

P489-A02 DESIGN - G73, 128/256/512 MB DDR2

VGA, DVI-I, HDMI, SDTV, HDTV, SCART

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V058-0A History

- Page 2: reserved PCI-E B12 for M/B SPDIF IN
- Page 10: add DACC SYNC BUFFER parts for new slim VGA
- Page 14: add SCART J15 for 4073, removed SVIDEO/COMPOSIT connectors.
- Page 16: change J6_1 for MSI SPDIF IN housing
- Page 19: L10 co-layout L27 dip choke
- Page 11: add common mode choke
- Page 13: removed CN1 SLI CONNECTOR, change MIOA_IOVDD to 3V3_PEX
- Page 17: change MIOAD0/MIOAD2 to 3V3_PEX
- Page 12: add HDMI using common mode choke

REV	VARIANT	NPVN	ASSEMBLY
B	BASE	600-10489-9999-200	G73 ALL COMPONENT BOM
1	000	600-10489-0000-200	G73 400/800MHz 256Mb 128Bk DDR2, DVI-I+HDMI+SDTV+SCART
2	001	600-10489-0001-200	G73 400/800MHz 256Mb 128Bk DDR2, DVI-I+HDMI+SDTV+VPH
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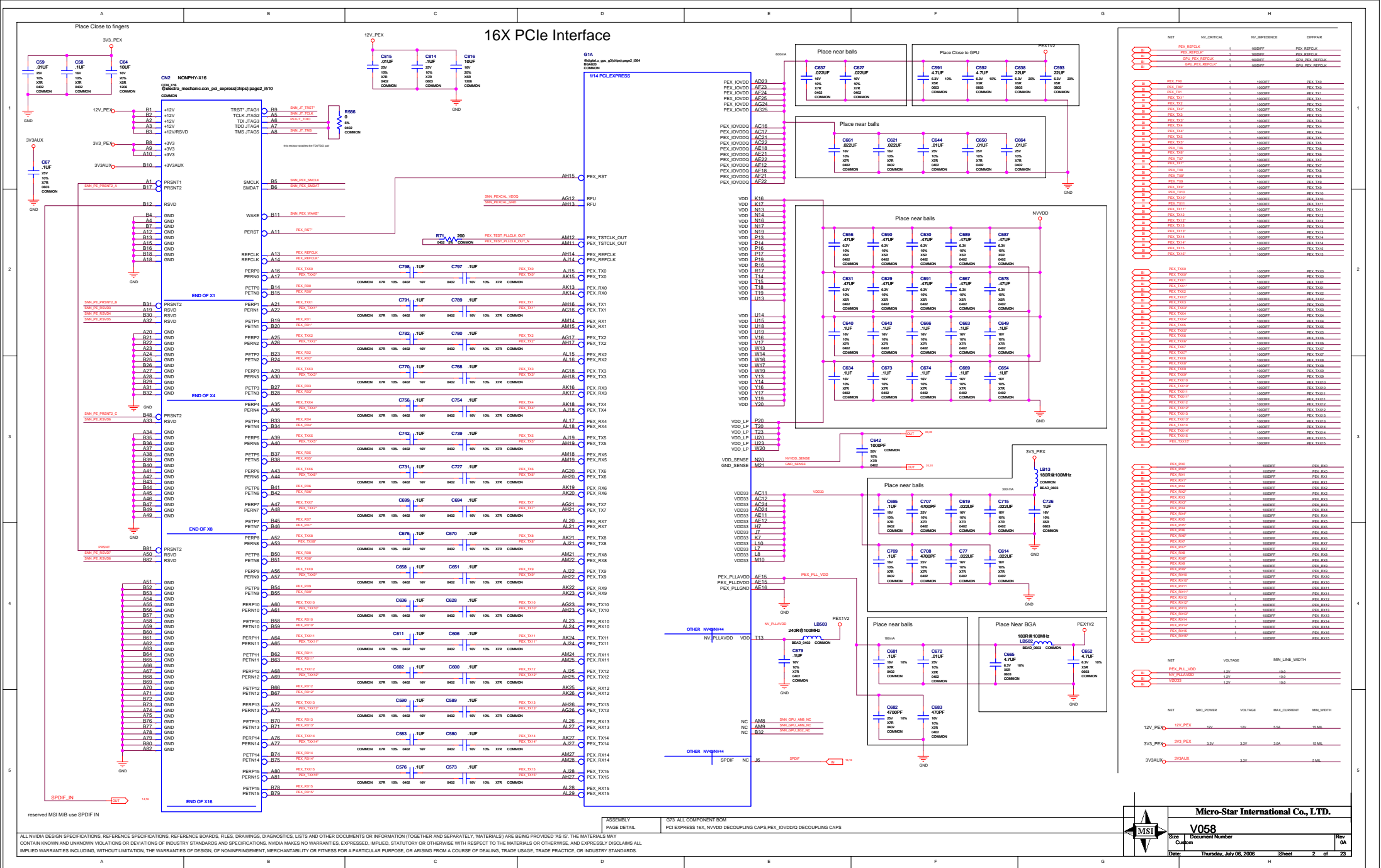
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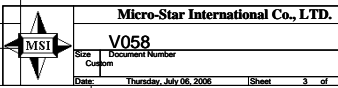
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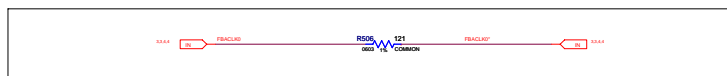
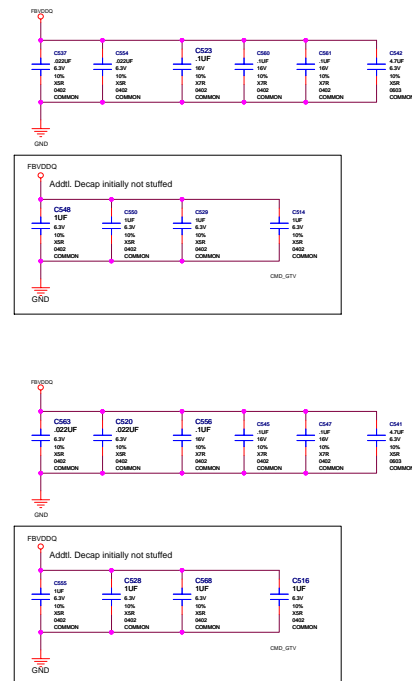
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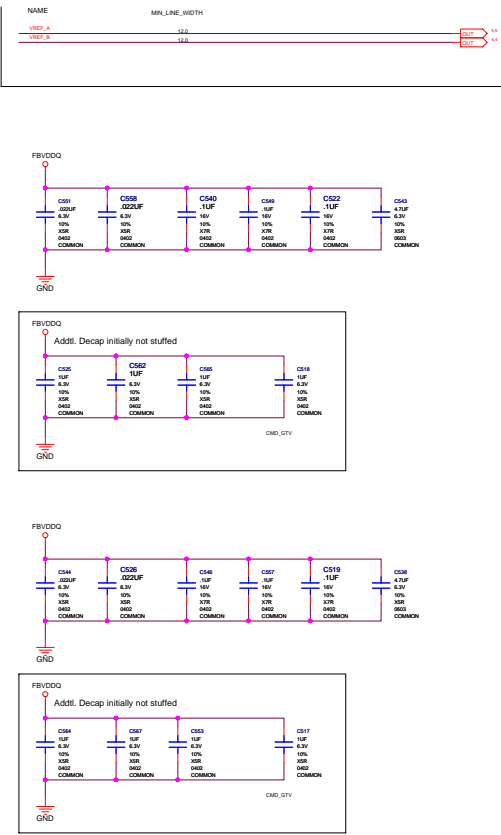
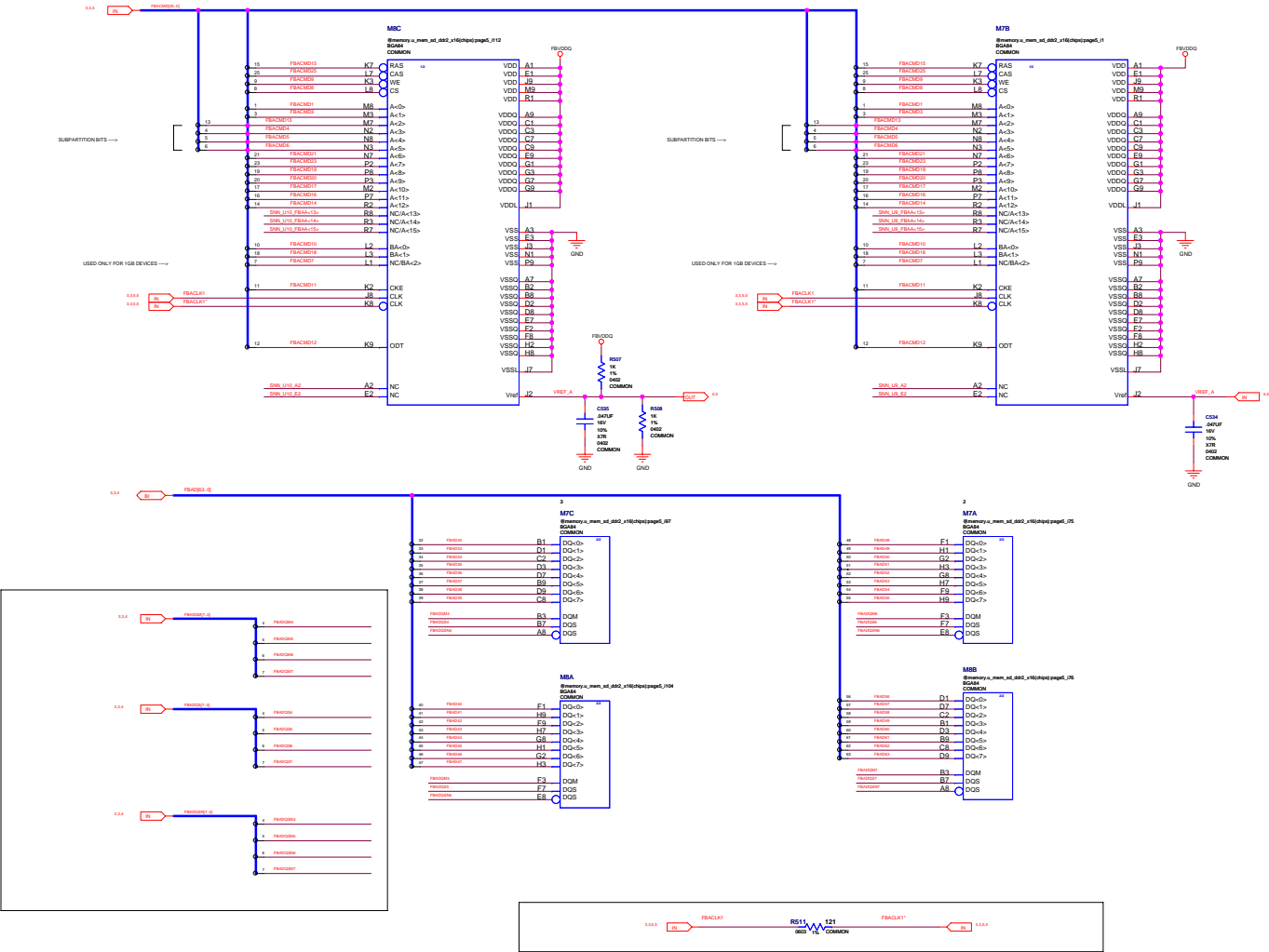
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PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY



FBA MEMORY 1st bank 32..63

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ASSEMBLY PAGE DETAIL

G73 ALL COMPONENT BOM

FBA 16M16 D0R2 MEMORIES, 1ST BANK 32..63



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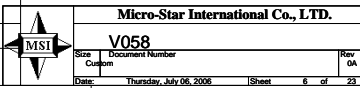
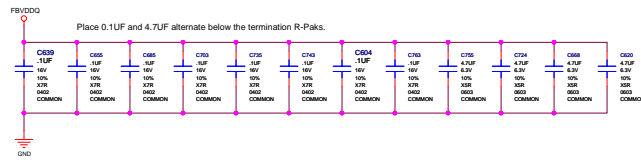
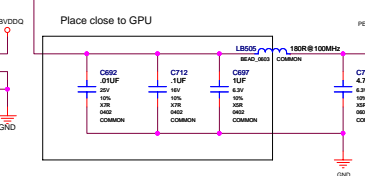
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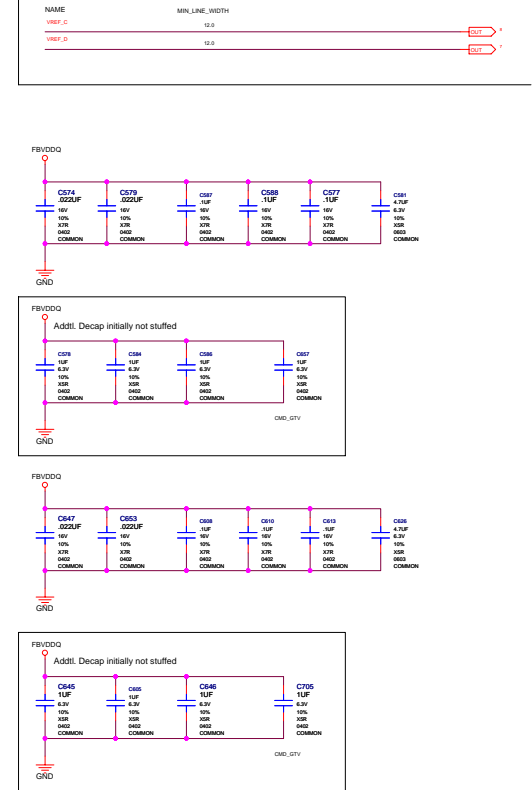
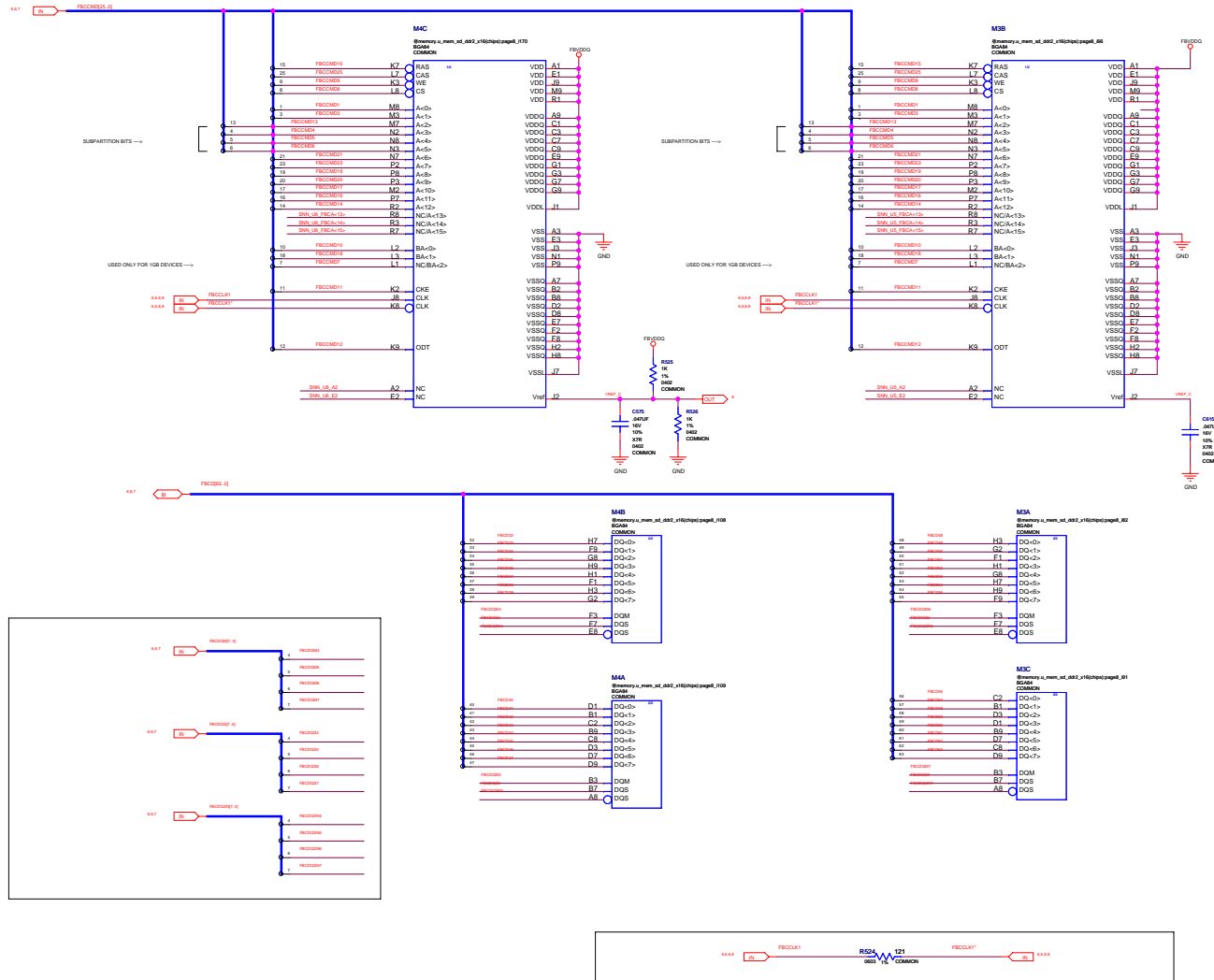
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FBC MEMORY 2nd bank 32..63

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ASSEMBLY PAGE DETAIL
G73 ALL COMPONENT BOM
FBC 10M16 DOR2 MEMORIES, 2ND BANK 32..63

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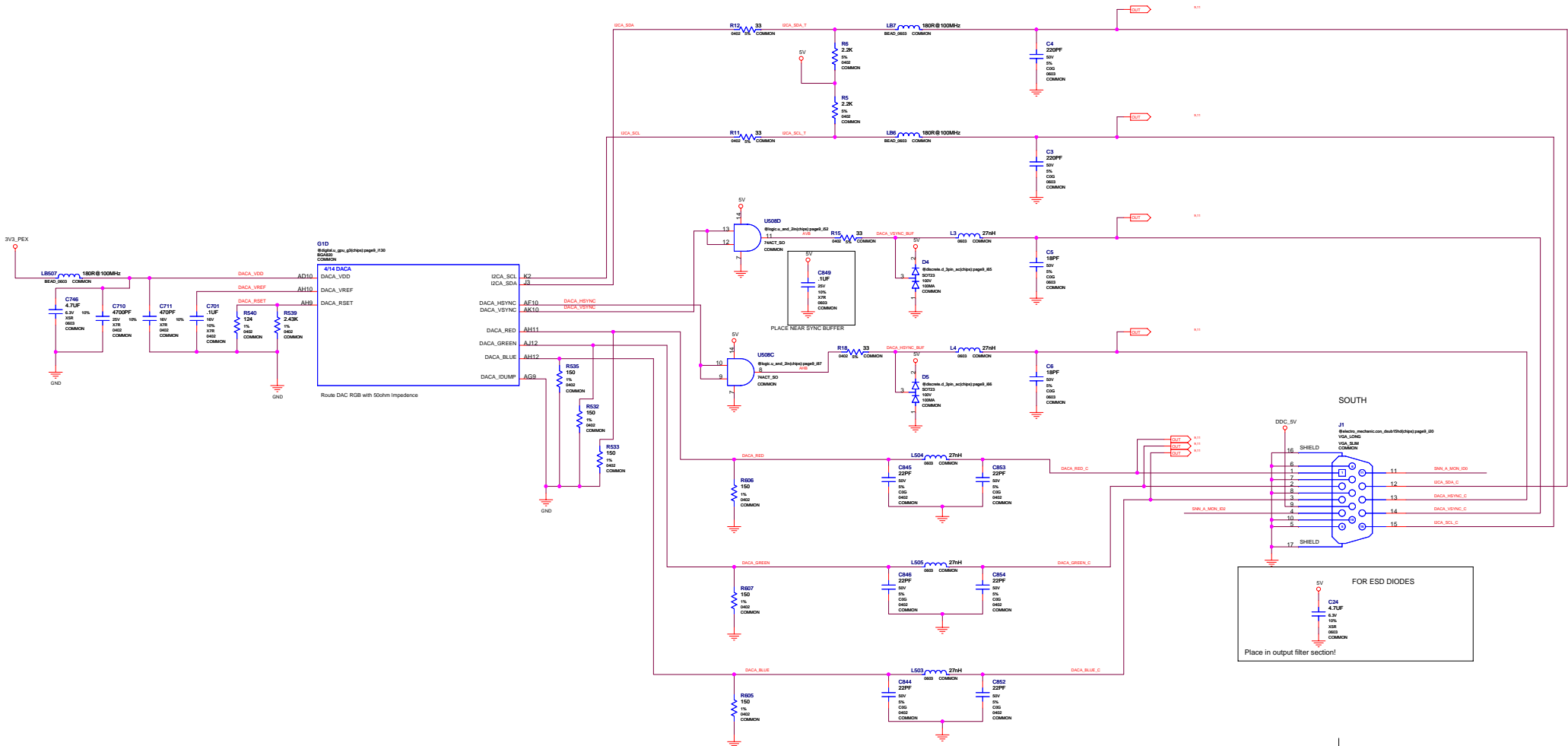
Date: Thursday, July 06, 2006 Sheet: 8 of 23

DACA NET RULES

NET	INV_CRITICAL	INV_IMPEDANCE	DIFFPAIR
DACA_RED	1	75OHM	
DACA_GREEN	1	75OHM	
DACA_BLUE	1	75OHM	
DACA_RED_C	1	75OHM	
DACA_GREEN_C	1	75OHM	
DACA_BLUE_C	1	75OHM	
DACA_VDD	3.3000	0.07	16.0

Primary Display (DACA), Slim DB15

DACA RGB-FILTER



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Date: **Thursday, July 06, 2006**

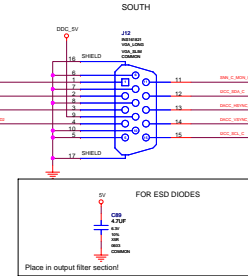
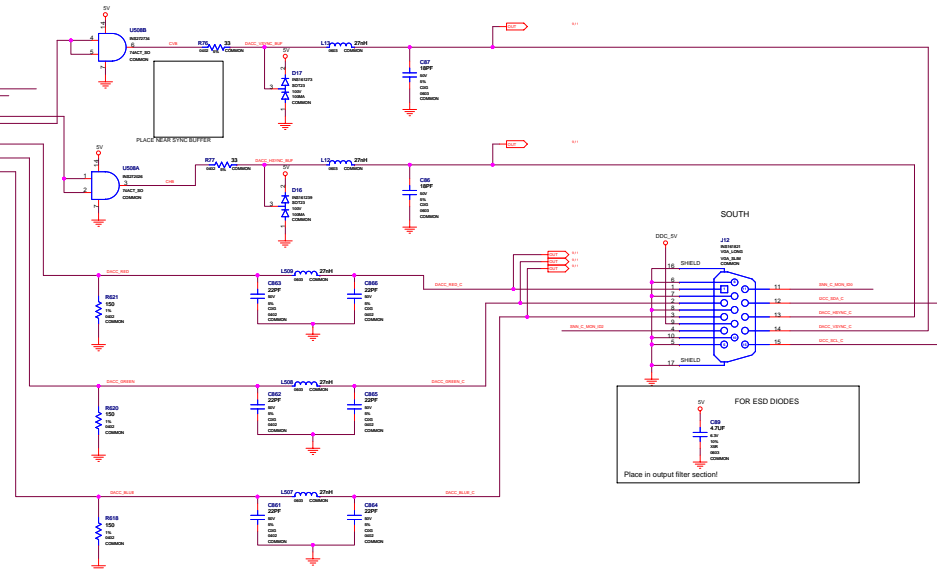
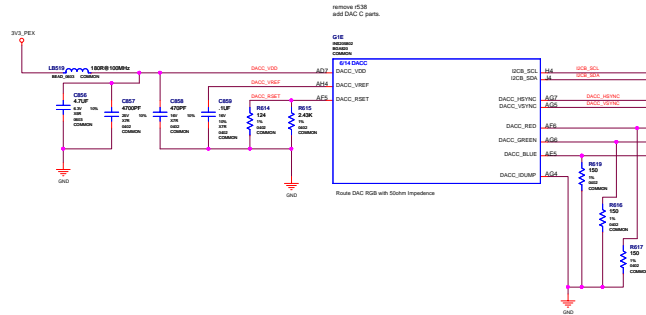
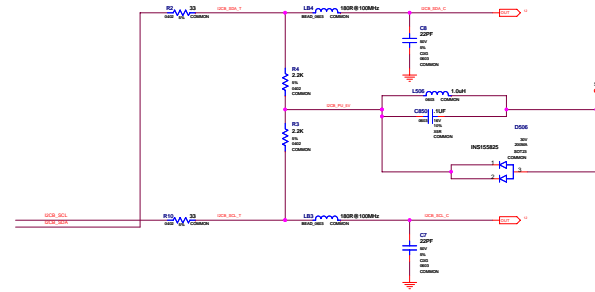
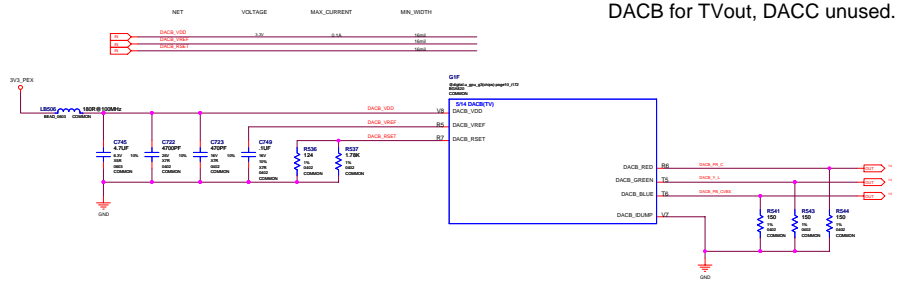
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DACB for TVout, DACC unused.

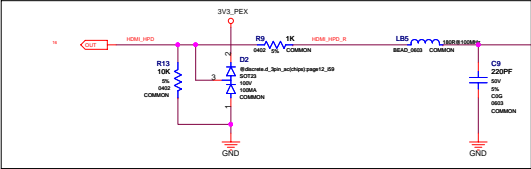
DACC NET RULES

NET	W1_CRITICAL	W1_IMPEDANCE	DIFFPAIR
DACC_RED	1	20000	
DACC_GREEN	1	20000	
DACC_BLUE	1	20000	
DACC_RED_C	1	20000	
DACC_GREEN_C	1	20000	
DACC_BLUE_C	1	20000	
NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
DACC_VDD	1.800V	0.07	16.0



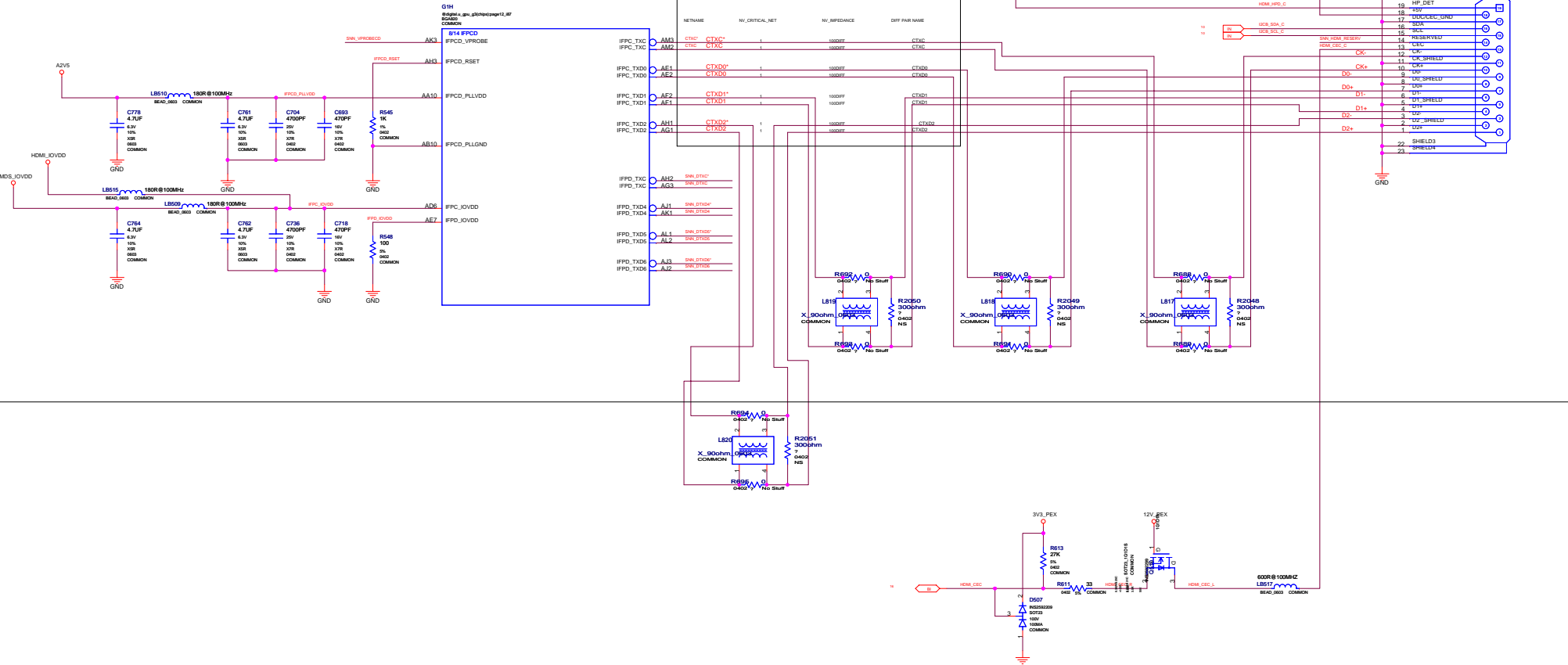
INTERNAL TMDS .. LINK C

Hotplug Detection



NET RULES


NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
IFPCD_PLLVDD	3.30000	0.04	16.0
IFPD_JOVDD	3.30000	0	16.0
IFPCD_JOVDD	3.30000	0.15	16.0



CEC pullup and clamping must be disconnected from HDMI connector when Power down

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ASSEMBLY	073 ALL COMPONENT BOM
PAGE DETAIL	TMDS LINK C, HDMI CONNECTOR MID



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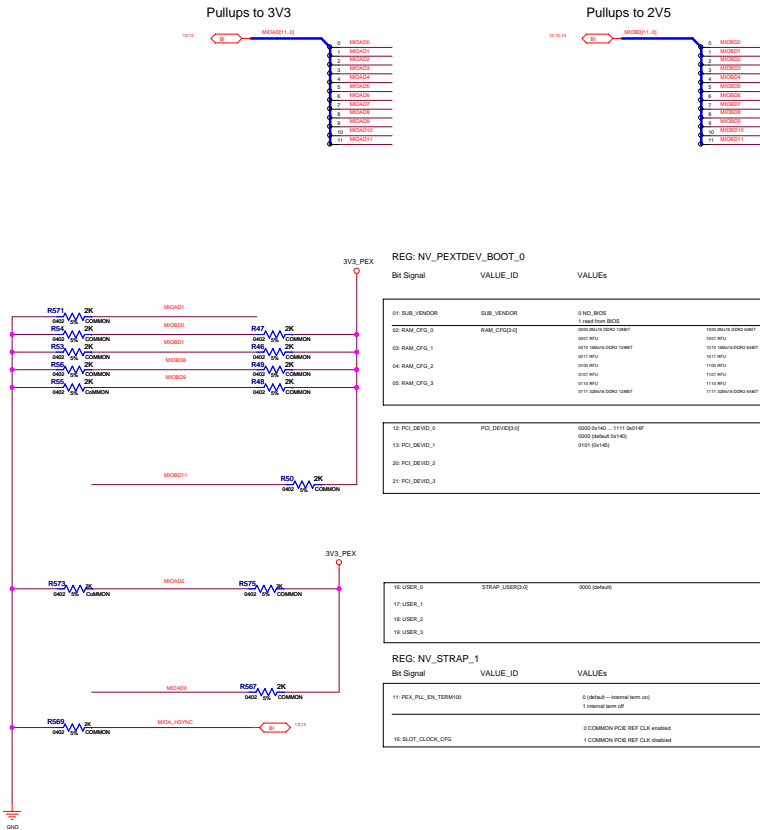
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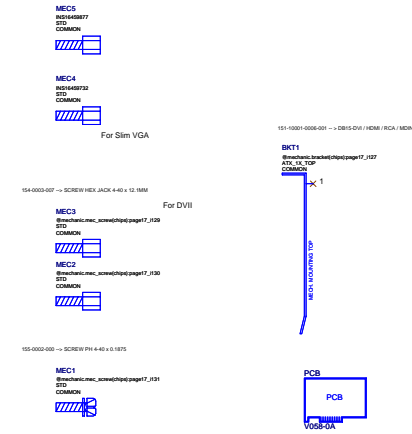
BIOS, Strapping options, Misc

Straps

Assembly: BIOS



Mechanical parts

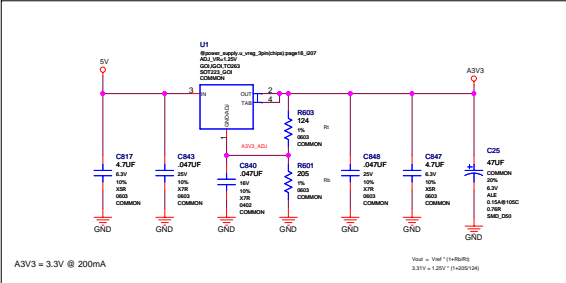


Power Supply I: TMD5/A3V3/A2V5

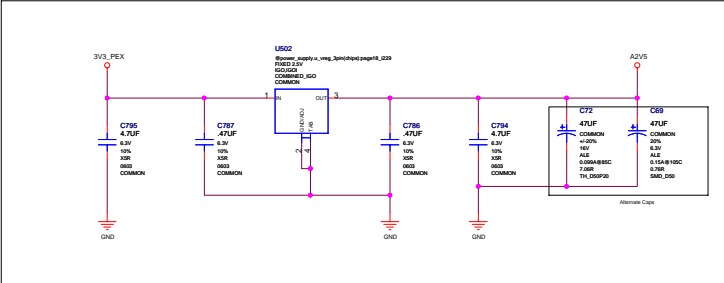
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DDC_5V	0.1	12 MIL	5V
A3V3	0.08	12 MIL	3.3V
HDMI_IOVDD	0.05	12 MIL	3.3V
TMD5_IOVDD	0.24	12 MIL	3.3V
A2V5	0.4	12 MIL	3.3V
GND		12 MIL	0V

A3V3_ADU 10 MIL 1.20V

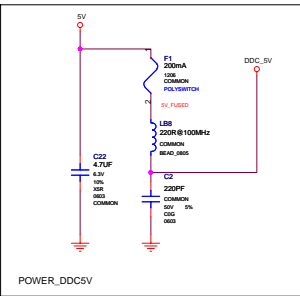
A3V3 Power Supply



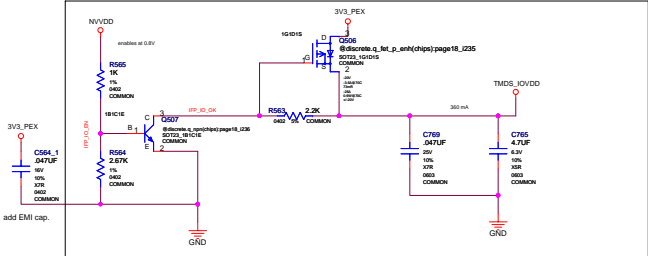
A2V5 Power Supply



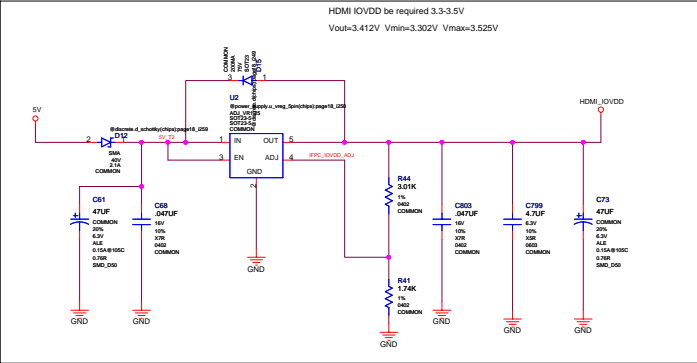
DDC 5V



TMD5 IO SUPPLY WITH BACKDRIVE PROTECTION



HDMI IO SUPPLY WITH BACKDRIVE PROTECTION



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ASSEMBLY PAGE DETAIL 073 ALL COMPONENT BOM POWER SUPPLY I: DDC5V, TMD5_IO_VDD, A3V3, A2V5



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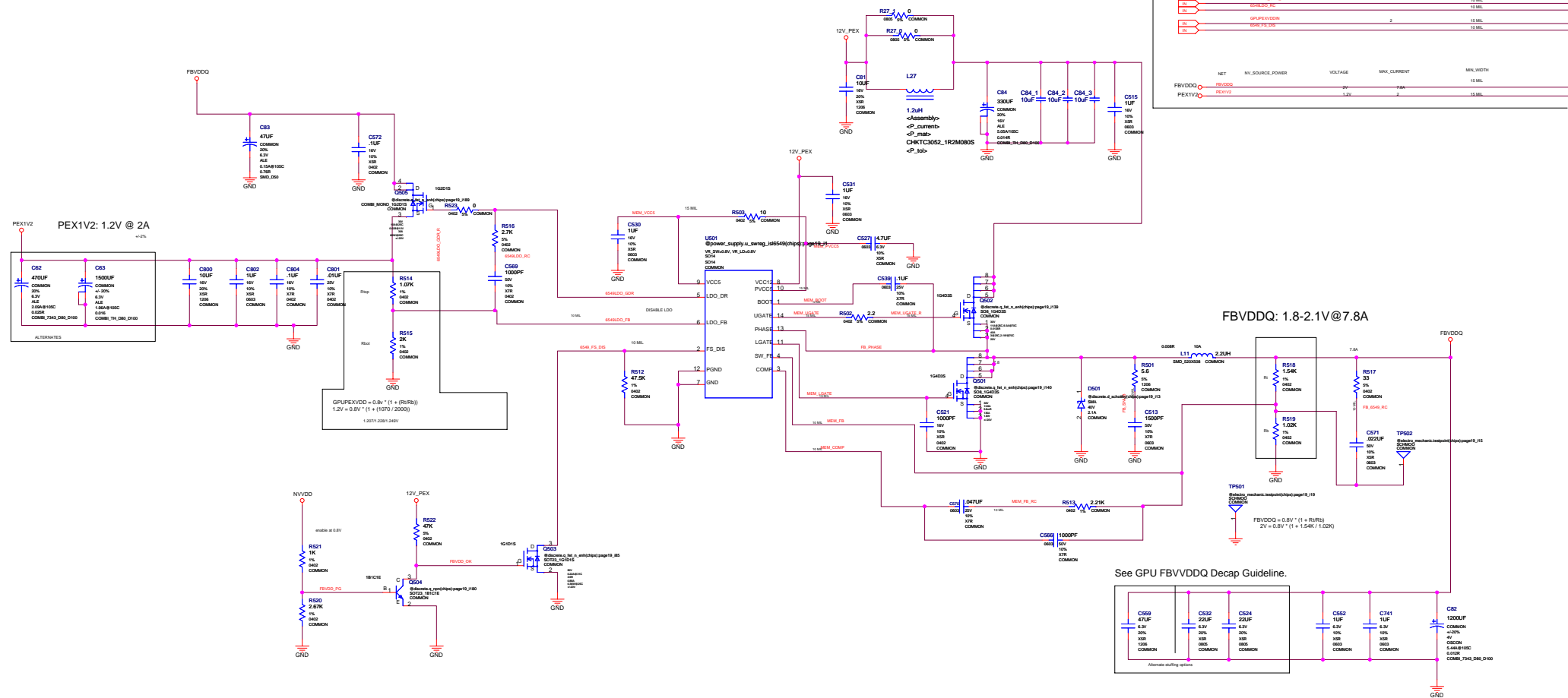
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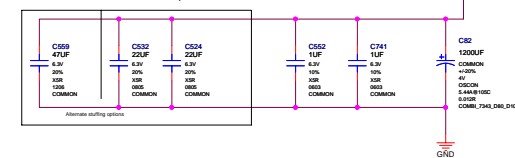
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PowerSupply II: ISL6549 FBVDDQ/PEX1V2



See GPU FBVVDDQ Decap Guideline



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ASSEMBLY	G73 ALL COMPONENT BOM
PAGE DETAIL	POWER SUPPLY II: ISL6549 FBVDDQ, PEX1V2



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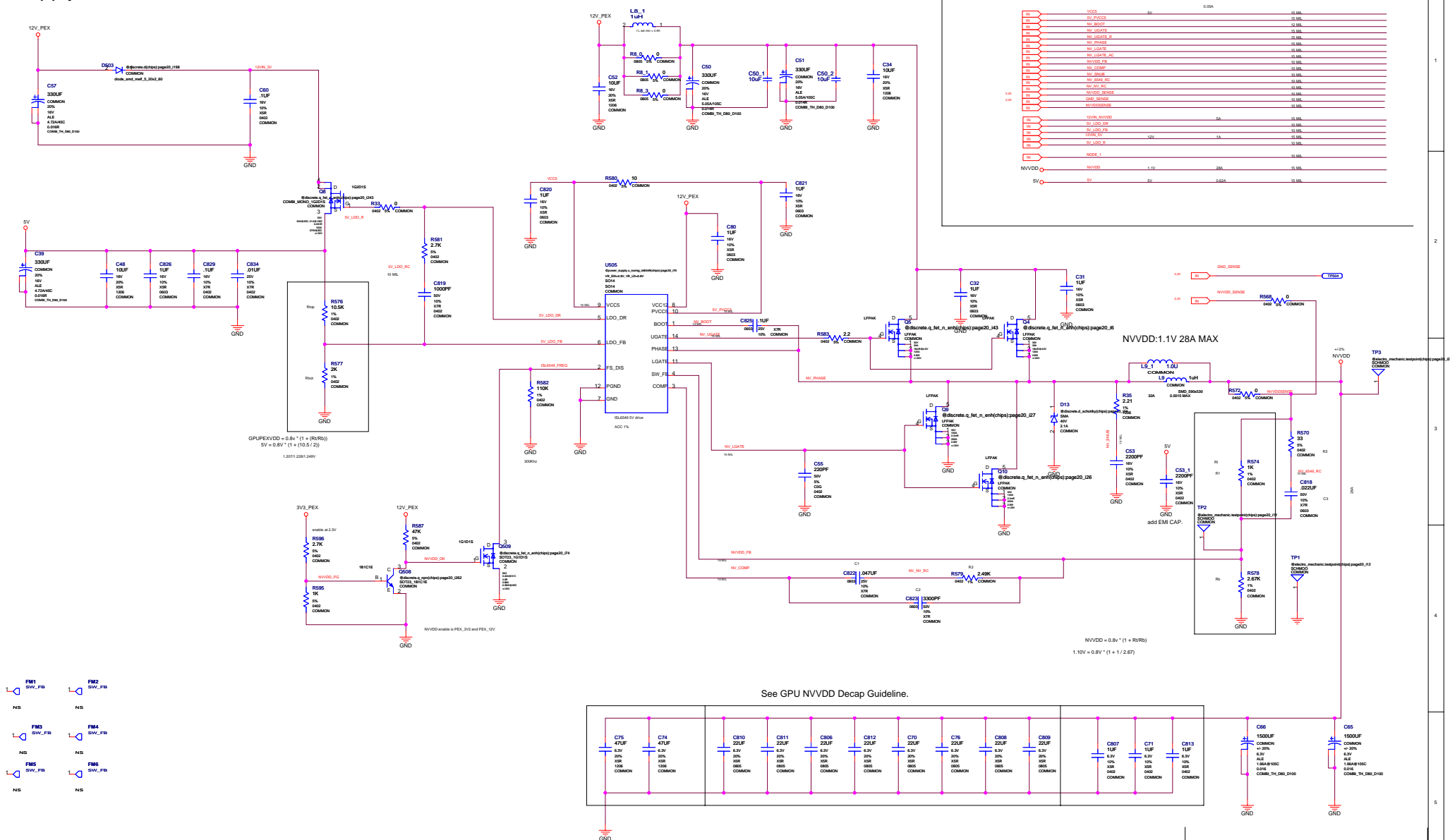
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Date: Thursday, Jul

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Power Supply III: ISL6549 NVVDD,5V



See GPU NVVDD Decap Guideline.

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A		B		C		D		E		F		G		H	
<div>SEL_HDTV_SDTV 14.3C< 16.2D></div> <div>SNN_4PIN_FAN 16.1H</div> <div>SNN_SV 14.2H</div> <div>SNN_ATA2D3 11.3D</div> <div>SNN_ATA2D3* 11.3D</div> <div>SNN_A_MON_ID0 9.4H</div> <div>SNN_A_MON_ID2 9.4F</div> <div>SNN_BTIC 11.3D</div> <div>SNN_BTIC* 11.3D</div> <div>SNN_BTICD7 11.3D</div> <div>SNN_BTICD7* 11.3D</div> <div>SNN_CLAMP 16.2C</div> <div>SNN_CM8FX_M01 14.3B</div> <div>SNN_CM8FX_M05 14.3B</div> <div>SNN_CM8A_BLUE 16.4D</div> <div>SNN_DACC_GREEN 16.4D</div> <div>SNN_DACC_HSYNC 16.4D</div> <div>SNN_DACC_IRED 16.4D</div> <div>SNN_DACC_ISET 16.4C</div> <div>SNN_DACC_VREF 16.4C</div> <div>SNN_DACC_VSYNC 16.4D</div> <div>SNN_DTIC 12.3D</div> <div>SNN_DTIC* 12.3D</div> <div>SNN_DTICD4 12.3D</div> <div>SNN_DTICD5 12.3D</div> <div>SNN_DTICD6* 12.3D</div> <div>SNN_DTICD6 12.3D</div> <div>SNN_FBA_CM8D06 3.3C</div> <div>SNN_FBA_D0B0 3.4C</div> <div>SNN_FBA_D0B1 3.4C</div> <div>SNN_FBA_PLVDD0 3.4D</div> <div>SNN_FBA_REFCLK 3.4D</div> <div>SNN_FBA_REFCLK* 3.4D</div> <div>SNN_FBA_VREF 3.5B</div> <div>SNN_FBC_CM8D06 6.3D</div> <div>SNN_FBC_D0B0 6.4C</div> <div>SNN_FBC_D0B1 6.4C</div> <div>SNN_FBC_PLVDD0 6.4C</div> <div>SNN_FBC_REFCLK 6.4C</div> <div>SNN_FBC_REFCLK* 6.4C</div> <div>SNN_FBC_VREF 6.5B</div> <div>SNN_FIELD 14.3B</div> <div>SNN_GP04 16.2C</div> <div>SNN_GP05 16.2C</div> <div>SNN_GP06 16.2C</div> <div>SNN_GP07 16.2C</div> <div>SNN_GP08 16.2C</div> <div>SNN_GP10 16.2C</div> <div>SNN_GPU_A3 3.1C</div> <div>SNN_GPU_A6 3.1C</div> <div>SNN_GPU_A9 3.1C</div> <div>SNN_GPU_A12 3.1C</div> <div>SNN_GPU_A15 3.1C</div> <div>SNN_GPU_A18 3.1C</div> <div>SNN_GPU_A21 3.1C</div> <div>SNN_GPU_A24 3.1C</div> <div>SNN_GPU_A27 3.1C</div> <div>SNN_GPU_A30 3.1C</div> <div>SNN_GPU_A33 6.1C</div> <div>SNN_GPU_A36 3.1C</div> <div>SNN_GPU_A39 6.1C</div> <div>SNN_GPU_A42 3.1C</div> <div>SNN_GPU_A45 3.1C</div> <div>SNN_GPU_A48 3.1C</div> <div>SNN_GPU_A51 3.1C</div> <div>SNN_GPU_A54 3.1C</div> <div>SNN_GPU_A57 3.1C</div> <div>SNN_GPU_A60 3.1C</div> <div>SNN_GPU_A63 6.1C</div> 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6.1C</div> <div>SNN_GPU_174 6.1C</div> <div>SNN_GPU_177 6.1C</div> <div>SNN_GPU_180 6.1C</div> <div>SNN_GPU_183 6.1C</div> <div>SNN_GPU_186 6.1C</div> <div>SNN_GPU_189 6.1C</div> <div>SNN_GPU_192 6.1C</div> <div>SNN_GPU_195 6.1C</div> <div>SNN_GPU_198 6.1C</div> <div>SNN_GPU_201 6.1C</div> <div>SNN_GPU_204 6.1C</div> <div>SNN_GPU_207 6.1C</div> <div>SNN_GPU_210 6.1C</div> <div>SNN_GPU_213 6.1C</div> <div>SNN_GPU_216 6.1C</div> <div>SNN_GPU_219 6.1C</div> <div>SNN_GPU_222 6.1C</div> <div>SNN_GPU_225 6.1C</div> <div>SNN_GPU_228 6.1C</div> <div>SNN_GPU_231 6.1C</div> <div>SNN_GPU_234 6.1C</div> <div>SNN_GPU_237 6.1C</div> <div>SNN_GPU_240 6.1C</div> <div>SNN_GPU_243 6.1C</div> <div>SNN_GPU_246 6.1C</div> <div>SNN_GPU_249 6.1C</div> <div>SNN_GPU_252 6.1C</div> <div>SNN_GPU_255 6.1C</div> <div>SNN_GPU_258 6.1C</div> <div>SNN_GPU_261 6.1C</div> <div>SNN_GPU_264 6.1C</div> <div>SNN_GPU_267 6.1C</div> <div>SNN_GPU_270 6.1C</div> <div>SNN_GPU_273 6.1C</div> <div>SNN_GPU_276 6.1C</div> 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6.1C</div> <div>SNN_GPU_387 6.1C</div> <div>SNN_GPU_390 6.1C</div> <div>SNN_GPU_393 6.1C</div> <div>SNN_GPU_396 6.1C</div> <div>SNN_GPU_399 6.1C</div> <div>SNN_GPU_402 6.1C</div> <div>SNN_GPU_405 6.1C</div> <div>SNN_GPU_408 6.1C</div> <div>SNN_GPU_411 6.1C</div> <div>SNN_GPU_414 6.1C</div> <div>SNN_GPU_417 6.1C</div> <div>SNN_GPU_420 6.1C</div> <div>SNN_GPU_423 6.1C</div> <div>SNN_GPU_426 6.1C</div> <div>SNN_GPU_429 6.1C</div> <div>SNN_GPU_432 6.1C</div> <div>SNN_GPU_435 6.1C</div> <div>SNN_GPU_438 6.1C</div> <div>SNN_GPU_441 6.1C</div> <div>SNN_GPU_444 6.1C</div> <div>SNN_GPU_447 6.1C</div> <div>SNN_GPU_450 6.1C</div> <div>SNN_GPU_453 6.1C</div> <div>SNN_GPU_456 6.1C</div> <div>SNN_GPU_459 6.1C</div> <div>SNN_GPU_462 6.1C</div> <div>SNN_GPU_465 6.1C</div> <div>SNN_GPU_468 6.1C</div> <div>SNN_GPU_471 6.1C</div> <div>SNN_GPU_474 6.1C</div> <div>SNN_GPU_477 6.1C</div> <div>SNN_GPU_480 6.1C</div> <div>SNN_GPU_483 6.1C</div> <div>SNN_GPU_486 6.1C</div> <div>SNN_GPU_489 6.1C</div> 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<div>SNN_JT_TMS 2.1B</div> <div>SNN_JT_TRST* 2.1B</div> <div>SNN_JYH 14.2G</div> <div>SNN_MEMSTRAPSEL0 16.4A</div> <div>SNN_MEMSTRAPSEL1 16.4A</div> <div>SNN_MEMSTRAPSEL2 16.4A</div> <div>SNN_MEMSTRAPSEL3 16.4A</div> <div>SNN_MOA_CLKOUT* 13.3D</div> <div>SNN_MOA_CTL3 13.3D</div> <div>SNN_MOB_CLKOUT* 13.3D</div> <div>SNN_MOB_CTL3 13.2D</div> <div>SNN_MOB_DE 13.2D</div> <div>SNN_MOB_RFU_V1 13.2D</div> <div>SNN_MOB_RFU_V9 13.2D</div> <div>SNN_MOB_RFU_W1 13.2D</div> <div>SNN_MOB_RFU_W9 13.2D</div> <div>SNN_MOB_RFU_Y5 13.2D</div> <div>SNN_MOB_RFU_W6 13.2D</div> <div>SNN_MOB_RFU_W4 13.2D</div> <div>SNN_MOB_RFU_W5 13.2D</div> <div>SNN_MOB_RFU_Y5 13.2D</div> <div>SNN_MOB_RFU_W6 13.2D</div> <div>SNN_MOB_RFU_W7 13.2D</div> <div>SNN_MOB_VREF 13.2B</div> <div>SNN_PENCAL_GND 2.2C</div> <div>SNN_PENCAL_VDD0 2.2C</div> <div>SNN_PEX_SMD0X 2.1B</div> <div>SNN_PEX_SMDAT 2.1B</div> <div>SNN_PEX_WAKE* 2.2B</div> <div>SNN_PE_PBSMT2_A 2.1A</div> <div>SNN_PE_PBSMT2_B 2.2A</div> <div>SNN_PE_PBSMT2_C 2.3A</div> <div>SNN_PE_RSVD0 2.2A</div> <div>SNN_PE_RSVD3 2.2A</div> <div>SNN_PE_RSVD4 2.2A</div> <div>SNN_PE_RSVD5 2.2A</div> <div>SNN_PE_RSVD6 2.3A</div> <div>SNN_PE_RSVD7 2.4A</div> <div>SNN_PE_RSVD8 2.4A</div> <div>SNN_SCAL_RFU_A0 13.4F</div> <div>SNN_SCAL_RFU_A13 13.4F</div> <div>SNN_SCAL_RFU_B8 13.4F</div> <div>SNN_STREED 16.4B</div> <div>SNN_STRAP 16.4A</div> <div>SNN_SYNC_BUF1 9.4C</div> <div>SNN_SYNC_BUF2 9.5C</div> <div>SNN_U2_A2 7.2B</div> <div>SNN_U2_E2 7.2B</div> <div>SNN_U2_FBCA<13> 7.2B</div> <div>SNN_U2_FBCA<14> 7.2B</div> <div>SNN_U2_FBCA<15> 7.2B</div> <div>SNN_U3_A2 7.2E</div> <div>SNN_U3_E2 7.2E</div> <div>SNN_U3_FBCA<13> 7.2E</div> <div>SNN_U3_FBCA<14> 7.2E</div> <div>SNN_U3_FBCA<15> 7.2E</div> <div>SNN_US_A2 8.2D</div> <div>SNN_US_E2 8.2D</div> <div>SNN_US_FBCA<13> 8.2D</div> <div>SNN_US_FBCA<14> 8.2D</div> <div>SNN_US_FBCA<15> 8.2D</div> <div>SNN_US_A2 8.2B</div> <div>SNN_US_E2 8.2B</div> <div>SNN_US_FBCA<13> 8.2B</div> <div>SNN_US_FBCA<14> 8.2B</div> <div>SNN_US_FBCA<15> 8.2B</div> <div>SNN_U7_A2 4.2D</div> <div>SNN_U7_E2 4.2D</div> <div>SNN_U7_FBA<13> 4.2D</div> <div>SNN_U7_FBA<14> 4.2D</div> <div>SNN_U7_FBA<15> 4.2D</div> <div>SNN_US_A2 4.2B</div> <div>SNN_US_E2 4.2B</div> <div>SNN_US_FBA<13> 4.2B</div> <div>SNN_US_FBA<14> 4.2B</div> <div>SNN_US_FBA<15> 4.2B</div> <div>SNN_U7_A2 5.2D</div> <div>SNN_U7_E2 5.2D</div> <div>SNN_US_FBA<13> 5.2D</div> <div>SNN_US_FBA<14> 5.2D</div> <div>SNN_US_FBA<15> 5.2D</div> <div>SNN_U10_A2 5.2B</div> <div>SNN_U10_E2 5.2B</div> <div>SNN_U10_FBA<13> 5.2B</div> <div>SNN_U10_FBA<14> 5.2B</div> <div>SNN_U10_FBA<15> 5.2B</div> <div>SNN_VPROBEAB 11.2B</div> <div>SNN_VPROBED 12.2B</div> <div>SNN_XTL_BFO 14.3C</div> <div>SPOF 2.5E< 16.4D> 16.5G<</div> <div>SPOF_CLAMP 16.4E</div> <div>SPOF_IN 14.2H> 15.4F> 16.5G<</div>		<div>SPOF_R 16.4E</div> <div>SWAPREF_A 13.4F< 16.4D></div> <div>16.5G<</div> <div>TESTMEMCLK 16.4B 16.5G<</div> <div>TESTMODE 16.4B</div> <div>THERMIDA 16.1A</div> <div>THERMOC 16.1A</div> <div>TMSD_XVIDD 16.1G</div> <div>TP_FBA_DEBUG 3.4C</div> <div>TP_FBC_DEBUG 6.4C</div> <div>TV_BLUE 14.2C</div> <div>TV_BLUE_F 14.3G</div> <div>TV_CHRO 14.3E</div> <div>TV_CHRO_F 14.2D</div> <div>TV_CVBS 14.4E</div> <div>TV_CVBS_CVBS 14.3C</div> <div>TV_CVBS_F 14.3G</div> <div>TV_CVBS_PR 14.4E</div> <div>TV_CVBS_PR_F 14.5D</div> <div>TV_CVBS_SPOF_IN 14.3G</div> <div>TV_GREEN_C 14.3C</div> <div>TV_G_PR 14.3E</div> <div>TV_G_PR_F 14.4D</div> <div>TV_LOAD_TEST 14.4D> 16.2D<</div> <div>TV_LUMA 14.3E</div> <div>TV_LUMA_F 14.2D</div> <div>TV_RES_L 14.2C</div> <div>TV_R_Y 14.3E</div> <div>TV_R_Y_F 14.4G</div> <div>TV_SW_VDD 14.5E</div> <div>VCC1 20.1V 20.2D</div> <div>VDD03 2.3E 2.4D>></div> <div>VDD_PLVDD 15.2E 15.5F<</div> <div>VREF_A 5.1H> 5.3D> 5.3F<</div> <div>VREF_B 4.2D> 4.2F> 5.1H></div> <div>VREF_C 8.1H> 8.2D> 8.3F<</div> <div>VREF_D 7.2D> 7.2F 8.1H></div> <div>XTALIN 15.3F 15.4F<</div> <div>XTALOUT 15.3D 15.4F<</div> <div>XTALOUTBUFF 15.2D 15.4F<</div> <div>XTALSSN 15.2E 15.4F<</div>											

	A	B	C	D	E	F	G	H		
1	Title: Cool Part Design: design Date: Jun 9 15-4326 2008	BK71 [17.2F]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	RP3 [9.2F 6.2G 6.2G 6.2F]		
			C008 [3.3G]	C004 [3.3G]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]		C004 [19.2C]	C007 [19.4C]
			C010 [3.3F]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C011 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C012 [3.3G]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C013 [19.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C014 [4.2B]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C015 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C016 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
			C017 [16.4F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]		C002 [2.4C]	C008 [11.3B]
2	C1 [12.2G] C2 [19.4B] C3 [3.2F] C4 [3.2F] C5 [3.3F] C6 [3.3F] C7 [16.4F] C8 [16.4F] C9 [12.1E] C10 [14.3G] C11 [14.2G] C12 [14.1G] C13 [14.1G] C14 [14.2G] C15 [14.2F] C16 [11.2G] C17 [14.2F] C18 [14.3F] C19 [14.2F] C20 [14.2F] C21 [14.2F] C22 [14.2F] C23 [14.2F] C24 [14.2F] C25 [14.2F] C26 [14.2F] C27 [14.2F] C28 [14.2F] C29 [14.2F] C30 [14.2F] C31 [14.2F] C32 [14.2F] C33 [14.2F] C34 [14.2F] C35 [14.2F] C36 [14.2F] C37 [14.2F] C38 [14.2F] C39 [14.2F] C40 [14.2F] C41 [14.2F] C42 [14.2F] C43 [14.2F] C44 [14.2F] C45 [14.2F] C46 [14.2F] C47 [14.2F] C48 [14.2F] C49 [14.2F] C50 [14.2F] C51 [14.2F] C52 [14.2F] C53 [14.2F] C54 [14.2F] C55 [14.2F] C56 [14.2F] C57 [14.2F] C58 [14.2F] C59 [14.2F] C60 [14.2F] C61 [14.2F] C62 [14.2F] C63 [14.2F] C64 [14.2F] C65 [14.2F] C66 [14.2F] C67 [14.2F] C68 [14.2F] C69 [14.2F] C70 [14.2F] C71 [14.2F] C72 [14.2F] C73 [14.2F] C74 [14.2F] C75 [14.2F] C76 [14.2F] C77 [14.2F] C78 [14.2F] C79 [14.2F] C80 [14.2F] C81 [14.2F] C82 [14.2F] C83 [14.2F] C84 [14.2F] C85 [14.2F] C86 [14.2F] C87 [14.2F] C88 [14.2F] C89 [14.2F] C90 [14.2F] C91 [14.2F] C92 [14.2F] C93 [14.2F] C94 [14.2F] C95 [14.2F] C96 [14.2F] C97 [14.2F] C98 [14.2F] C99 [14.2F] C100 [14.2F]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	
		C008 [3.3G]	C004 [3.3G]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	
		C010 [3.3F]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C011 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C012 [3.3G]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C013 [19.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C014 [4.2B]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C015 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C016 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C017 [16.4F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
3	C1 [12.2G] C2 [19.4B] C3 [3.2F] C4 [3.2F] C5 [3.3F] C6 [3.3F] C7 [16.4F] C8 [16.4F] C9 [12.1E] C10 [14.3G] C11 [14.2G] C12 [14.1G] C13 [14.1G] C14 [14.2G] C15 [14.2F] C16 [11.2G] C17 [14.2F] C18 [14.3F] C19 [14.2F] C20 [14.2F] C21 [14.2F] C22 [14.2F] C23 [14.2F] C24 [14.2F] C25 [14.2F] C26 [14.2F] C27 [14.2F] C28 [14.2F] C29 [14.2F] C30 [14.2F] C31 [14.2F] C32 [14.2F] C33 [14.2F] C34 [14.2F] C35 [14.2F] C36 [14.2F] C37 [14.2F] C38 [14.2F] C39 [14.2F] C40 [14.2F] C41 [14.2F] C42 [14.2F] C43 [14.2F] C44 [14.2F] C45 [14.2F] C46 [14.2F] C47 [14.2F] C48 [14.2F] C49 [14.2F] C50 [14.2F] C51 [14.2F] C52 [14.2F] C53 [14.2F] C54 [14.2F] C55 [14.2F] C56 [14.2F] C57 [14.2F] C58 [14.2F] C59 [14.2F] C60 [14.2F] C61 [14.2F] C62 [14.2F] C63 [14.2F] C64 [14.2F] C65 [14.2F] C66 [14.2F] C67 [14.2F] C68 [14.2F] C69 [14.2F] C70 [14.2F] C71 [14.2F] C72 [14.2F] C73 [14.2F] C74 [14.2F] C75 [14.2F] C76 [14.2F] C77 [14.2F] C78 [14.2F] C79 [14.2F] C80 [14.2F] C81 [14.2F] C82 [14.2F] C83 [14.2F] C84 [14.2F] C85 [14.2F] C86 [14.2F] C87 [14.2F] C88 [14.2F] C89 [14.2F] C90 [14.2F] C91 [14.2F] C92 [14.2F] C93 [14.2F] C94 [14.2F] C95 [14.2F] C96 [14.2F] C97 [14.2F] C98 [14.2F] C99 [14.2F] C100 [14.2F]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	
		C008 [3.3G]	C004 [3.3G]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	
		C010 [3.3F]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C011 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C012 [3.3G]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C013 [19.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C014 [4.2B]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C015 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C016 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C017 [16.4F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
4	C1 [12.2G] C2 [19.4B] C3 [3.2F] C4 [3.2F] C5 [3.3F] C6 [3.3F] C7 [16.4F] C8 [16.4F] C9 [12.1E] C10 [14.3G] C11 [14.2G] C12 [14.1G] C13 [14.1G] C14 [14.2G] C15 [14.2F] C16 [11.2G] C17 [14.2F] C18 [14.3F] C19 [14.2F] C20 [14.2F] C21 [14.2F] C22 [14.2F] C23 [14.2F] C24 [14.2F] C25 [14.2F] C26 [14.2F] C27 [14.2F] C28 [14.2F] C29 [14.2F] C30 [14.2F] C31 [14.2F] C32 [14.2F] C33 [14.2F] C34 [14.2F] C35 [14.2F] C36 [14.2F] C37 [14.2F] C38 [14.2F] C39 [14.2F] C40 [14.2F] C41 [14.2F] C42 [14.2F] C43 [14.2F] C44 [14.2F] C45 [14.2F] C46 [14.2F] C47 [14.2F] C48 [14.2F] C49 [14.2F] C50 [14.2F] C51 [14.2F] C52 [14.2F] C53 [14.2F] C54 [14.2F] C55 [14.2F] C56 [14.2F] C57 [14.2F] C58 [14.2F] C59 [14.2F] C60 [14.2F] C61 [14.2F] C62 [14.2F] C63 [14.2F] C64 [14.2F] C65 [14.2F] C66 [14.2F] C67 [14.2F] C68 [14.2F] C69 [14.2F] C70 [14.2F] C71 [14.2F] C72 [14.2F] C73 [14.2F] C74 [14.2F] C75 [14.2F] C76 [14.2F] C77 [14.2F] C78 [14.2F] C79 [14.2F] C80 [14.2F] C81 [14.2F] C82 [14.2F] C83 [14.2F] C84 [14.2F] C85 [14.2F] C86 [14.2F] C87 [14.2F] C88 [14.2F] C89 [14.2F] C90 [14.2F] C91 [14.2F] C92 [14.2F] C93 [14.2F] C94 [14.2F] C95 [14.2F] C96 [14.2F] C97 [14.2F] C98 [14.2F] C99 [14.2F] C100 [14.2F]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	
		C008 [3.3G]	C004 [3.3G]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	
		C010 [3.3F]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C011 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C012 [3.3G]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C013 [19.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C014 [4.2B]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C015 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C016 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C017 [16.4F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
5	C1 [12.2G] C2 [19.4B] C3 [3.2F] C4 [3.2F] C5 [3.3F] C6 [3.3F] C7 [16.4F] C8 [16.4F] C9 [12.1E] C10 [14.3G] C11 [14.2G] C12 [14.1G] C13 [14.1G] C14 [14.2G] C15 [14.2F] C16 [11.2G] C17 [14.2F] C18 [14.3F] C19 [14.2F] C20 [14.2F] C21 [14.2F] C22 [14.2F] C23 [14.2F] C24 [14.2F] C25 [14.2F] C26 [14.2F] C27 [14.2F] C28 [14.2F] C29 [14.2F] C30 [14.2F] C31 [14.2F] C32 [14.2F] C33 [14.2F] C34 [14.2F] C35 [14.2F] C36 [14.2F] C37 [14.2F] C38 [14.2F] C39 [14.2F] C40 [14.2F] C41 [14.2F] C42 [14.2F] C43 [14.2F] C44 [14.2F] C45 [14.2F] C46 [14.2F] C47 [14.2F] C48 [14.2F] C49 [14.2F] C50 [14.2F] C51 [14.2F] C52 [14.2F] C53 [14.2F] C54 [14.2F] C55 [14.2F] C56 [14.2F] C57 [14.2F] C58 [14.2F] C59 [14.2F] C60 [14.2F] C61 [14.2F] C62 [14.2F] C63 [14.2F] C64 [14.2F] C65 [14.2F] C66 [14.2F] C67 [14.2F] C68 [14.2F] C69 [14.2F] C70 [14.2F] C71 [14.2F] C72 [14.2F] C73 [14.2F] C74 [14.2F] C75 [14.2F] C76 [14.2F] C77 [14.2F] C78 [14.2F] C79 [14.2F] C80 [14.2F] C81 [14.2F] C82 [14.2F] C83 [14.2F] C84 [14.2F] C85 [14.2F] C86 [14.2F] C87 [14.2F] C88 [14.2F] C89 [14.2F] C90 [14.2F] C91 [14.2F] C92 [14.2F] C93 [14.2F] C94 [14.2F] C95 [14.2F] C96 [14.2F] C97 [14.2F] C98 [14.2F] C99 [14.2F] C100 [14.2F]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	
		C008 [3.3G]	C004 [3.3G]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	C007 [19.4C]	C008 [11.3B]	
		C010 [3.3F]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C011 [3.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C012 [3.3G]	C006 [3.3G]	C008 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C013 [19.3F]	C008 [3.3G]	C006 [3.3G]	C004 [19.2C]	C006 [3.3G]	C002 [2.4C]	C008 [11.3B]	C004 [19.2C]	
		C014 [4.2B]	C008							