

P262: NV44/G3-64, TSOP MEMORY x16

REV HISTORY

A01

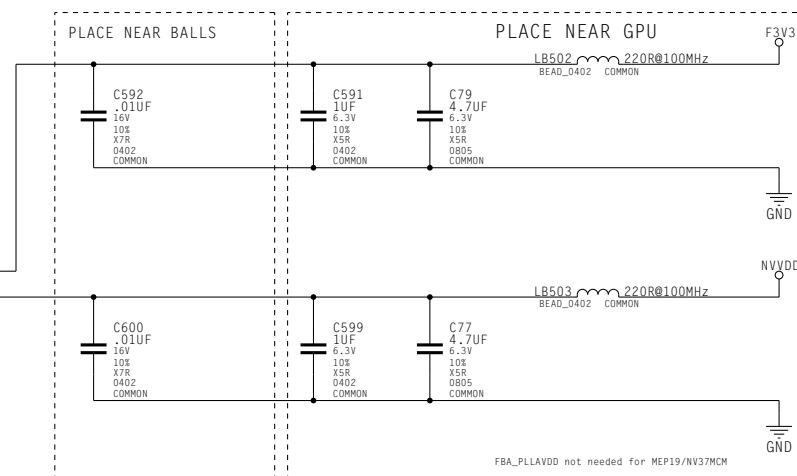
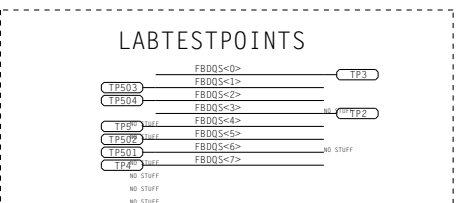
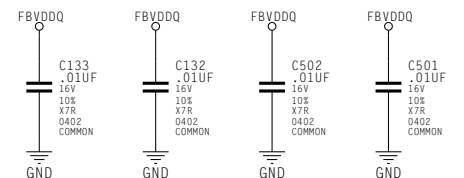
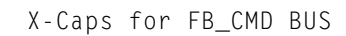
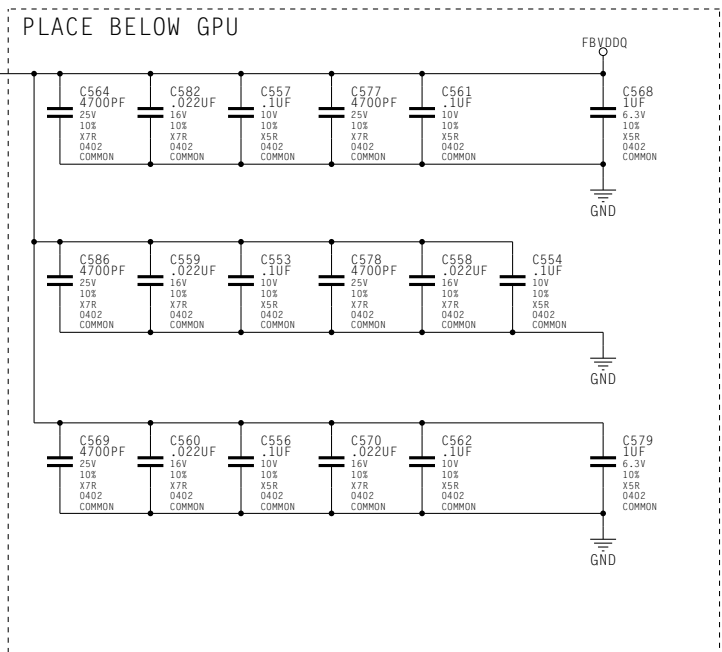
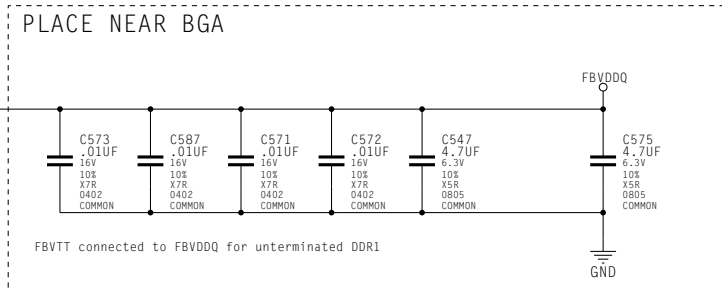
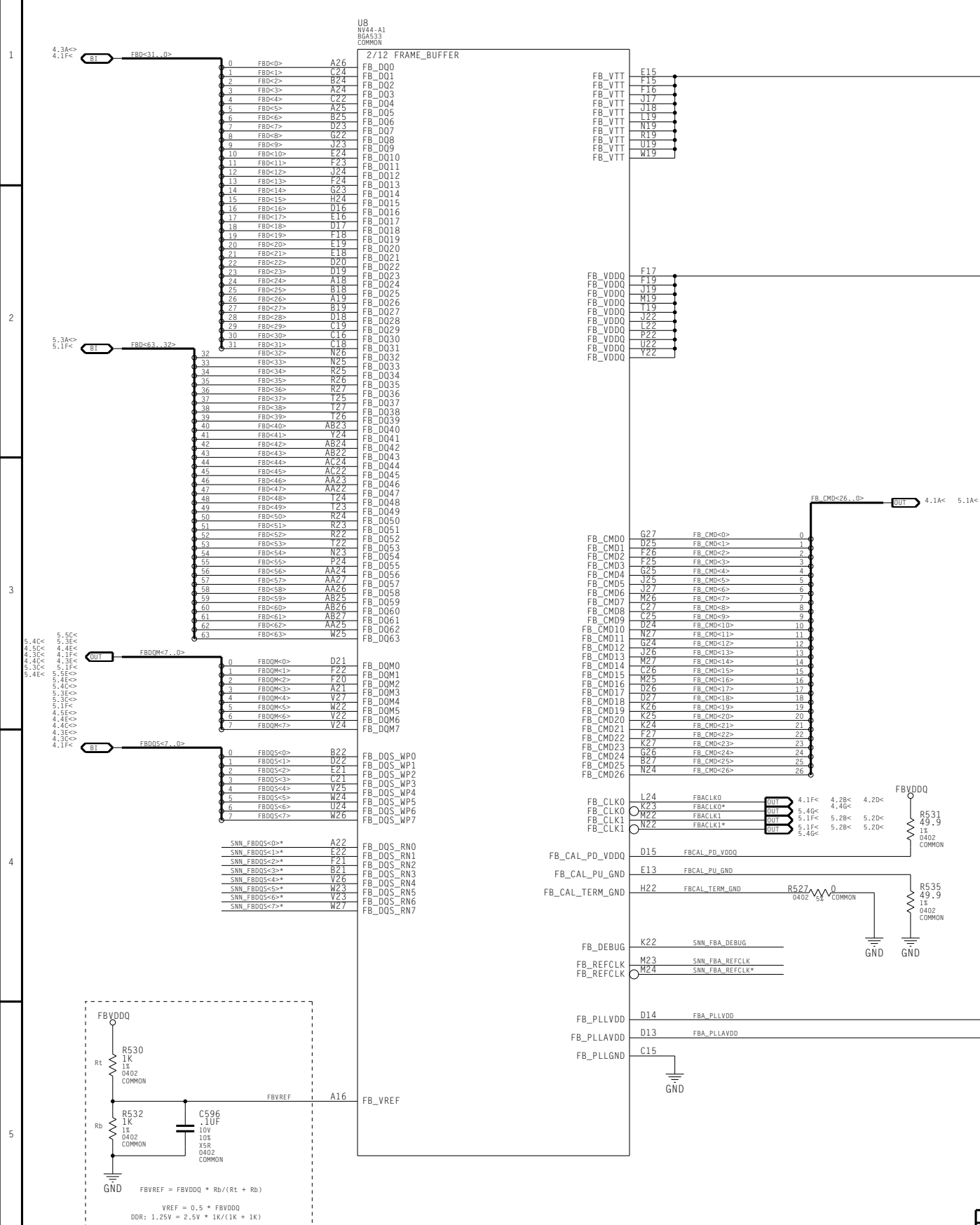
- 9/22/2004:
 - Changed TMDS_PLLVDD to PLLVDD
 - Added bead option to PLLVDD rail of NV44
 - Changed RSET values for DACA and DACB
 - Changed DACB RSET FET to a dual package with GPIO11 control-Macrovision
 - Added F3V3 bypass to PLLVDD linear regulator
 - Changed location of R62

- Page1: P262 Overview
- Page2: PCI Express Interface
- Page3: Frame Buffer Interface
- Page4: Memory 1st bank 0..31
- Page5: Memory 1st bank 32..63
- Page6: DACA, DACB, DACC, Sync Buffers
- Page7: VGA Output, TV Out
- Page8: TMDS Interface
- Page9: MIOA, MIOB Interface, LPC-ROM
- Page10: STRAPS, Mechanical Parts
- Page11: XTAL, GPIO, BIOS, Fan Control, JTAG Headers
- Page12: VIDEO CAPTURE: SAA7115
- Page13: PowerSupplyI: NVVDD, FBVDDQ
- Page14: PowerSupplyII: 5V, DDC5V, A3V3, F3V3, TMDS_PLLVDD
- Page15: VIDEO CONNECTORS: MiniDIN, 2x6 HDR
- Page16: PowerSupplyIII: 5V, F3V3 (Optional for higher current)

SKU	VARIANT	NVPN	ASSEMBLY
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15	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>

GPU: FB-Interface

	Net Name	NET_SPACING_RULE
10	FBCAL_PD_VDDQ	10MIL
10	FBCAL_PU_GND	10MIL
10	FBCAL_TERM_GND	10MIL
10	FB_DLAVID	10MIL
10	FRA_PLLAVDD	10MIL
10	FBVREF	10MIL
10		



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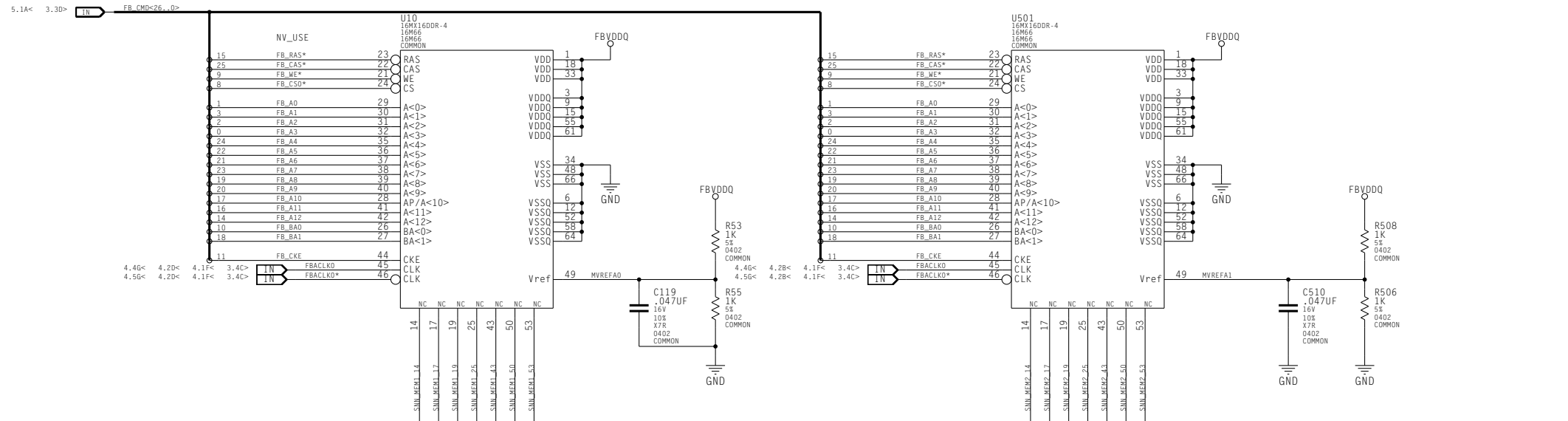
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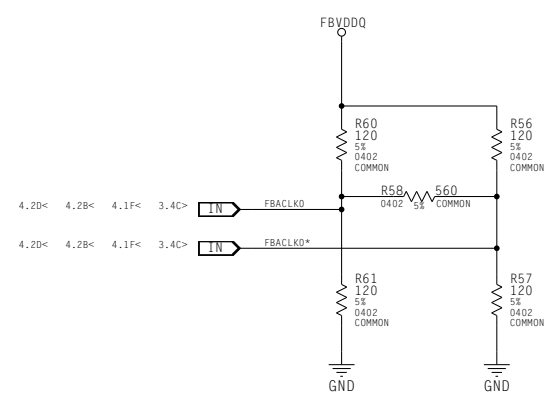
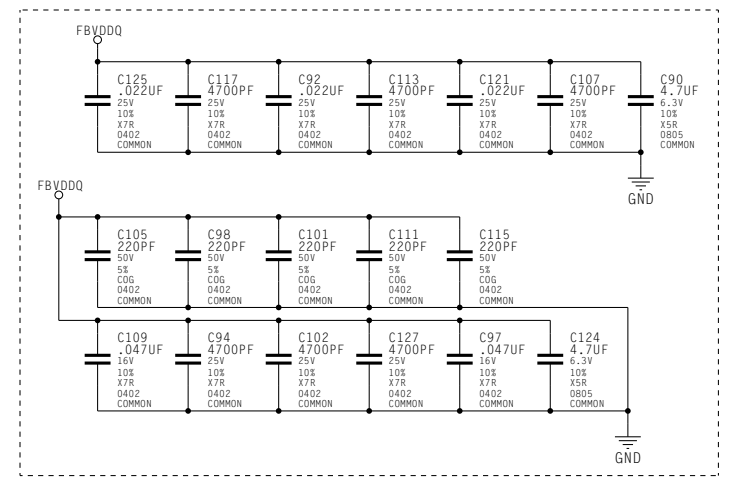
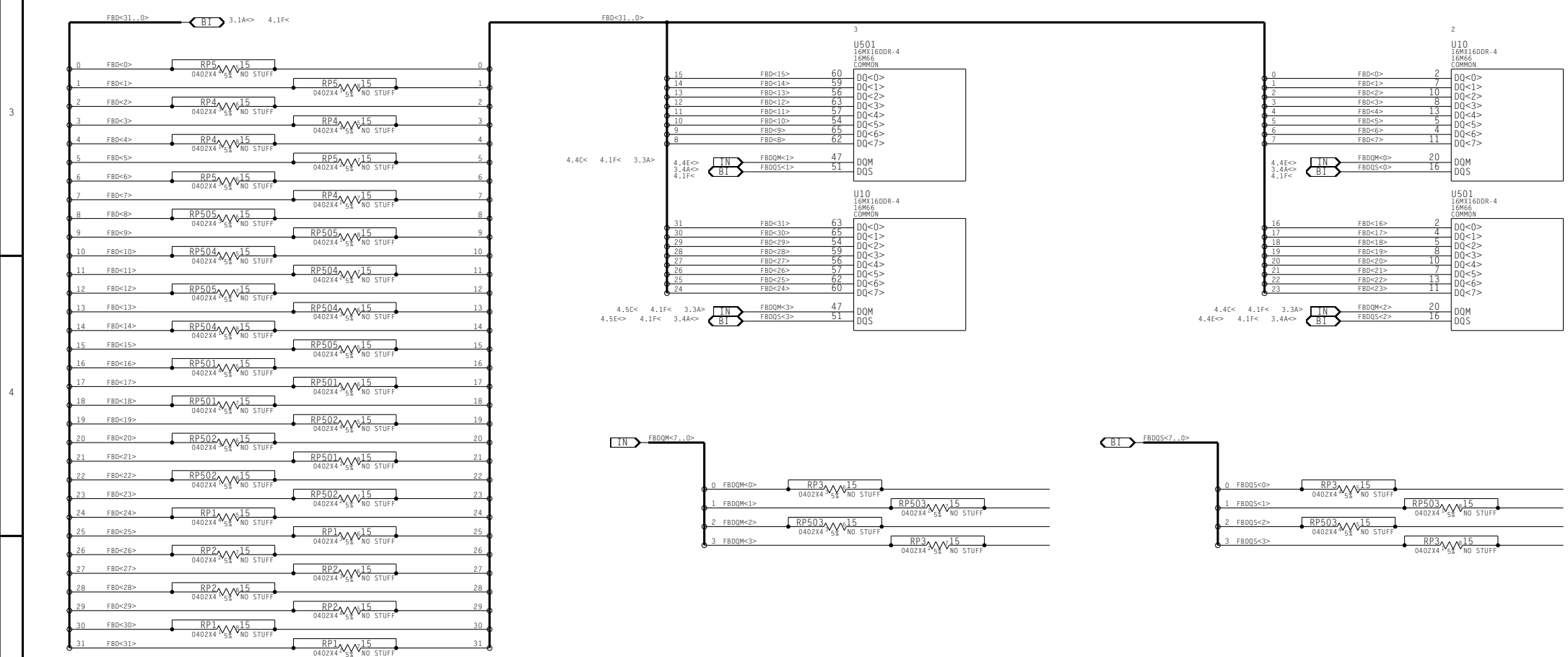
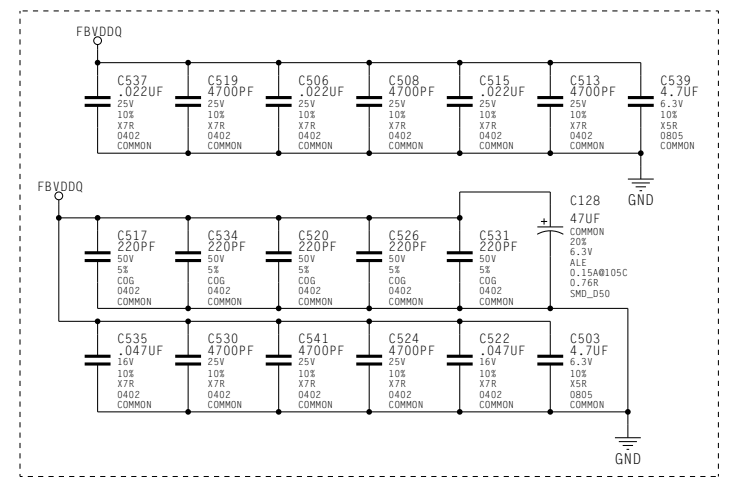
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ID	p262	PAGE	3 OF 16
NAME	wzame1	DATE	dd-mon-year

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Memory Bit 0..31

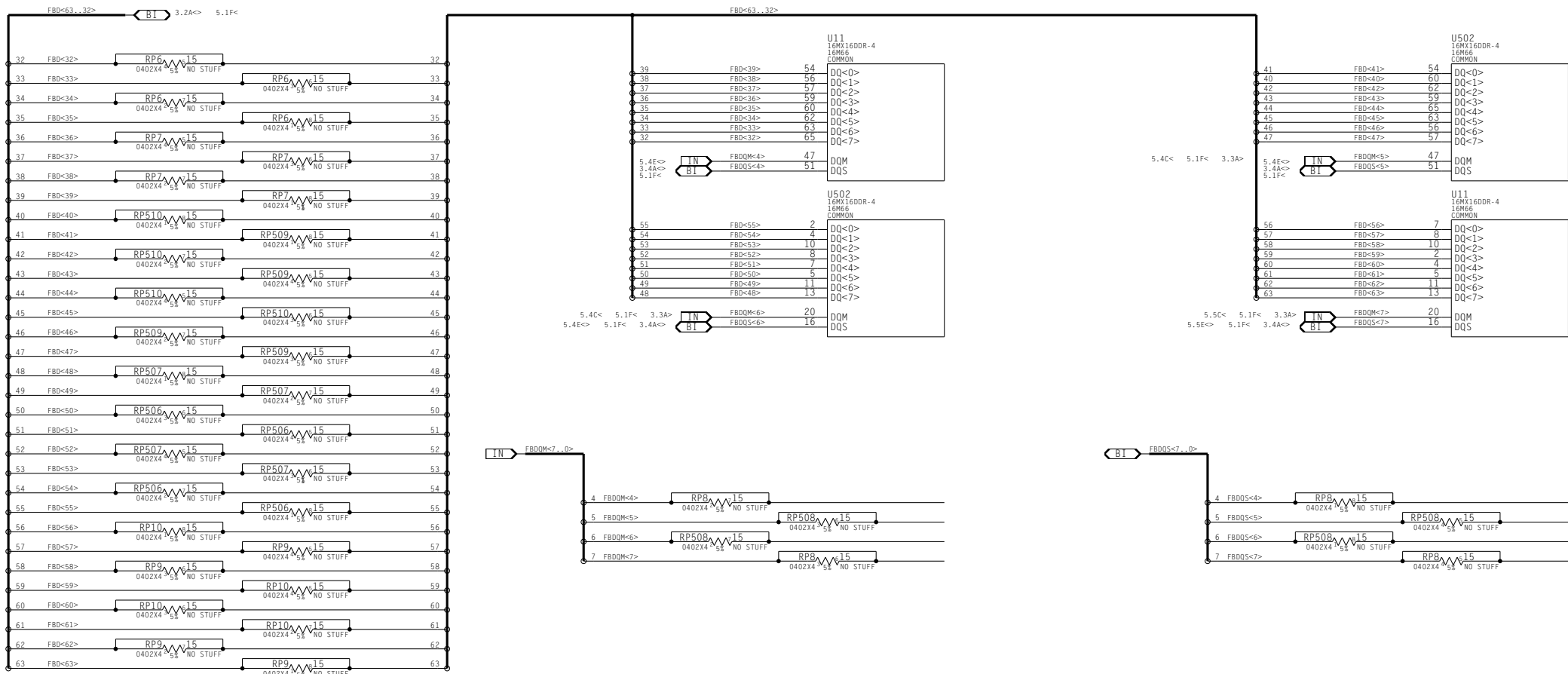
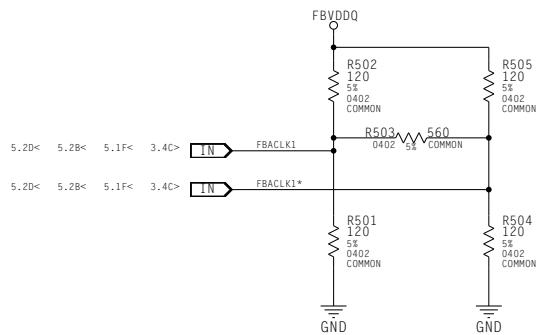
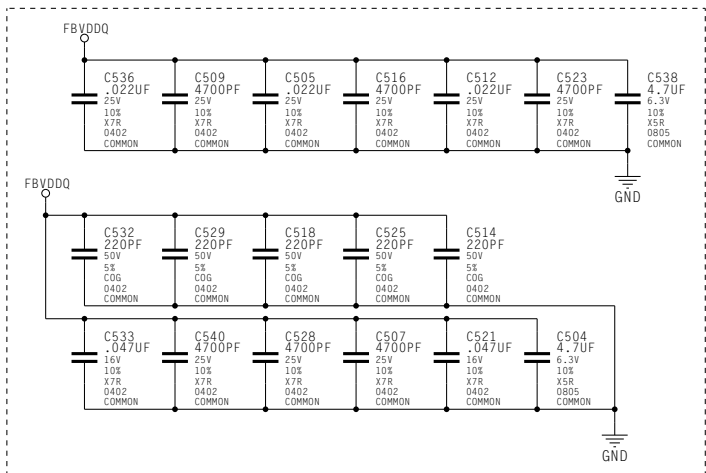
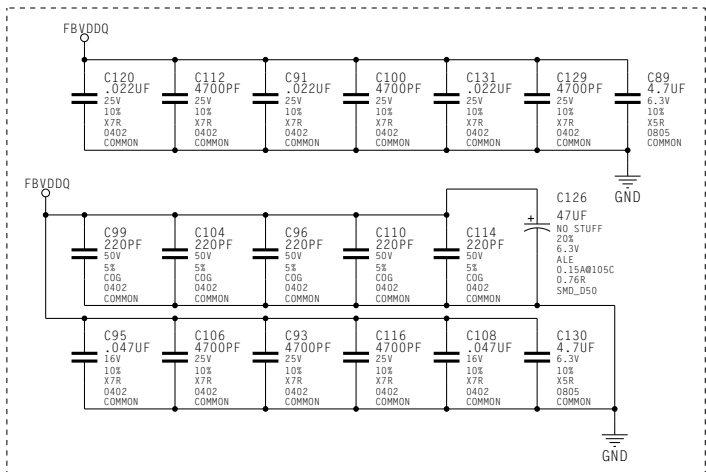
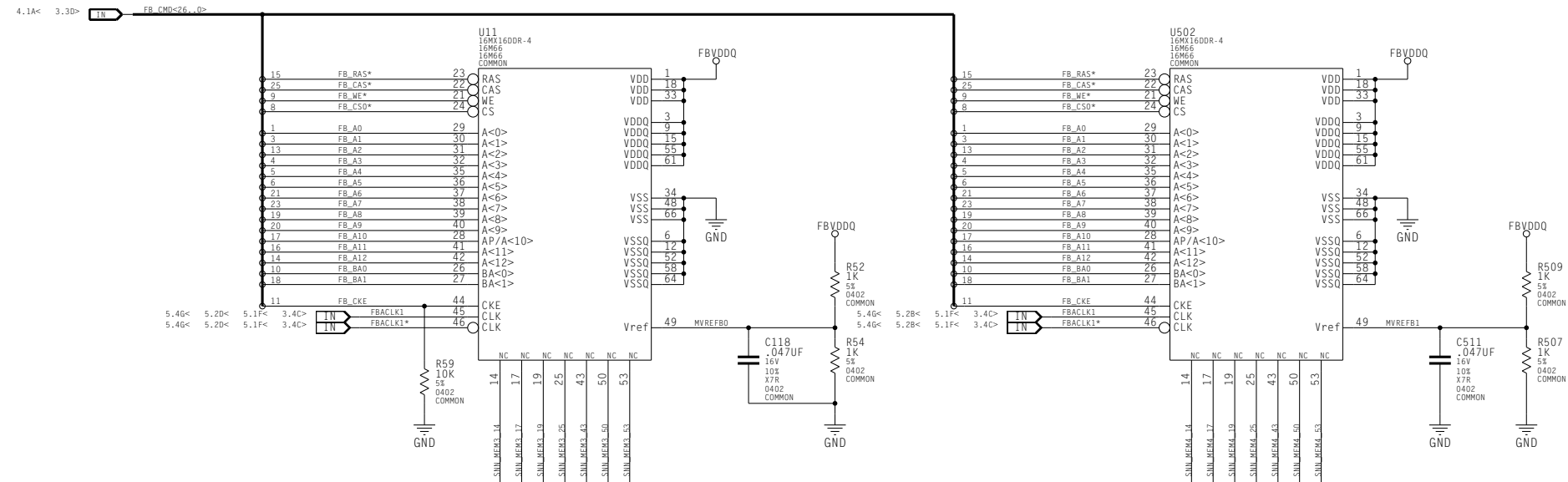


	Net Name	Diffpair	NET_SPACING_RULE
4_5G<	FBACLK0	FBACLK0	25M11
4_2D<	FBACLK0*	FBACLK0	25M11
4_2B<			
3_1A<>	FBDM<31_0>		10M11
4_3A<>	FBDM<31_0>		10M11
3_4A<>	FBDM<33_0>		10M11
4_3C<	FB		10M11
4_4C<			
4_4E<>	FBDM<26_0>		10M11
4_5E<>			



Memory Bit 32..63

	Net Name	Diffpair	NET_SPACING_RULE
1N	FBACLK1	FBACLK1	25M11
1N	FBACLK1*	FBACLK1	25M11
1N	FBDC<63..32>		10M11
1N	FBQDM<7..4>		10M11
1N	FBDS<7..4>		10M11



ASSEMBLY	BASE LEVEL GENERIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Memory 1st bank 32..63

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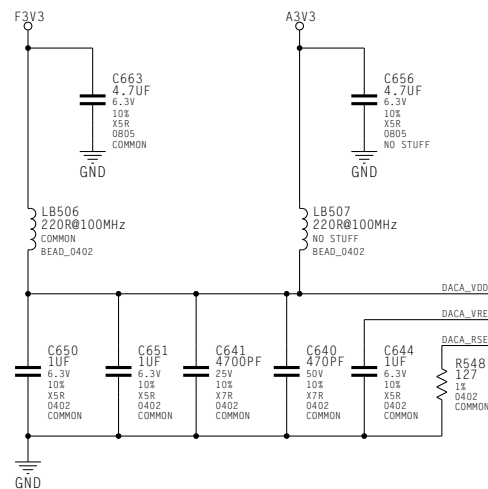
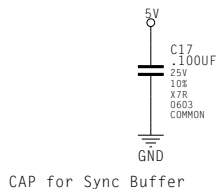
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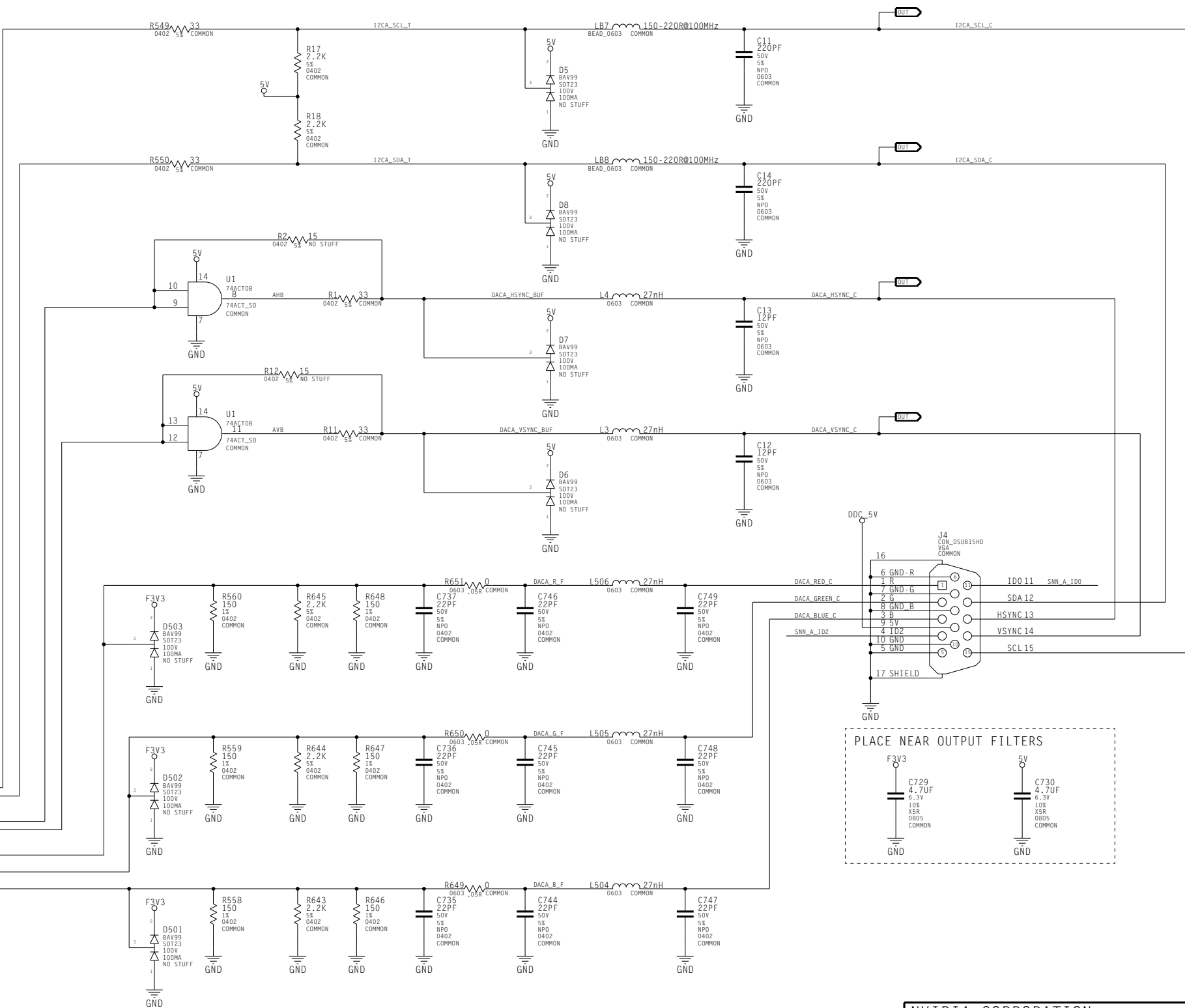
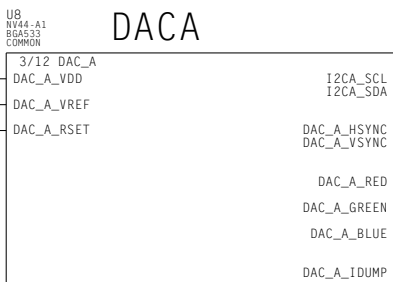


DAC-A, DB15 Connector

Net Name	MIN_LINE_WIDTH	NET_SPACING_TYPE
12CA_SCL	10MIL	
12CA_SDA	10MIL	
DACA_HSYNC	10MIL	
DACA_VSYNC	10MIL	
DACA_RED	20MIL	
DACA_GREEN	20MIL	
DACA_BLUE	20MIL	
DACA_VDD	12MIL	
DACA_R_F	20MIL	
DACA_G_F	20MIL	
DACA_B_F	20MIL	
DACA_RED_C	20MIL	
DACA_GREEN_C	20MIL	
DACA_BLUE_C	20MIL	



DACA



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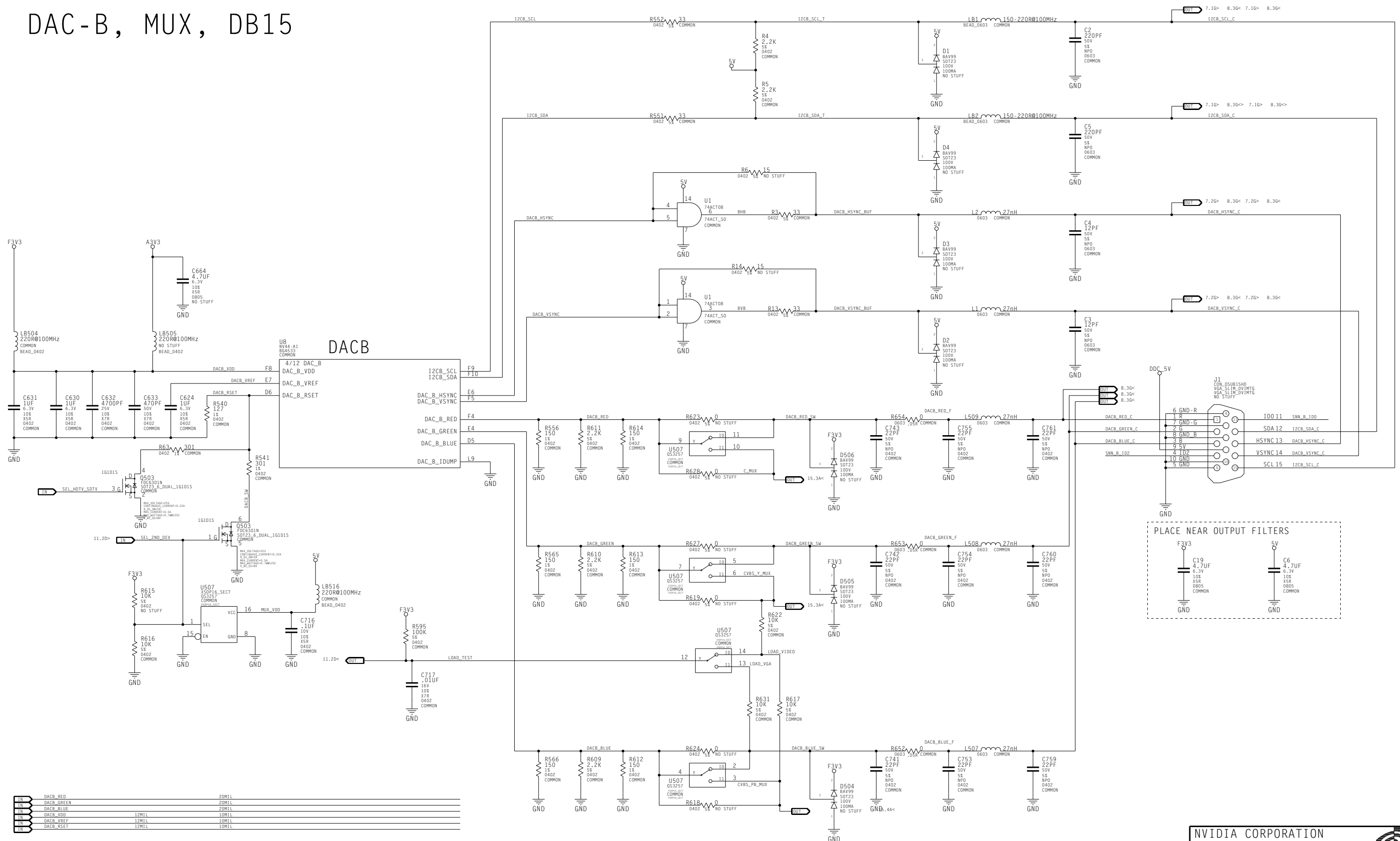
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NAME wzame1 DATE dd-mon-year

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DAC-B, MUX, DB15



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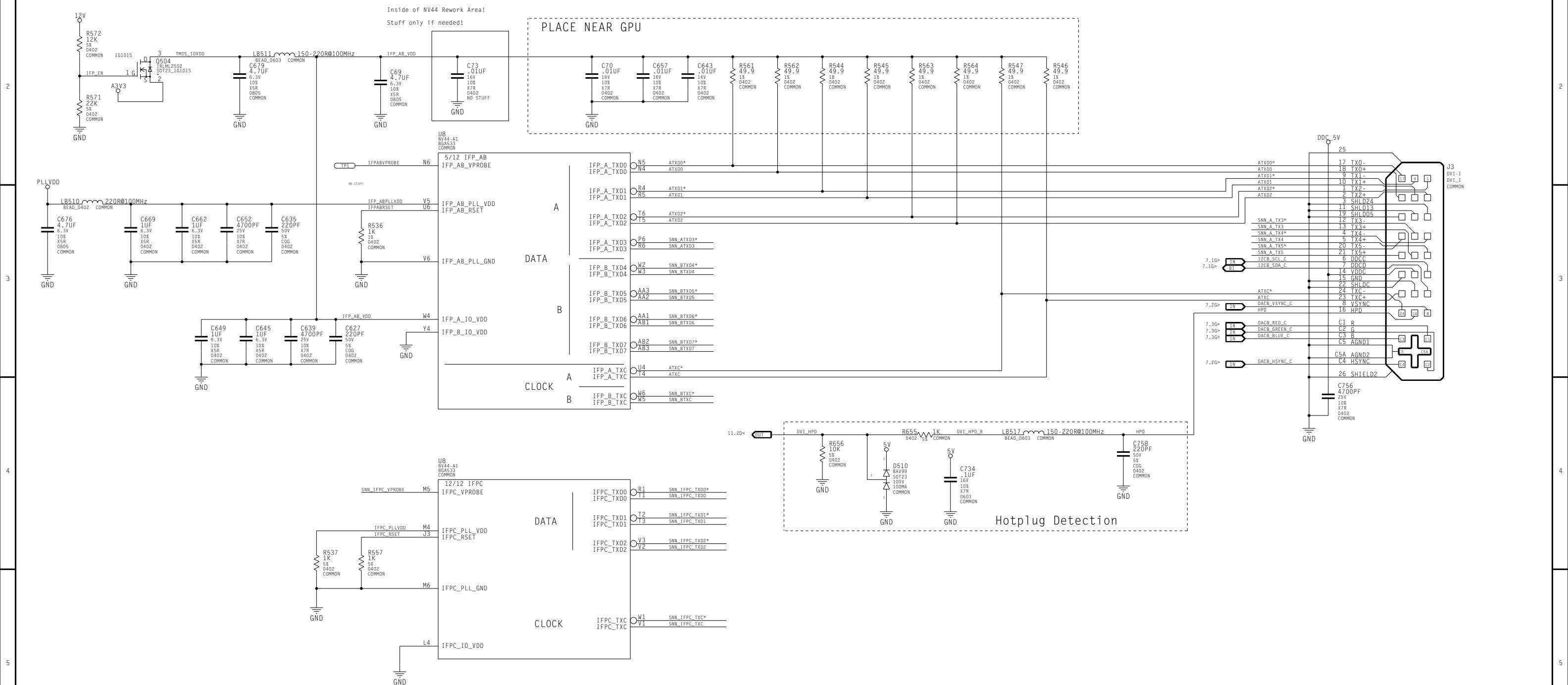
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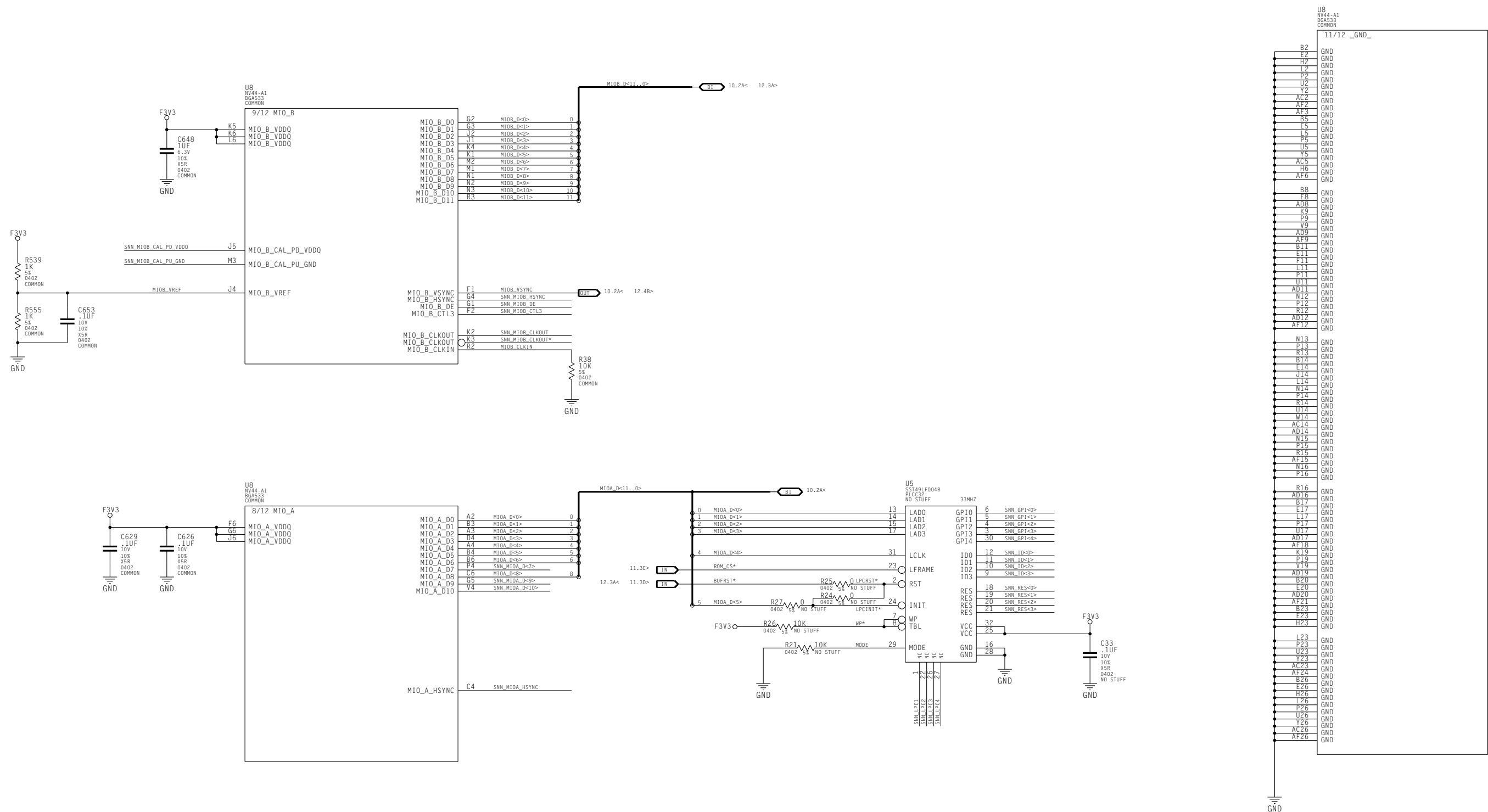
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Internal TMDS, DVI-Connector

Net Name	Diffpair	NET_SPACING_RULE	Voltage
IFP_ABPLLVD0			3.3V
IFP_AB_VDD			3.3V
ATXC	ATXC	25MIL	
ATXC*	ATXC	25MIL	
ATXD0	ATXD0	25MIL	
ATXD0*	ATXD0	25MIL	
ATXD1	ATXD1	25MIL	
ATXD1*	ATXD1	25MIL	
ATXD2	ATXD2	25MIL	
ATXD2*	ATXD2	25MIL	



MI0A, MI0B Interface, LPC-ROM



ASSEMBLY	LPC_ROM
PAGE DETAIL	MIOA, MIOB Interface, LPC-ROM

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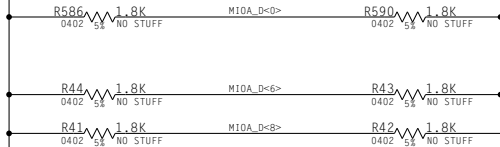
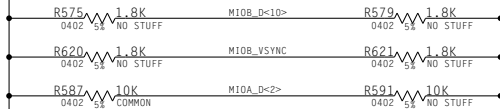
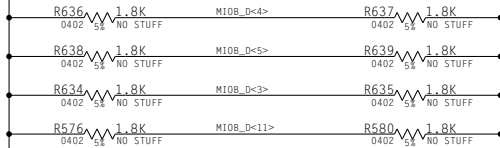
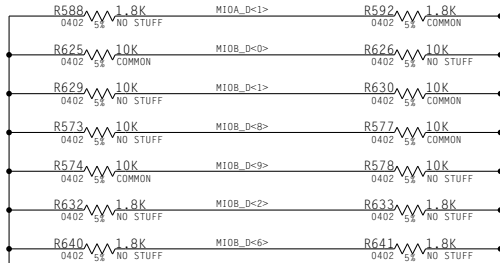
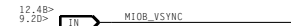
STRAPS, Mechanical Parts

NV44 STRAPS

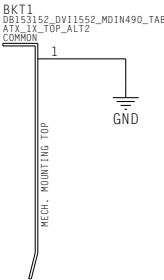
F3V3

Bit Signal

Values



00: PCI_AD_SWAP	0 REVERSED 1 NORMAL
01: SUB_VENDOR	0 NO_BIOS 1 READ FROM BIOS
02: RAM_CFG_0	0000 RFU 0001 8Mx1600R TSOP 0010 RFU 0011 RFU 0100 RFU 0101 RFU 0110 16Mx1600R TSOP 0111 RFU
03: RAM_CFG_1	1000 RFU 1001 RFU 1010 RFU 1011 RFU 1100 RFU 1101 RFU 1110 RFU 1111 RFU
04: RAM_CFG_2	
05: RAM_CFG_3	
06: CRYSTAL_0	00 13.500 Mhz 01 14.31818 Mhz 10 27.000 Mhz 11 UNKNOWN
22: CRYSTAL_1	
07: TV_MODE_0	00 SECAM 01 NTSC 10 PAL 11 CRT
08: TV_MODE_1	
09: AGP_30_8x	0 AGP8x ENABLED 1 AGP8x DISABLED
10: AGP_SBA	0 SBA ENABLED 1 SBA DISABLED
11: AGP_FASTWR	0 FW ENABLED 1 FW DISABLED
12: PCI_DEV10_0	1100 (default 0x00FC)
13: PCI_DEV10_1	
20: PCI_DEV10_2	
21: PCI_DEV10_3	
14: BUS_TYPE	0 PCI 1 AGP
15: FP_IFACE	0 24Bit 1 128Bit (DEFAULT)
23: FB_0	00 64M 01 128M 10 256M (DEFAULT) 11 512M
24: FB_1	
25: BR	0 BRIDGE DISABLED 1 BRIDGE ENABLED
26: BR_128M	BR BITS IGNORED IF BRIDGE IS DISABLED
27: BR_AGP	
28: BR_IO	
29: ROM_TYPE_0	00 PARALLEL 01 SERIAL_AT25F 10 SERIAL_SST45VF 11 LPC
30: ROM_TYPE_1	
16: USER_0	0000 (DEFAULT)
17: USER_1	
18: USER_2	
19: USER_3	
PEX_PLL_EN_TERM100	
3G10_PADCFG_LUT_ADDR[0]	
3G10_PADCFG_LUT_ADDR[1]	



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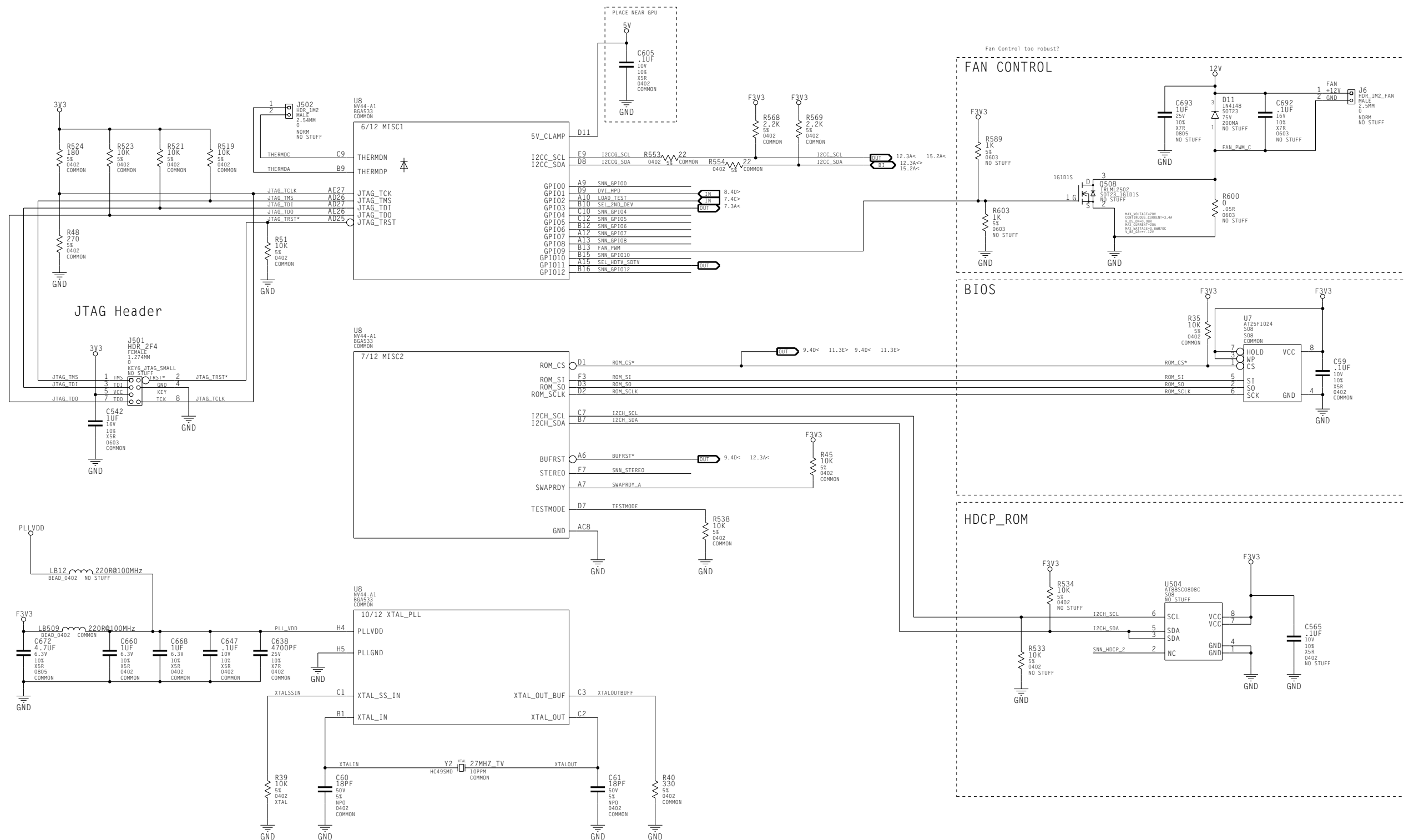



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XTAL, GPIO, BIOS, Fan Control, JTAG Headers

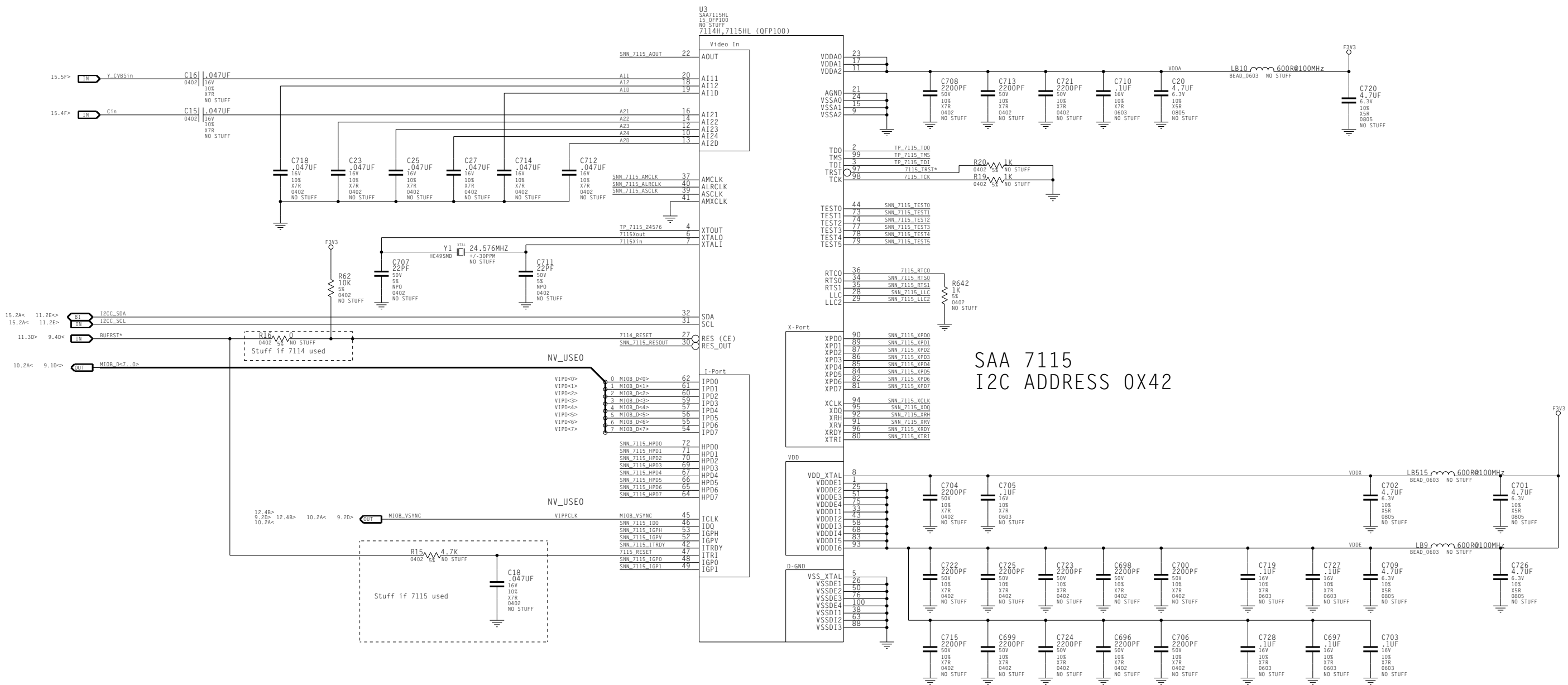
Net Name	NET_PHYSICAL_TYPE	NET_SPACING_RULE
XTALIN	5MIL_TRACE	20MIL
XTALOUT	5MIL_TRACE	20MIL
PLLVD0	12MIL_TRACE	10MIL
DISP_PLLVD0	12MIL_TRACE	10MIL



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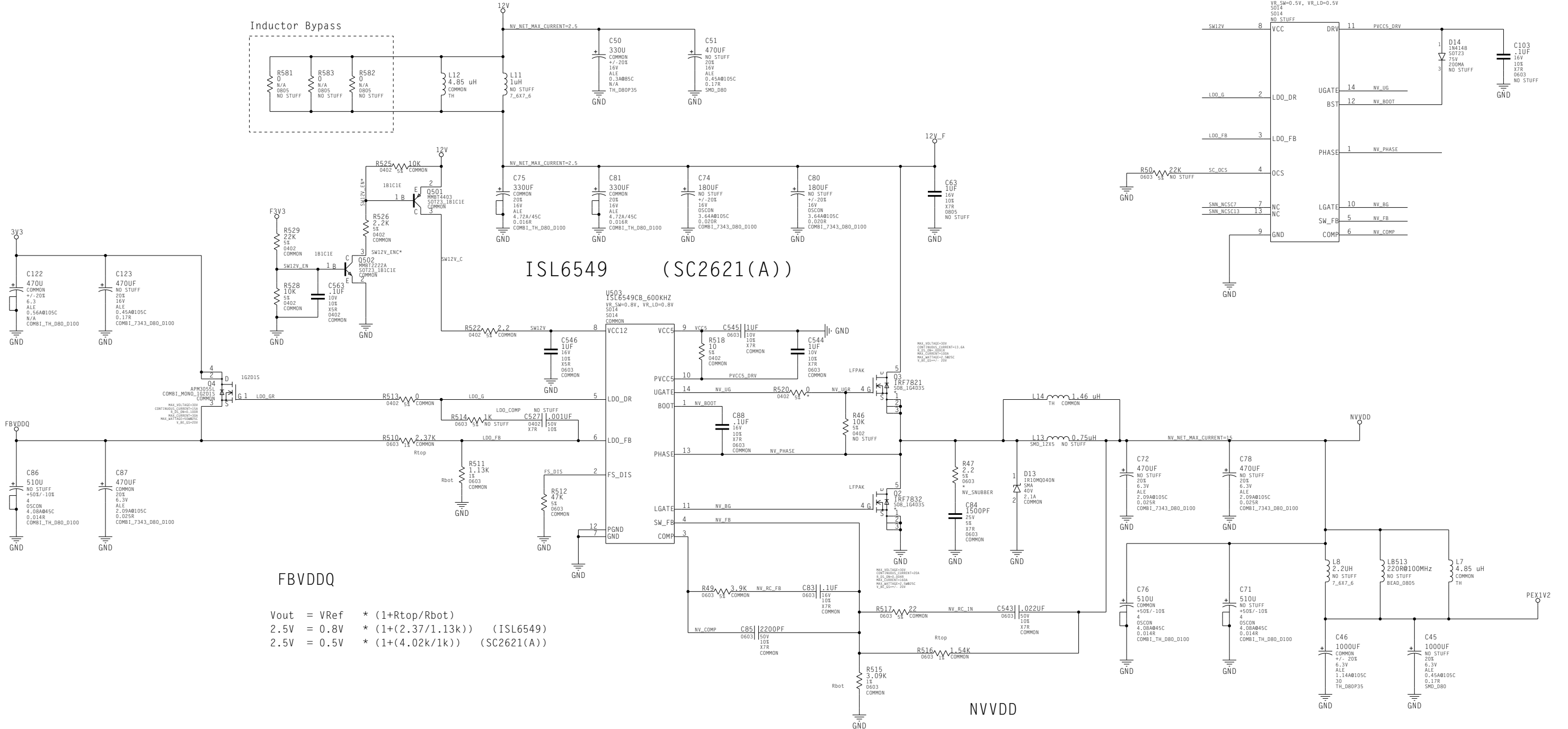
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VIDEO CAPTURE: SAA7115




PowerSupplyI: NVVDD, FBVDDQ

SC2621 (optional)



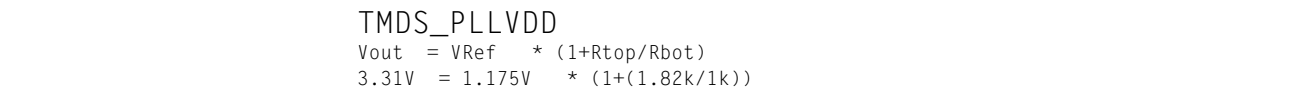
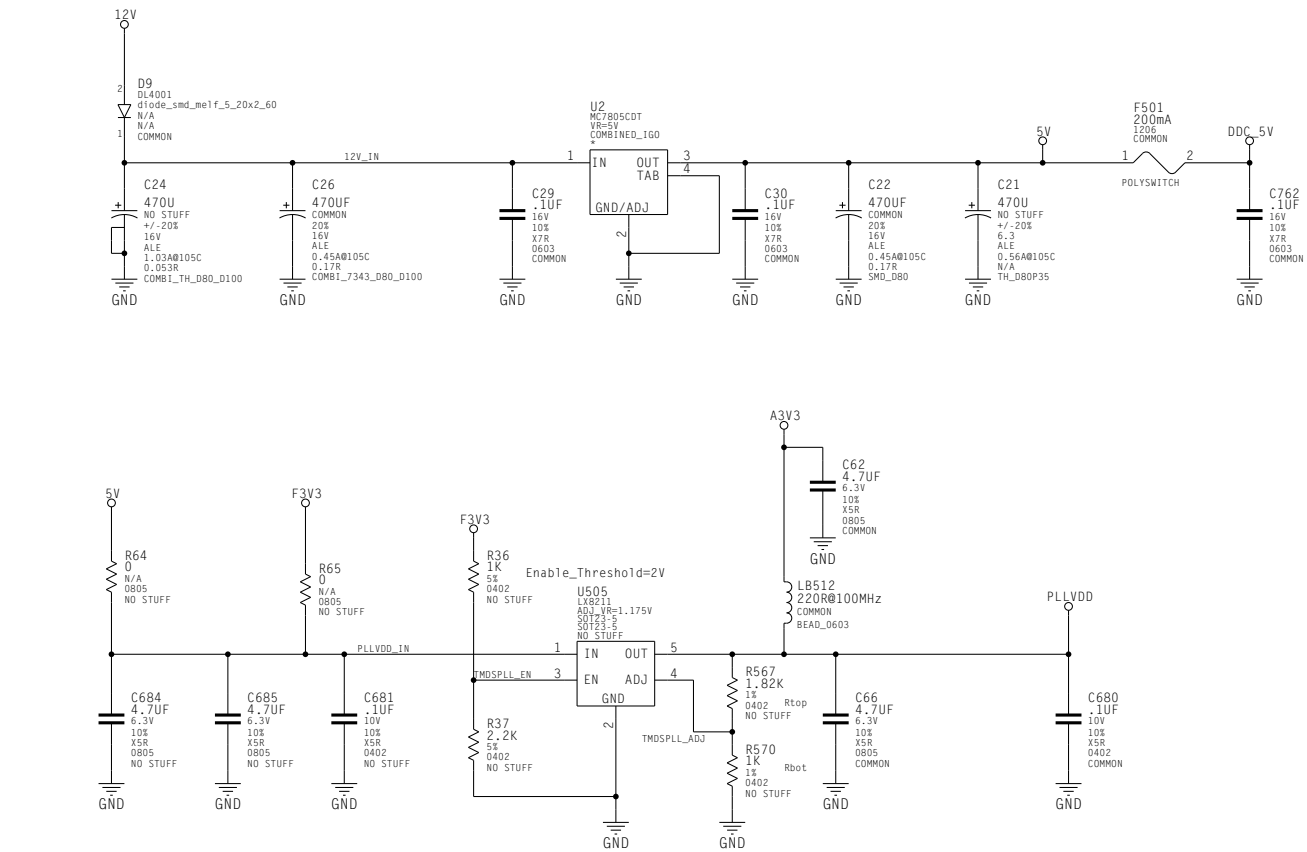
$$\begin{aligned} V_{out} &= V_{Ref} * (1 + R_{top}/R_{bot}) \\ 2.5V &= 0.8V * (1 + (2.37/1.13k)) \quad (ISL6549) \\ 2.5V &= 0.5V * (1 + (4.02k/1k)) \quad (SC2621(A)) \end{aligned}$$

$$\begin{aligned} V_{out} &= V_{Ref} * (1 + R_{top}/R_{bot}) \\ 1.2V &= 0.8V * (1 + (1.54k/3.09k)) && (ISL6549) \\ 1.2V &= 0.5V * (1 + (1.43k/1.02k)) && (SC2621) \end{aligned}$$

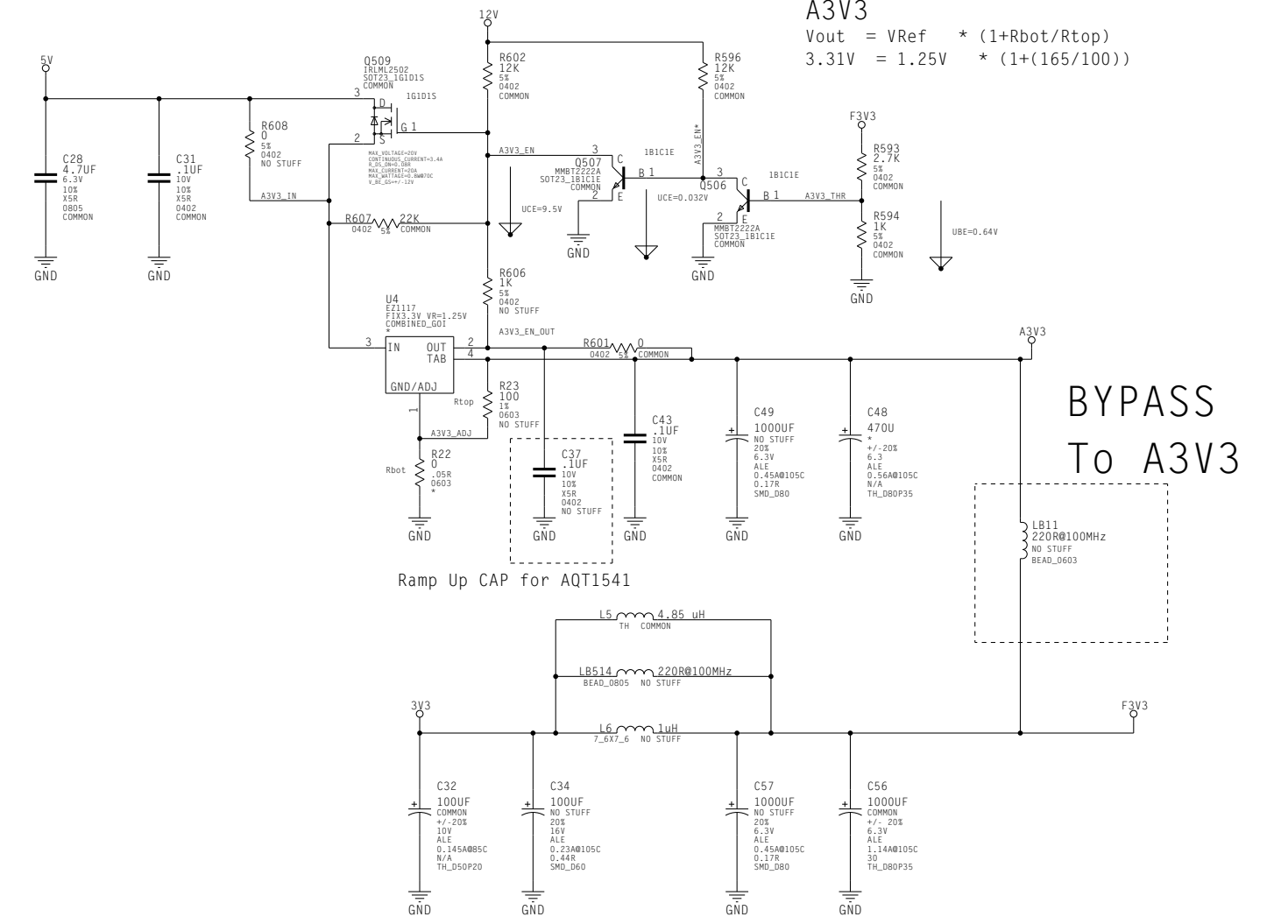
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PowerSupplyII: 5V, DDC5V, A3V3, F3V3, TMDS_PLLVDD



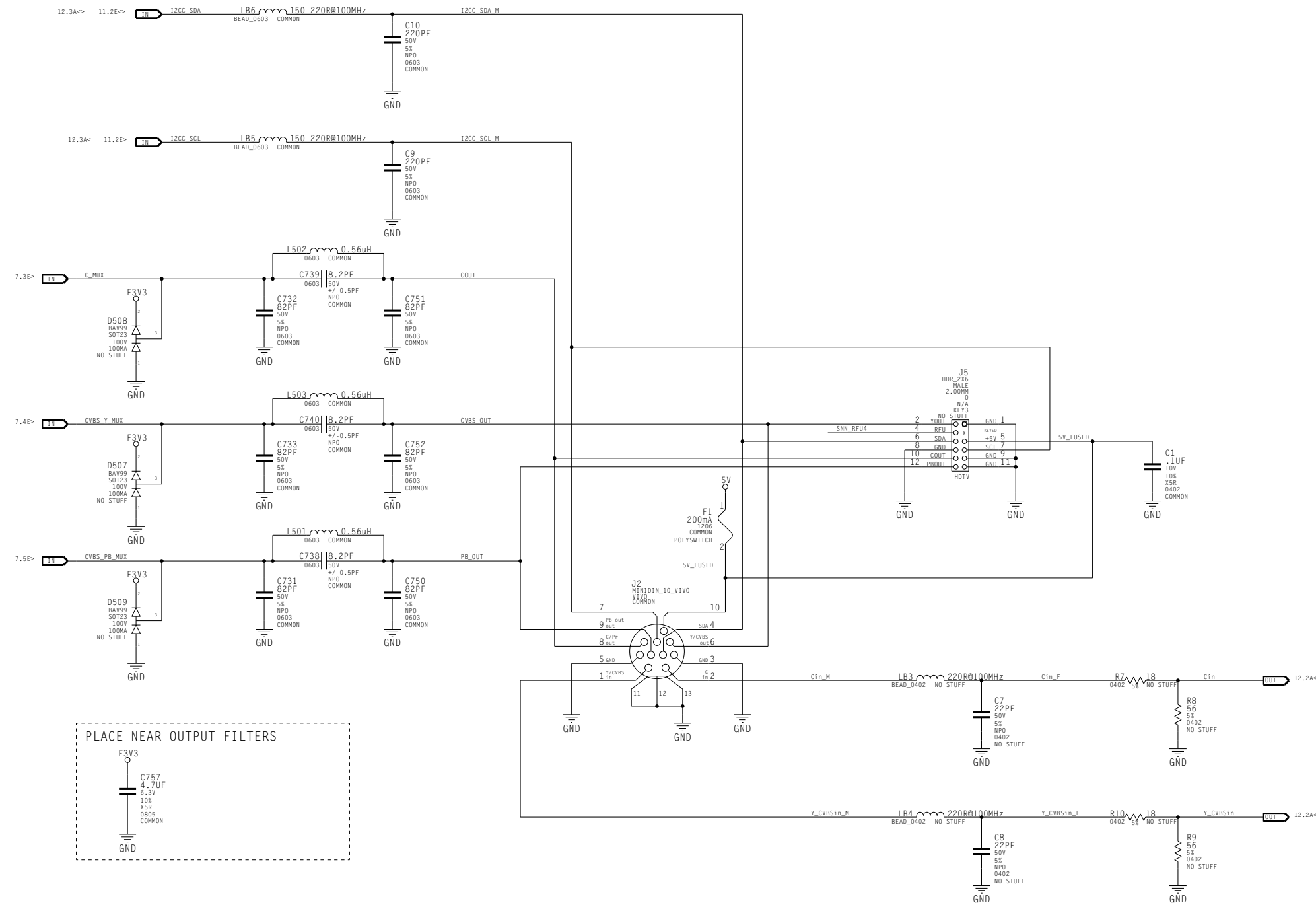
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5V	12M1L	5V
DDC_5V	12M1L	5V
A3V3	12M1L	3.3V
F3V3	12M1L	3.3V
PLLVD	12M1L	3.3V
12V_IN	12M1L	12V



Net Name	NET_PHYSICAL_TYPE	Voltage
5V	12M1L	5V
DDC_5V	12M1L	5V
A3V3	12M1L	3.3V
F3V3	12M1L	3.3V
PLLVD	12M1L	3.3V
12V_IN	12M1L	12V

VIDEO CONNECTORS: MiniDIN, 2x6 HDR

5V_FUSED 12MIL 5V



SC2621 (optional)

