

P3509-A01

Jetson Xavier NX Carrier Board

HDMI, DP, USB3.1, M.2 Key-E & M, GBe, CAM

TABLE OF CONTENTS

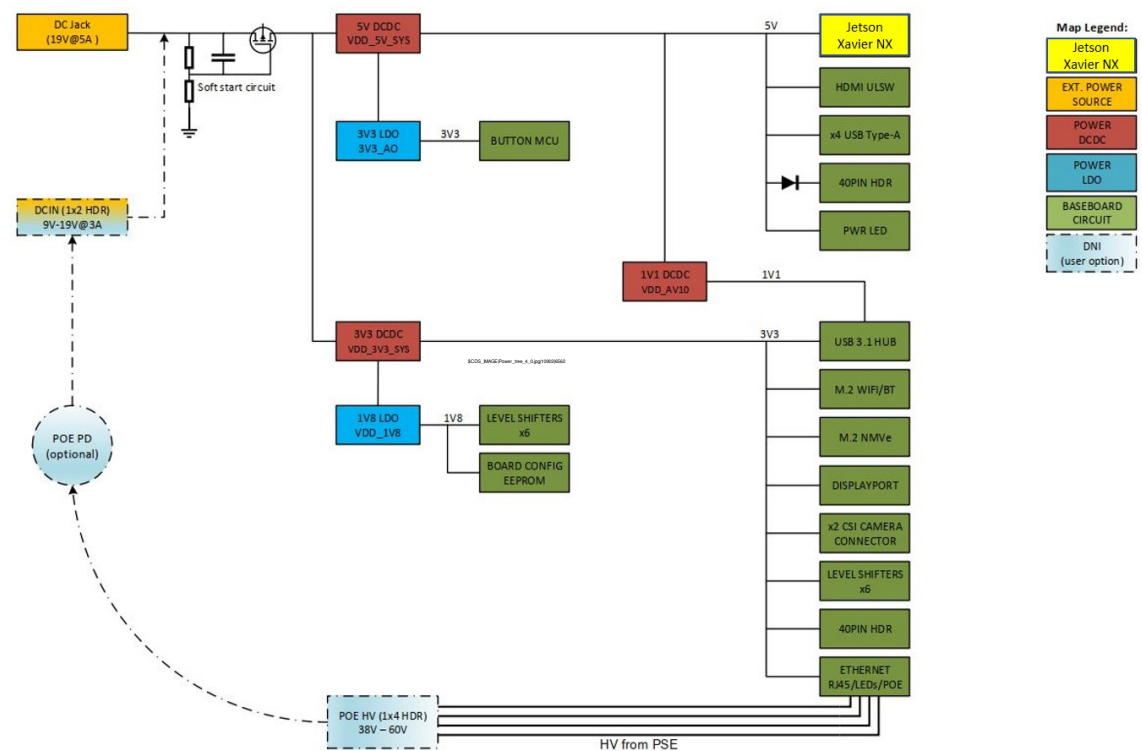
Page	Description
1	Table of Contents
2	Block Diagram
3	Power Tree
4	SODIMM Connector 1/3
5	SODIMM Connector 2/3
6	SODIMM Connector 3/3
7	DC_JACK
8	PRE-REG 5V
9	PRE-REG 3V3
10	1V8 LDO & 3V3 AO Rails
11	BUTTON MCU
12	MICRO USB2.0
13	USB3.1 HUB
14	USB3.1 Type-A x2 (A)
15	USB3.1 Type-A x2 (B)
16	HDMI
17	DISPLAY PORT
18	CAMERA
19	ETHERNET
20	M.2 KEY-E (WIFI/BT)
21	M.2 KEY-M (NVME)
22	40PIN GPIO Expansion HDR
23	FAN, DEBUG and EEPROM
24	MECHANICAL
25	REVISION HISTORY

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		Table of Contents			
CLAIMS ALL		NV_PN			
INWARDS		600-13509-BASE-100			
		PCB REV		P3509 A01	PAGE
		BOM REV		<BOM_REV>	1 OF 25
				DATE	27-NOV-2019



Power Topology

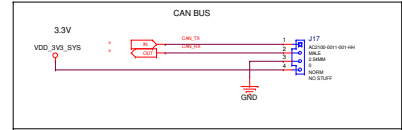
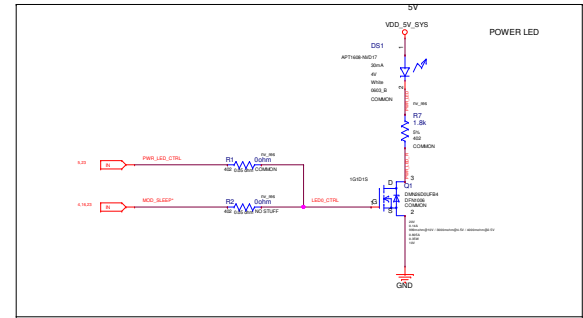
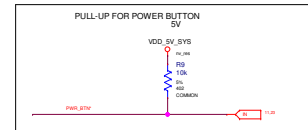
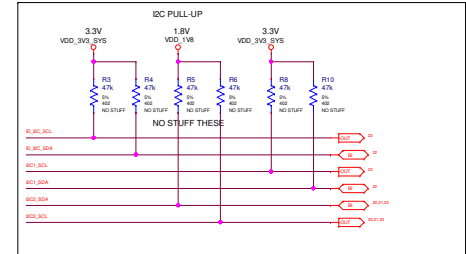
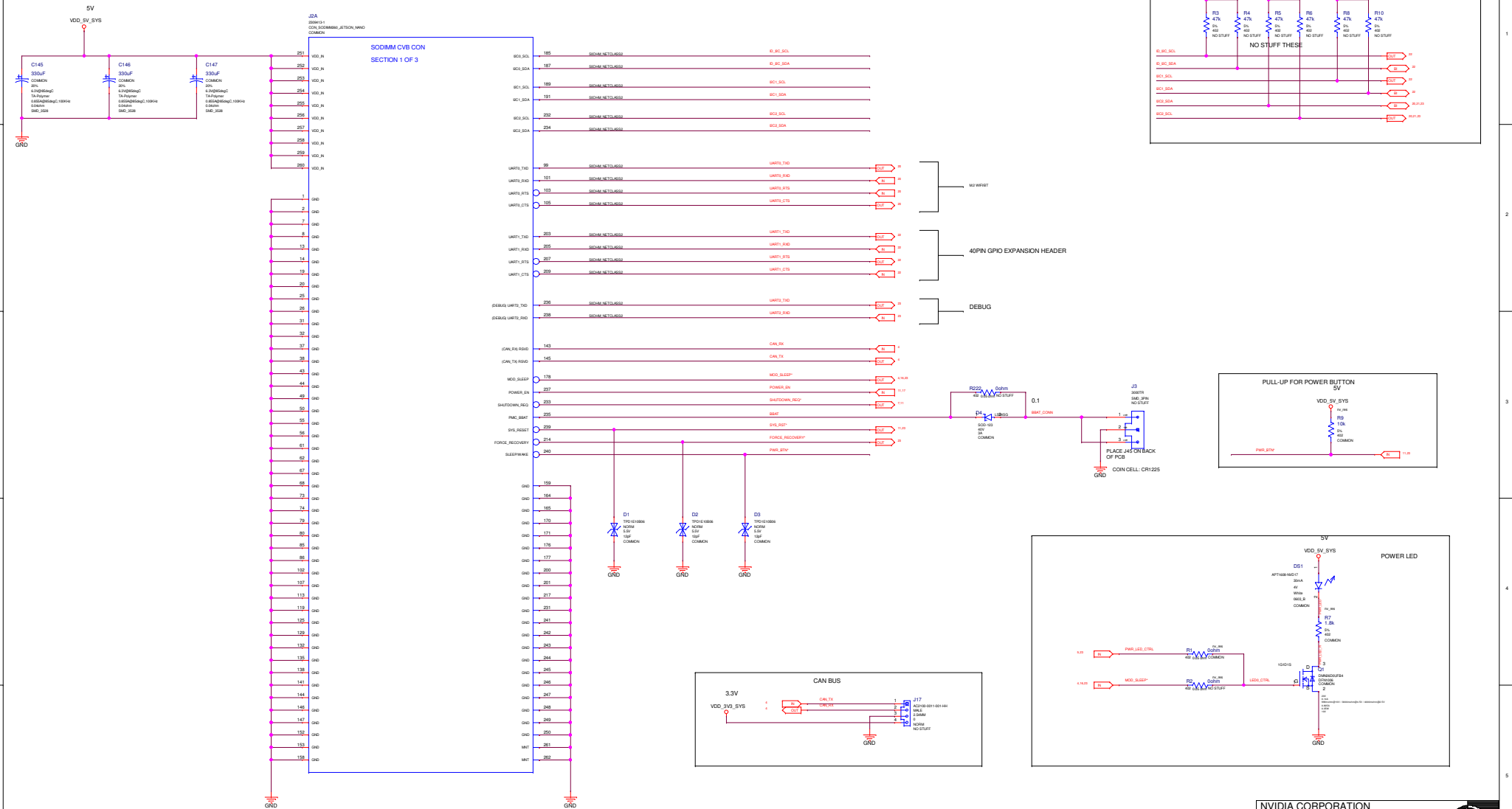


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, INCLUDING BUT NOT LIMITED TO, THE WARRANTIES OF DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, 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	Power

NVIDIA CORPORATION			
2701 SANTOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN	600-13509-BASE-100	PAGE	3 OF 25
PCB REV	P5509-A01	DATE	27 NOV 2019
BOM REV	<BOM_REV>		

# UART, I2C, CAN and GPIOs



ASSEMBLY		-ASSEMBLY DESCRIPTION-		SANTA CLARA, CA 95050, USA	
PAGE DETAIL		SODIMM Connector 1/3		NV_PN 600-13509-BASE-100	
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.					
PCB REV P3509-AD1		PAGE 4 OF 25			
SCM REV -SCM_REV-		DATE 27-NOV-2019			
A		B		C	
D		E		F	
G		H			



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

GPIOs, USB2.0, I2S, SPI, GBe and CSI



NVIDIA CORPORATION



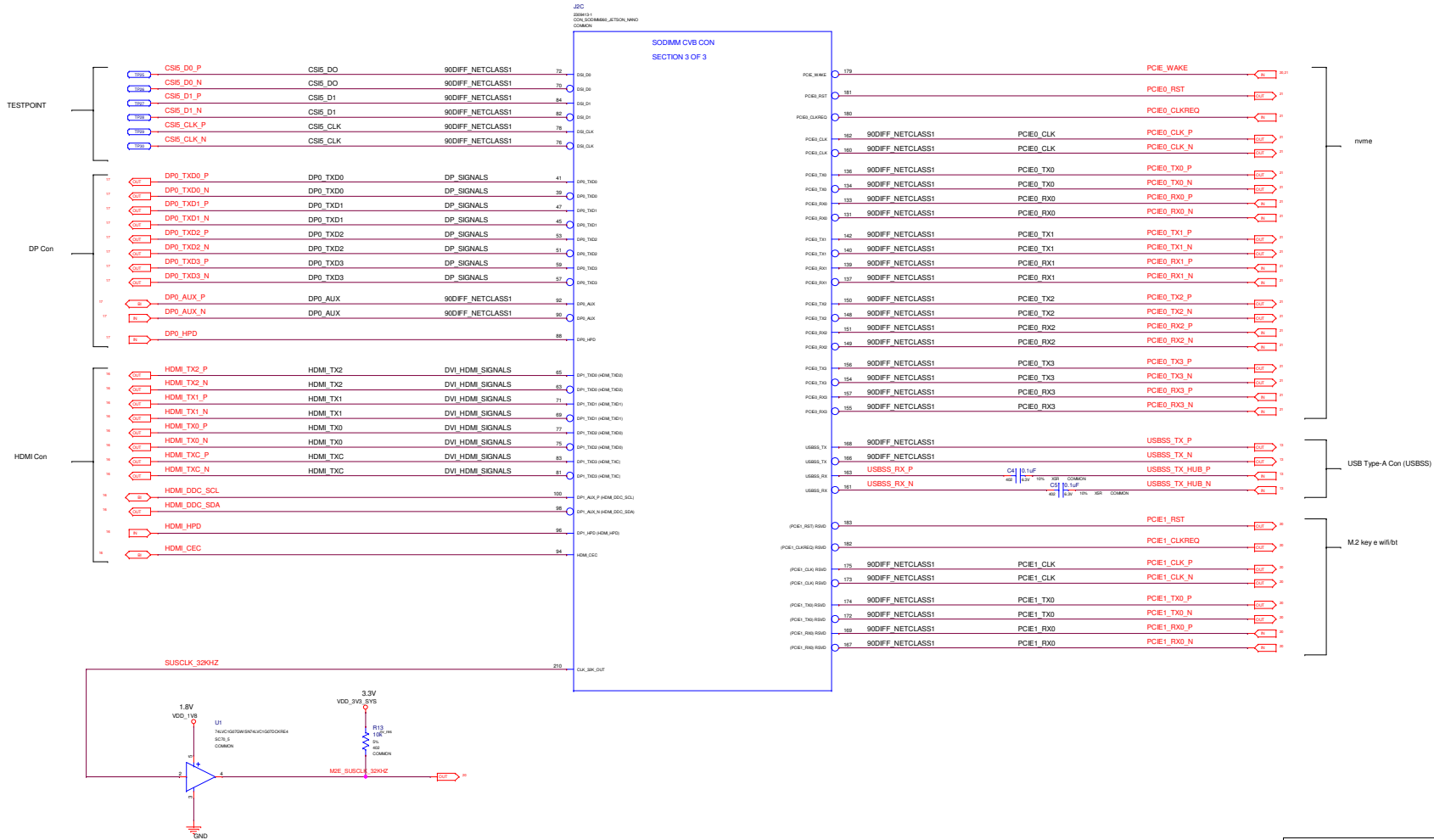
2701 SAN TOMAS  
EXPRESSWAY  
SANTA CLARA, CA 95050, USA

NV_PN	600-13509-BASE-100
-------	--------------------

PCB REV	P3509-A01	PAGE	5 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

---

# CSI (contn'd), HDMI, DP, DSI, USBSS and PCIE

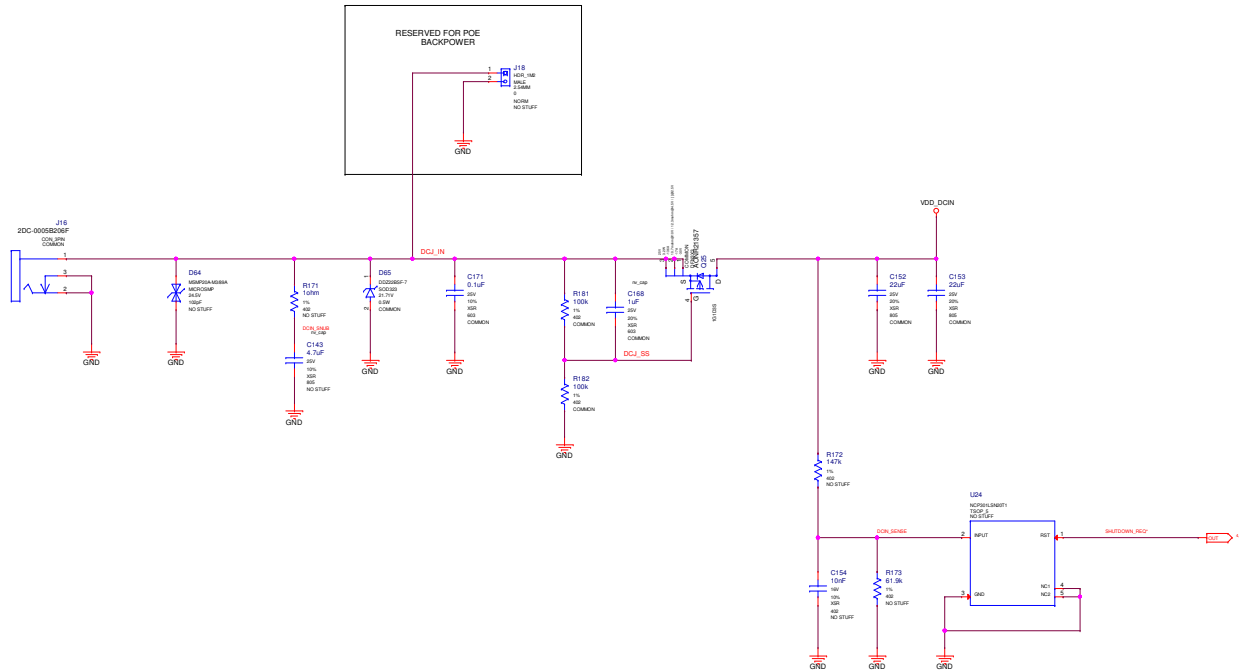


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO 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
PCIE DETAIL	SODIMM Connector 3/3

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-13509-BASE-100		
PCB REV	P3509-AD1	PAGE	6 OF 25
SDM REV	<SDM_REV>	DATE	27-NOV-2019

## DC JACK POWER PATH



<b>ASSEMBLY</b>	-ASSEMBLY DESCRIPTION-	SANTA CLARA, CA 95050, USA
PAGE DETAIL	SC JACK	
<b>DISCLAIMS</b>		
NV_PN	600-13509-BASE-100	
PCB REV	P3509-A01	PAGE 7 OF 25
BOM REV	-BOM_REV-	DATE 27 NOV 2019

NVIDIA CORPORATION

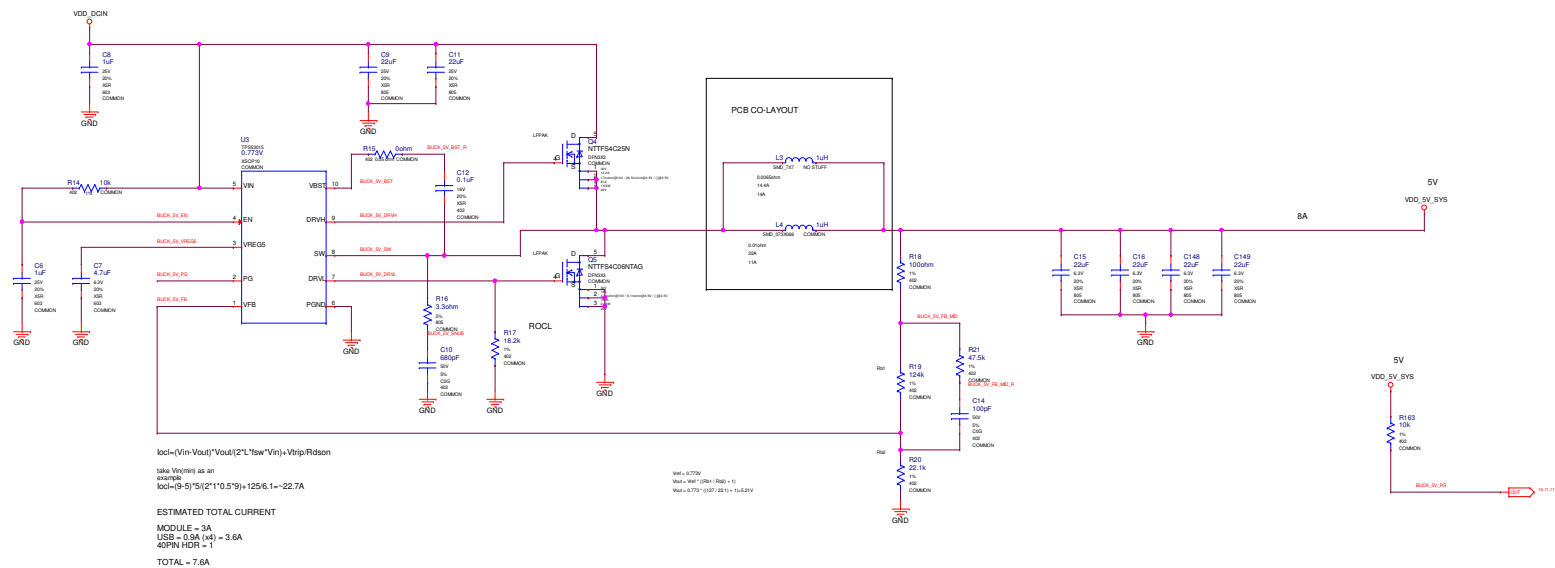
2701 SAN TOMAS  
EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	7 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

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 ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. 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 CUSTOM.


### PRE-REG 5V DCDC



ASSEMBLY	-ASSEMBLY DESCRIPTION-
PAGE DETAIL	PGE REG SV
DISCLAIMS	

**NVIDIA CORPORATION**

2701 SAN TOMAS  
EXPRESSWAY  
SANTA CLARA, CA 95050, USA

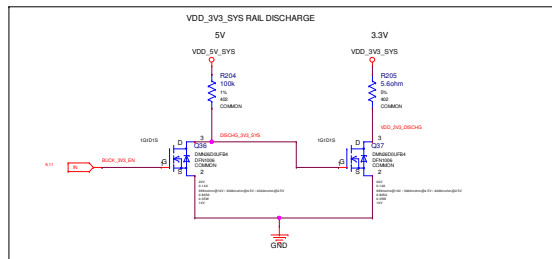
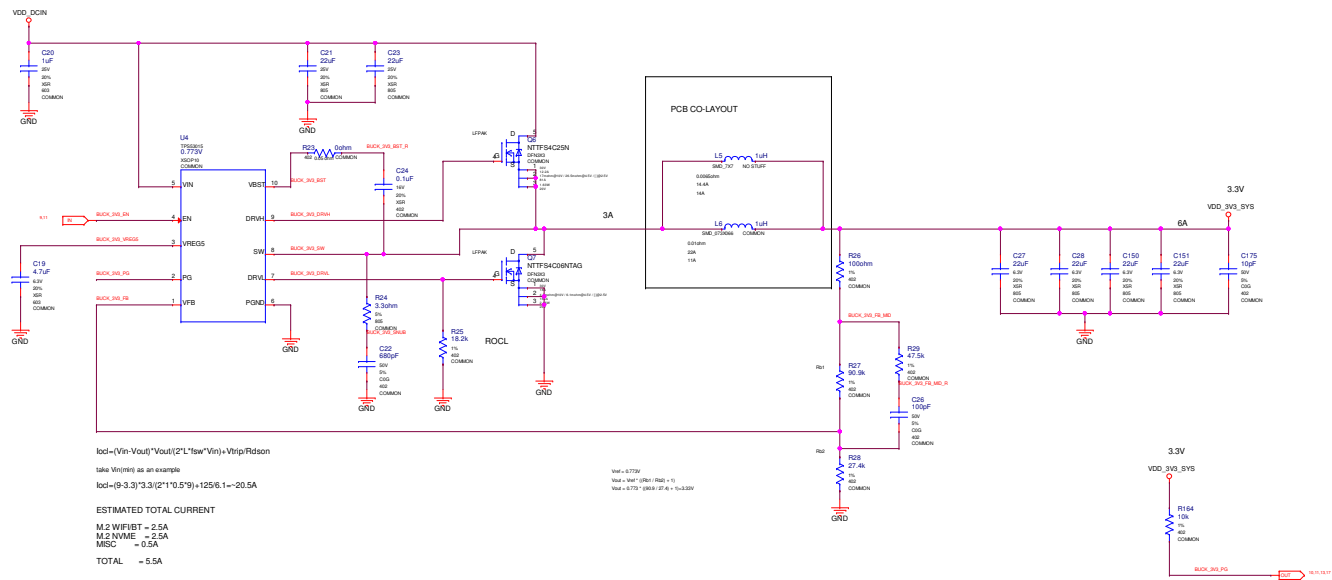
The NVIDIA logo, which is a stylized, circular emblem resembling an eye or a target, composed of concentric, slightly irregular lines.

NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	8 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019


ALL MEDIA DESIGN INFORMATION, REFERENCE SPECIFICATIONS (DEFINITIONS, FORMS, 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. MATERIALS HAVE NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE. ANY EXPRESS DISCLOSURE OF 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.



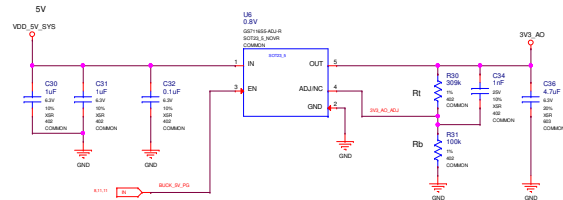
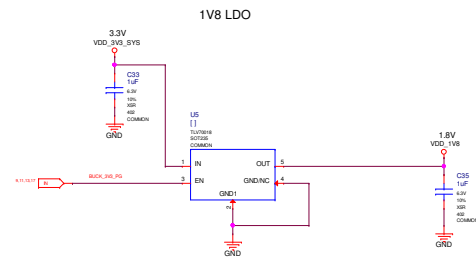
## PRE-REG 3V3 DCDC



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	PRE-REQ 2/2				
MAY		NV PN		600-13509-BASE-100	
DISCLAIM ALL STANDARDS.		PGR REV		P3505-AD1	PAGE
		BOM REV		-BOM REV-	27 NOV 2019
					5 OF 25

## 1V8 LDO AND 3V3 A0 RAILS



$$V_{OUT} = V_{REF}(0.8V) * (1 + (R_T/R_B)) + I_{adj}(1nA) * R_T$$

$$R_T = 309k$$

$$R_B = 100k$$

$$V_{OUT} = 3.272V$$

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	1V8 LDO & 3V3 AO Rails

NVIDIA CORPORATION

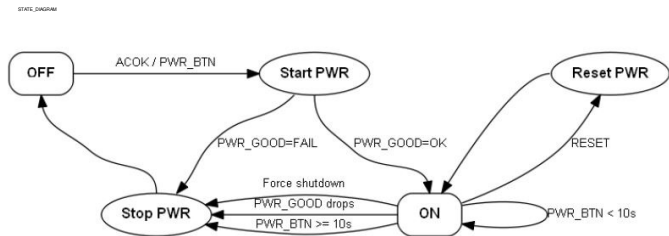
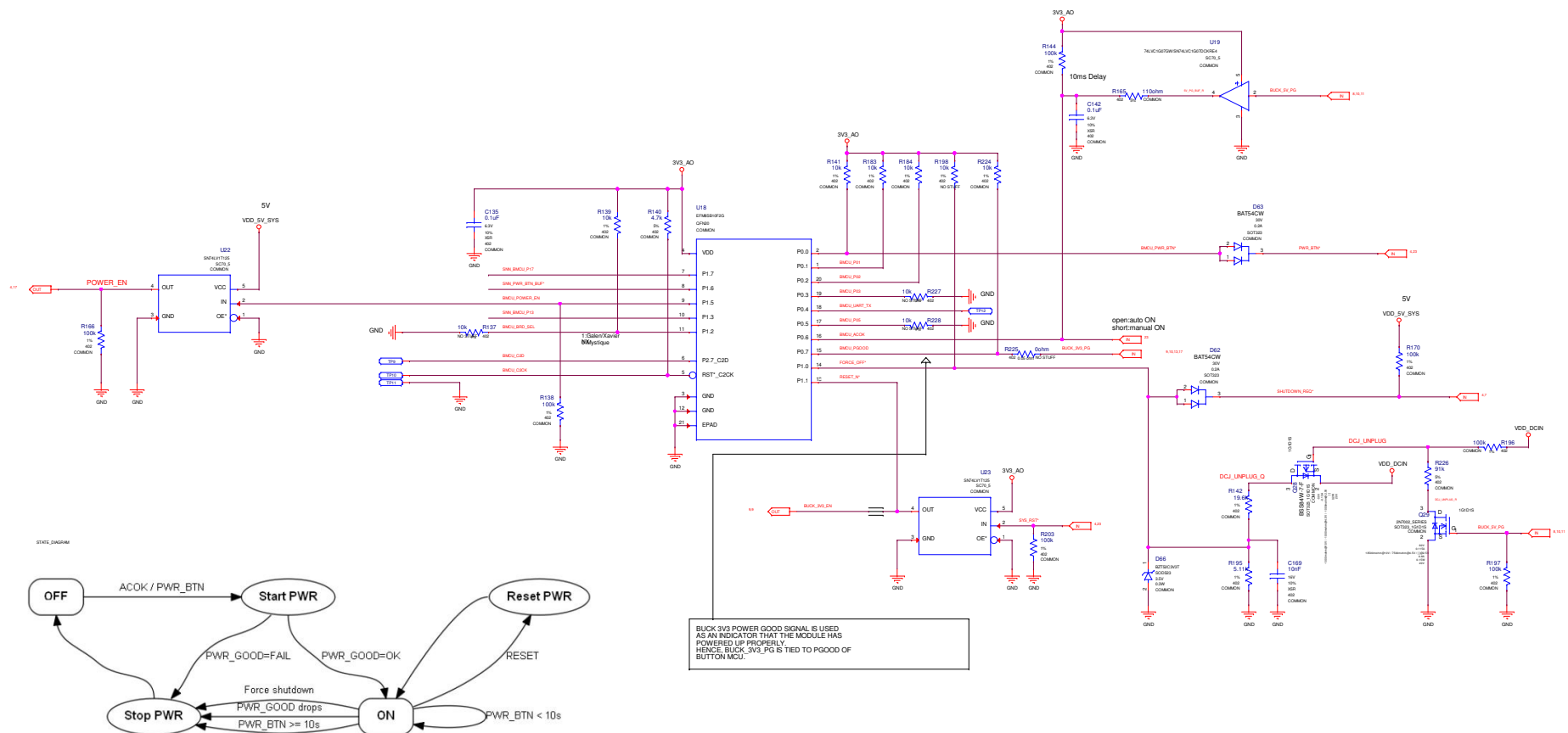
2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	10 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

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.

BUTTON MCU FOR POWER UP



BUCK 3V3 POWER GOOD SIGNAL IS USED AS AN INDICATOR THAT THE MODULE HAS POWERED UP PROPERLY.  
HENCE, BUCK\_3V3\_PG IS TIED TO PGOOD OF BUTTON MCU.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	BUTTON MCU

NVIDIA CORPORATION

2701 SAN TOMAS  
EXPRESSWAY  
SANTA CLARA, CA 95050, USA



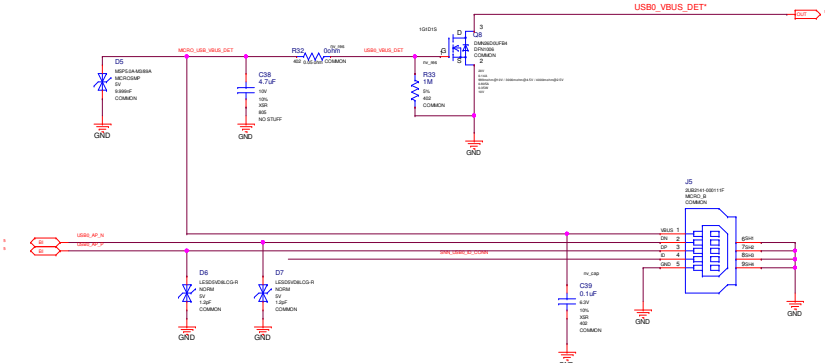
NV_PN	600-13509-BASE-100
-------	--------------------

PCB REV	P3509-A01	PAGE	11 OF 2
BOM REV	<BOM_REV>	DATE	27-NOV-2019

A horizontal number line with tick marks at 0, 25, 50, 75, and 100. Four brackets are placed above the line, each spanning 25 units: from 0 to 25, 25 to 50, 50 to 75, and 75 to 100. Each bracket is labeled '25%'. The number 50 is labeled with the letter 'H' below it.

ALL MEDIA 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 VULNERABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NADIA 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 CUSTOM.

## MICRO USB (DEVICE MODE ONLY)



ASSEMBLY	<ASSEMBLY_DESCRIPTION
PAGE DETAIL	MICRO USB2.0

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.

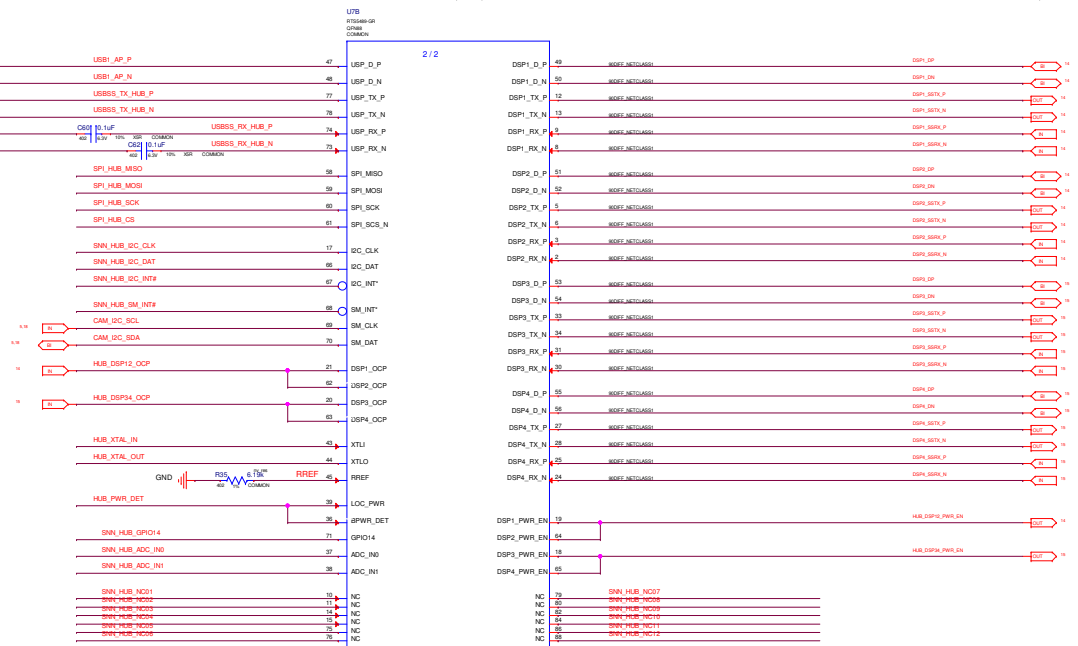
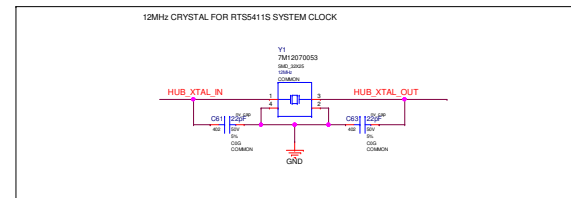
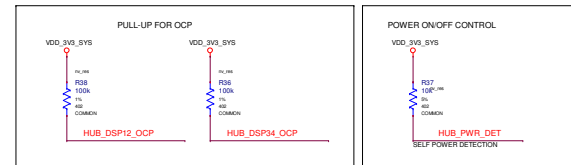
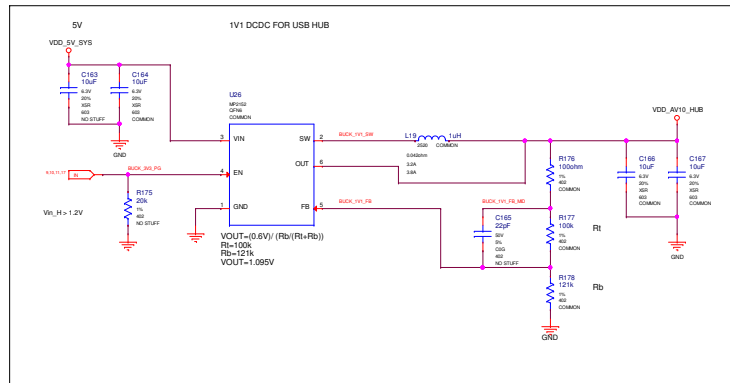
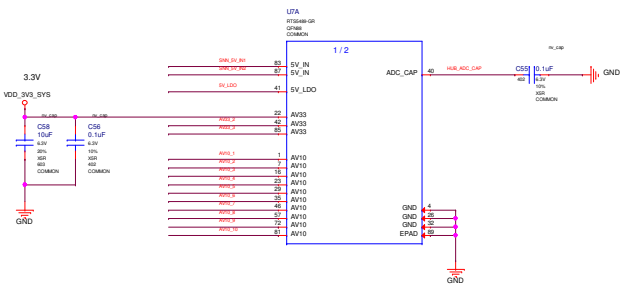
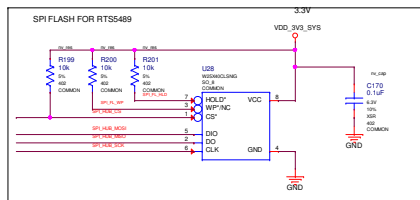
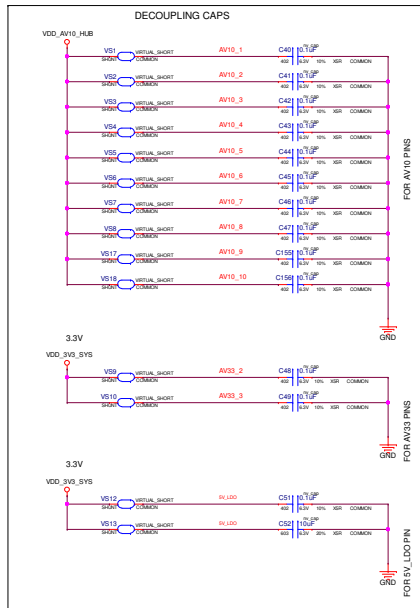
NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSW.  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	12 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

USB3.1 GEN2 HUB x4 PORTS



I2C slave addr: 71101010b = 71h6A

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



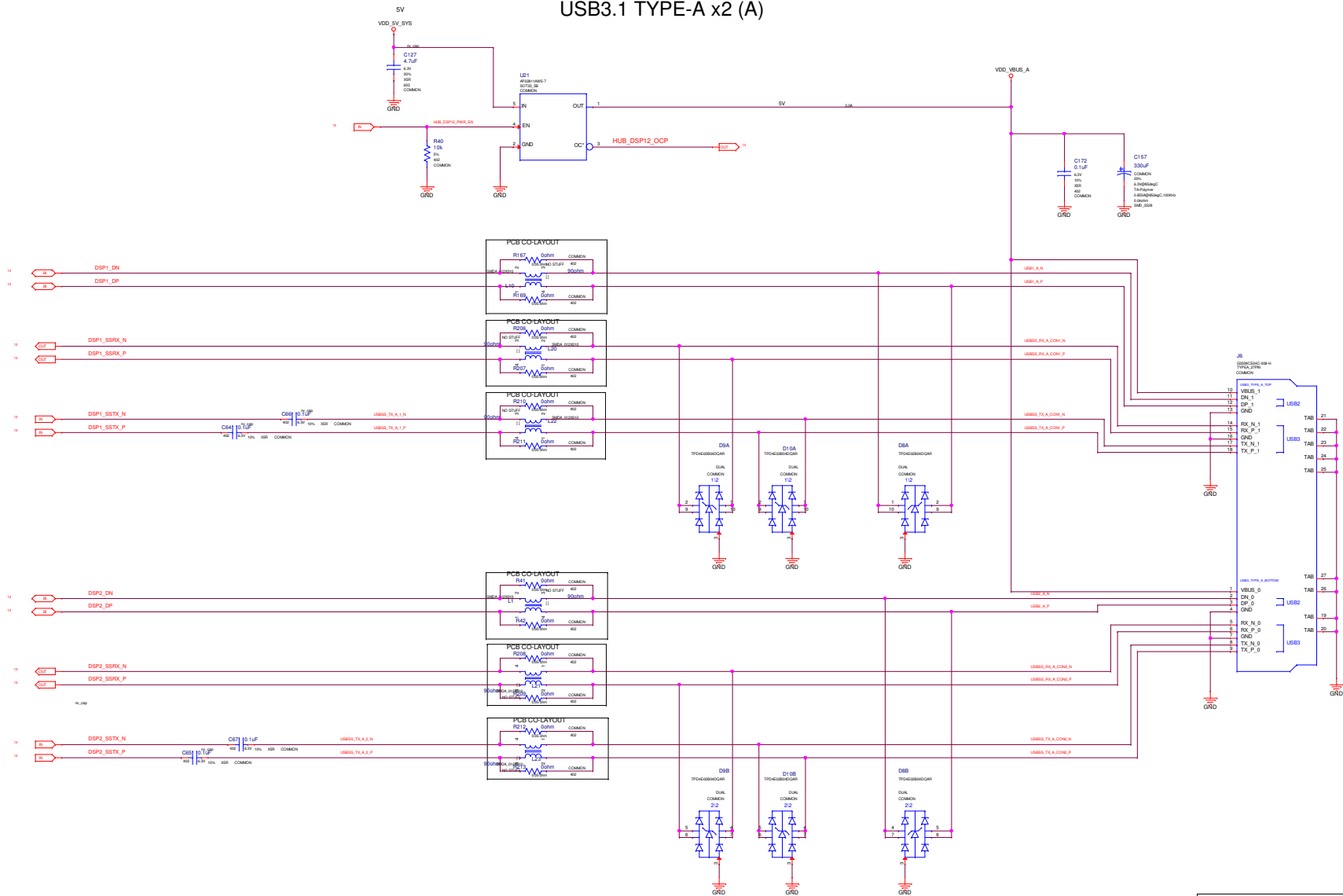
NV_PN	600-13509-BASE-100
-------	--------------------

PCB REV	P3509-A01	PAGE	13 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

ALL IOWA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, PRECEDENCE 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. IOWA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS 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	USB3.1 HUB

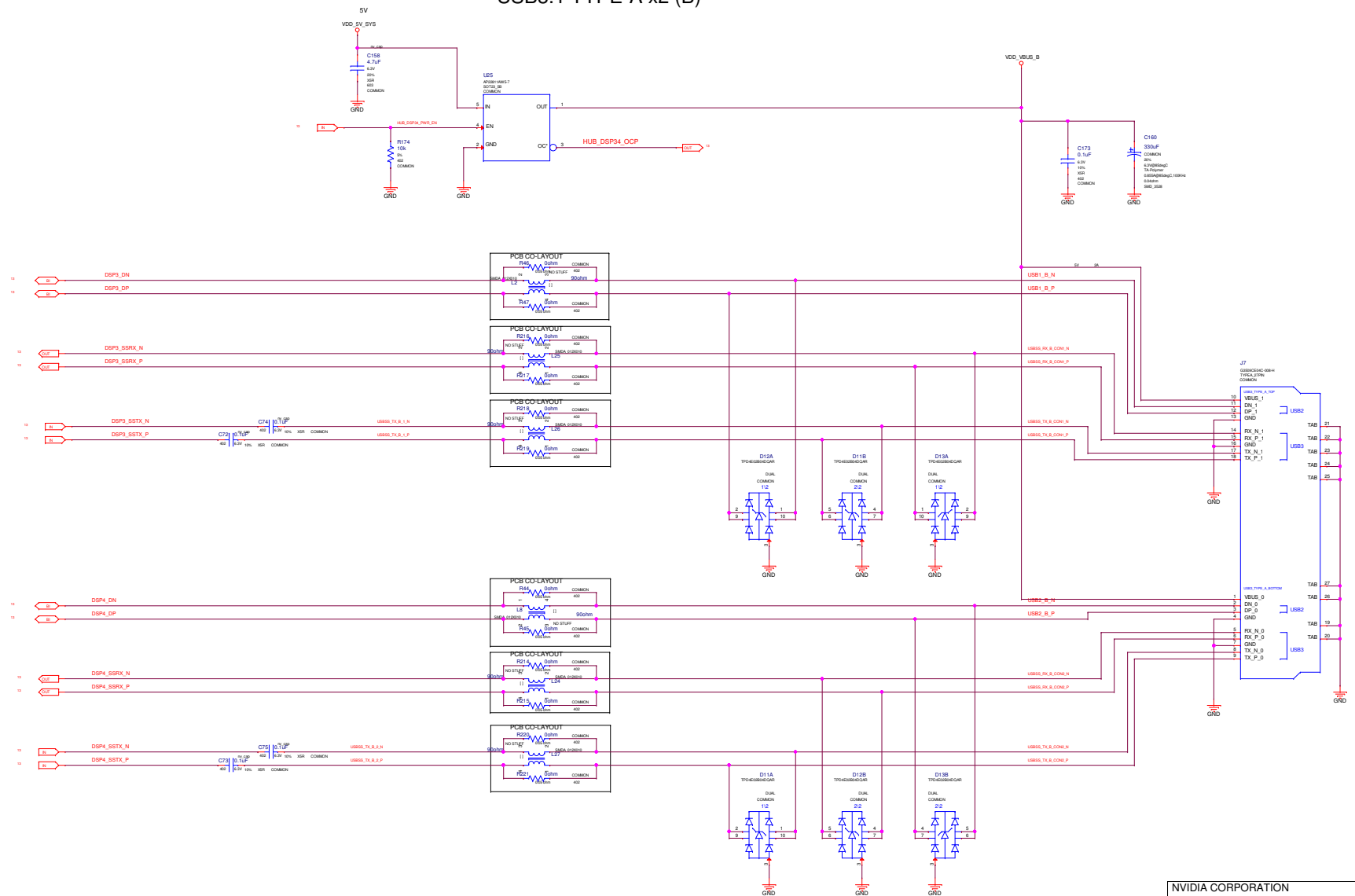
# USB3.1 TYPE-A x2 (A)



NVIDIA CORPORATION	
2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95058, USA	
NV_PN	600-13509-BASE-100
PCB REV	P35097-ADT
BOM REV	-BOM_REV-
PAGE	14 OF 25
DATE	27-NOV-2019

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 MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

## USB3.1 TYPE-A x2 (B)



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA

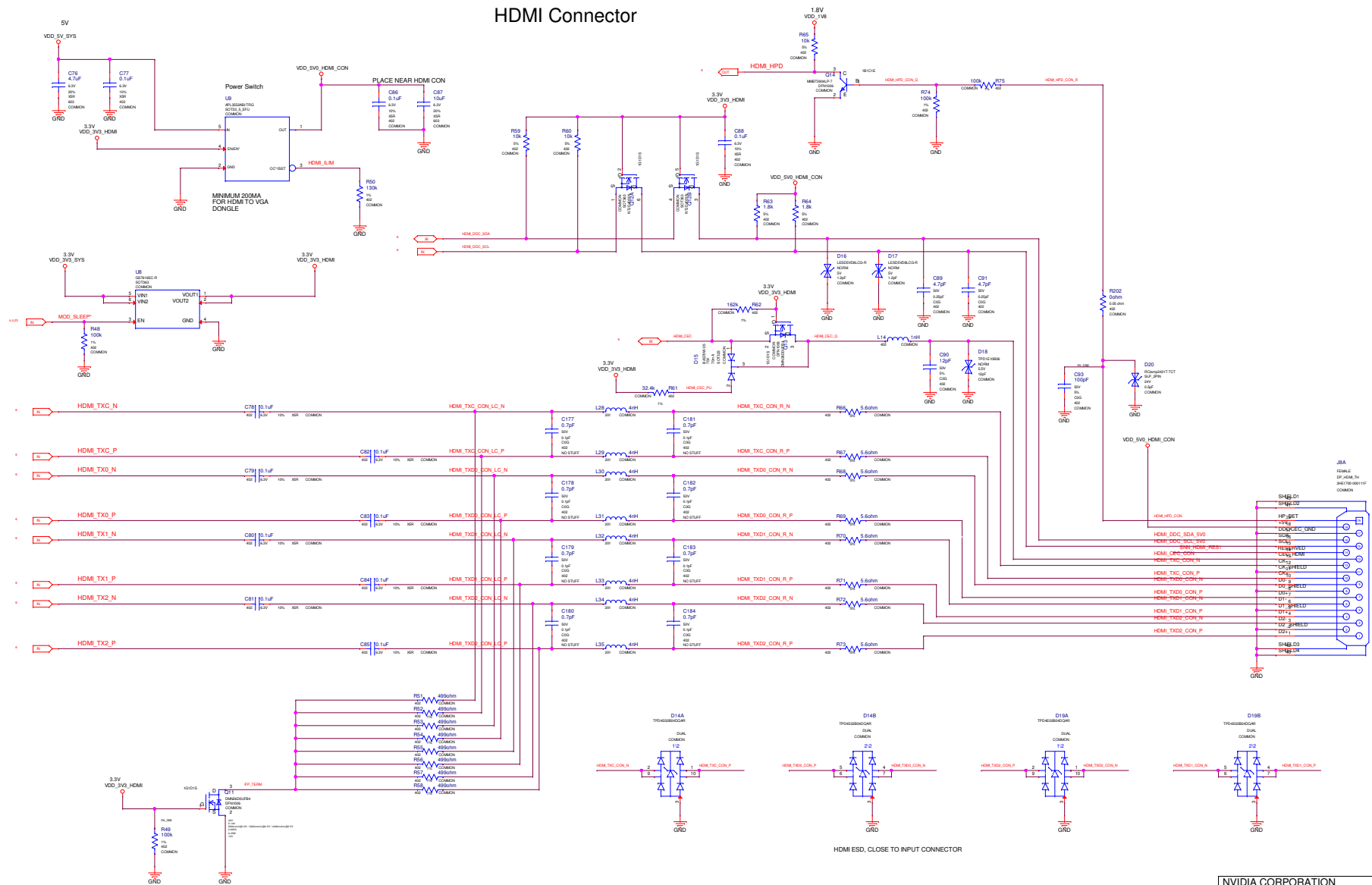


NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	15 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

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 UNKNOWN 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	USB3.1 Type-A x2 (B)

## HDMI Connector



NVIDIA CORPORATION

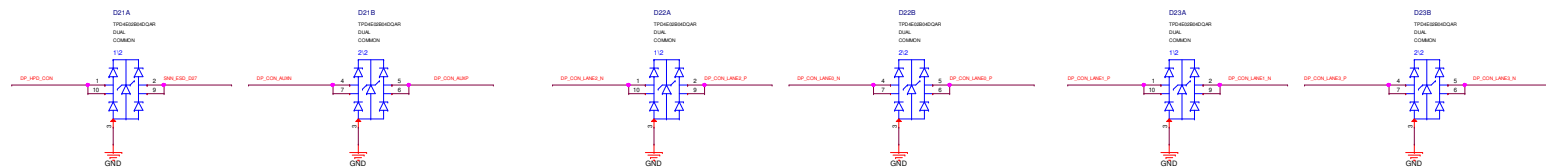
2701 SAN TOMAS  
EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	15 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

ALL MIDWA 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 VULNERABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MIDWA 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 COURSE OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY CUSTOM.

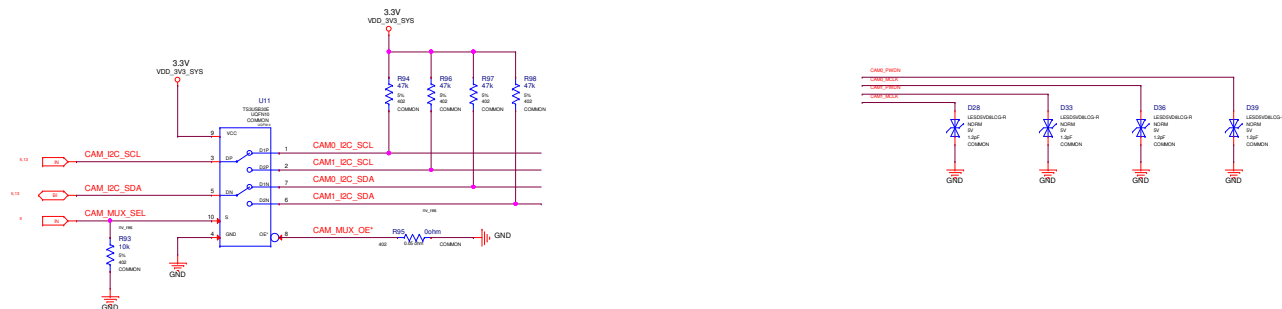
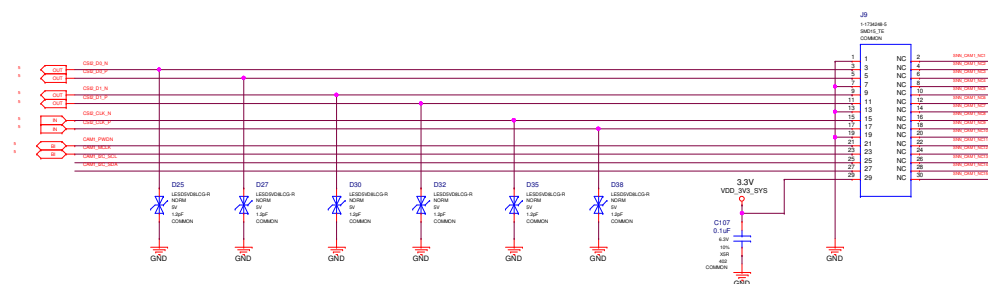
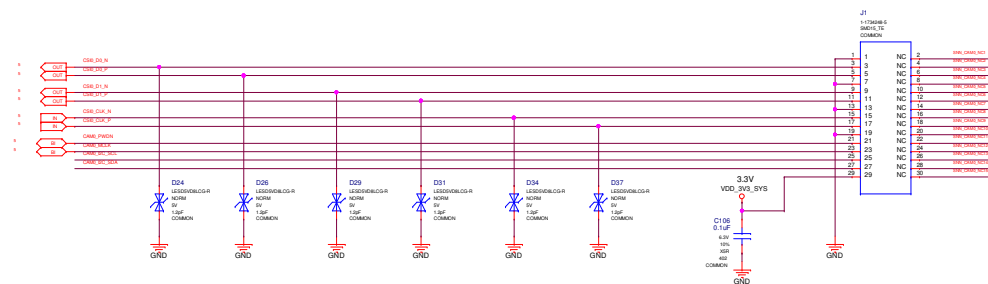




	H
--	---

---

## CSI CAM CONNECTOR



ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE DETAIL	CAMERA

NVIDIA CORPORATION

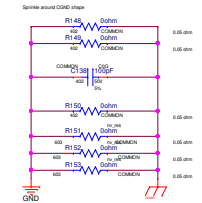
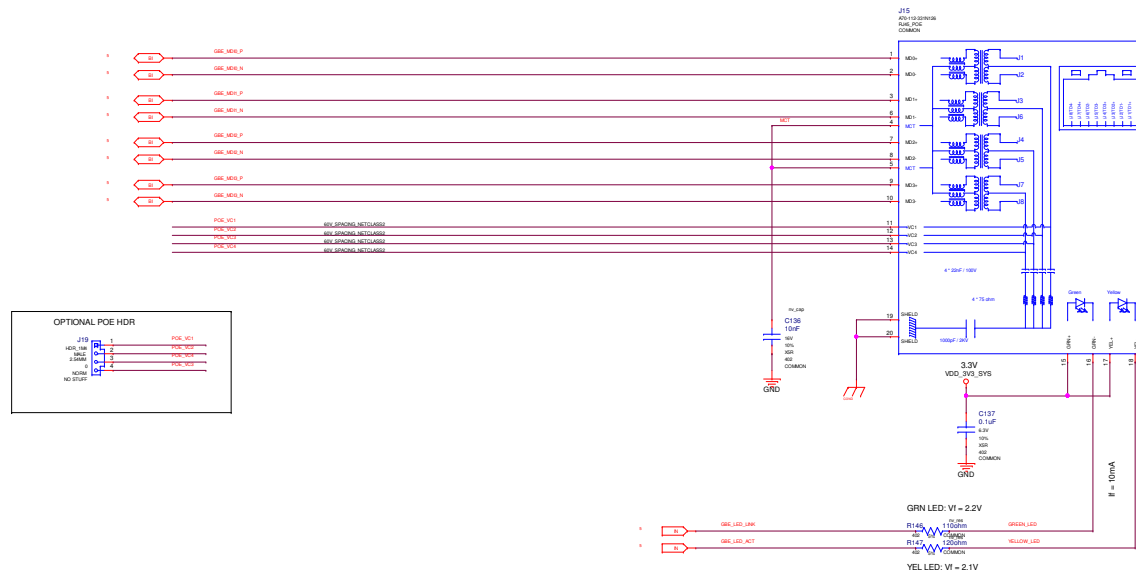
2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	18 OF 2
BOM REV	<BOM REV>	DATE	27-NOV-2019

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, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

GIGABIT ETHERNET W/ POE



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	ETHERNET

NVIDIA CORPORATION

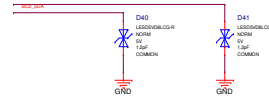
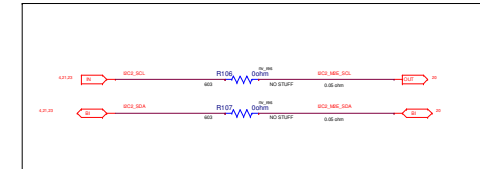
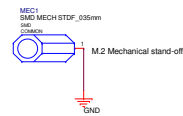
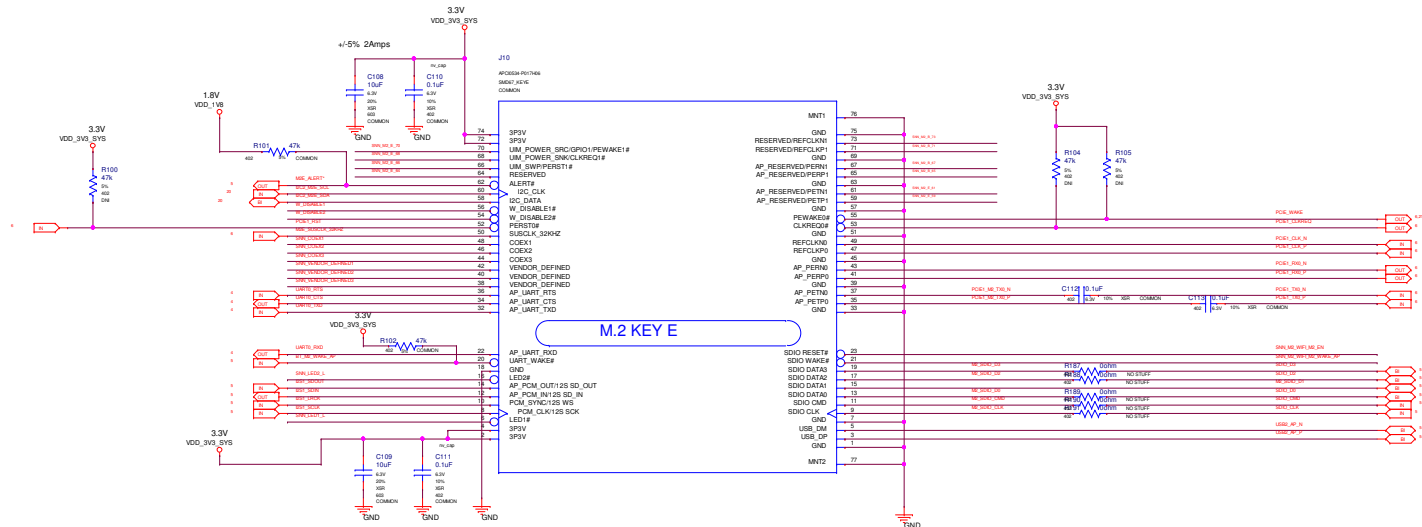


2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA

NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	19 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

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.

## M.2 KEY-E (WIFI/BT)



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	M.2 KEY-E (WIFI/BT)

NVIDIA CORPORATION

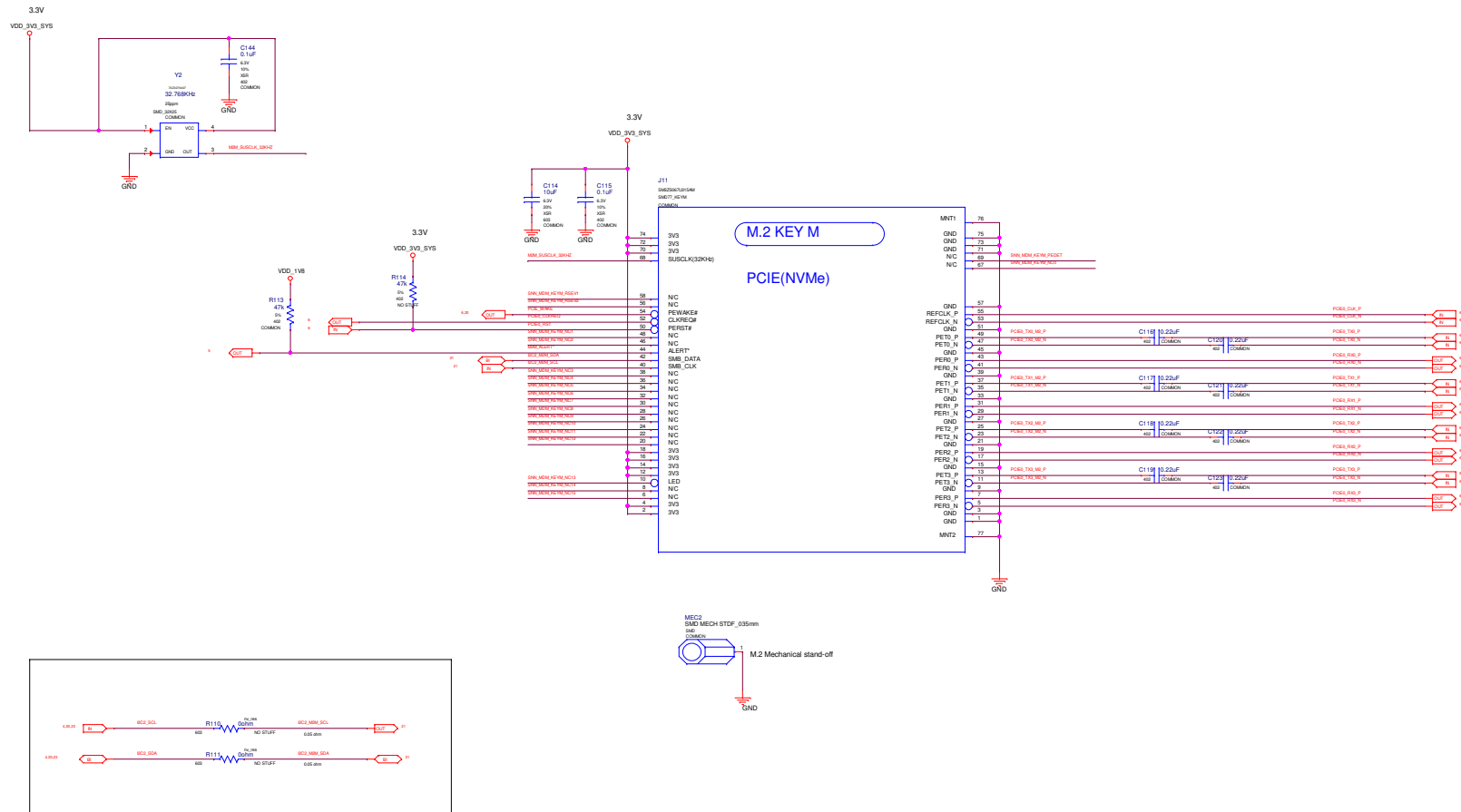
2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100		
PCB REV	P3509-A01	PAGE	20 OF 25
BOM REV	<BOM_REV>	DATE	27-NOV-2019

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.

# M.2 KEY-M (NVME)

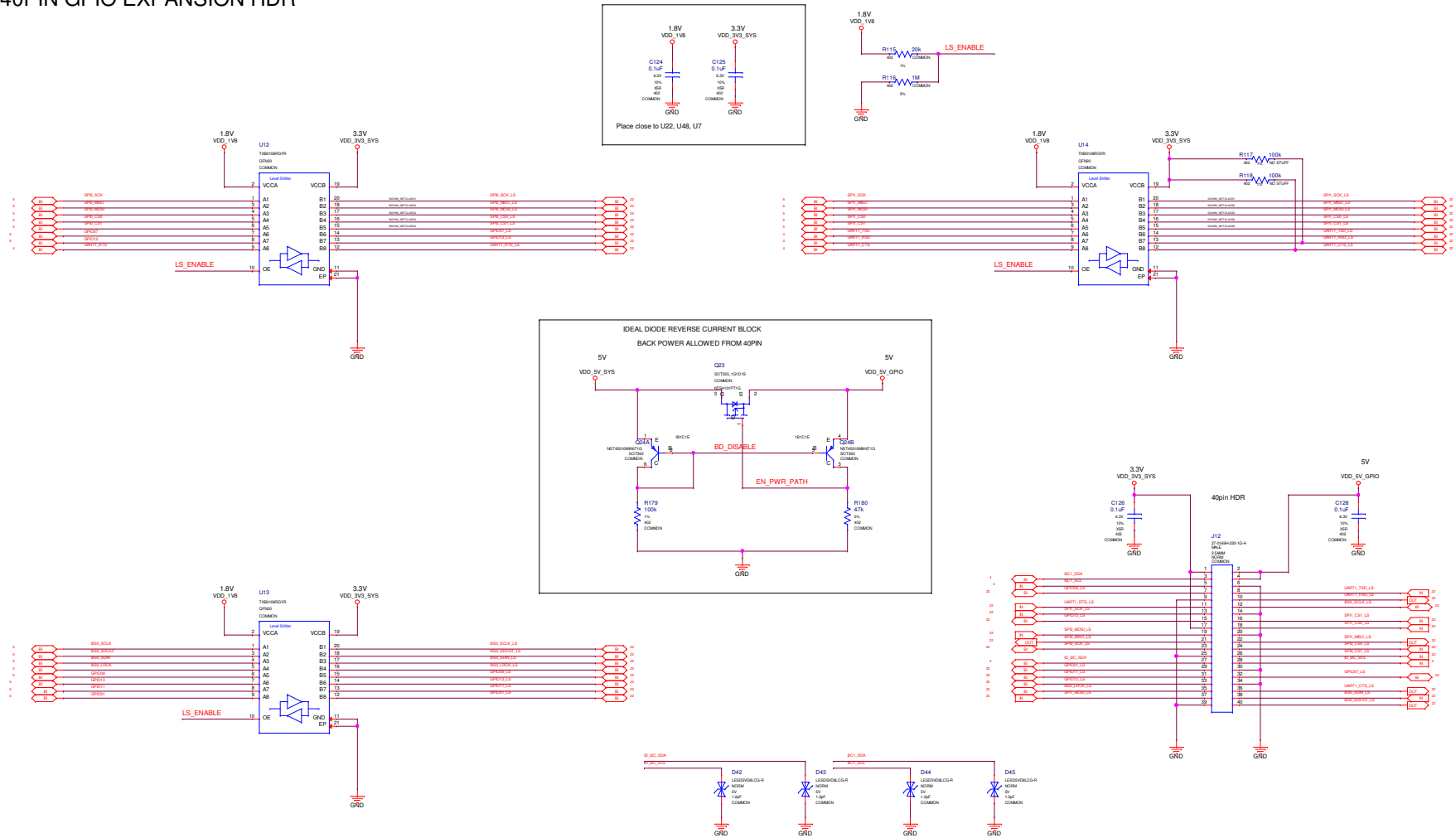


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO 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.

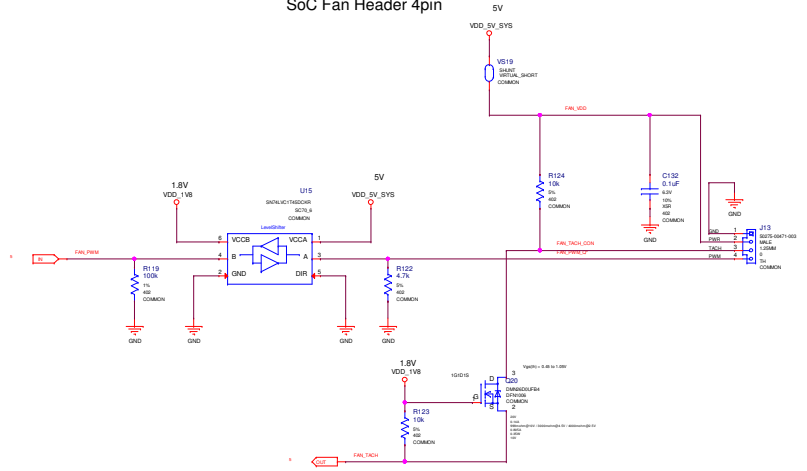
ASSEMBLY	ASSEMBLY DESCRIPTION
PCB DETAIL	M.2 KEY-M (NVME)

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95058, USA			
NV_PN	600-13509-BASE-100		
PCB REV	P3509-AD1	PAGE	21 OF 25
BOB REV	<BOB_REV>	DATE	27-NOV-2019

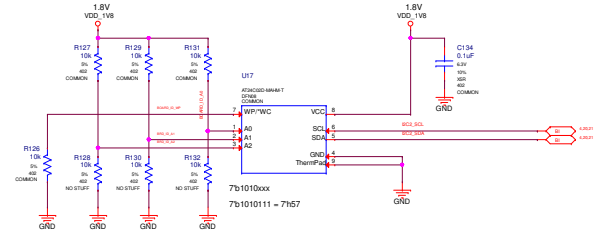
40PIN GPIO EXPANSION HDR



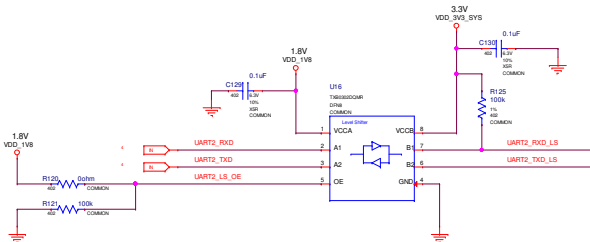
### SoC Fan Header 4pin



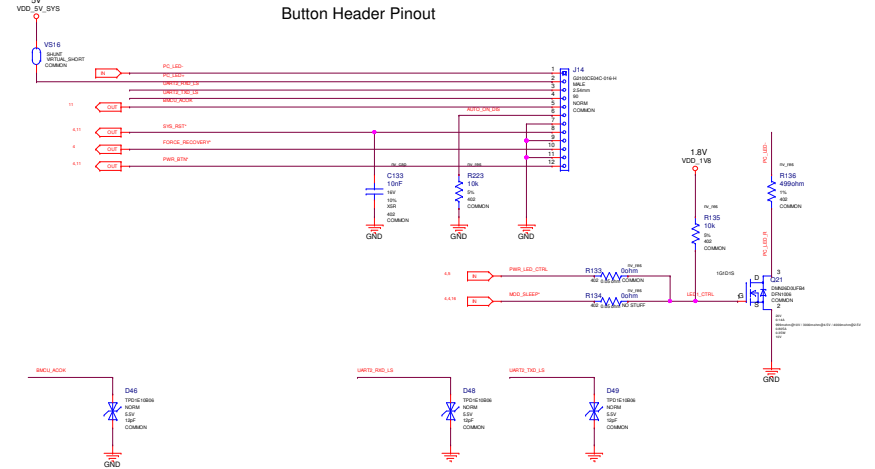
### Carrier board config



### Serial Port



### Button Header Pinout



### NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



NV_PN	600-13509-BASE-100
PCB REV	P3509-AD1
BCM REV	<BCM_REV>
PAGE	25 OF 25
DATE	27-NOV-2019

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.

MEC3A  
PANEL MOUNTING, HELIX  
TO  
COMMON

1

MEC3B  
PANEL MOUNTING, HELIX  
TO  
COMMON

2

10V

10k

100k

100k

GROUND

ASSEMBLY	=ASSEMBLY DESCRIPTION=	SANTA CLARA, CA 95050, USA	
PAGE DETAIL	MECHANICAL	INV. PN	600-13509-BASE-100
DAY		TDS REV	P3809-001
DISCLAIM ALL		BOCM REV	-BOCM_REV-
STANDARDS.		DATE	27-NOV-2019
		PAGE	34 OF 25

ALL MEDIA 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. MEDIA 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.



REVISION HISTORY

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  
DO NOT  
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		REVISION HISTORY		NV_PN 600-13509-BASE-100	
SCLAIMS		PCB REV P3509 A01		PAGE 25 OF 25	
		BOM REV <BOM_REV>		DATE 27 NOV 2019	