

GA102 DT SKU P-BOARD

350W, FH Std PCB, 384b, GDDR6X x8  
DP + DP + DP + HDMI/DP

TABLE OF CONTENTS

Page Description

|    |                              |
|----|------------------------------|
| 1  | Table of Contents            |
| 2  | BLOCK DIAGRAM                |
| 3  | PCI EXPRESS                  |
| 4  | MEMORY: GPU PARTITION A/B    |
| 5  | MEMORY: FBA PARTITION[31:0]  |
| 6  | MEMORY: FBA PARTITION[63:32] |
| 7  | MEMORY: FBB PARTITION[31:0]  |
| 8  | MEMORY: FBB PARTITION[63:31] |
| 9  | MEMORY: GPU PARTITION C/D    |
| 10 | MEMORY: FBC PARTITION[31:0]  |
| 11 | MEMORY: FBC PARTITION[63:32] |
| 12 | MEMORY: FBD PARTITION[31:0]  |
| 13 | MEMORY: FBD PARTITION[63:32] |
| 14 | MEMORY: GPU PARTITION E/F    |
| 15 | MEMORY: FBE PARTITION[31:0]  |
| 16 | MEMORY: FBE PARTITION[63:32] |
| 17 | MEMORY: FBF PARTITION[31:0]  |
| 18 | MEMORY: FBF PARTITION[63:32] |
| 19 | GPU GND, RFUs & RSVD         |
| 20 | GPU POWERS                   |
| 21 | GPU: NVVDD DECOUPLING        |
| 22 | GPU: FBVDD DECOUPLING        |
| 23 | GPU: MSVDD DECOUPLING        |
| 24 | BLANK                        |
| 25 | NVHS x16                     |

Page Description

|    |                           |
|----|---------------------------|
| 26 | MISC: THERMAL, JTAG, GPIO |
| 27 | IFPA UNUSED, IFPB UNUSED  |
| 28 | IFPE DP                   |
| 29 | IFPD DP                   |
| 30 | IFPC HDMI/DP              |
| 31 | IFFF DP                   |
| 32 | MISC. ROM, STRAPS         |
| 33 | MISC. XTAL, PLL           |
| 34 | PS: 5V                    |
| 35 | PS: PEX_DVDD and 1V8      |
| 36 | BLANK                     |
| 37 | PS: FBVDD Controller OVR3 |
| 38 | PS: FBVDDO OVR4           |
| 39 | PS: FBVDD PH1             |
| 40 | PS: FBVDD PH3             |
| 41 | PS: FBVDD PH2             |
| 42 | PS: FBVDD PH4             |
| 43 | PS: FBVDD OUTPUT CAP      |
| 44 | PS: MSVDD CONTROLLER      |
| 45 | PS: MSVDD PH1             |
| 46 | PS: MSVDD PH2             |
| 47 | PS: MSVDD PH3 and PH5     |
| 48 | PS: MSVDD PH4 and PH6     |
| 49 | PS: MSVDD OUTPUT CAP(TOP) |
| 50 | BLANK                     |

Page Description

|    |  |
|----|--|
| 51 | PS: NVVDD Controller_OVR8              |
| 52 | PS: NVVDD PH1 (PWM1)                   |
| 53 | PS: NVVDD PH2 (PWM6)                   |
| 54 | PS: NVVDD PH3 (PWM3) and PH4 (PWM3)    |
| 55 | PS: NVVDD PH5 (PWM7) and PH7 (PWM8)    |
| 56 | PS: NVVDD PH6 (PWM7)                   |
| 57 | PS: NVVDD PH8(PWM5) and PH9(PWM2)      |
| 58 | PS: NVVDD PH10 (PWM4)                  |
| 59 | Colayout Notes                         |
| 60 | BLANK                                  |
| 61 | PS: NVVDD OUTPUT CAP(TOP)              |
| 62 | BLANK                                  |
| 63 | PS: INPUT SWITCH RTD3                  |
| 64 | BLANK                                  |
| 65 | PS: INPUTS, FILTERING, and, MONITORING |
| 66 | PS: HOT UNPLUG                         |
| 67 | PS: Discrete Power Steering            |
| 68 | PS: PREFILTER                          |
| 69 | PS: PREFILTER B                        |
| 70 | Sequence: 5V, 1V8, 3V3_SEQ             |
| 71 | Sequence: NV, PEX, FB EN               |
| 72 | Sequence: 3V3 MONITOR                  |
| 73 | Sequence: MISC                         |
| 74 | MISC: LED & FAN                        |
| 75 | RGBW LED REF                           |

ALL IN-HOUSE DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE SCHEMATS, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." THE MATERIALS MAY CONTAIN ERRORS AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. INDEMNITIES ARE NOT WARRANTED, EXPRESSLY IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMED. ALL MATERIALS ARE PROVIDED WITHOUT WARRANTY, 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.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
Table of Contents

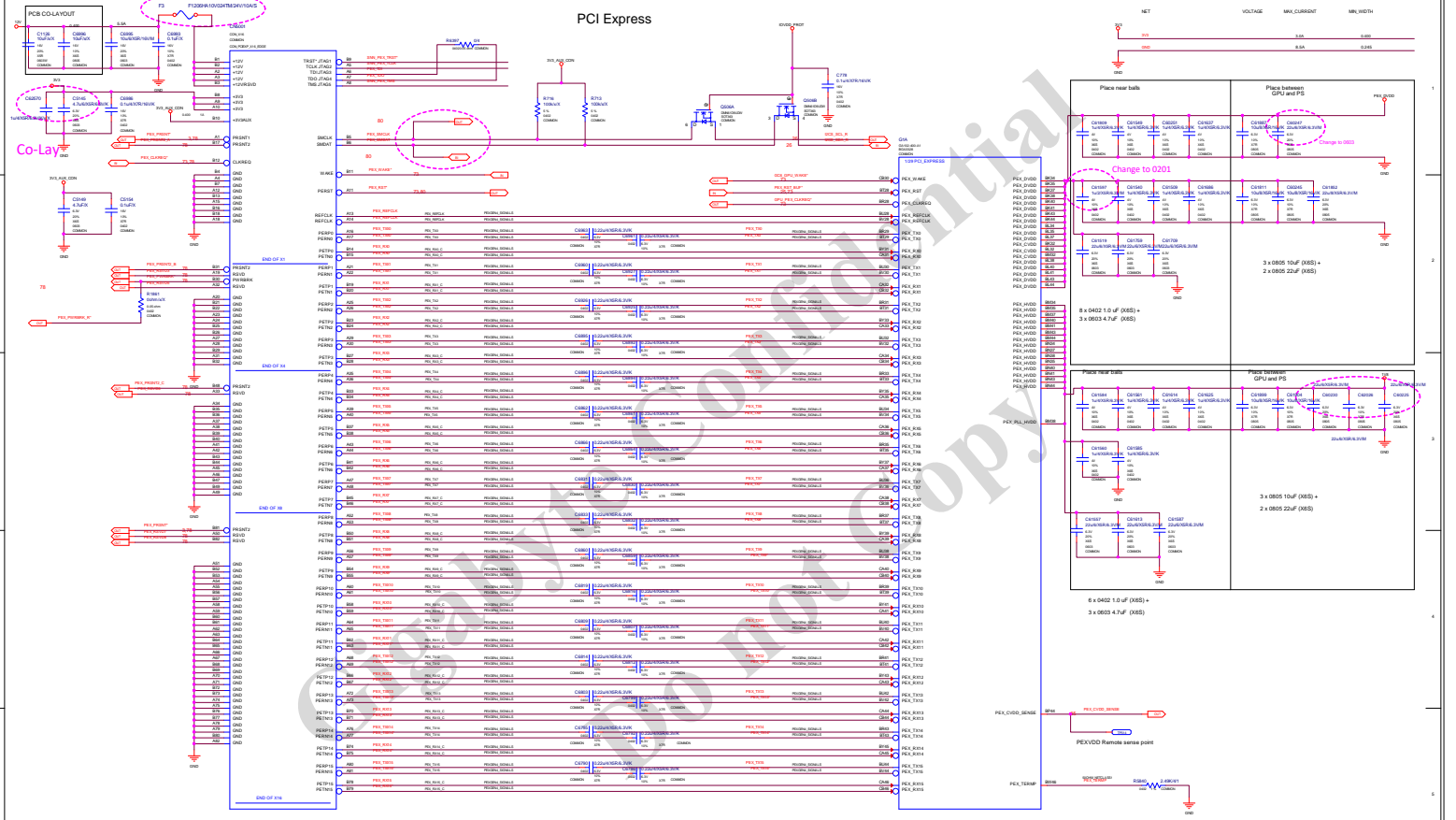
|                      |  |
|----------------------|--|
| GIGABYTE             |  |
| PCE                  |  |
| GV-N3090AORUS X-24GD |  |
| Date: 2024.08.08     |  |

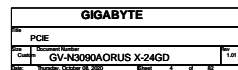
ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE SCHEDULES, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE HEREBY PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. GIGABYTE MAKES NO WARRANTY, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OR NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

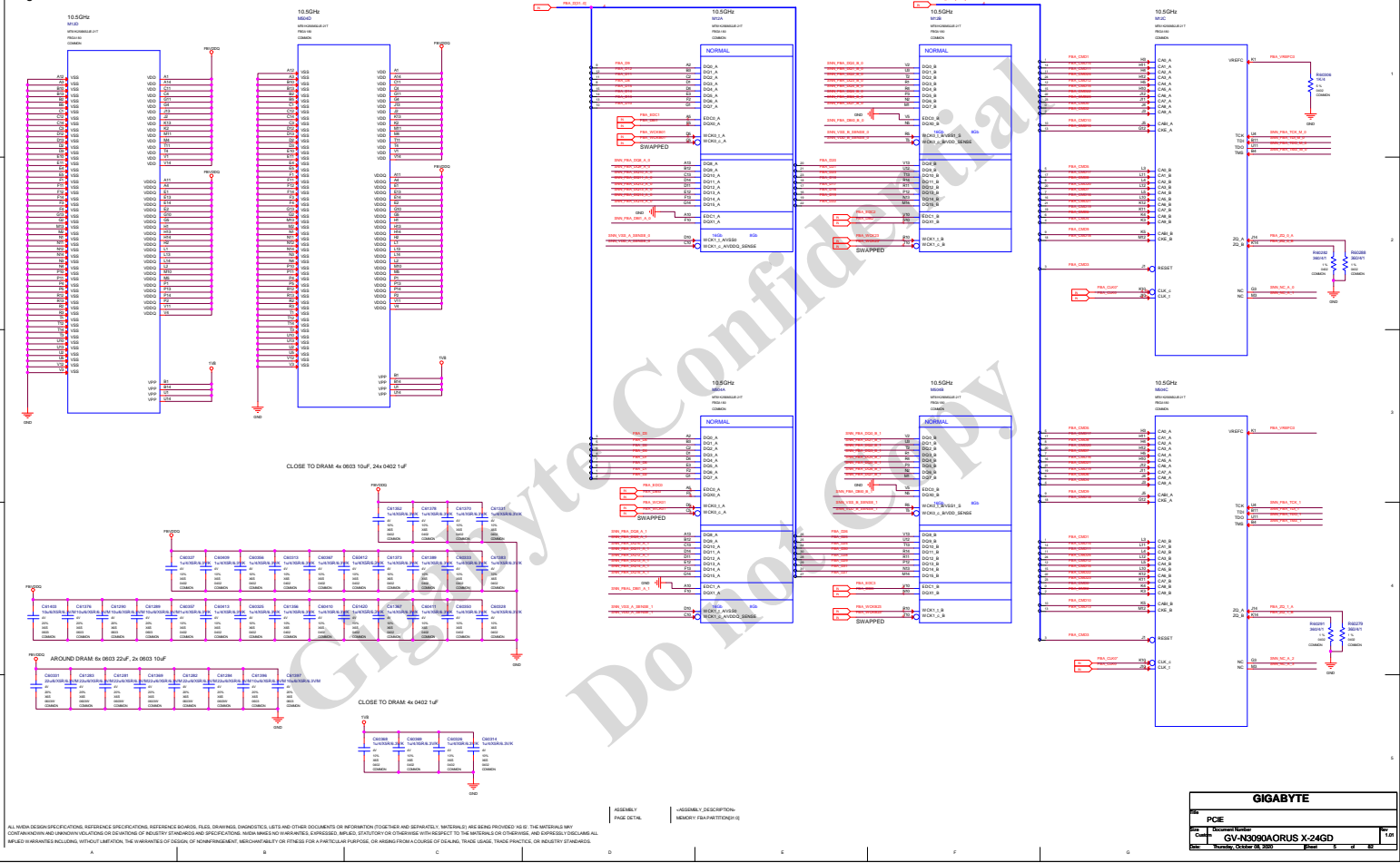
ASSEMBLY  
PAGE DETAIL

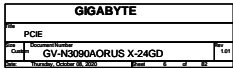
ASSEMBLY DESCRIPTION:  
BLOCK DIAGRAM

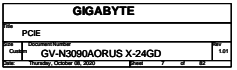
| GIGABYTE                 |     |
|--------------------------|-----|
| PCIE                     | 144 |
| GV-N3080AORUS X-24GD     |     |
| GIGABYTE, TAIPEI, TAIWAN |     |

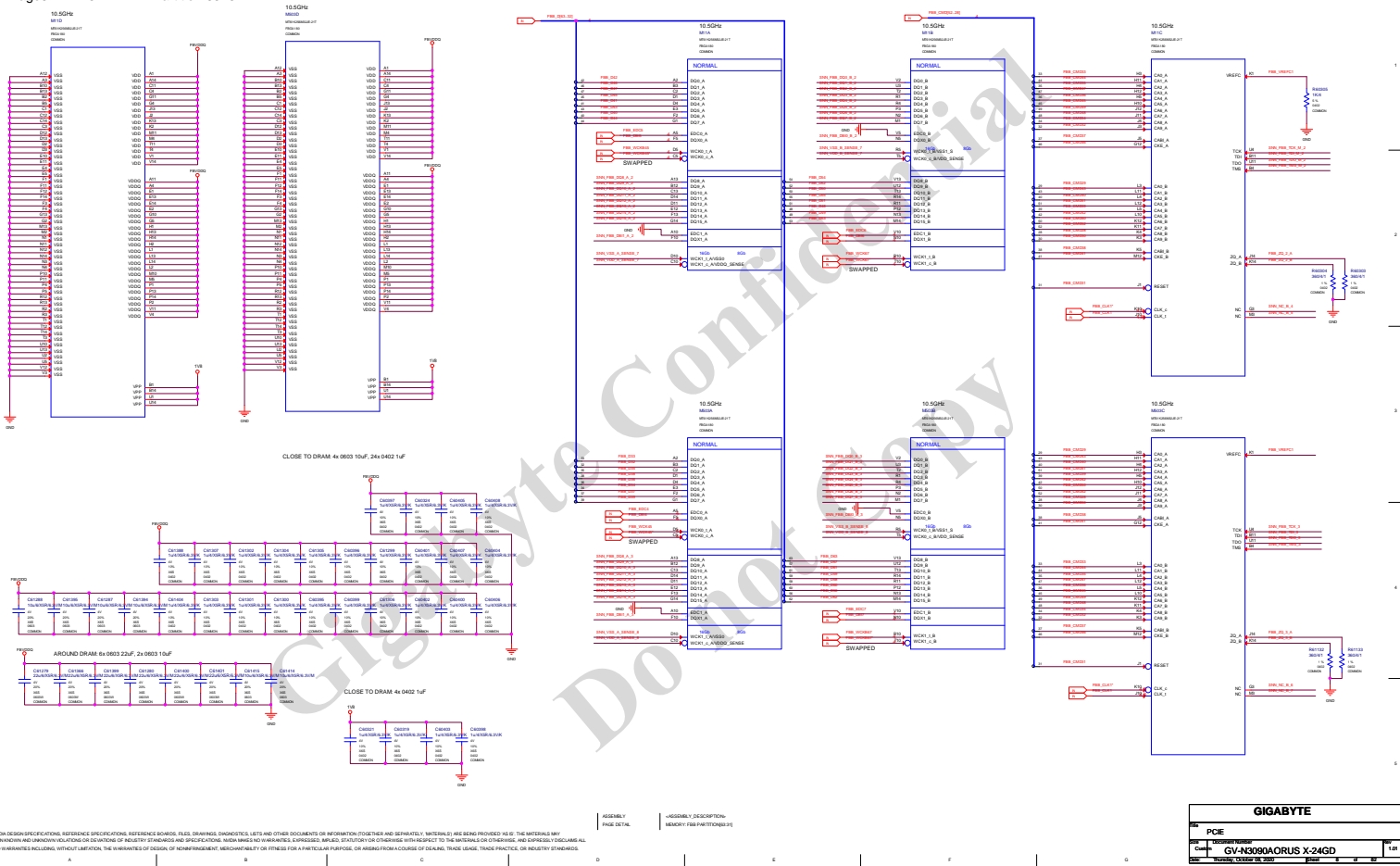












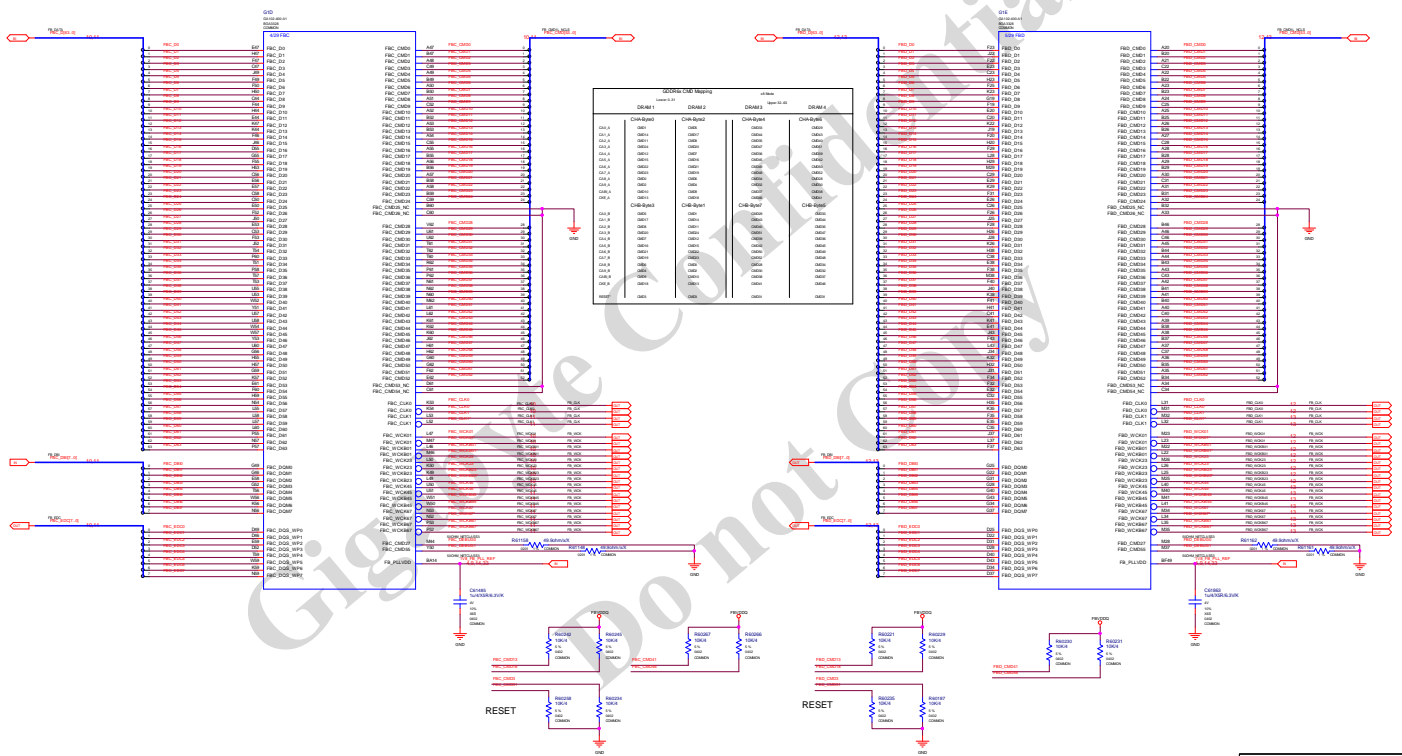
ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMBS, FILES, DRAWINGS, DIAGNOSTICS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS, INCLUDING, BUT NOT LIMITED TO, MATERIALS THAT MAY VIOLATE, EXPRESSLY OR OTHERWISE, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLOSURE.

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: FSB PARTITION(0:2) |

|                 |                            |        |         |
|-----------------|----------------------------|--------|---------|
| <b>GIGABYTE</b> |                            |        |         |
| File: PCIE      |                            |        |         |
| Area:           | Document Number:           | Rev:   |         |
| Customs:        | GV-N3090AORUS X-24GD       | 1.01   |         |
| Date:           | Thursday, October 08, 2020 | Sheet: | 8 of 82 |





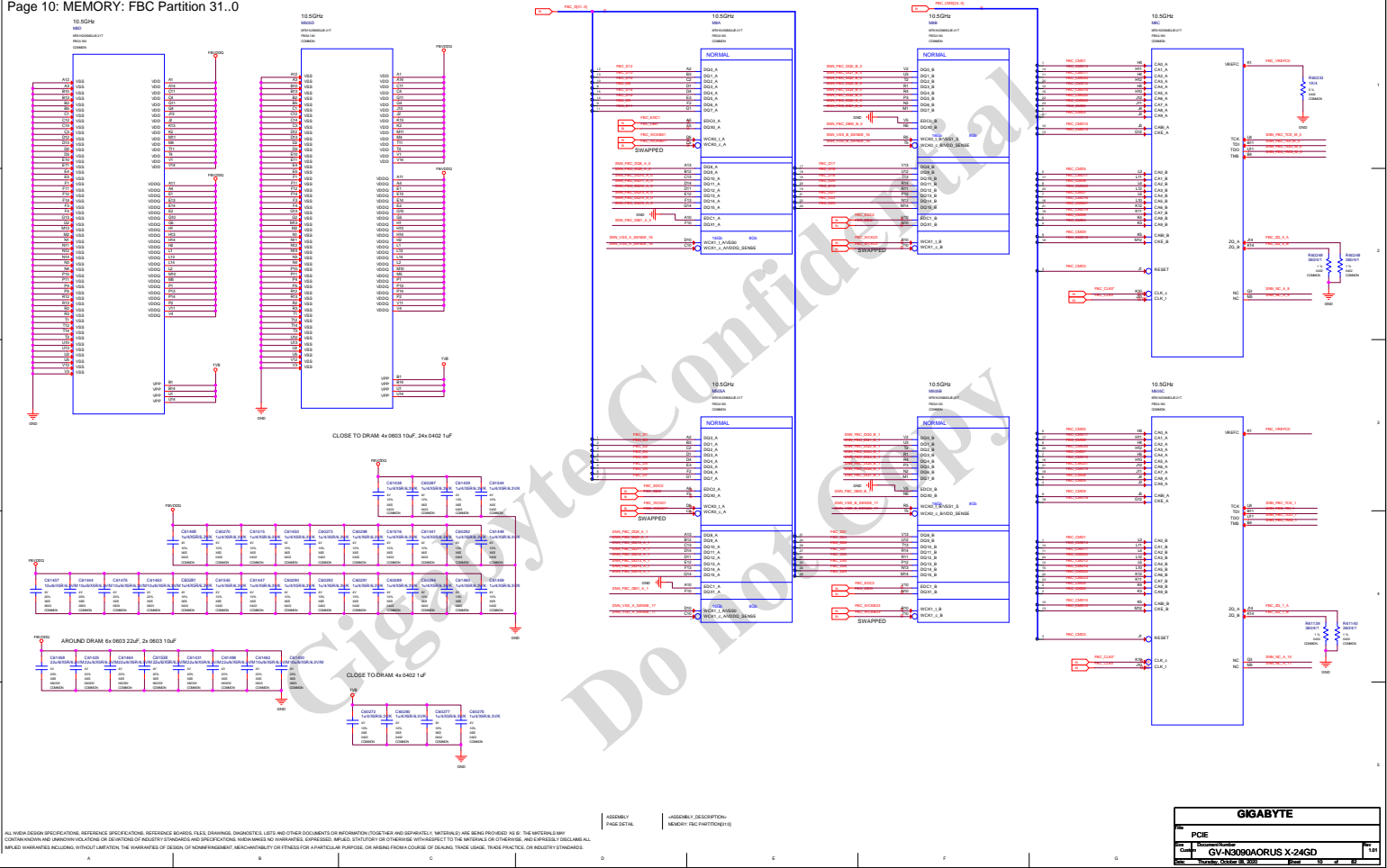
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOU BY GIGABYTE TECHNOLOGY CO., LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED IN THE ORDER. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD. THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOU BY GIGABYTE TECHNOLOGY CO., LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED IN THE ORDER. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD.

**GIGABYTE**

PCIE

GV-N3090AORUS X-24GD

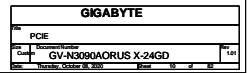
1.0.0

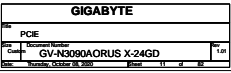


ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE SIGNALS, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION TOGETHER AND SEPARATELY, MATERIALS ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. GIGABYTE, ARISE, STATISTIQ 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 PRACTICE, OR INDUSTRY STANDARDS.

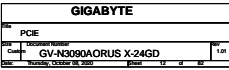
ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
MEMORY FBC PARTITION 31..0



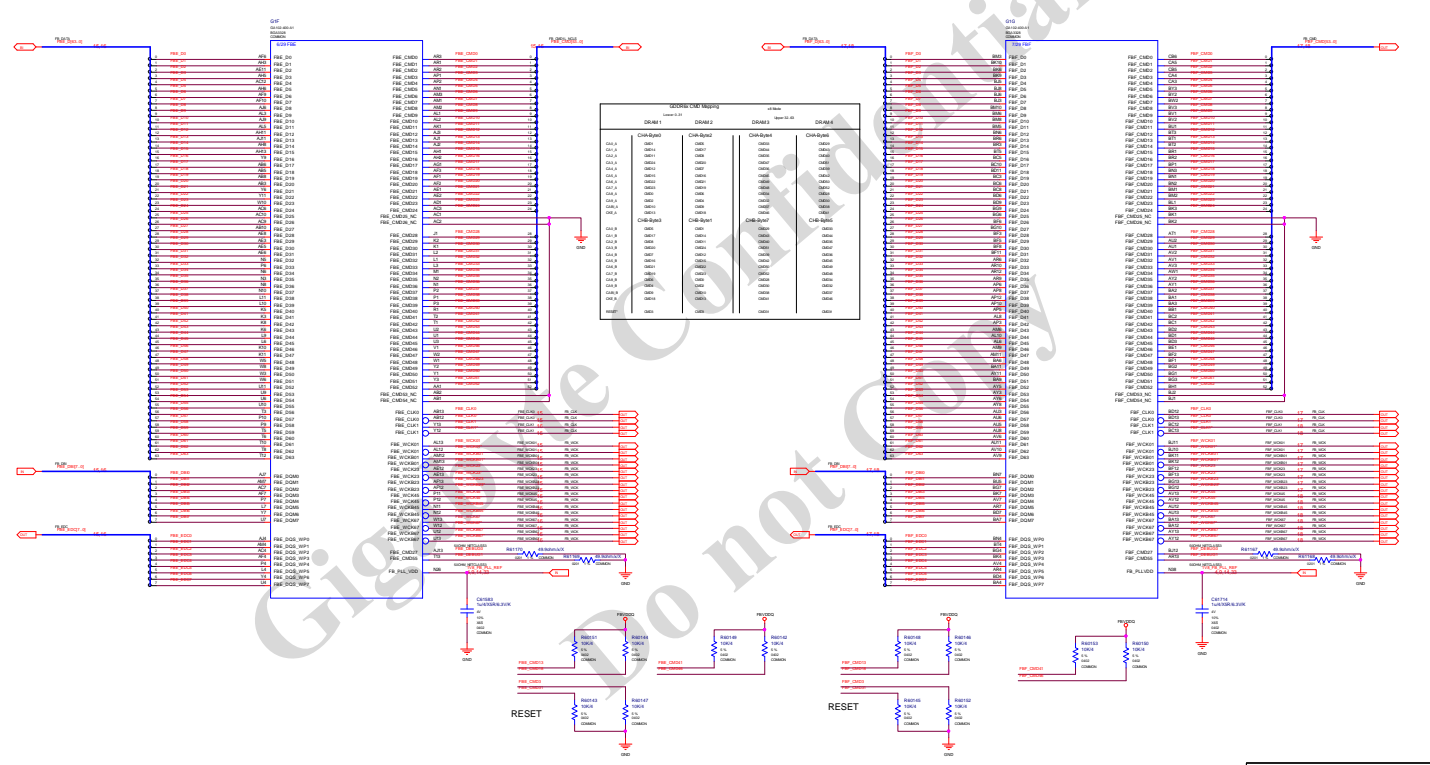


ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FLIES, DRAWINGS, DIAGNOSTICS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNCORRECTIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA IMAGES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, ARE EXPRESSED OR IMPLIED. 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.

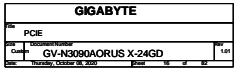




|         |                            |
|---------|----------------------------|
| PCIE    |                            |
| Doc#    | Document Number            |
| Customs | GV-N3090AORUS X-24GD       |
| Rev     | 1.01                       |
| Date    | Thursday, October 08, 2020 |
| Page    | 13 of 82                   |

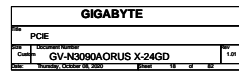






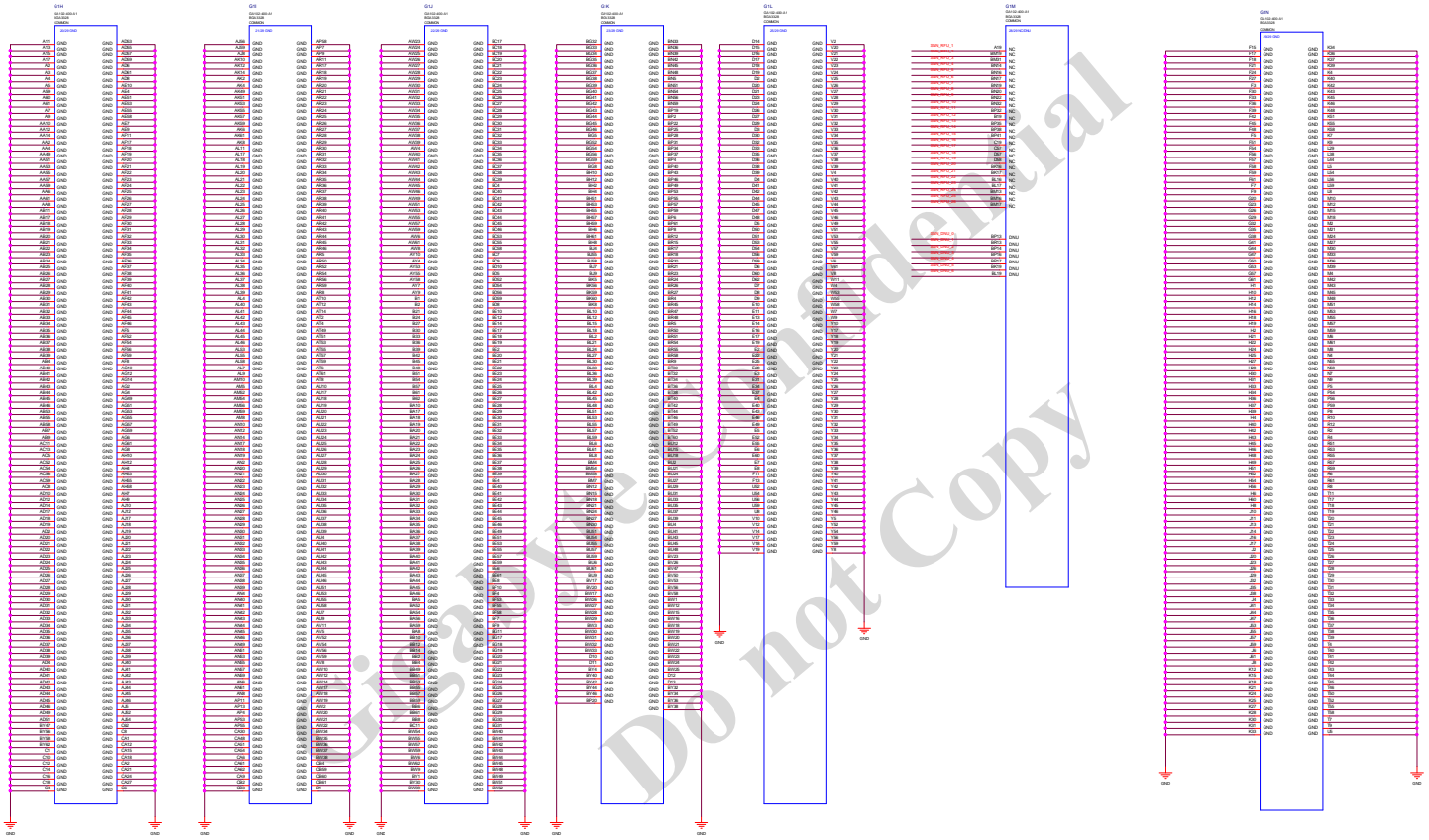






ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BORDERS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS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

GPU GND, RFUs & RSVD



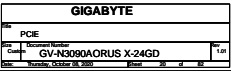
ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE DRAWINGS, FILES, DRAWINGS, DIMENSIONS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND/OR INACCURACIES AND/OR VIOLATIONS OF OR DEVIATIONS FROM INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF ACCURACY, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

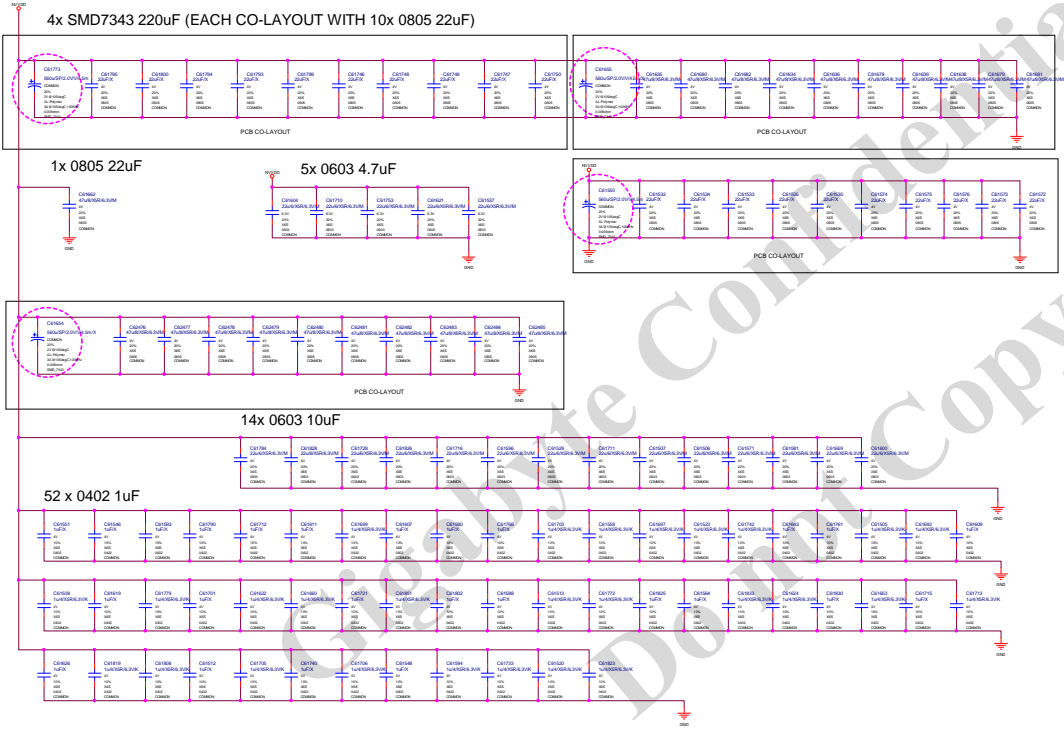
ASSEMBLY DESCRIPTION  
GPU GND, RFUs & RSVD

|                            |     |
|----------------------------|-----|
| GIGABYTE                   |     |
| PCIE                       | 1.0 |
| GV-N3090AORUS X-24GD       |     |
| Rev. 1.0, October 20, 2024 |     |

ALL DATA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, FILES, DRAWINGS, SYMPOSIUMS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN ERRORS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. EXPRESSLY, WITHOUT LIMITATION, NO WARRANTIES, EXPRESS OR IMPLIED, ARE MADE BY OR FOR THE COMPANY OR ITS AFFILIATES OR SUBSIDIARIES, OR ANY OF THEM, 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.



NVVDD UNDER GPU



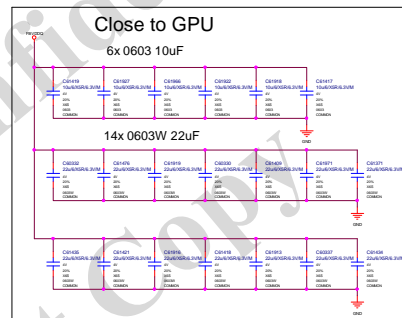
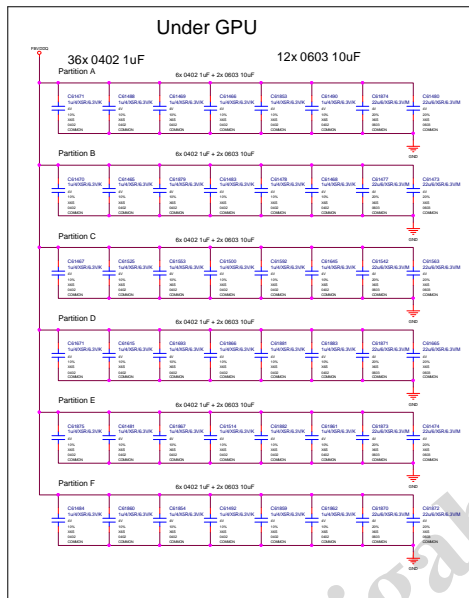
ALL NEW DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE SCHEDULES, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. INDEMNITIES ARE NOT WARRANTED, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMED. ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
GPU NVVDD DECOUPLING

| GIGABYTE                |            |                 |          |
|-------------------------|------------|-----------------|----------|
| REV                     | DATE       | DESCRIPTION     | BY       |
| 1.0                     | 2024-01-15 | Initial Release | J. Smith |
| GV-N3090AORUS X-24GD    |            |                 |          |
| NVIDIA GeForce RTX 3090 |            |                 |          |

FBVDDQ



ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE Schematics, FILES, DRAWINGS, DIMENSIONS, 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. GIGABYTE MAKES NO WARRANTIES, EXPRESS OR 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 PRACTICE, OR INDUSTRY STANDARDS.

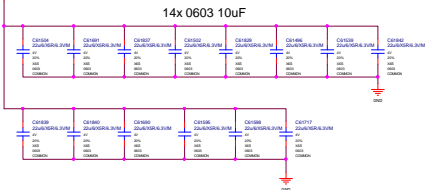
ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
GPU FBVDD DECOUPLING

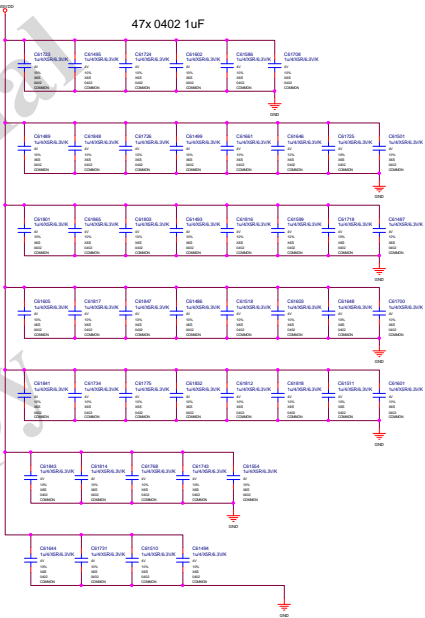
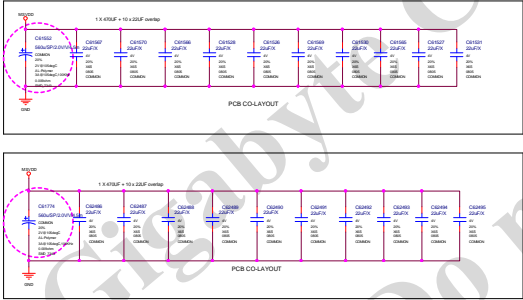
| GIGABYTE  |                      |      |  |
|-----------|----------------------|------|--|
| PCIE      | GV-N3090AORUS X-24GD | 1.01 |  |
| REV. 1.01 |                      |      |  |

UNDER GPU

MSVDD



2x SMD7343 220uF (EACH CO-LAYOUT WITH 10x 22uF 0805)



REMOVED 3X 1uF 0402 DUE TO SPACE RESTRICTION

ALL IN-HOUSE DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, 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. INDIANASIS MAKES NO WARRANTY, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL WARRANTIES INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
GPU MSVDD DECOUPLING

| GIGABYTE             |  |  |  |
|----------------------|--|--|--|
| PCIE                 |  |  |  |
| GV-N3090AORUS X-24GD |  |  |  |
| REV. 1.0             |  |  |  |

BLANK

Gigabyte Confidential  
Do not Copy

ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, 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. INDEMNITIES 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 MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

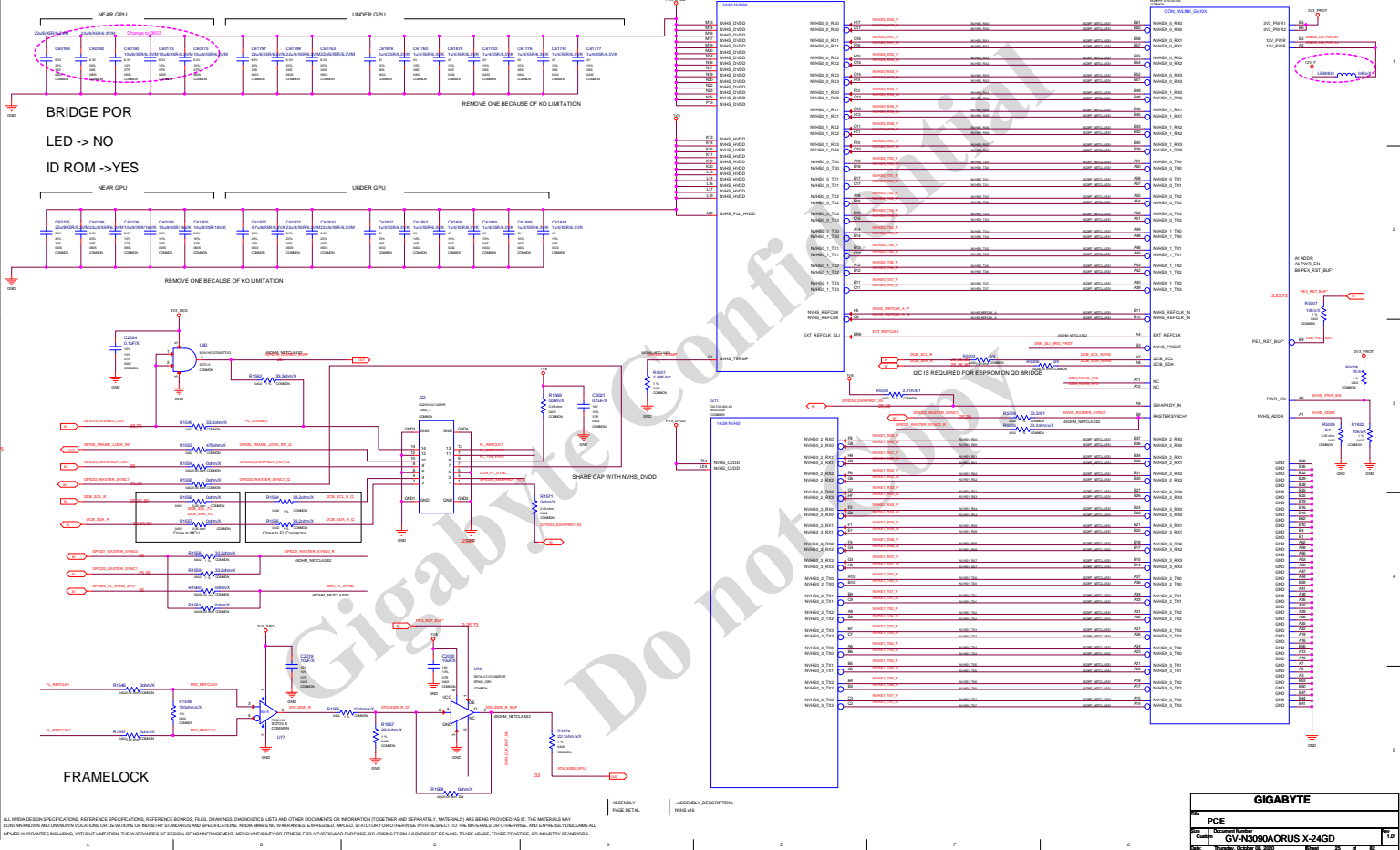
ASSEMBLY  
PAGE DETAIL

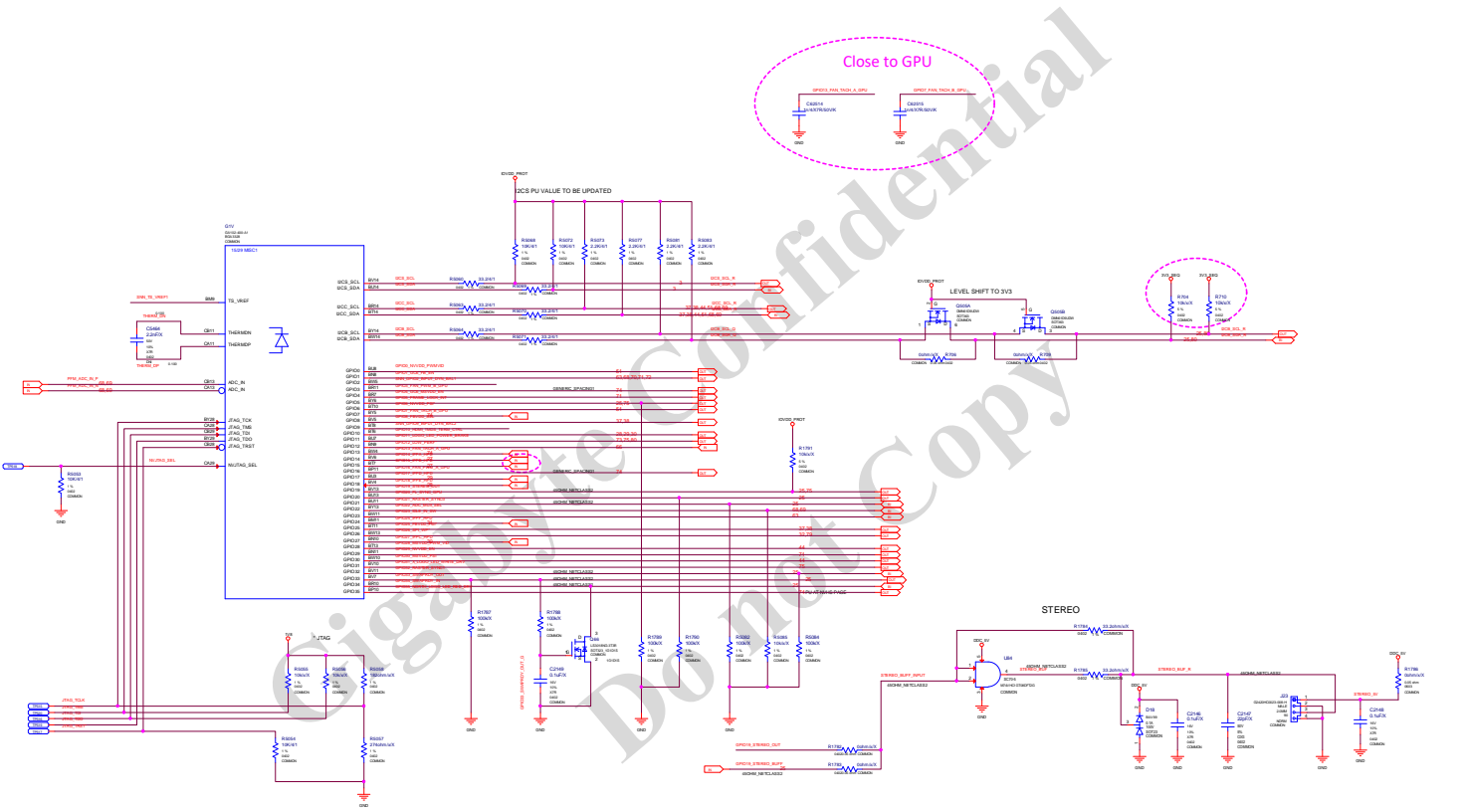
ASSEMBLY DESCRIPTION:  
BLANK

| GIGABYTE  |            |                      |    |
|---|------------|----------------------|----|
| REV   | DATE       | DESCRIPTION          | BY |
| 1   | 2024-01-15 | PCIE                 | 1  |
| 2   | 2024-01-15 | GV-N3090AORUS X-24GD | 1  |
| GIGABYTE TECHNOLOGY CO., LTD. 80928, TAIPEI, TAIWAN |            |                      |    |



# NVHS Interface and FRAME LOCK



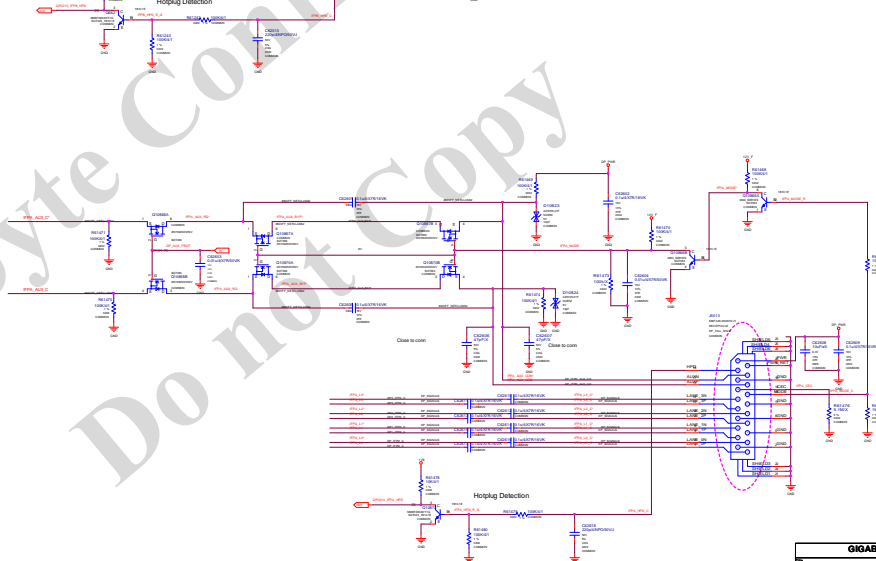
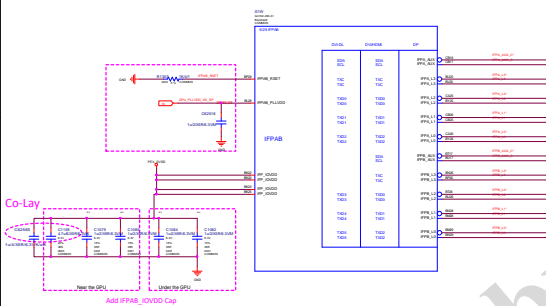
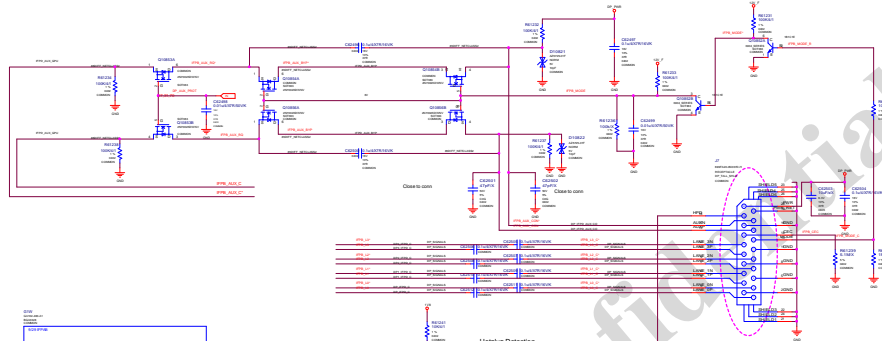


ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOUR COMPANY. IT IS TO BE USED FOR THE PURPOSES SPECIFIED ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD. THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE.

ASSEMBLY  
PAGE 001

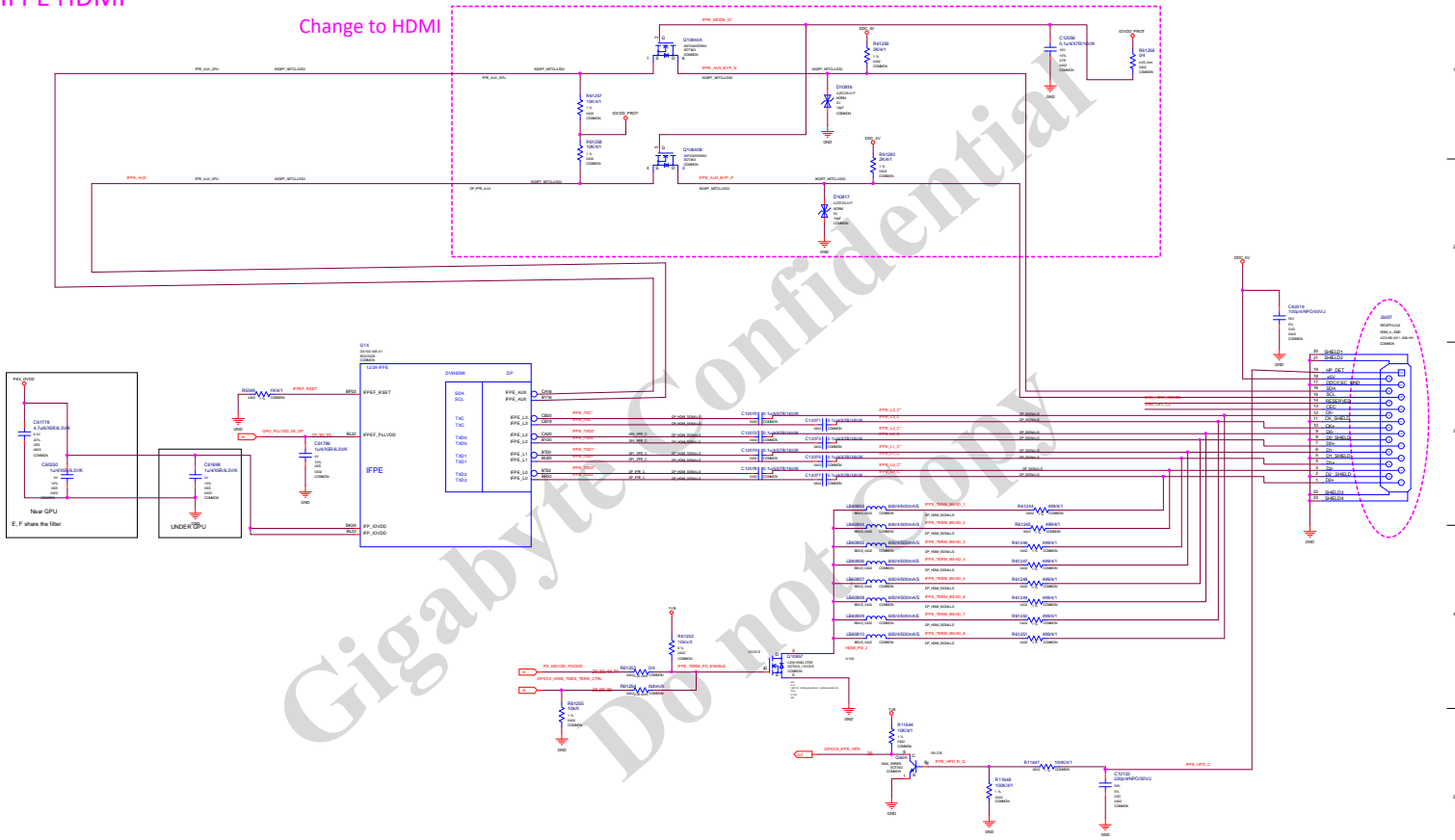
ASSEMBLY DESCRIPTION  
MISC1: FAN, THERMAL, JTAG, GPIO

| GIGABYTE             |  |  |  |
|----------------------|--|--|--|
| PCE                  |  |  |  |
| GV-N3090AORUS X-24GD |  |  |  |
| Rev. 1.0             |  |  |  |



IFPE HDMI

Change to HDMI



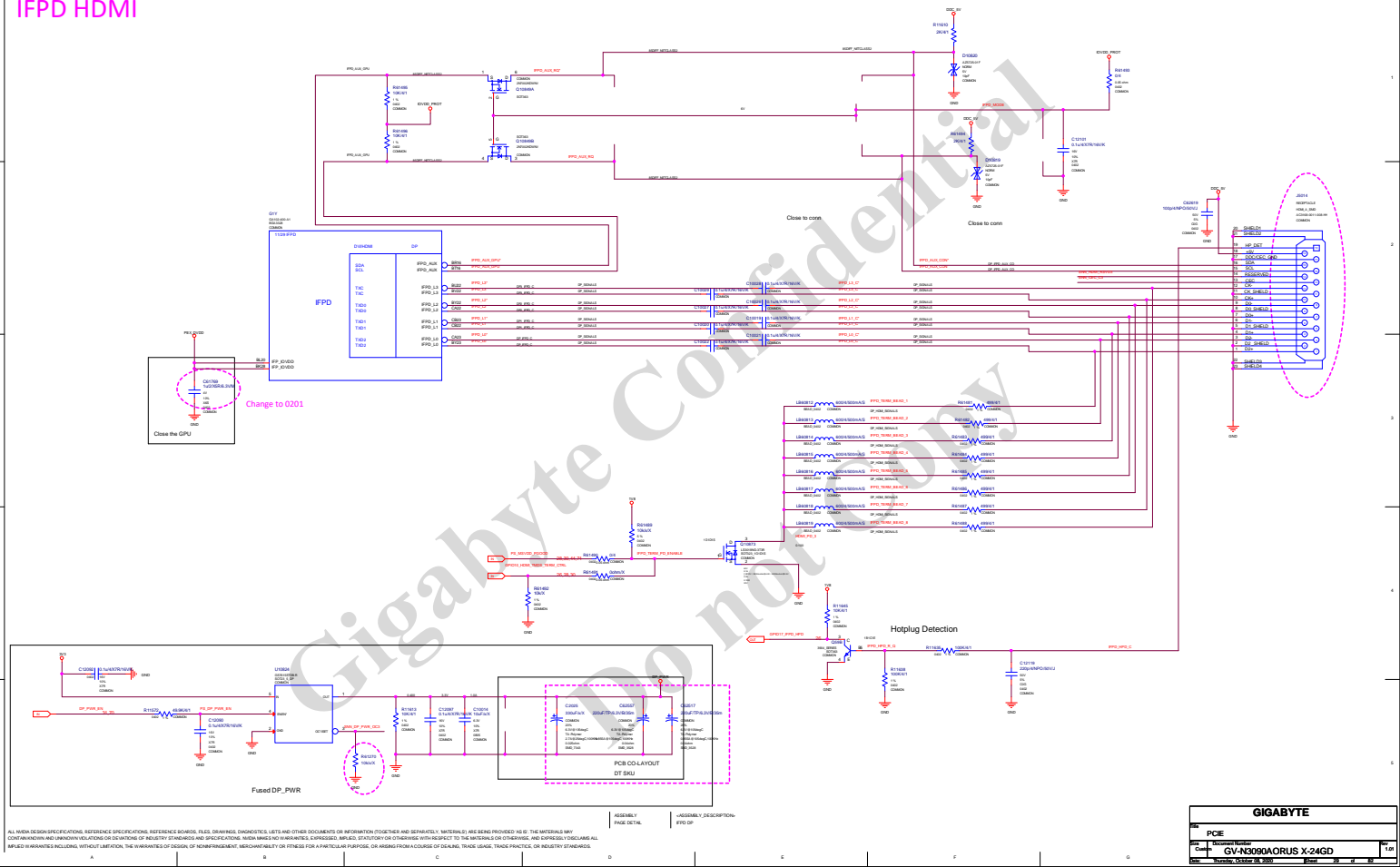
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOU BY GIGABYTE TECHNOLOGY CO., LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED BY GIGABYTE TECHNOLOGY CO., LTD. AND IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IS STRICTLY PROHIBITED. GIGABYTE TECHNOLOGY CO., LTD. ACCEPTS NO LIABILITY FOR ANY DAMAGES, INCLUDING CONSEQUENTIAL DAMAGES, ARISING FROM THE USE OF THIS DOCUMENT. THE INFORMATION CONTAINED HEREIN IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. GIGABYTE TECHNOLOGY CO., LTD. DOES NOT WARRANT THE ACCURACY, COMPLETENESS, OR QUALITY OF THE INFORMATION CONTAINED HEREIN. GIGABYTE TECHNOLOGY CO., LTD. ACCEPTS NO LIABILITY FOR ANY DAMAGES, INCLUDING CONSEQUENTIAL DAMAGES, ARISING FROM THE USE OF THIS DOCUMENT. THE INFORMATION CONTAINED HEREIN IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. GIGABYTE TECHNOLOGY CO., LTD. DOES NOT WARRANT THE ACCURACY, COMPLETENESS, OR QUALITY OF THE INFORMATION CONTAINED HEREIN.

ASSEMBLY PAGE DETAIL

ASSEMBLY DESCRIPTION

|                      |  |
|----------------------|--|
| GIGABYTE             |  |
| PCI-E                |  |
| GV-N3090AORUS X-24GD |  |
| Rev. 1.0             |  |

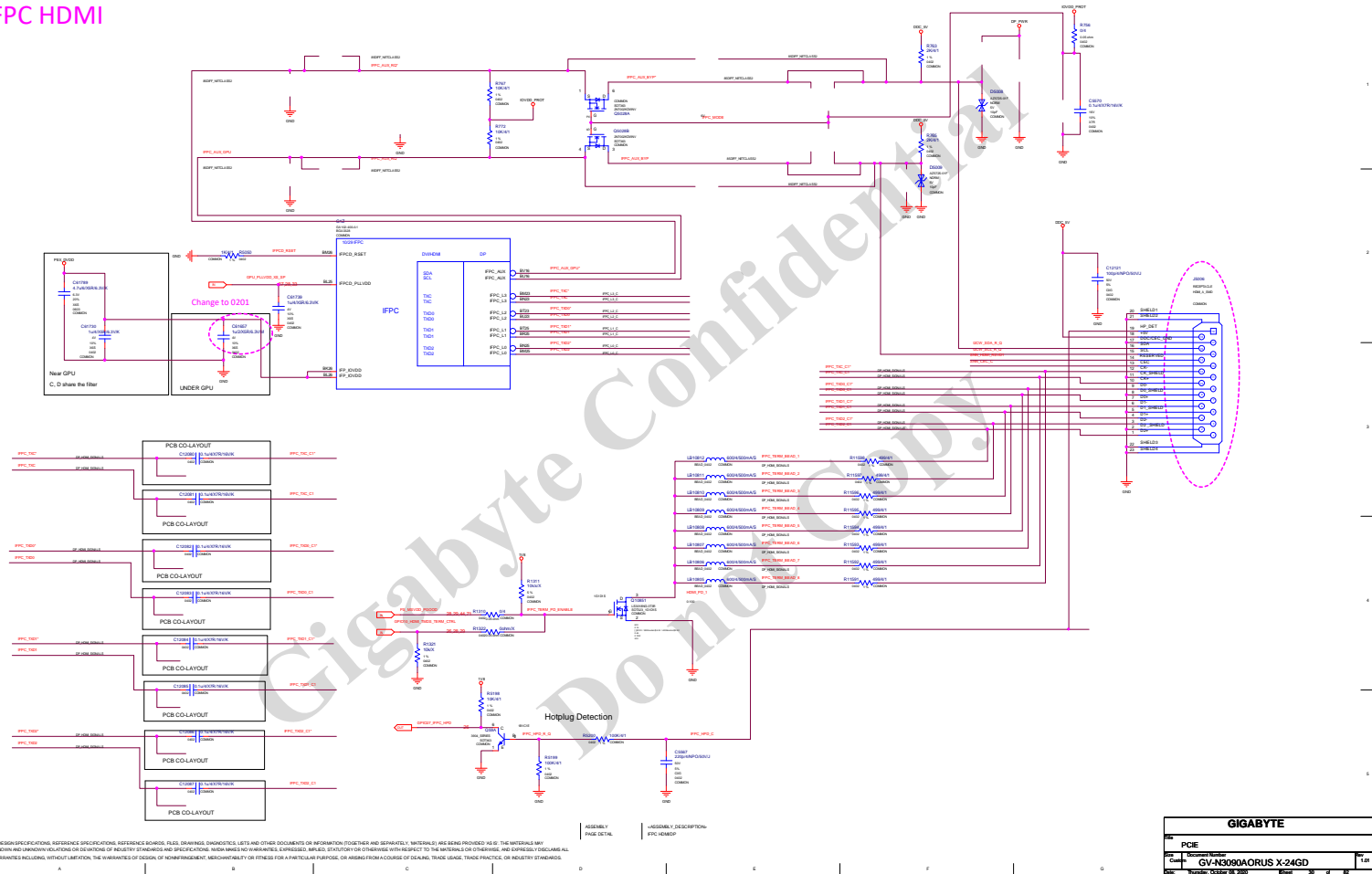
# IFPD HDMI



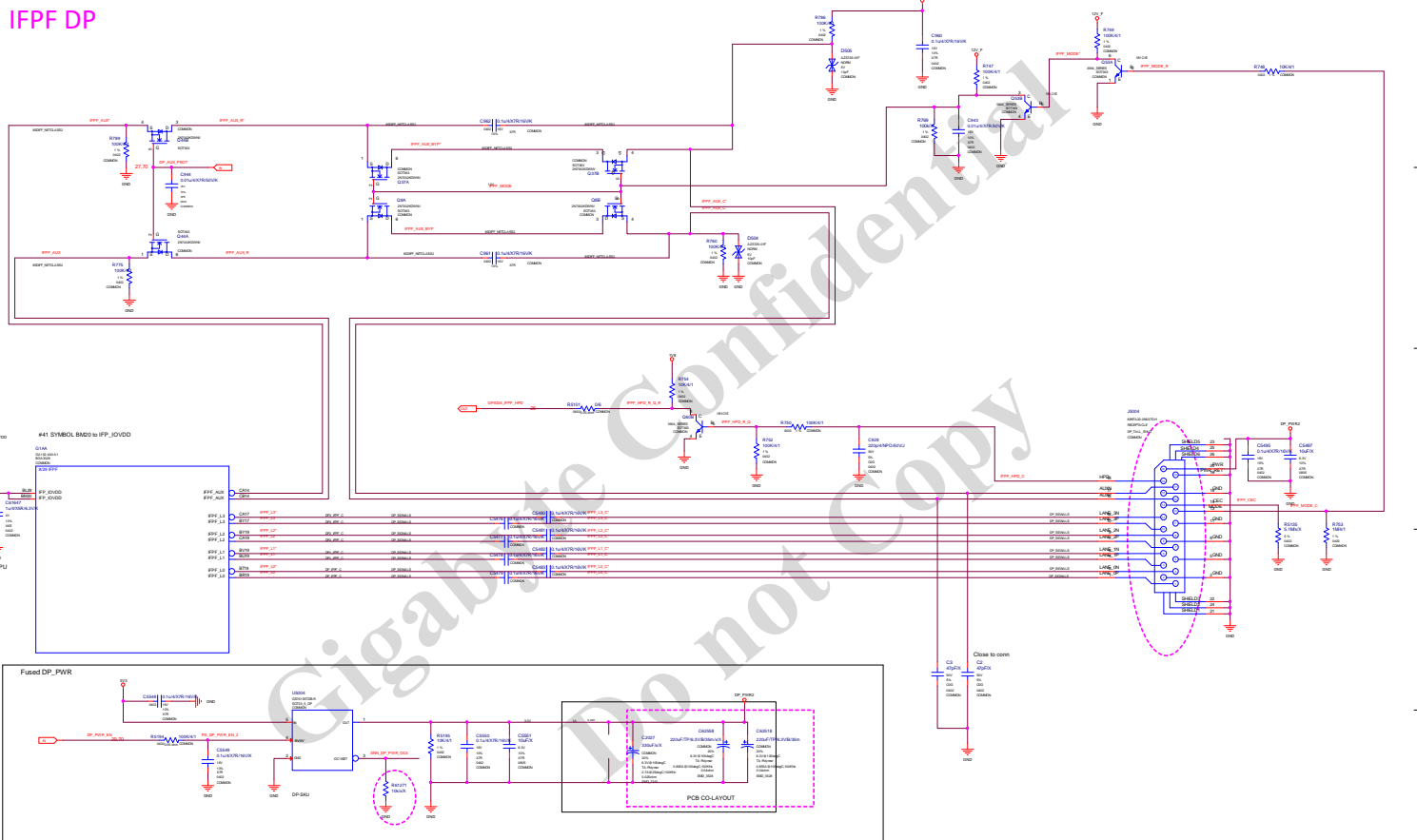
ALL DESIGN SPECIFICATIONS, PERFORMANCE SPECIFICATIONS, REFERENCE MATERIALS, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS, AND THE INFORMATION IS PROVIDED WITHOUT WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

| GIGABYTE     |                      |              |          |
|--------------|----------------------|--------------|----------|
| Model        | PCE                  | Revision     | 1.0      |
| Part Number  | GV-N3090AORUS X-24GD | Manufacturer | GIGABYTE |
| Release Date | October 26, 2024     | Version      | 1.0      |

## IFPC HDMI



ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BORDERS, FILES, DRAWINGS, CHROMOLITHS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNDISCOVERED VIOLATIONS OF 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.



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 INADEQUACIES 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.

|                         |                                  |
|-------------------------|----------------------------------|
| ASSEMBLY<br>PAGE DETAIL | -ASSEMBLY_DESCRIPTION-<br>BPP DP |
|-------------------------|----------------------------------|

|                 |                            |       |          |
|-----------------|----------------------------|-------|----------|
| <b>GIGABYTE</b> |                            |       |          |
| File: PCIE      |                            |       |          |
| Size            | Document Number            |       | Rev      |
| Custom          | GV-N3090AORUS X-24GD       |       | 1.0      |
| Date:           | Thursday, October 08, 2020 | Sheet | 31 of 82 |

MISC: ROM, Straps

| STRAP2 | STRAP1 | STRAP0 | RAMCFG[4:0] |                          |
|--------|--------|--------|-------------|--------------------------|
| L      | L      | L      | 0000        | RAMCFG MICRON 8Gb 19Gbps |
| L      | H      | L      | 0001        | RAMCFG T8D               |
| H      | L      | L      | 0010        | RAMCFG T8D               |
| H      | L      | H      | 0011        | RAMCFG T8D               |
| H      | L      | H      | 0101        | RAMCFG MICRON 8Gb 21Gbps |

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

DEFAULT

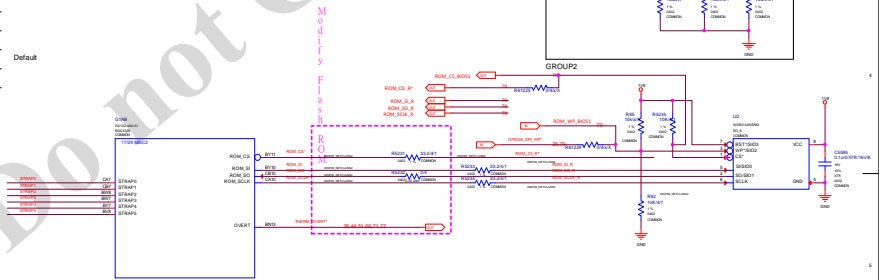
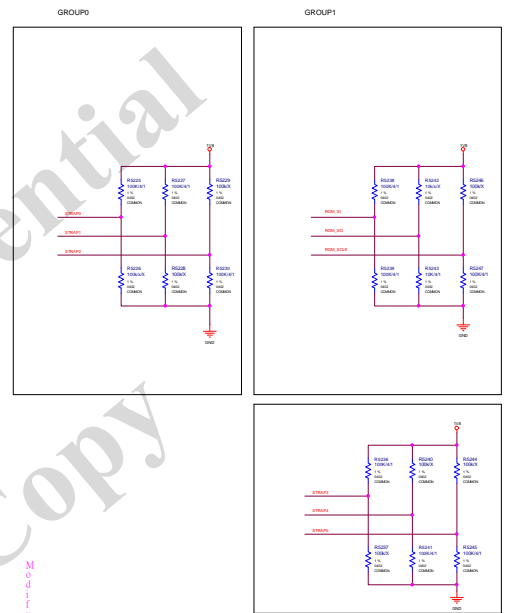
| ROM_SO | ROM_SI | ROM_SCLK | SMARTFAN2[0]FS_OVERT | 1.ENABLE 0.DISABLE |
|--------|--------|----------|----------------------|--------------------|
| H      | H      | H        | 0111                 | FS_OVERT ENABLE    |
| L      | L      | L        | 0000                 | FS_OVERT DISABLE   |

DEFAULT

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

Default

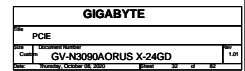
1:SMB\_ALT\_ADDR ENABLE  
0:SMB\_ALT\_ADDR DISABLE  
1:DEVID\_SEL REBRAND  
0:DEVID\_SEL ORIGINAL  
1:PCIE\_CFG LOW POWER  
0:PCIE\_CFG HIGH POWER  
1:VGA\_DEVICE ENABLE  
0:VGA\_DEVICE DISABLE



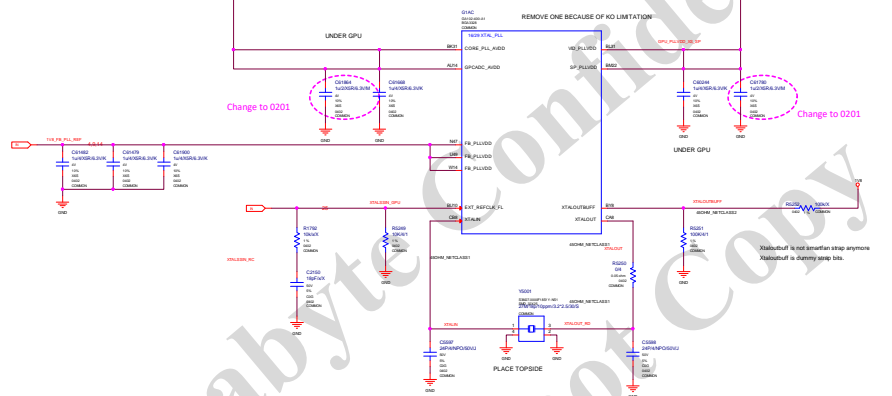
ALL HAVE DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNRELIABLE INFORMATION OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MATERIALS ARE PROVIDED AS IS WITHOUT WARRANTY OF ANY KIND, INCLUDING BUT NOT LIMITED TO, THE WARRANTIES OF DESIGN, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE 001

ASSEMBLY DESCRIPTION  
MISC ROM STRAPS

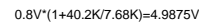






|                         |  |
|-------------------------|--|
| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>MSC. XTAL. PLL |
|-------------------------|--|

|                    |                             |       |             |
|--------------------|-----------------------------|-------|-------------|
| <b>GIGABYTE</b>    |                             |       |             |
| File: <b>PCI-E</b> |                             |       |             |
| Size               | Document Number             |       | Rev         |
| Customs            | <b>GV-N3090AORUS X-24GD</b> |       | <b>1.01</b> |
| Date:              | Thursday, October 08, 2020  | Sheet | 33 of 82    |



ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION

|                      |                 |
|----------------------|-----------------|
| <b>GIGABYTE</b>      |                 |
| File                 |                 |
| PCIE                 |                 |
| File                 | Document Number |
| GV-N3090AORUS X-24GD | File            |
| GV-N3090AORUS X-24GD | File            |



|                         |  |
|-------------------------|--|
| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION:<br>PS: PEX, DNOO and TUB |
|-------------------------|--|

BLANK

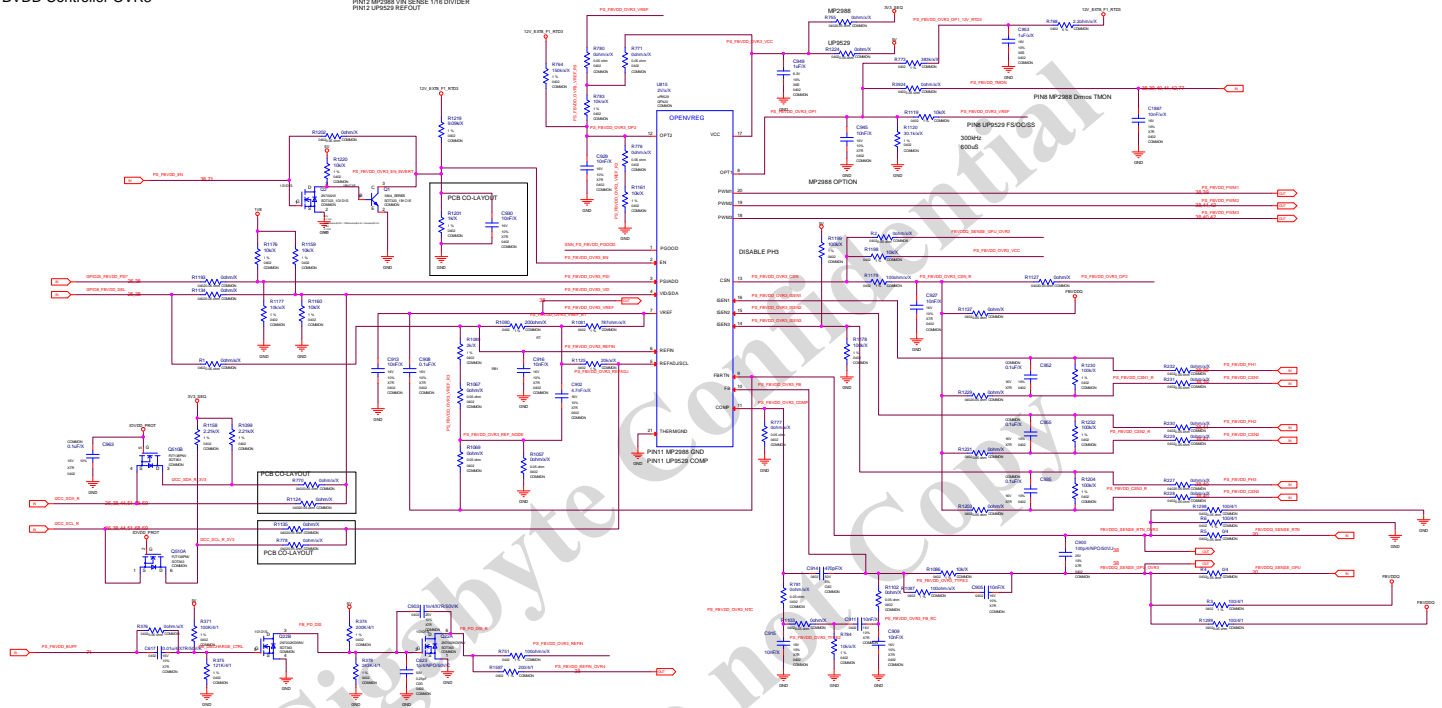
Gigabyte Confidential  
Do not Copy

ALL INHERENT DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, 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. INDEMNITIES ARE NOT WARRANTED, EXPRESSLY, IMPLIED, STATUTORILY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
BLANK

| GIGABYTE  |            |                      |    |
|---|------------|----------------------|----|
| REV   | DATE       | DESCRIPTION          | BY |
| 1   | 2024-01-15 | PCIE                 | 1  |
| 2   | 2024-01-15 | GV-N3090AORUS X-24GD | 1  |
| GIGABYTE TECHNOLOGY CO., LTD. 80999, NO. 1, SEC. 2, CHUNG HUA RD., TAINAN, TAIWAN 70001 |            |                      |    |



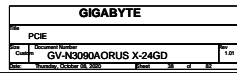
FOR DT SKU

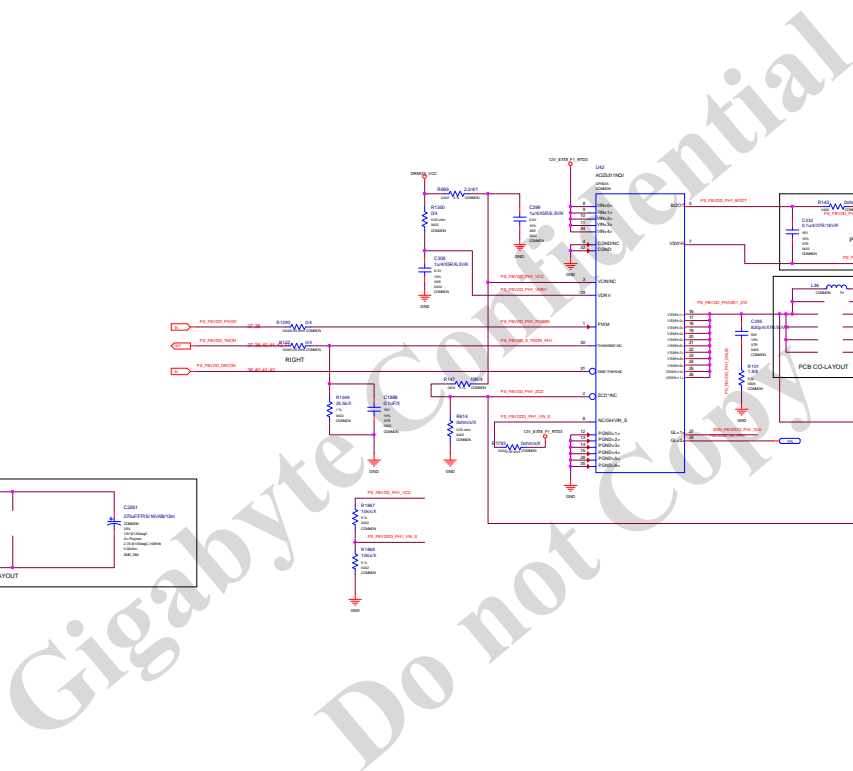
ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BORDERS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNUSUAL VARIATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS IMPLIED WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF DESIGN OR NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE, USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

|             |                          |
|-------------|--------------------------|
| ASSEMBLY    | «ASSEMBLY_DESCRIPTION»   |
| PAGE DETAIL | PS: FB00-Controller 04R3 |

**GIGABYTE**

|         |                            |      |          |
|---------|----------------------------|------|----------|
| File    |                            | PCIE |          |
| Doc     | Document Number            | Rev  |          |
| Control | GV-N3090AORUS X-24GD       | 1.01 |          |
| Date    | Thursday, October 08, 2020 | Page | 37 of 82 |





|             |                      |
|-------------|----------------------|
| ASSEMBLY    | ASSEMBLY DESCRIPTION |
| PAGE DETAIL | PS: FINISH Pmt       |

|                      |                      |          |  |
|----------------------|----------------------|----------|--|
| File                 |                      | GIGABYTE |  |
| PCIE                 |                      |          |  |
| File                 | Document Number      | Rev 1    |  |
| GV-N3090AORUS X-24GD |                      |          |  |
| Doc. Number          | GV-N3090AORUS X-24GD |          |  |



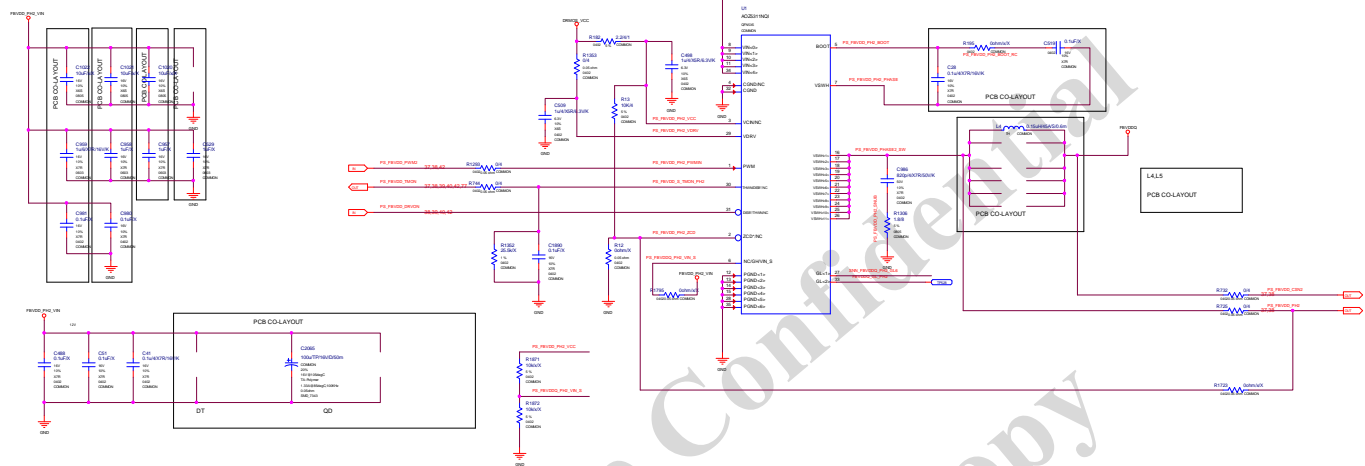
ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNRELIABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND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

|                         |                                      |
|-------------------------|--------------------------------------|
| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>PS: FRUO-PHG |
|-------------------------|--------------------------------------|

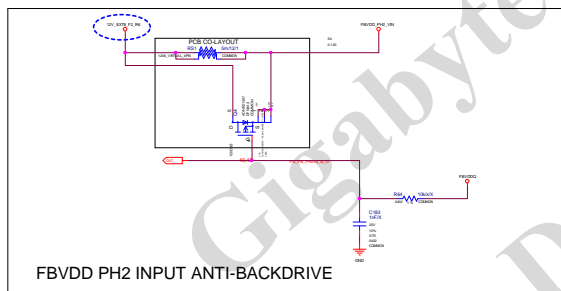
|                 |                            |       |          |
|-----------------|----------------------------|-------|----------|
| <b>GIGABYTE</b> |                            |       |          |
| File PCIE       |                            |       |          |
| Size            | Document Number            |       | Rev      |
| Customs         | GV-N3090AORUS X-24GD       |       | 1.01     |
| Date            | Thursday, October 04, 2020 | Sheet | 40 of 82 |



Add 8 Pin3, Change 12V rail.



Add 8 Pin3, Change 12V rail.



## FBVDD PH2 INPUT ANTI-BACKDRIVE

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 ERRORS AND UNRELIABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA IMAGES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIM 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.

|             |                      |
|-------------|----------------------|
| ASSEMBLY    | ASSEMBLY DESCRIPTION |
| PAGE DETAIL | PAGE FROM PAGE       |

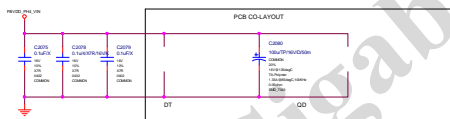
PAGE C67A8

P2: 1200 PHS

P2: 1200 PHS

|                      |                 |                 |          |
|----------------------|-----------------|-----------------|----------|
| File                 |                 | GIGABYTE        |          |
| PCIE                 |                 |                 |          |
| File                 | Document Number | New             |          |
| GV-N3090AORUS X-24GD |                 | 1.01            |          |
| File                 | Thumbnail       | Oct 19 08, 2000 | 41 of 50 |

### 3VDD PH3 INPUT ANTI-BACKDRIVE



ALL NIDA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNKNOWING VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NIDA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, OR 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 CUSTOMS.

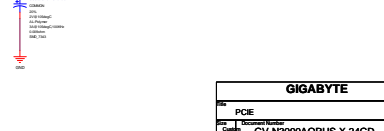
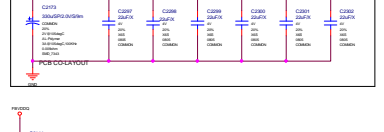
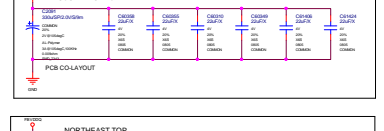
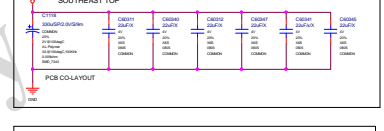
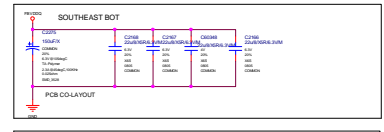
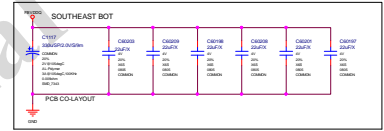
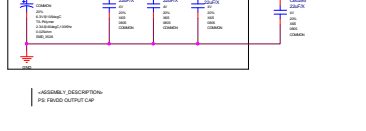
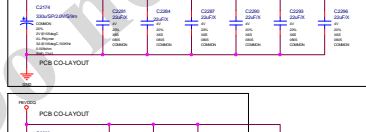
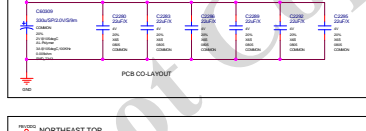
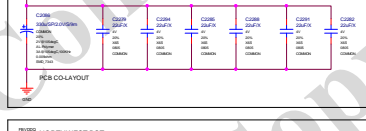
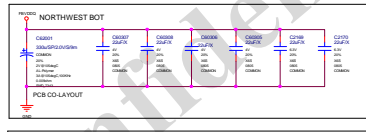
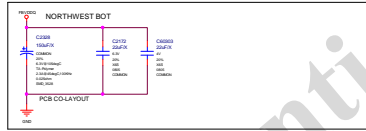
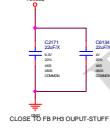
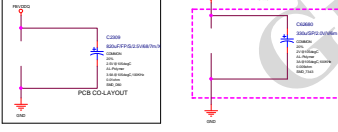
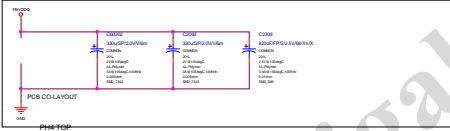
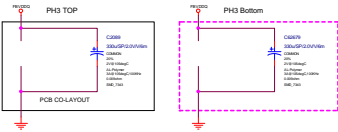
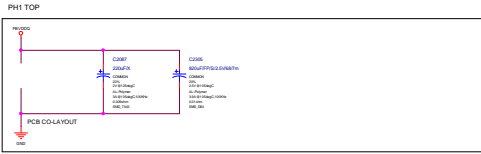
|                         |                                      |
|-------------------------|--------------------------------------|
| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>PS: FINCO-PH |
|-------------------------|--------------------------------------|

ASSEMBLY OF  
P.S. FRANKLIN

**GIGABYTE**

|        |                            |       |
|--------|----------------------------|-------|
| Title  |                            | PCIE  |
| Size   | Document Number            |       |
| Cables | GV-N3090AORUS X-24GD       |       |
| Date   | Thursday, October 08, 2020 | Sheet |

REFER TO PCB FOR BOM STUFFING

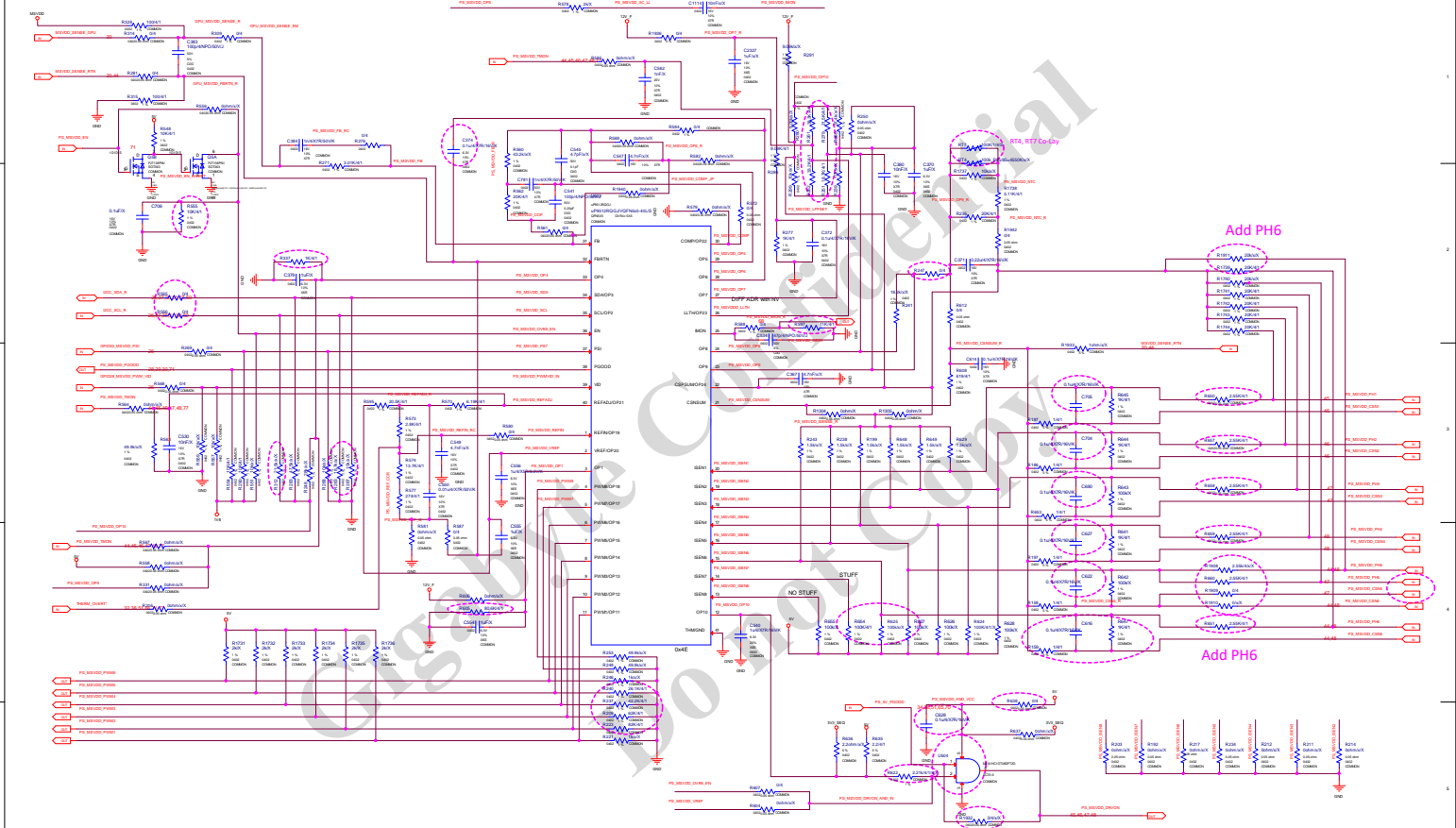


ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE DRAWINGS, RULES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY "MATERIALS") ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS, AND ANY SUCH ERRORS OR OMISSIONS WILL BE CORRECTED WITHOUT WARRANTY. THE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION  
PS: FBVDD OUTPUT CAP

| GIGABYTE |              |                      |      |
|----------|--------------|----------------------|------|
| PCIE     | Model Number | GV-N3090AORUS X-24GD | 1.0R |
| Rev      | Revision     | 01                   | 01   |

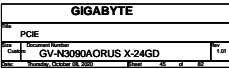


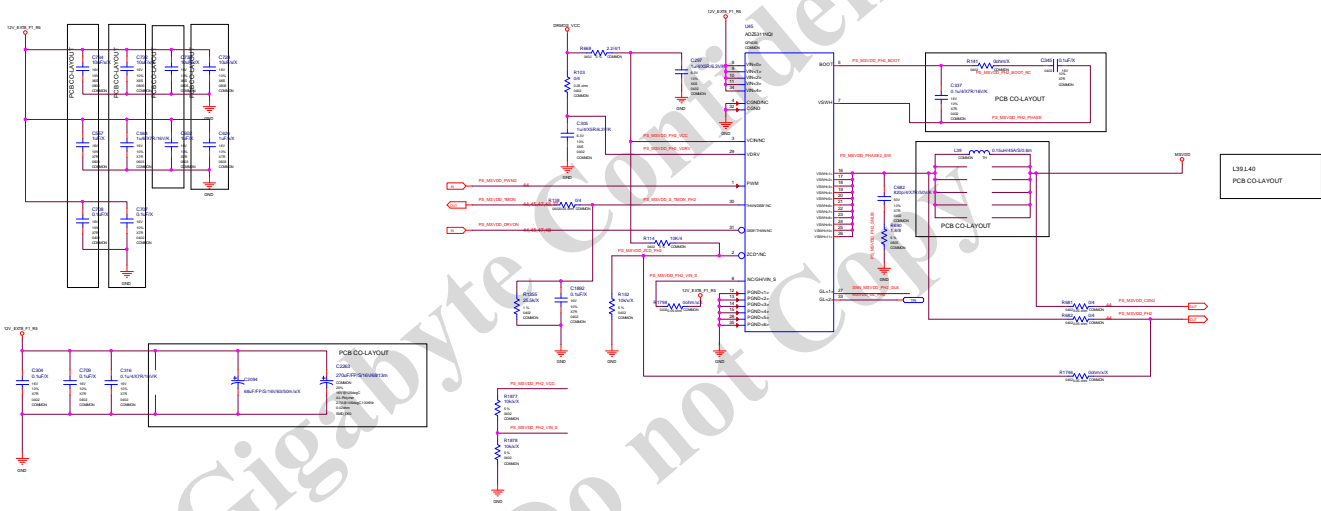
ALL HAVE DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOM, FILE, DRAWING, DIMENSIONS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNRELIABLE INFORMATION OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MATERIALS ARE PROVIDED WITHOUT WARRANTY, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR CUSTOMER SPECIFICATIONS.

ASSEMBLY  
PAGE 01/01

ASSEMBLY DESCRIPTION  
PS: MSVDD CONTROLLER

| GIGABYTE             |     |
|----------------------|-----|
| PCIE                 |     |
| GV-N3090AORUS X-24GD | 1.0 |
| 2024-01-10           |     |



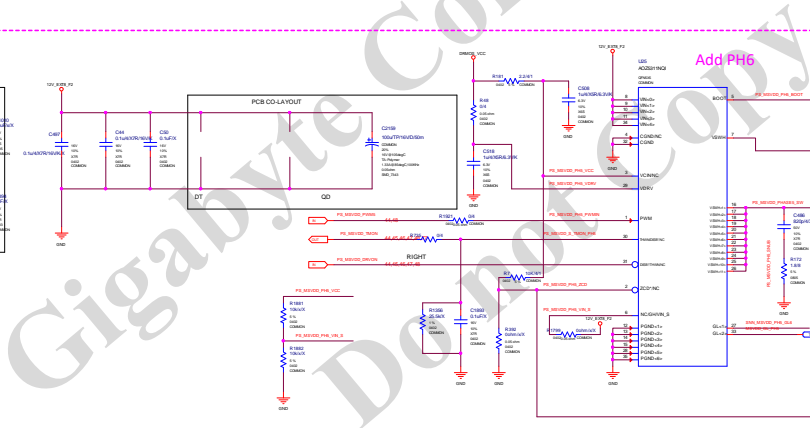


ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOU. IT IS TO BE USED FOR THE PURPOSES SPECIFIED AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD.

ASSEMBLY  
PAGE DETAIL

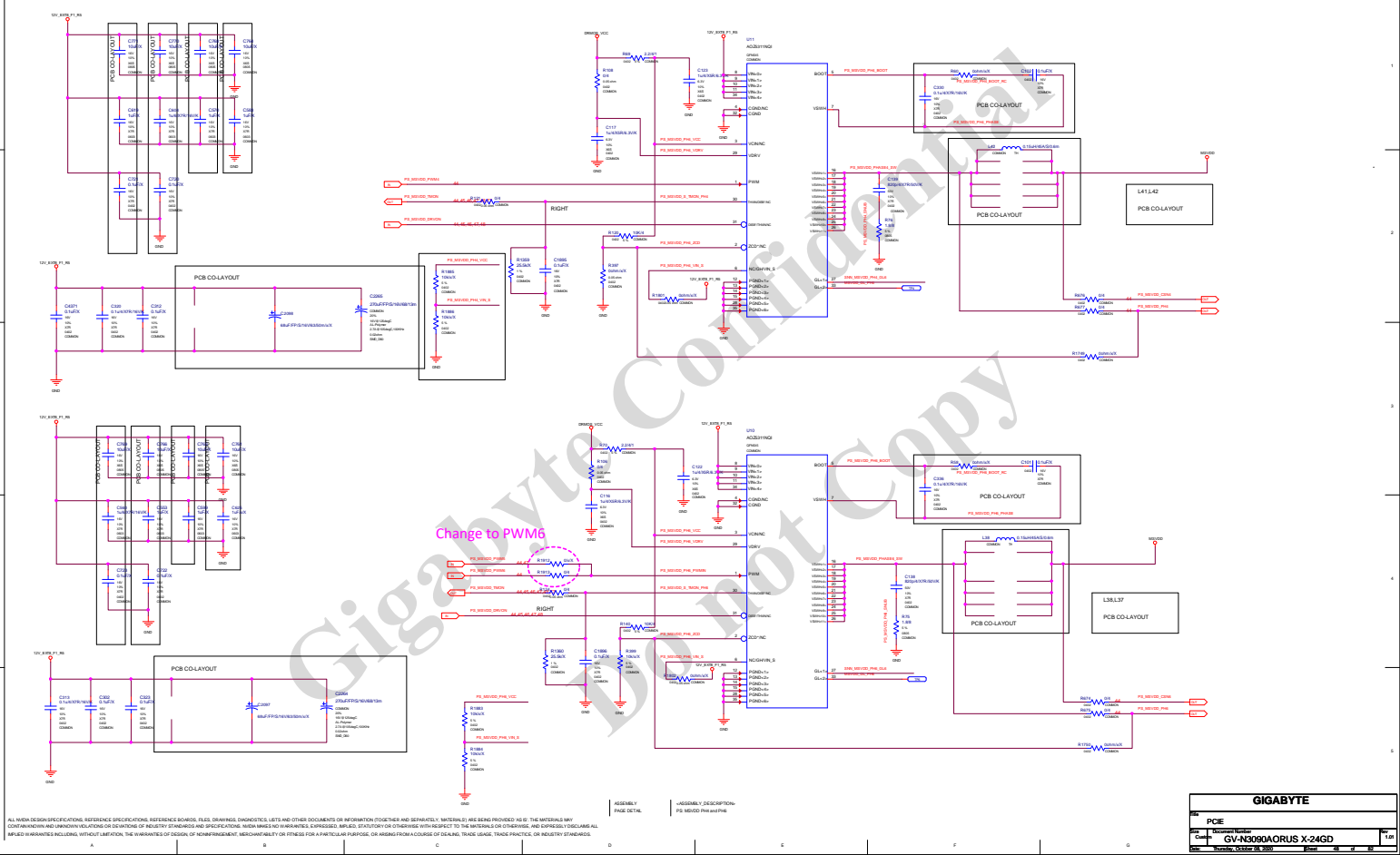
ASSEMBLY DESCRIPTION  
PS: MSVDD PH 2

| GIGABYTE                   |                      |     |     |
|----------------------------|----------------------|-----|-----|
| Part                       | PCIE                 | Rev | 1.0 |
| Model                      | GV-N3090AORUS X-24GD | Rev | 1.0 |
| Rev. 1.0, October 20, 2020 |                      |     |     |



ASSEMBLY DESCRIPTION:  
P2: MEXCO P43 and P45

|                  |                             |       |          |
|------------------|-----------------------------|-------|----------|
| <b>GIGABYTE</b>  |                             |       |          |
| File <b>PCIE</b> |                             |       |          |
| Line             | Document Number             | Rev   |          |
| Customs          | <b>GV-N3090AORUS X-24GD</b> | 1.01  |          |
| Date             | Thursday, October 08, 2020  | Sheet | 47 of 82 |



ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD.

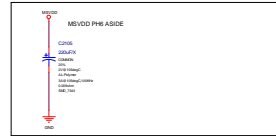
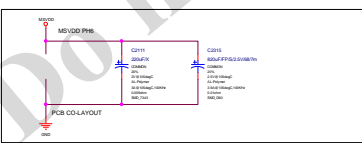
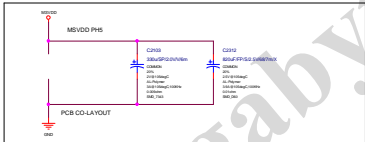
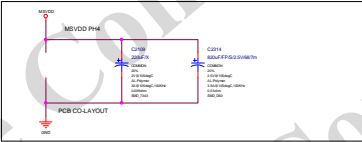
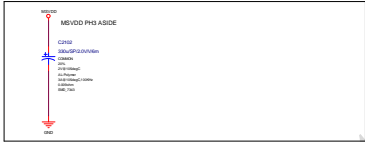
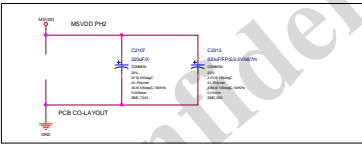
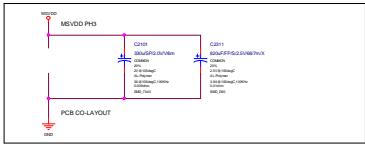
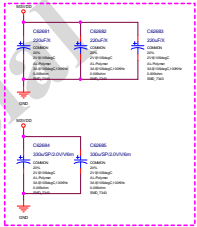
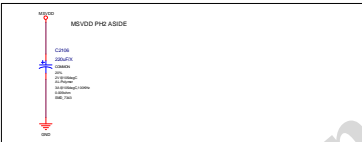
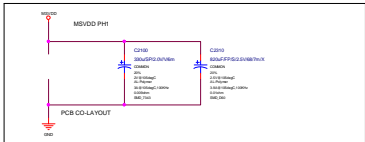
ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION  
PS: MSVDD PH 4.6

| GIGABYTE                   |                      |     |  |
|----------------------------|----------------------|-----|--|
| PCIE                       | GV-N3090AORUS X-24GD | 1.0 |  |
| Rev. 1.0, October 20, 2024 |                      |     |  |



REFER TO PCB FOR BOM STUFFING



ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND UNINTENTIONAL VIOLATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA 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 MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION  
PS:MSVDD OUTPUT CAP(TOP)

| GIGABYTE                    |                      |     |  |
|-----------------------------|----------------------|-----|--|
| PCIE                        | GV-N3090AORUS X-24GD | 1.0 |  |
| Rev. 1.00, October 18, 2024 |                      |     |  |

BLANK

Gigabyte Confidential  
Do not Copy

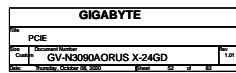
ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS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

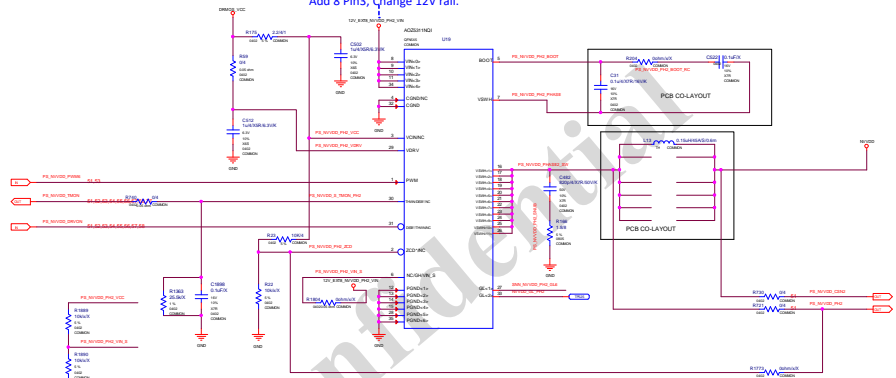
ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
BLANK

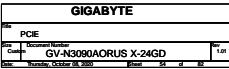
| GIGABYTE                                  |            |                      |    |
|---|------------|----------------------|----|
| REV                                       | DATE       | DESCRIPTION          | BY |
| 1   | 2024-01-15 | PCIE                 | 1  |
| 2   | 2024-01-15 | GV-N3090AORUS X-24GD | 1  |
| GIGABYTE TECHNOLOGY CO., LTD. 80999-99-99 |            |                      |    |

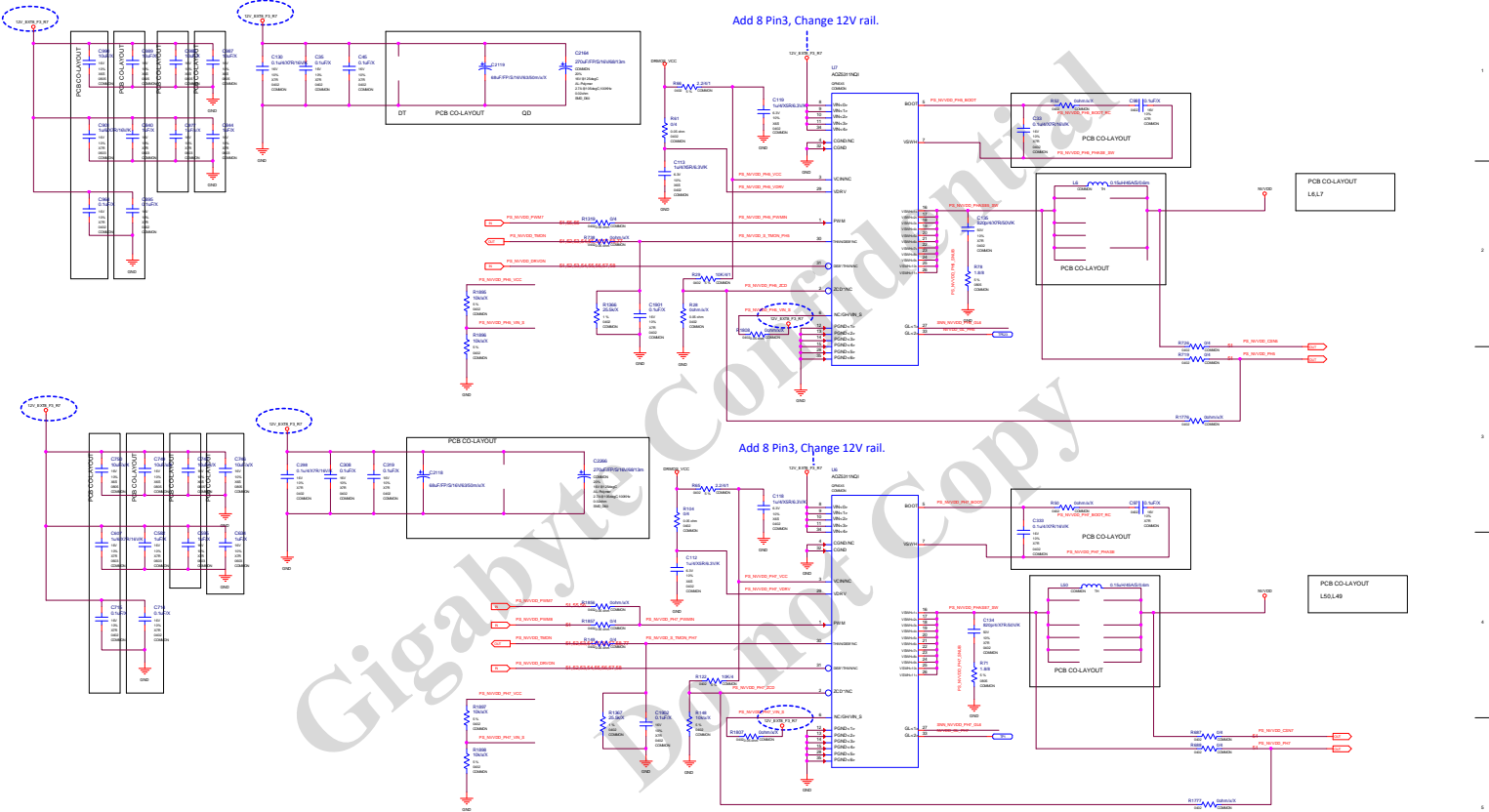






The figure consists of two circuit diagrams labeled 'PCB CO-LAYOUT'. The top diagram shows the input matching network, which includes a series resistor R1 (100 Ohm), a series capacitor S1 (0.1 pF), a shunt capacitor C1 (0.1 pF), and a transformer T1 with a 1:10 turns ratio. The bottom diagram shows the output matching network, which includes a transformer T2 with a 1:10 turns ratio and a 50 Ohm load. Both diagrams are connected to a 50 Ohm source and a 50 Ohm load.

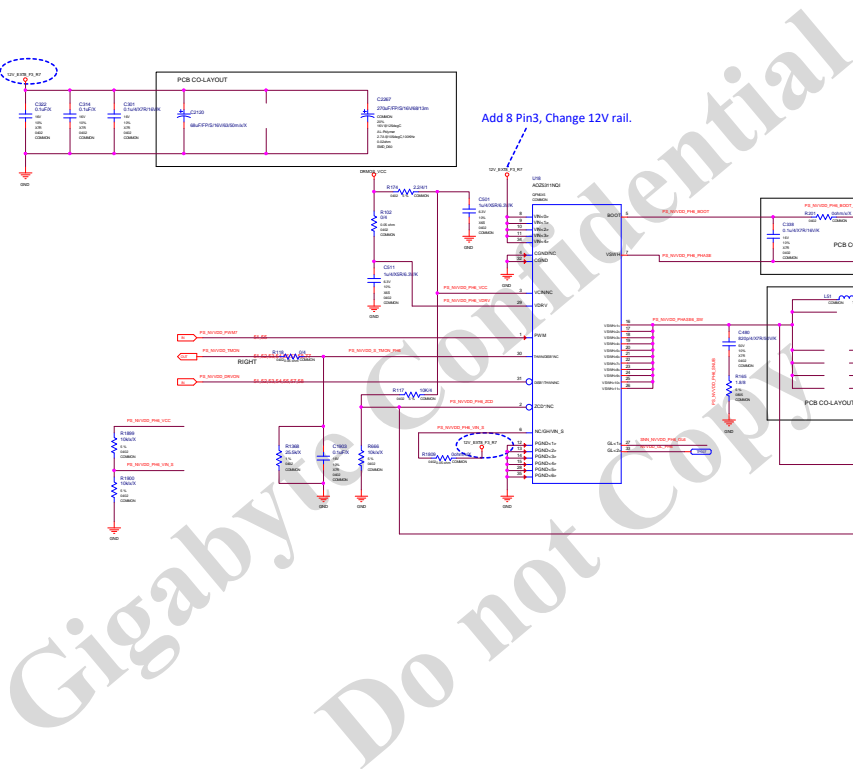




DATA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMBS, FILES, DRAWINGS, DIAGNOSTICS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE PROVIDED AS IS. THE MATERIALS MAY CONTAIN FACTS AND UNKNOWN INFORMATION OR DERIVATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MATERIALS ARE NOT WARRANTIES, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCUMULATED BY 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 PRACTICES, OR INDUSTRY METHODS.

| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>PS: NACCO P-46 (P46P) and P-47 (P47P) |
|-------------------------|---|
|-------------------------|---|

|                 |                            |  |                |
|-----------------|----------------------------|--|----------------|
| <b>GIGABYTE</b> |                            |  |                |
| File: PCIE      |                            |  |                |
| Date:           | Document Number:           |  | Rev:           |
| Custom:         | GV-N3090AORUS X-24GD       |  | 1.01           |
| Date:           | Thursday, October 08, 2020 |  | Sheet 55 of 82 |



LS1,L79

PCB CO-LAYOUT

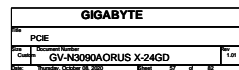
| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>PS INACO PINE (PINE) |
|-------------------------|--|
|-------------------------|--|

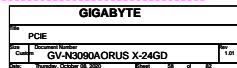
**GIGABYTE**

|         |                            |       |          |
|---------|----------------------------|-------|----------|
| File    |                            | PCIE  |          |
| Size    | Document Number            | Rev   |          |
| Customs | GV-N3090AORUS X-24GD       | 1.0   |          |
| Chips   | Boarding: 4/22/09 08:20:00 | Mount | 06 02 00 |



Add 8 Pin3, Change 12V rail.





Gigabyte Confidential  
Do not Copy

ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, 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. GIGABYTE MAKES NO WARRANTIES, EXPRESS OR 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.

ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION:  
Original Model

| GIGABYTE                                  |                      |      |    |
|---|----------------------|------|----|
| REV                                       | DESCRIPTION          | DATE | BY |
| 1   | PCIE                 |      |    |
| 2   | GV-N3090AORUS X-24GD |      |    |
| GIGABYTE TECHNOLOGY CO., LTD. 80999-88 8F |                      |      |    |

BLANK

Gigabyte Confidential  
Do not Copy

ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, 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. INDIANASIS MAKES NO WARRANTIES, EXPRESS OR 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.

ASSEMBLY  
PAGE DETAIL

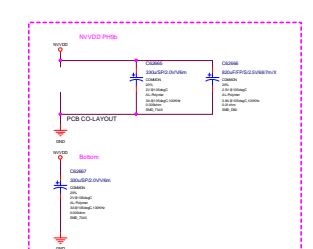
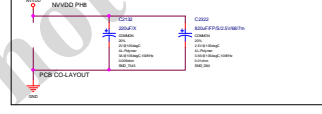
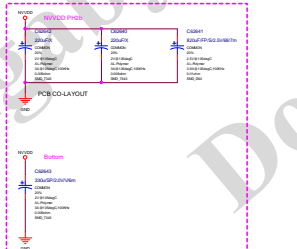
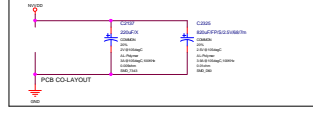
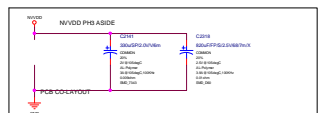
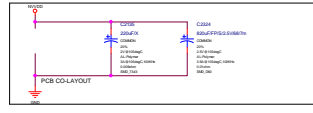
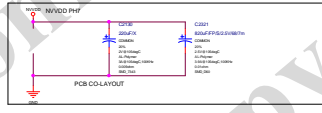
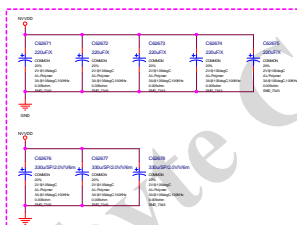
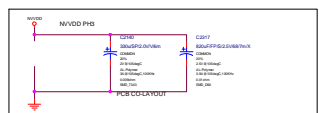
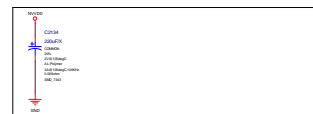
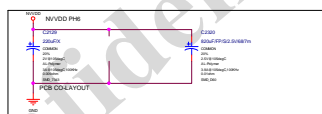
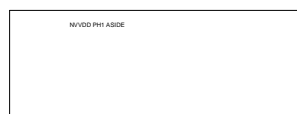
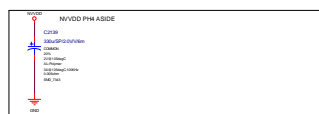
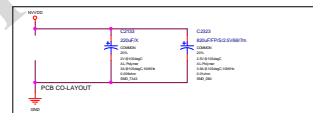
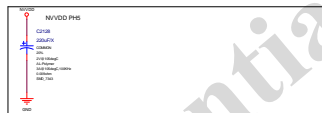
ASSEMBLY DESCRIPTION:  
BLANK

| GIGABYTE   |            |                      |    |
|--|------------|----------------------|----|
| REV  | DATE       | DESCRIPTION          | BY |
| 1  | 2024-01-15 | PCIE                 | 1  |
| 1  | 2024-01-15 | GV-N3090AORUS X-24GD | 1  |
| GIGABYTE TECHNOLOGY CO., LTD. 80998, NO. 1, SEC. 2, ROAD 101, TAIPEI, TAIWAN 106, R.O.C. |            |                      |    |

PCB CO-LAYOUT

Diagram showing the PCB layout for the capacitors:

- C208** (100nF) is connected to **NVDD PH4** and **GND**.
- C204** (100nF) is connected to **3.3V VDD3.3** and **GND**.



ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION  
PS: NAOO OUTPUT CARTON

**GIGABYTE**

PCIE

|                 |                      |
|-----------------|----------------------|
| Document Number | GV-N3090AORUS X-24GD |
|-----------------|----------------------|

Thursday, October 04, 2000

**BLANK**



|                 |                            |       |          |
|-----------------|----------------------------|-------|----------|
| <b>GIGABYTE</b> |                            |       |          |
| File PCIE       |                            |       |          |
| Size            | Document Number            |       | Rev      |
| Customs         | GV-N3090AORUS X-24GD       |       | 1.01     |
| Date            | Thursday, October 04, 2020 | Sheet | 63 of 82 |

BLANK

Gigabyte Confidential  
Do not Copy

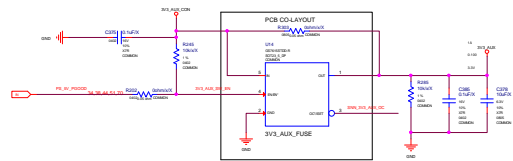
ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN KNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. INDEMNITIES ARE NOT WARRANTED, EXPRESSLY, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF DESIGN, OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY  
PAGE DETAIL

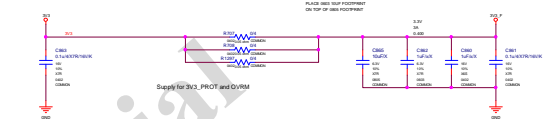
ASSEMBLY DESCRIPTION:  
BLANK

| GIGABYTE  |            |                      |      |
|---|------------|----------------------|------|
| REV   | DATE       | DESCRIPTION          | BY   |
| 1   | 2024-01-15 | PCIE                 | 1001 |
| 2   | 2024-01-15 | GV-N3090AORUS X-24GD | 1001 |
| GIGABYTE TECHNOLOGY CO., LTD. 80999, NO. 1, SEC. 2, INDUSTRIAL PARK, TAIPEI, TAIWAN, R.O.C. |            |                      |      |

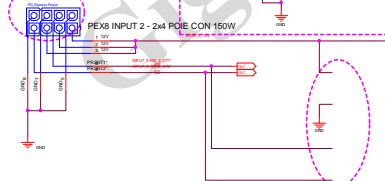
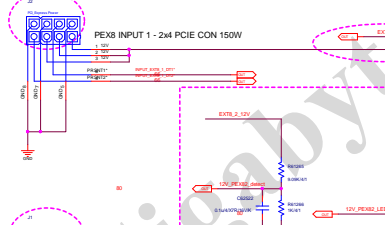
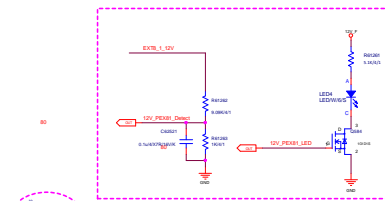
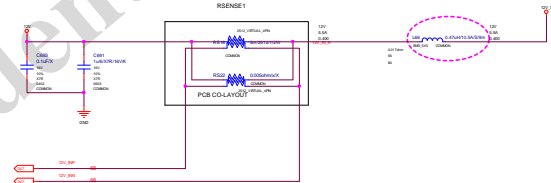




PEX 3V3 INPUT - 10W



PEX 12V INPUT - 66W



ASSEMBLY

PAGE DETAIL

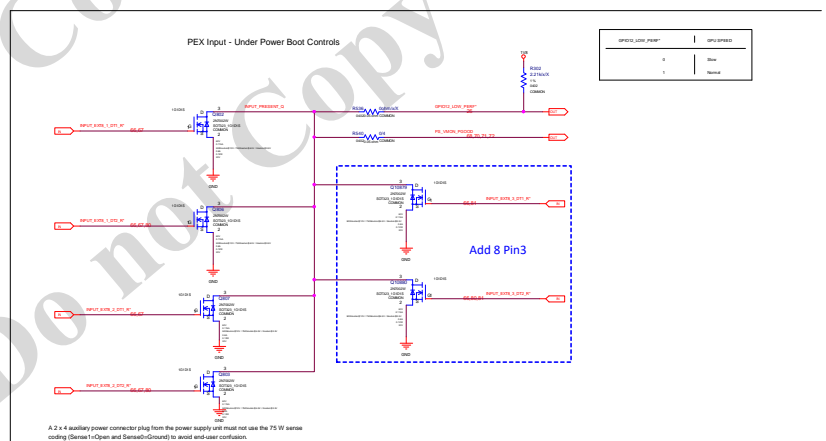
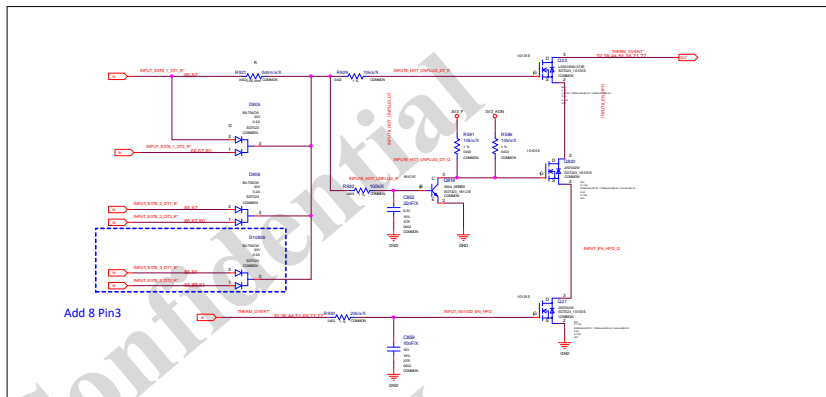
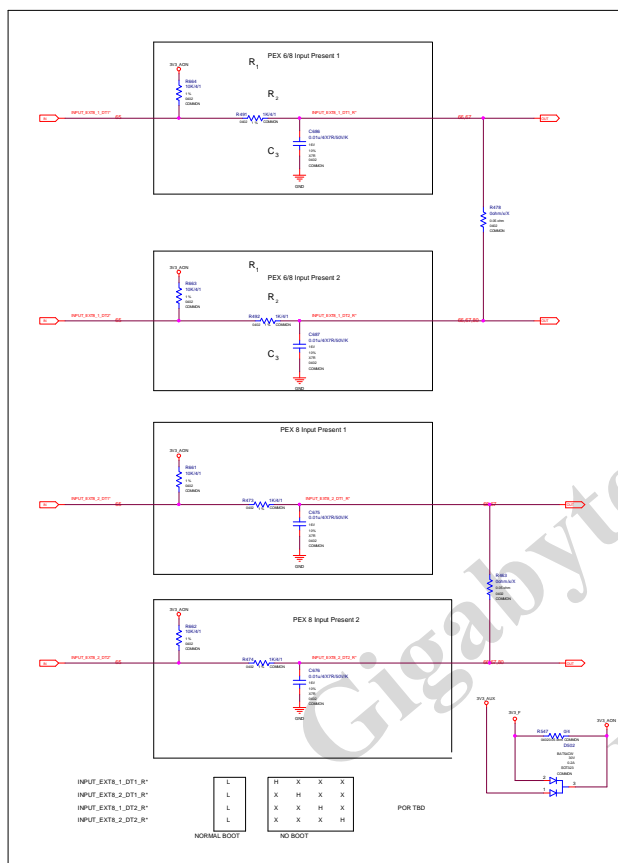
ASSEMBLY DESCRIPTION

PEX INPUTS, FILTERING AND MONITORING

GIGABYTE

| PCIE    |                      | 1.0 |
|---------|----------------------|-----|
| Model   | GV-N3090AORUS X-24GD | 1.0 |
| Version | October 20, 2020     | 1.0 |

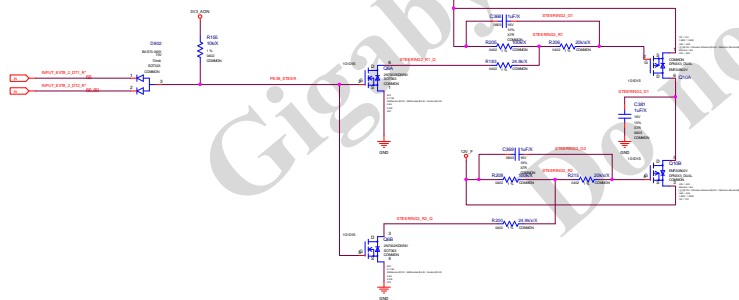
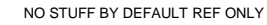
ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. THIS DOCUMENT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD.



ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BRANDS, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS OR BE SUBJECT TO CHANGE WITHOUT NOTICE. GIGABYTE TECHNOLOGY CO., LTD. MAKES NO WARRANTY, EXPRESSED OR 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 OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

| GIGABYTE     |                      |
|--------------|----------------------|
| PCIe         | PCIe                 |
| Model Number | GV-N3090AORUS X-24GD |
| Version      | 1.00                 |

## PEX12V AND 12V\_EXT8\_F2



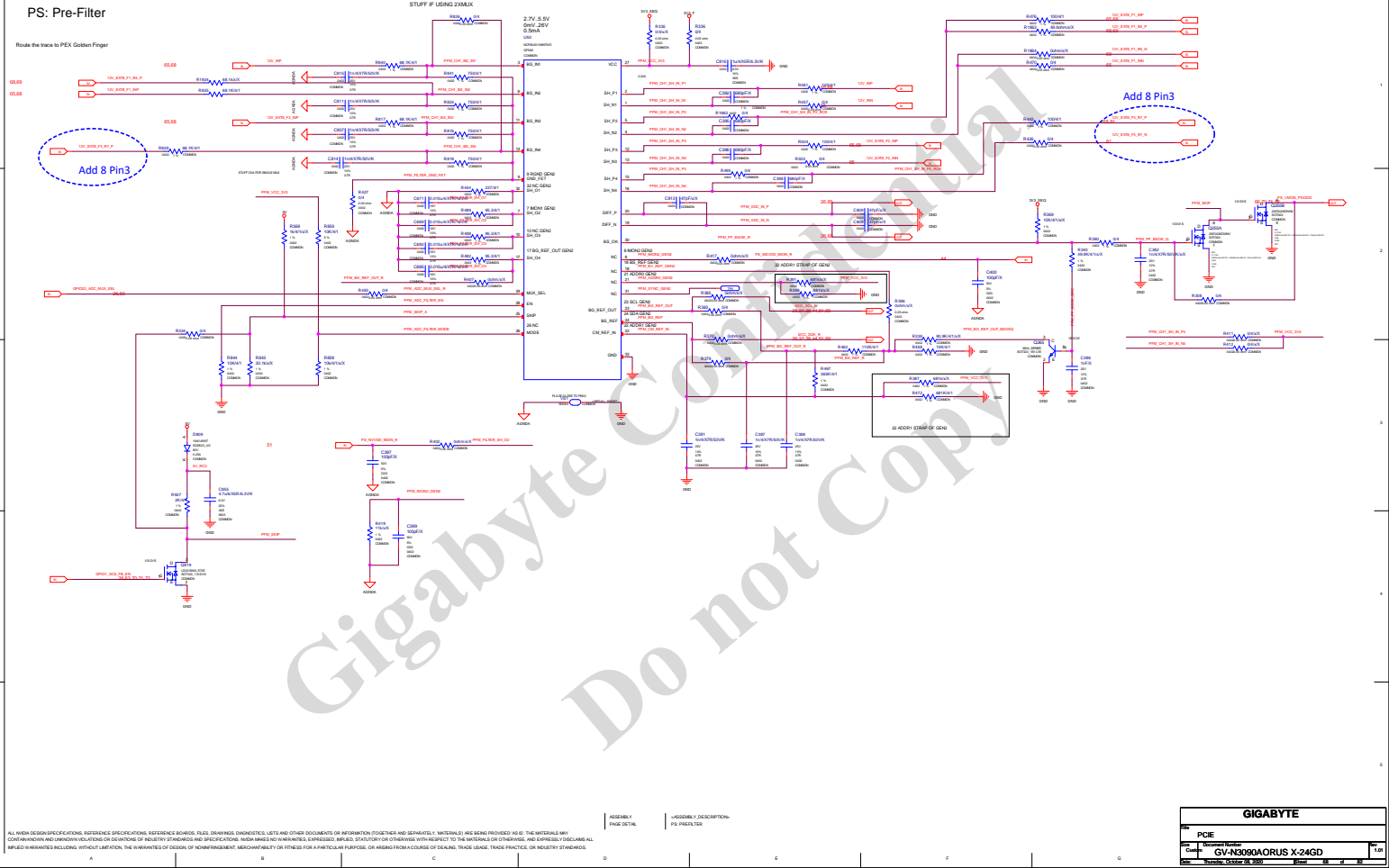
ASSEMBLY  
PAGE DETAIL

ASSEMBLY\_DESCRIPTION  
PG: Discrete Power Steering

|                 |                            |  |                   |
|-----------------|----------------------------|--|-------------------|
| <b>GIGABYTE</b> |                            |  |                   |
| File PCIE       |                            |  |                   |
| Doc             | DOCUMENT NUMBER            |  | Rev               |
| Custom          | GV-N3090AORUS X-24GD       |  | 1.01              |
| Date            | Thursday, October 08, 2020 |  | Print of of of of |

# PS: Pre-Filter

Route the trace to PEX Golden Finger

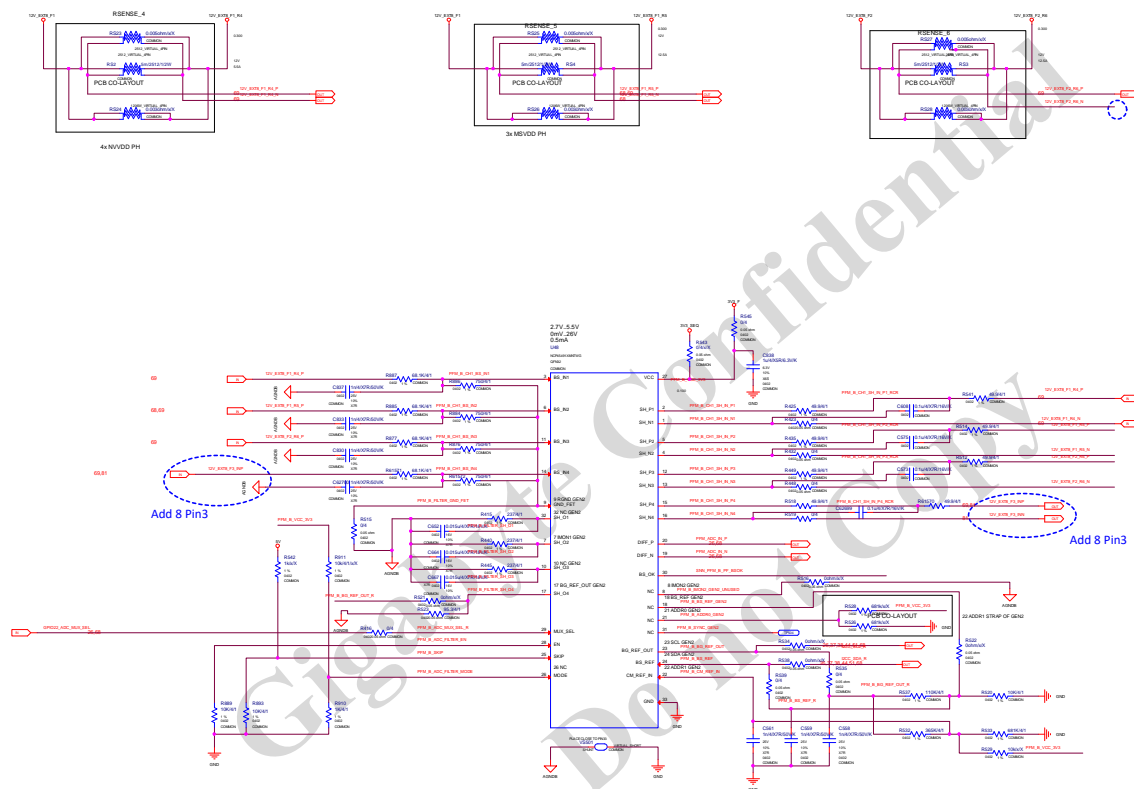


ALL DESIGN SPECIFICATIONS, PERFORMANCE SPECIFICATIONS, REFERENCE DIMENSIONS, FILES, DRAWINGS, DIMENSIONS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS OR BE SUBJECT TO CHANGE WITHOUT NOTICE. GIGABYTE MAKES 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.

ASSEMBLY  
PAGE 001

ASSEMBLY DESCRIPTION  
PS PRE-FILTER

| GIGABYTE     |                      |
|--------------|----------------------|
| PCIE         |                      |
| Model Number | GV-N3090AORUS X-24GD |
| Revision     | 1.0                  |

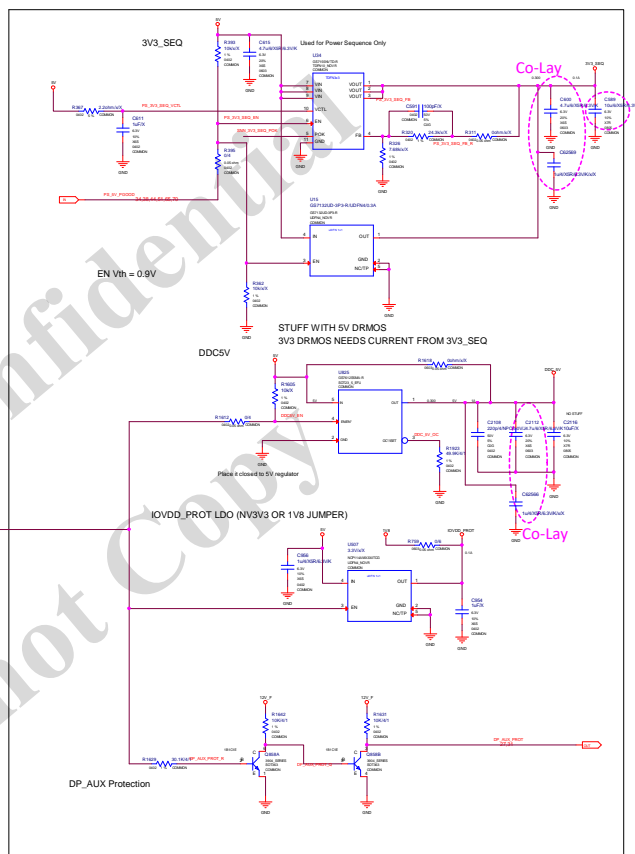
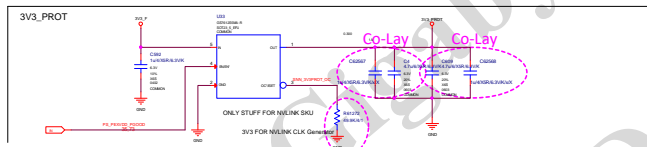


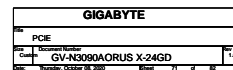
ALL IN-HOUSE DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE DRAWINGS, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND/OR OMISSIONS AND/OR VIOLATIONS OF OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NVIDIA MAKES NO WARRANTIES, EXPRESS OR 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.

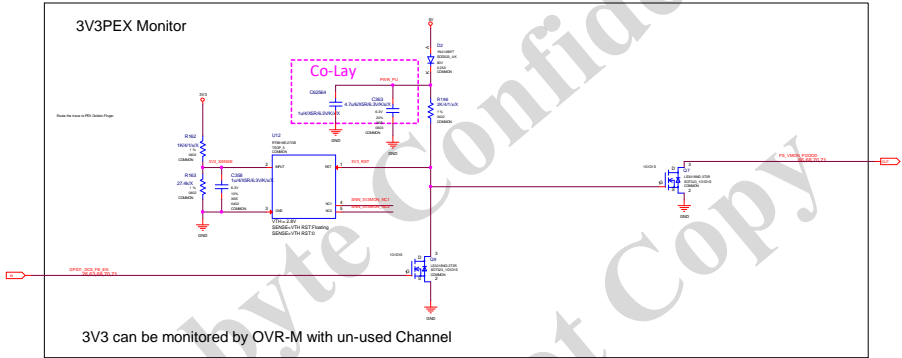
ASSEMBLY  
PAGE DETAIL

ASSEMBLY DESCRIPTION  
PS: PRE-FILTER B

| GIGABYTE |              |                      |     |
|----------|--------------|----------------------|-----|
| PCIE     | Model Number | GV-N3090AORUS X-24GD | 1.0 |
| Rev      | Revision     | 1.0                  | 1.0 |





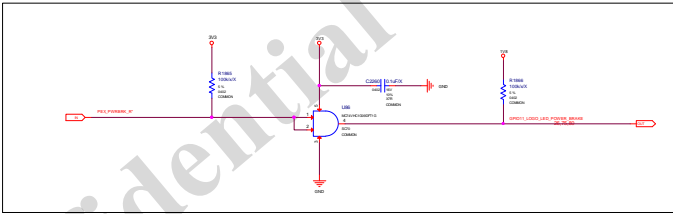
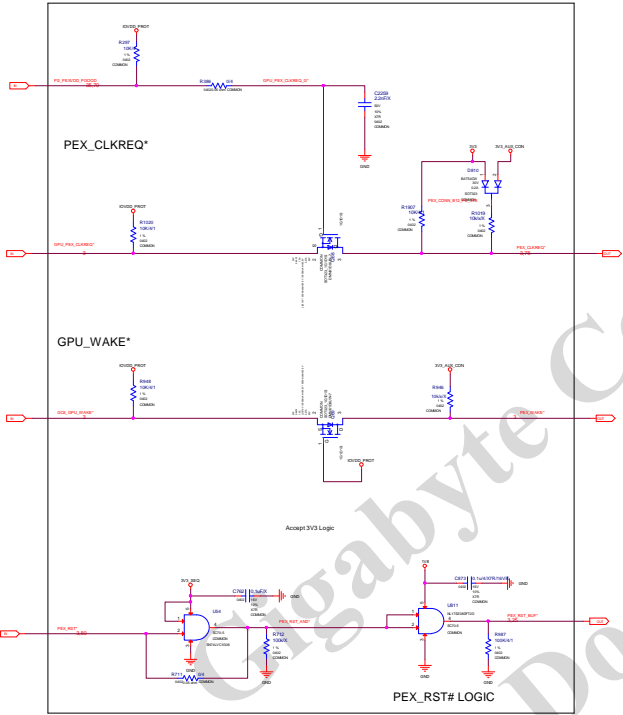


ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE DRAWINGS, FILES, DRAWINGS, DIMENSIONS, LETTERS AND OTHER DOCUMENTS OR INFORMATION TOGETHER AND SEPARATELY, MATERIALS ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN UNKNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS, KNOWLEDGE, SKILLS, 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 PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL  
ASSEMBLY DESCRIPTION  
Sequence: 3V3 MONITOR

| GIGABYTE             |      |
|----------------------|------|
| PCIE                 | 1.01 |
| GV-N3090AORUS X-24GD |      |
| REV. 1.01            |      |





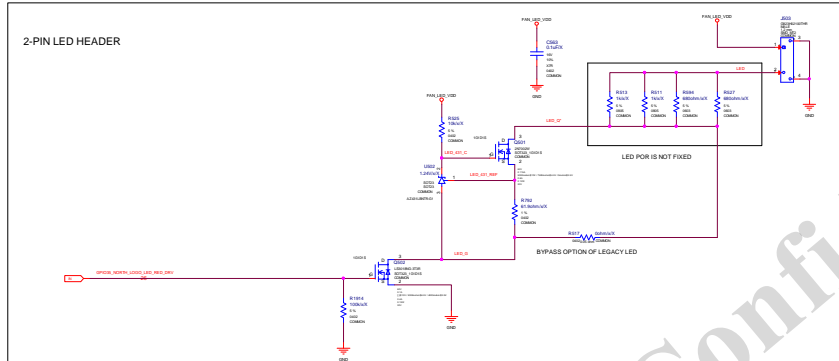
ALL OTHER DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE SCHEDULES, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION TOGETHER AND SEPARATELY, MATERIALS ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN UNKNOWN AND UNKNOWN VIOLATIONS OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. INDEMNITIES NO WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE WITH RESPECT TO THE MATERIALS OR OTHERWISE, AND EXPRESSLY DISCLAIMS ALL 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.

ASSEMBLY  
PAGE DETAIL

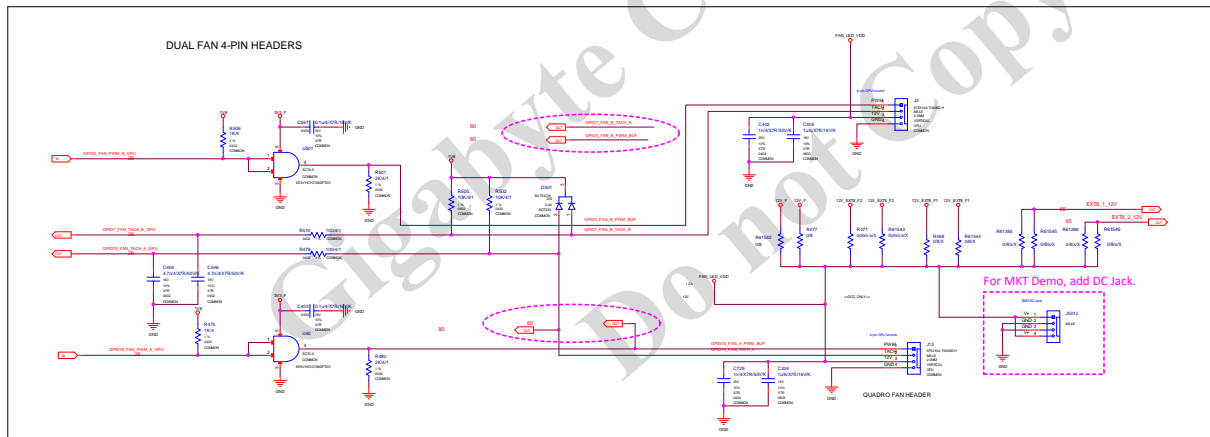
ASSEMBLY DESCRIPTION:  
Sequence MISC

| GIGABYTE |            |                      |     |
|----------|------------|----------------------|-----|
| REV      | DATE       | DESCRIPTION          | BY  |
| 1.0      | 2023/08/01 | PCIE                 | 1.0 |
| 1.0      | 2023/08/01 | GV-N3090AORUS X-24GD | 1.0 |
| 1.0      | 2023/08/01 | SEQUENCE MISC        | 1.0 |

## 2-PIN LED HEADER



## DUAL FAN 4-PIN HEADERS

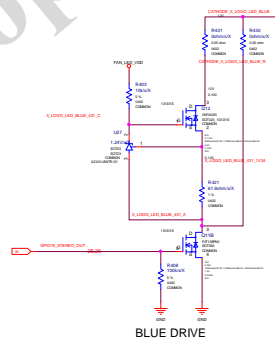
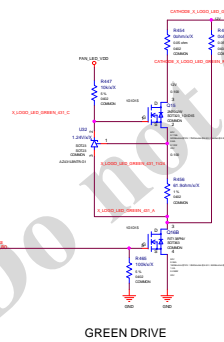
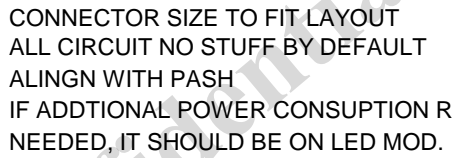


ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE PROPERTY OF GIGABYTE TECHNOLOGY CO., LTD. AND IS LOANED TO YOU. IT IS TO BE USED FOR YOUR PERSONAL USE ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM GIGABYTE TECHNOLOGY CO., LTD., NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

ASSEMBLY  
PAGE DETAILASSEMBLY DESCRIPTION  
MISC LED & FAN

GIGABYTE

|              |                      |
|--------------|----------------------|
| Model        | PCE                  |
| Product Name | GV-N3090AORUS X-24GD |
| Version      | 1.0                  |
| Revision     | 1.0                  |



ALL DATA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, RESISTANCE BONUSES, FILES, DRAWINGS, DIAGNOSTICS, LETTERS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY, MATERIALS) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND UNRELIABILITIES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. NIKEN UNDES 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<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>RGMFLD REF |
|-------------------------|------------------------------------|
|-------------------------|------------------------------------|

|                 |                            |  |  |  |       |    |    |    |      |
|-----------------|----------------------------|--|--|--|-------|----|----|----|------|
| <b>GIGABYTE</b> |                            |  |  |  |       |    |    |    |      |
| File PCIE       |                            |  |  |  |       |    |    |    |      |
| File            | Document Number            |  |  |  |       |    |    |    | Rev  |
| Customer        | GV-N3090AORUS X-24GD       |  |  |  |       |    |    |    | 1.01 |
| Date            | Thursday, October 04, 2020 |  |  |  | Sheet | 75 | of | 82 |      |

BK up



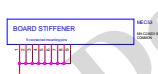
BK low



GPU



MOS



Backplane



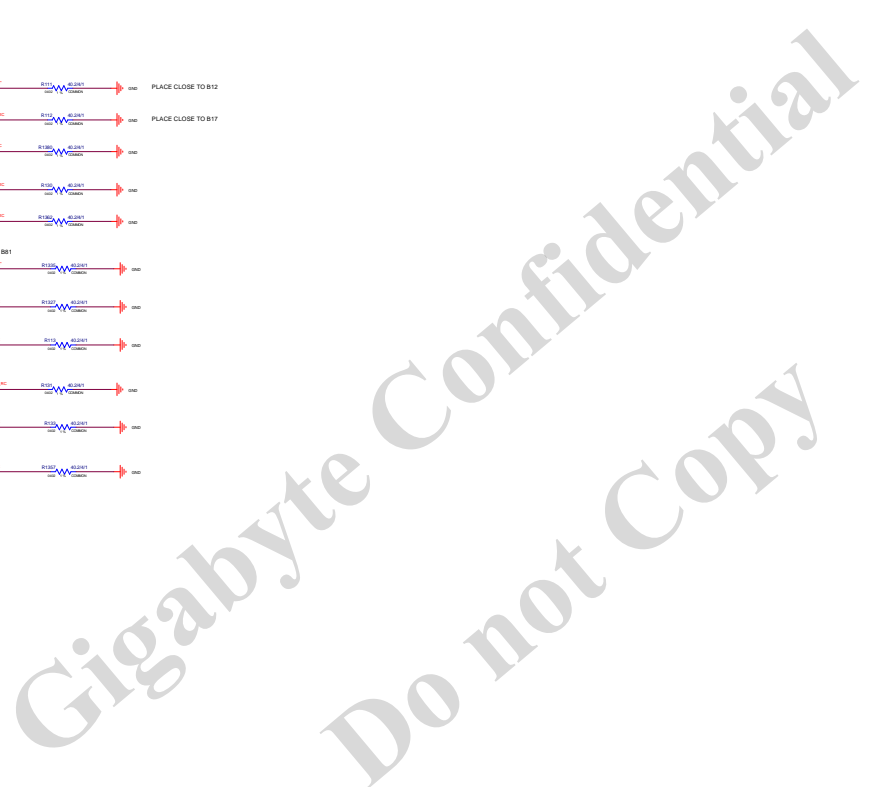
ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED "AS IS". THE MATERIALS MAY CONTAIN ERRORS AND UNCORRECTED CHANGES OR DEVIATIONS OF INDUSTRY STANDARDS AND SPECIFICATIONS. MEDIA IMAGES 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 MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, TRADE USAGE, TRADE PRACTICE, OR INDUSTRY STANDARDS.

ASSEMBLY PAGE DETAIL MECH

| GIGABYTE |            |      |            |
|----------|------------|------|------------|
| REV      | PCE        | REV  | 1.0        |
| DATE     | 2024.03.28 | DATE | 2024.03.28 |
| REV      | 1.0        | REV  | 1.0        |

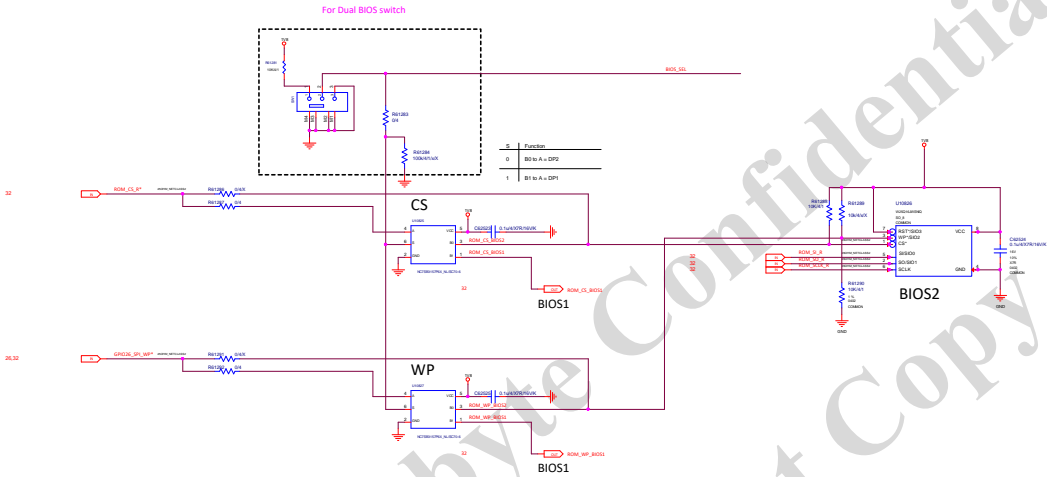


|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|



| ASSEMBLY<br>PAGE DETAIL | ASSEMBLY DESCRIPTION<br>POE TERM |
|-------------------------|----------------------------------|
|-------------------------|----------------------------------|

|                                  |   |   |   |   |   |       |                      |
|----------------------------------|---|---|---|---|---|-------|----------------------|
| A                                | B | C | D | E | F | G     | H                    |
|                                  |   |   |   |   |   |       | GV-N3090AORUS X-24GD |
| Date: Thursday, October 08, 2020 |   |   |   |   |   | Sheet | 78 of 82             |

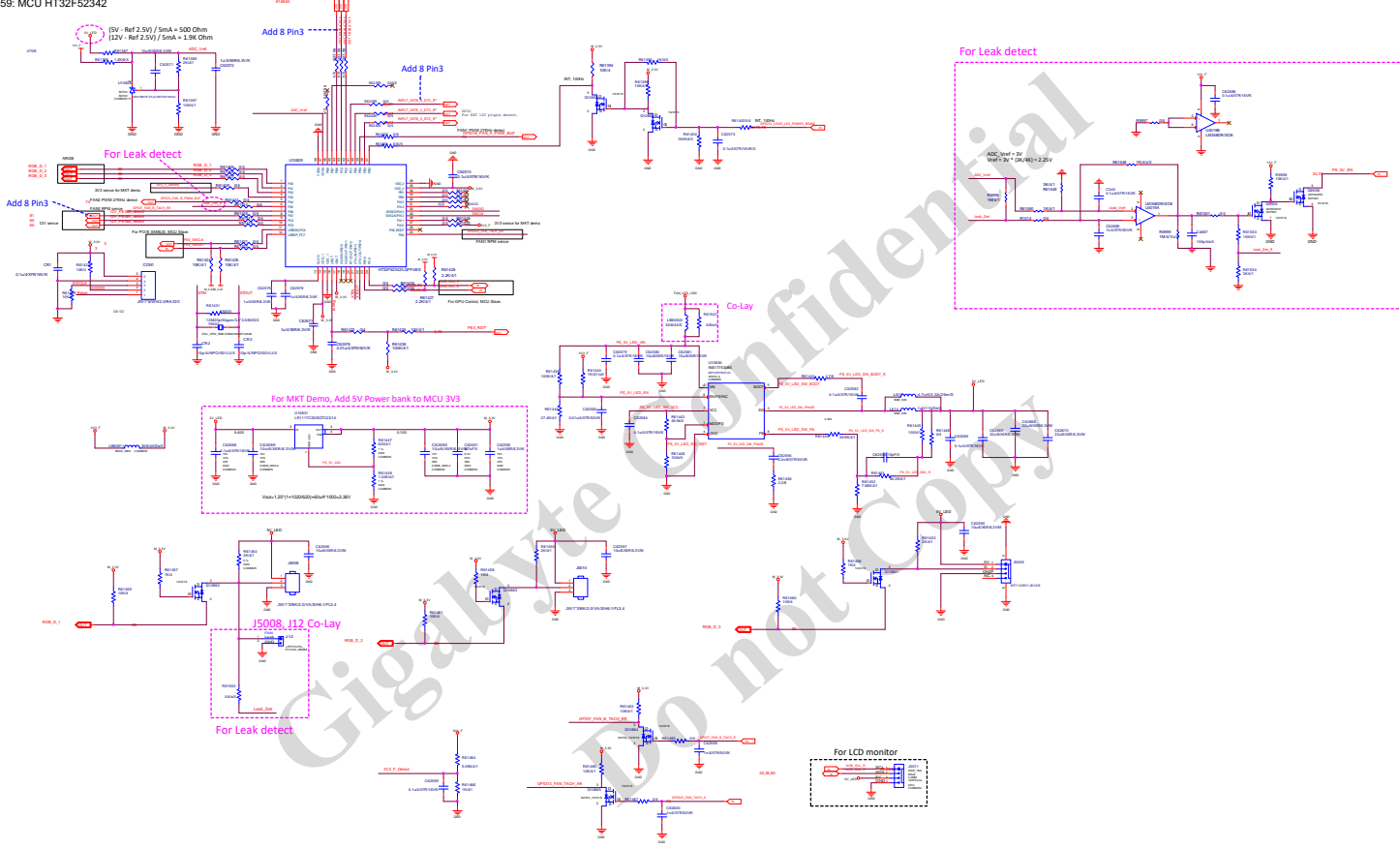


ALL MEDIA DESIGN SPECIFICATIONS, REFERENCE SPECIFICATIONS, REFERENCE BOMs, FILES, DRAWINGS, DIMENSIONS, LISTS AND OTHER DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS, AND ANY INFORMATION OR DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS, AND ANY INFORMATION OR DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED AS IS. THE MATERIALS MAY CONTAIN ERRORS AND OMISSIONS, AND ANY INFORMATION OR DOCUMENTS OR INFORMATION (TOGETHER AND SEPARATELY) ARE BEING PROVIDED AS IS.

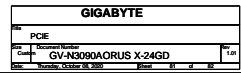
ASSEMBLY  
PAGE 1 OF 1

ASSEMBLY DESCRIPTION  
BIOS SW

| GIGABYTE |      |     |     |
|----------|------|-----|-----|
| REV      | PCIE | REV | 1.0 |
| REV      | PCIE | REV | 1.0 |
| REV      | PCIE | REV | 1.0 |
| REV      | PCIE | REV | 1.0 |







History

| Date       | Modify        |
|------------|---------------|
| 2018.07.21 | First version |

Gigabyte Confidential  
Do not Copy

| GIGABYTE                 |  |  |  |
|--------------------------|--|--|--|
| File                     |  |  |  |
| PCIE                     |  |  |  |
| Rev                      |  |  |  |
| GV-N3090AORUS X-24GD     |  |  |  |
| Date                     |  |  |  |
| Monday, October 01, 2018 |  |  |  |
| Sheet 12 of 10           |  |  |  |