

P2091-A00

GK107, MXM V3.0/ V3.1 TYPE A 2048MB 128BI T sDDR3

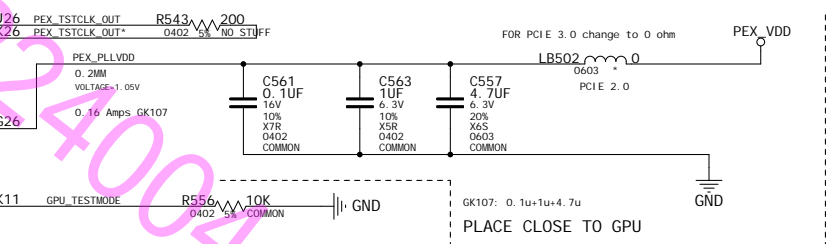
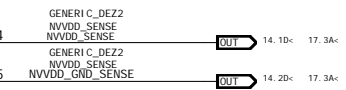
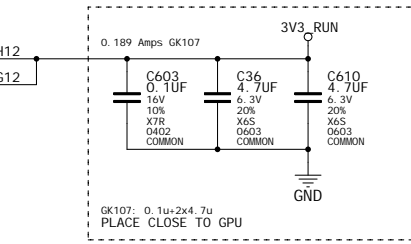
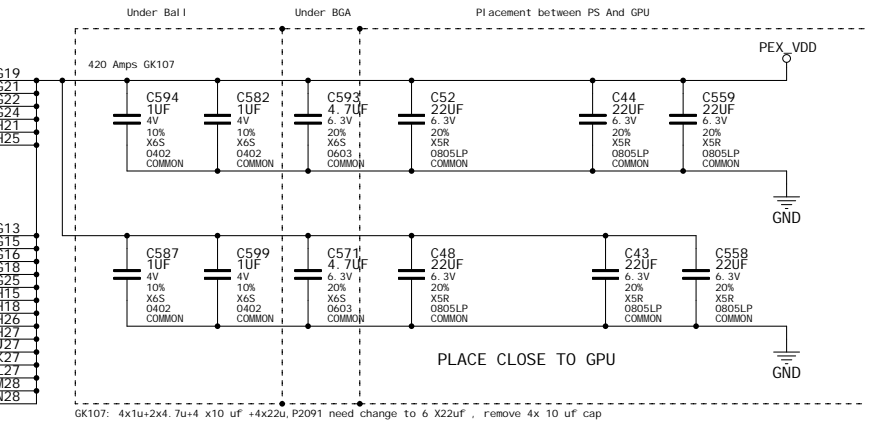
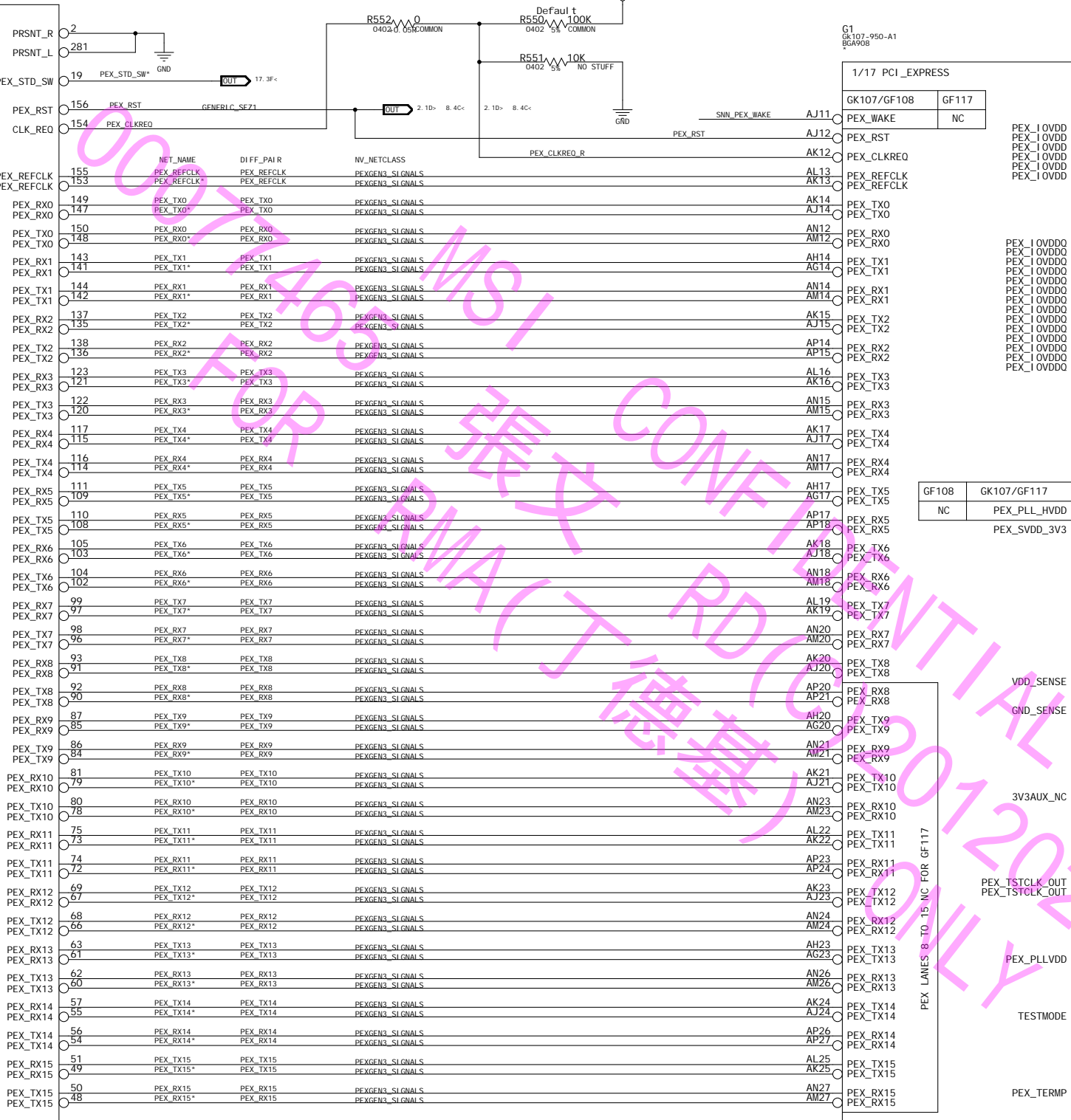
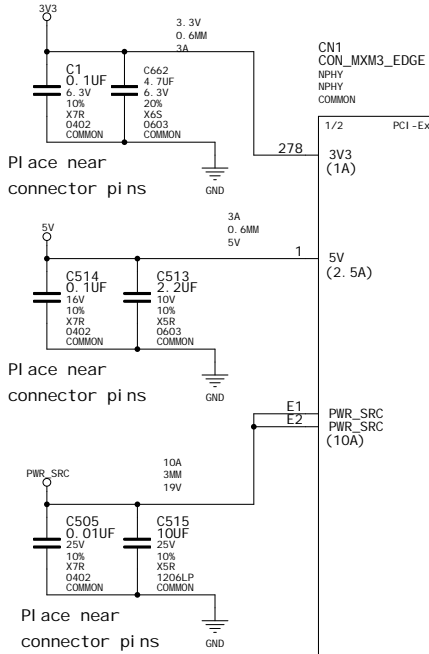
LVDS, QUAD DP, DVI , VGA

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PCI EXPRESS Interface



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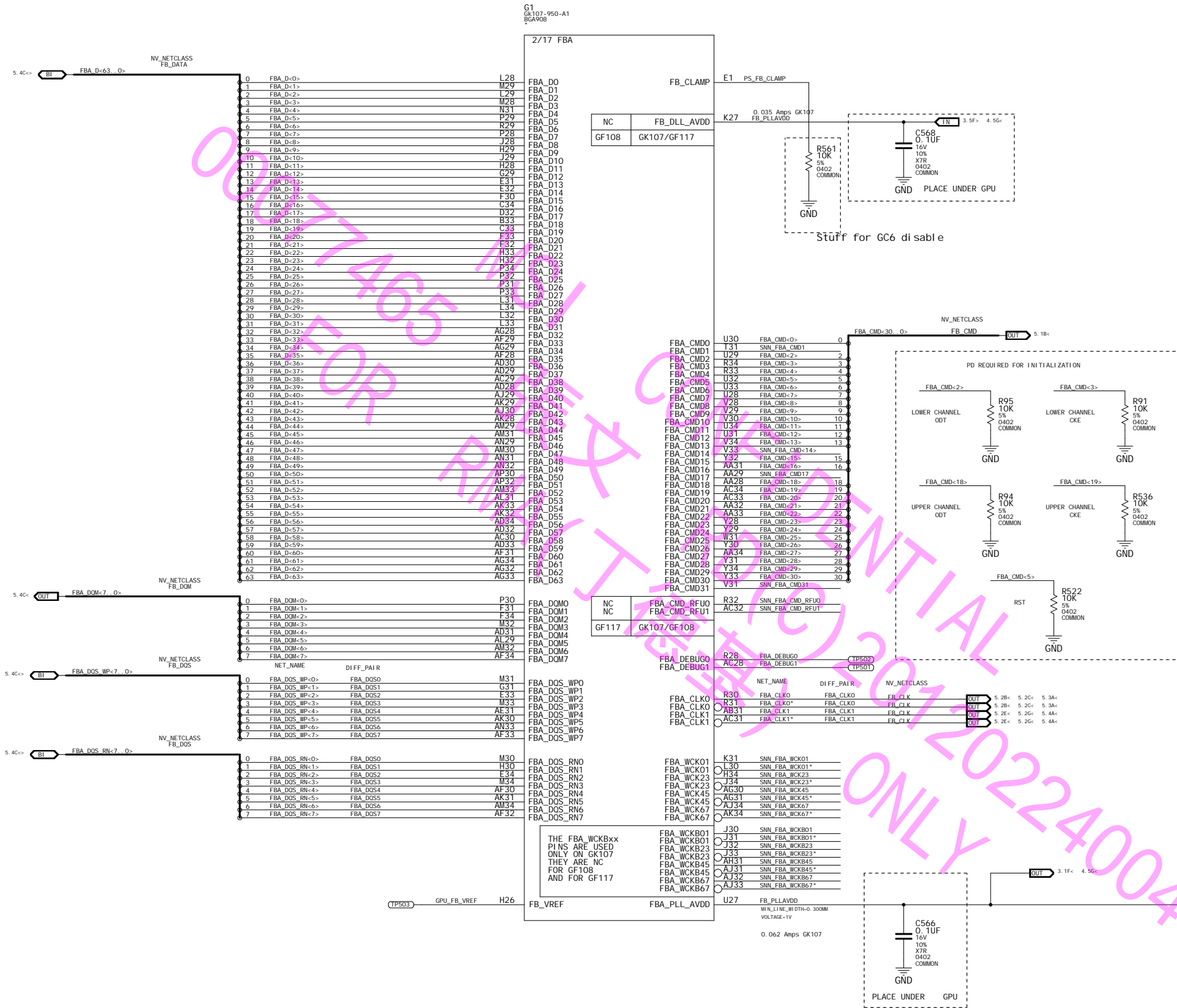
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Frame Buffer A GPU Interface



| | |
|-------------|------------------------------|
| ASSEMBLY | GK107-950 SKU501 |
| PAGE DETAIL | Frame Buffer A GPU Interface |

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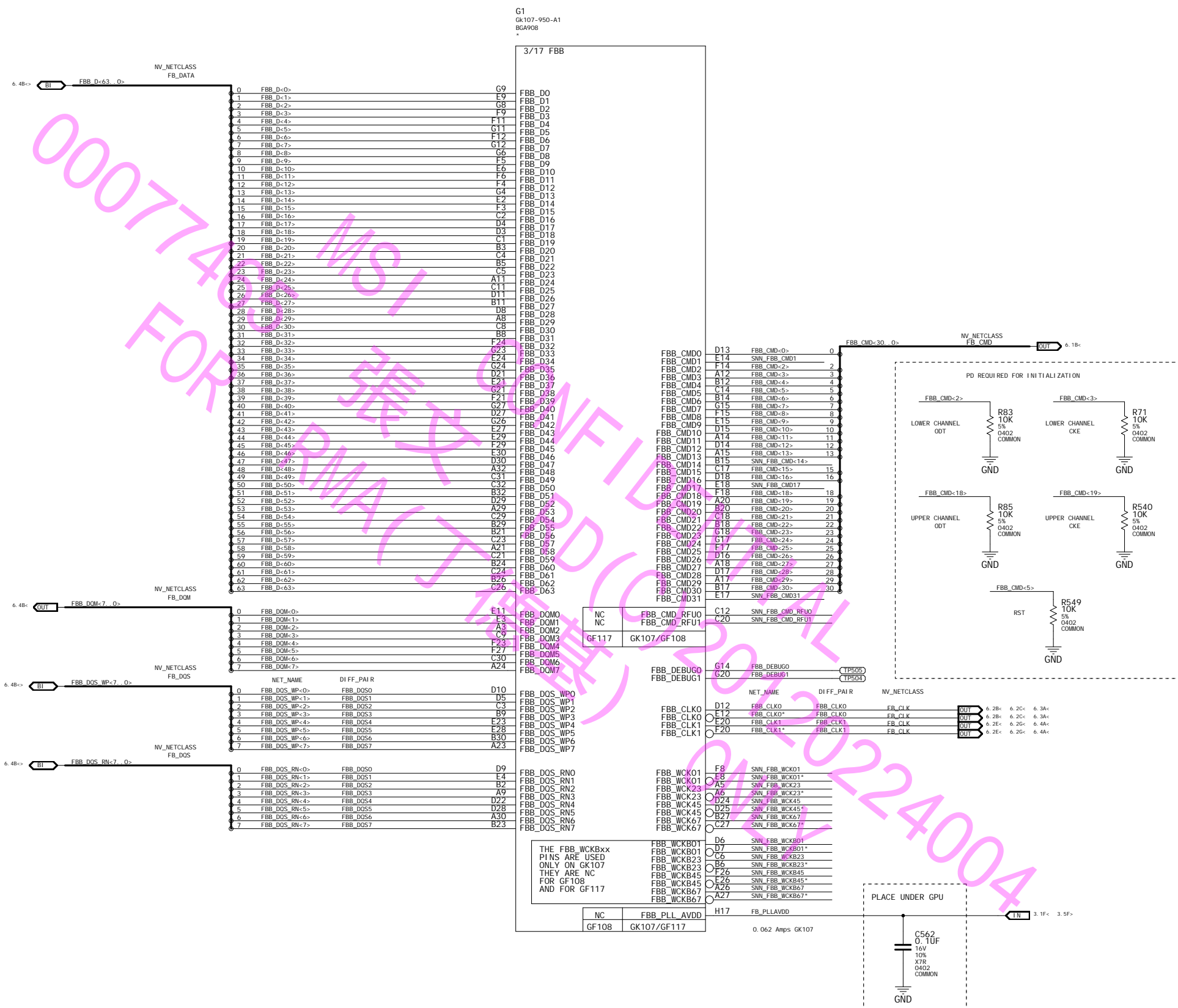
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Frame Buffer B GPU Interface

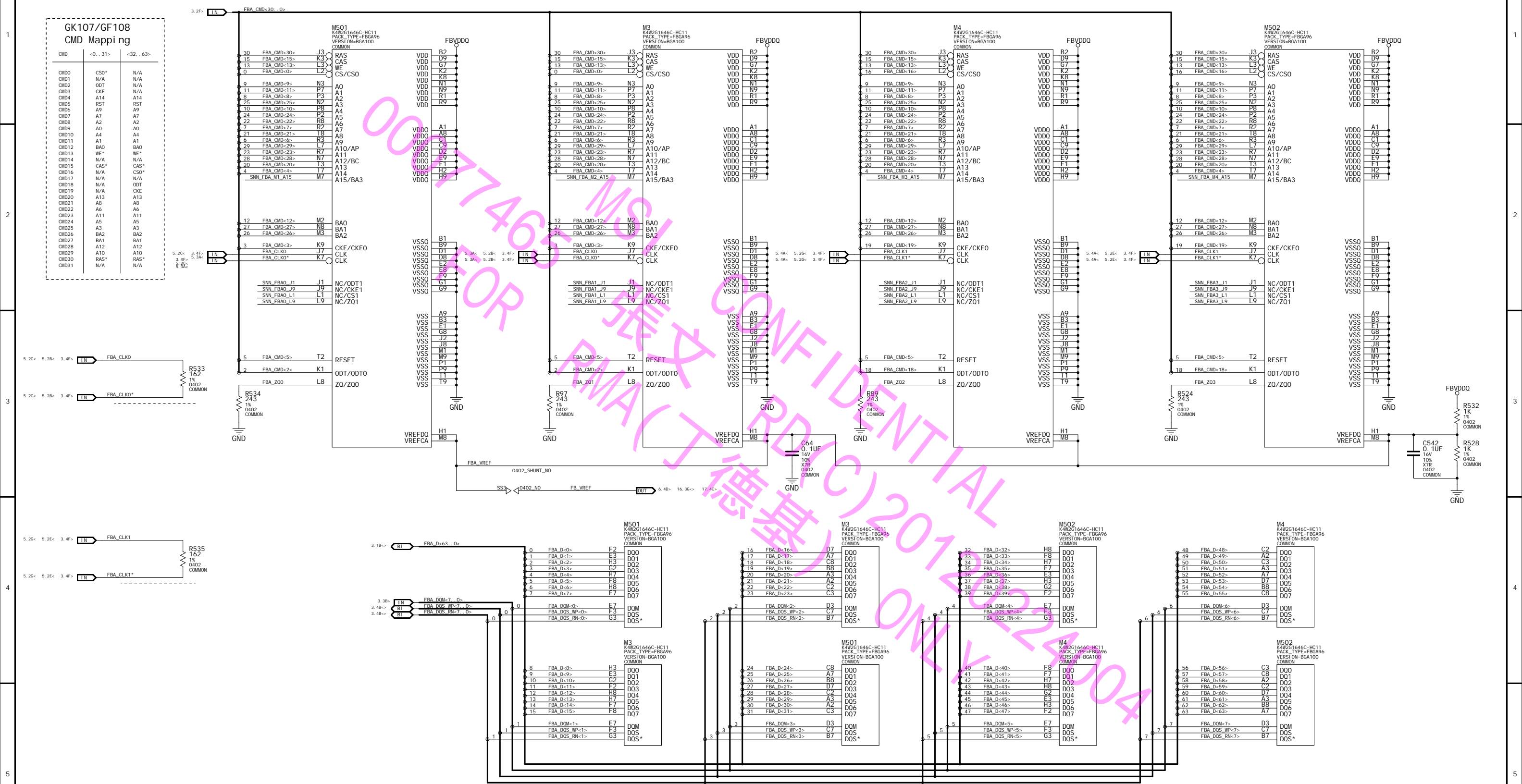


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Frame Buffer Partition A

SKU0500 SKU0501 SKU0502

1st: Samsung 161-0089-600
2nd: Hynix 161-0082-100



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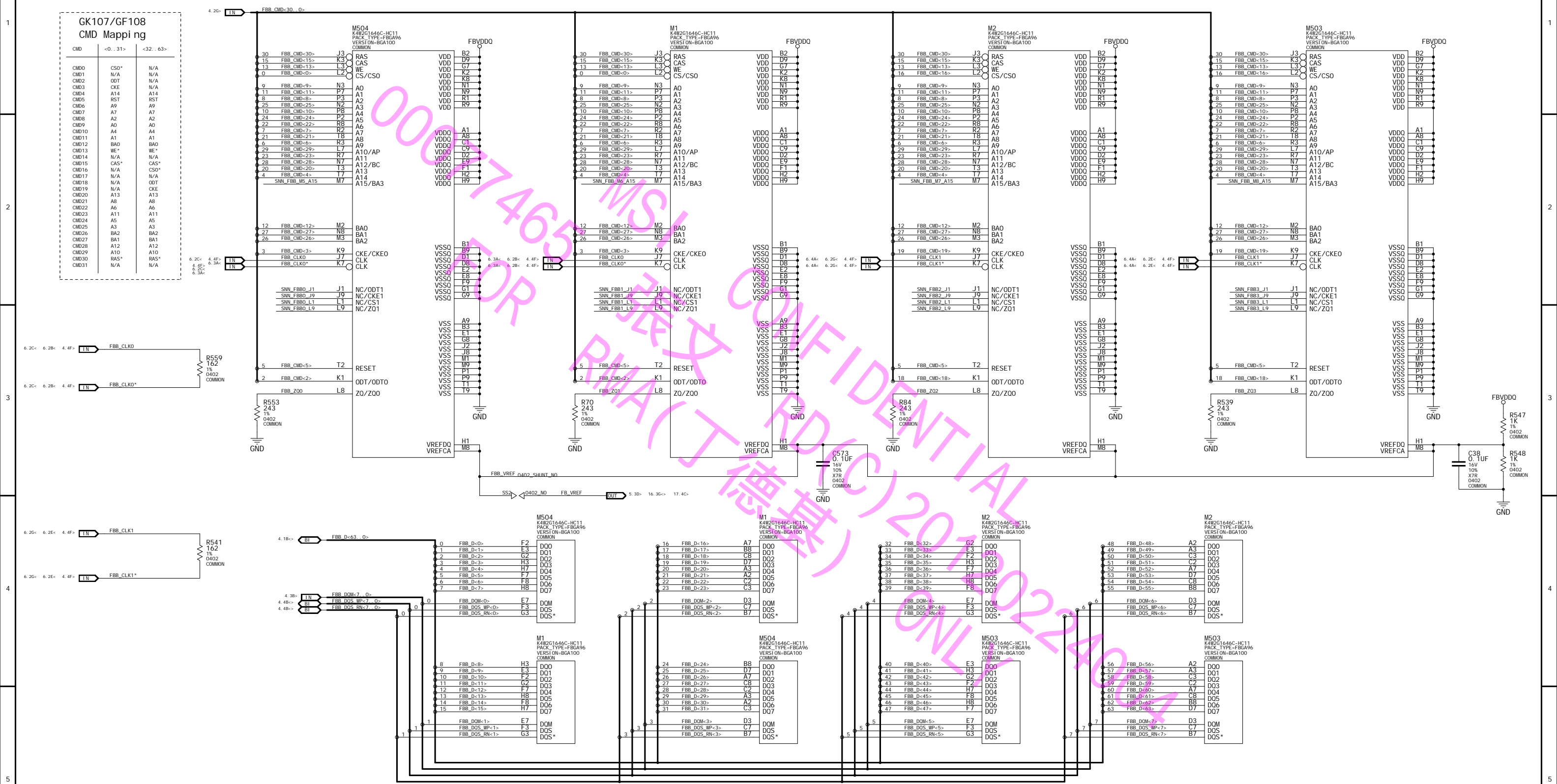
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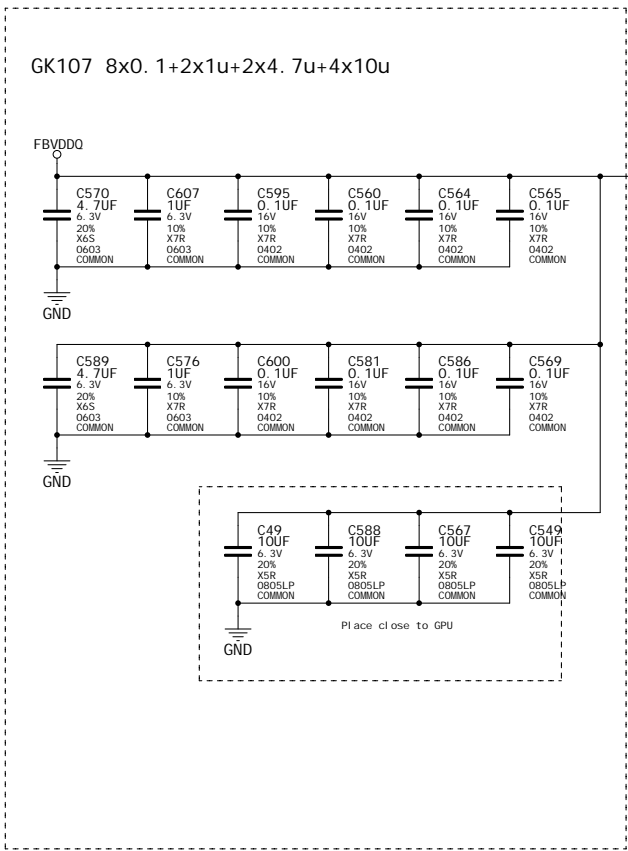
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Frame Buffer Partition B

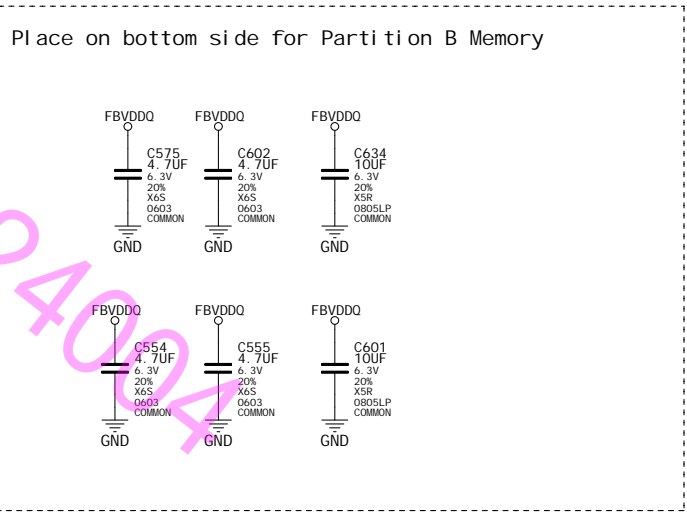
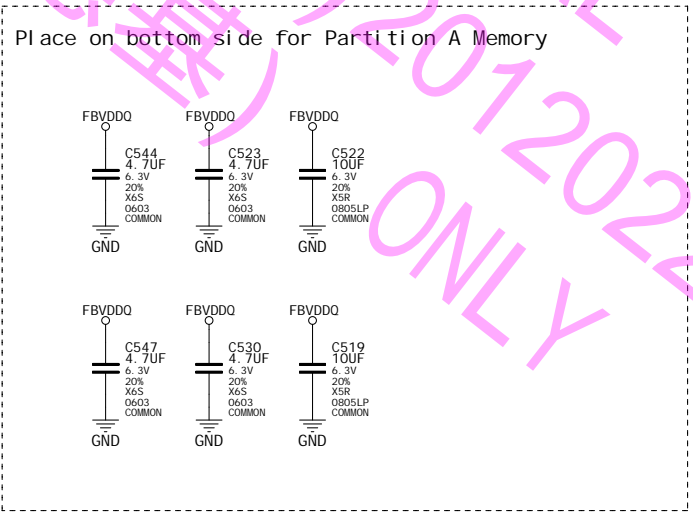
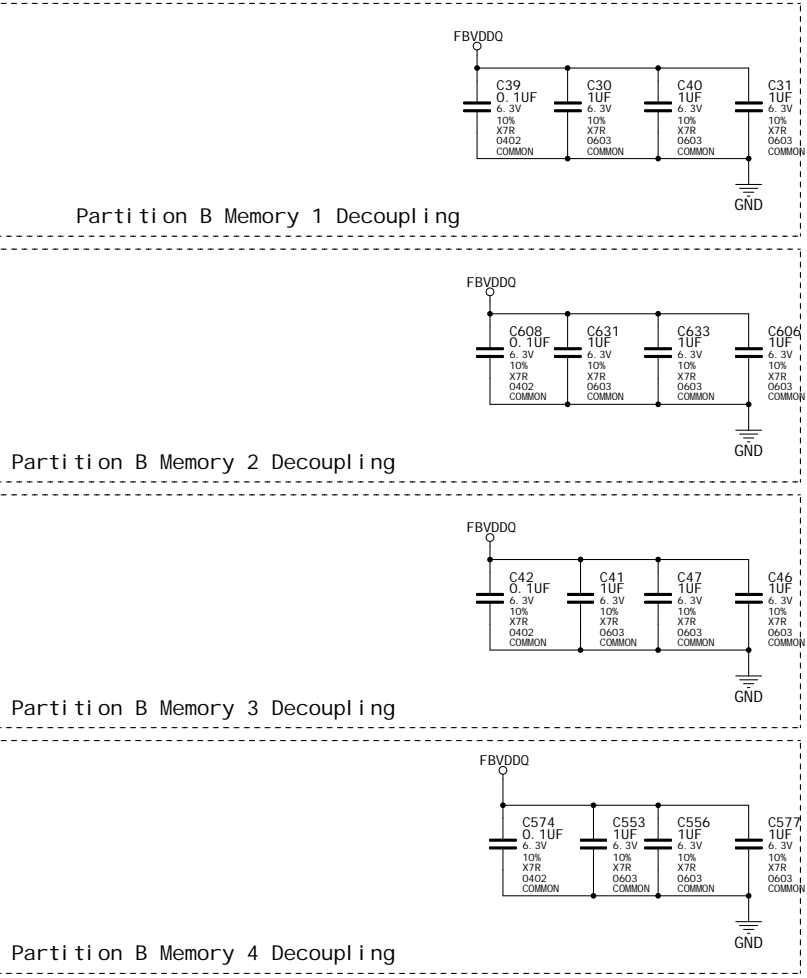
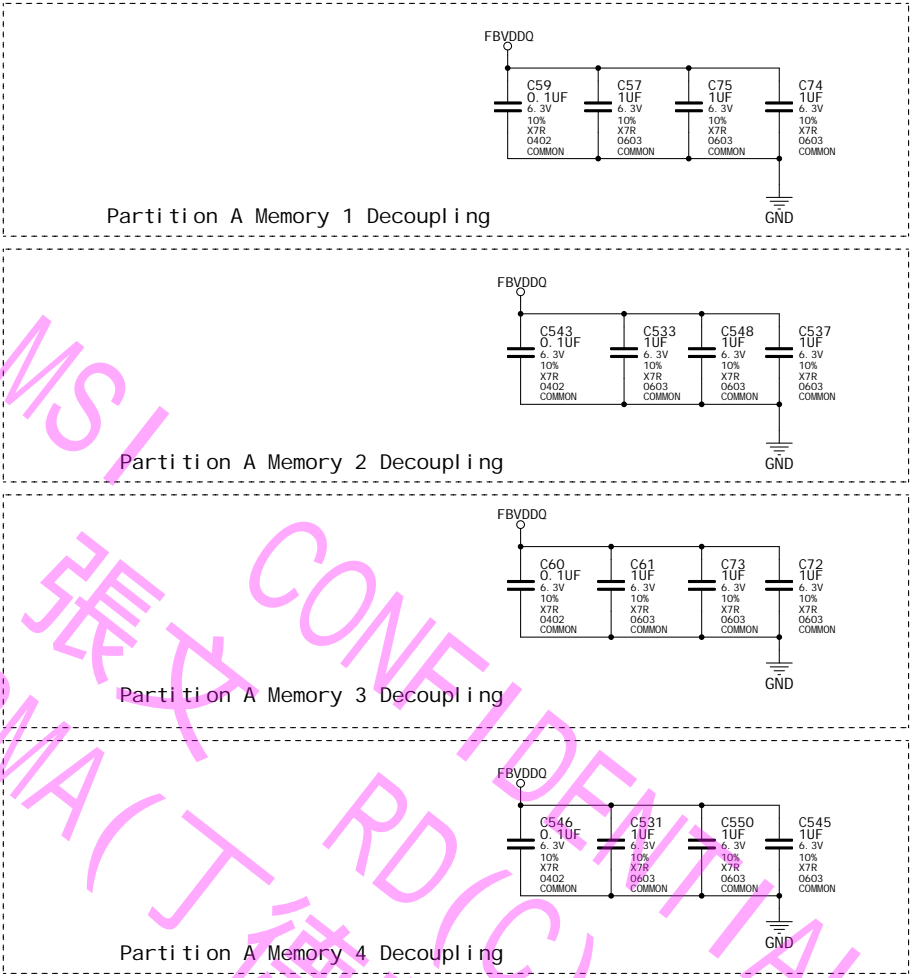
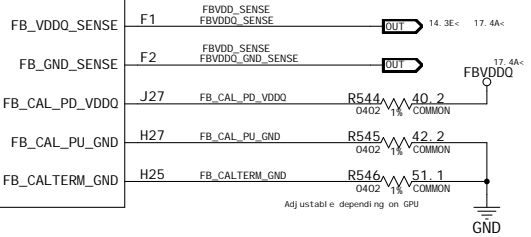


Memory Decoupling Caps



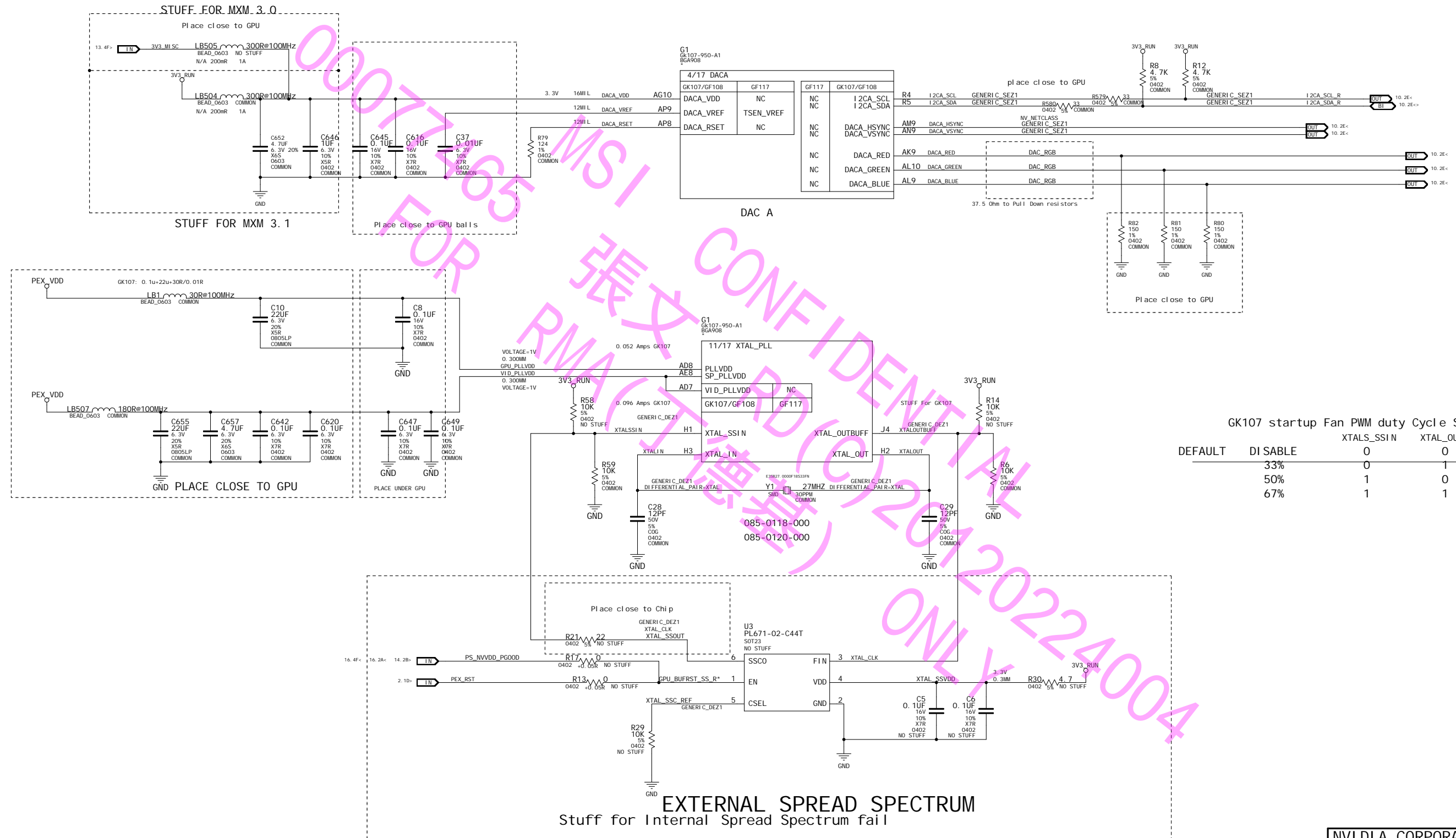
G1 GK107-950-A1 BGA908

| | |
|--------------|-------------|
| 14/17 FBVDDQ | AA27 FBVDDQ |
| AA30 FBVDDQ | AB27 FBVDDQ |
| AB33 FBVDDQ | AC27 FBVDDQ |
| AD27 FBVDDQ | AE27 FBVDDQ |
| AF27 FBVDDQ | AG27 FBVDDQ |
| B13 FBVDDQ | B16 FBVDDQ |
| B19 FBVDDQ | E13 FBVDDQ |
| E16 FBVDDQ | H10 FBVDDQ |
| H11 FBVDDQ | H12 FBVDDQ |
| H13 FBVDDQ | H14 FBVDDQ |
| H15 FBVDDQ | H16 FBVDDQ |
| H18 FBVDDQ | H19 FBVDDQ |
| H20 FBVDDQ | H21 FBVDDQ |
| H22 FBVDDQ | H23 FBVDDQ |
| H24 FBVDDQ | H8 FBVDDQ |
| H9 FBVDDQ | L27 FBVDDQ |
| N27 FBVDDQ | P27 FBVDDQ |
| T27 FBVDDQ | T30 FBVDDQ |
| T33 FBVDDQ | V27 FBVDDQ |
| W30 FBVDDQ | W33 FBVDDQ |
| Y27 FBVDDQ | |



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DACA PLL, CRYSTAL



| GK107 startup Fan PWM duty Cycle Setting | |
|--|----------|
| DEFAULT | DI SABLE |
| | 33% |
| | 50% |
| | 67% |

EXTERNAL SPREAD SPECTRUM

| | |
|-------------|--------------------|
| ASSEMBLY | GK107-950 SKU501 |
| PAGE DETAIL | DACA, PLL, CRYSTAL |

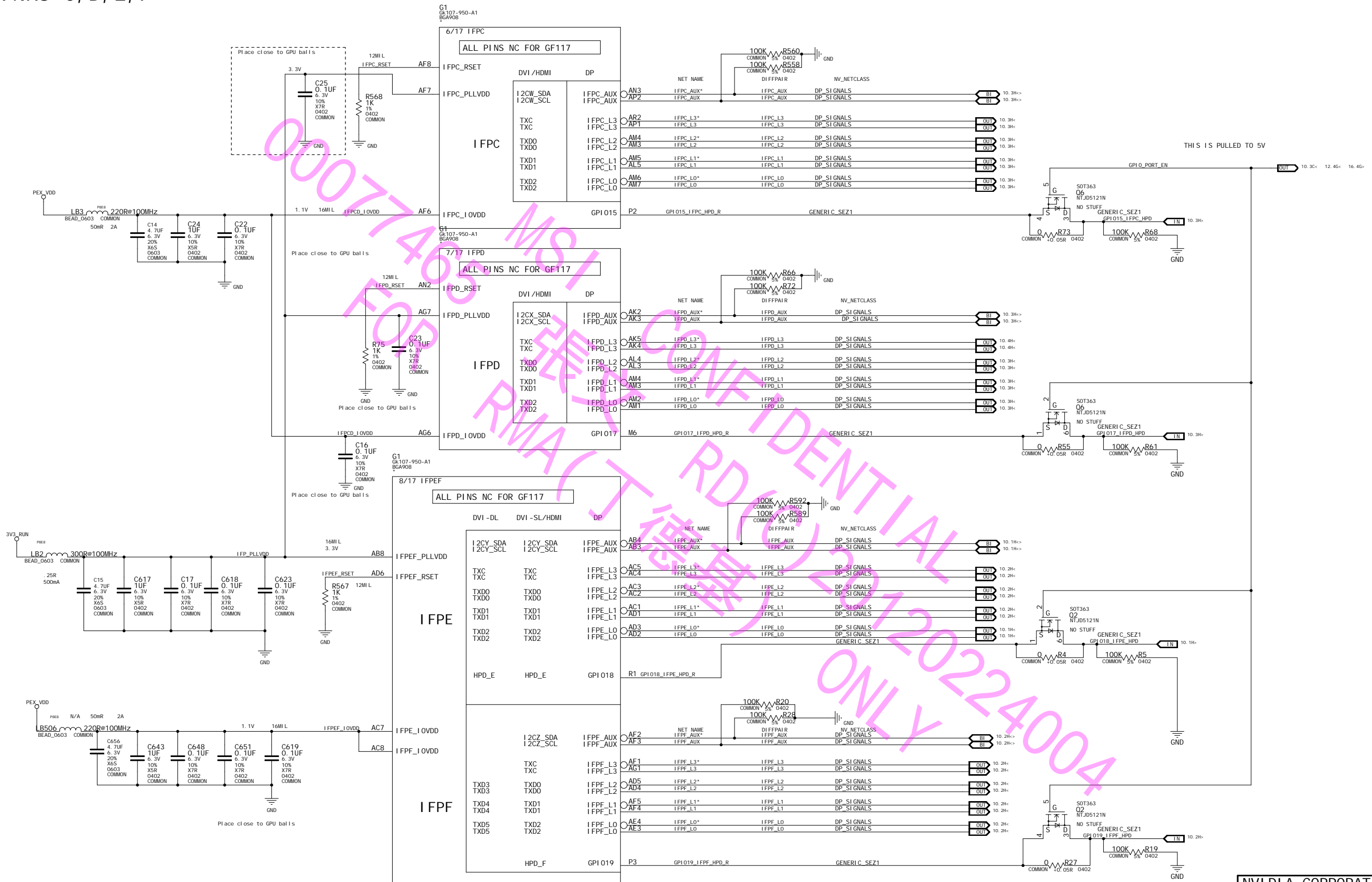
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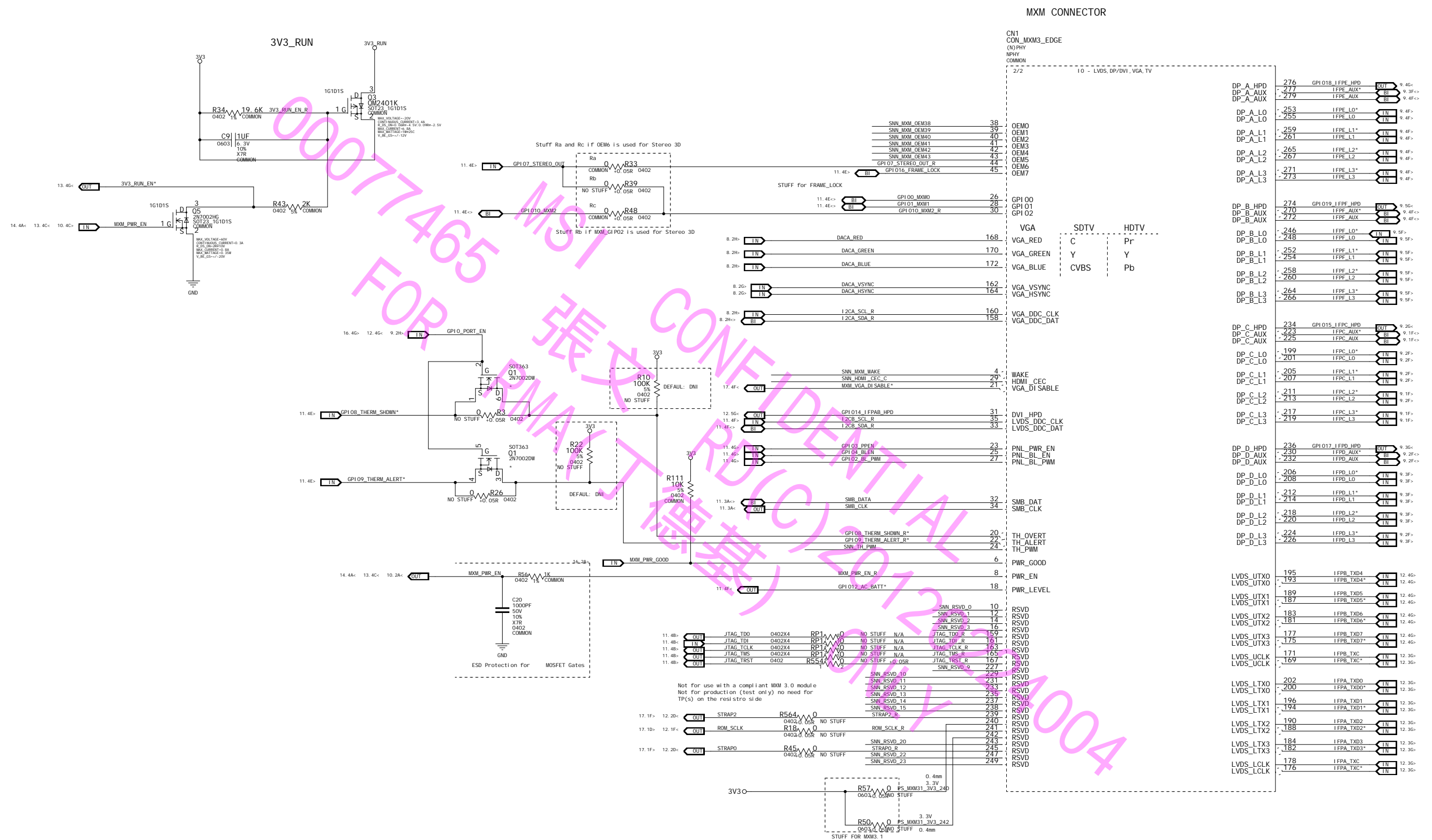


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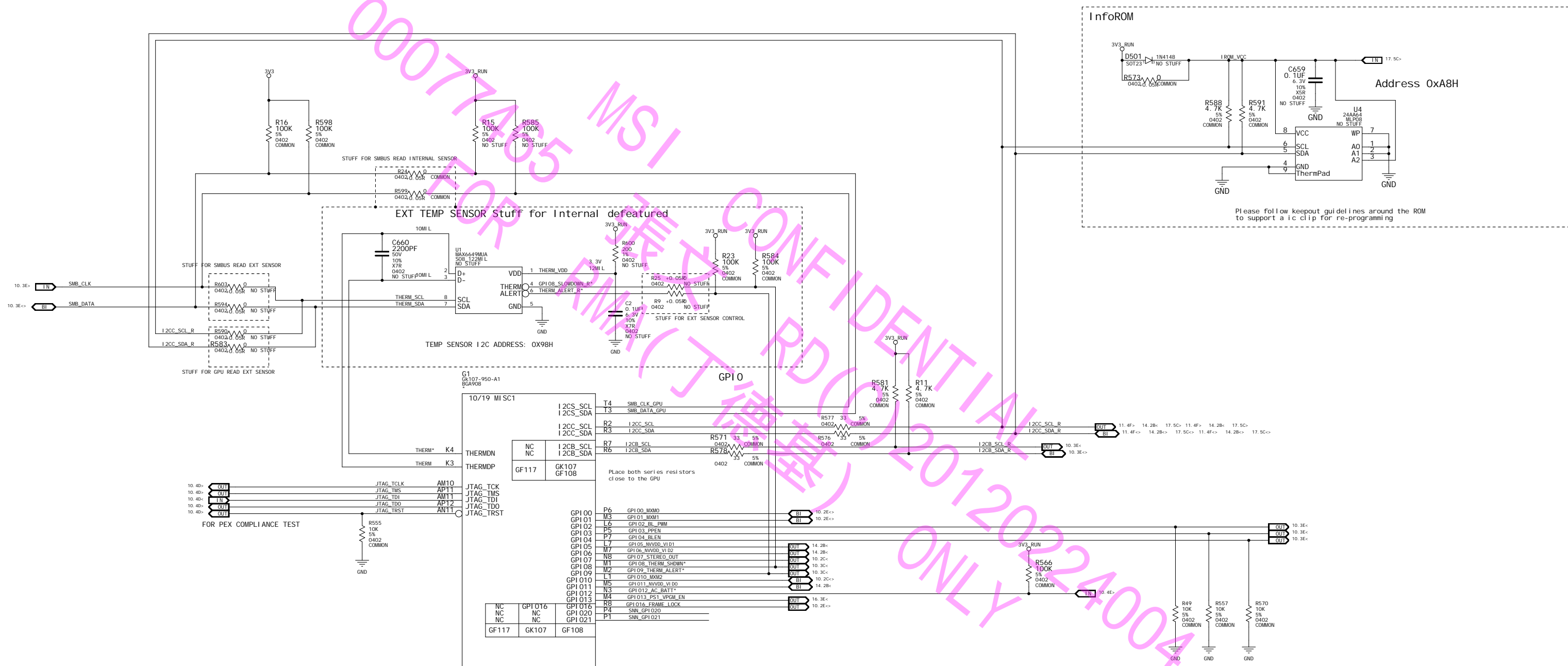
DP LINKS C, D, E, F



MXM Connector, 10-Section

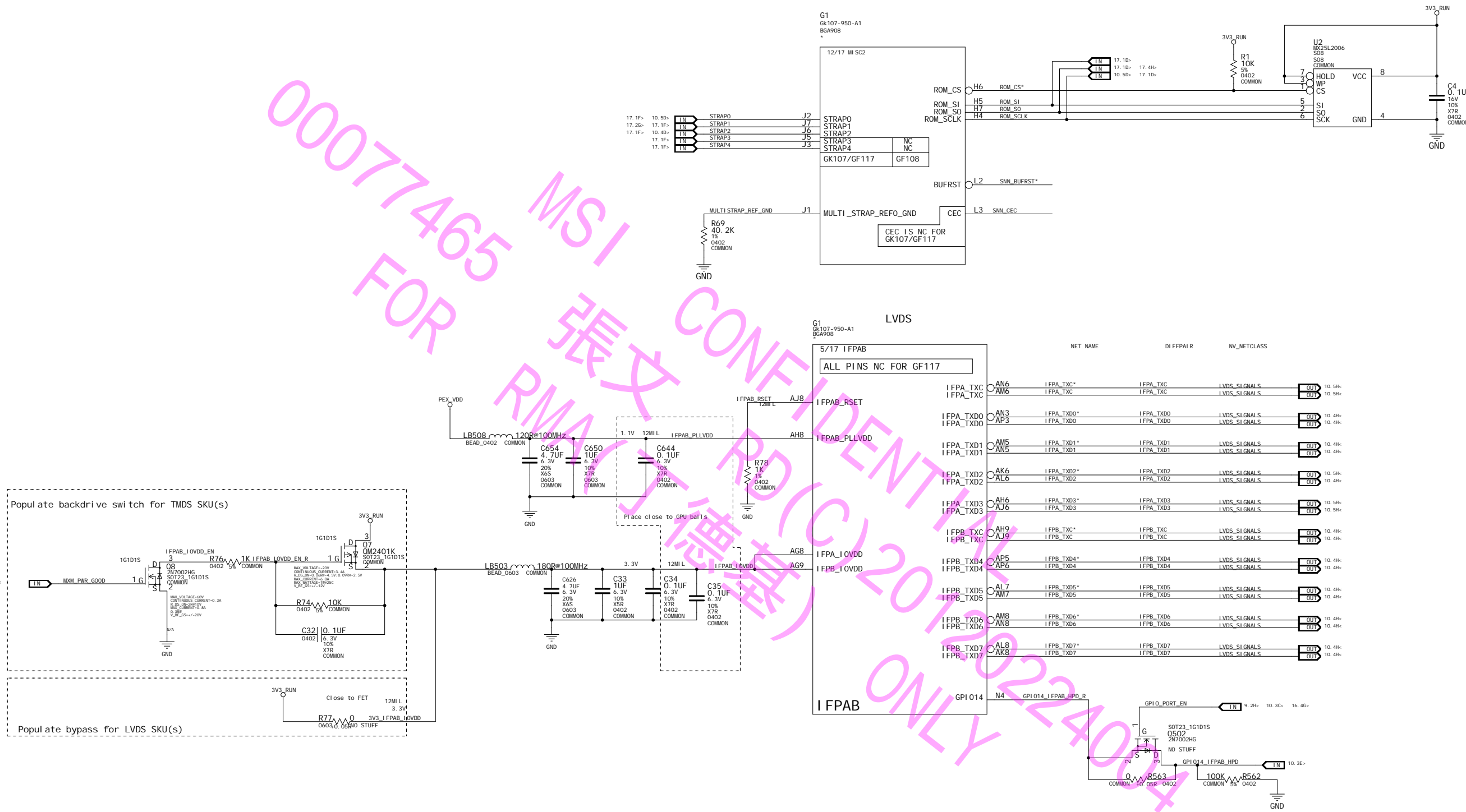


GPI O, JTAG, TEMP SENSOR, Info ROM



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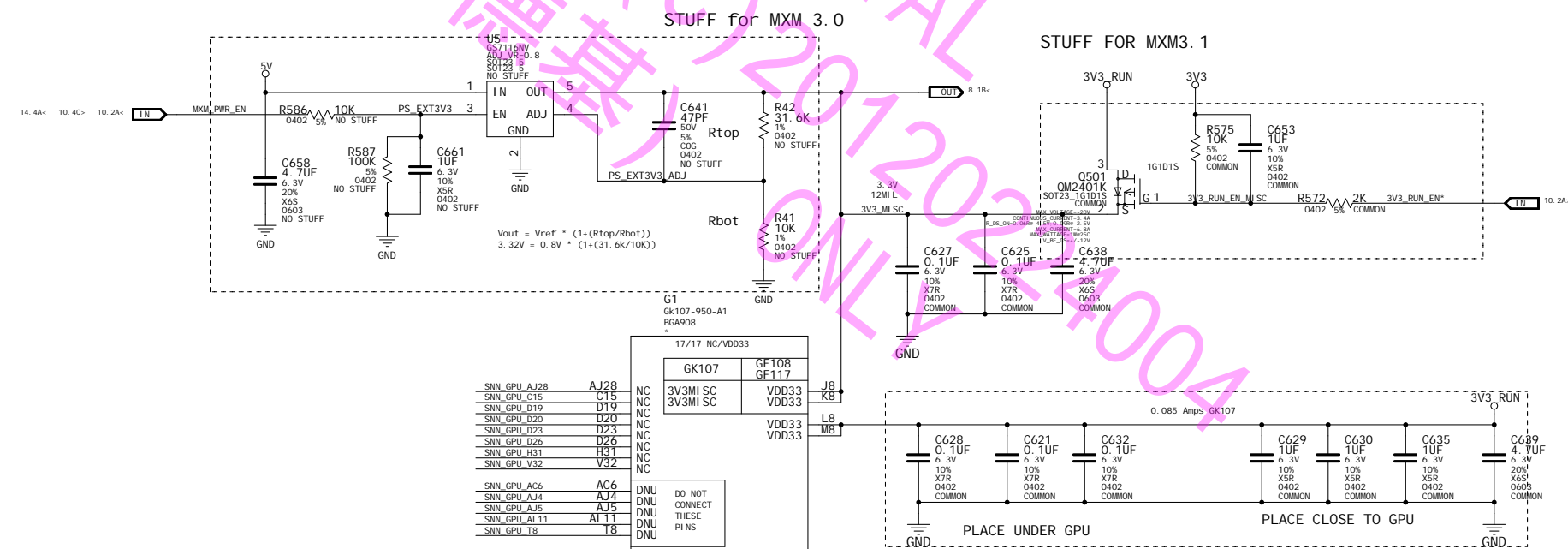
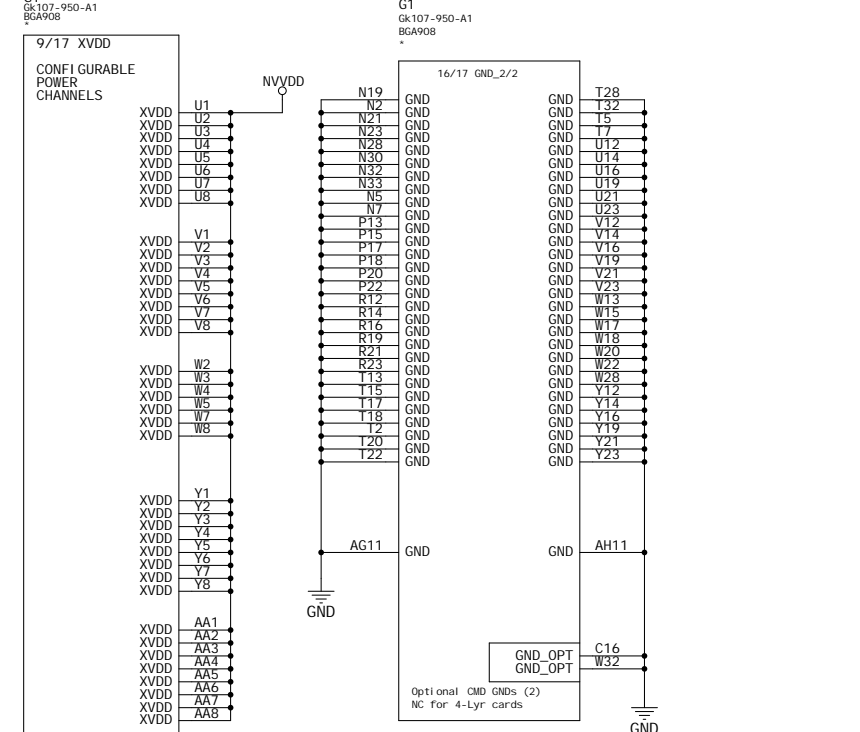
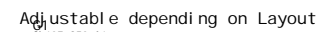
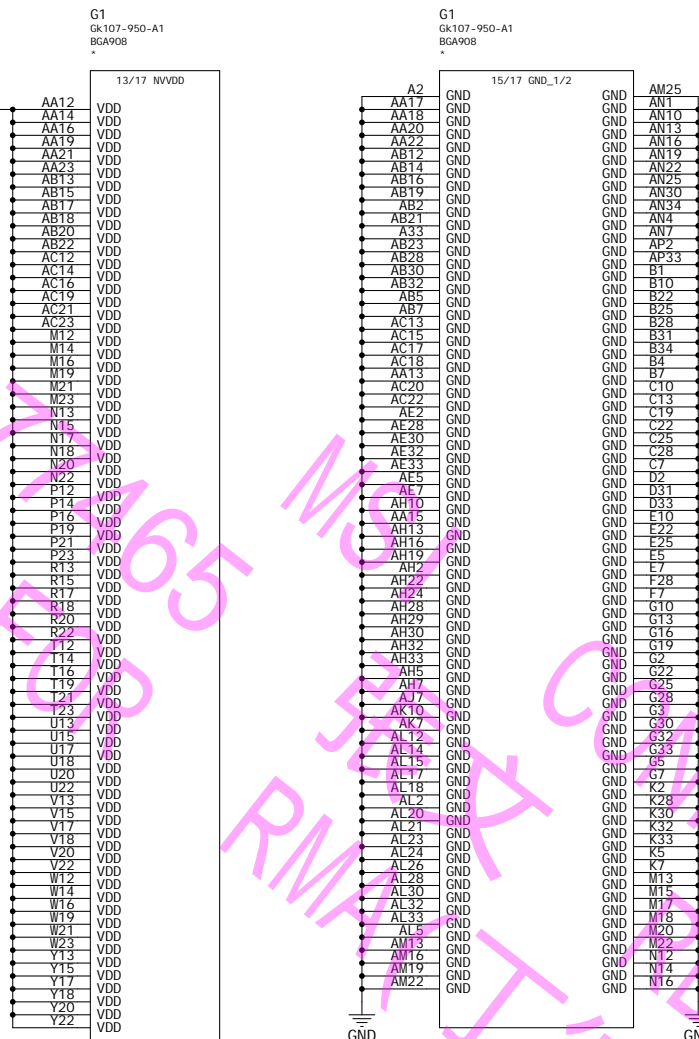
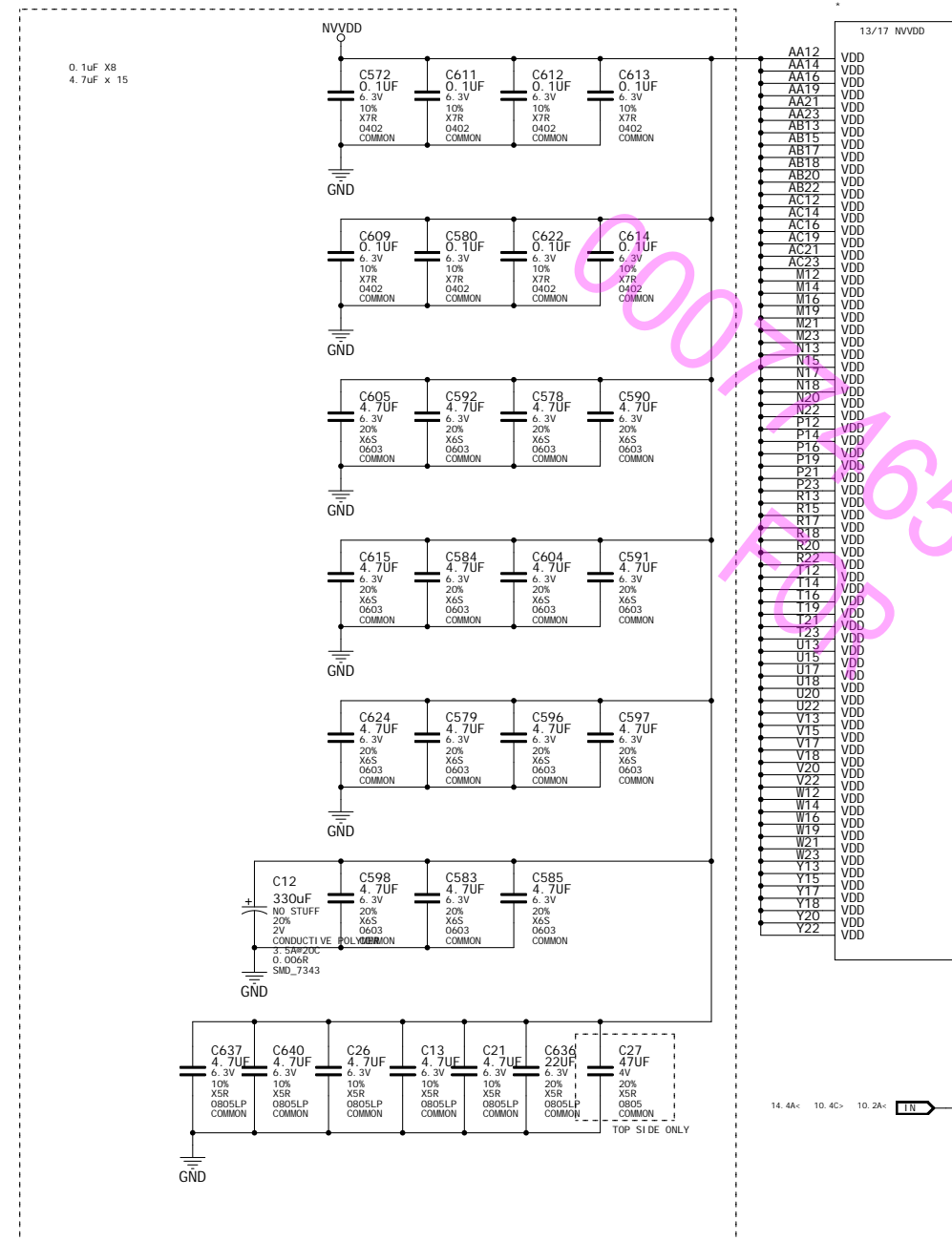
LVDS, VBI OS



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GPU VDD\DCPLNG\GND



| | |
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| ASSEMBLY | GK107-950 SKU501 |
| PAGE DETAIL | GPU VDD\DCPLNG\G |

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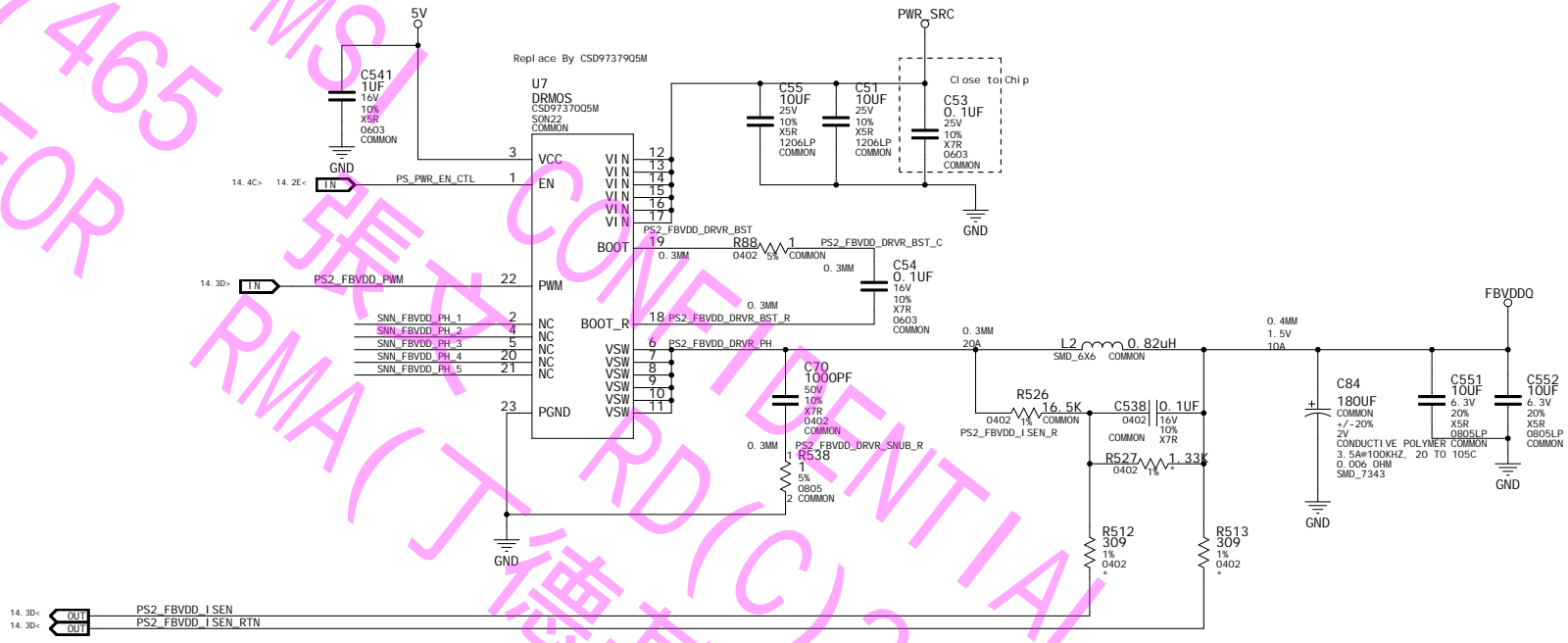
NVVDD PHASE 1 DRIVER



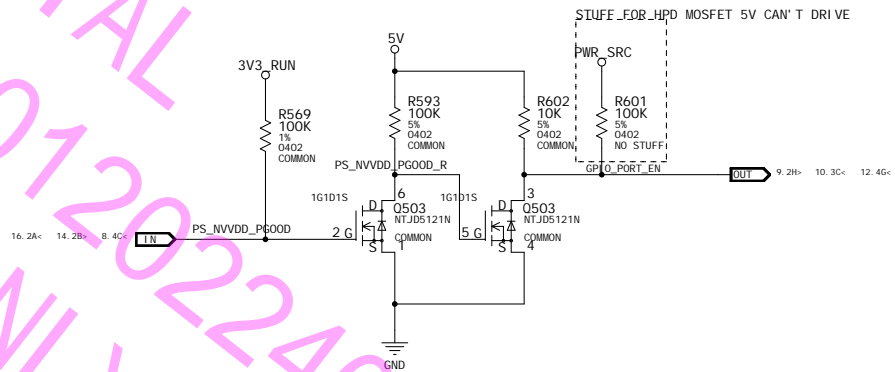
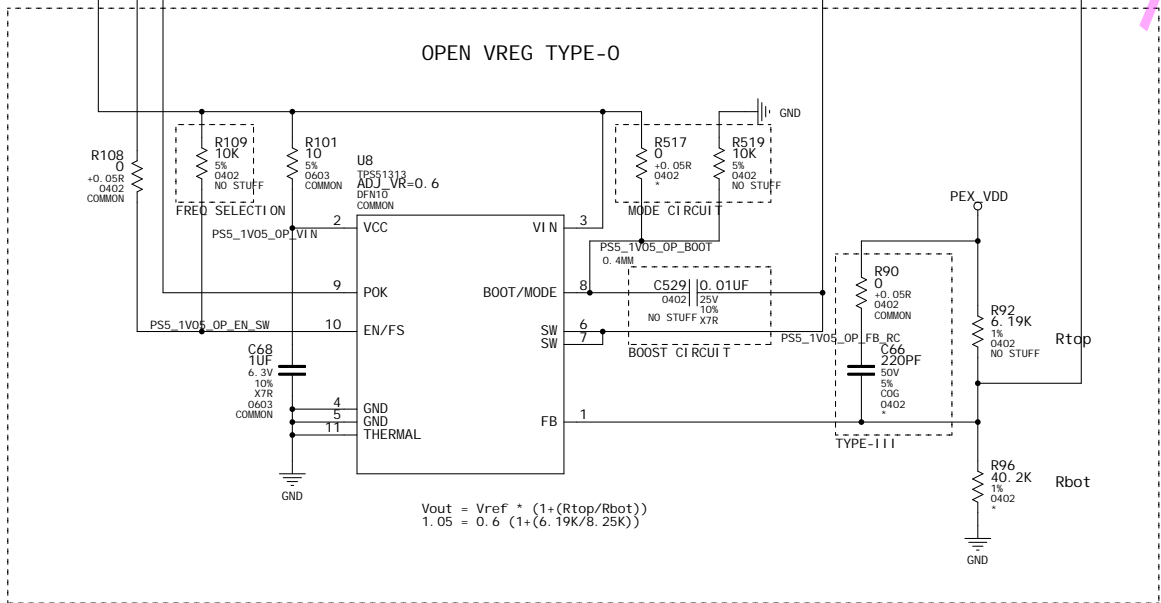
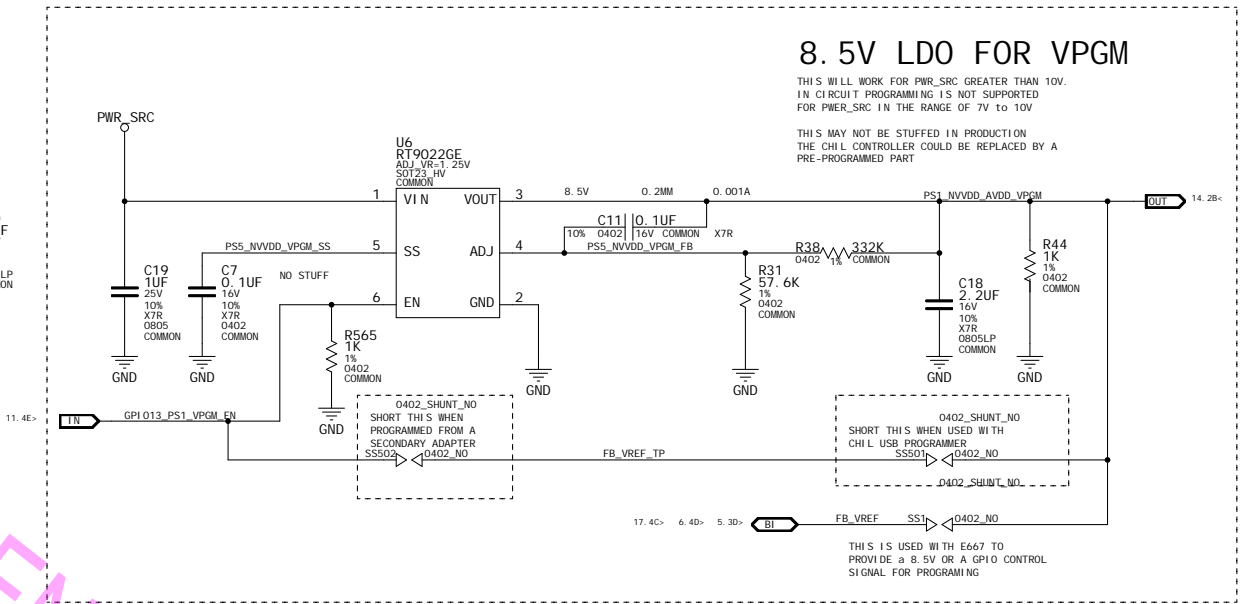
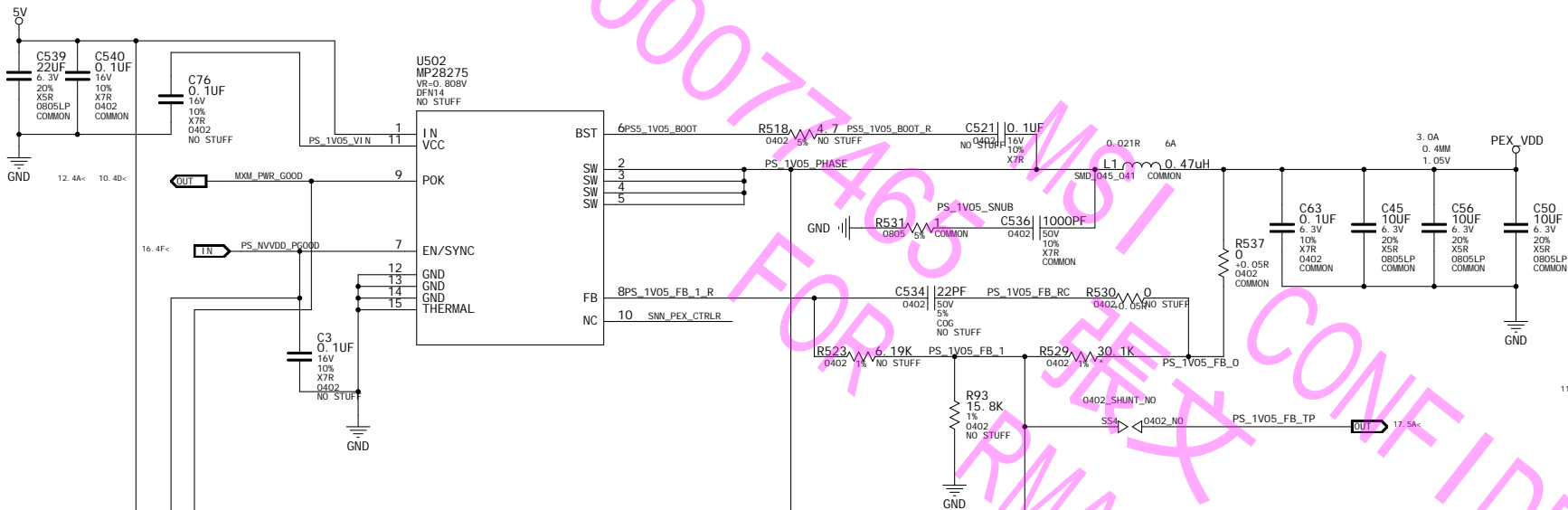
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FBVDDQ



PEXVDD POWER SUPPLIES



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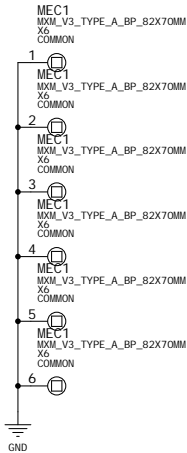
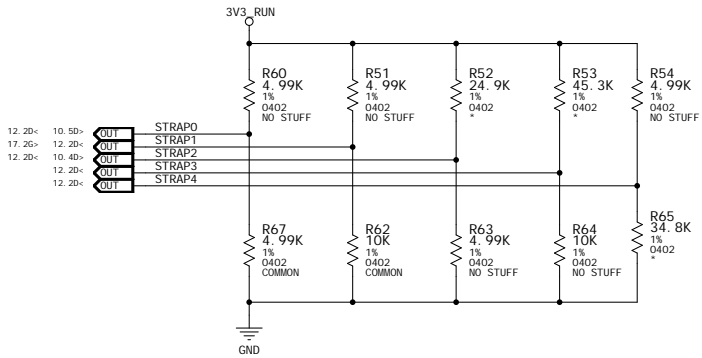
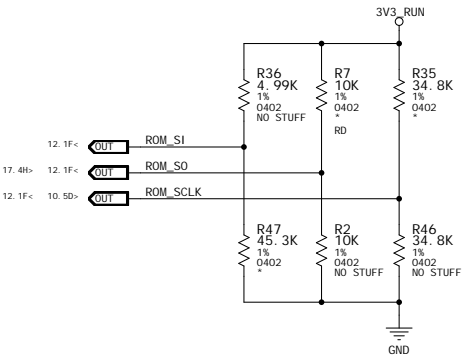
STRAPS and MOUNTING HOLES

GK107 Straps

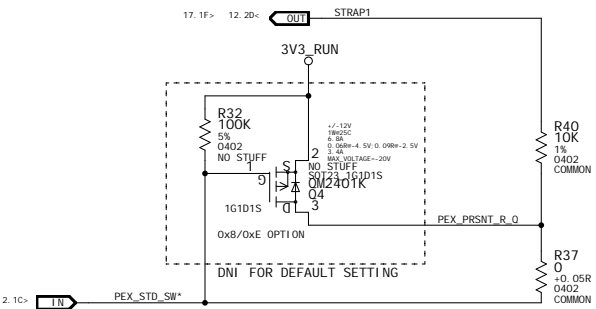
Bit Signal Values

| | | | | | |
|----------|-----------------------------|------|--------------------|--------|--------------------|
| ROM_SI | 03: RAMCFG[3] | 0110 | 128Mx16 | 128bit | Hynix |
| | 02: RAMCFG[2] | 0111 | 128Mx16 | 128bit | Samsung |
| | 01: RAMCFG[1] | | | | |
| | 00: RAMCFG[0] | | | | |
| ROM_SO | 03: FB[1] | 10 | 256MB | | |
| | 02: FB[0] | | | | |
| | 01: SMB_ALT_ADDR | 0 | DISABLED | 1 | ENABLED |
| | 00: VGA_DEVICE | 0 | DISABLED | 1 | ENABLED |
| ROM_SCLK | 03: PCI_DEV1D_EXT | 0 | INIT | | |
| | 02: SUB_VENDOR | 0 | NO_BIOS | 1 | BIOS |
| | 01: PCI_DEV1D_EXT_B1T5 | 0 | INIT | | |
| | 00: PEX_PLL_EN_TERM100 | 0 | DISABLED | 1 | ENABLED |
| STRAP0 | 03: USER[3] | 0000 | INIT | | |
| | 02: USER[2] | | | | |
| | 01: USER[1] | | | | |
| | 00: USER[0] | | | | |
| STRAP1 | 03: 3GI_O_PADCFG_LUT_ADR[3] | 0000 | DSKTOP_DEFAULT | 1000 | DSKTOP_HTHRS |
| | 02: 3GI_O_PADCFG_LUT_ADR[2] | 0001 | MOBILE_DEFAULT | 1001 | MOBILE_HTHRS_LAMP |
| | 01: 3GI_O_PADCFG_LUT_ADR[1] | 0010 | MOBILE_NTHRS_LLAMP | 1010 | MOBILE_HTHRS_LLAMP |
| | 00: 3GI_O_PADCFG_LUT_ADR[0] | 0100 | MOBILE_NTHRS_HAMP | 1100 | MOBILE_HTHRS_HAMP |
| STRAP2 | 03: PCI_DEV1D[3] | 1100 | GK107-950 | | |
| | 02: PCI_DEV1D[2] | 1011 | GK107-975 | | |
| | 01: PCI_DEV1D[1] | | | | |
| | 00: PCI_DEV1D[0] | | | | |
| STRAP3 | 03: SOR3_EXPOSED | 0 | DISABLED | 1 | ENABLED |
| | 02: SOR2_EXPOSED | 0 | DISABLED | 1 | ENABLED |
| | 01: SOR1_EXPOSED | 0 | DISABLED | 1 | ENABLED |
| | 00: SOR0_EXPOSED | 0 | DISABLED | 1 | ENABLED |
| STRAP4 | 02: PCI_E_SPEED_CHANGE_GEN3 | 0 | DISABLED | 1 | ENABLED |
| | 01: PCI_E_MAX_SPEED | 0 | GEN1 | 1 | GEN23 |
| | 00: DP_PLL_VDD_3V3 | 0 | USE1V8 | 1 | USE3V3 |

| | GND | 3V3 |
|-----|------|------|
| 5K | 0000 | 1000 |
| 10K | 0001 | 1001 |
| 15K | 0010 | 1010 |
| 20K | 0011 | 1011 |
| 25K | 0100 | 1100 |
| 30K | 0101 | 1101 |
| 35K | 0110 | 1110 |
| 45K | 0111 | 1111 |

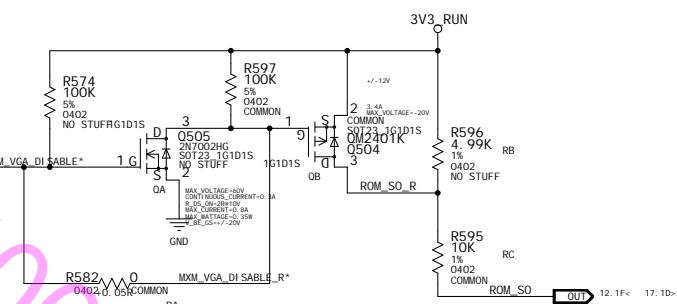


PEX_PADCFG DETECT



| | | |
|------------------|--------------------|-------------------------|
| PEX_PRSTN_STDSW* | R_STRAP1 | 3_GI_O_PADCFG_LUT<3..0> |
| FLOAT | 10kPD | 0x1 MOBILE_DEFAULT |
| GND | 5kPD (10k 10k) | 0x0 DESKTOP_DEFAULT |
| FLOAT | 34.8kPU | 0xE MOBILE_DEFAULT |
| GND | 5kPU (34.8K//5.9K) | 0x8 DESKTOP_DEFAULT |

DEVICE DETECT



| | | |
|--------------|-----------------|---------------------------------|
| VGA_DISABLE# | R_ROM_SO | MODE |
| FLOAT | 10k | 0x1 VGA MODE |
| GND | 5k (10k 10k) | 0x0 3D ACCELERATOR |
| GND | 15k (5k + 10k) | 0x2 3D Device with SMB_ALT_ADDR |

VGA-3D ACCELERATOR
VGA-3D Device with SMB_ALT_ADDR

RA, OB, RC, RD
QA, OB, RB, RC

NVIDIA CORPORATION

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NV_PN 600-52091-0501-000

| | | | |
|---------|-----------|------|-------------|
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