P1001-B02

GA100-883 PCIe Gen4 HBM2 TESLA PASSIVE

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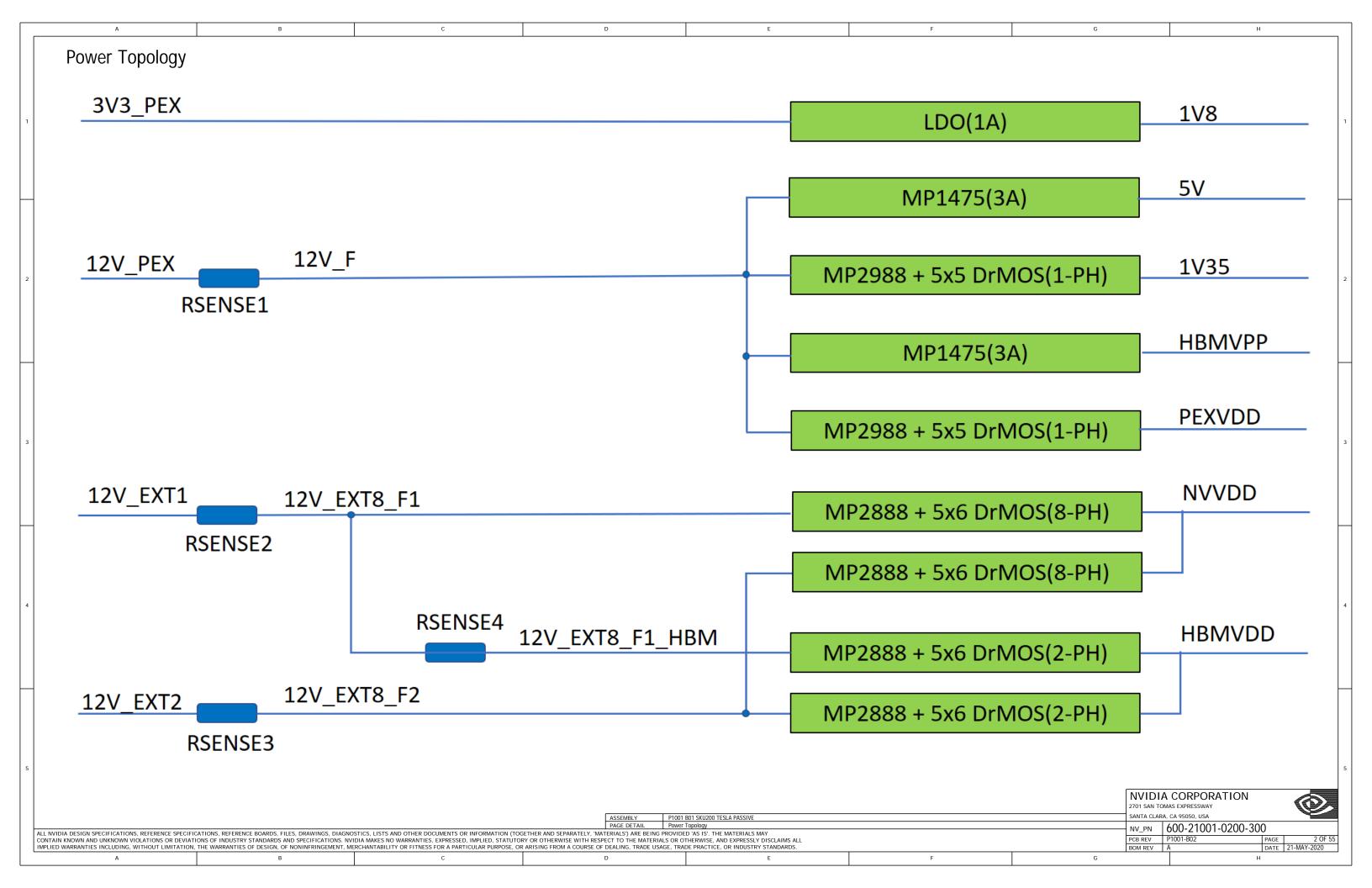
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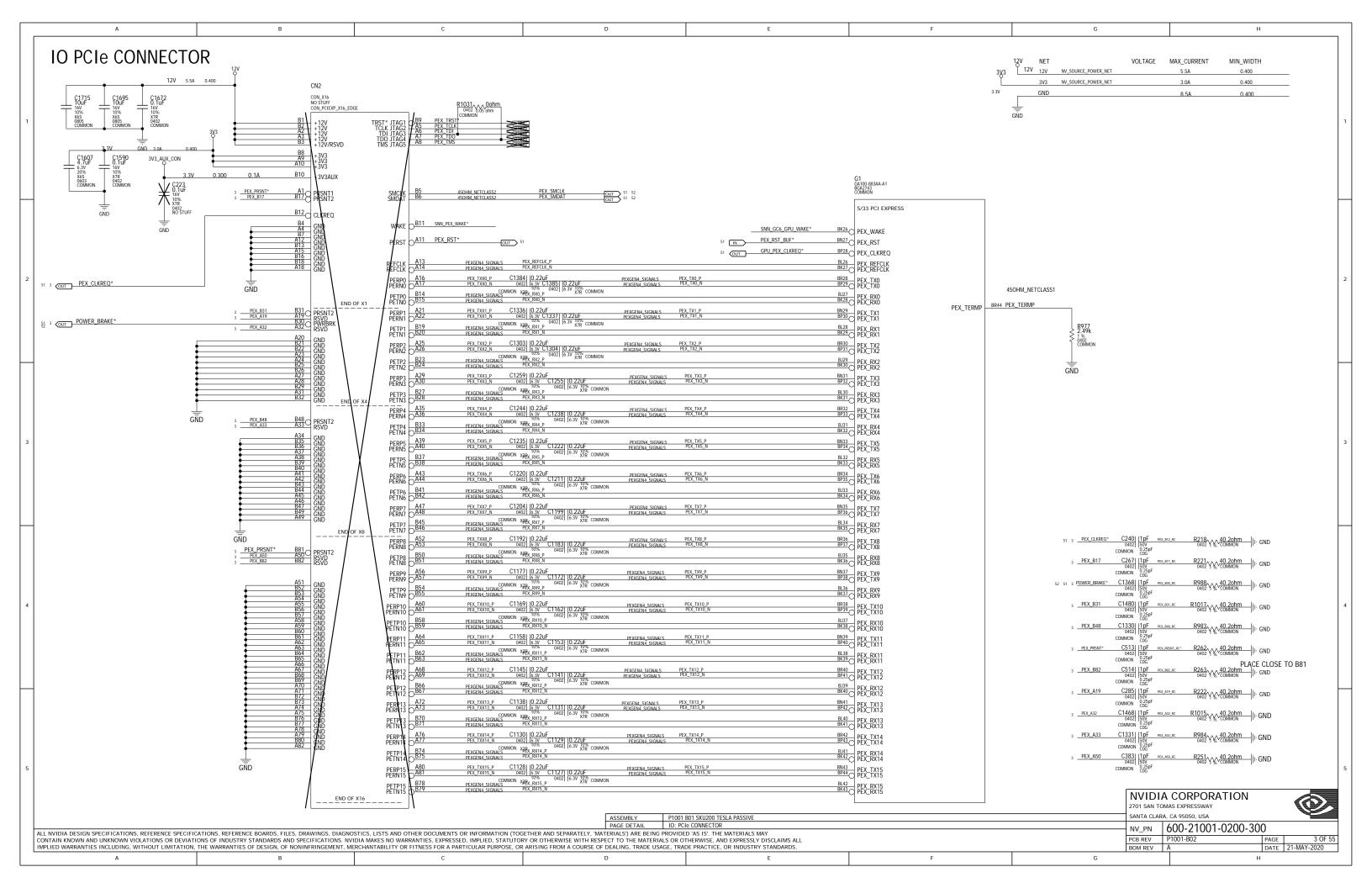
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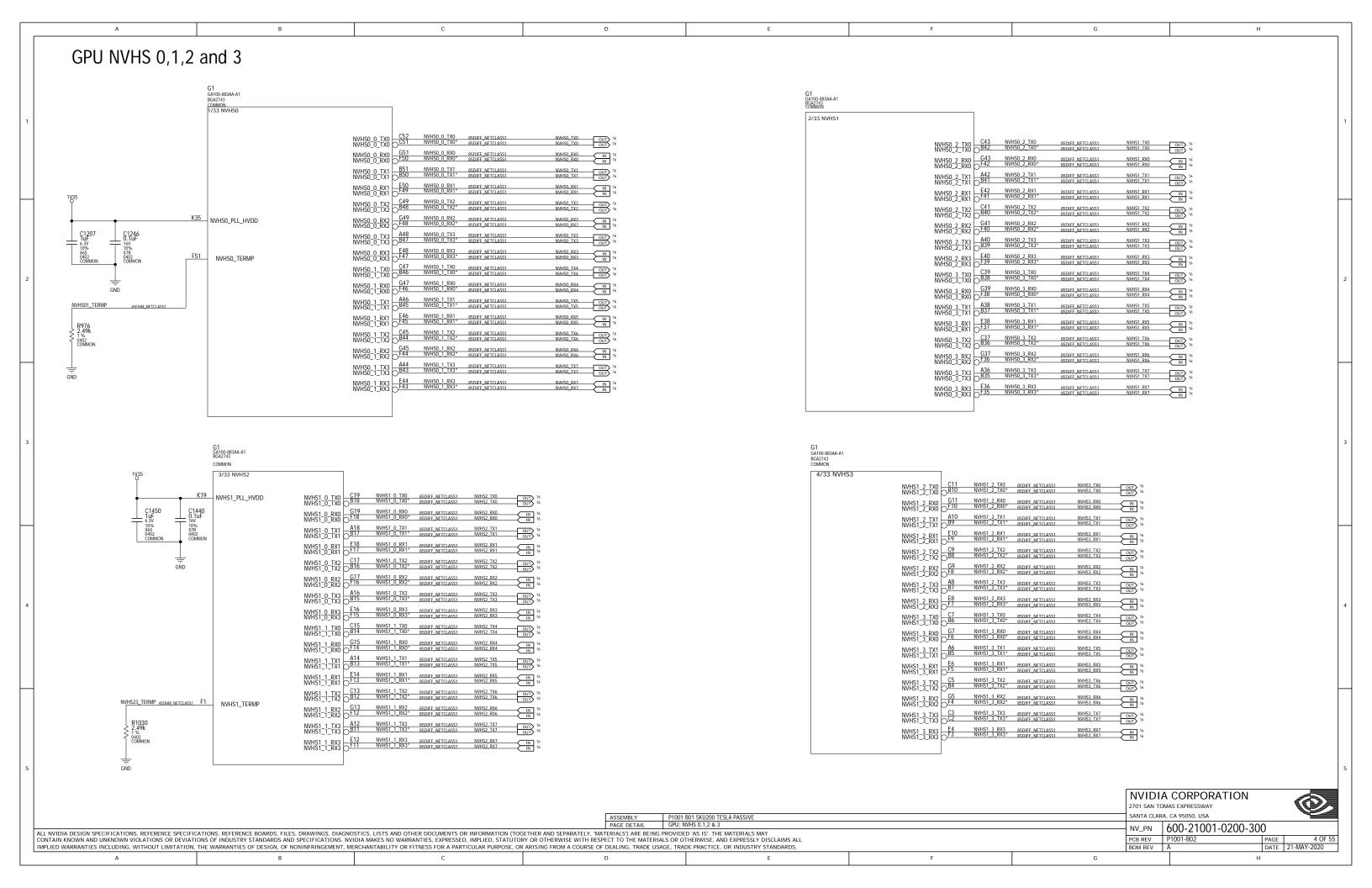
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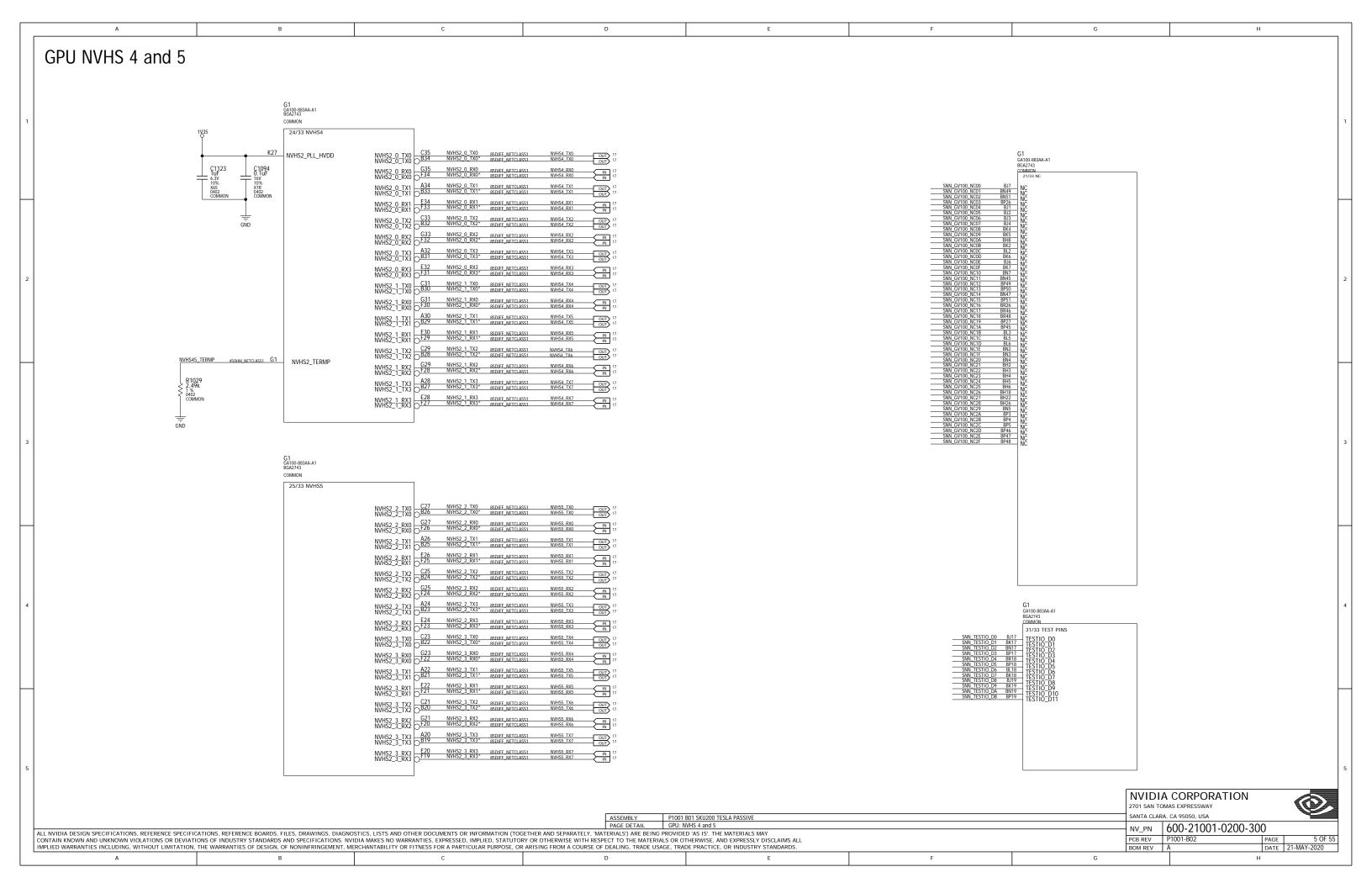
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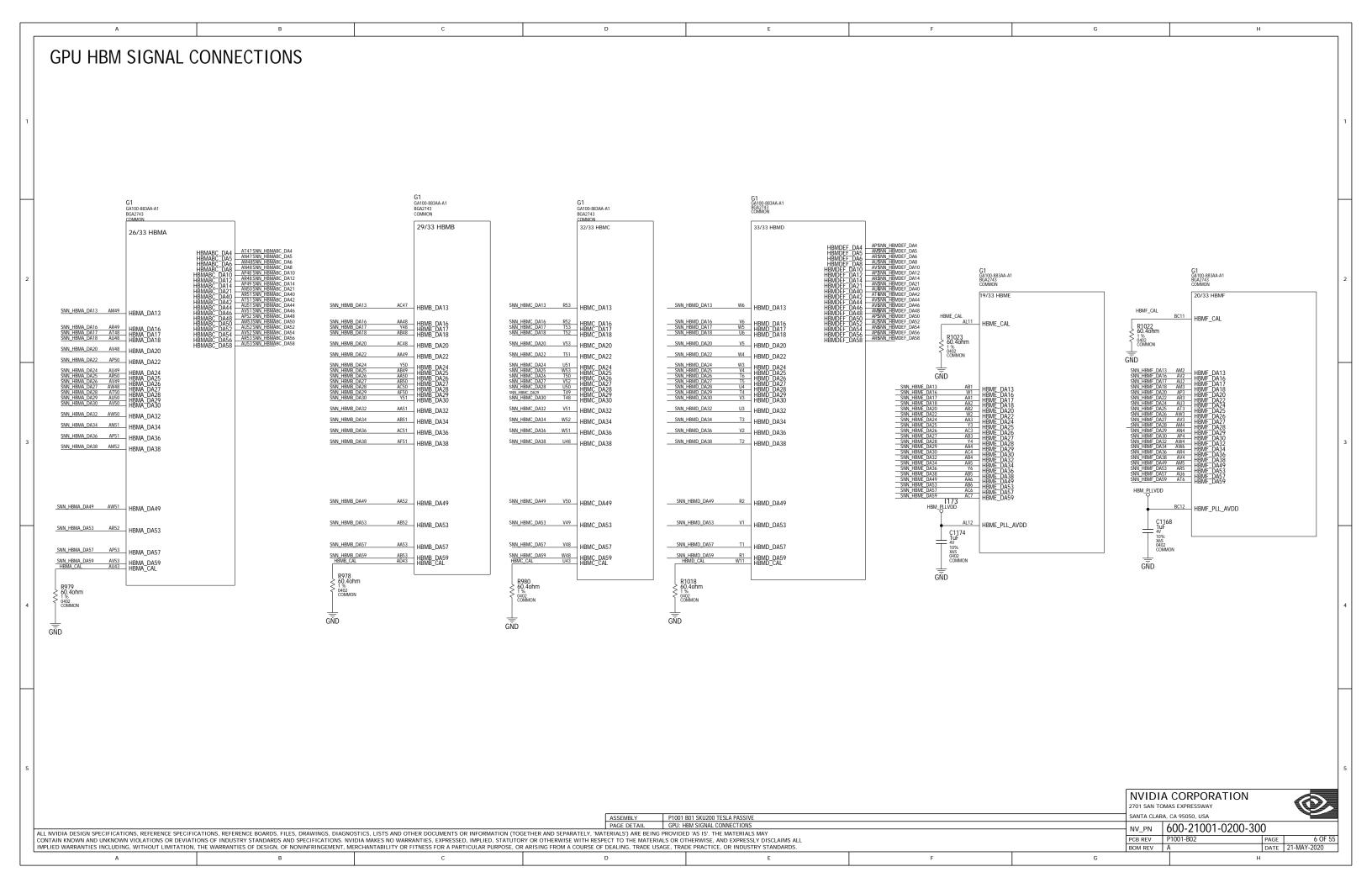
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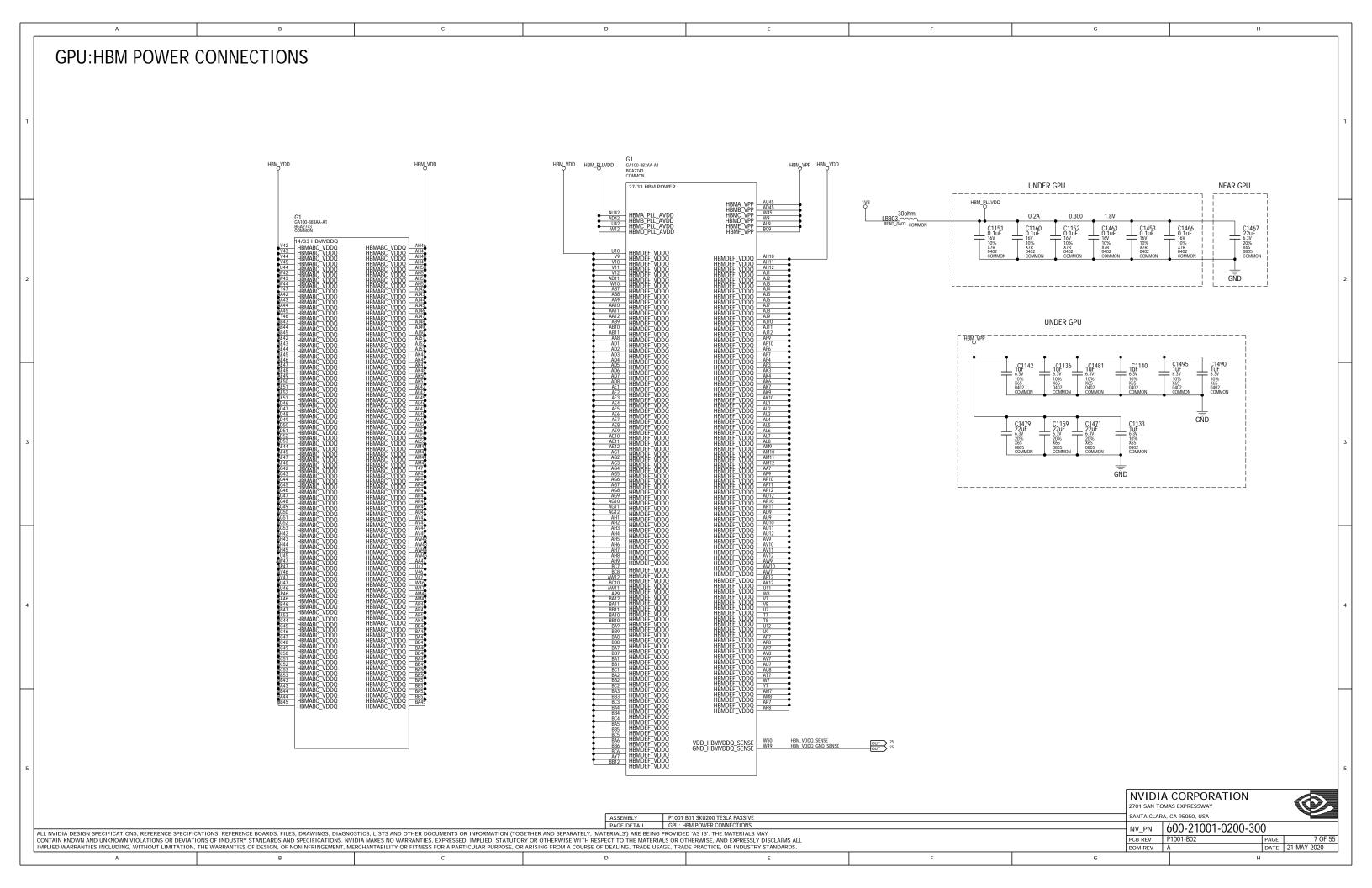


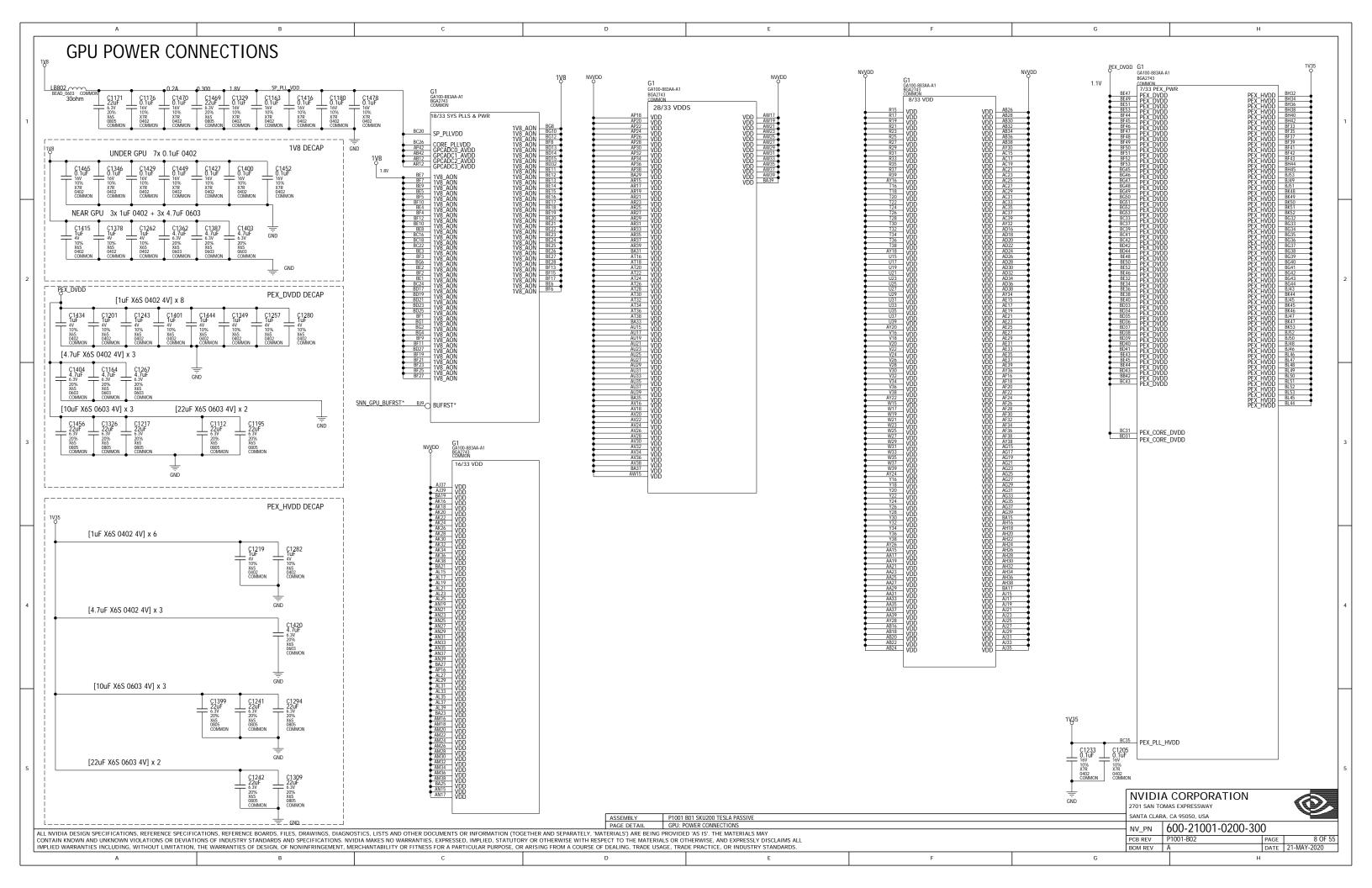


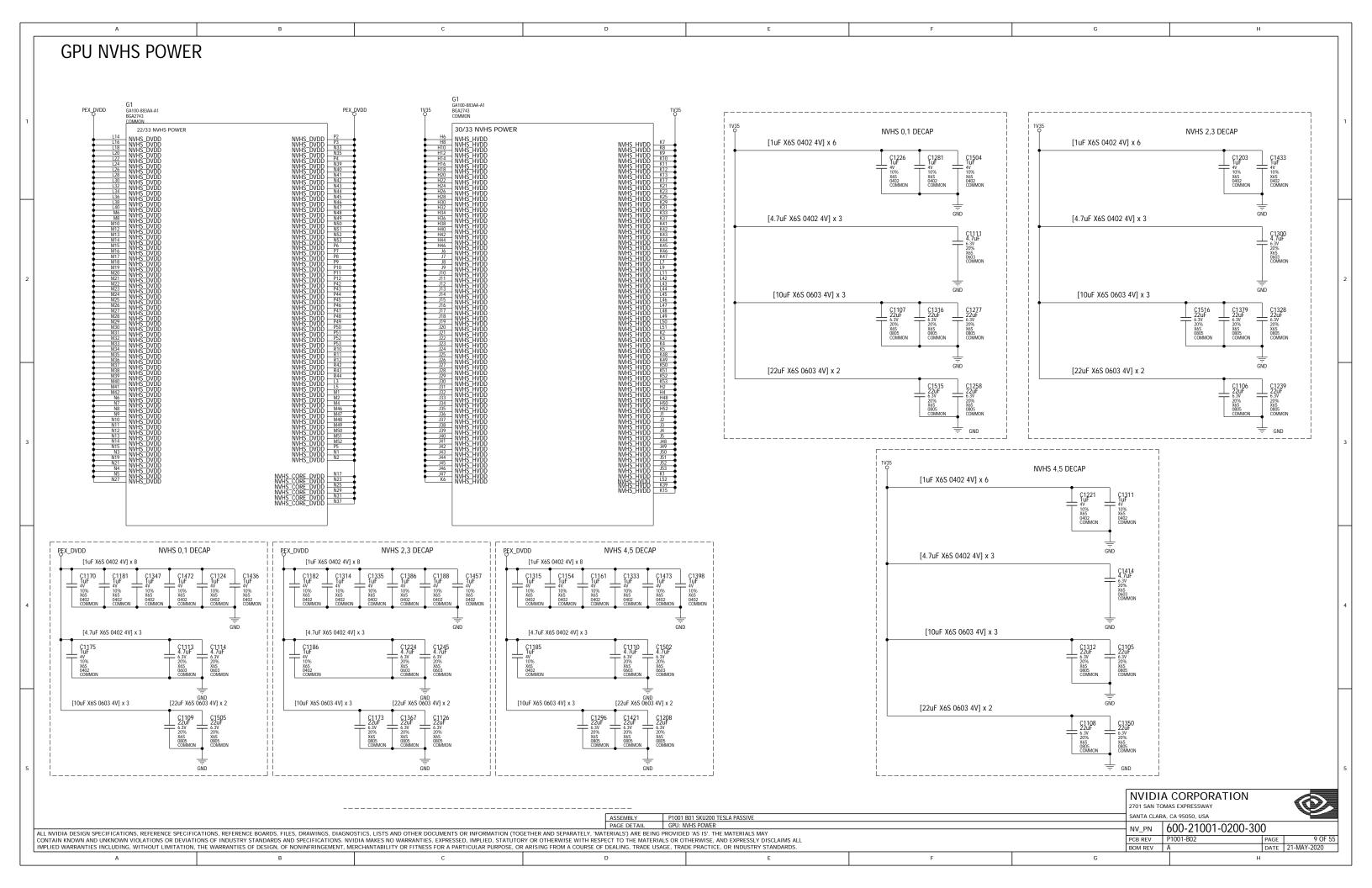


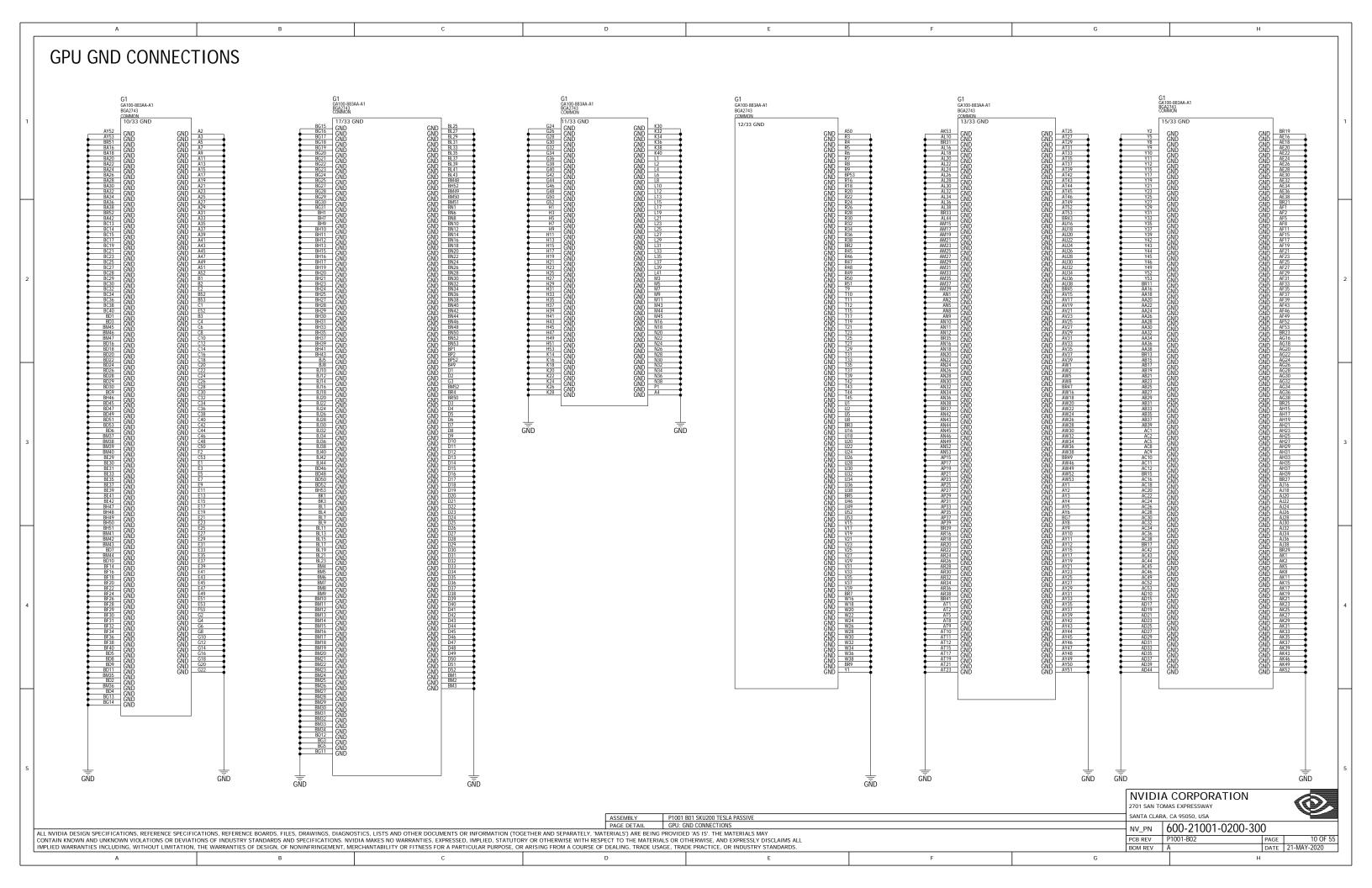


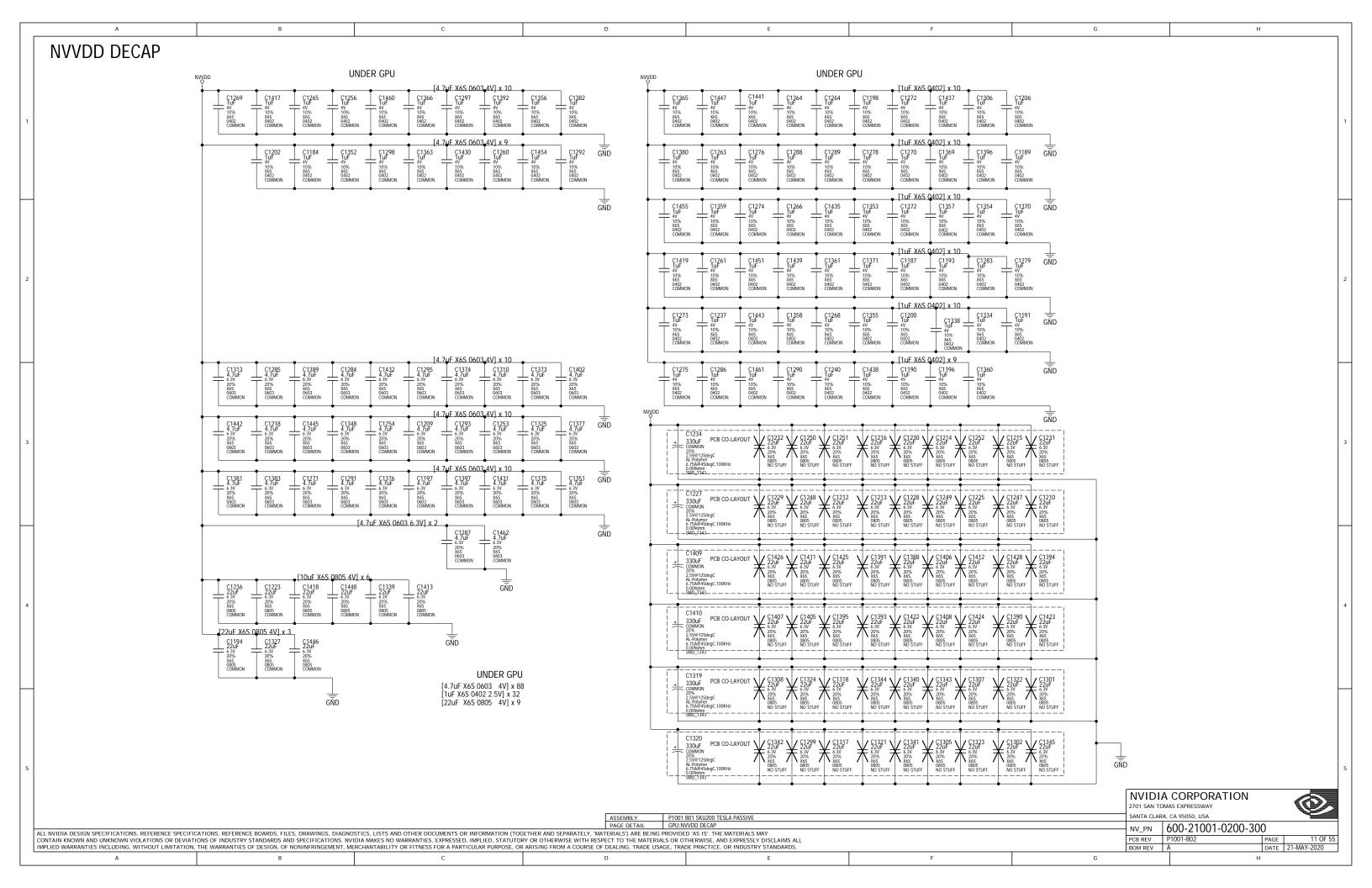






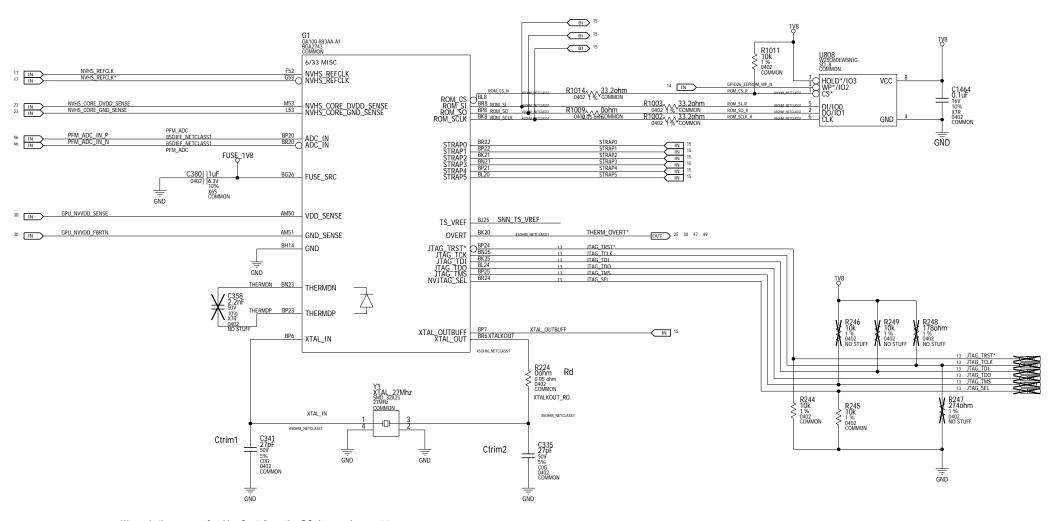






HBM DECAP UNDER GPU [2.2uF X6S 0402 4V] x 13 [4.7uF X6S 0603 4V] x 7 HBM VDD [22uF X6S 0805 4V] x 26 UNDER GPU [2.2uF X6S 0402 2.5V] x 3 C1143 1uF 4V 10% X6S 0402 COMMON [2.2uF X6S 0402 2.5V] x 10 10 C1491 1uF 4V C1492 1uF 4V C1146 = 1uF = 4V GND [4.7uF X6S 0603 4V] x 7 GŇD [10uF X6S 0805 4V] x 4 ĠŇD GND [22uF X6S 0805 4V] x 10 C1135 22uF 6.3V 20% X6S 0805 COMMON C1134 22uF 6.3V 20% X6S 0805 COMMON C1137 22uF 6.3V 20% X6S 0805 COMMON C1147 22uF 6.3V 20% x6S 0805 COMMON C1139 22uF 6.3V 20% X6S 0805 COMMON C1493 22uF 6.3V 20% X6S 0805 COMMON C1496 22uF 6.3V 20% X6S 0805 COMMON C1499 22uF 6.3V 20% X6S 0805 COMMON Near GPU New C1085 22UF 6.3V 20% X6S 0805 NO STUFF GND GND **NVIDIA CORPORATION** 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA ASSEMBLY PAGE DETAIL GPU:HBMVDD DECAP NV_PN 600-21001-0200-300 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. PCB REV P1001-B02 BOM REV A PAGE 12 OF 55
DATE 21-MAY-2020 G

GPU ROM/JTAG



We are in the process of making Crystal's routing DG changes. I suggest to route XTAL In/Out nets with at least x3 spacing (see feedback from Paul Su)

Fom Paul Su:

4W or 5W spacing will have enough margin for 65mm.

If PCB spacing is not enough, 3W spacing should be within 20mm.

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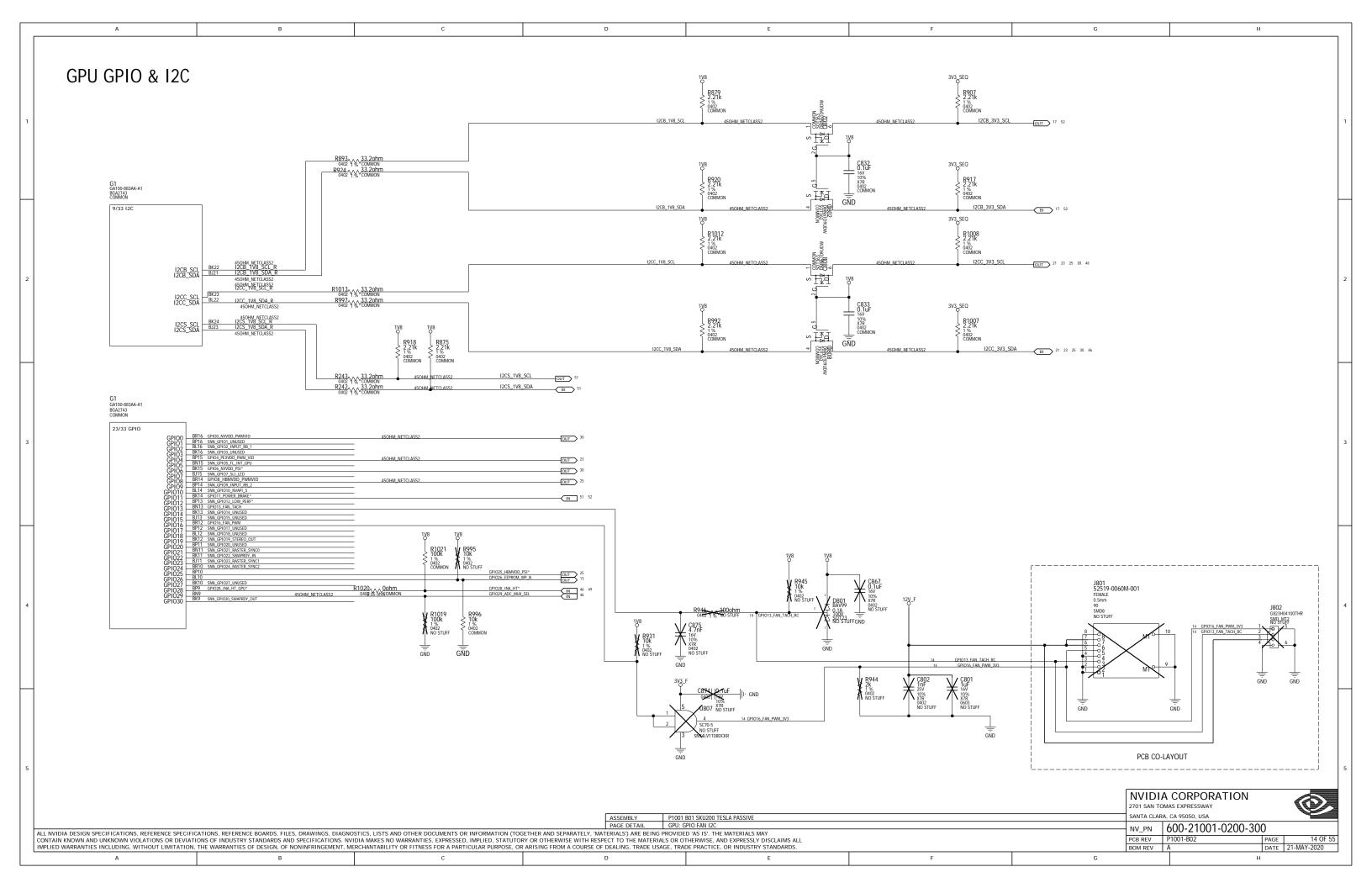
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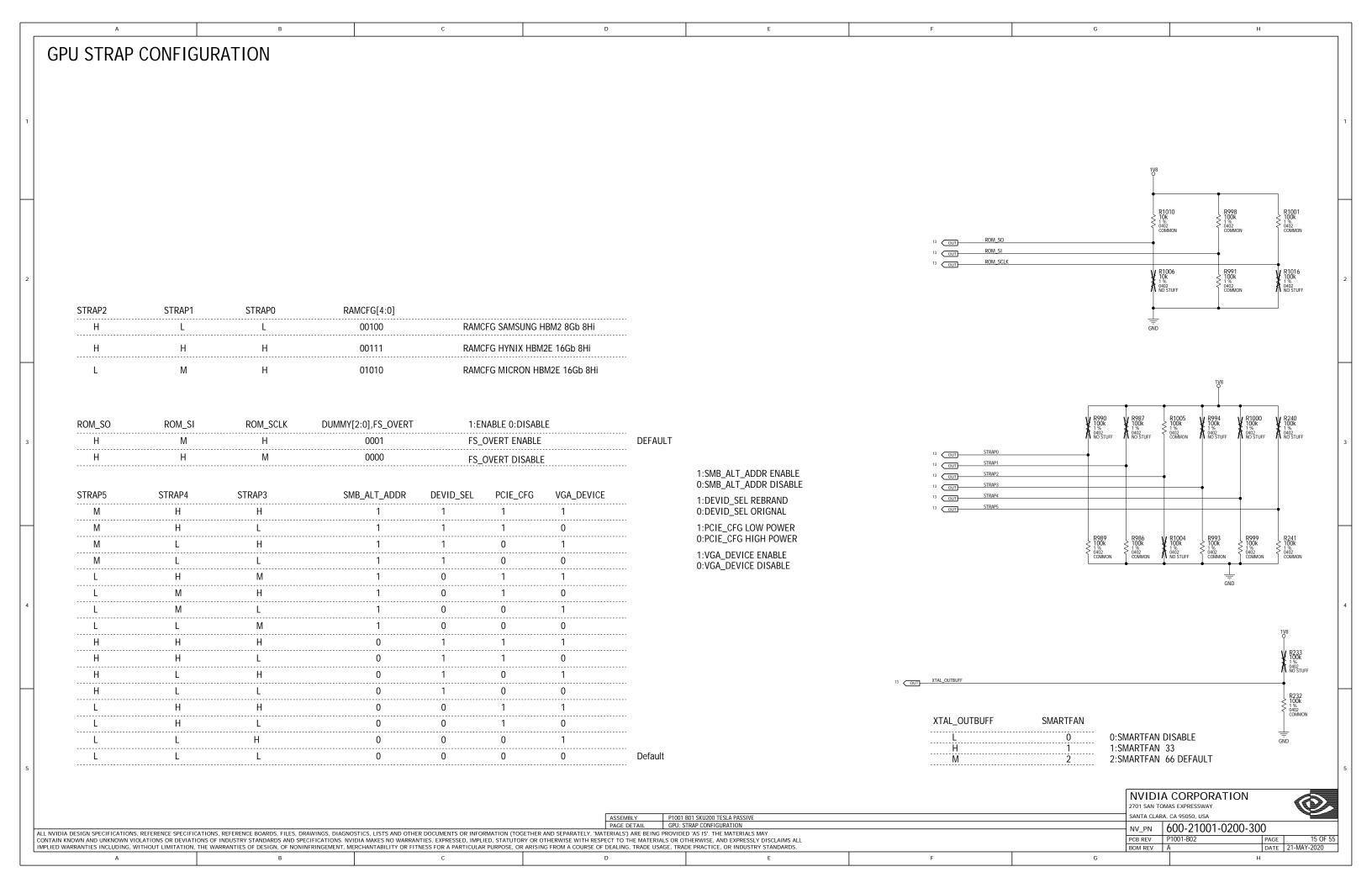
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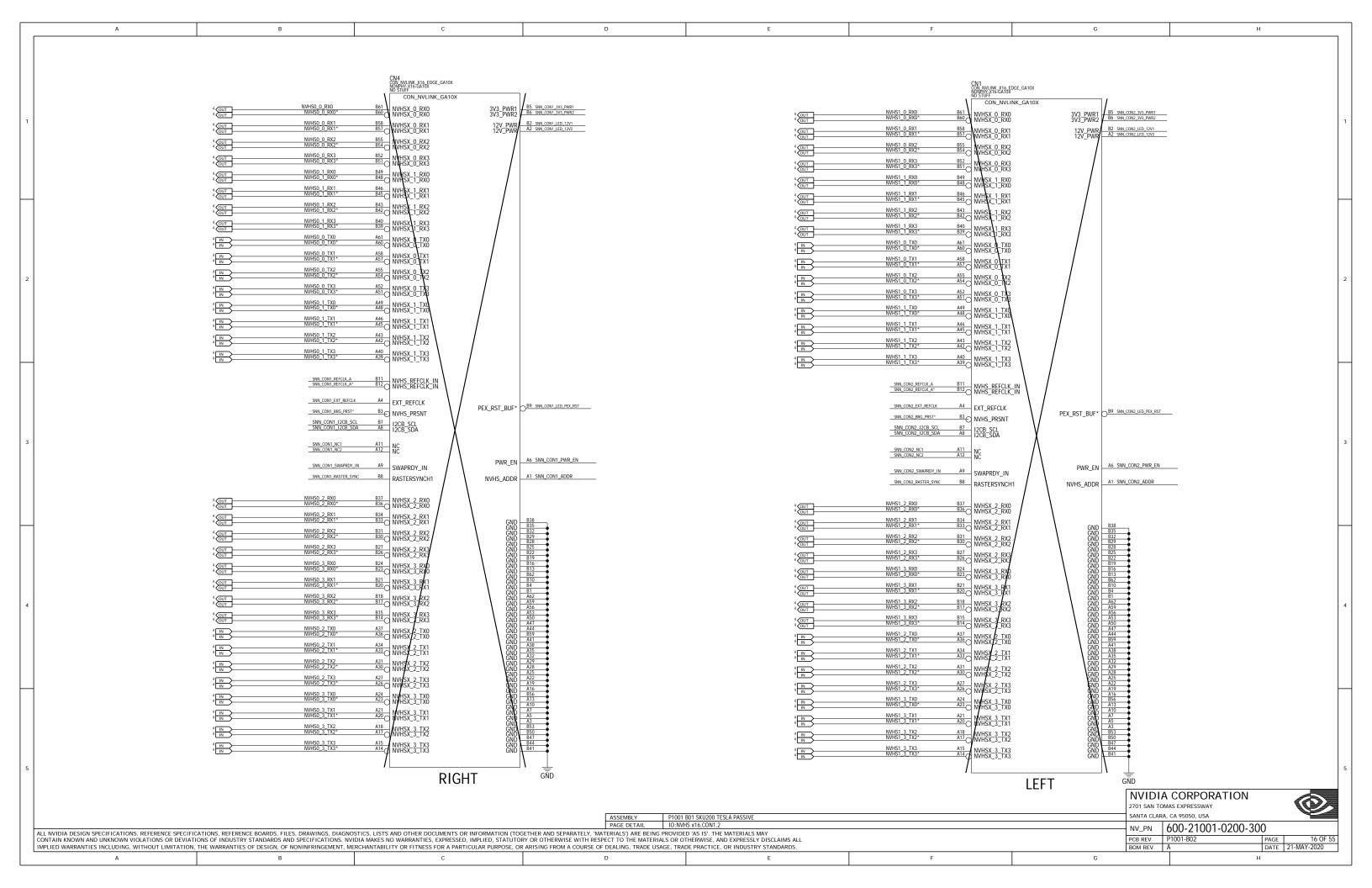
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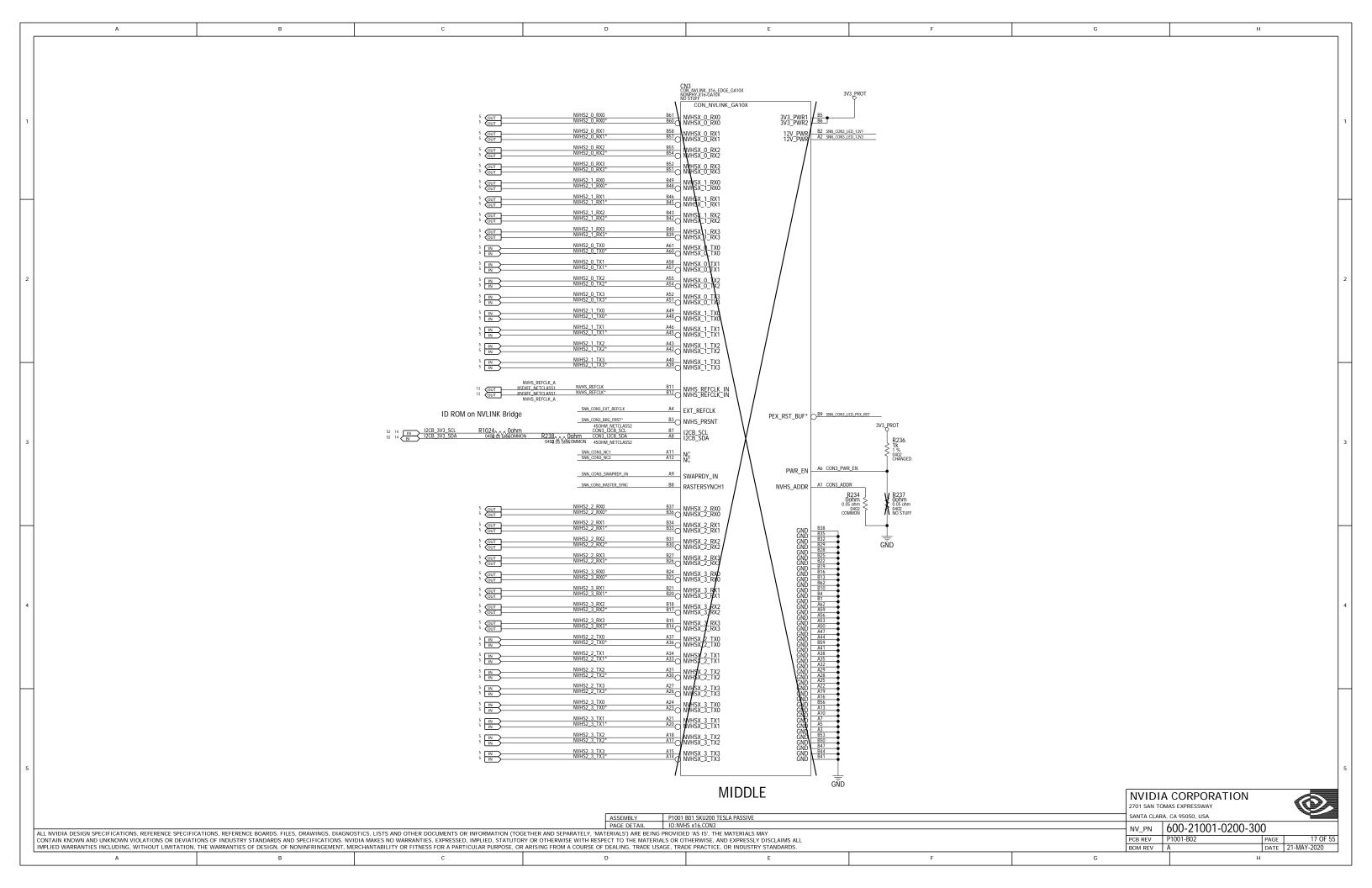
ASSEMBLY P1001 B01 SKU200 TESLA PASSIVE PAGE DETAIL GPU: XTAL/ROM/JTAG

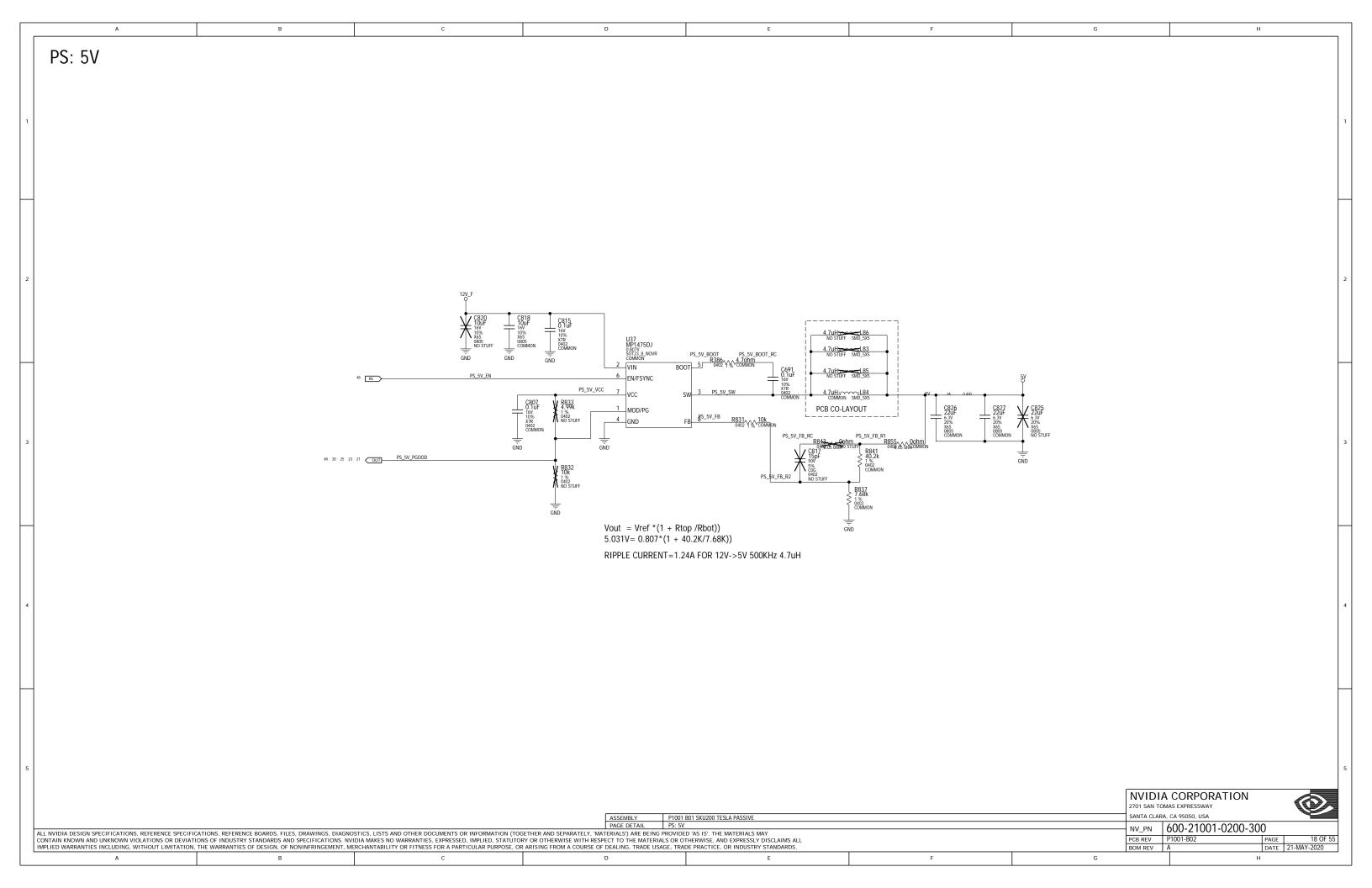
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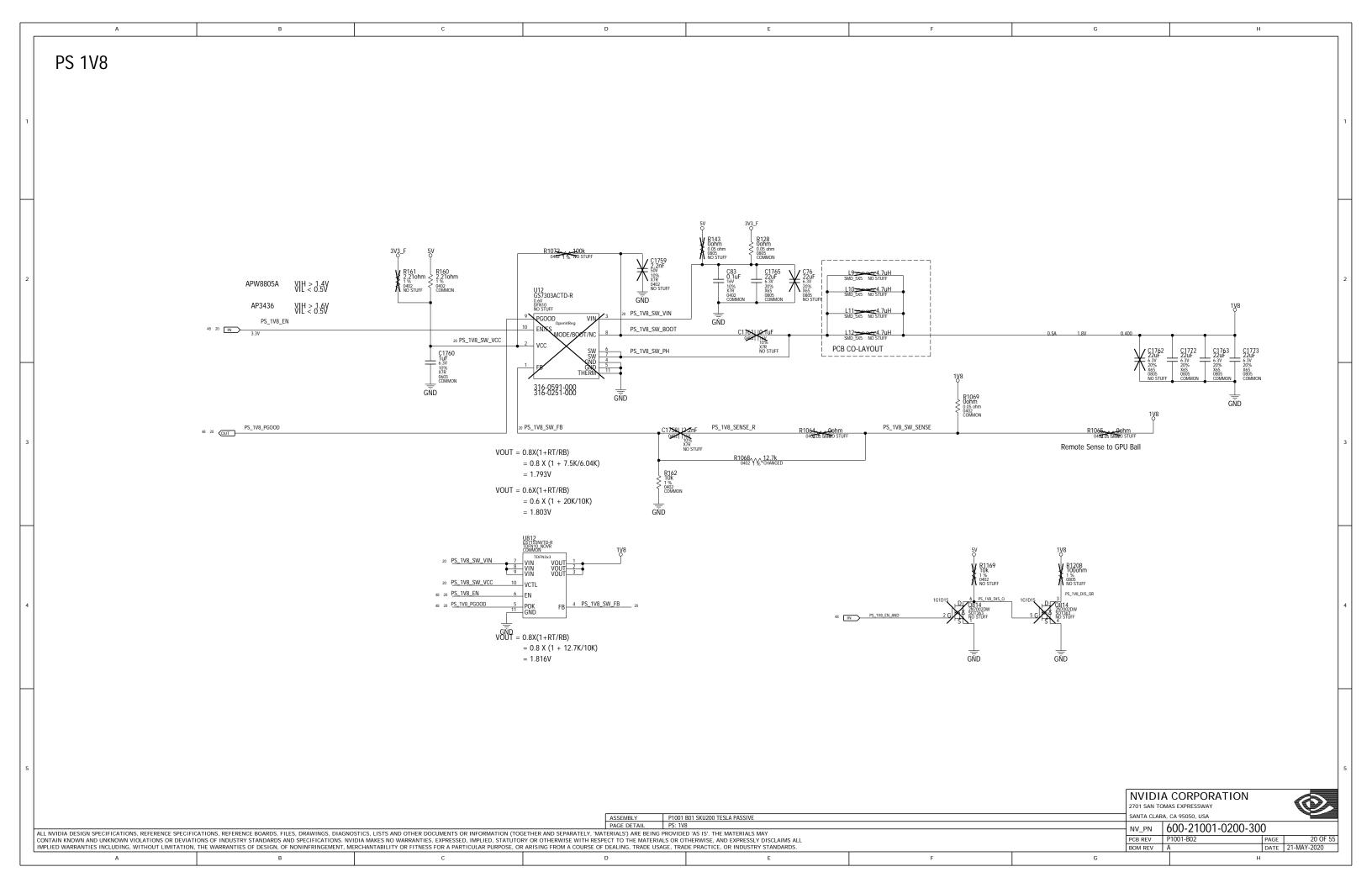


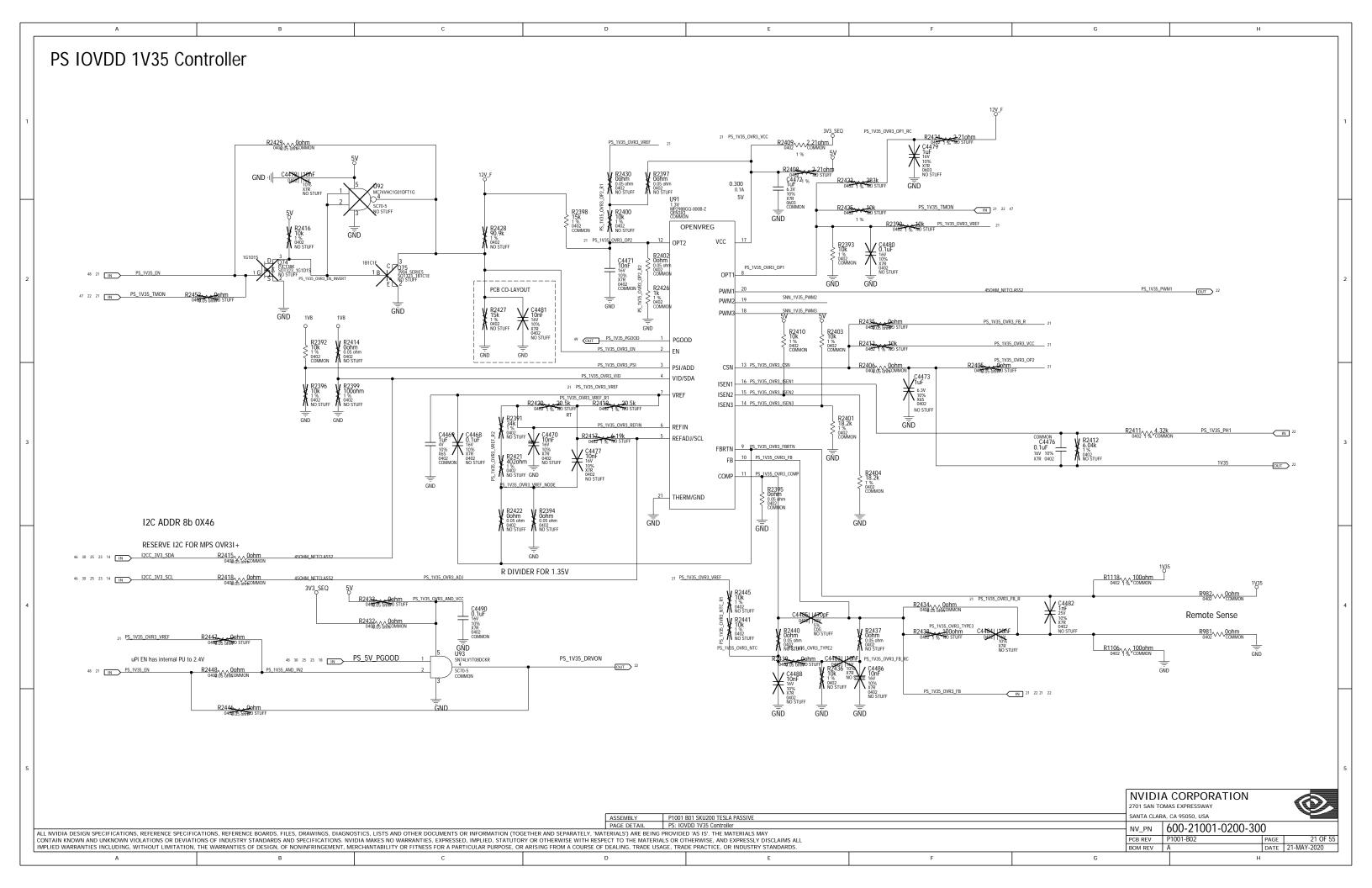


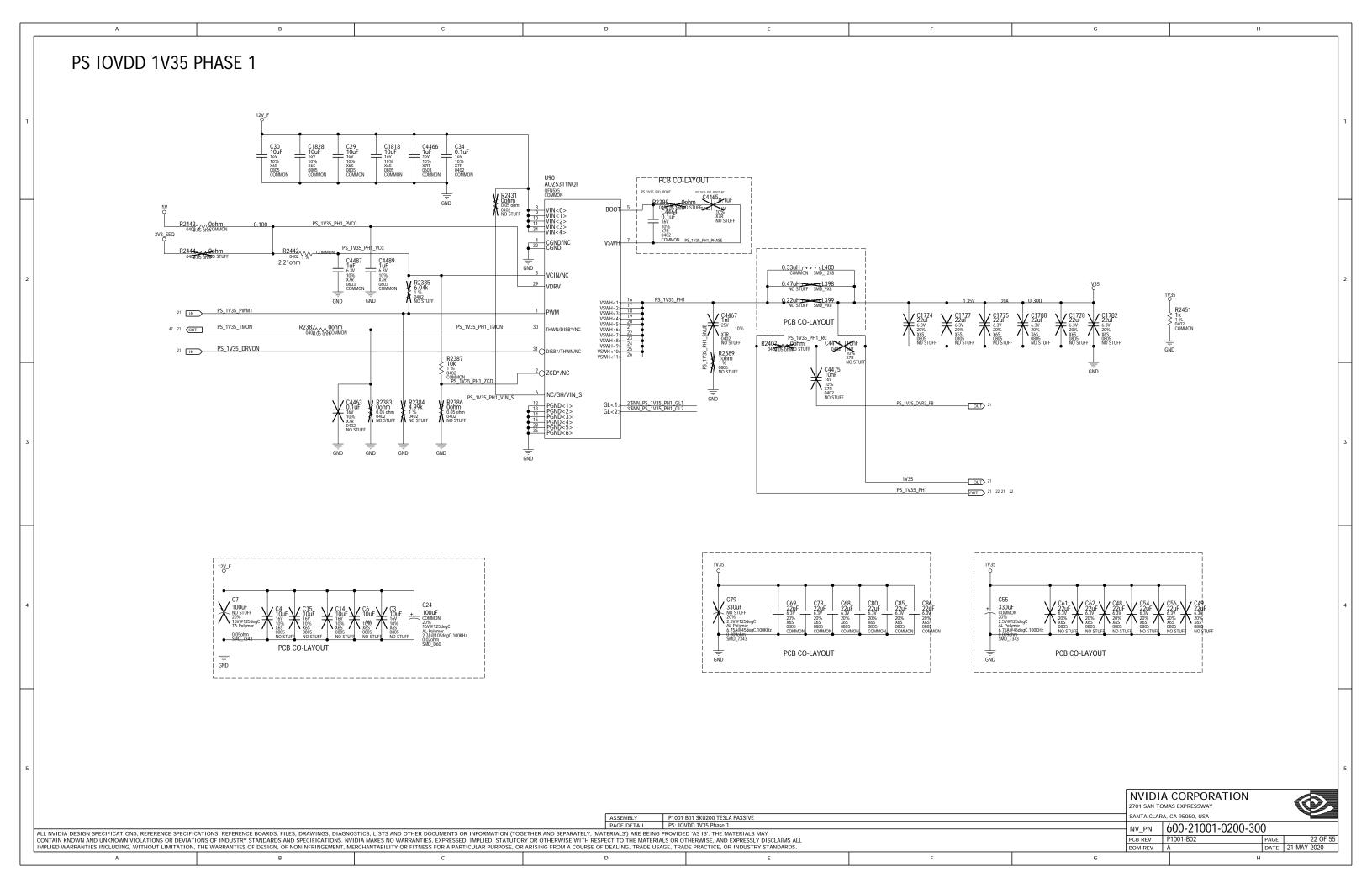


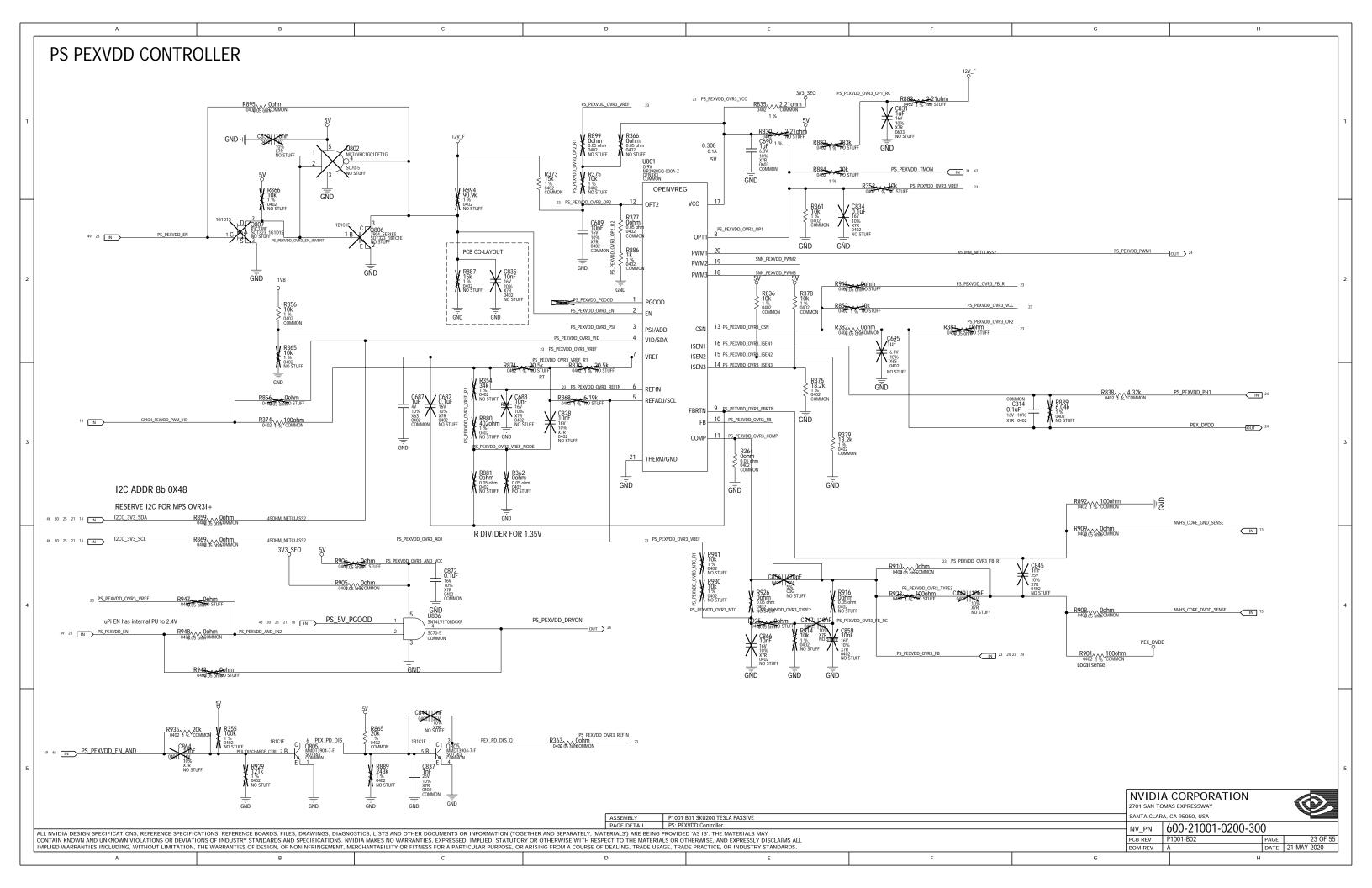


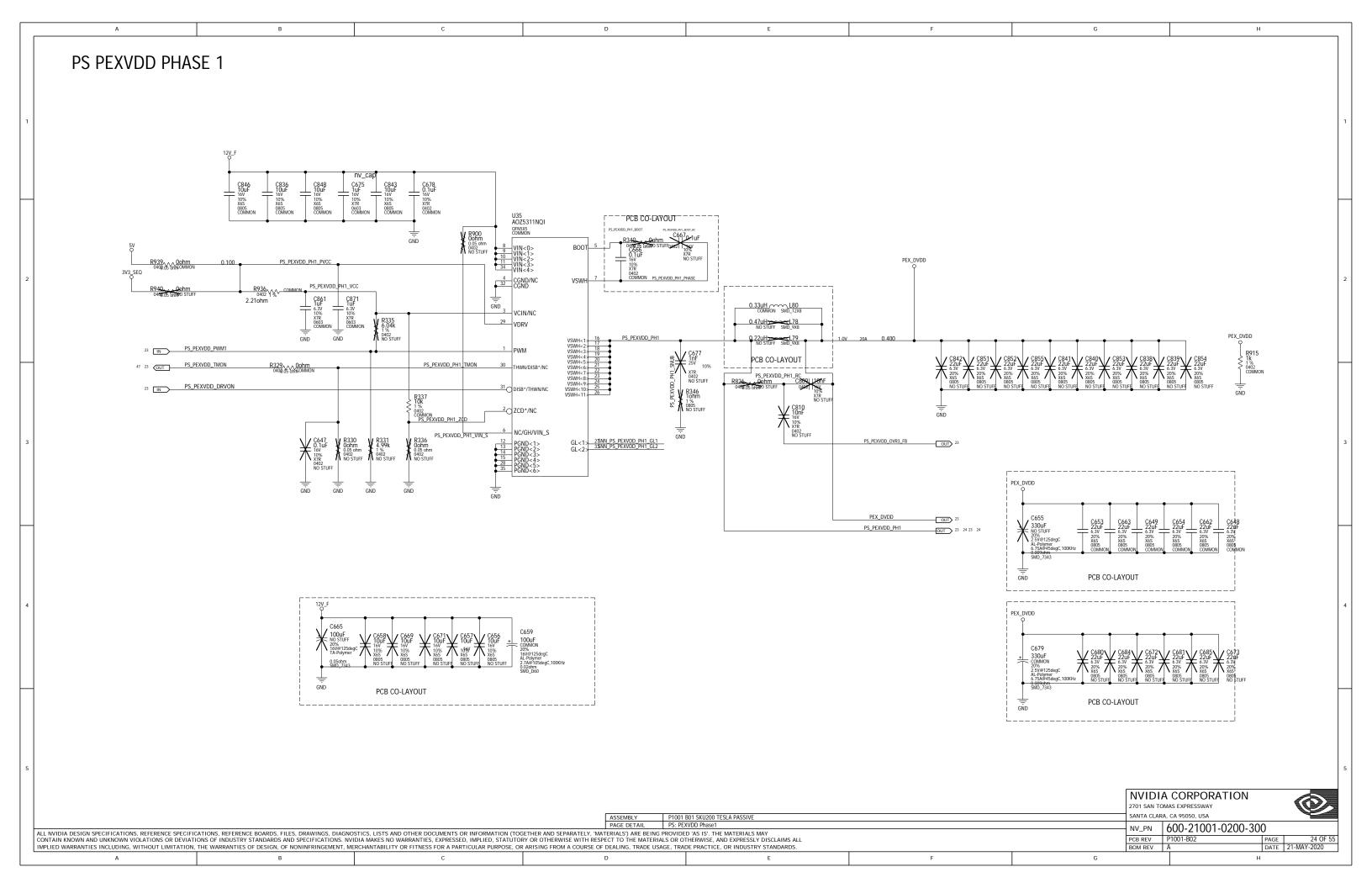
PS: HBM_VPP HBMVPP = 2.5VBETTER TO USE 4.7uH L FOR 12V->2.5V TO REDUCE RIPPLE CURRENT BOOT 5 PS_HBMVPP_BOOT 49 PS_HBM_VPP_EN FN/FSYNC MP1475 EN Vih = 1.6V SW 3 PS_HBMVPP_SW PS_HBMVPP_FB_RC PCB CO-LAYOUT MOD/PG FB 8 PS_HBMVPP_FB 4 GND MP1475 Fsw = 500KHz 49 OUT PS_HBMVPP_PGOOD R1123 0402 \ \ \ \ \ \ \ \ \ COMMON PS_HBMVPP_FB_SENSE REMOTE SENSE Vout = Vref *(1 + Rtop / Rbot))2.542V = 0.807*(1 + 40.2K/18.7K))RIPPLE CURRENT=0.84A FOR 12V->2.5V 500KHz 4.7uH NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY ASSEMBLY P1001 B01 SKU200 TESLA PASSIVE PAGE DETAIL PS: HBMVPP SANTA CLARA, CA 95050, USA NV_PN 600-21001-0200-300 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. PCB REV P1001-B02
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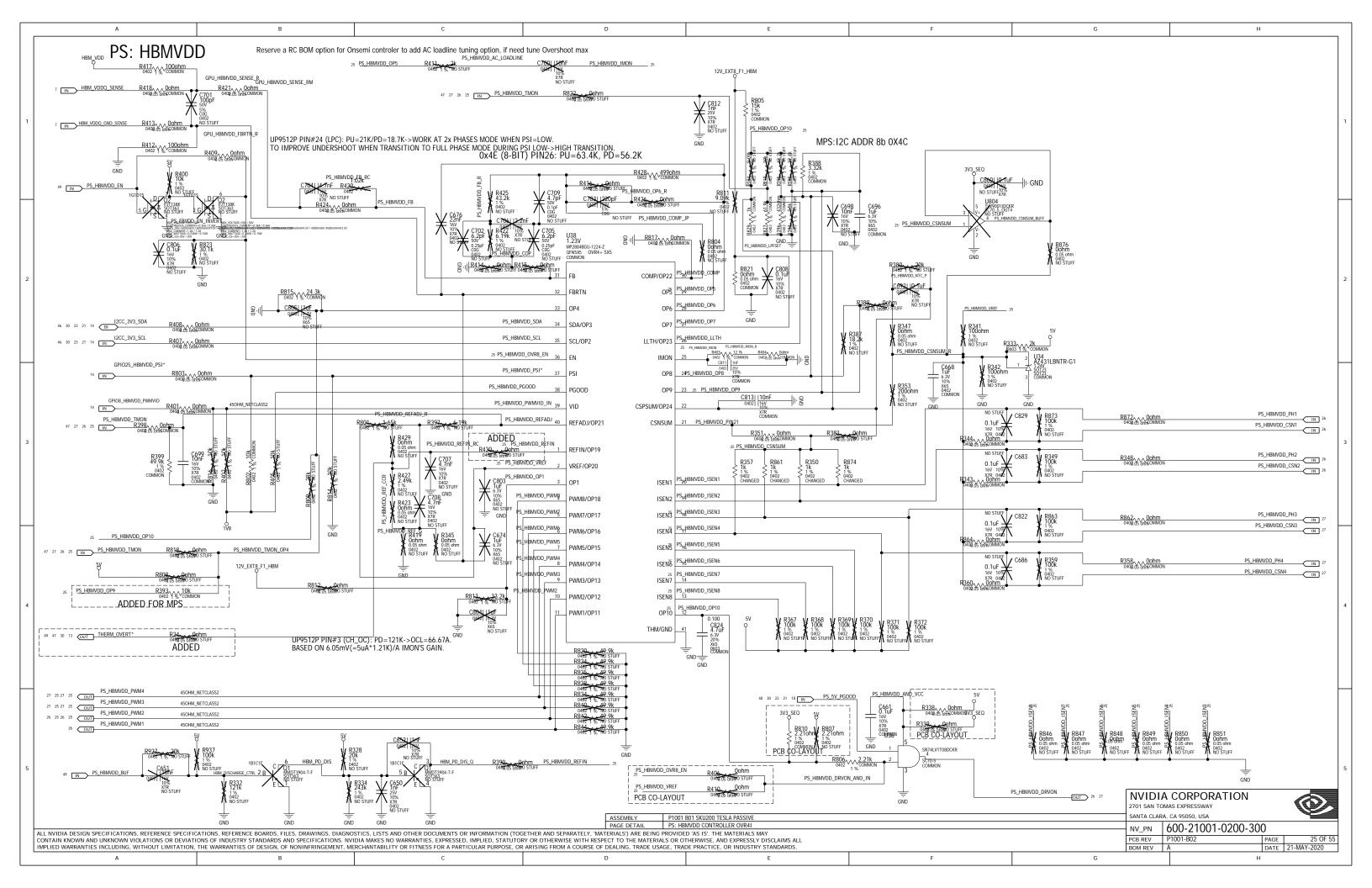


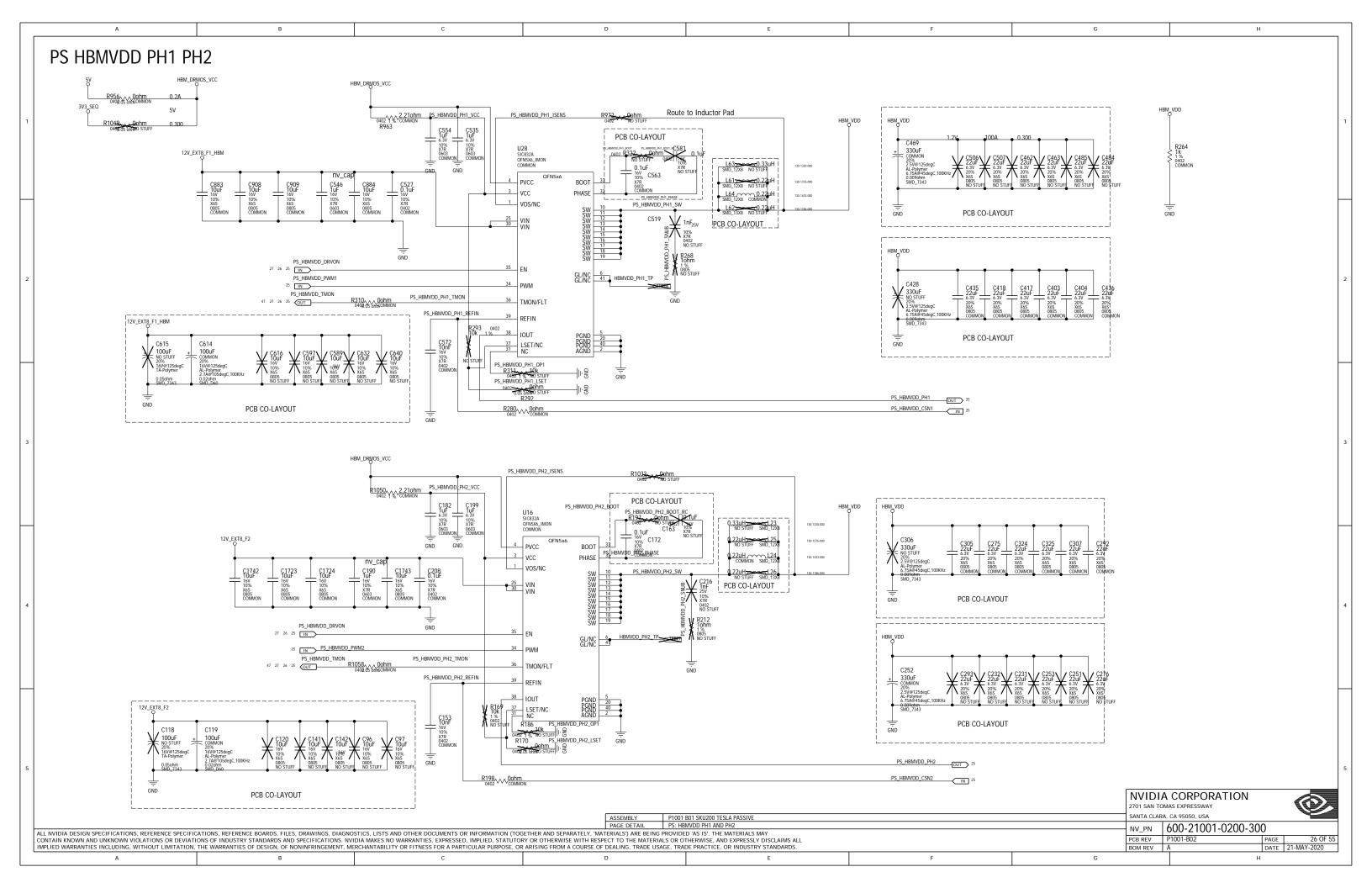


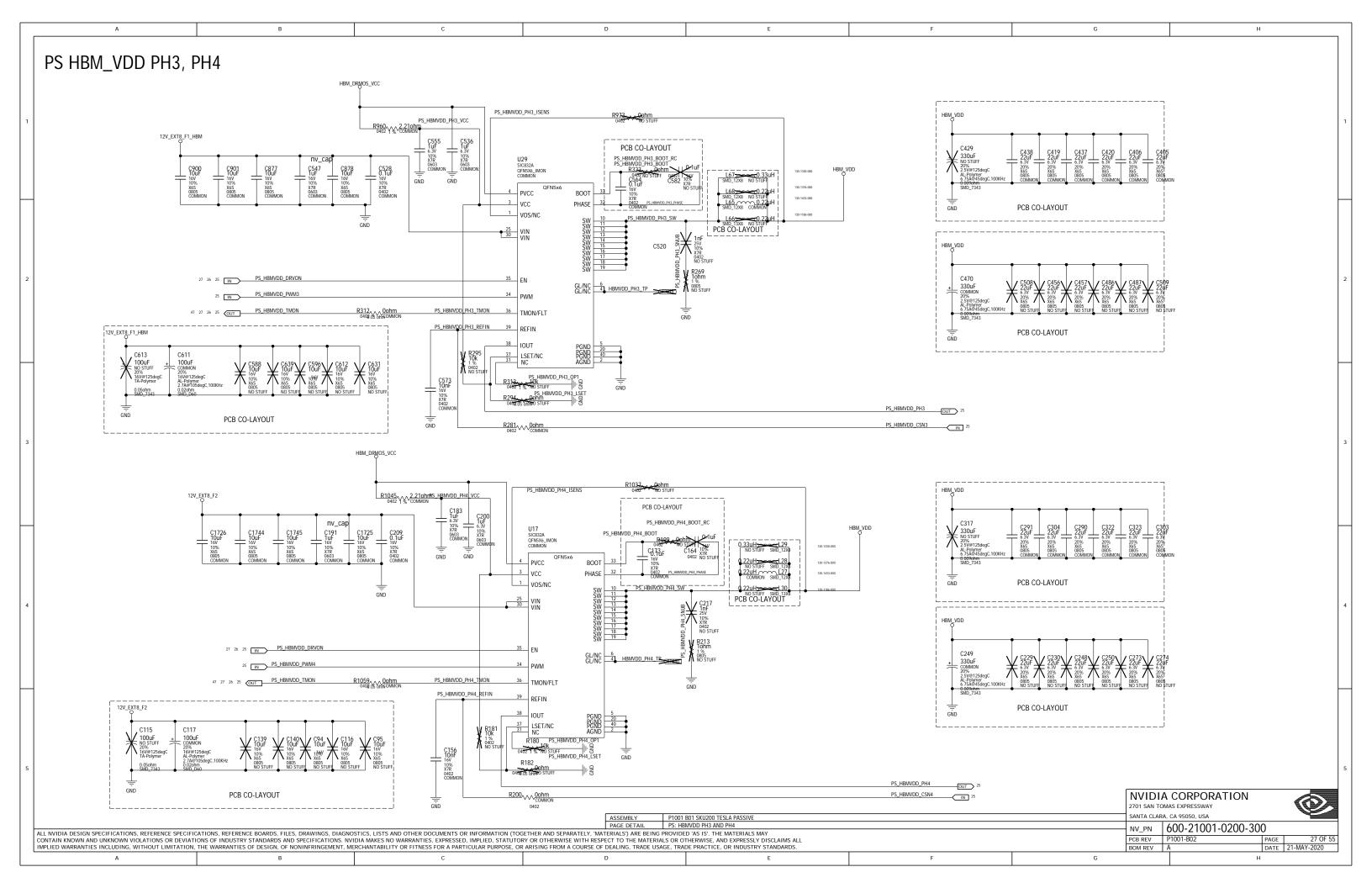


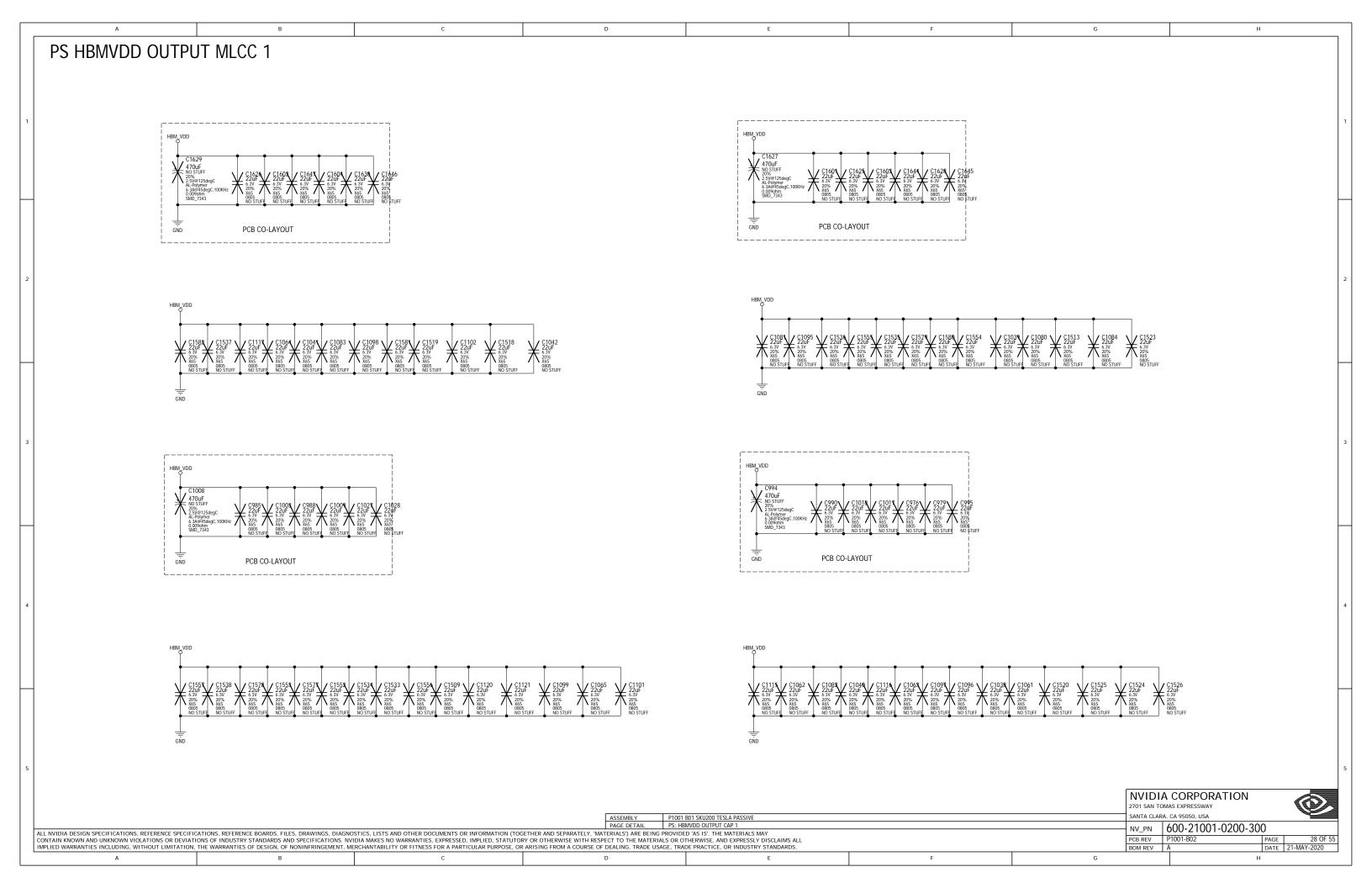






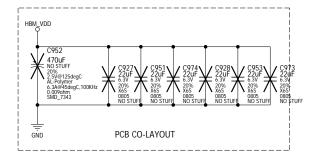


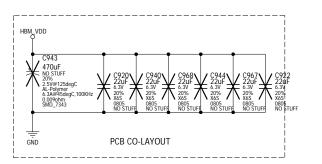


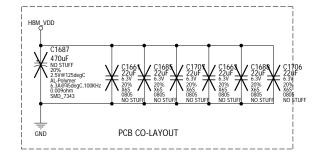


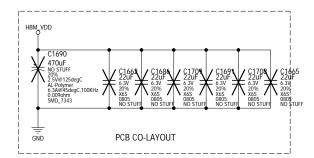
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PS HBMVDD OUTPUT MLCC 2









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ASSEMBLY P1001 BO1 SKU200 TESLA PASSIVE
PAGE DETAIL PS: HBMVDD OUTPUT CAP 2

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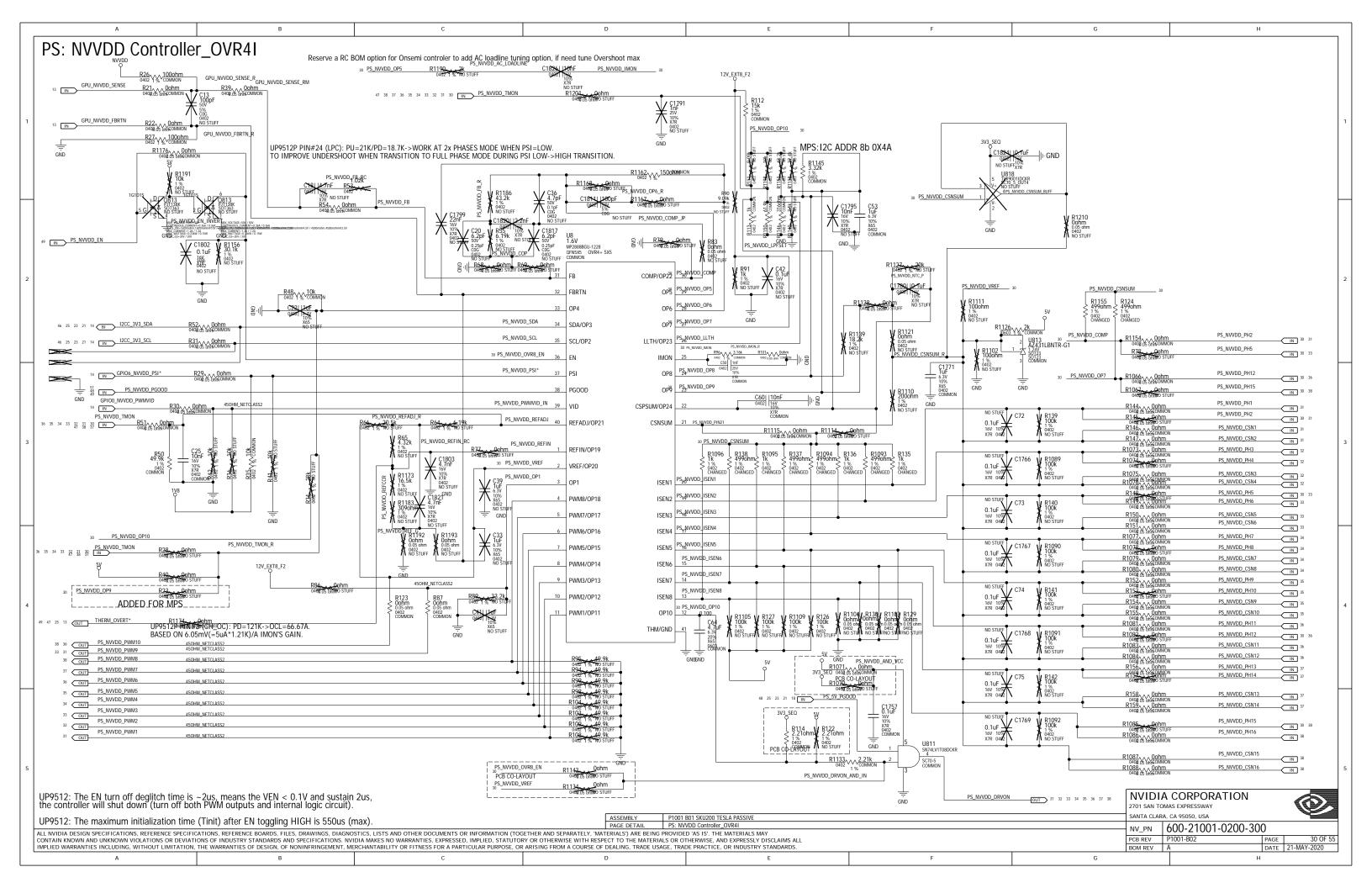
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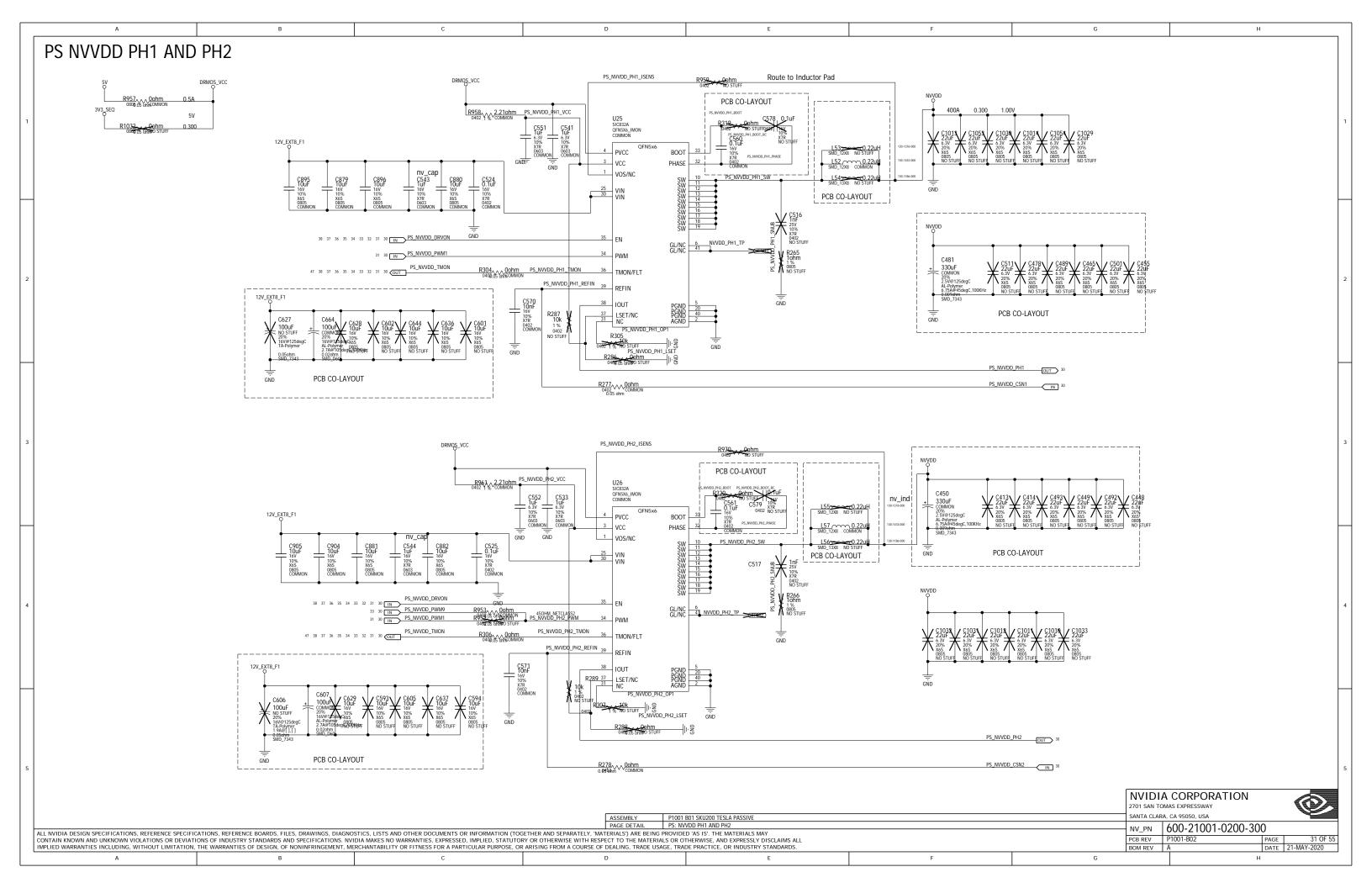
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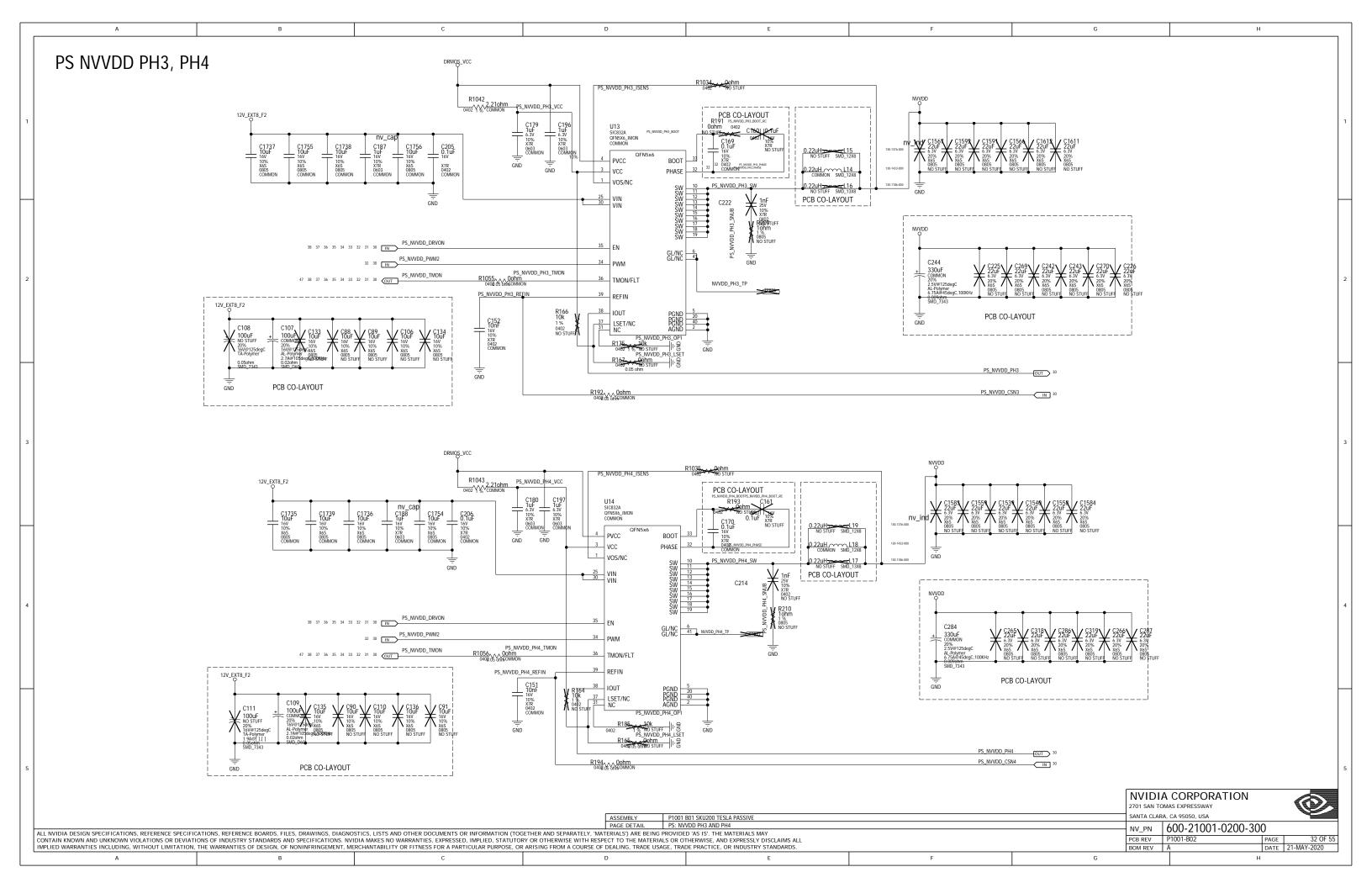
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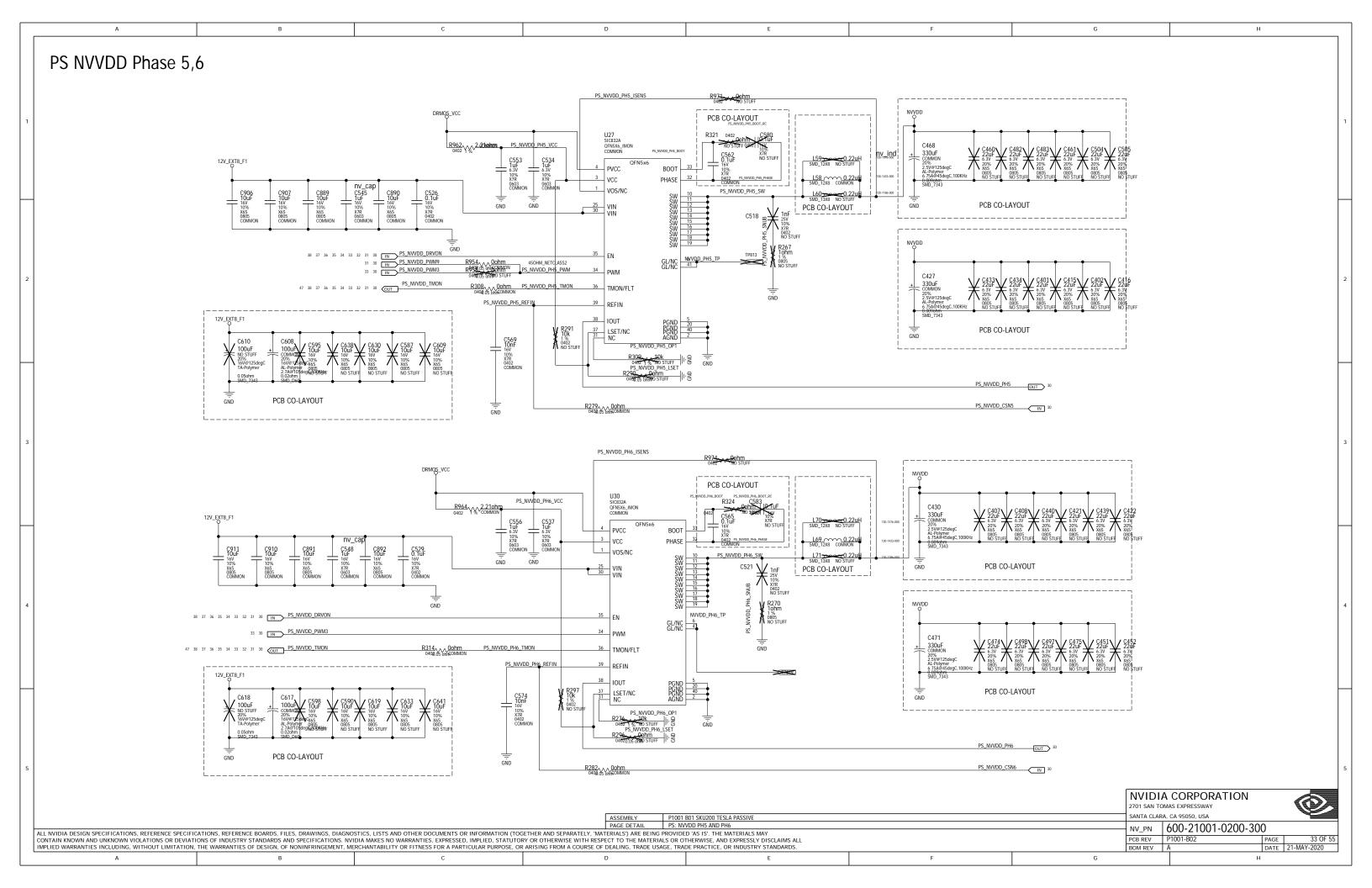
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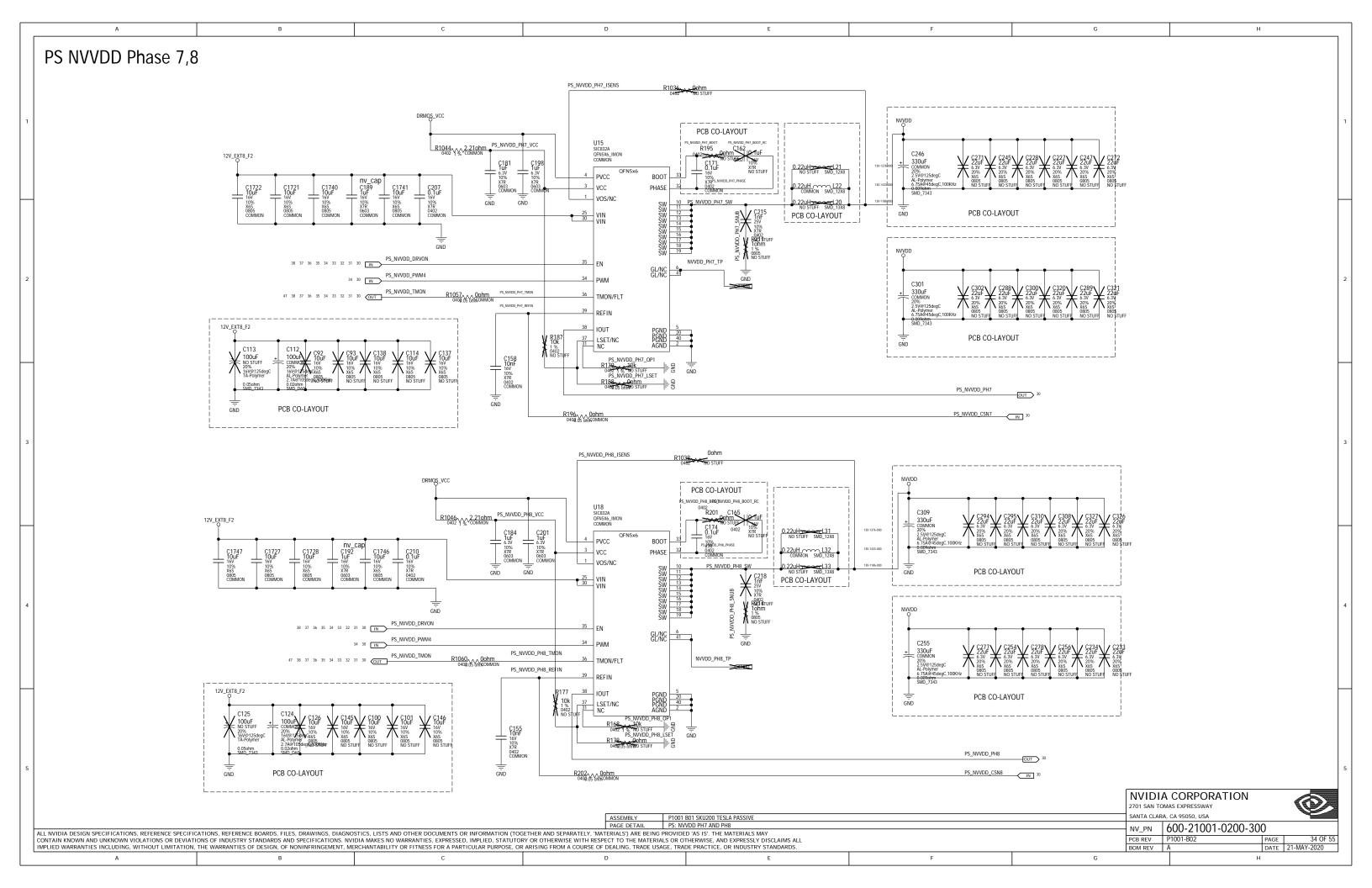
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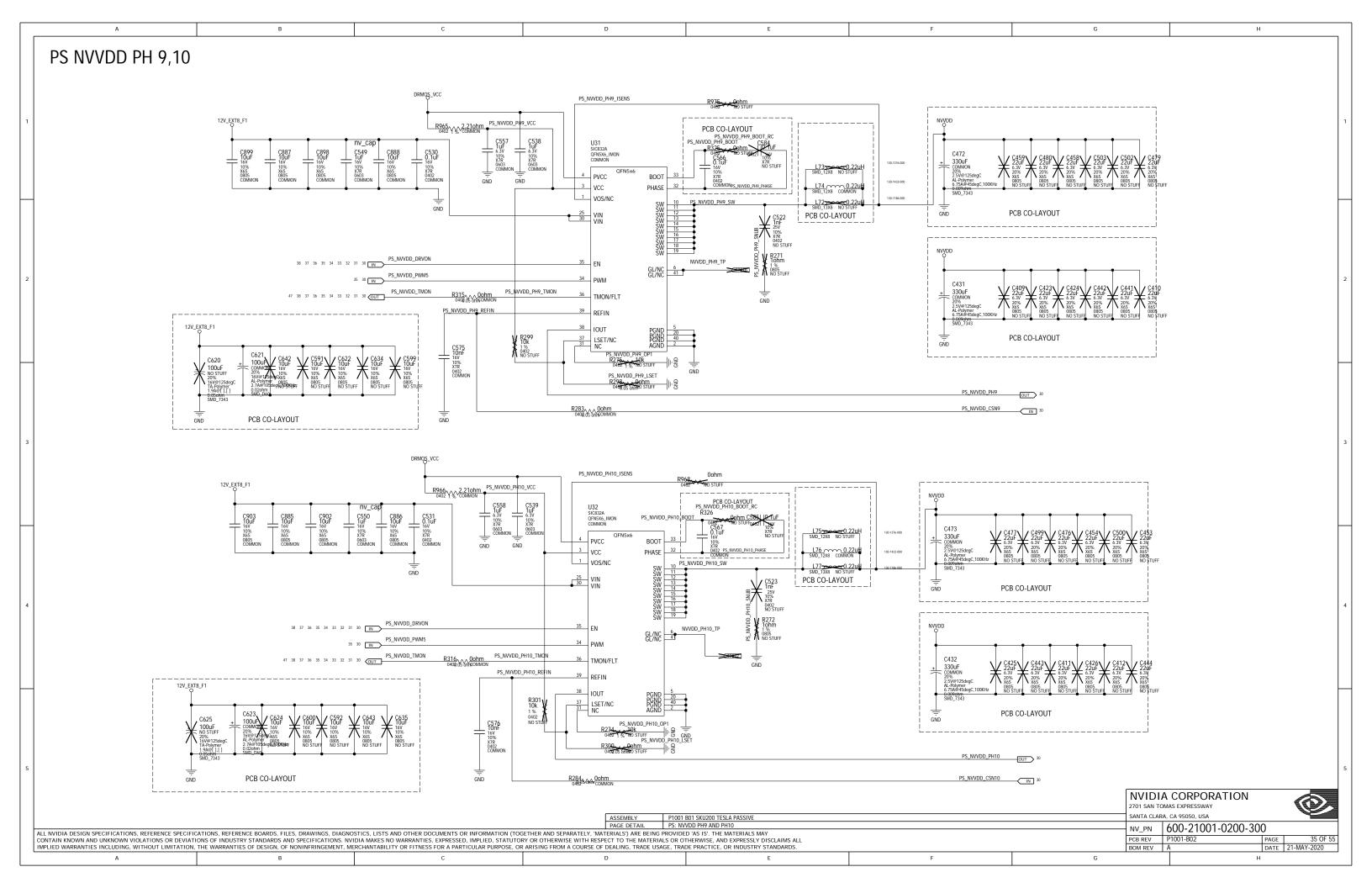


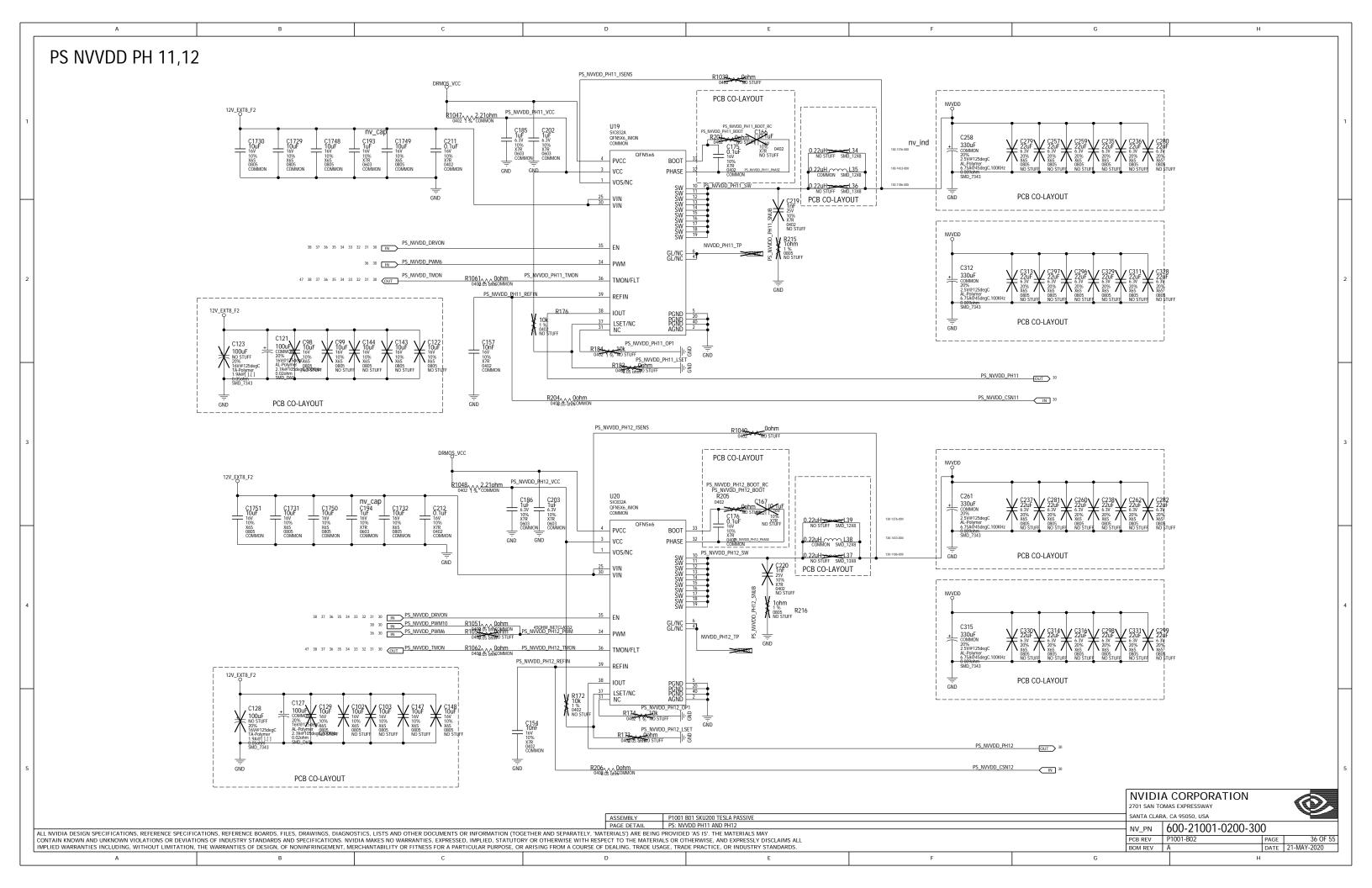


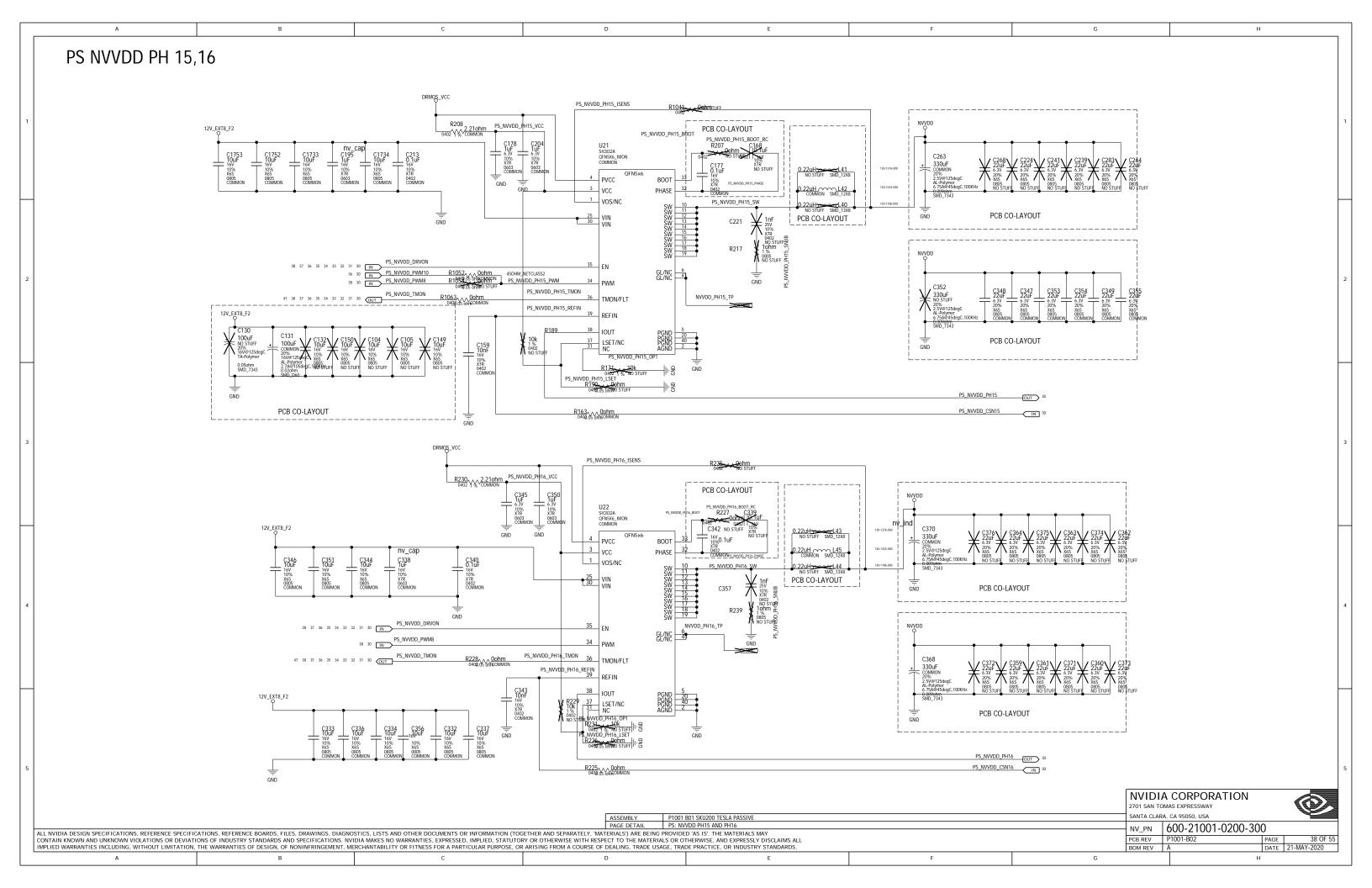


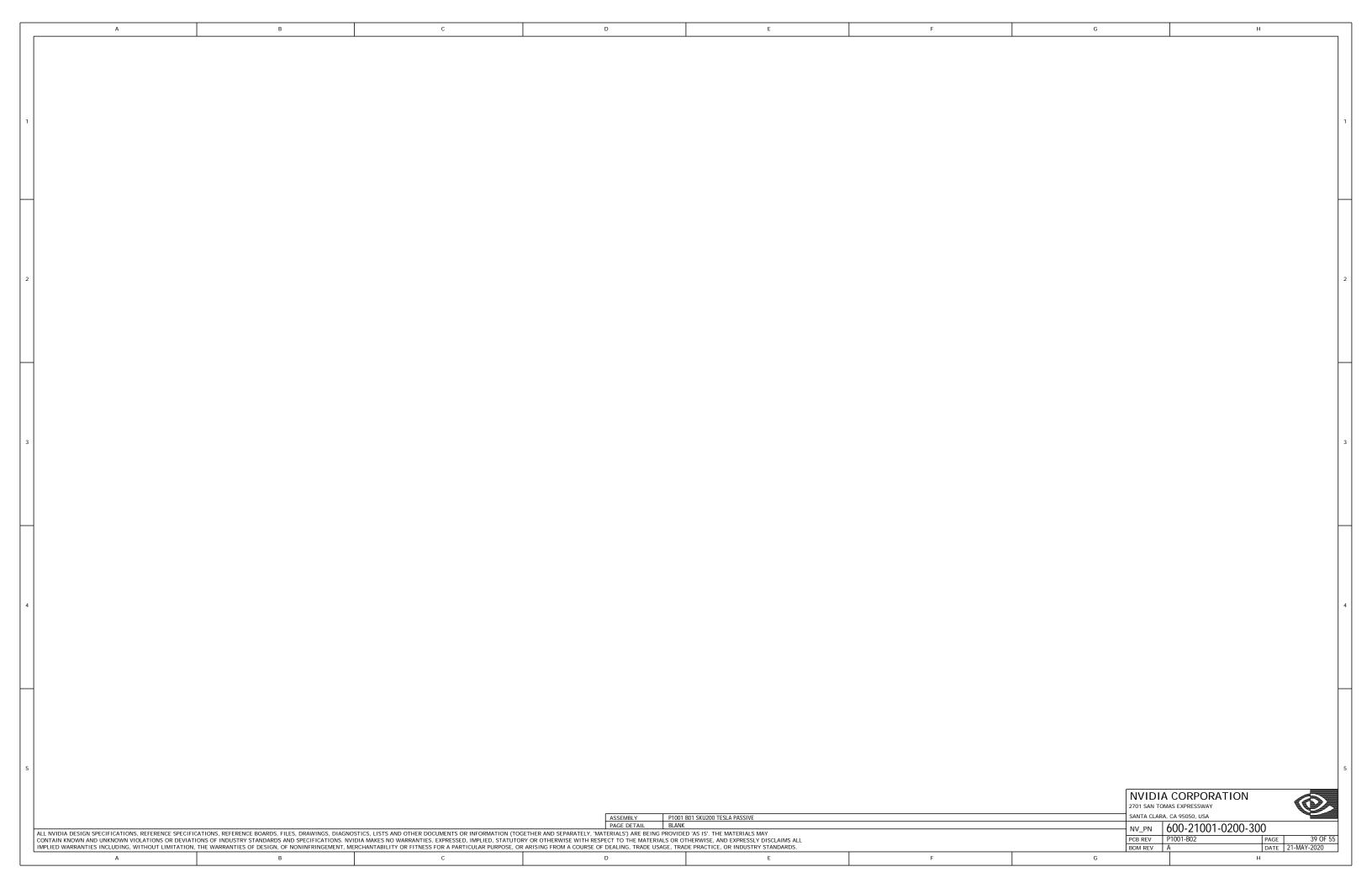












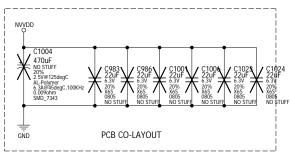
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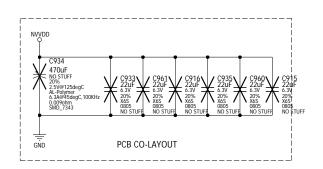
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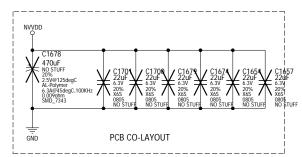
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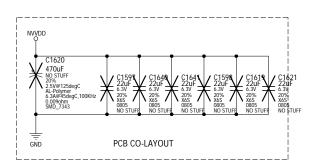
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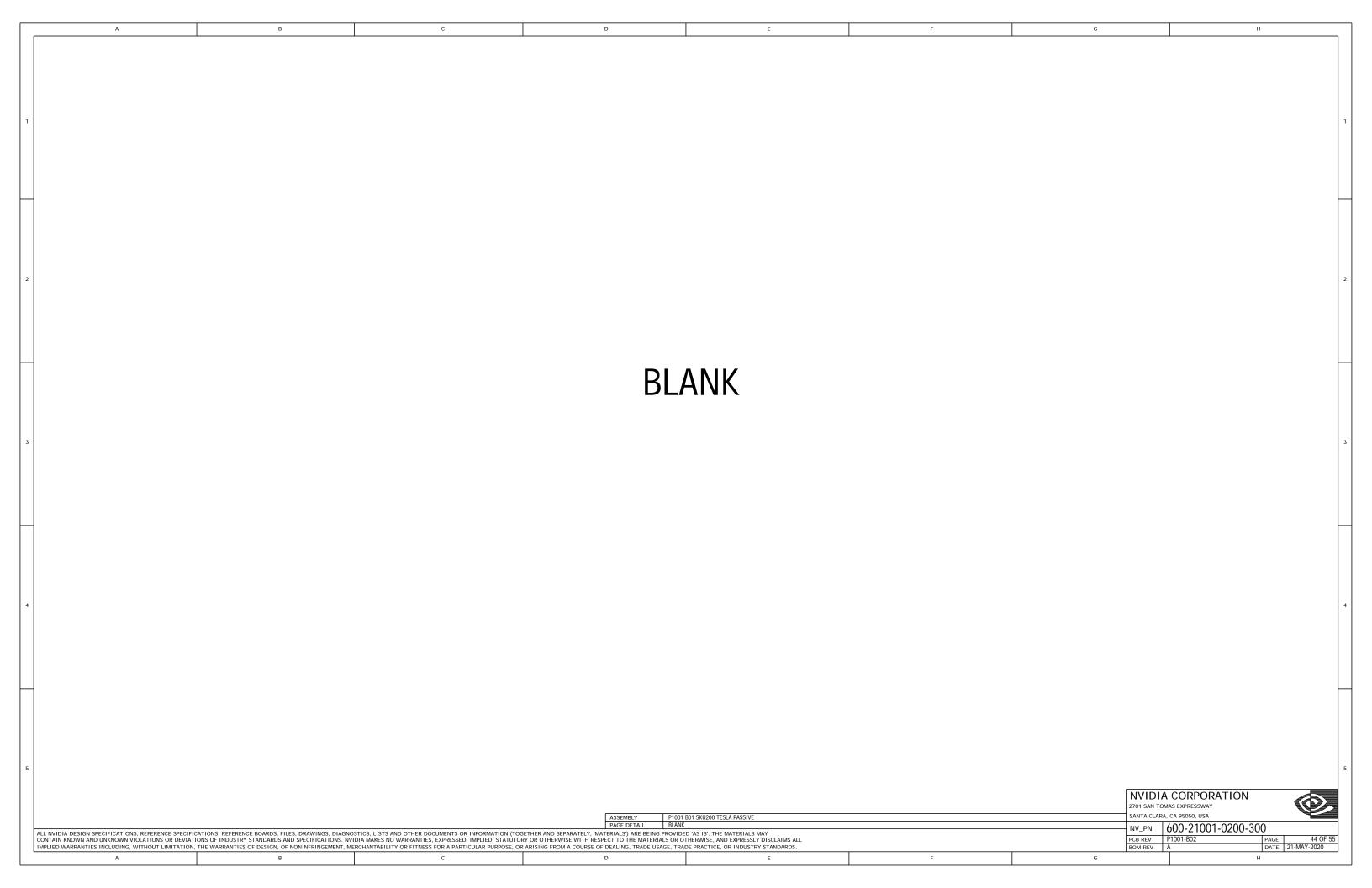
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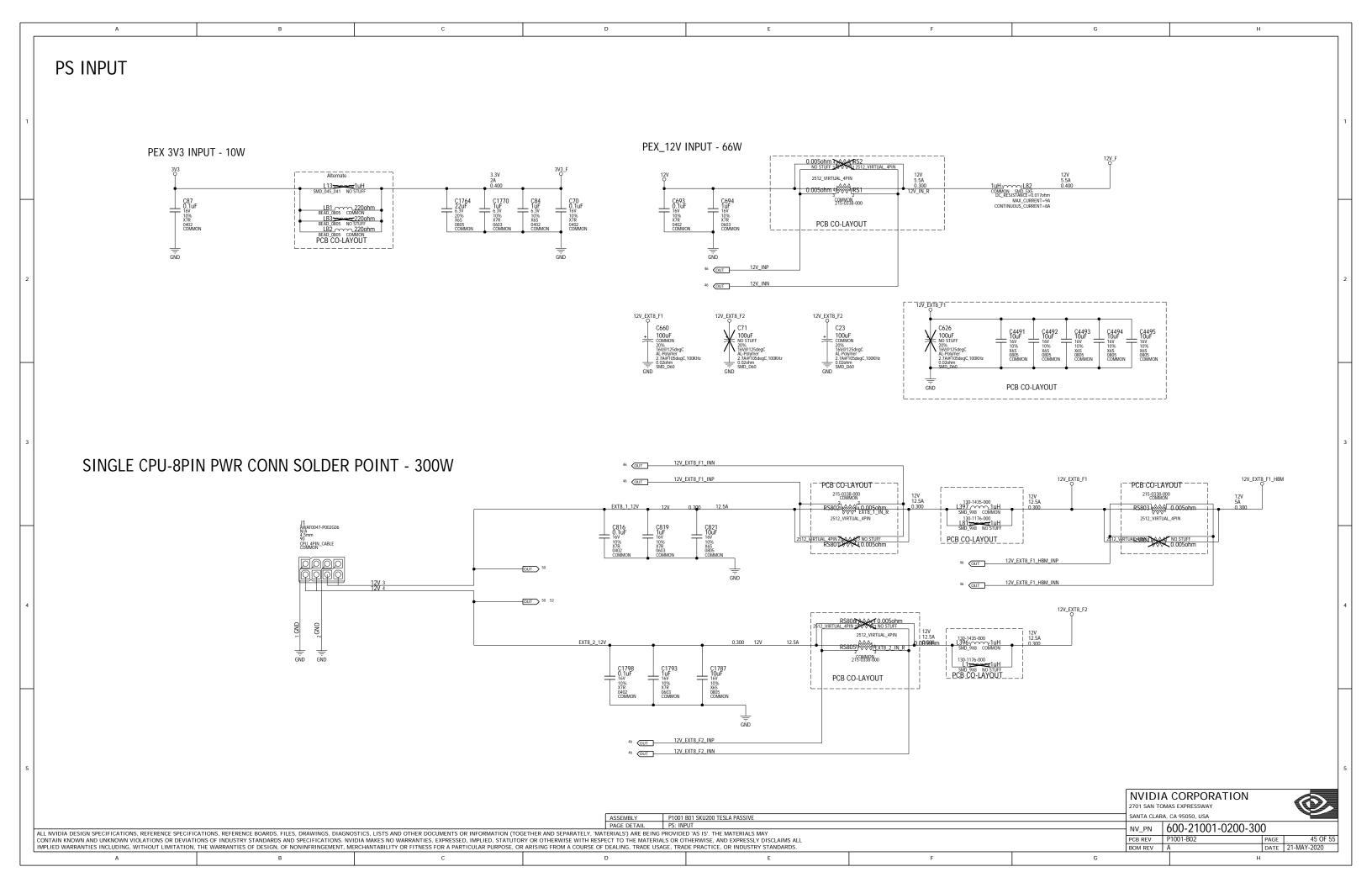
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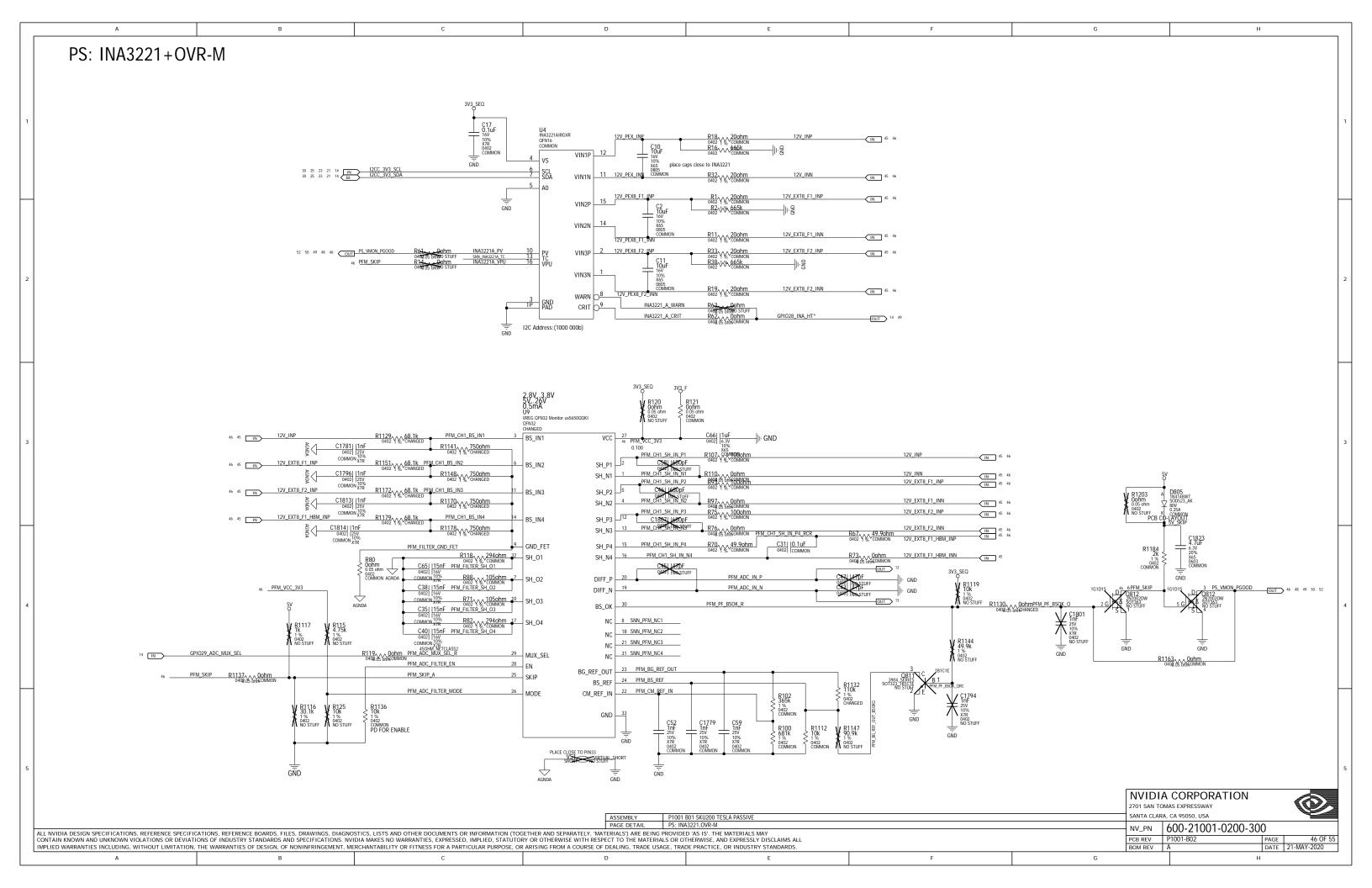
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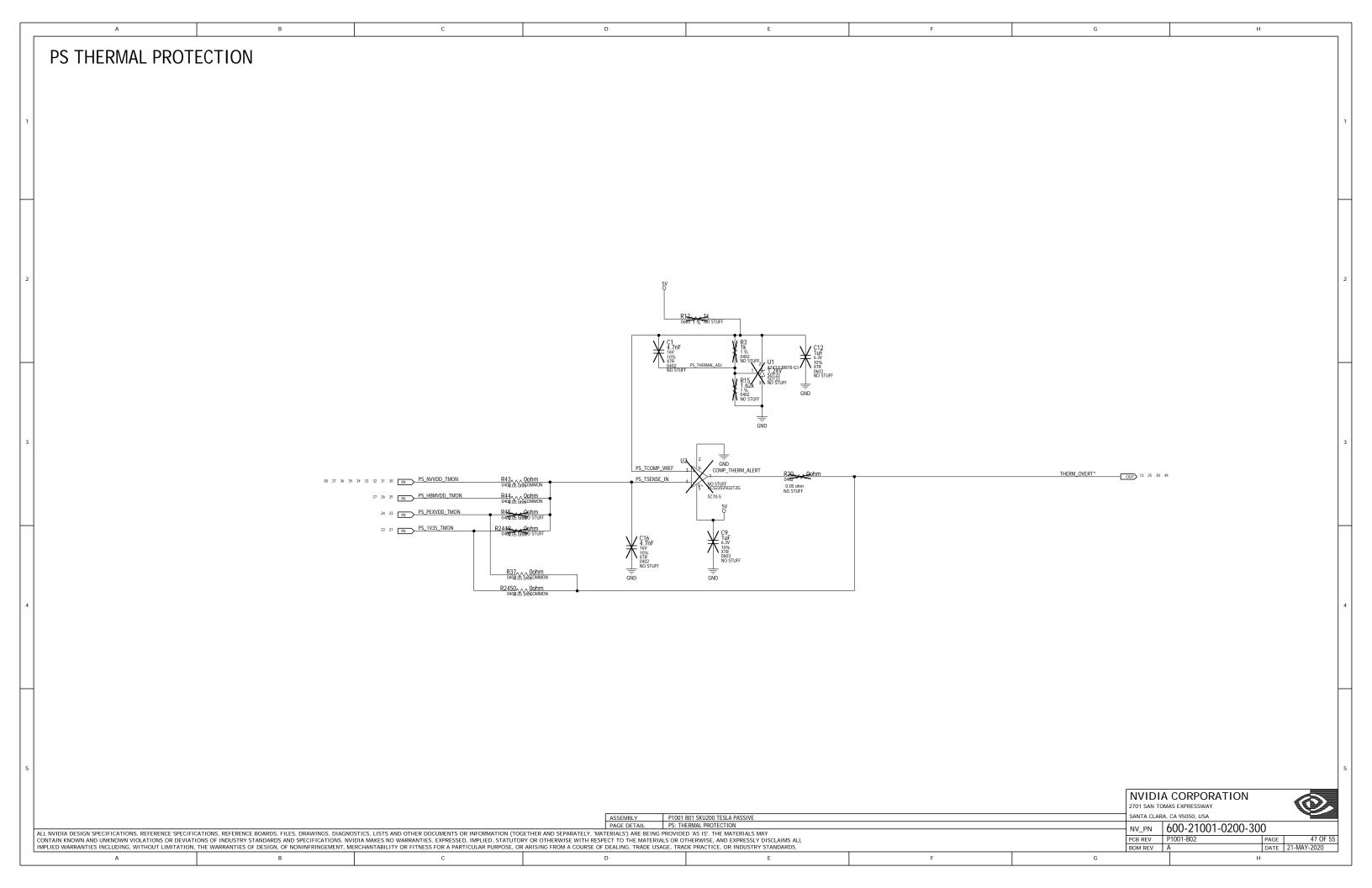
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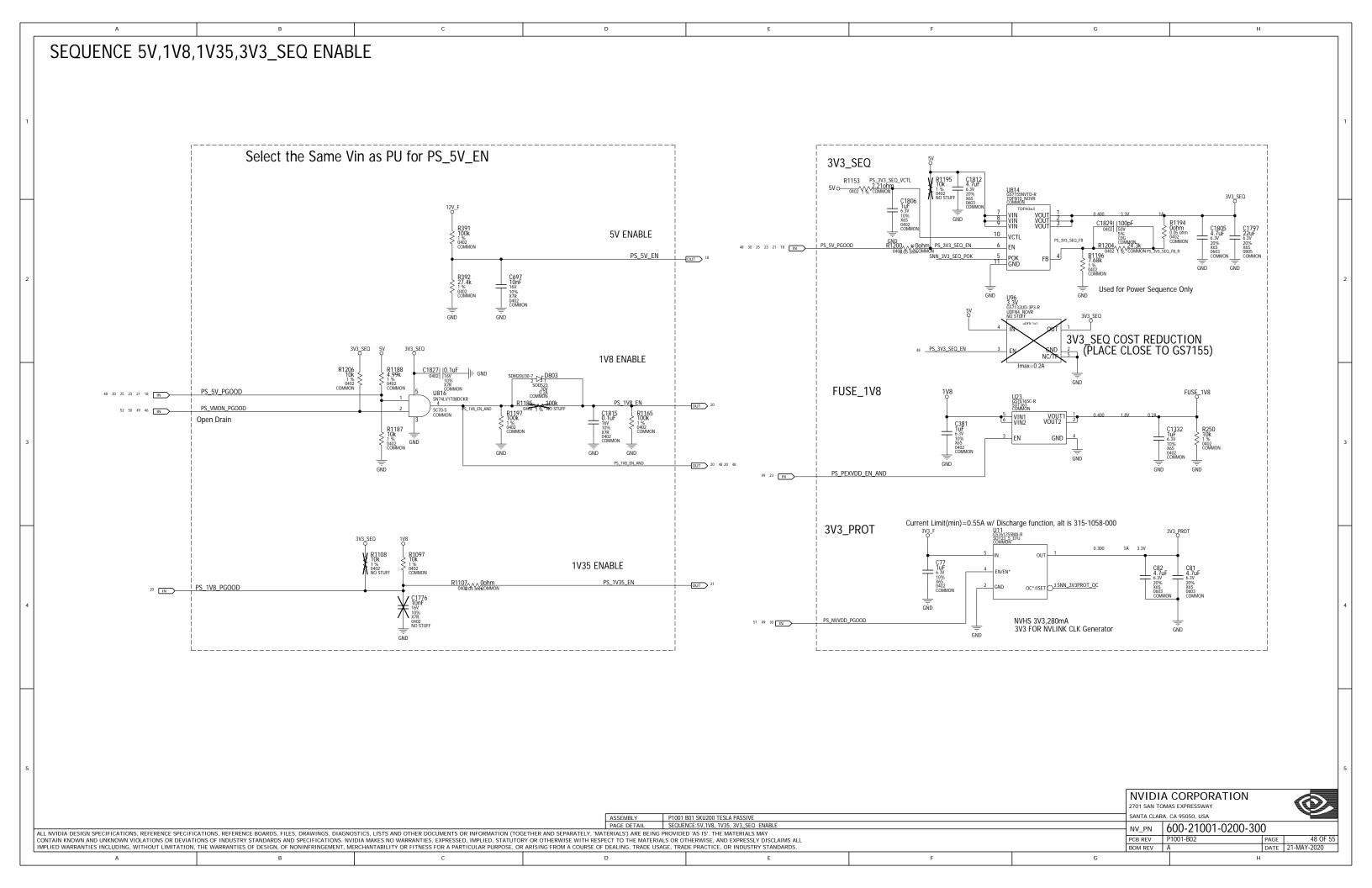
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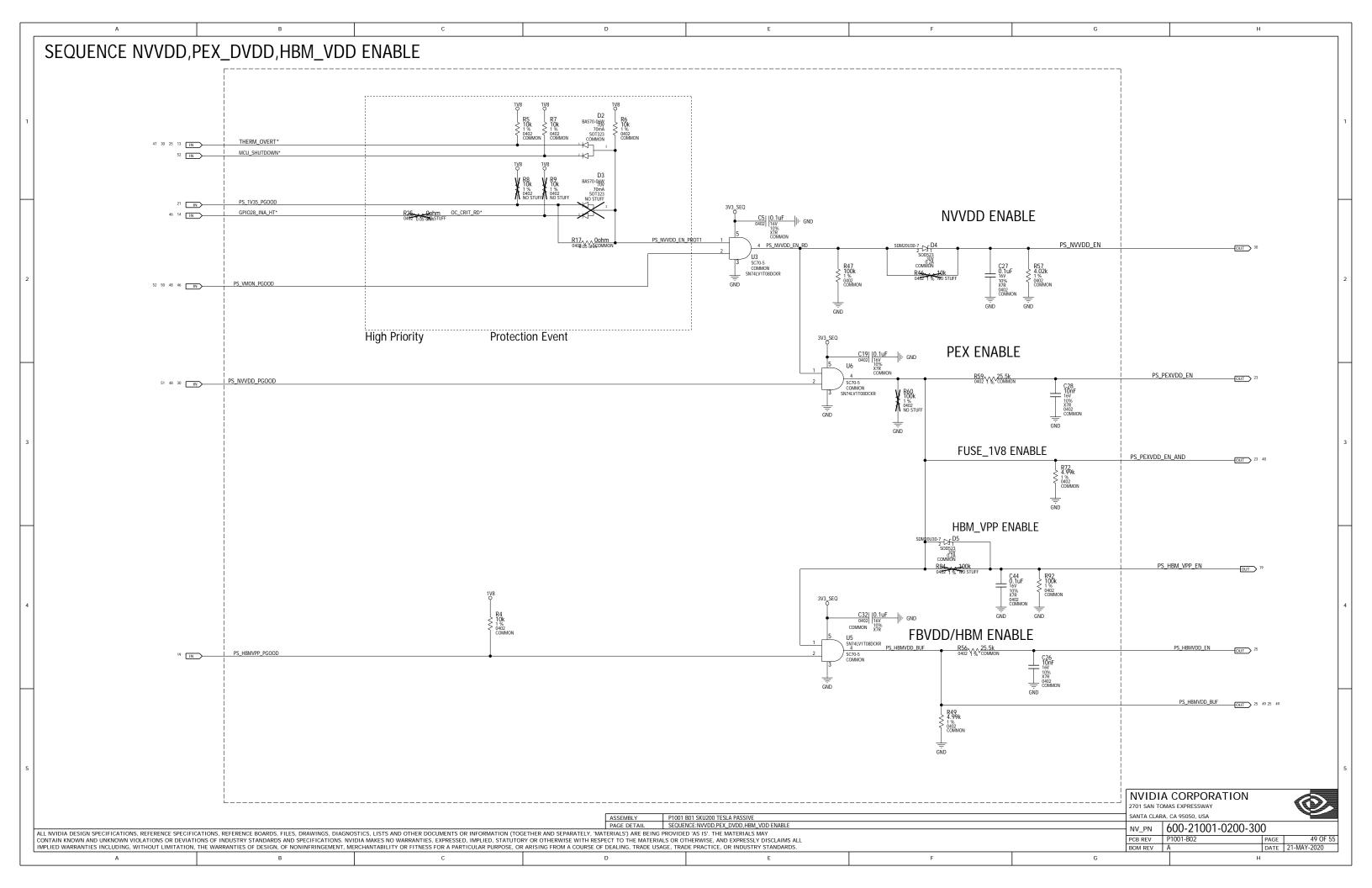








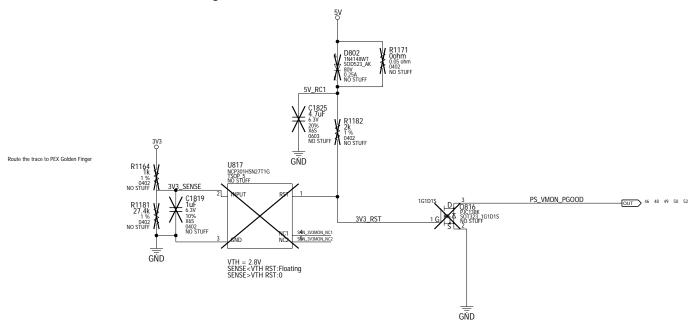


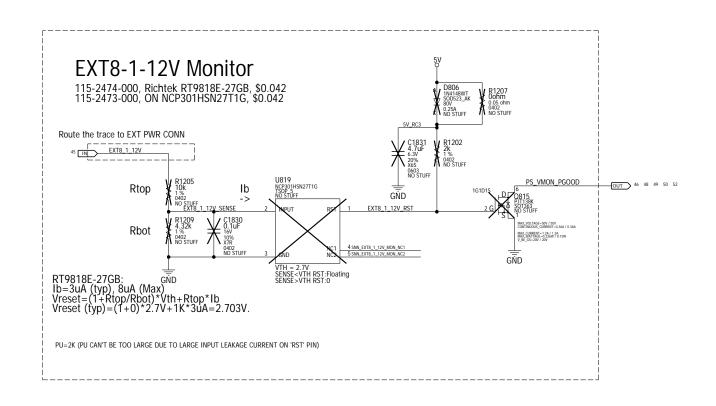


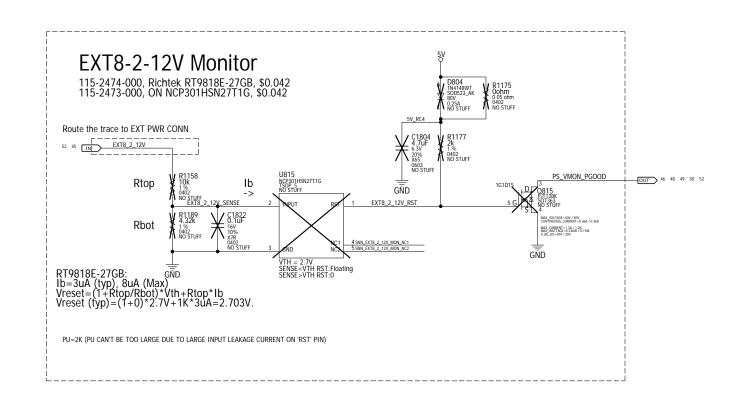
A B C D E F G H

SEQUENCE PCIe MONTITOR

PCIE Voltage Monitor







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