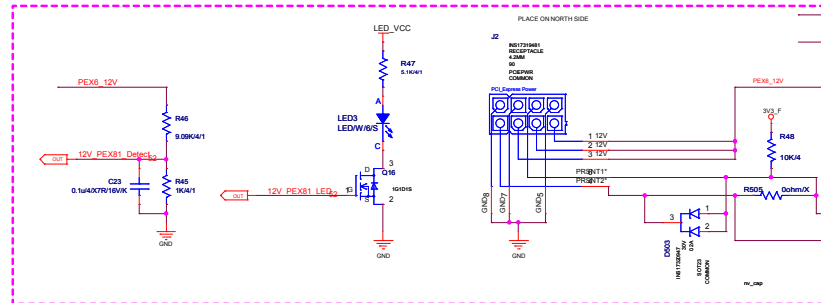
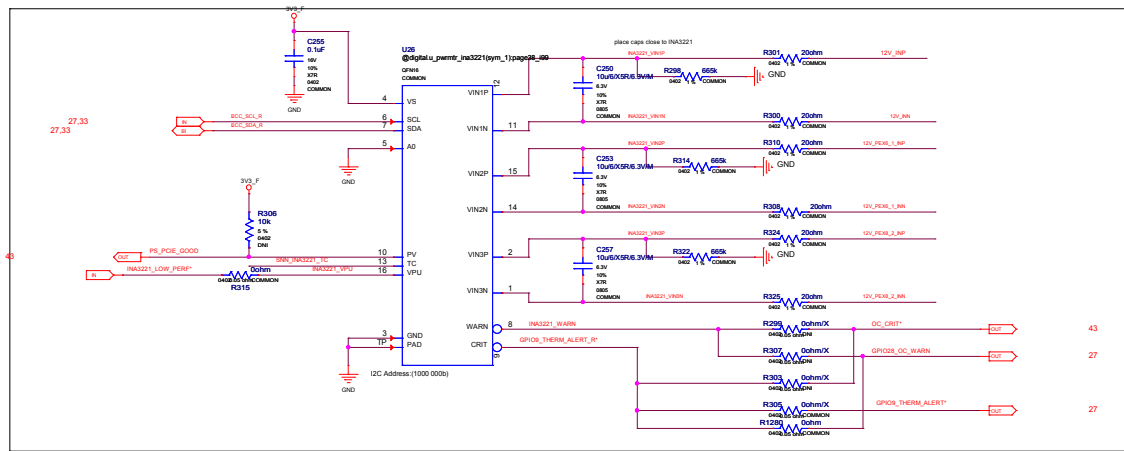
3

4

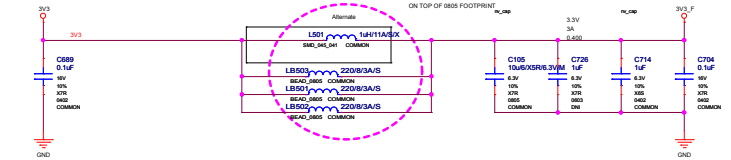
4

5

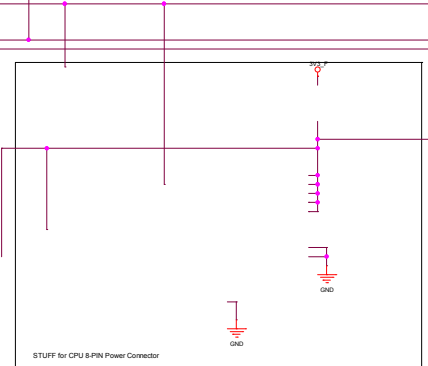
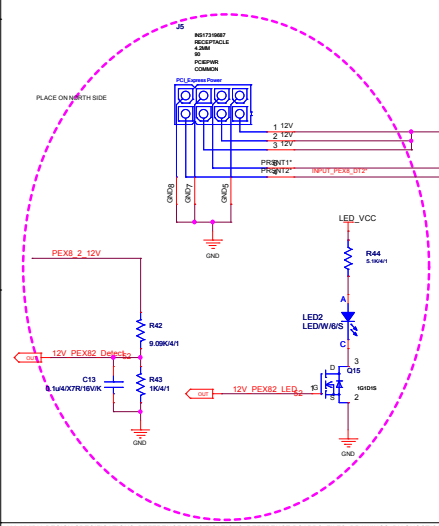
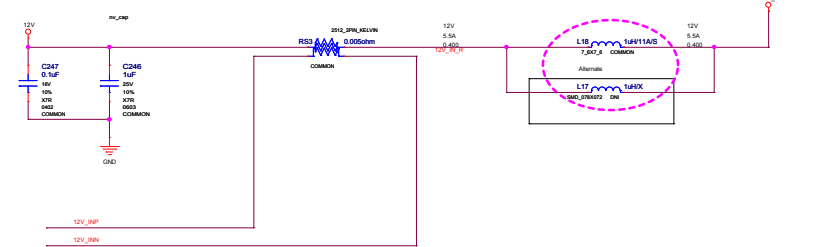
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. 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 OR NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.



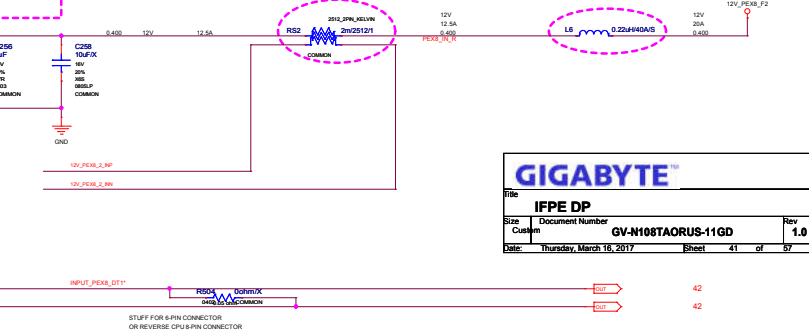
PEX 3V3 INPUT - 10W



PEX12V INPUT - 66W



PEX8 INPUT 2 - 2x4 PCIe CON 150W



GIGABYTE			
File			
IFPE DP			
PCB REV	Document Number	Rev	
0001	GV-H10TAORUS-11GD	1.0	
Date	Thursday, March 16, 2017	Sheet	41 of 57

ASSEMBLY DESCRIPTION			
PS: Input, Filtering, and Monitoring			
STUFF FOR CPU 8-PIN Power Connector			
STUFF FOR 8-PIN CONNECTOR OR REVERSE CPU 8-PIN CONNECTOR			

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.

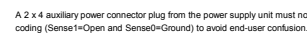
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
INV_PN	600-1G611-BASE-000	PAGE	41 OF 49
PCB REV	PG811-A00	DATE	09-MAR-2016
BOB REV	A		

GUIDES CURRENT FROM PEX EDGE TO PEX 8 PIN INPUT AREA

For OpenVreg Type4 + Phase Doubler, 2 phase PSI mode



PEX6 IN PEX8 CONNECTOR Present

**GIGABYTE™**

File IFPE DP Size Document Number Rev			
Custom	GV-N108TAORUS-11GD		1.0
Date:	Thursday, March 16, 2017	Sheet	42 of 57

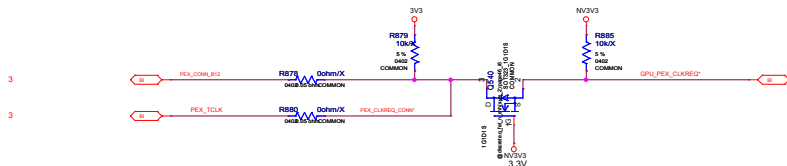
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-1G611-BASE-000		
PCB REV	PG611-A00	PAGE	42 OF 49
BOM REV	A	DATE	09-MAR-2016

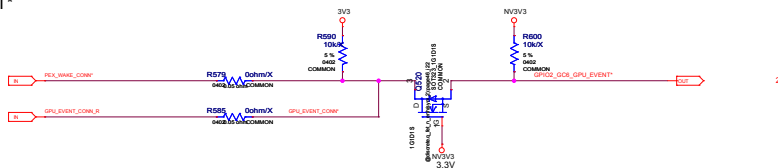
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOW OR UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS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

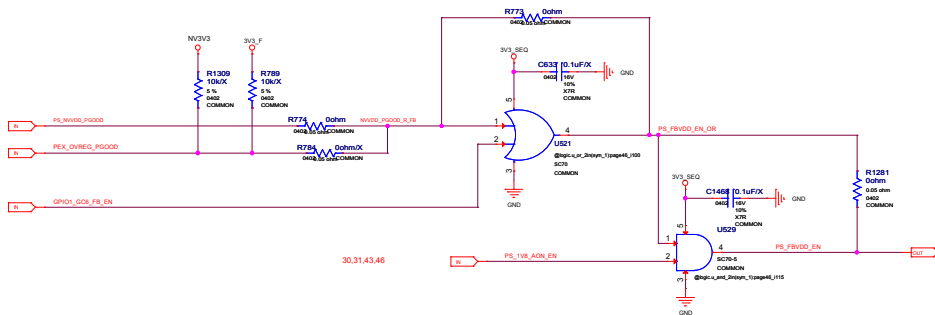
PEX_CLKREQ*



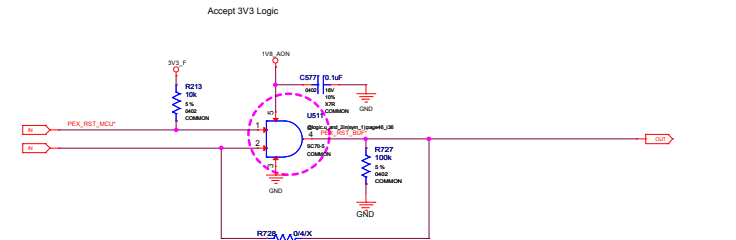
GPU_EVENT*



FBVDD/Q ENABLE



PEX_RST# LOGIC



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 PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	<ASSEMBLY DESCRIPTION>
PAGE DETAIL	PS: GC6 MISC

GIGABYTE			
IFPE DP			
Size	Document Number	Rev	
Custom	GV-N108TAORUS-11GD	1.0	
Date:	Thursday, March 16, 2017	Sheet	44 of 57

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



NV_PN	600-1G611-BASE-000
PCB REV	PG611-A00
BCM REV	A
PAGE	44 OF 49
DATE	09-MAR-2016



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.

File

IFPE DP

Size

Custom

Document Number

GV-M108TAORUS-11GD

Rev

1.0

Date:

Thursday, March 16, 2017

Sheet

48 of 57

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

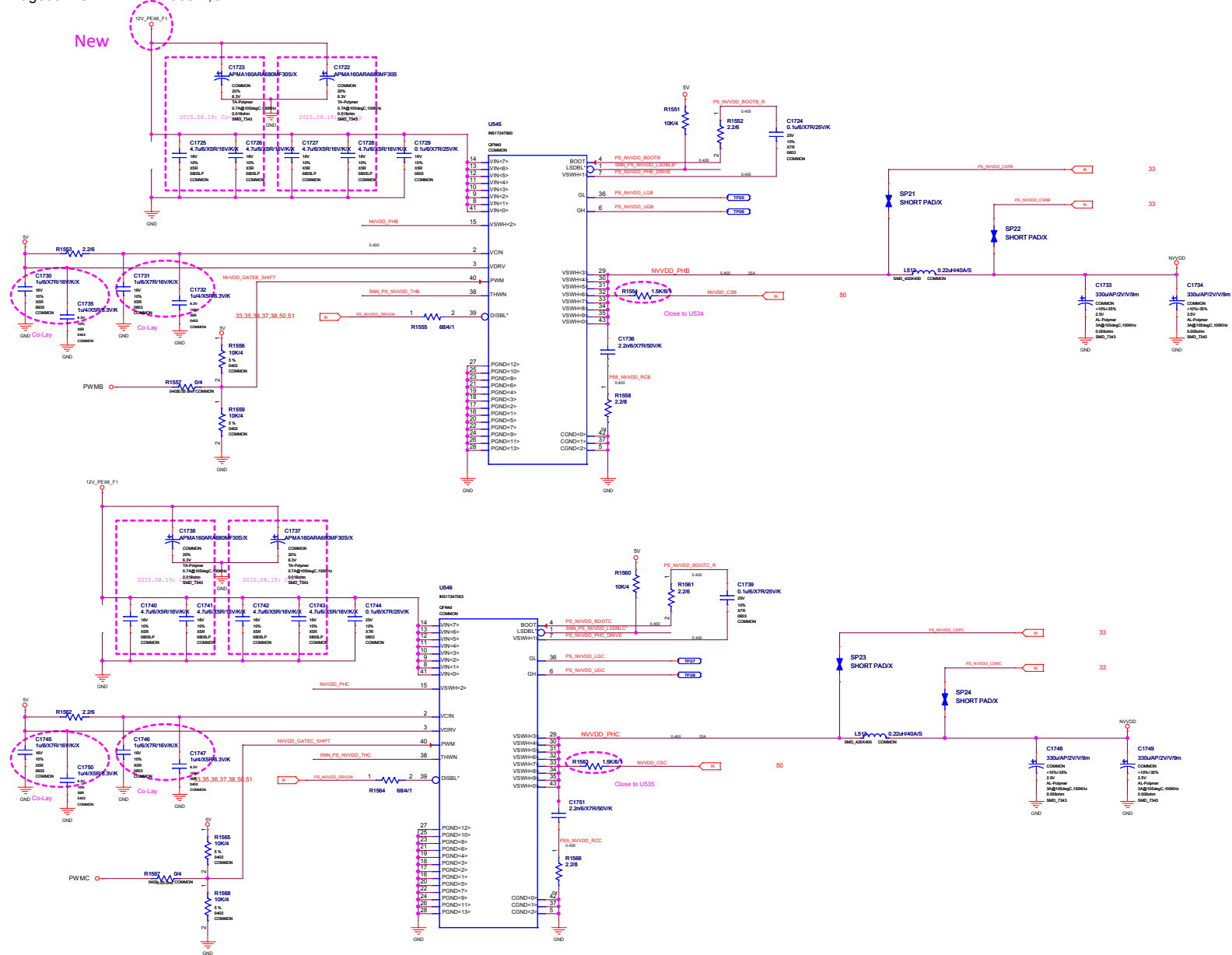


NV_PN	600-1G611-BASE-000	PAGE	48 OF 49
PCB REV	PG611-A00	DATE	09-MAR-2016
BCM REV	A		



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

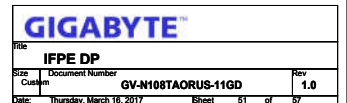
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	VR Thermal Protection



CO-LAYOUT: CHOOSE UA OR UB

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: NVVDD Dynamic Switch Phases

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.



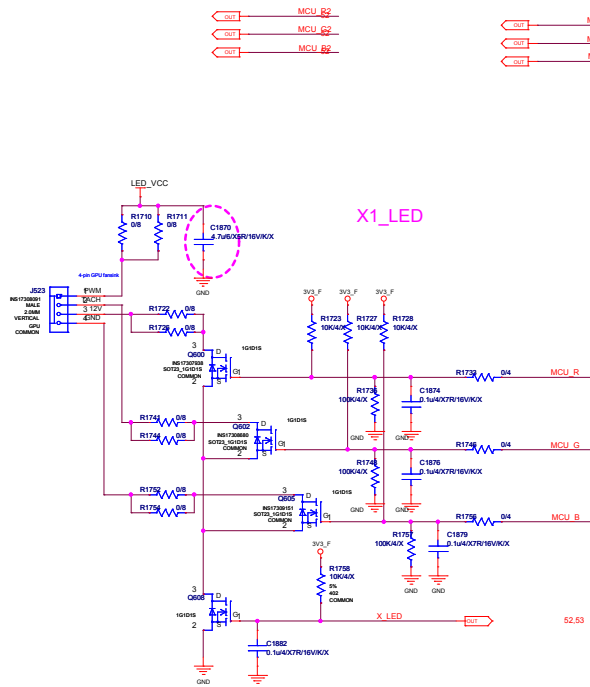
NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

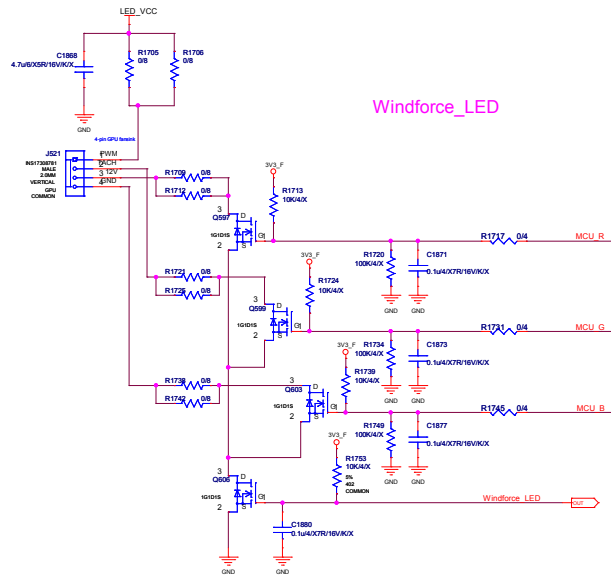


NV_PN	600-1G600-BASE-QS1
-------	--------------------

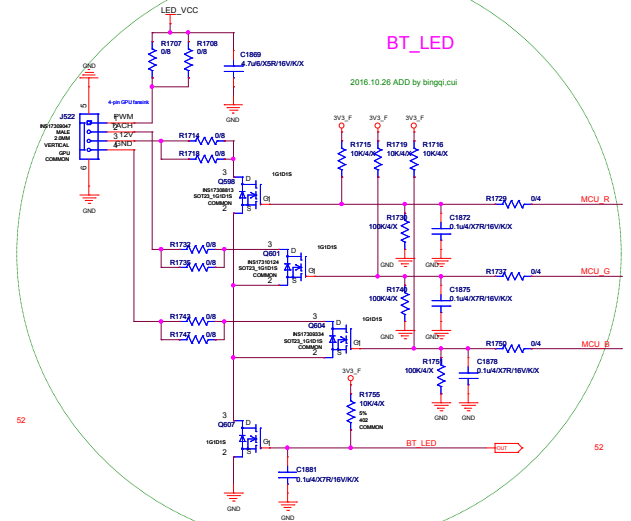
PCB REV	PG800-B02	PAGE	35 OF 45
BOM REV	A	DATE	21-APR-2015



MCU_B2
MCU_G2
MCU_B3
MCU_B4

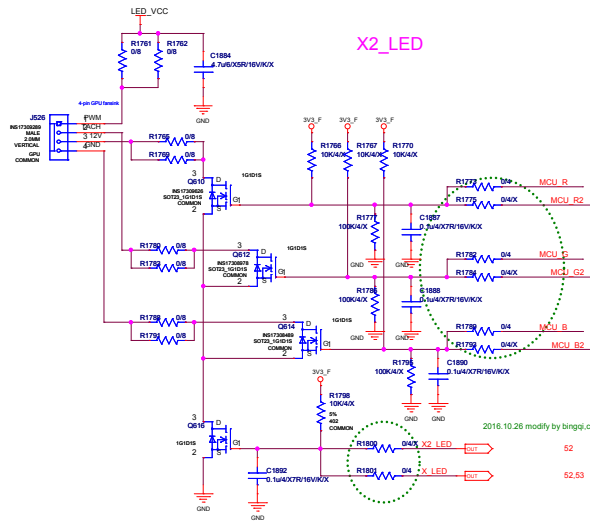


Windforce_LED



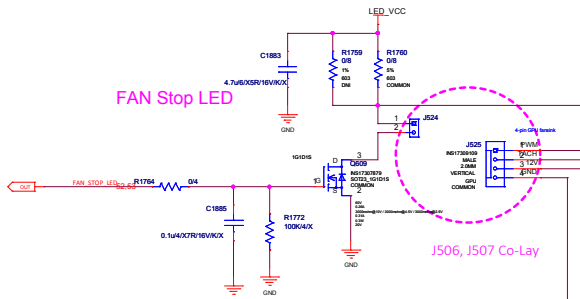
BT_LED

2016.10.26 ADD by bingqi.cui



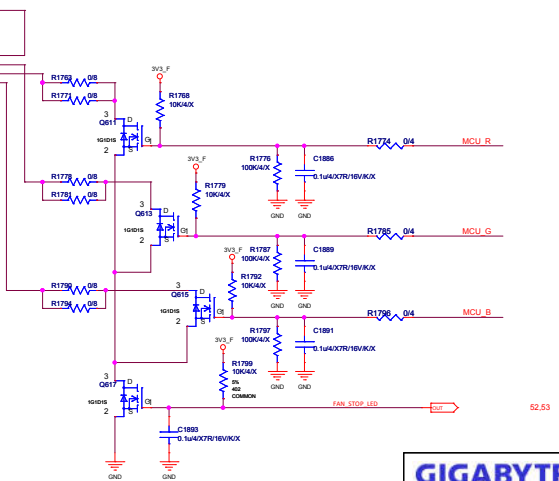
X2_LED

2016.10.26 modify by bingqi.cui



FAN Stop LED

J506, J507 Co-Lay



FAN STOP LED

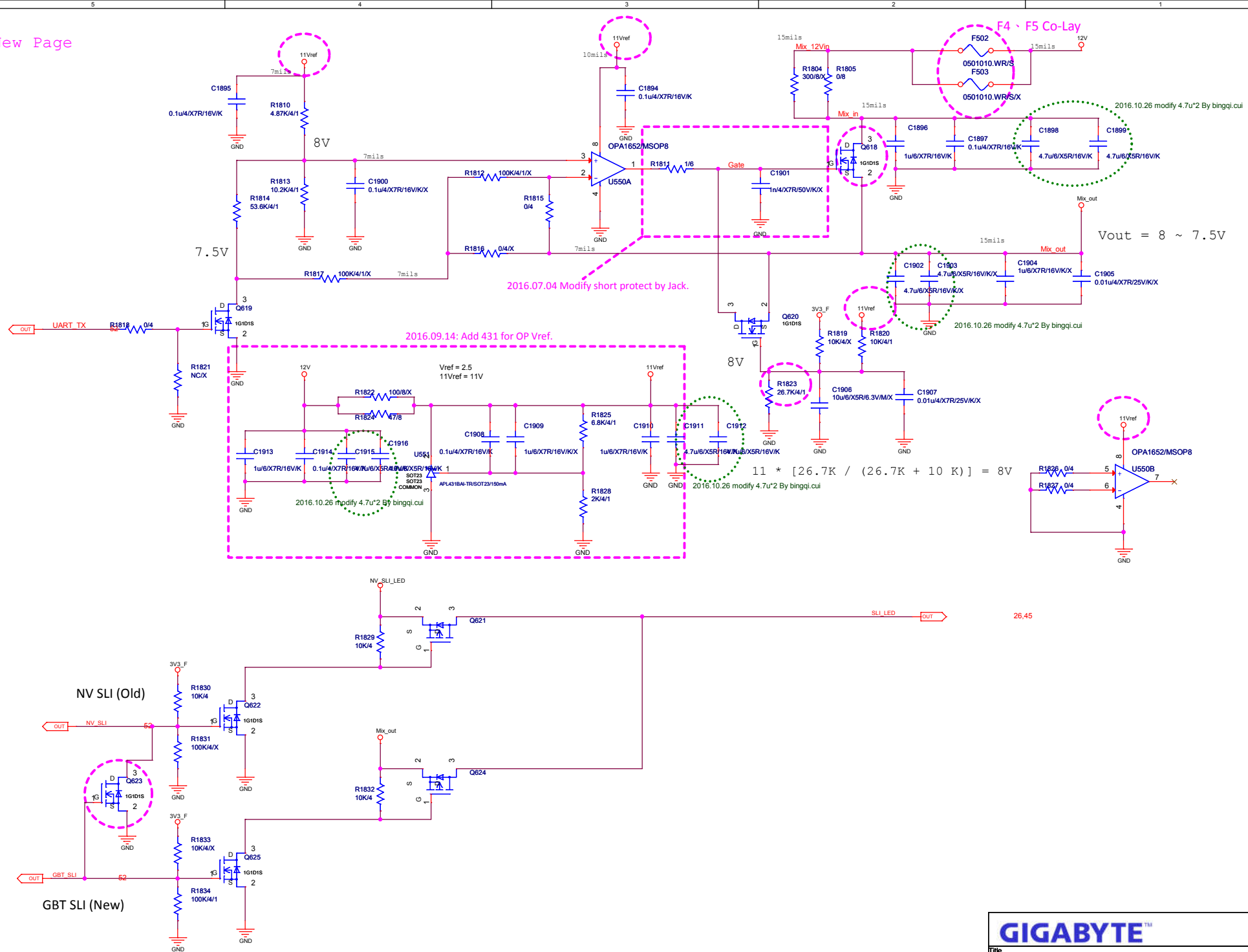
52.53

GIGABYTE			
File	<Title>		
Size	Document Number	Rev	1.0
Client	GV-H108TAORUS-11GD		
Date	Thursday, March 16, 2017	Sheet	53 of 57

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
PAGE DETAIL

BASE LEVEL GENERIC SCHEMATIC ONLY
MECH



History

Date	Modify
2017.03.01	First version