

P2130\_A01

GK208 DDR3 2Gb

DVI-I/DVI-D + HDMI/DP + VGA

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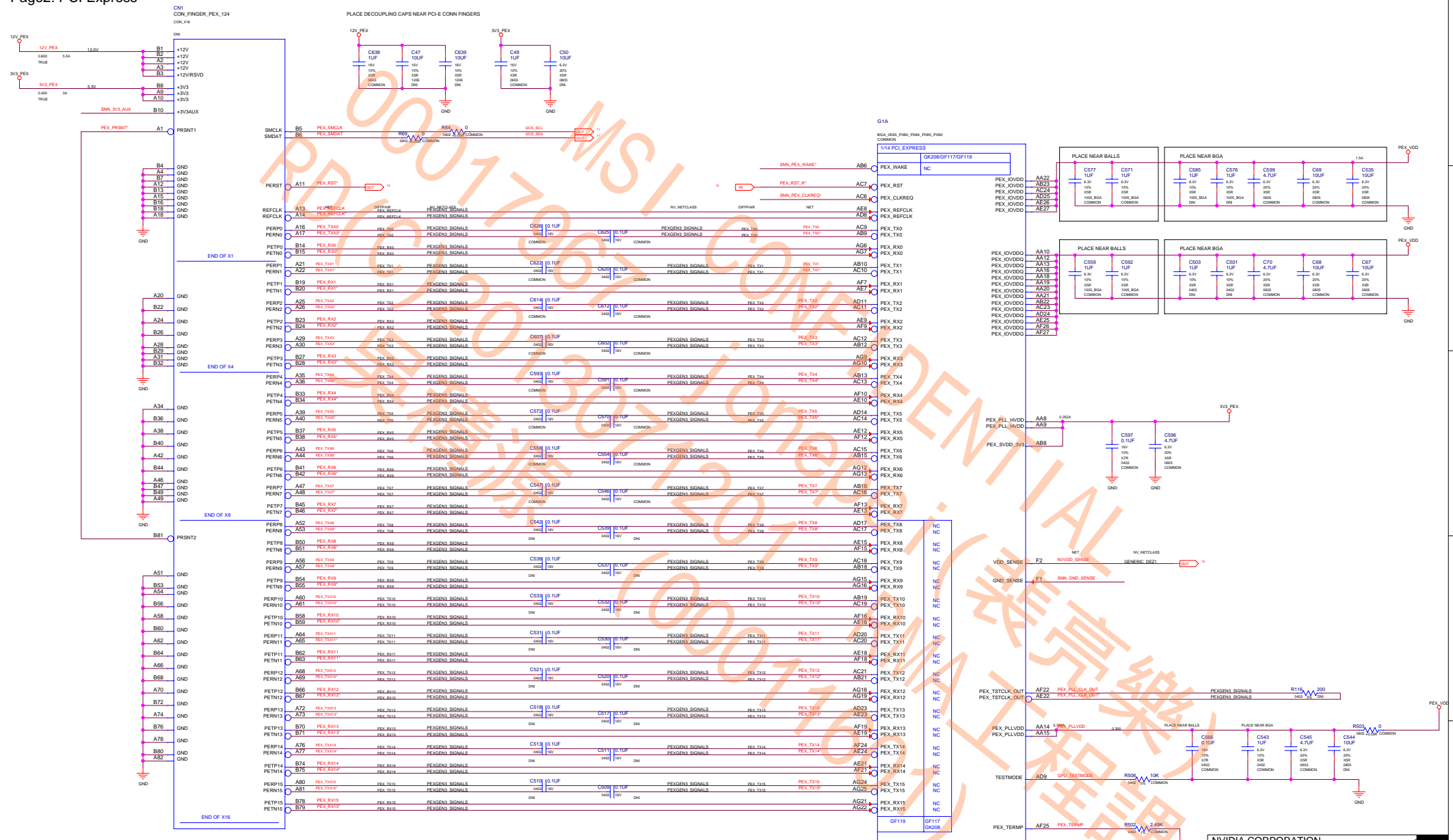
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00017967 MSI CONFIDENTIAL jonepei (裴亮樂) RD(C)2013071201 RMA工程課 (00011601) 吳積源



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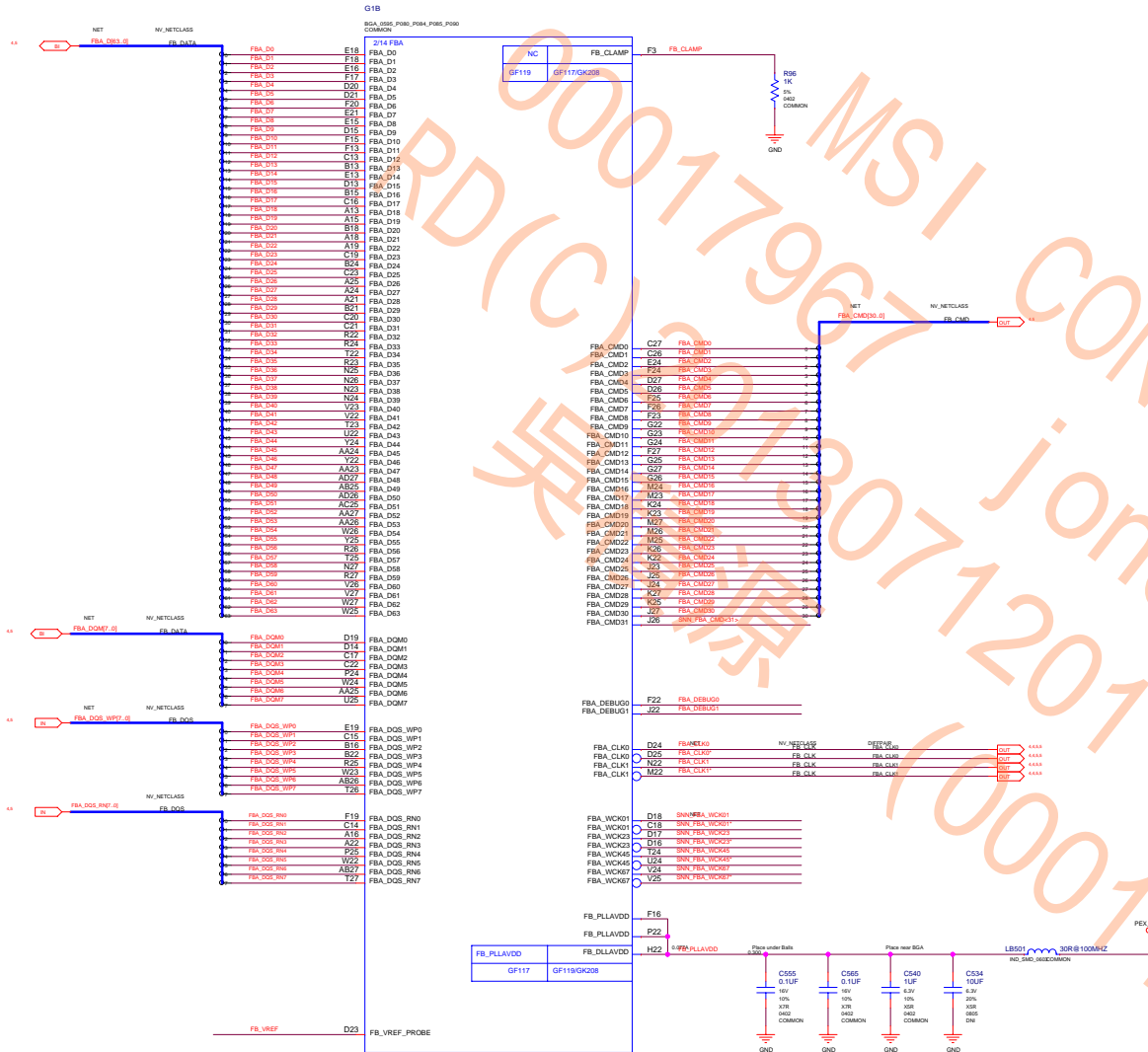
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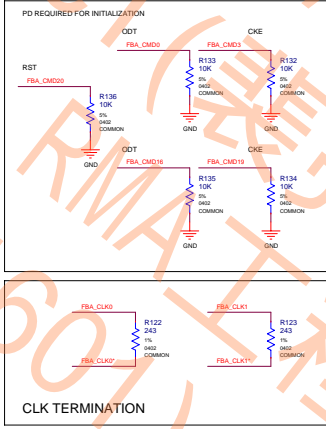
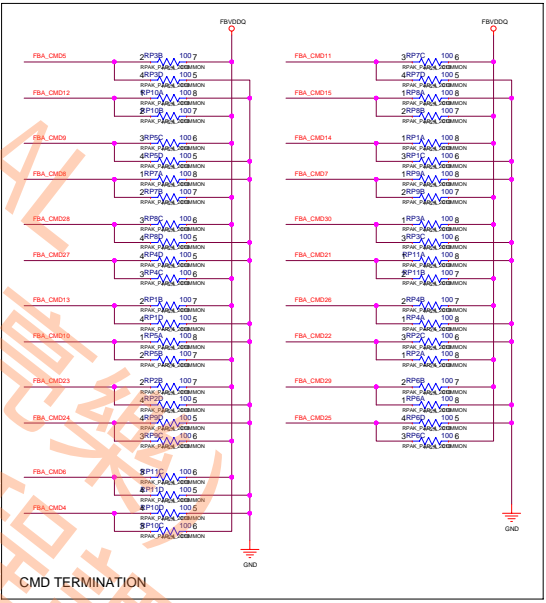
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CMD	RANK0	RANK1
<31..0>	<63..32>	<31..0>
<63..32>	<31..0>	<63..32>

CMD0	ODT	NOT USED	ODT	NOT USED
CMD1	NOT USED	NOT USED	CSD	NOT USED
CMD2	CSD	NOT USED	NOT USED	NOT USED
CMD3	NOT USED	NOT USED	CSD	NOT USED
CMD4	NOT USED	NOT USED	CSD	NOT USED
CMD5	NOT USED	NOT USED	CSD	NOT USED
CMD6	NOT USED	NOT USED	CSD	NOT USED
CMD7	NOT USED	NOT USED	CSD	NOT USED
CMD8	NOT USED	NOT USED	CSD	NOT USED
CMD9	NOT USED	NOT USED	CSD	NOT USED
CMD10	NOT USED	NOT USED	CSD	NOT USED
CMD11	NOT USED	NOT USED	CSD	NOT USED
CMD12	NOT USED	NOT USED	CSD	NOT USED
CMD13	NOT USED	NOT USED	CSD	NOT USED
CMD14	NOT USED	NOT USED	CSD	NOT USED
CMD15	NOT USED	NOT USED	CSD	NOT USED
CMD16	NOT USED	NOT USED	CSD	NOT USED
CMD17	NOT USED	NOT USED	CSD	NOT USED
CMD18	NOT USED	NOT USED	CSD	NOT USED
CMD19	NOT USED	NOT USED	CSD	NOT USED
CMD20	NOT USED	NOT USED	CSD	NOT USED
CMD21	NOT USED	NOT USED	CSD	NOT USED
CMD22	NOT USED	NOT USED	CSD	NOT USED
CMD23	NOT USED	NOT USED	CSD	NOT USED
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CMD26	NOT USED	NOT USED	CSD	NOT USED
CMD27	NOT USED	NOT USED	CSD	NOT USED
CMD28	NOT USED	NOT USED	CSD	NOT USED
CMD29	NOT USED	NOT USED	CSD	NOT USED
CMD30	NOT USED	NOT USED	CSD	NOT USED
CMD31	NOT USED	NOT USED	CSD	NOT USED



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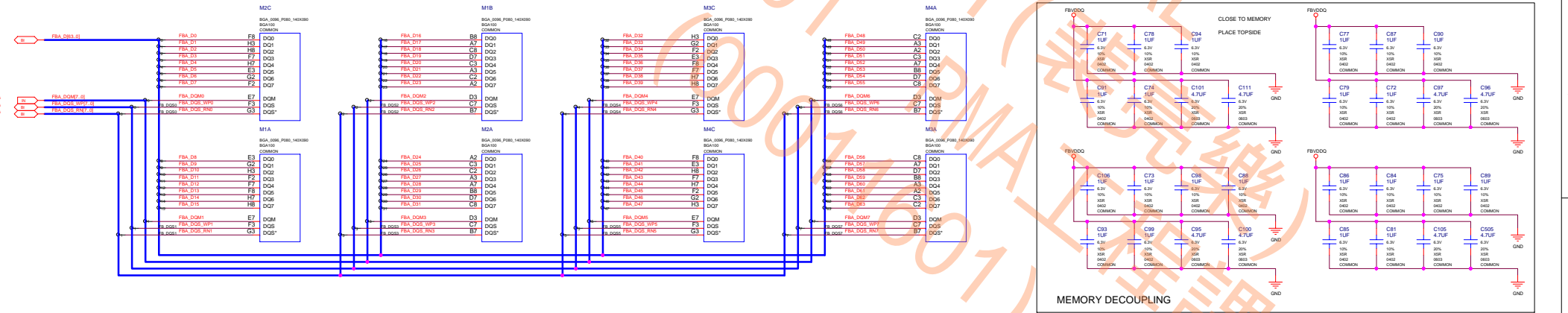
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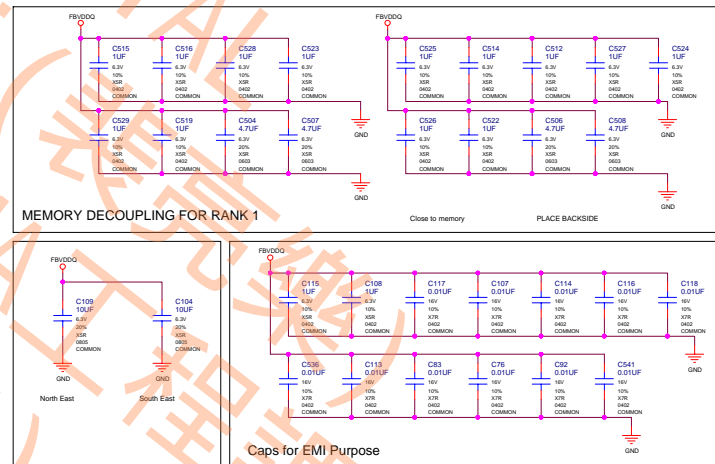
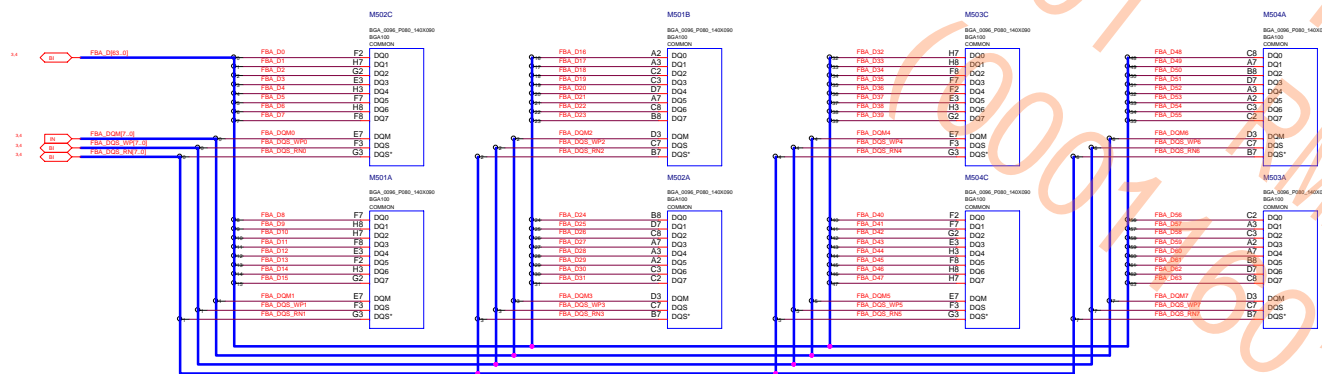
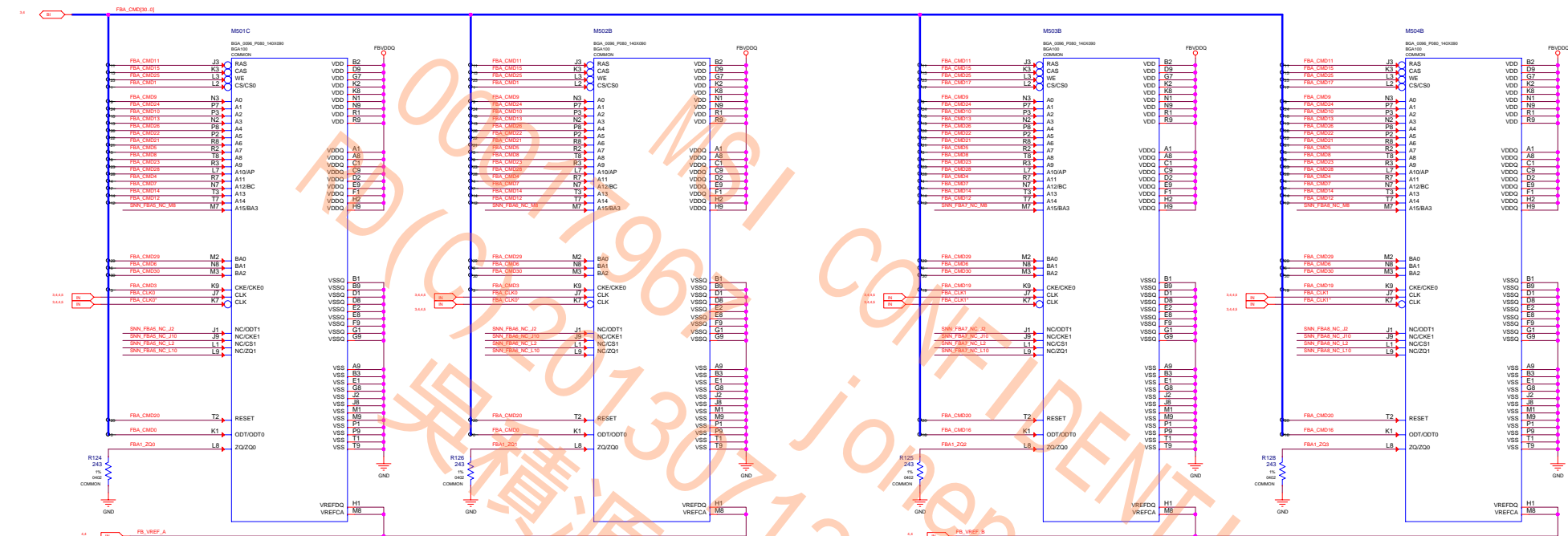
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PAGE DETAIL	FBA DDR3 MEMORY RANK 1

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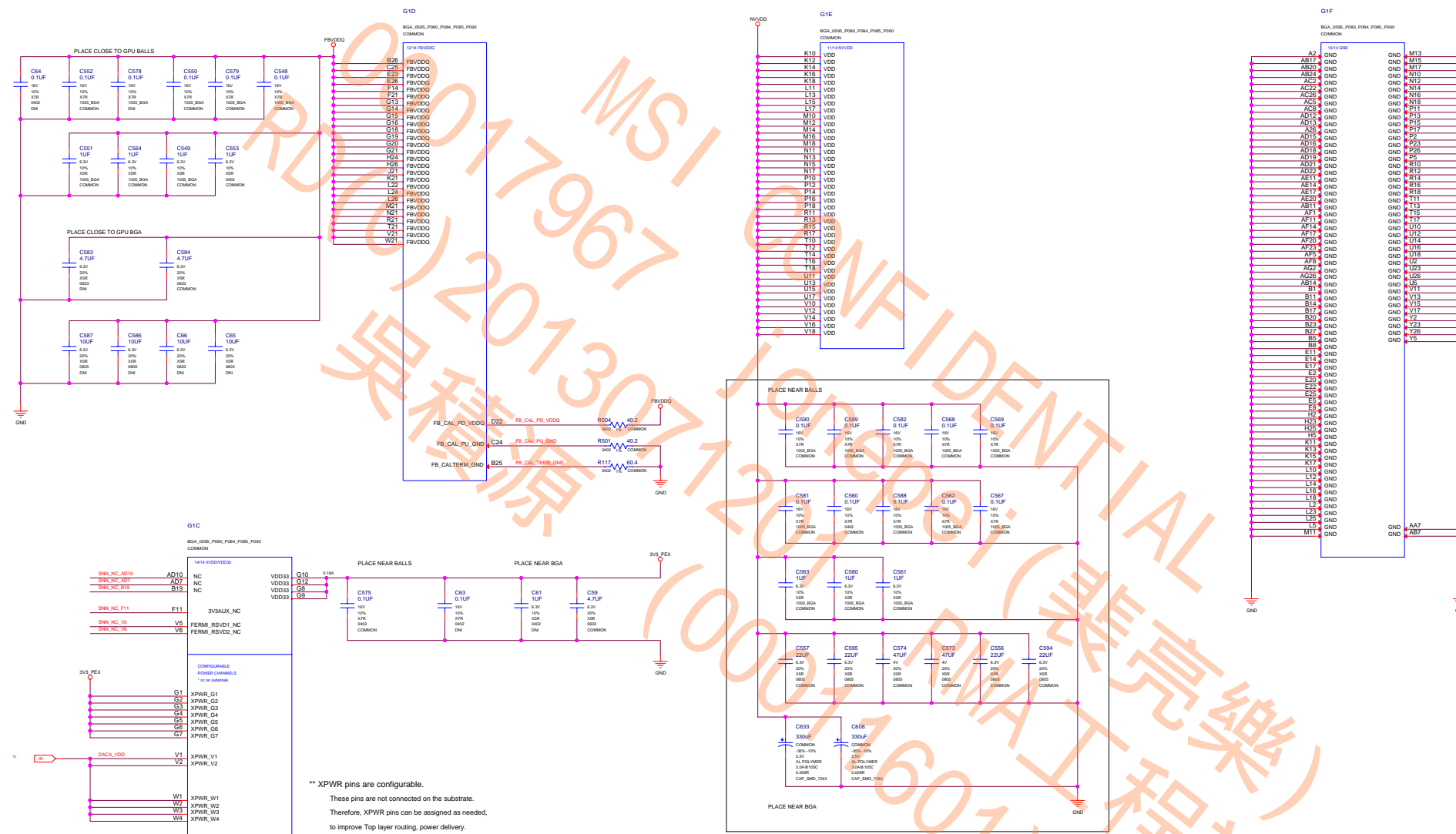
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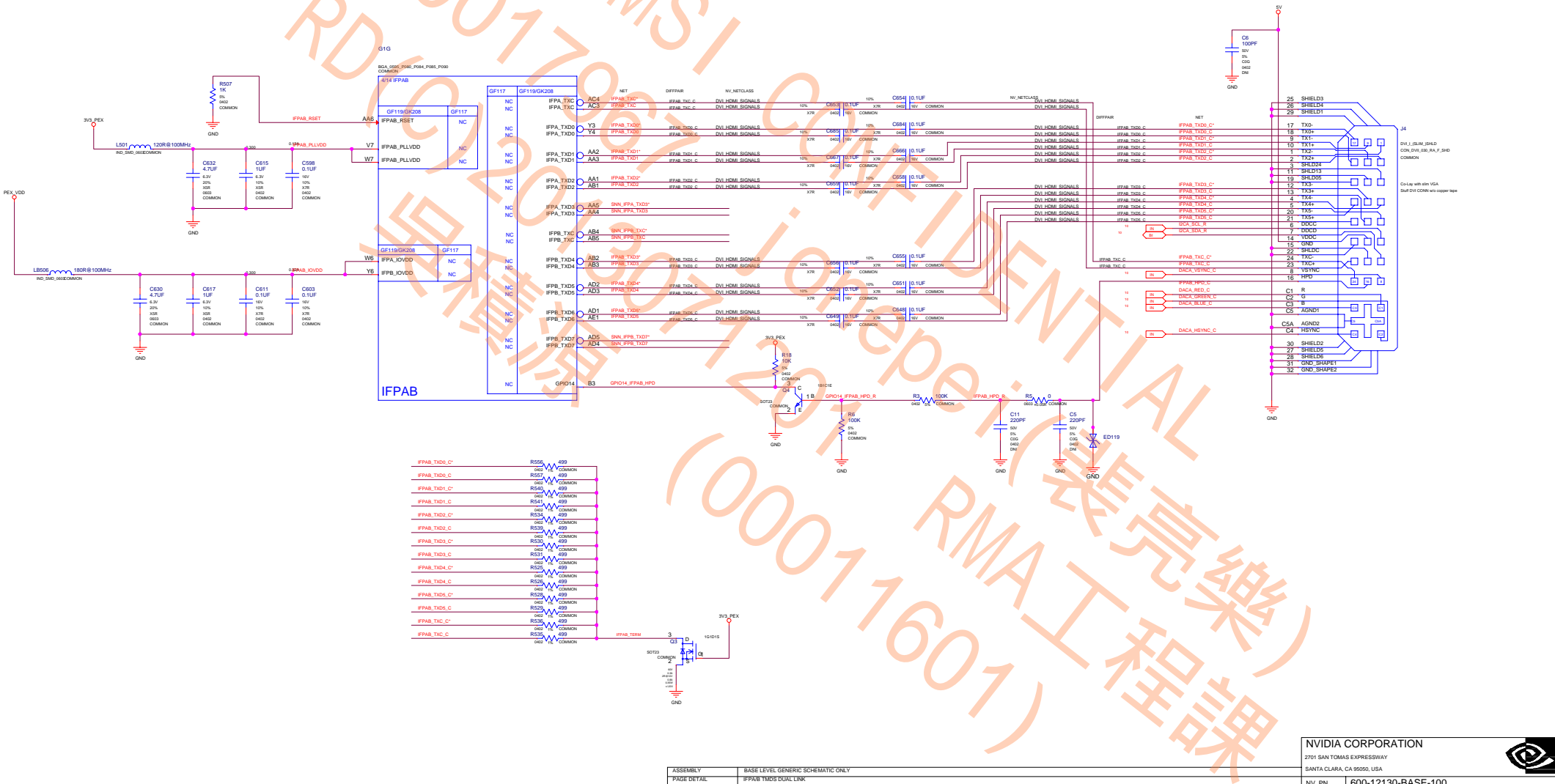
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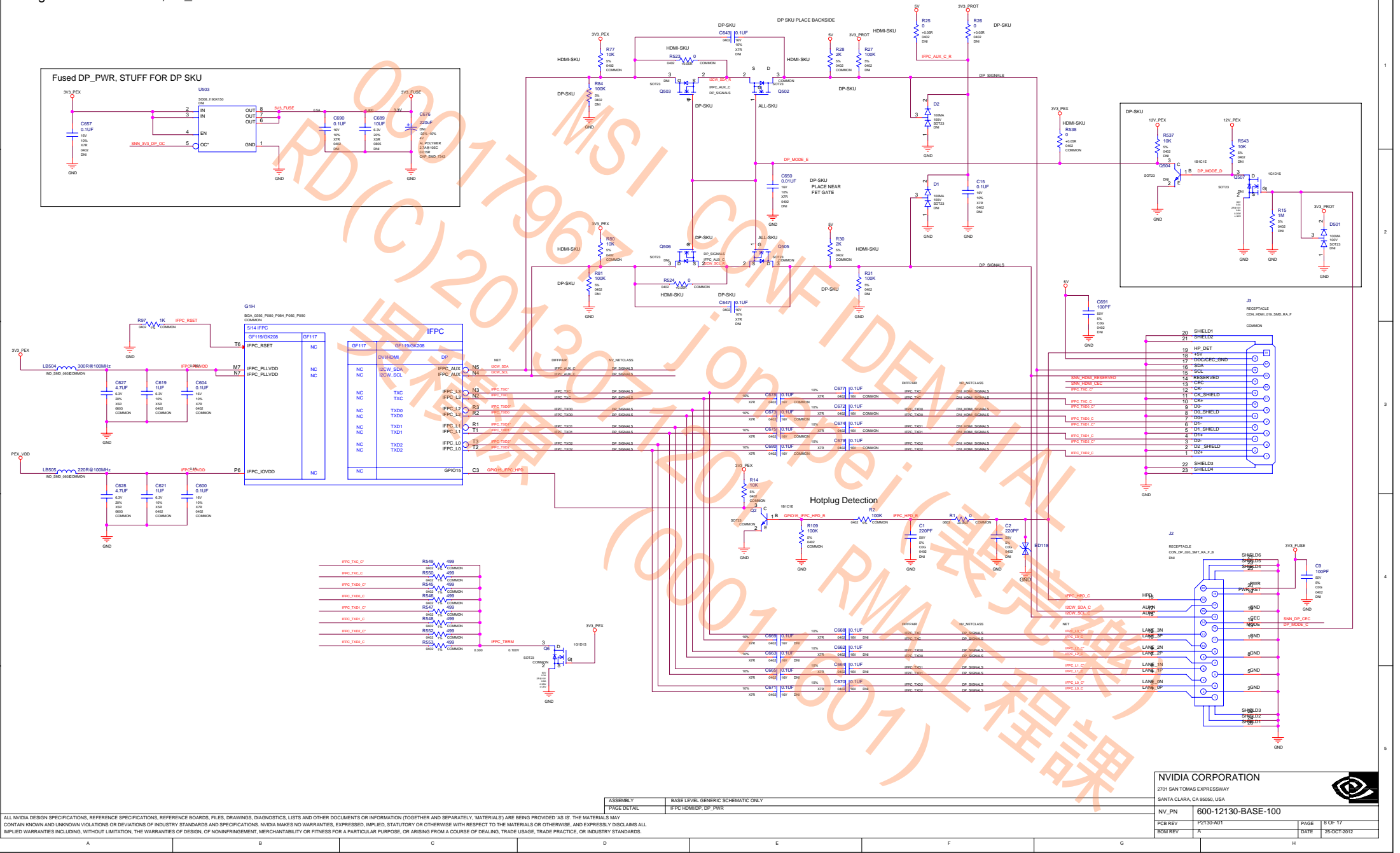


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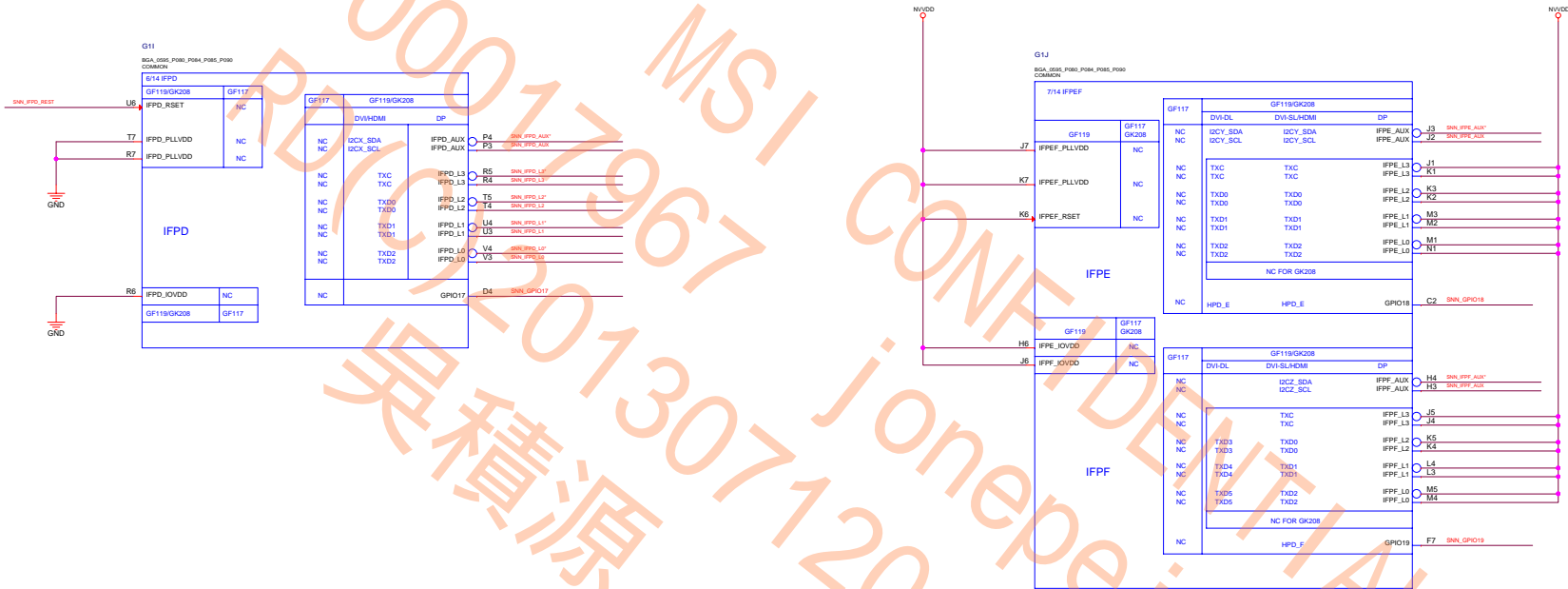




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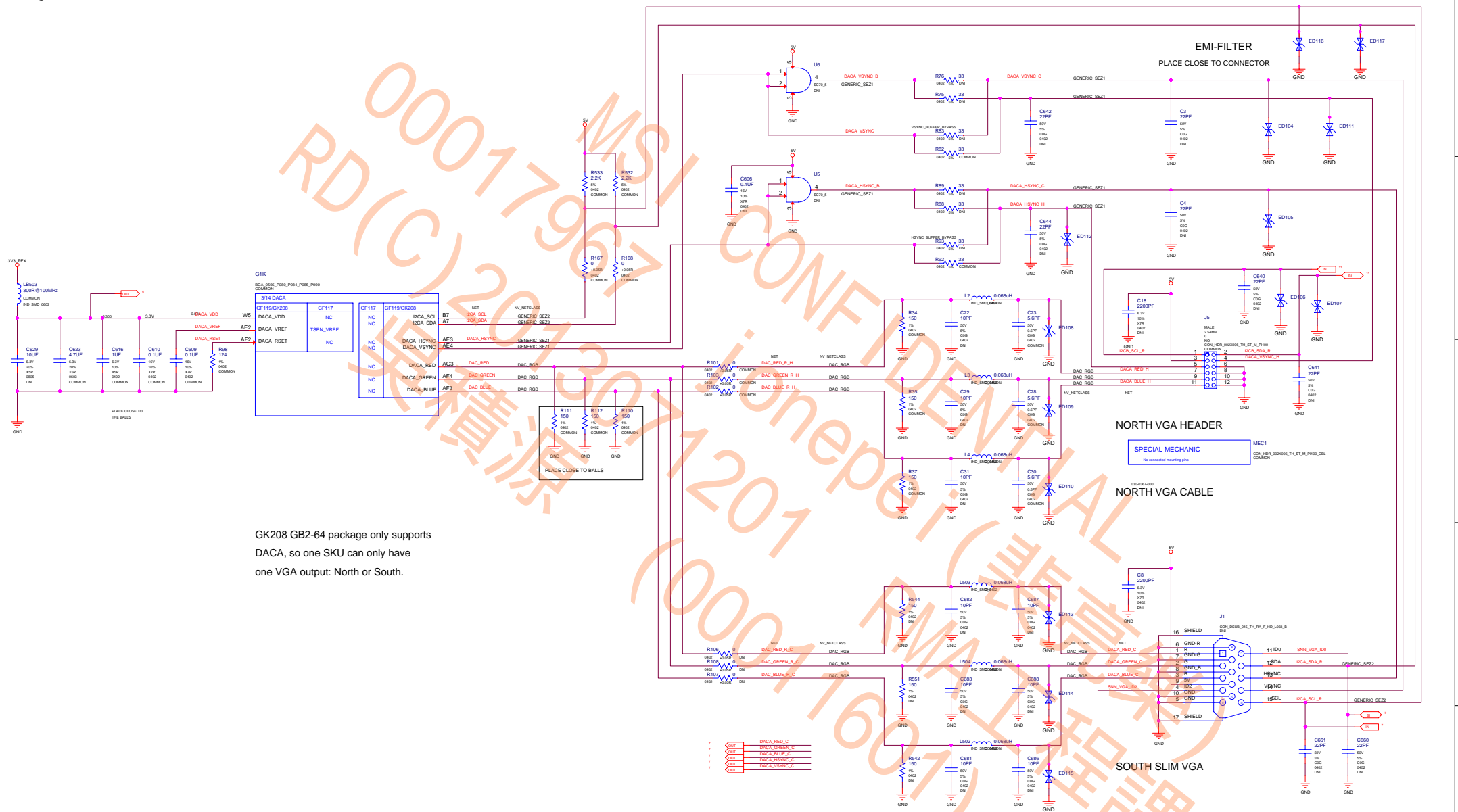
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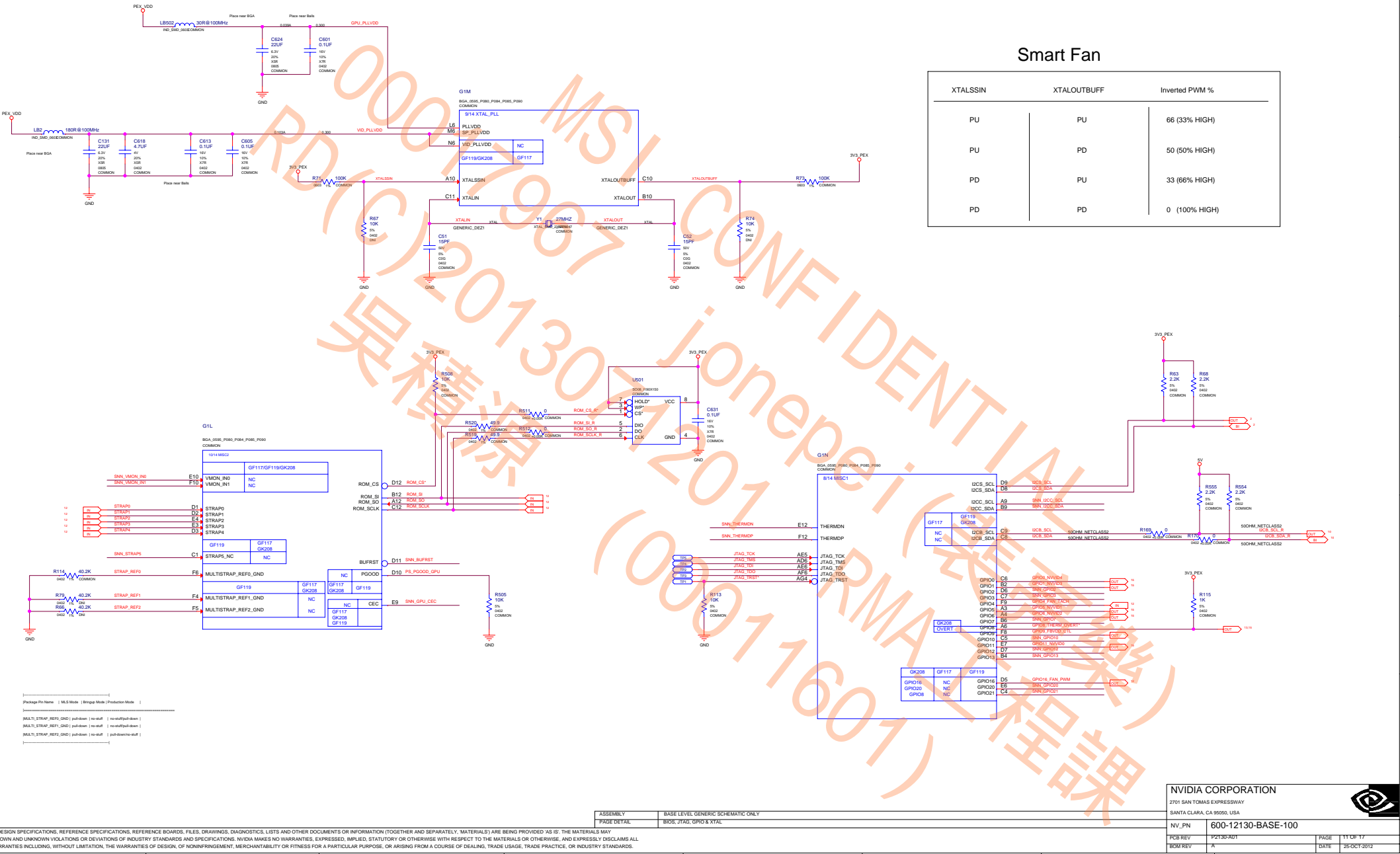
GK208 GB2-64 package only supports DACA, so one SKU can only have one VGA output: North or South.

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PAGE DETAIL	DACA VGA

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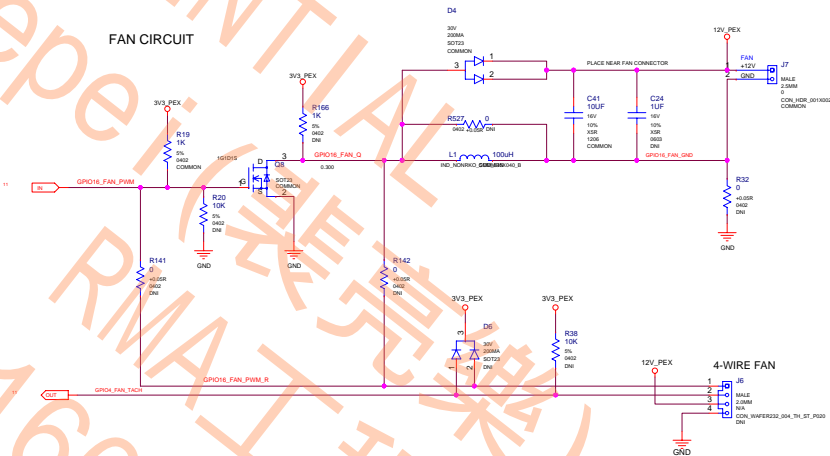
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STRAPS

TERMINATION RESISTANCE	TERMINATION VOLTAGE	
	3V3 [3:0]	GND [3:0]
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

PIN NAME	MULTI-LEVEL bit [3:0]	BINARY BRINGUP
STRAP0	USER[3:0]	3GIO_PADCFG_LUT_ADR0
STRAP1	3GIO_PADCFG_ADR[3:0]	3GIO_PADCFG_LUT_ADR1
STRAP2	PCI_DEVID[3:0]	3GIO_PADCFG_LUT_ADR2
STRAP3	SOR[3:0]_EXPOSED	3GIO_PADCFG_LUT_ADR3
STRAP4	RESERVED, RESERVED, PCIE_MAX_SPEED, DP_PLL_VDD_33V	PCI_MAX_SPEED
ROM_SCLK	PCIDEVID[4], SUB_VENDOR, PCIDEVID[5], PEX_PL_LN_TERM	SMB_ALT_ADDR
ROM_SI	RAMCFG[3:0]	SUB_VENDOR
ROM_SO	FB[1], FB[0], SMB_ALT_ADDR, VGA_DEVICE	VGA_DEVICE

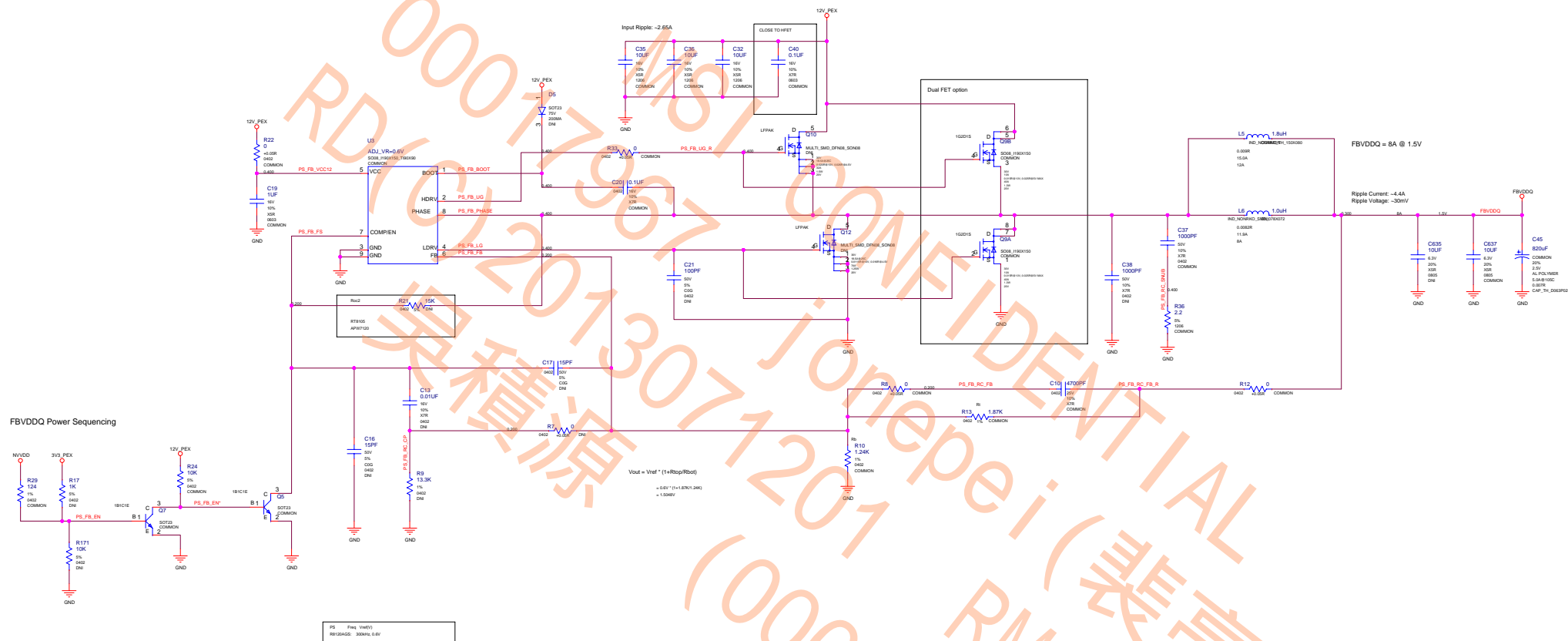
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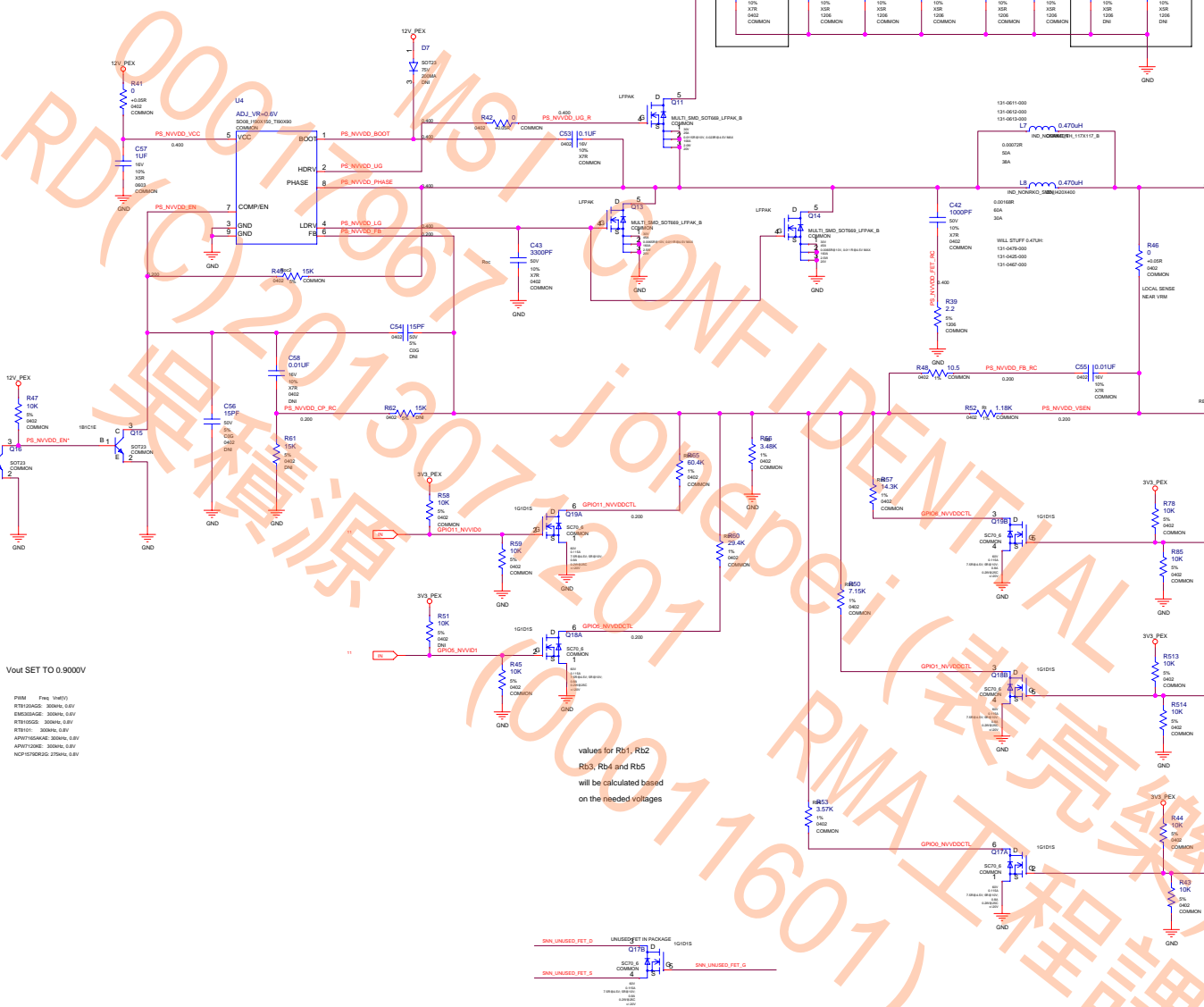


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Vout SET TO 0.9000V

PWM	Freq	V <sub>hd</sub> (V)
RTB120AGS	300kHz	0.8V
EMS303AGE	300kHz	0.8V
RTB105GS	300kHz	0.8V
RTB101	300kHz	0.8V
APW7165AKAE	300kHz	0.8V
APW7120KE	300kHz	0.8V
NCP1579DR2G	275kHz	0.8V

values for Rb1, Rb2  
Rb3, Rb4 and Rb5  
will be calculated based  
on the needed voltages

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PAGE DETAIL	PS: NVDD

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A		B		C		D		E		F		G		H	
Title: Cnd Part															
Design: p2130															
Date: Oct 25															
11/52/19/2012															
BKT1 [13.1F]		C394 [4.4G]		C364 [6.2A]		C665 [8.5E]		G11 [15.1E]		R87 [12.4G]		R526 [7.4C]			
C1 [8.4F]		C395 [4.4G]		C365 [6.4E]		C666 [12.5G]		G12 [14.2F]		R88 [10.3F]		R527 [12.5G]			
C2 [8.4F]		C396 [4.4H]		C366 [2.5G]		C667 [7.2E]		G13 [15.2E]		R89 [10.3F]		R528 [7.4C]			
C3 [10.1G]		C397 [4.4F]		C367 [8.3F]		C668 [6.4E]		G14 [15.2E]		R90 [12.3C]		R529 [7.5C]			
C4 [10.2G]		C398 [4.4G]		C368 [8.3F]		C669 [8.4E]		G15 [15.3C]		R91 [12.4C]		R530 [7.4C]			
C5 [7.4F]		C399 [4.4F]		C369 [8.3F]		C670 [8.5E]		G16 [15.3H]		R92 [10.3F]		R531 [7.4C]			
C6 [7.2G]		C400 [4.4G]		C370 [2.5G]		C671 [15.5E 15.5F]		G17 [15.5E 15.5F]		R93 [10.3F]		R532 [10.2G]			
C7 [13.1G]		C401 [4.4G]		C371 [2.2G]		C672 [8.3E]		G18 [15.4F 15.4G]		R94 [12.3C]		R533 [10.2G]			
C8 [10.4G]		C402 [13.1F]		C372 [2.3G]		C673 [8.3E]		G19 [15.3D 15.3F]		R95 [12.4C]		R534 [7.4C]			
C9 [8.4H]		C403 [10.2F]		C373 [8.4E]		C674 [8.3E]		G20 [12.2F]		R96 [3.1G]		R535 [7.5C]			
C10 [14.3G]		C404 [10.2F]		C374 [8.4F]		C675 [8.3F]		G21 [15.3H 15.3C]		R97 [8.3A]		R536 [7.5C]			
C11 [14.3G]		C405 [14.3G]		C375 [8.4C]		C676 [8.1C]		G22 [12.2G]		R98 [10.3H]		R537 [8.2G]			
C12 [7.4F]		C406 [14.3G]		C376 [2.2G]		C677 [8.3E]		G23 [8.1E]		R99 [12.3D]		R538 [8.1G]			
C13 [14.3C]		C407 [14.3G]		C377 [2.2F]		C678 [8.3E]		G24 [8.5G]		R100 [12.4G]		R539 [7.4C]			
C14 [13.1G]		C408 [14.3G]		C378 [8.1A]		C679 [8.3E]		G25 [8.5G]		R101 [10.3E]		R540 [7.4C]			
C15 [5.4G]		C409 [14.3G]		C379 [8.1E]		C680 [8.3E]		G26 [8.5G]		R102 [10.3E]		R541 [7.4C]			
C16 [8.2F]		C410 [13.3C]		C380 [8.4E]		C681 [10.5F]		G27 [8.5G]		R103 [10.3E]		R542 [10.5E]			
C17 [13.1G]		C411 [4.4G]		C381 [8.3E]		C682 [10.4F]		G28 [8.5G]		R104 [12.3H]		R543 [8.2H]			
C18 [10.4G]		C412 [10.2F]		C382 [8.3E]		C683 [10.4F]		G29 [8.4F]		R105 [12.4C]		R544 [10.4E]			
C19 [8.4H]		C413 [13.1G]		C383 [8.3E]		C684 [10.4F]		G30 [14.4F]		R106 [10.4E]		R545 [8.4C]			
C20 [14.2E]		C414 [14.3C]		C384 [8.3E]		C685 [7.2E]		G31 [7.3E]		R107 [10.4E]		R546 [8.4C]			
C21 [14.2G]		C415 [13.1G]		C385 [8.3E]		C686 [10.5F]		G32 [7.3F]		R108 [10.4E]		R547 [8.4C]			
C22 [10.2F]		C416 [14.3C]		C386 [8.3A]		C687 [10.4F]		G33 [7.4E]		R109 [8.4E]		R548 [8.4C]			
C23 [10.2F]		C417 [14.3C]		C387 [8.3A]		C688 [10.4F]		G34 [14.5C]		R110 [10.3D]		R549 [8.4C]			
C24 [12.3G]		C418 [14.3C]		C388 [8.5C]		C689 [8.1C]		G35 [10.3C]		R111 [10.3C]		R550 [8.4C]			
C25 [10.2G]		C419 [15.4G]		C389 [8.3E]		C690 [8.1E]		G36 [14.3C]		R112 [10.3D]		R551 [10.4E]			
C26 [15.1F]		C420 [14.2E]		C390 [8.3E]		C691 [8.2G]		G37 [14.3E]		R113 [11.4E]		R552 [8.4C]			
C27 [15.1F]		C421 [14.2E]		C391 [2.3G]		C692 [2.3G]		G38 [11.4A]		R114 [11.4A]		R553 [8.4C]			
C28 [10.3F]		C422 [14.2E]		C392 [2.3G]		C693 [2.3G]		G39 [11.4G]		R115 [11.4G]		R554 [11.4G]			
C29 [10.3F]		C423 [10.3F]		C393 [2.3G]		C694 [2.3G]		G40 [8.4E]		R116 [2.4H]		R555 [11.4G]			
C30 [10.3F]		C424 [14.1G]		C394 [2.3G]		C695 [2.3G]		G41 [8.3E]		R117 [8.3D]		R556 [7.4C]			
C31 [10.3F]		C425 [14.1G]		C395 [8.4E]		C696 [2.3G]		G42 [15.1E]		R118 [8.3H]		R557 [7.4C]			
C32 [14.1G]		C426 [14.1G]		C396 [8.4E]		C697 [2.3G]		G43 [15.1E]		R119 [8.3H]		R558 [7.4C]			
C33 [15.1E]		C427 [14.1G]		C397 [2.3G]		C698 [2.3G]		G44 [15.1E]		R120 [8.3H]		R559 [7.4C]			
C34 [15.1E]		C428 [14.1G]		C398 [2.3G]		C699 [2.3G]		G45 [15.1E]		R121 [8.3H]		R560 [7.4C]			
C35 [15.1E]		C429 [14.1G]		C399 [2.3G]		C700 [2.3G]		G46 [15.1E]		R122 [8.3H]		R561 [7.4C]			
C36 [14.1G]		C430 [14.1G]		C400 [2.3G]		C701 [2.3G]		G47 [15.1E]		R123 [8.3H]		R562 [7.4C]			
C37 [14.1G]		C431 [14.1G]		C401 [2.3G]		C702 [2.3G]		G48 [15.1E]		R124 [8.3H]		R563 [7.4C]			
C38 [15.1F]		C432 [14.1G]		C402 [2.3G]		C703 [2.3G]		G49 [15.1E]		R125 [8.3H]		R564 [7.4C]			
C39 [15.1F]		C433 [14.1G]		C403 [2.3G]		C704 [2.3G]		G50 [15.1E]		R126 [8.3H]		R565 [7.4C]			
C40 [14.1G]		C434 [14.1G]		C404 [2.3G]		C705 [2.3G]		G51 [15.1E]		R127 [8.3H]		R566 [7.4C]			
C41 [12.3G]		C435 [14.1G]		C405 [2.3G]		C706 [2.3G]		G52 [15.1E]		R128 [8.3H]		R567 [7.4C]			
C42 [12.3G]		C436 [14.1G]		C406 [2.3G]		C707 [2.3G]		G53 [15.1E]		R129 [8.3H]		R568 [7.4C]			
C43 [15.1E]		C437 [14.1G]		C407 [2.3G]		C708 [2.3G]		G54 [15.1E]		R130 [8.3H]		R569 [7.4C]			
C44 [15.2G]		C438 [14.1G]		C408 [2.3G]		C709 [2.3G]		G55 [15.1E]		R131 [8.3H]		R570 [7.4C]			
C45 [14.2E]		C439 [14.1G]		C409 [2.3G]		C710 [2.3G]		G56 [15.1E]		R132 [8.3H]		R571 [7.4C]			
C46 [15.2G]		C440 [14.1G]		C410 [2.3G]		C711 [2.3G]		G57 [15.1E]		R133 [8.3H]		R572 [7.4C]			
C47 [2.1C]		C441 [14.1G]		C411 [2.3G]		C712 [2.3G]		G58 [15.1E]		R134 [8.3H]		R573 [7.4C]			
C48 [15.3E]		C442 [14.1G]		C412 [2.3G]		C713 [2.3G]		G59 [15.1E]		R135 [8.3H]		R574 [7.4C]			
C49 [2.1C]		C443 [14.1G]		C413 [2.3G]		C714 [2.3G]		G60 [15.1E]		R136 [8.3H]		R575 [7.4C]			
C50 [2.1G]		C444 [14.1G]		C414 [2.3G]		C715 [2.3G]		G61 [15.1E]		R137 [8.3H]		R576 [7.4C]			
C51 [11.2G]		C445 [14.1G]		C415 [2.3G]		C716 [2.3G]		G62 [15.1E]		R138 [8.3H]		R577 [7.4C]			
C52 [11.2G]		C446 [14.1G]		C416 [2.3G]		C717 [2.3G]		G63 [15.1E]		R139 [8.3H]		R578 [7.4C]			
C53 [15.2G]		C447 [14.1G]		C417 [2.3G]		C718 [2.3G]		G64 [15.1E]		R140 [8.3H]		R579 [7.4C]			
C54 [15.2G]		C448 [14.1G]		C418 [2.3G]		C719 [2.3G]		G65 [15.1E]		R141 [8.3H]		R580 [7.4C]			
C55 [15.3G]		C449 [14.1G]		C419 [2.3G]		C720 [2.3G]		G66 [15.1E]		R142 [8.3H]		R581 [7.4C]			
C56 [15.3G]		C450 [14.1G]		C420 [2.3G]		C721 [2.3G]		G67 [15.1E]		R143 [8.3H]		R582 [7.4C]			
C57 [15.3C]		C451 [14.1G]		C421 [2.3G]		C722 [2.3G]		G68 [15.1E]		R144 [8.3H]		R583 [7.4C]			
C58 [15.3C]		C452 [14.1G]		C422 [2.3G]		C723 [2.3G]		G69 [15.1E]		R145 [8.3H]		R584 [7.4C]			
C59 [8.4C]		C453 [14.1G]		C423 [2.3G]		C724 [2.3G]		G70 [15.1E]		R146 [8.3H]		R585 [7.4C]			
C60 [12.2G]		C454 [14.1G]		C424 [2.3G]		C725 [2.3G]		G71 [15.1E]		R147 [8.3H]		R586 [7.4C]			
C61 [8.4C]		C455 [14.1G]		C425 [2.3G]		C726 [2.3G]		G72 [15.1E]		R148 [8.3H]		R587 [7.4C]			
C62 [12.2F]		C456 [14.1G]		C426 [2.3G]		C727 [2.3G]		G73 [15.1E]		R149 [8.3H]		R588 [7.4C]			
C63 [8.4C]		C457 [14.1G]		C427 [2.3G]		C728 [2.3G]		G74 [15.1E]		R150 [8.3H]		R589 [7.4C]			
C64 [8.4A]		C458 [14.1G]		C428 [2.3G]		C729 [2.3G]		G75 [15.1E]		R151 [8.3H]		R590 [7.4C]			
C65 [8.3H]		C459 [14.1G]		C429 [2.3G]		C730 [2.3G]		G76 [15.1E]		R152 [8.3H]		R591 [7.4C]			
C66 [8.3H]		C460 [14.1G]		C430 [2.3G]		C731 [2.3G]		G77 [15.1E]		R153 [8.3H]		R592 [7.4C]			
C67 [2.2H]		C461 [14.1G]		C431 [2.3G]		C732 [2.3G]		G78 [15.1E]		R154 [8.3H]		R593 [7.4C]			
C68 [2.2H]		C462 [14.1G]		C432 [2.3G]		C733 [2.3G]		G79 [15.1E]		R155 [8.3H]		R594 [7.4C]			
C69 [4.4F]		C463 [14.1G]		C433 [2.3G]		C734 [2.3G]		G80 [15.1E]		R156 [8.3H]		R595 [7.4C]			
C70 [2.2G]		C464 [14.1G]		C434 [2.3G]		C735 [2.3G]		G81 [15.1E]		R157 [8.3H]		R596 [7.4C]			
C71 [4.4F]		C465 [14.1G]		C435 [2.3G]		C736 [2.3G]		G82 [15.1E]		R158 [8.3H]		R597 [7.4C]			
C72 [4.4H]		C466 [14.1G]		C436 [2.3G]		C737 [2.3G]		G83 [15.1E]		R159 [8.3H]		R598 [7.4C]			
C73 [8.4H]		C467 [14.1G]		C437 [2.3G]		C738 [2.3G]		G84 [15.1E]		R160 [8.3H]		R599 [7.4C]			
C74 [4.4F]		C468 [14.1G]		C438 [2.3G]		C739 [2.3G]		G85 [15.1E]		R161 [8.3H]		R600 [7.4C]			
C75 [4.4H]		C469 [14.1G]		C439 [2.3G]		C740 [2.3G]		G86 [15.1E]		R162 [8.3H]		R601 [7.4C]			
C76 [5.9H]		C470 [14.1G]		C440 [2.3G]		C741 [2.3G]		G87 [15.1E]		R163 [8.3H]		R602 [7.4C]			
C77 [8.4G]		C471 [14.1G]		C441 [2.3G]		C742 [2.3G]		G88 [15.1E]		R164 [8.3H]		R603 [7.4C]			
C78 [4.4F]		C472 [14.1G]		C442 [2.3G]		C743 [2.3G]		G89 [15.1E]		R165 [8.3H]		R604 [7.4C]			
C79 [4.4F]		C473 [14.1G]		C443 [2.3G]		C744 [2.3G]		G90 [15.1E]		R166 [8.3H]		R605 [7.4C]			
C80 [3.3C]		C474 [14.1G]		C444 [2.3G]		C745 [2.3G]		G91 [15.1E]		R167 [8.3H]		R606 [7.4C]			
C81 [4.9H]		C475 [14.1G]		C445 [2.3G]		C746 [2.3G]		G92 [15.1E]		R168 [8.3H]		R607 [7.4C]			
C82 [4.9H]		C476 [14.1G]		C446 [2.3G]		C747 [2.3G]		G93 [15.1E]		R169 [8.3H]		R608 [7.4C]			
C83 [5.5G]		C477 [14.1G]		C447 [2.3G]		C748 [2.3G]		G94 [15.1E]		R170 [8.3H]		R609 [7.4C]			
C84 [4.4H]		C478 [14.1G]		C448 [2.3G]		C749 [2.3G]		G95 [15.1E]		R171 [8.3H]		R610 [7.4C]			
C85 [4.5G]		C479 [14.1G]		C449 [2.3G]		C750 [2.3G]		G96 [15.1E]		R172 [8.3H]		R611 [7.4C]			
C86 [4.5G]		C480 [14.1G]		C450 [2.3G]		C751 [2.3G]		G97 [15.1E]		R173 [8.3H]		R612 [7.4C]			
C87 [8.4G]		C481 [14.1G]		C451 [2.3G]		C752 [2.3G]		G98 [15.1E]		R174 [8.3H]		R613 [7.4C]			
C88 [4.4G]		C482 [14.1G]		C452 [2.3G]		C753 [2.3G]		G99 [15.1E]		R175 [8.3H]		R614 [7.4C]			
C89 [4.4H]		C483 [14.1G]		C453 [2.3G]		C754 [2.3G]		G100 [15.1E]		R176 [8.3H]		R615 [7.4C]			
C90 [4.4H]		C484 [14.1G]		C454 [2.3G]		C755 [2.3G]		G101 [15.1E]		R177 [8.3H]		R616 [7.4C]			
C91 [4.4F]		C485 [14.1G]		C455 [2.3G]		C756 [2.3G]		G102 [15.1E]		R178 [8.3H]		R617 [7.4C]</			