

PG180-A02

256b GDDR6 x16
TALL DP + DP + DP + HDMI/DP + USB

TABLE OF CONTENTS


Page	Description
1	Table of Contents
2	Block Diagram
3	PCI Express
4	PCI Termination
5	MEMORY: GPU Partition A/B
6	MEMORY: FBA Partition 31..0
7	MEMORY: FBA Partition 63..32
8	MEMORY: FBB Partition 31..0
9	MEMORY: FBB Partition 63..32
10	MEMORY: GPU Partition C/D
11	MEMORY: FBC Partition 31..0
12	MEMORY: FBC Partition 63..32
13	MEMORY: FBD Partition 31..0
14	MEMORY: FBD Partition 63..32
15	GPU PWR and GND
16	GPU Decoupling
17	GPU DECOUPLING
18	IFPAB TALL-DP
19	IFPE DP
20	IFPF USBC
21	IFPC HDMI 2.0/DP
22	IFPD DP
23	NVHS INTERFACE
24	MISC: FAN,THERMAL,JTAG,GPIO,STEREO
25	MISC3: ROM, STRAPS

Page	Description
26	MISC: XTAL, PLL
27	MISC: USB PPC
28	PS: USB VR
29	PS: 5V, 5V BACKUP
30	PS: PEXVDD, 1V8
31	PS: FBVDD CONTROLLER
32	PS: FBVDD CONTROLLER OVR3
33	PS: FBVDD PHASE 1, 2
34	PS: NVVDD CONTROLLER OVR8
35	PS: NVVDD Phase 1, 2
36	PS: NVVDD Phase 3, 4
37	PS: NVVDD Phase 5, 6
38	PS: NVVDD Phase 7, 8
39	PS: INPUT SWITCH RTD3
40	PS: INPUT SWITCH RTD3 USB
41	PS: INPUT SWITCH RAIL BALANCE
42	PS: 12V CURRENT STEERING
43	PS: VR THERMAL PROTECTION
44	PS: INPUTS, FILTERING AND MONITORING
45	PS: CURRENT STEERING,HOT UNPLUG DETECT
46	PS: PRE-FILTER
47	SEQUENCE: 5V, 1V8, NV3V3 ENABLE
48	SEQUENCE: NV, PEX, FB ENABLE
49	SEQUENCE: PCIE VOLTAGE MONITOR
50	SEQUENCE: DISCHARGE

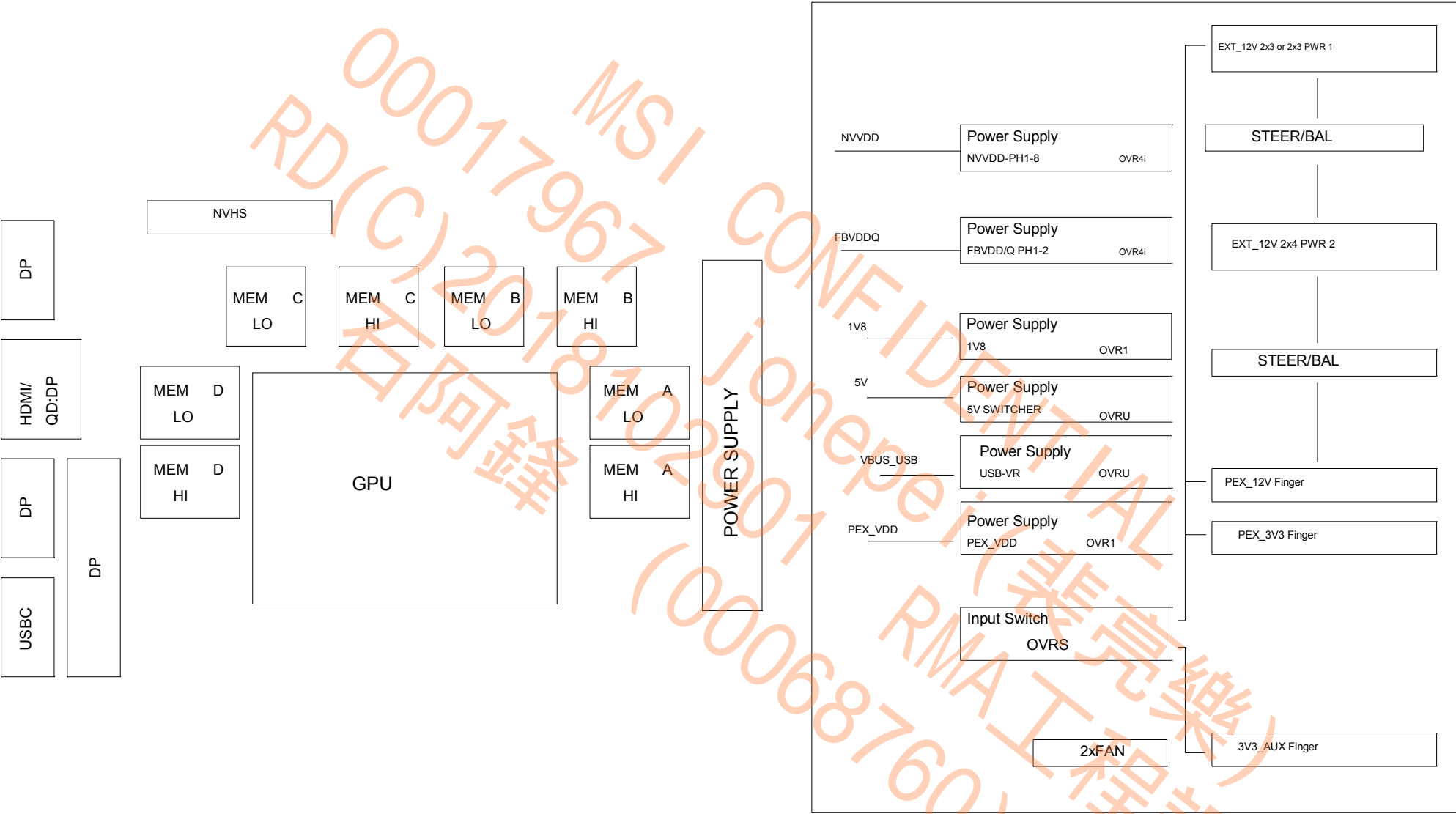
Page	Description
51	SEQUENCE: MISC
52	LED & FAN HEADERS
53	LED 2
54	Mechanical: Bracket/Thermal Solution

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 EXPRESSWAY
SANTA CLARA, CA 95050, USA



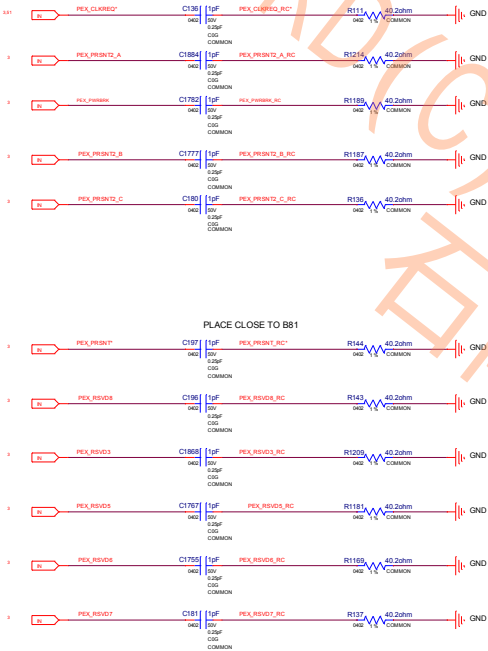
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	1 OF 54
BOM REV	A	DATE	27-JUN-2018



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.

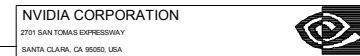
ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE DETAIL	Block Diagram

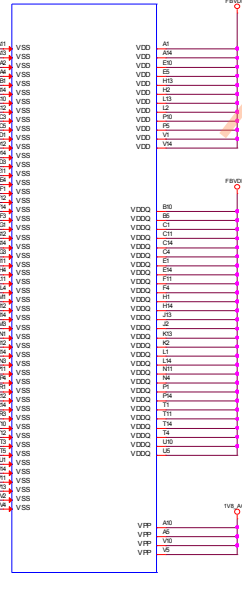
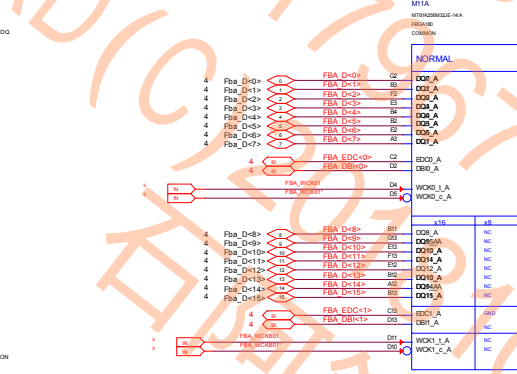
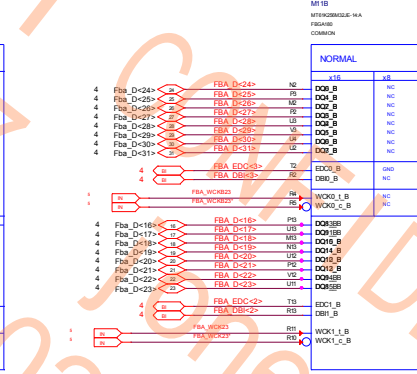
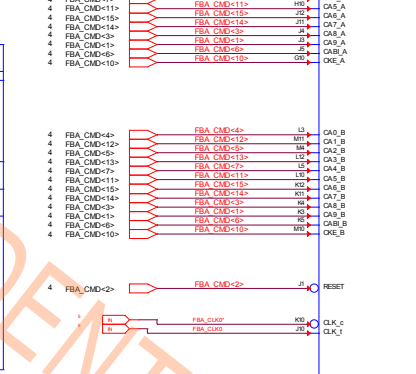
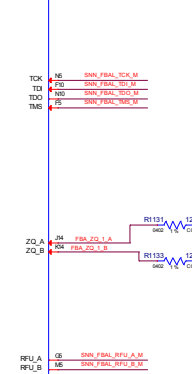
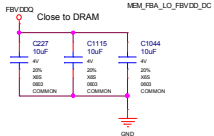
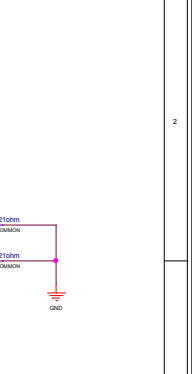
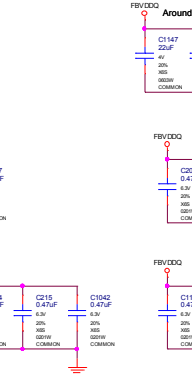
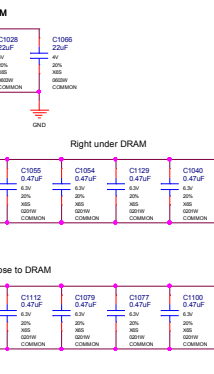
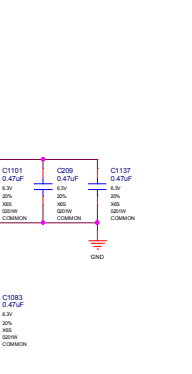
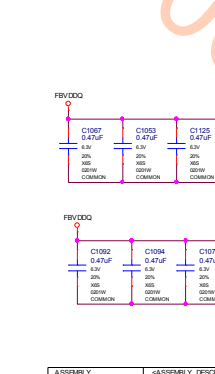
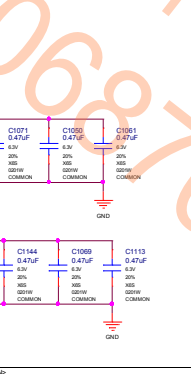
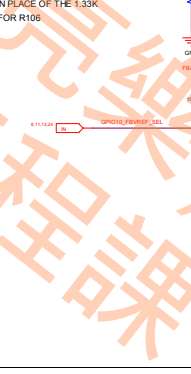
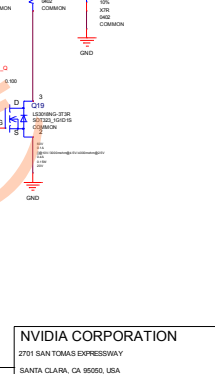
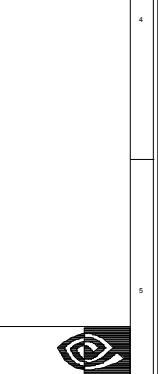
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200	PAGE	2 OF 54
PCB REV	PG180-A02	DATE	27-JUN-2018
BCM REV	A		



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 SANTOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	4 OF 54
ROM REV	A	DATE	27-JUN-2018



M11D
HYPERBOLUS-HA
FBA-HA
COMMONM11A
HYPERBOLUS-HA
FBA-HA
COMMONM11B
HYPERBOLUS-HA
FBA-HA
COMMONM11C
HYPERBOLUS-HA
FBA-HA
COMMONM11D
HYPERBOLUS-HA
FBA-HA
COMMONM11E
HYPERBOLUS-HA
FBA-HA
COMMONM11A
HYPERBOLUS-HA
FBA-HA
COMMONM11B
HYPERBOLUS-HA
FBA-HA
COMMONM11C
HYPERBOLUS-HA
FBA-HA
COMMONM11D
HYPERBOLUS-HA
FBA-HA
COMMONM11E
HYPERBOLUS-HA
FBA-HA
COMMONM11F
HYPERBOLUS-HA
FBA-HA
COMMONM11G
HYPERBOLUS-HA
FBA-HA
COMMONM11H
HYPERBOLUS-HA
FBA-HA
COMMONM11I
HYPERBOLUS-HA
FBA-HA
COMMON

ALL NVIDIA DESIGN 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 DEFICIENCIES 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

NVIDIA CORPORATION

2701 SANTA TOMAS EXPRESSWAY

SANTA CLARA, CA 95050, USA

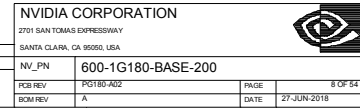
NV_PN 600-1G180-BASE-200

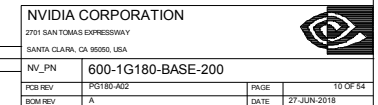
FCB REV PG180-A02

ROM REV A


PAGE 6 OF 54

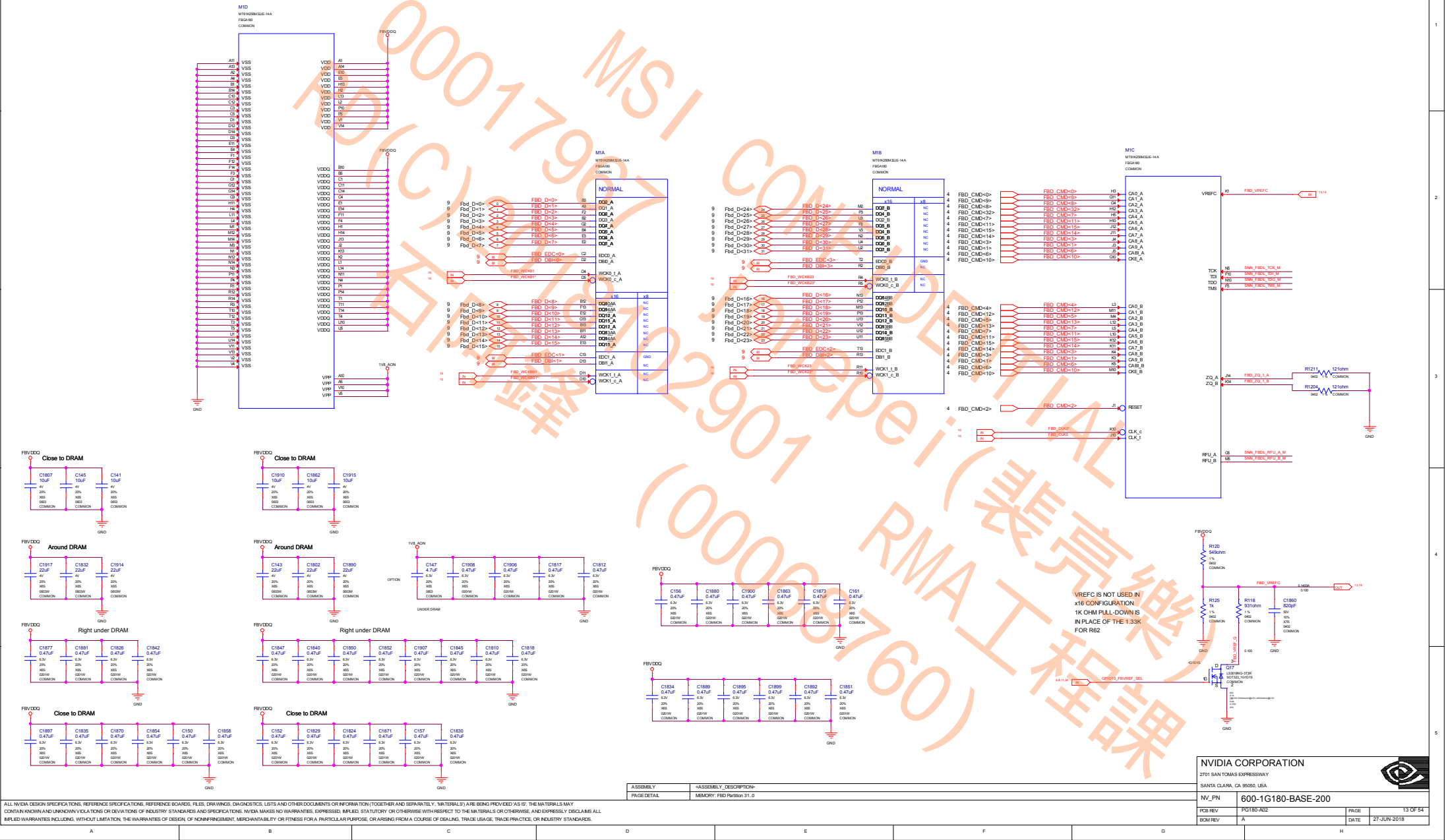
DATE 27-JUN-2018







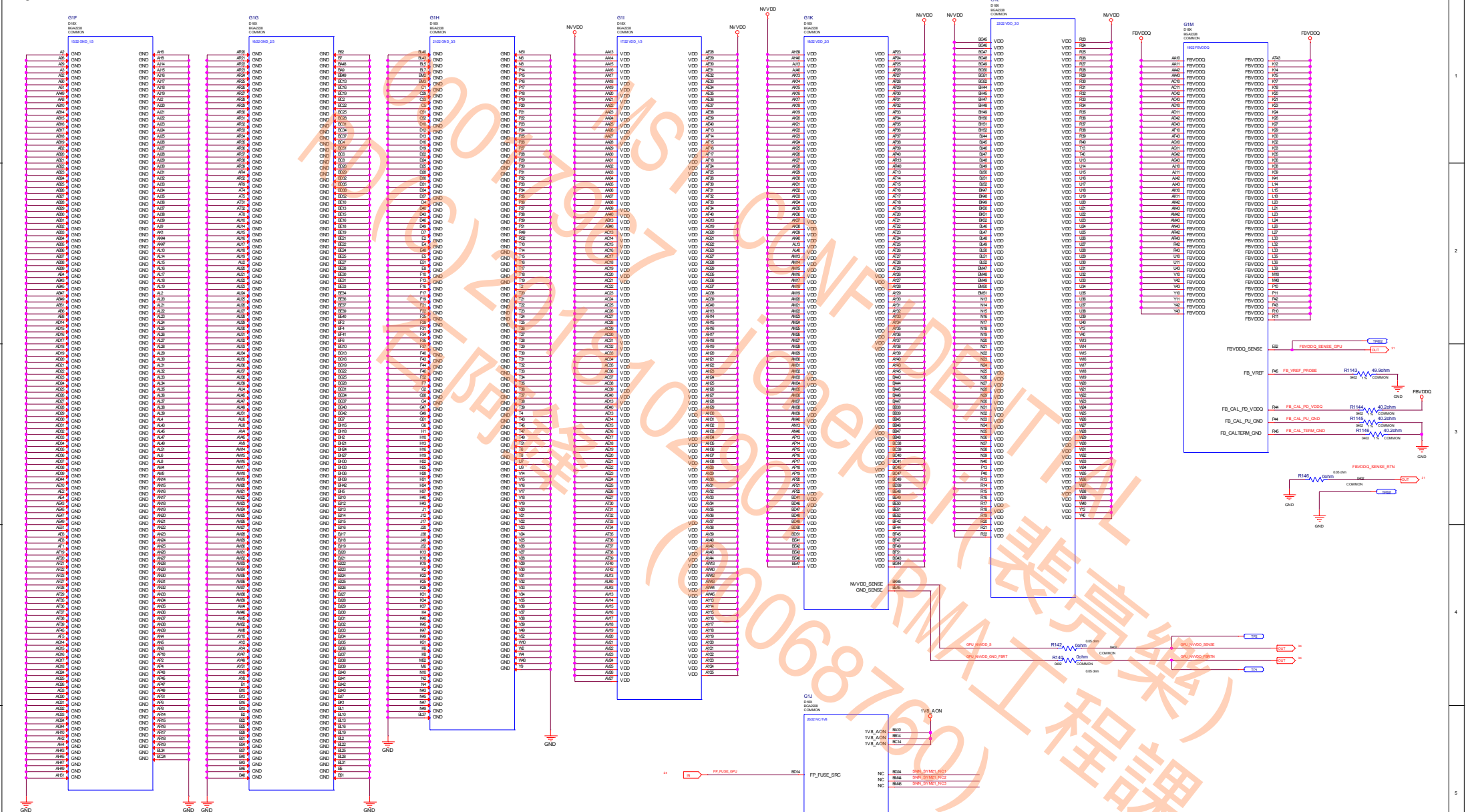
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	12 OF 54
ROM REV	A	DATE	27-JUN-2018




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 DEFICIENCIES 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, TRADE USABLE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MEMORY: FBD Partition 31..0

NVIDIA CORPORATION	
2701 SANTA ROSA EXPRESSWAY	
SANTA CLARA, CA 95050, USA	
NV_PN	600-G180-BASE-200
PCB REV	P0180-A02
ROM REV	A
PAGE	13 OF 54
DATE	27-JUN-2018



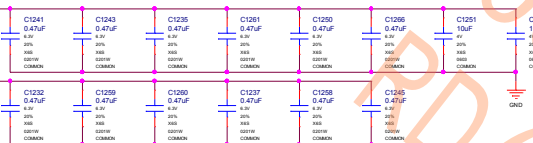
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	GPU PWR and GND

NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	15 OF 54
BOM REV	A	DATE	27-JUN-2018

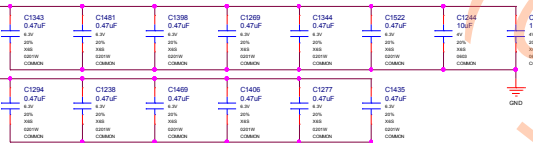
NVVDD

FBVDDQ

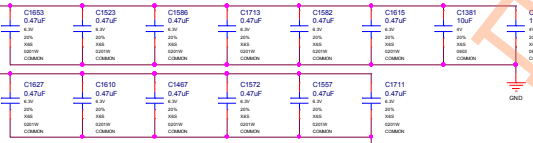
Partition A



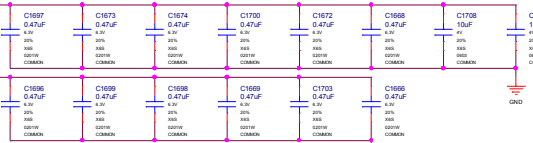
Partition B



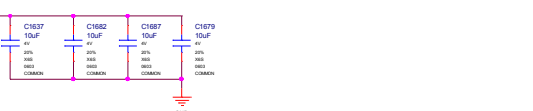
Partition C



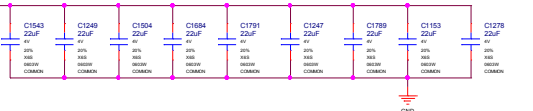
Partition D



Place Close to GPU



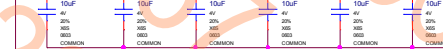
Place Close to GPU



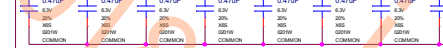
nv_sdp



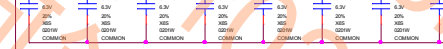
nv_sdp



nv_sdp



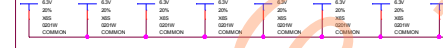
nv_sdp



nv_sdp



nv_sdp



nv_sdp



nv_sdp



nv_sdp



nv_sdp



032-0532-000

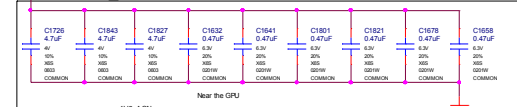
X85

0805

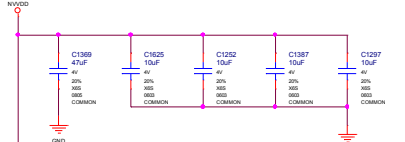
ASSEMBLY	ASSEMBLY DESCRIPTION
GPU Decoupling	

GPU Decoupling	
----------------	--

1V8_AON



NVVDD



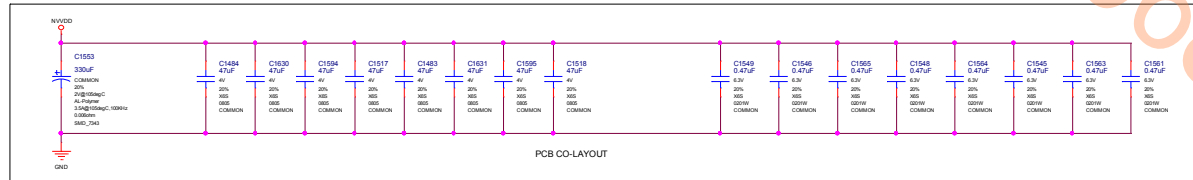
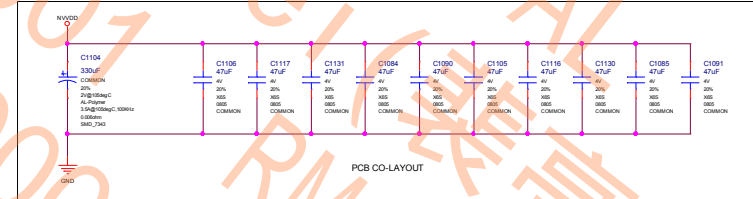
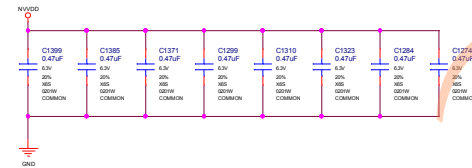
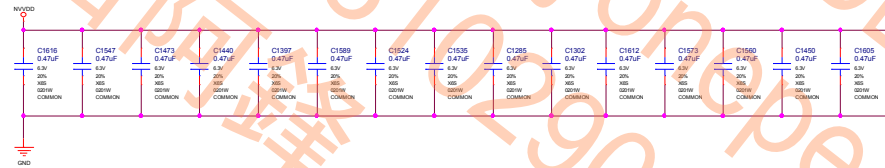
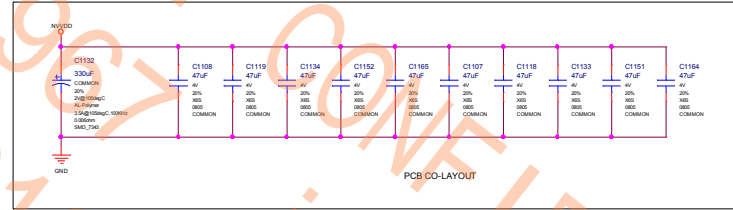
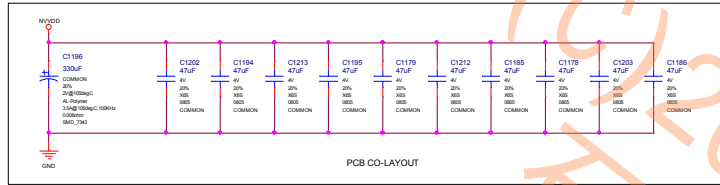
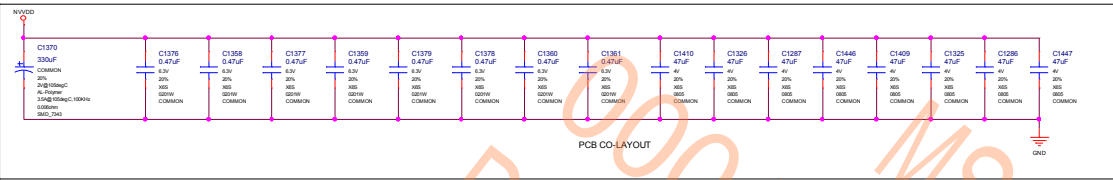
NVIDIA CORPORATION

2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

600-IG180-BASE-200

ICB REV	PG180-A02	PAGE	18 OF 54
ROM REV	A	DATE	27-JUN-2018

ALL NVIDIA DESIGN 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 DEFECTS 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	GPU DECOUPLING

NVIDIA CORPORATION

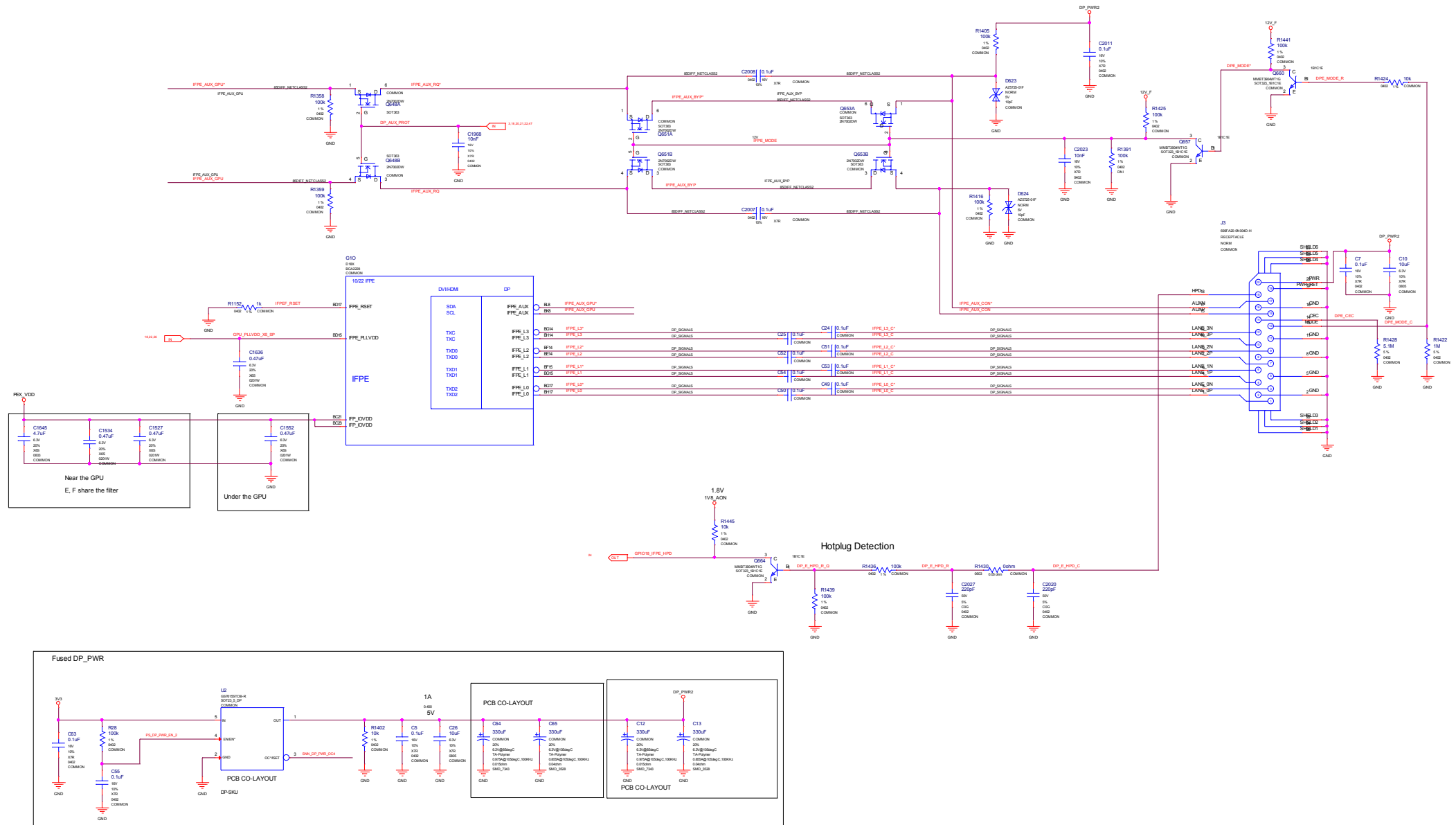
2701 SANTANA EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN 600-1G180-BASE-200

PCB REV	PG180-A02	PAGE	17 OF 54
BOIM REV	A	DATE	27-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.



NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN 600-1G180-BASE-200

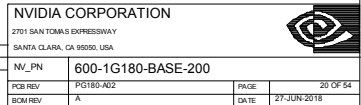
PCB REV PG180-A02

BOM REV A

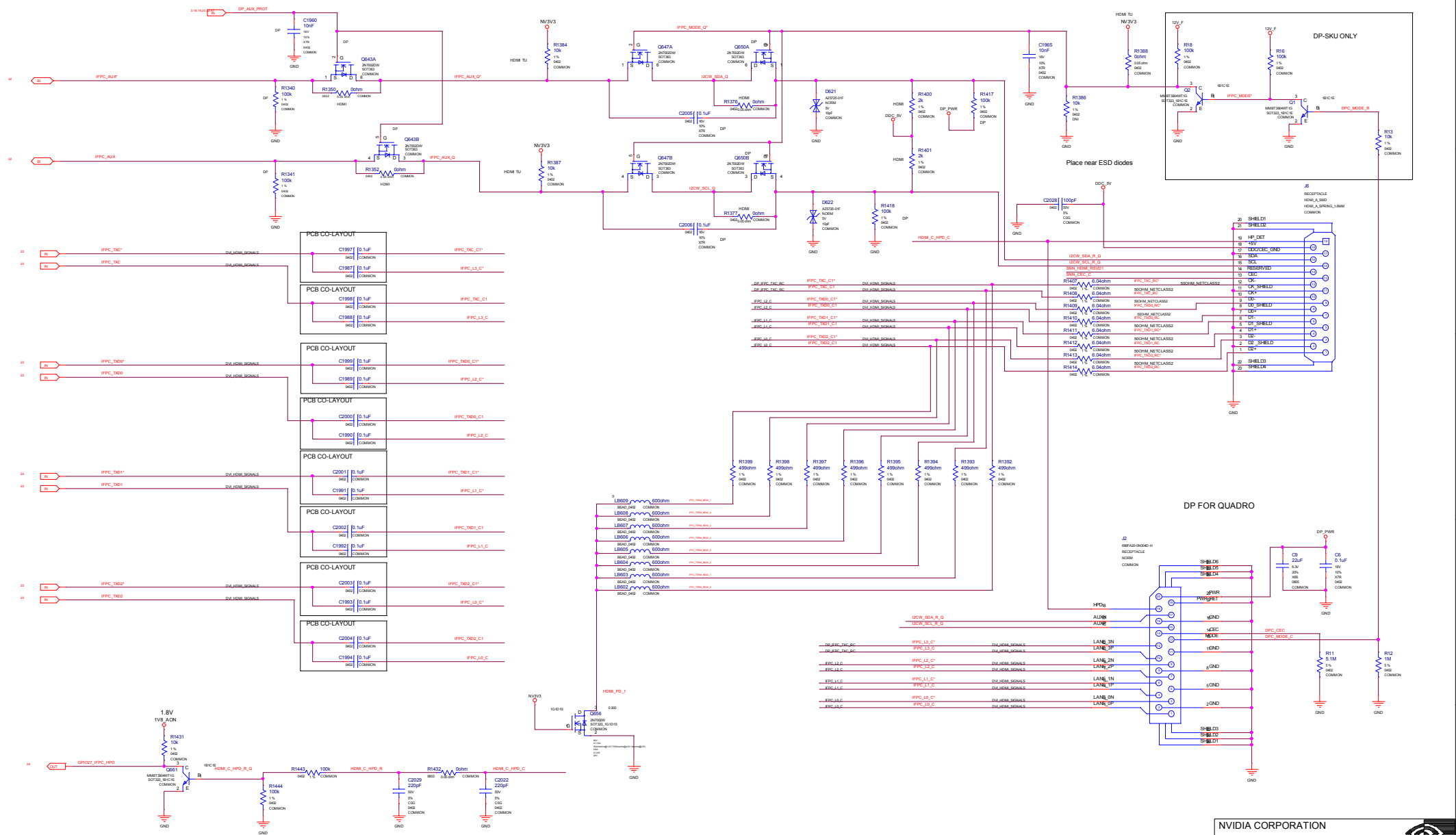
PAGE 19 OF 54

DATE 27-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, ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	IPF USBC



ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS 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.

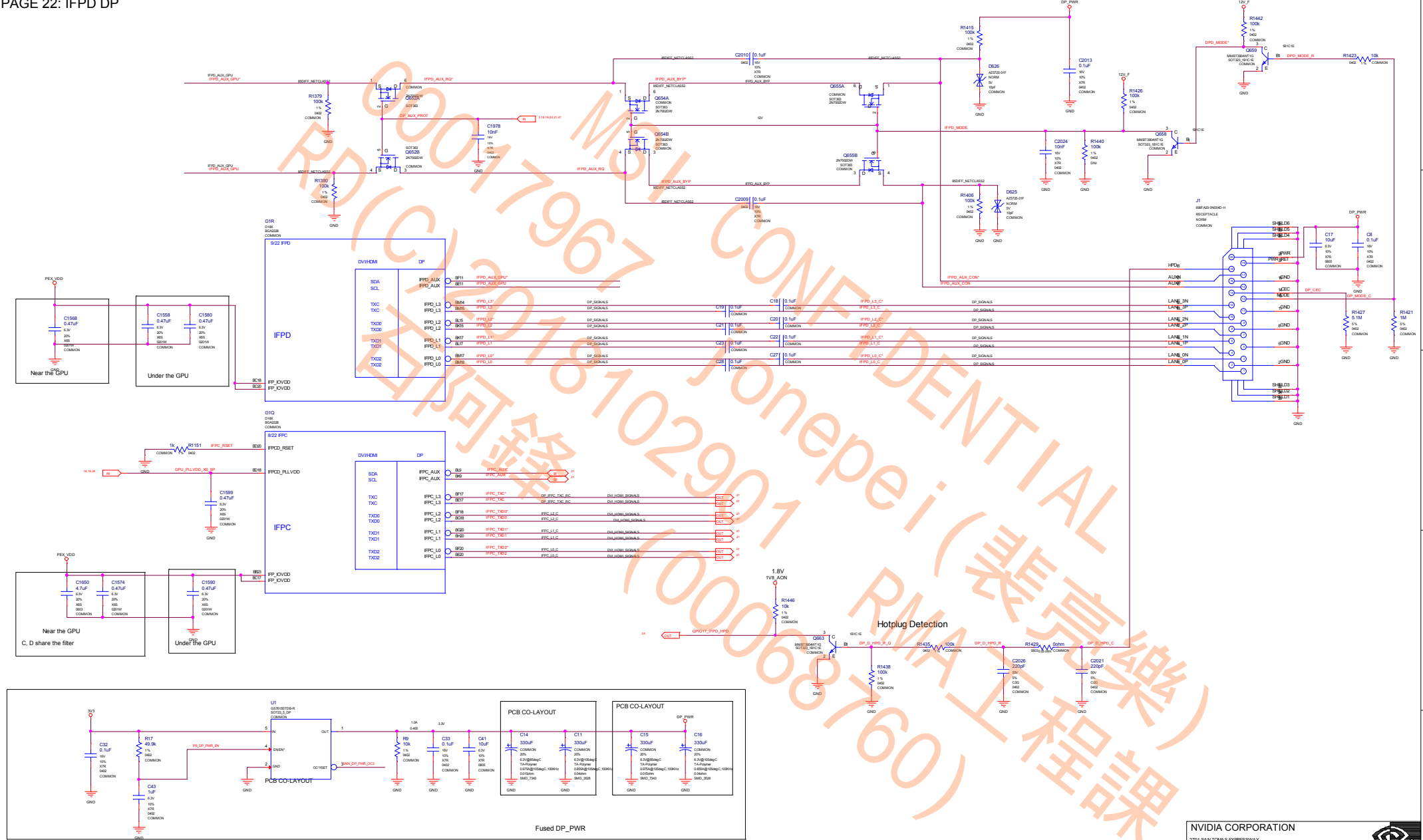
ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE DETAIL	IFPC HDMI 2.0/DP

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



NV_PN 600-IG180-BASE-200

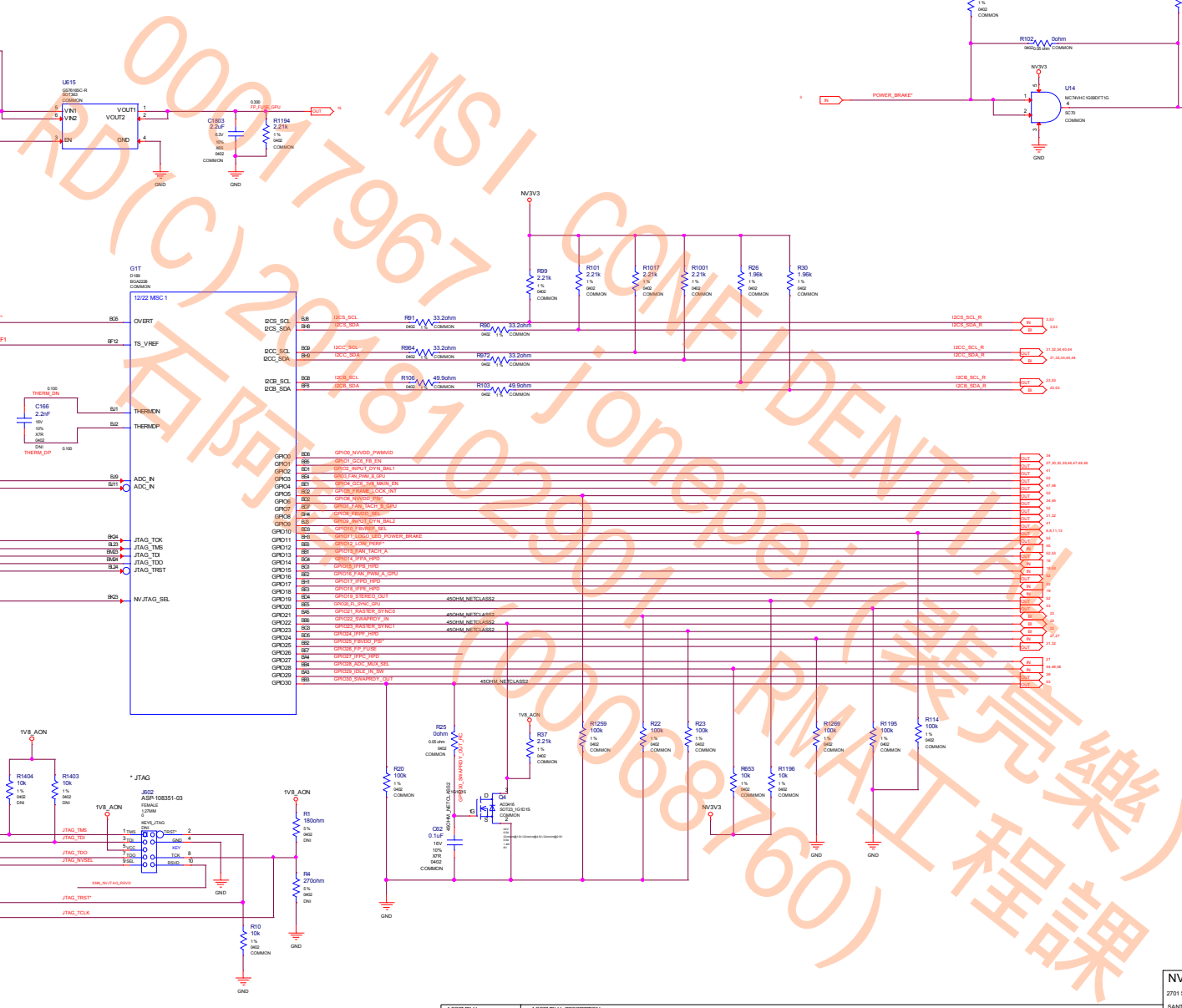
PCB REV	PCB180-A02	PAGE	21 OF 54
ROM REV	A	DATE	27 JUN 2018



ASSEMBLY		ASSEMBLY DESCRIPTION	
PAGE DETAIL		IFPD DP	

NVIDIA CORPORATION		2701 SAN TOMAS EXPRESSWAY	
SANTA CLARA, CA 95050, USA		PAGE	
NV_PN		600-1G180-BASE-200	
PCB REV		PG180-A02	
BOM REV		A	
DATE		27-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, ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.



ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	MISC: FAN,THERMAL,JTAG,GPIO,STEREO

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

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

DEFAULT

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

DEFAULT

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

1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE

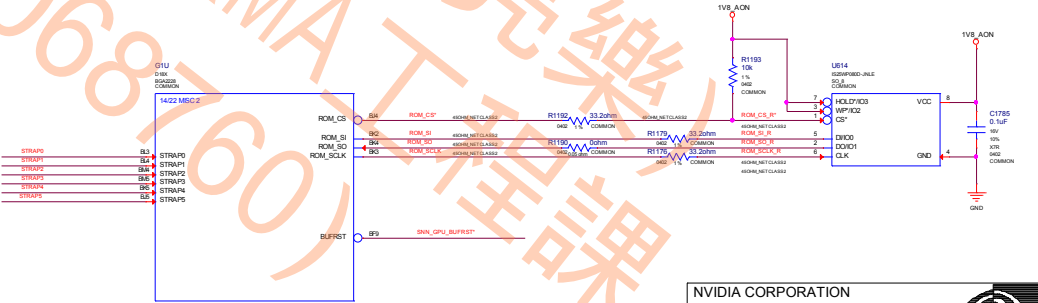
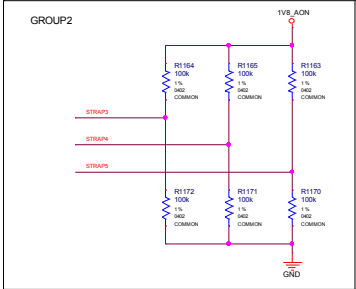
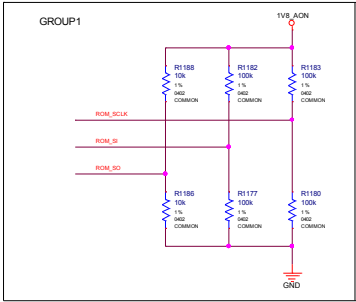
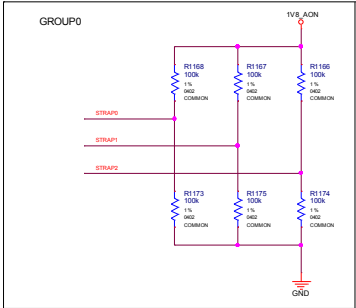
1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGINAL

1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER

1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE

Default

RAMCFG[4:0]	DENSITY	WIDTH	VENDOR
00000	8Gb	256-bit	Samsung
00001	8Gb	256-bit	Micron
00010	8Gb	256-bit	Hynix
00110	16Gb	256-bit	Samsung
00111	16Gb	256-bit	Samsung



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.

NVIDIA CORPORATION

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN

600-1G180-BASE-200

PCB REV

PG180-A02

ROM REV

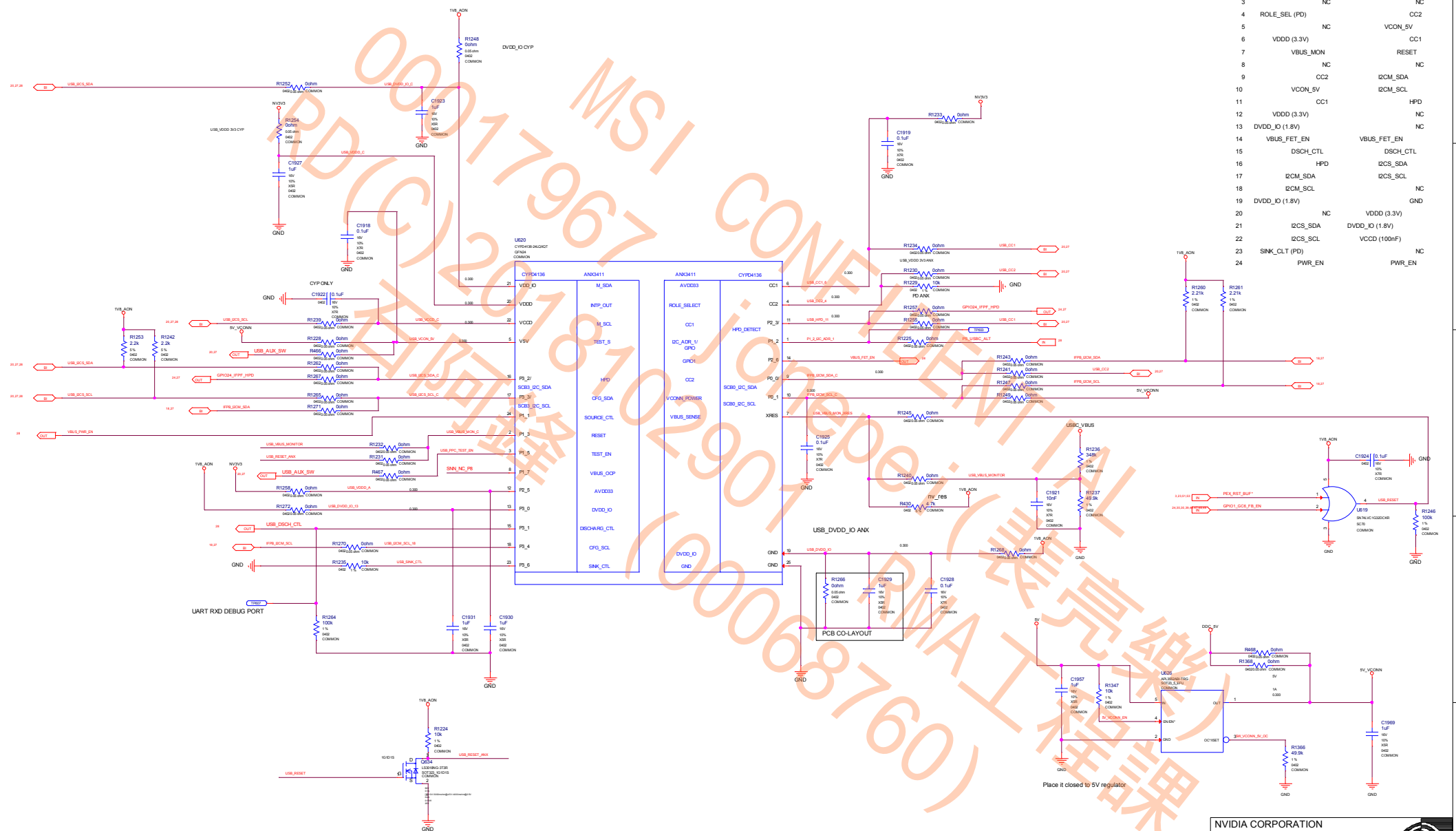
A


PAGE

25 OF 54

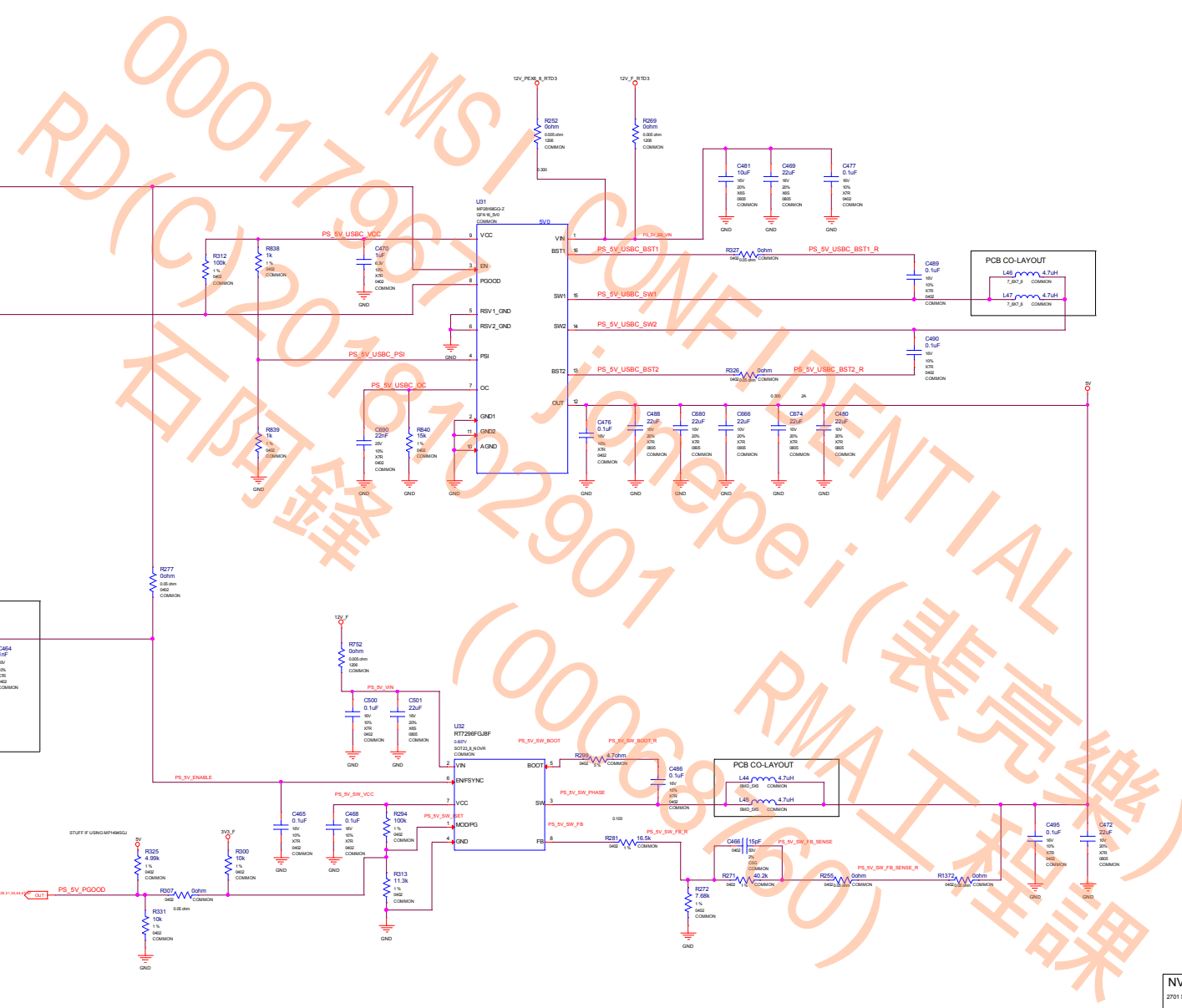
DATE

27-JUN-2018



NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
NV_PN		600-1G180-BASE-200	
PCB REV	PG180-A02	PAGE	27 OF 54
BOM REV	A	DATE	27-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
PAGE DETAIL	PS: 5V, 5V BACKUP

SANTA CLARA, CA 95050, USA

NV_PN	600-1G180-BASE-200
-------	--------------------

PCB REV	PG180-A02	PAGE	29 OF 54
BOM REV	A	DATE	27-JUN-2018

[illegible]

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 VULNERABILITIES 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.



SANTA CLARA, CA 95050, USA

PCB REV	PG180-A02
---------	-----------

BCM REV	A	DATE	27-JUN-2018
---------	---	------	-------------

			H		
--	--	--	---	--	--



SANTA CLARA, CA 95050, USA


PCB REV	PG180-A02
---------	-----------

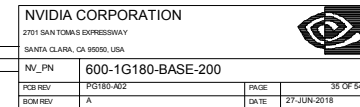
PCB REV	PG180-A02
---------	-----------

BCM REV	A
---------	---

--	--

Figure 10 is a schematic diagram of the power supply and PLL_VIN0 input circuit. The diagram shows a multi-stage voltage divider network starting from a 5V input. The first stage uses a 10k resistor (R225) and a 100k resistor (R226) to create a 0.5V reference. This is followed by a series of 10k resistors (R227-R238) and 100k resistors (R239-R250) connected to a common rail. The output of this network is connected to the PLL_VIN0 pin. The diagram also shows the connection of the PLL_VIN0 pin to the PLL_VIN0_0V1 pin. The input voltage is 5V, and the output voltage is 0.5V.

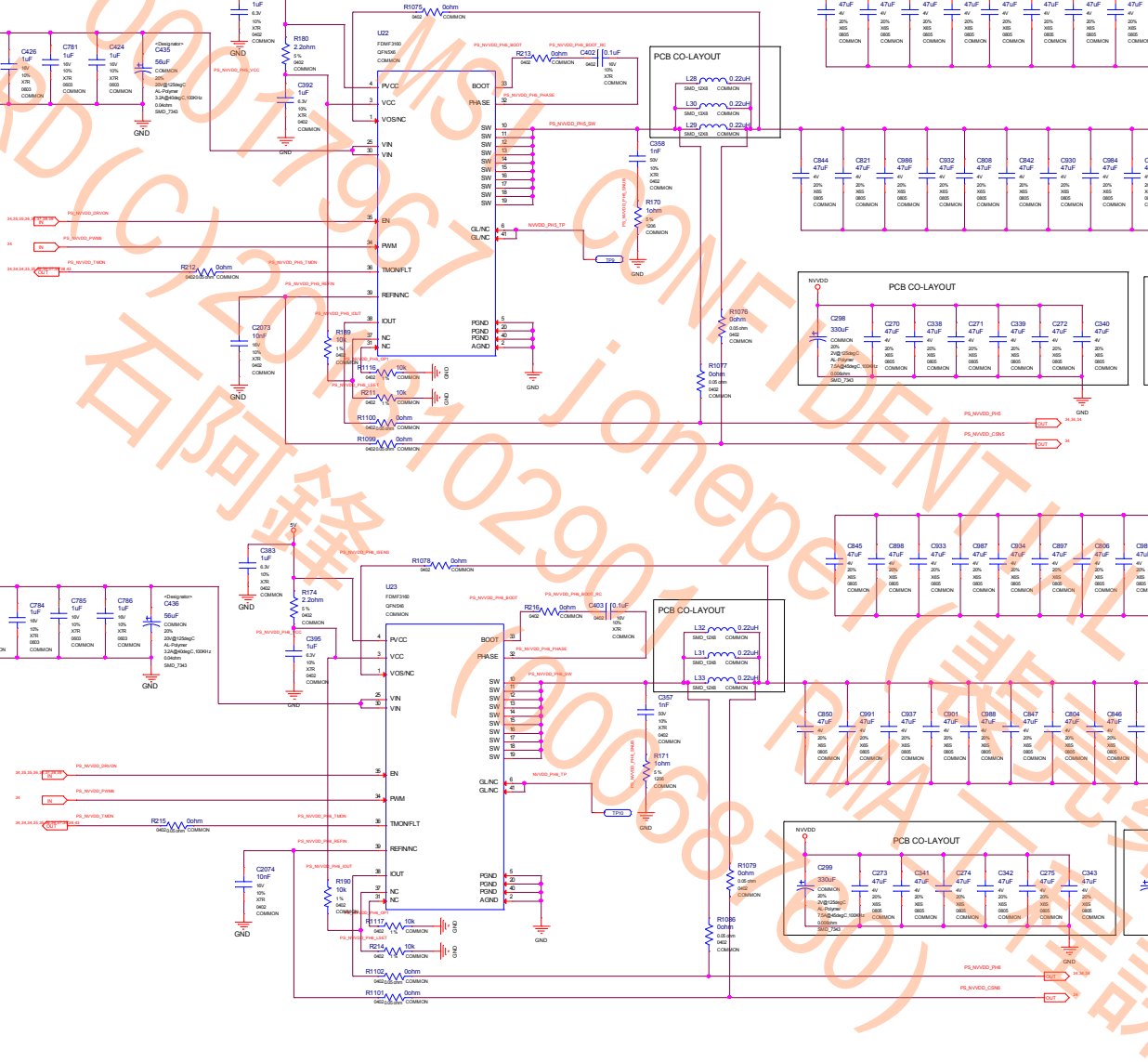
NVIDIA CORPORATION				
2701 SAN TOMAS EXPRESSWAY				
SANTA CLARA, CA 95050, USA				
NV_PN	600-1G180-BASE-200			
PCB REV	PG180-A02	PAGE	34 OF 54	
BOM REV	A	DATE	27-JUN-2018	





NV_PN	600-1G180-BASE-200
-------	--------------------

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: NV/DO Phase 3, 4



NV_PN	600-1G180-BASE-200
-------	--------------------

PG180-REV	PG180-A02
-----------	-----------

PCB REV	FG1807A02
BOM REV	A

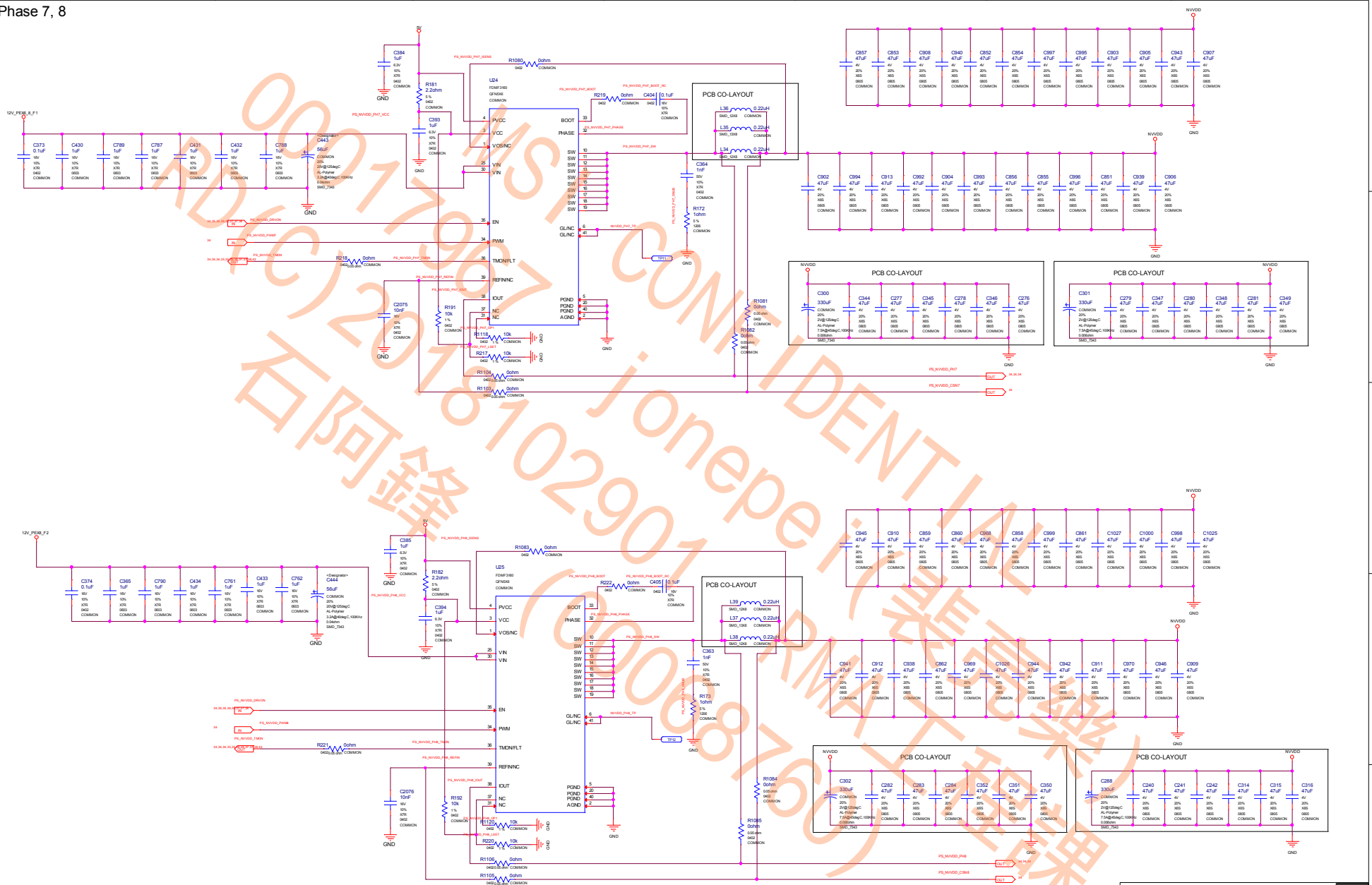
2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418</
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	--------

--	--

PAGE	37 OF 54
DATE	27-JUN-2018

DATE	
------	--

ASSEMBLY	<ASSEMBLY_DESCRIPTION
PAGE DETAIL	PS: N/VCD Phase 5, 6



ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE DETAIL	PS: NVVDD Phase 7, 8

NVIDIA CORPORATION

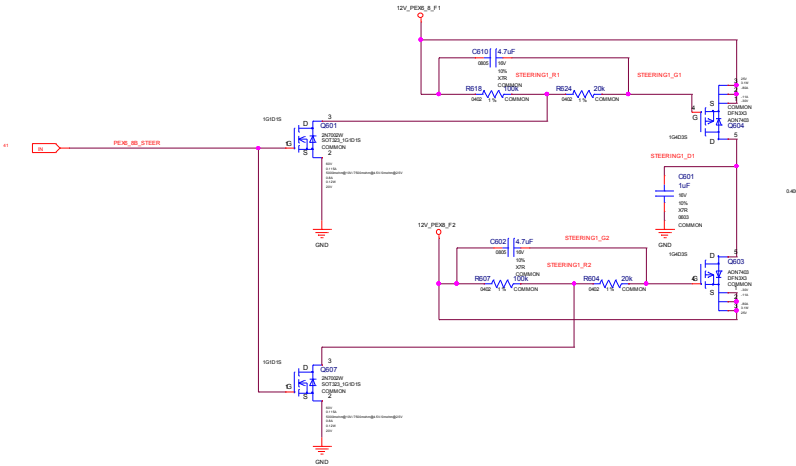
2701 SANTOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN 600-IG180-BASE-200

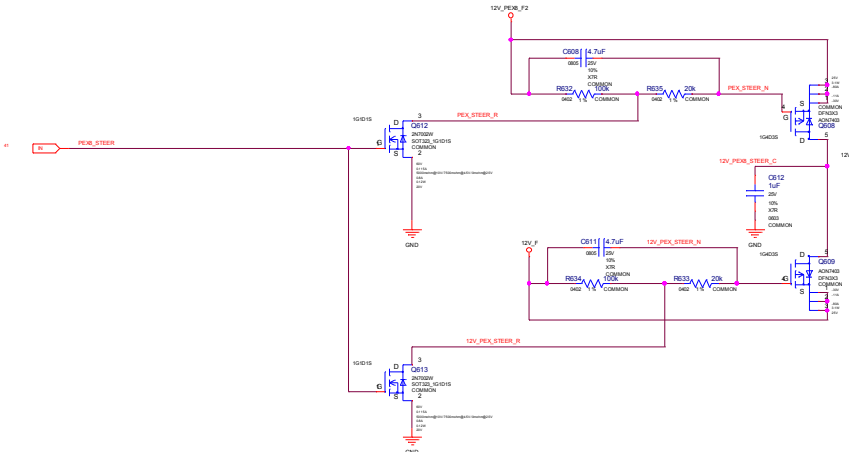
PCB REV	PG180-A02	PAGE	38 OF 54
ROM REV	A	DATE	27-JUN-2018

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.

12V CURRENT STEERING (UNDER POWER BOOT):
GUIDES CURRENT FROM PEX EDGE TO PEX 6/8 PIN INPUT AREA



12V CURRENT STEERING (UNDER POWER BOOT):
GUIDES CURRENT FROM PEX EDGE TO PEX 8 PIN INPUT AREA



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	PS: 12V CURRENT STEERING

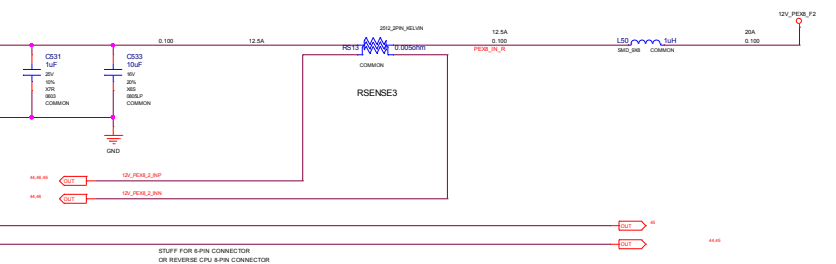
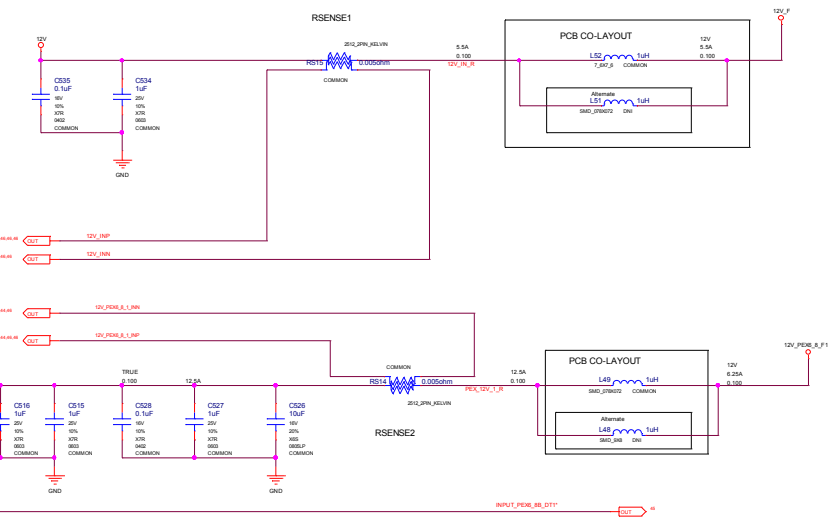
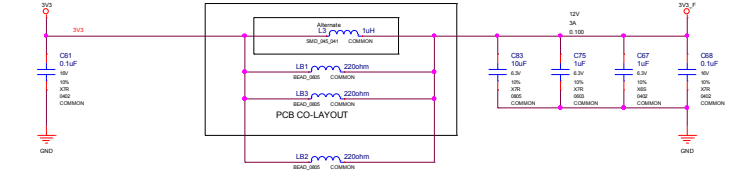
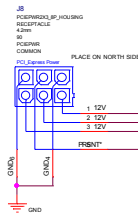
NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	42 OF 54
BCM REV	A	DATE	27-JUN-2018




ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: VR THERMAL PROTECTION

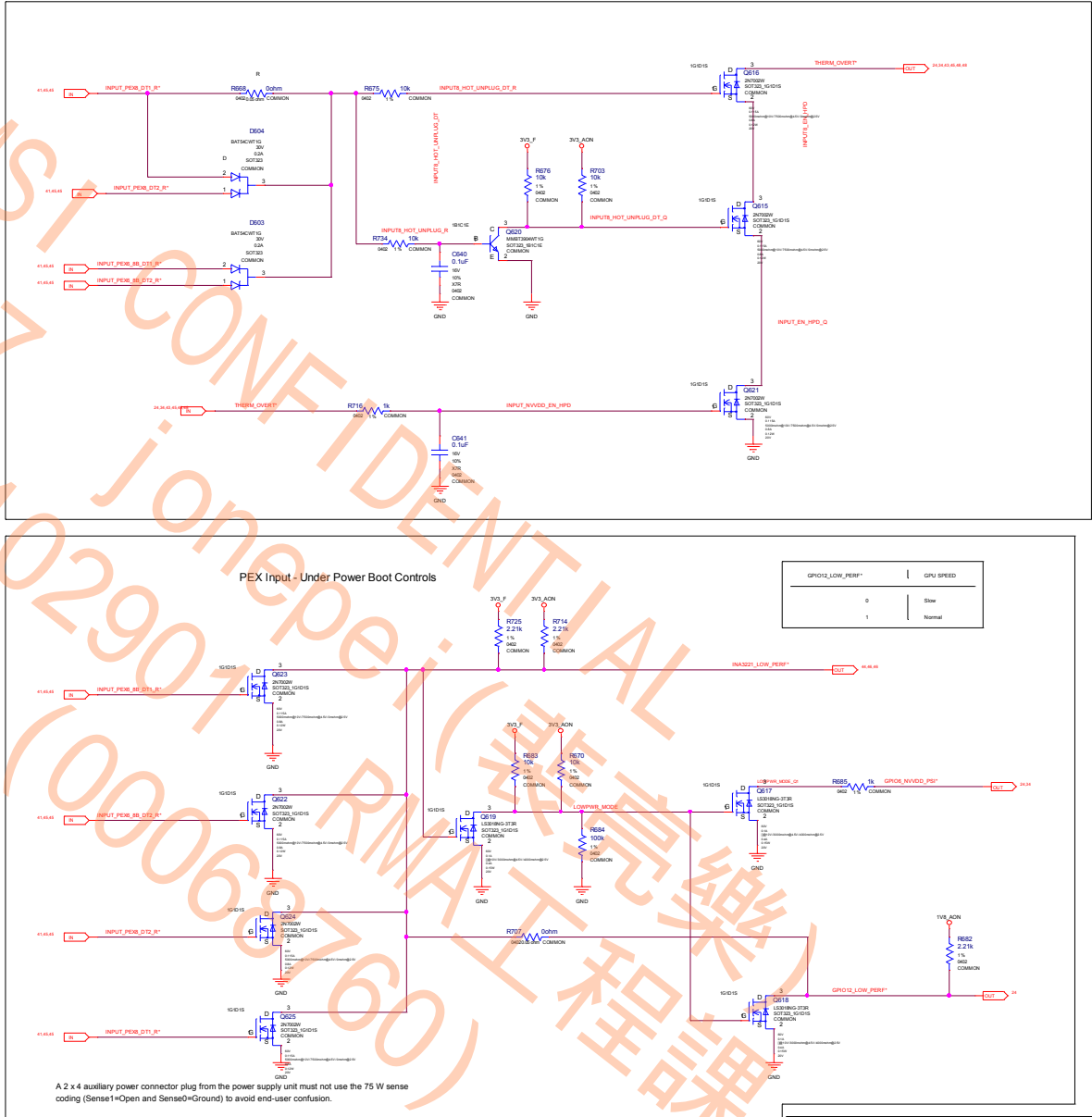
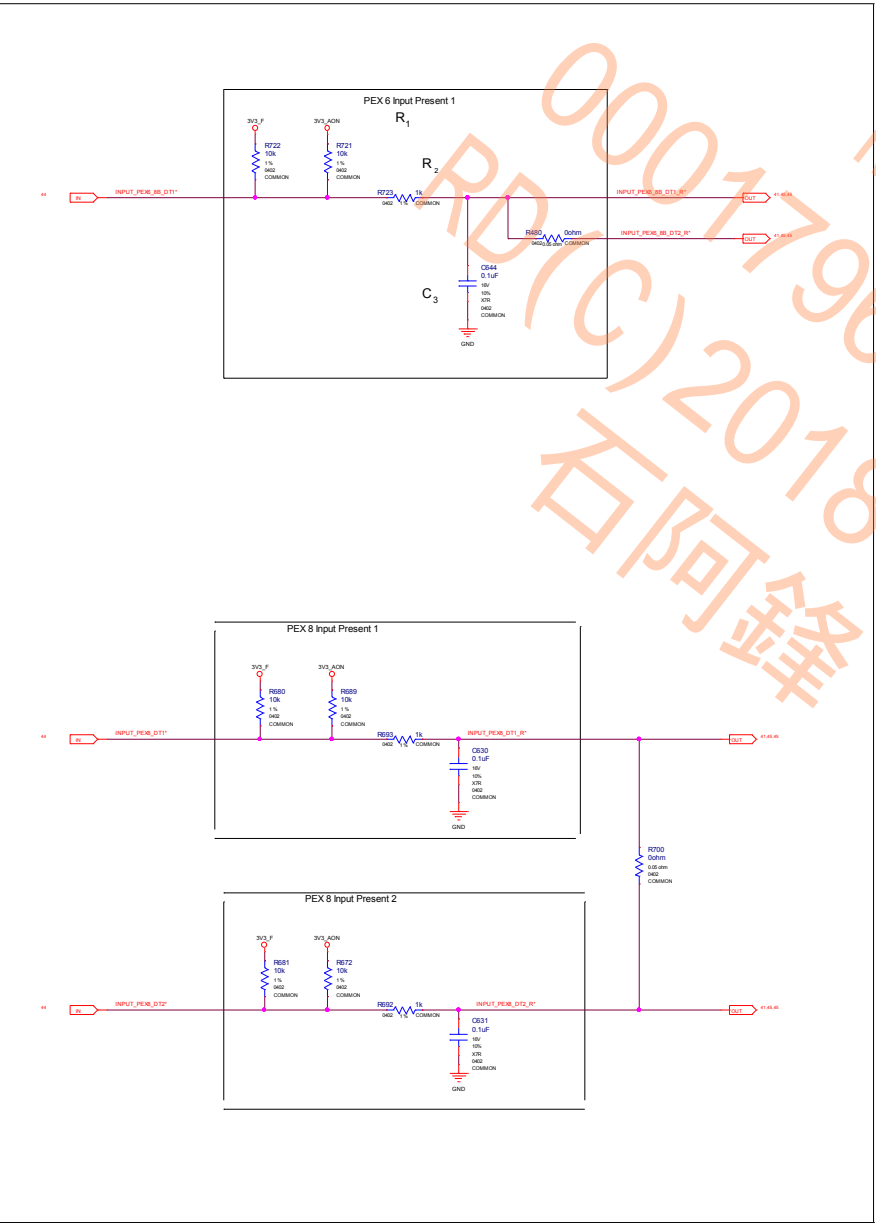
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS 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		600-1G180-BASE-200		
PCB REV		PG180-A02		PAGE
BOM REV		A		44 OF 54 DATE
				27-JUN-2018



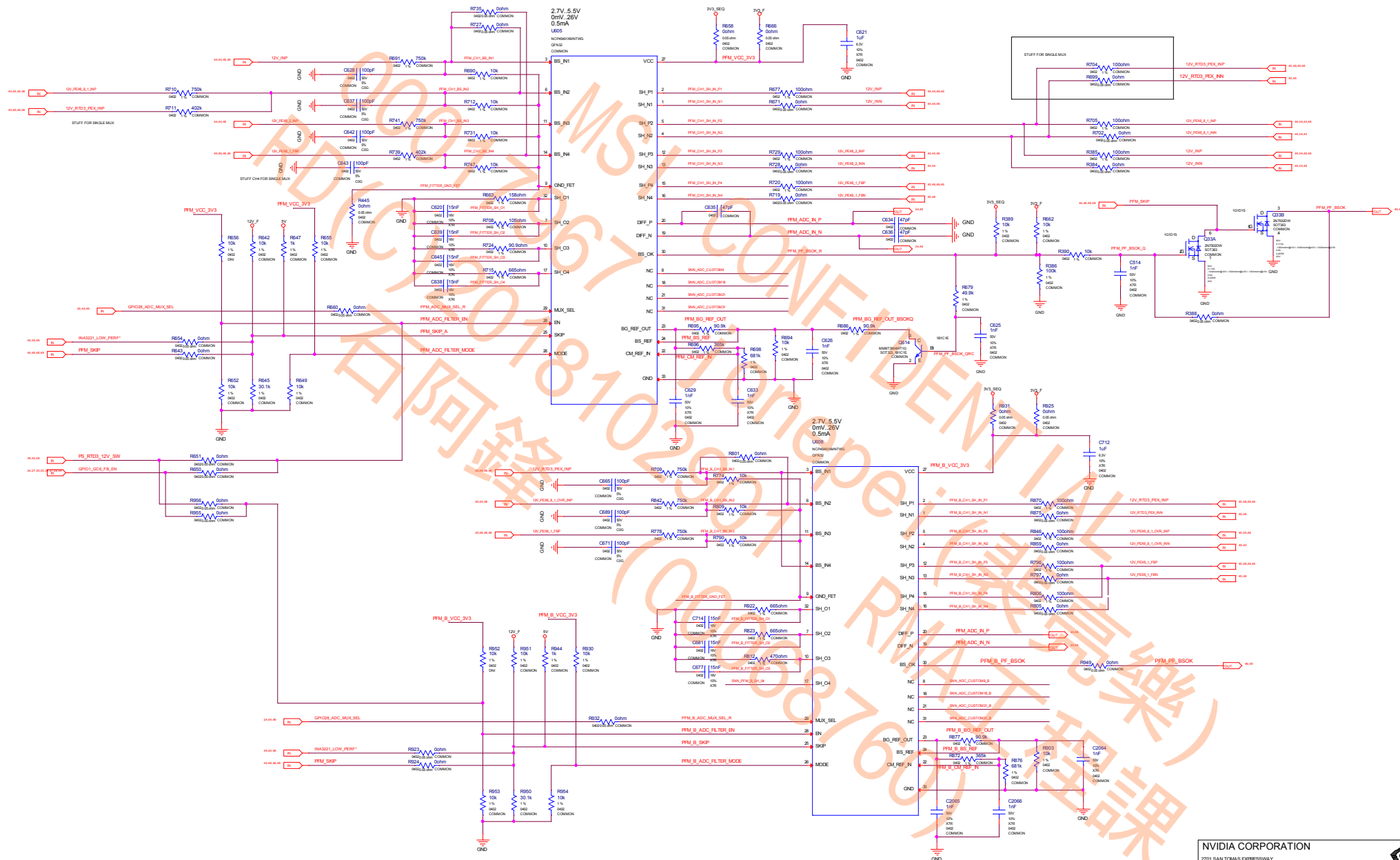


ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE MATERIALS 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 STEERING, HOT UNPLUG DETECT

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	45 OF 54
BCM REV	A	DATE	27-JUN-2018

STUFF IF USING 2XMUX



ASSEMBLY	ASSEMBLY DESCRIPTION
PAGE: 0001	PS: PRE-FILTER

NVIDIA CORPORATION

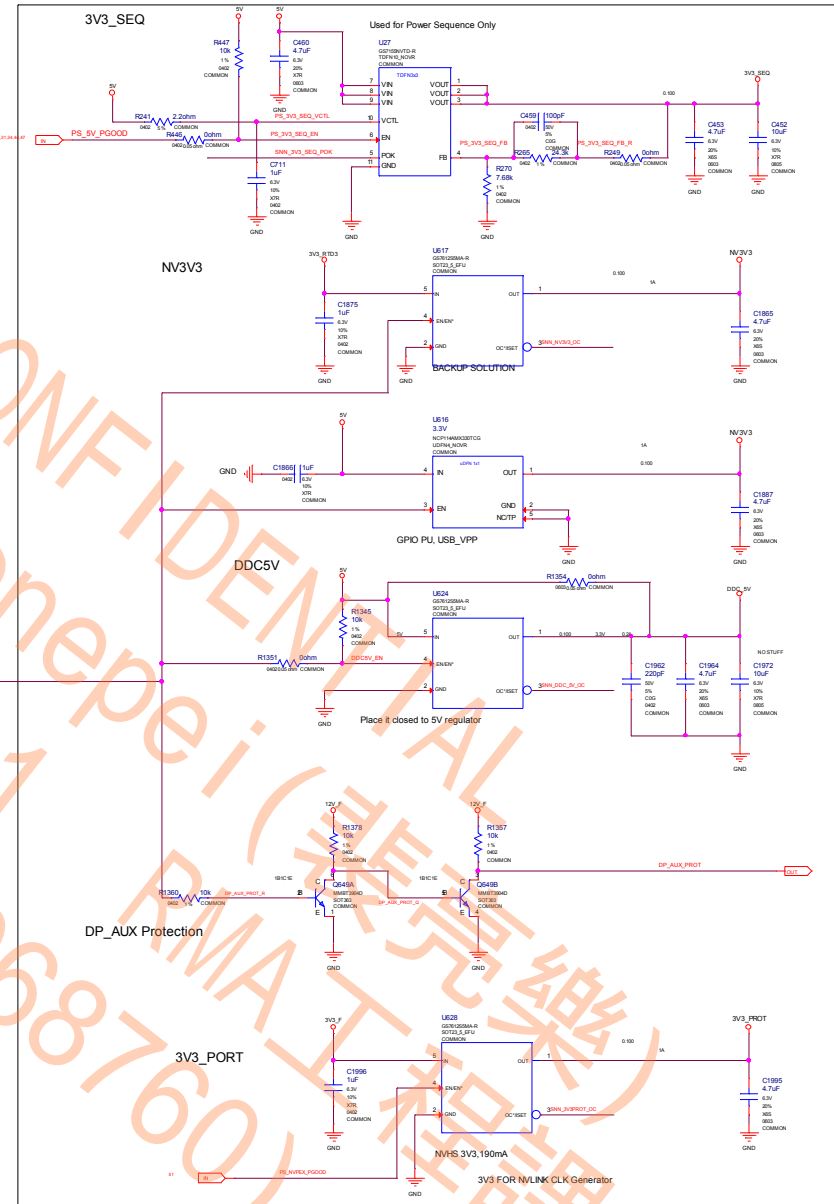
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA


NV_PN 600-1G180-BASE-200

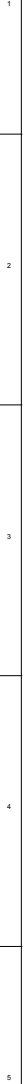
PCB REV PG180-A02
DATE 27-JUN-2018

PAGE 46 OF 54

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, 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		600-1G180-BASE-200	
PCB REV	PG180-A02	PAGE	47 OF 54
BOM REV	A	DATE	27-JUN-2018



NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	48 OF 54
BOM REV	A	DATE	27-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, EXPRESS, 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.

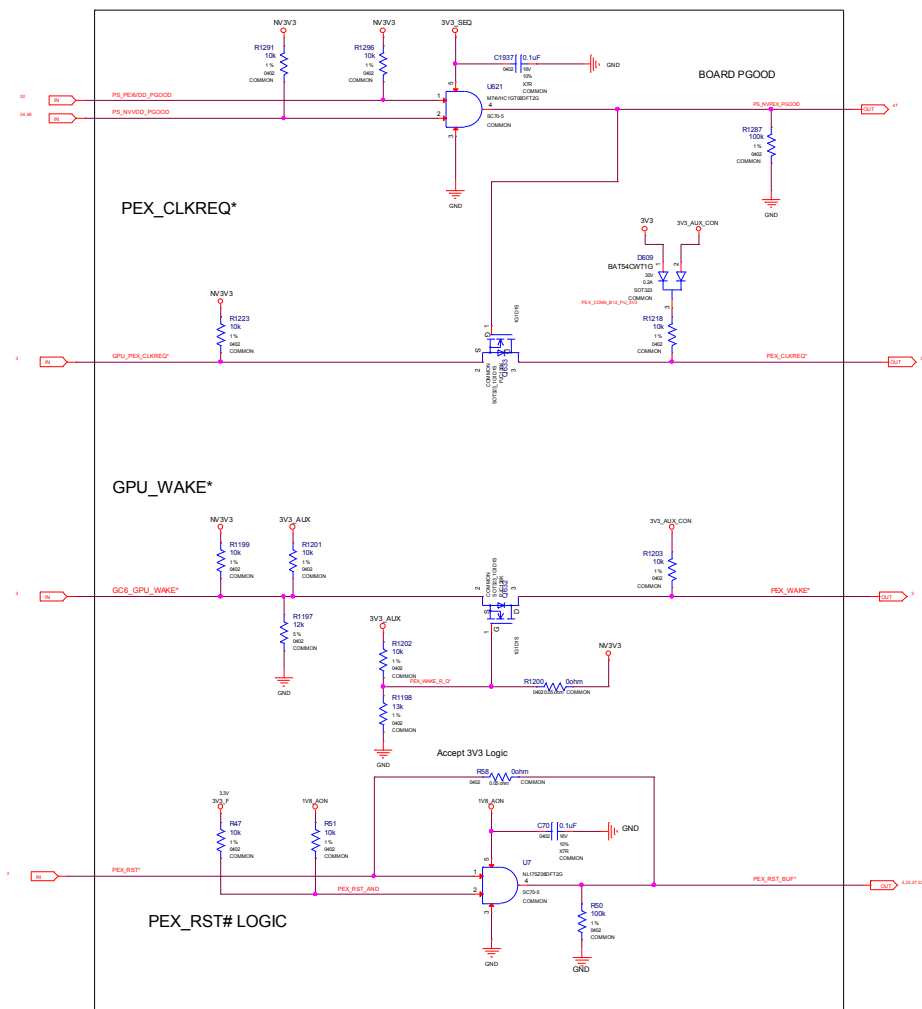


ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	SEQUENCE DISCHARGE

2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	600-1G180-BASE-200
-------	--------------------

PCB REV	PG180-A02	PAGE	50 OF 54
BOM REV	A	DATE	27-JUN-2018



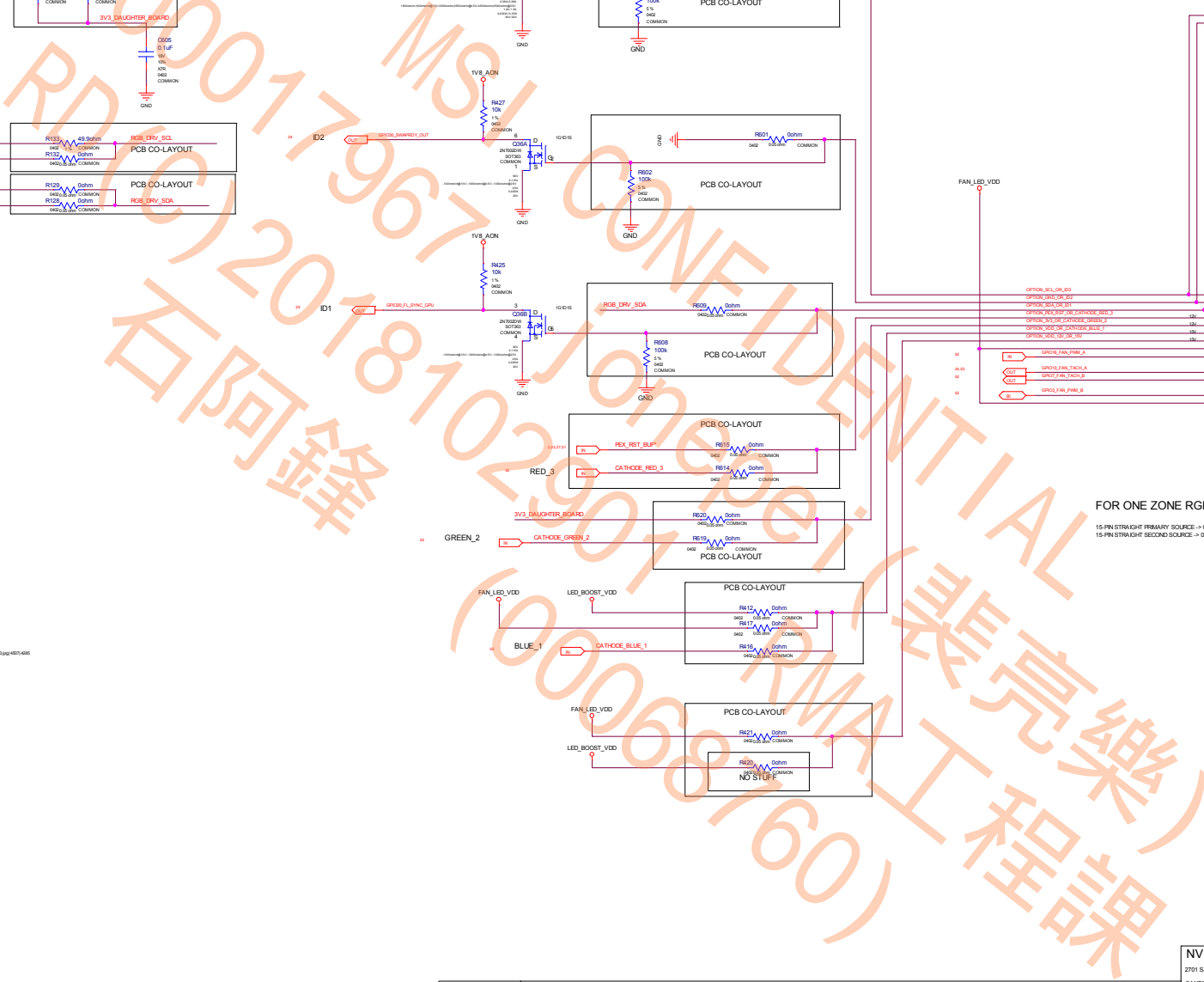
ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	SEQUENCE: MSC


2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA



NV_PN	600-1G180-BASE-200		
PCB REV	PG180-A02	PAGE	51 OF 54
BOM REV	A	DATE	27-JUN-2018

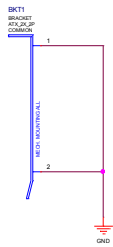
ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VULNERABILITIES OR DEVIATIONS OF INDUSTRY 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		600-1G180-BASE-200		
PCB REV		PG180-A02		PAGE
BOM REV		A		53 OF 54 DATE
				27-JUN-2018



Brackets:



Bracket Screw

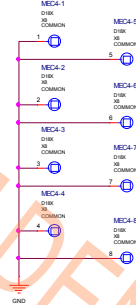


BOARD STIFFENER

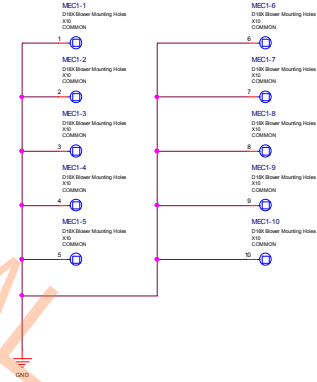


STIFFENER

GPU Mounting holes



Mechanical Holes Symbol



GPU Socket Symbol



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	600-1G180-BASE-200	PAGE	54 OF 54
PCB REV	PG180-A02	DATE	27-JUN-2018
BCM REV	A		