

P501-A01 DESIGN -- G73, 256 MB DDR2, VGA, DVI-I, HDTV

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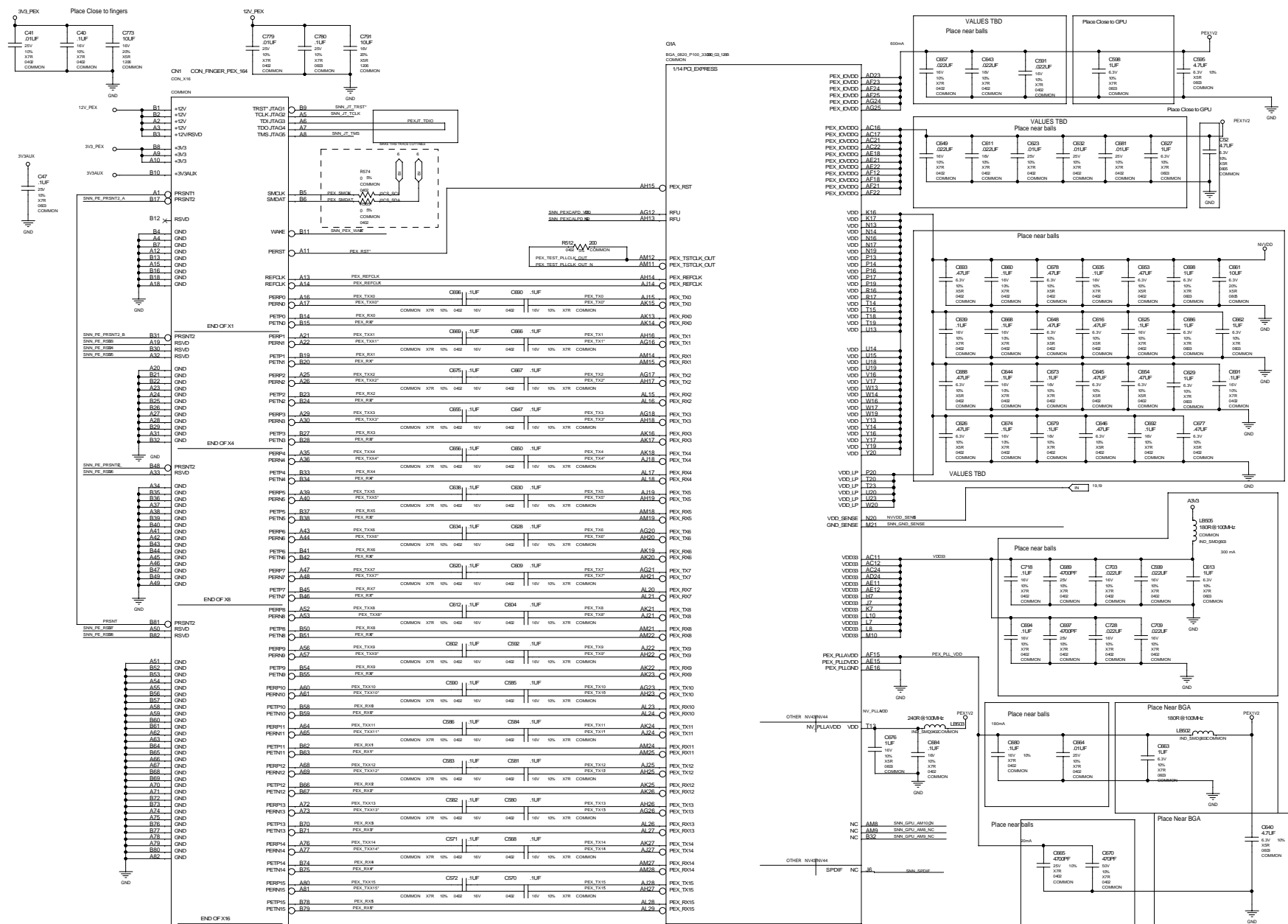
REV HISTORY

Base on P501_A01 modify

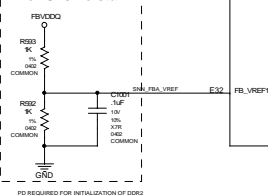
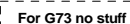
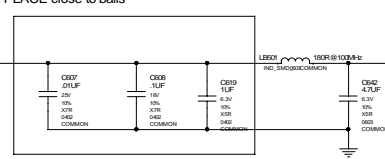
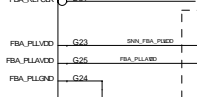
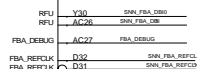
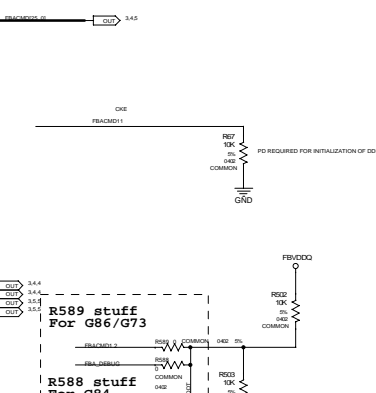
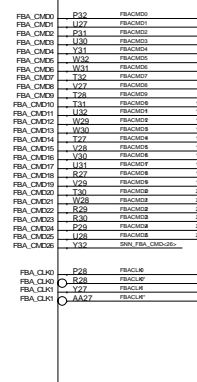
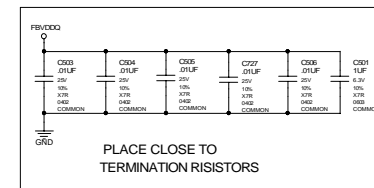
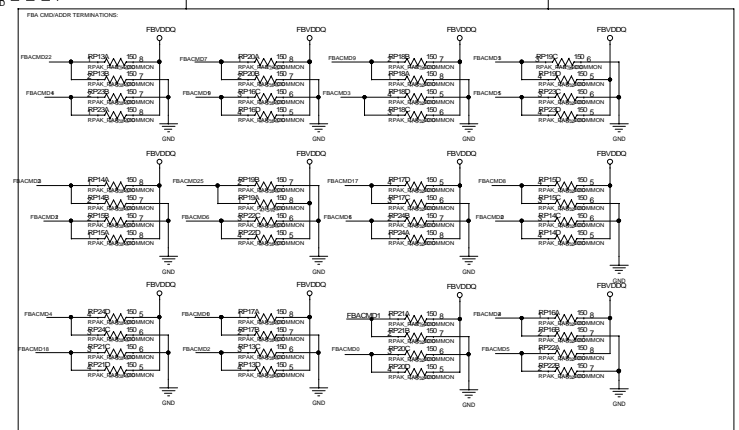
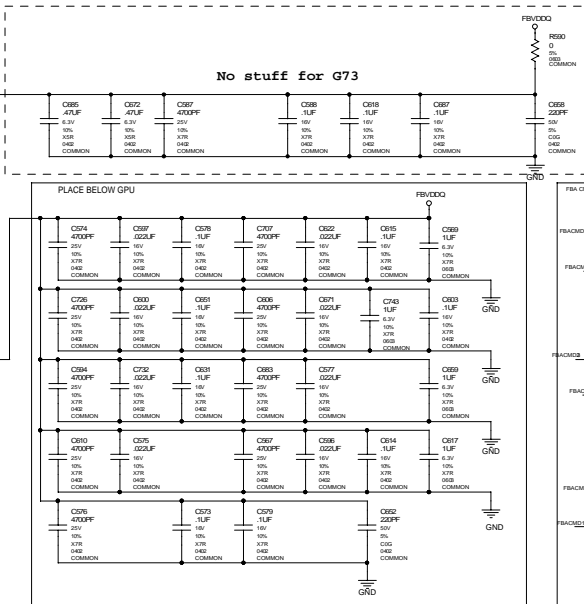
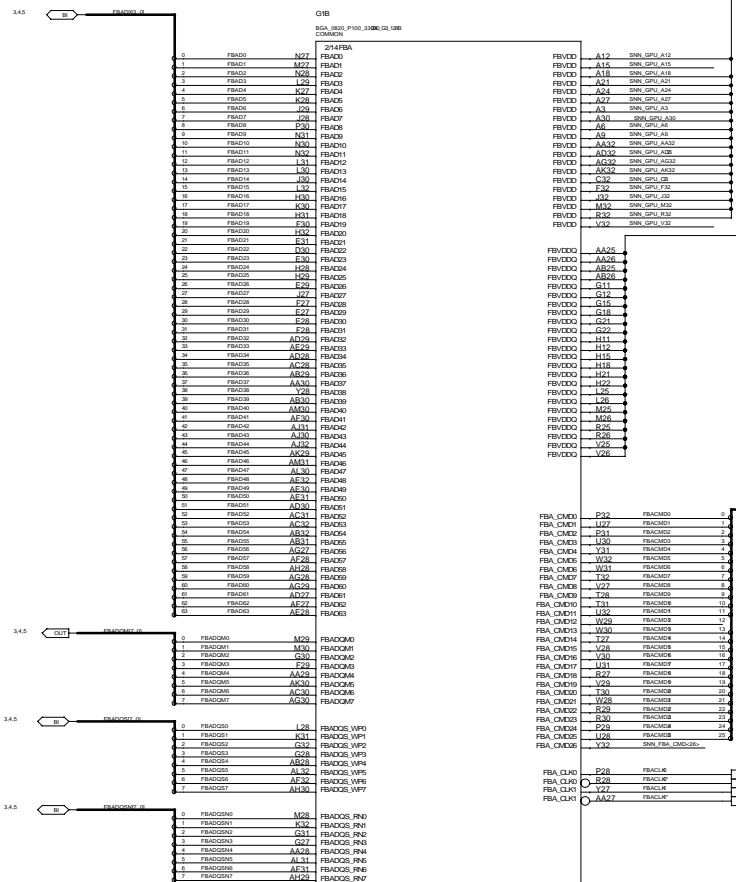
- 7/25-0A
- 1.PAGE:12 Removed TMDS C/D connecter
- 2.PAGE:10 Add DACC Fly cable DSub
- 9/26-0A
- 1.PAGE:10,16 revised DACA hotplug circuit
- 10/19-10
- 1.NA

REV	VARIANT	NURN	ASSEMBLY
B	000	600-10501-000-100	G73 400/350MHZ 256MB 128bit DDR2 16MX16 DVI+H/VGA+HDTV/CUP
1	001	600-10501-000-100	G73-V 375/300MHZ 256MB 128bit DDR2 16MX16 DVI+H/VGA+HDTV/CUP
2	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
3	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
4	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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11	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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16X PCIe Interface

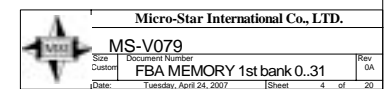
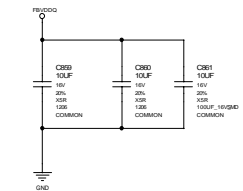
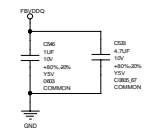
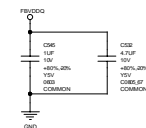
[illegible]

GPU: FB-Interface A



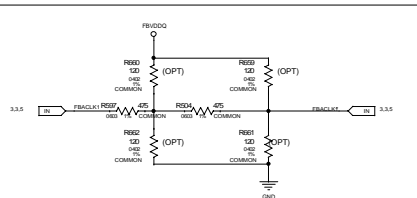
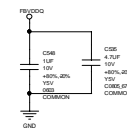
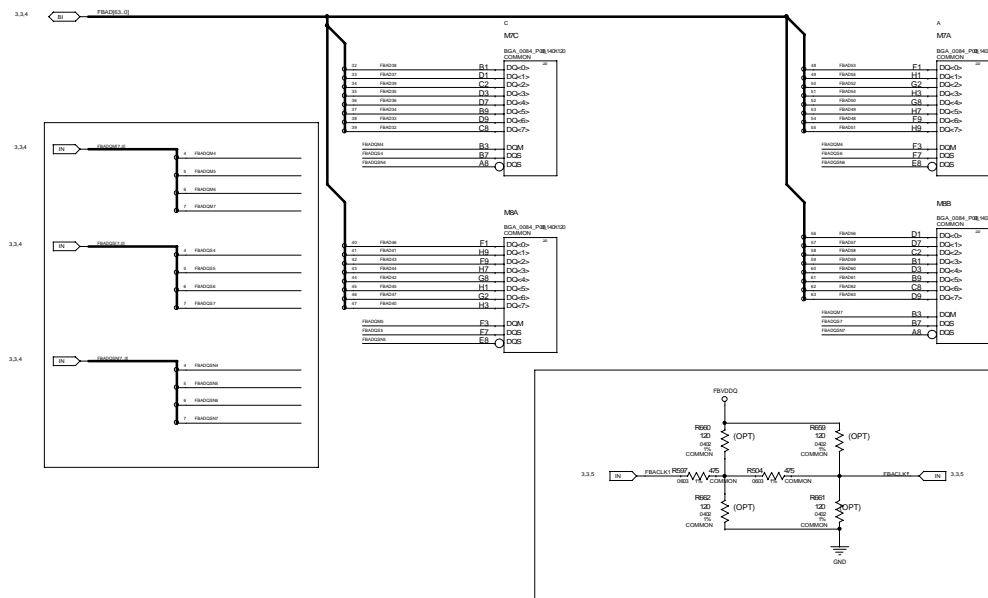
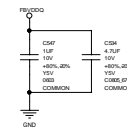
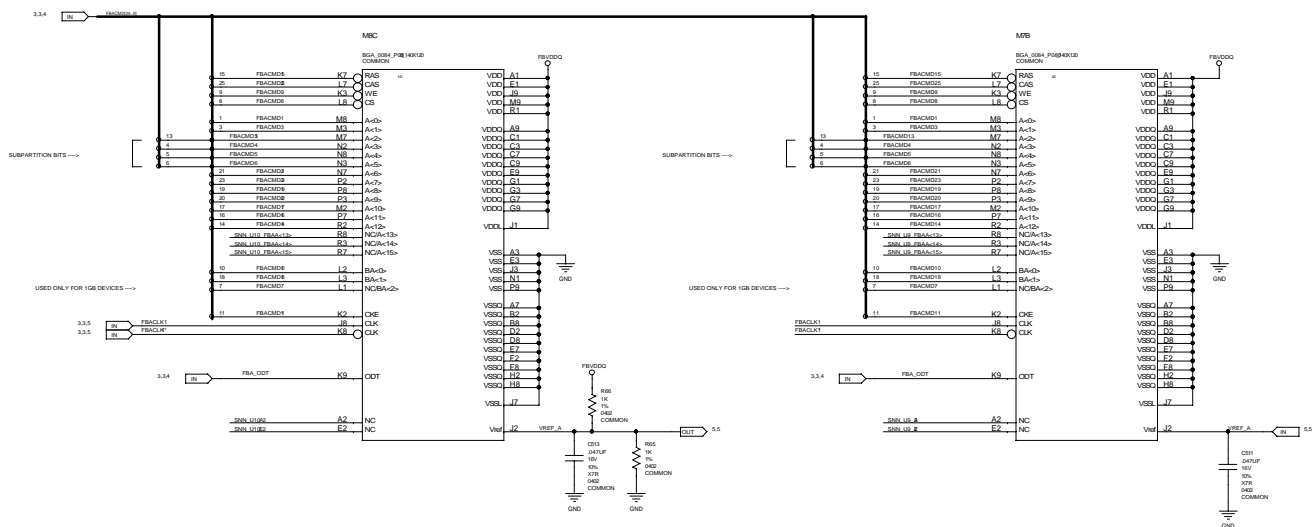
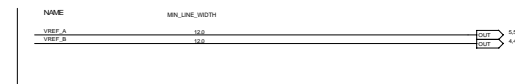
FBA MEMORY 1st bank 0..31

PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

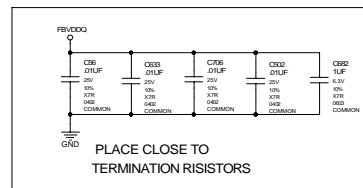
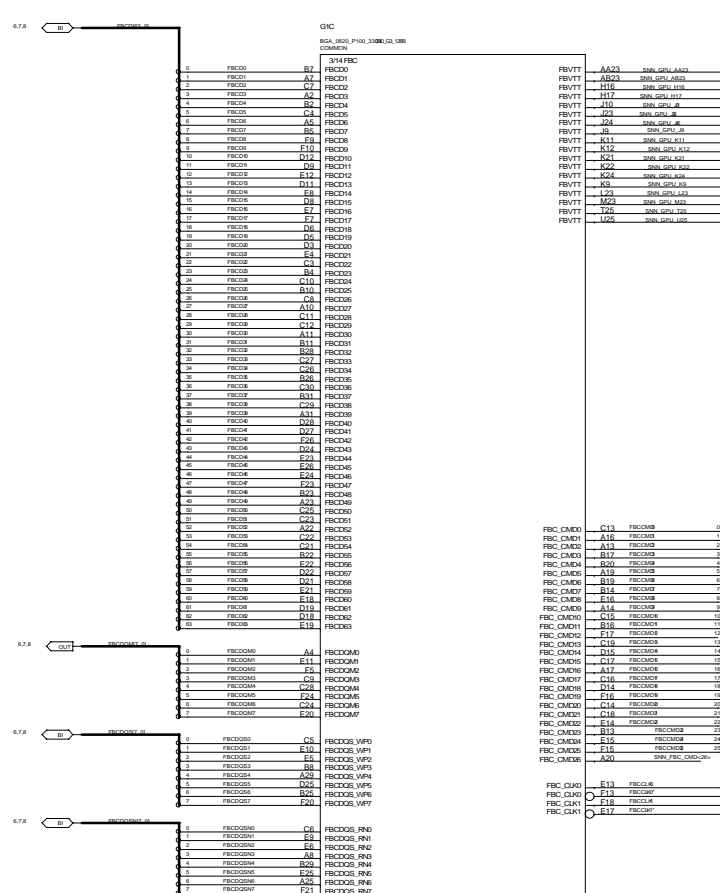


FBA MEMORY 1st bank 32..63

PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

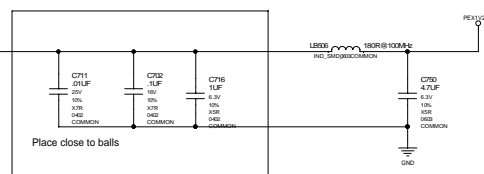
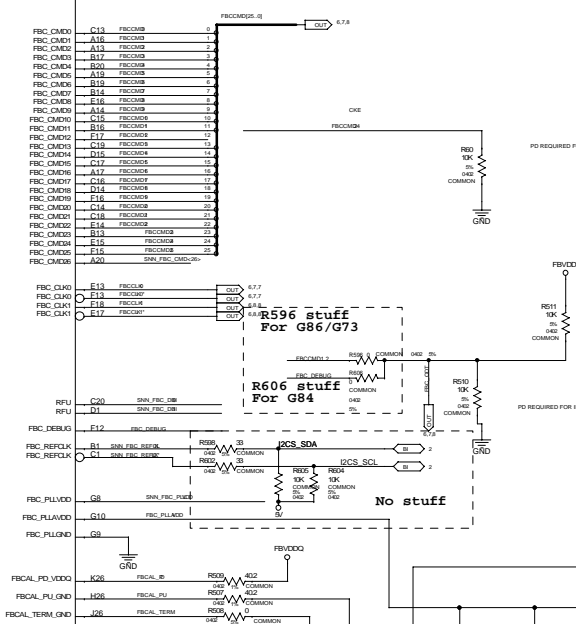
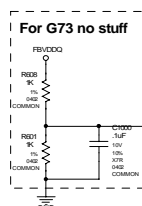
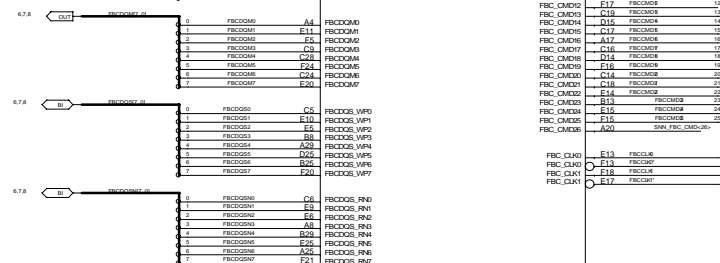
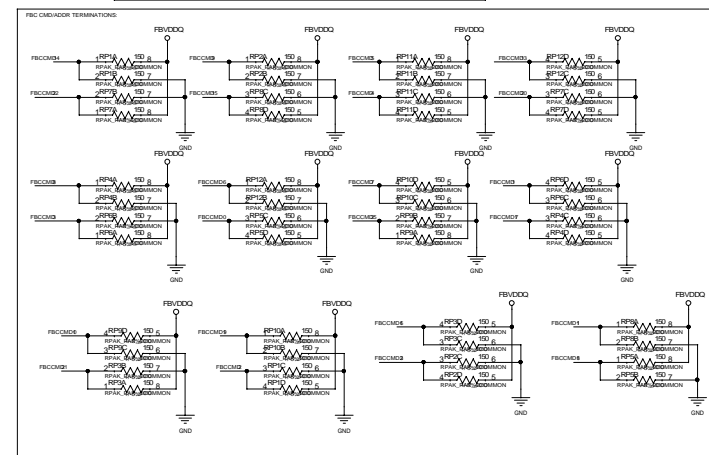


GPU: FB-Interface C



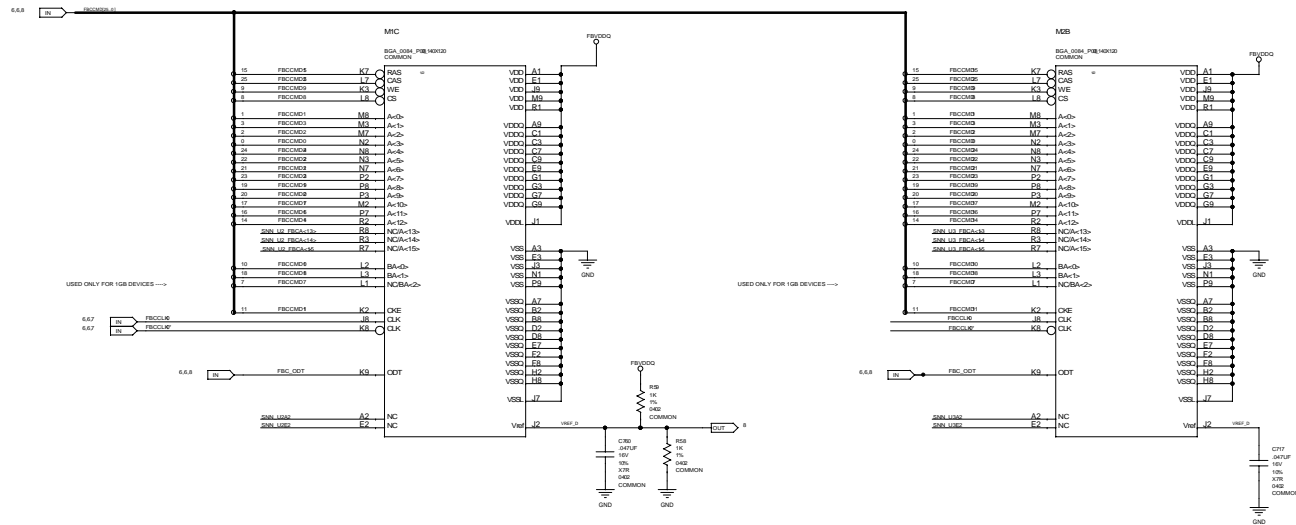
DDI2 OPERATION

- 1) During initialization CKE and OOT low
- 2) Runtime .. CKE High and OOT operated by debug routine
- 3) No termination risk for CKE or DEB

[illegible]

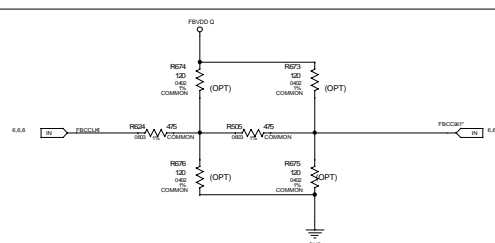
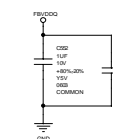
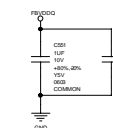
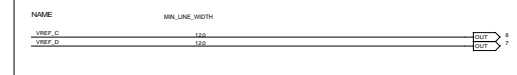
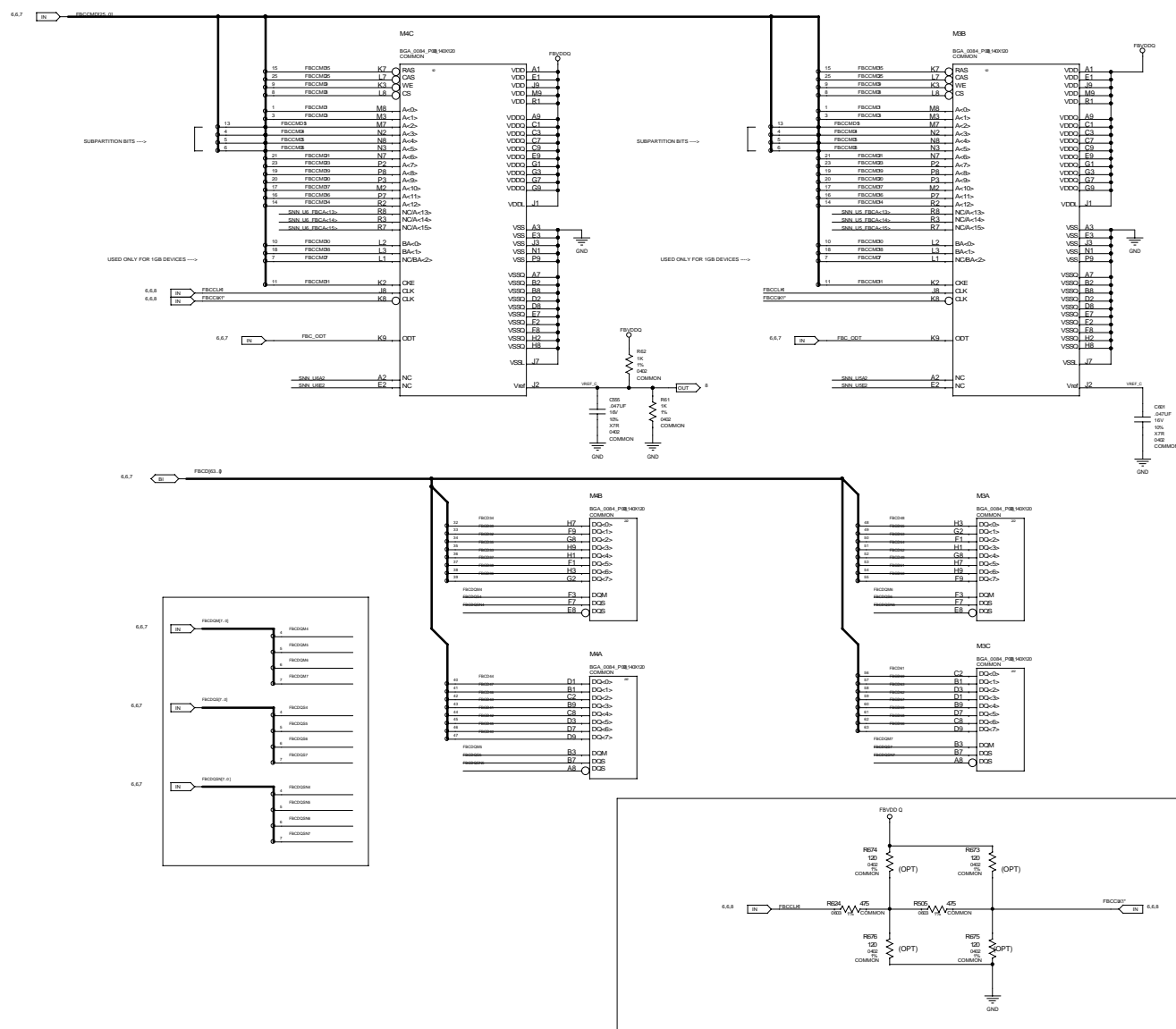
FBC MEMORY 2nd bank 0..31

PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY



FBC MEMORY 2nd bank 32..63

PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

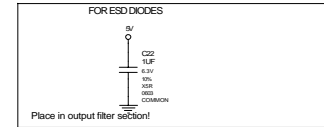
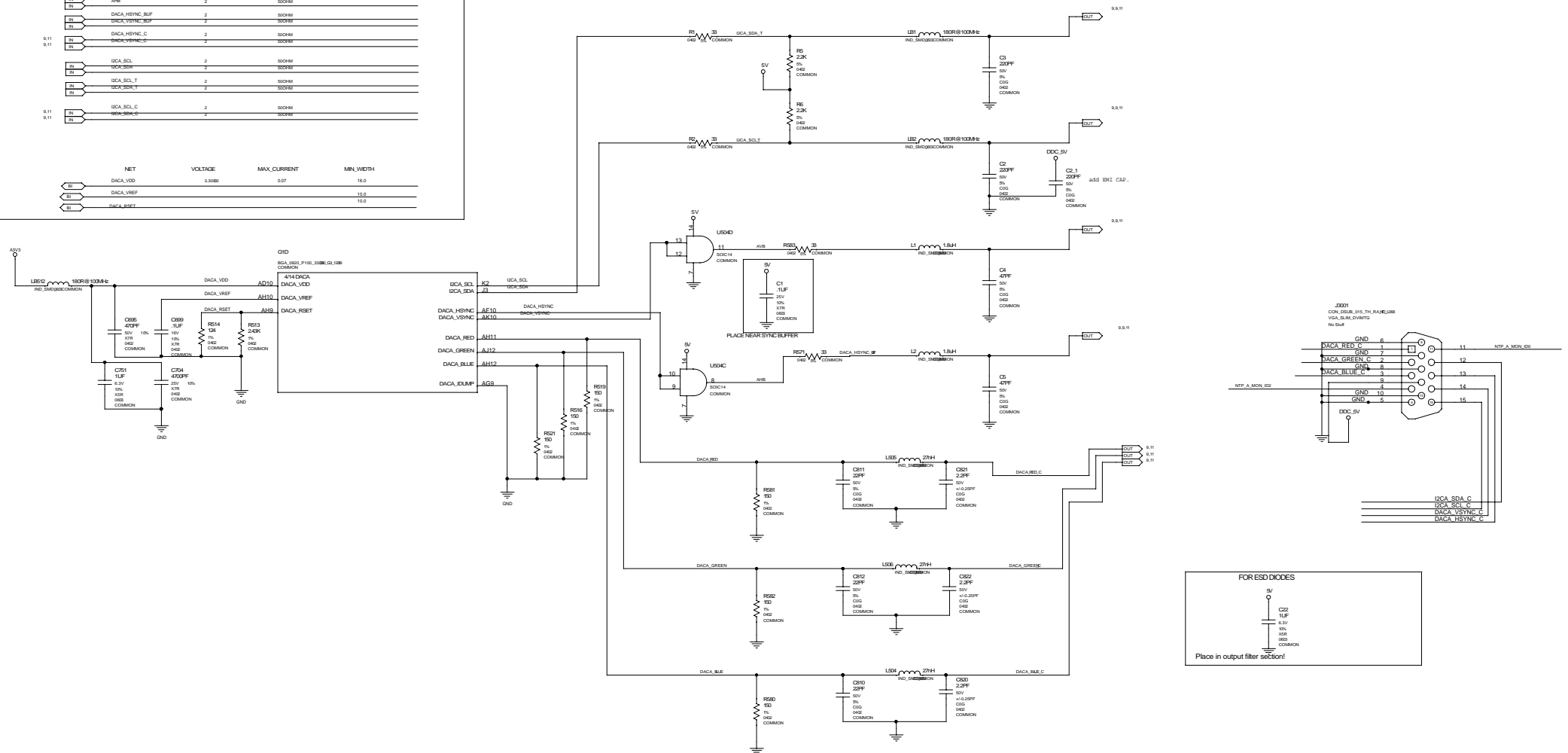


Primary Display (DACA), Slim DB15

DACA NET RULES

		IN_CRITICAL	IN_IMPEDANCE	DIFF_PAIR
	DACA_RED	1	500MM	
9.11	DACA_RED_VREF	1	500MM	
9.11	DACA_BLUE	1	500MM	
	DACA_RED_C	1	500MM	
9.11	DACA_RED_VREF_C	1	500MM	
9.11	DACA_BLUE_C	1	500MM	
	DACA_HSYNC	2	500MM	
	DACA_HSYNC_C	2	500MM	
	AVIF	2	500MM	
	FBIF	2	500MM	
	DACA_HSYNC_BUF	2	500MM	
	DACA_HSYNC_BUF_C	2	500MM	
9.11	DACA_HSYNC_C	2	500MM	
9.11	DACA_HSYNC_C_C	2	500MM	
	DCA_S0L	2	500MM	
	DCA_S0N	2	500MM	
	DCA_S0L_T	2	500MM	
	DCA_S0N_T	2	500MM	
9.11	DCA_S0L_C	2	500MM	
9.11	DCA_S0N_C	2	500MM	
	NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
	DACA_VDD	3.3000	0.07	16.0
	DACA_VREF			10.0
	DACA_RESET			10.0

DACA RGB-FILTER

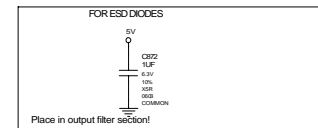
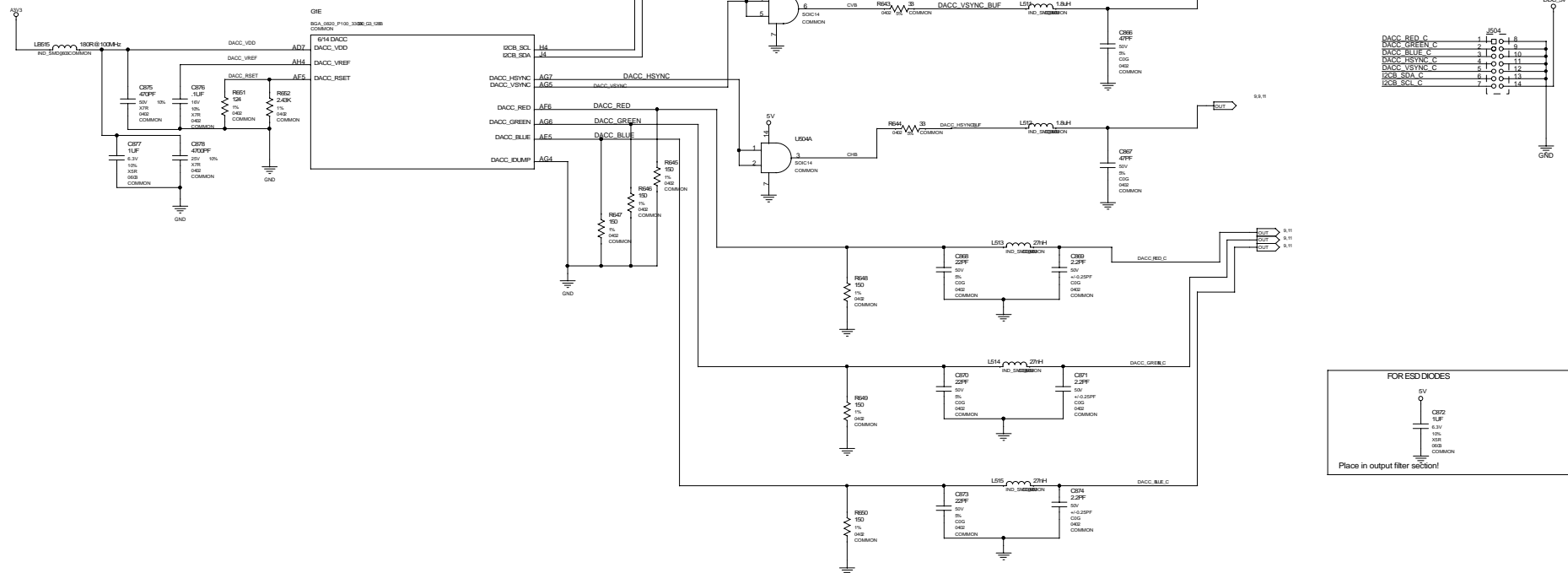


Secondary Display (DACC), DB15

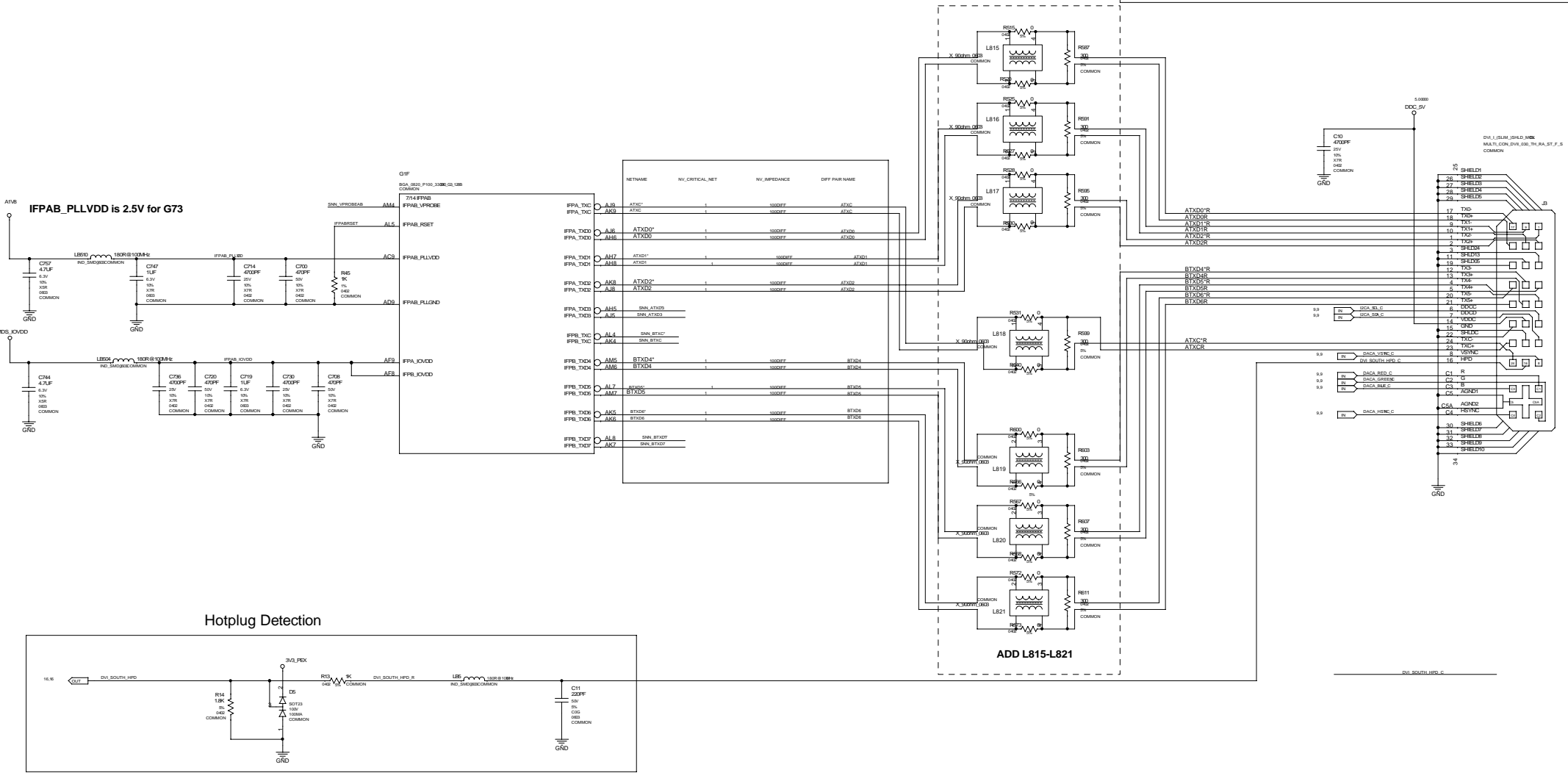
DACC NET RULES

IN	DACC_RED	1	SDCM
IN	DACC_GREEN	1	SDCM
IN	DACC_BLUE	1	SDCM
IN	DACC_RED_C	1	SDCM
IN	DACC_GREEN_C	1	SDCM
IN	DACC_BLUE_C	1	SDCM
IN	DACC_HSYNC	2	SDCM
IN	DACC_VSYNC	2	SDCM
IN	CUB	2	SDCM
IN	CHD	2	SDCM
IN	DACC_HSYNC_BUF	2	SDCM
IN	DACC_VSYNC_BUF	2	SDCM
IN	DACC_HSYNC_C	2	SDCM
IN	DACC_VSYNC_C	2	SDCM
IN	DCR_SCL	2	SDCM
IN	WBK_SDA	2	SDCM
IN	DCR_SCL_T	2	SDCM
IN	WBK_SDA_T	2	SDCM
IN	DCR_SCL_C	2	SDCM
IN	WBK_SDA_C	2	SDCM

	NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
BI	DACC_VDD	3.30000	0.07	16.0
BI	DACC_VREF			10.0
BI	DACC_RSET			10.0



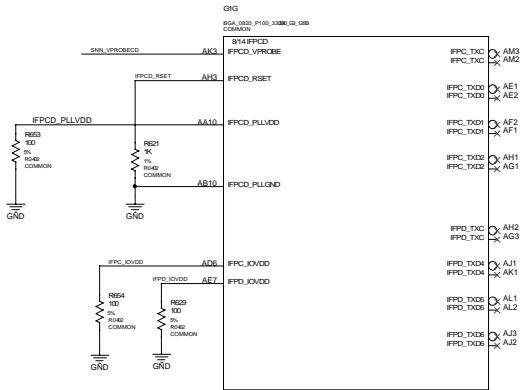
INTERNAL TMDS .. LINK A & B



IFPAB NET RULES

	NET	IV_CRITICAL	IV_IMPEDANCE	DIFFPAIR
	NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
	IFPAB_PLVDD	3.3000	0.04	16.0
IN	IFPAB_ODD0	3.3000	0.24	16.0
IN	IFPABSET			12.0
IN	DIV_SOUTH_HPO_C	1	500MM	
IN	DIV_SOUTH_HPO_S	1	500MM	

INTERNAL TMDS .. LINK C



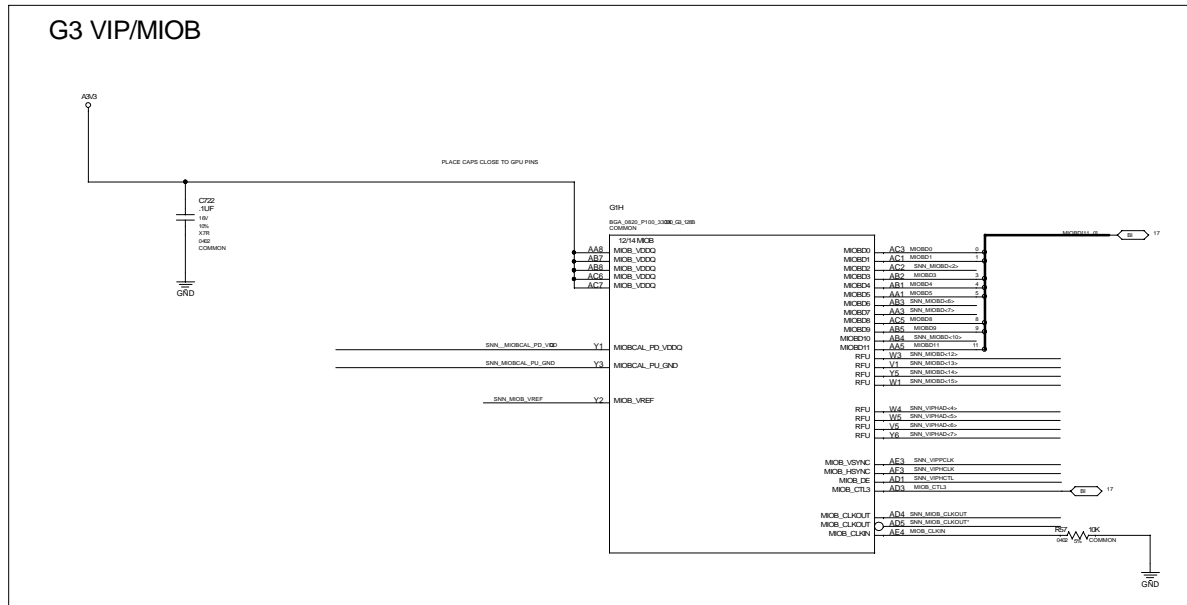
CEC pullup and clamping must be disconnected from HDMI  flow down

IFPAB NET RULES

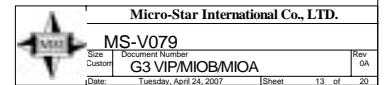
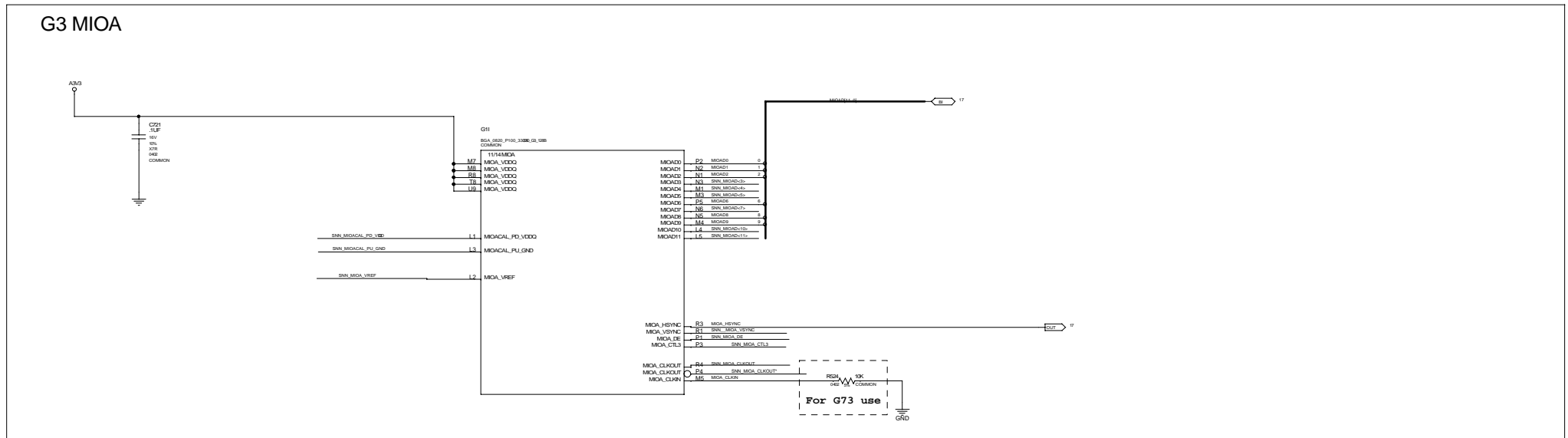
NET		NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
11	IFPAB_RESET	1	50OHM	
	ENV_MID_IFPAB_C	1	50OHM	
	ENV_MID_IFPAB_B	1	50OHM	
NET		VOLTAGE	MAX_CURRENT	MIN_WIDTH
11	IFPAB_PULLUP	3.3000	0.04	16.0
	IFPAB_PULLDOWN	2.7000	0.12	16.0
	IFPAB_PULLDOWN	1.000000	1	16.0

G3 VIP/MIOB/MIOA

G3 VIP/MIOB









G3 MIOA



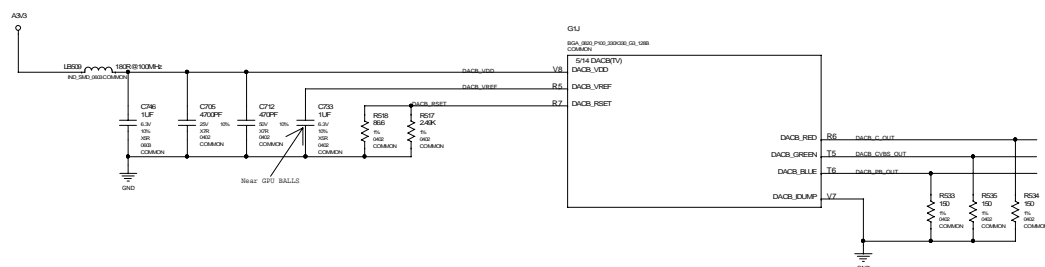
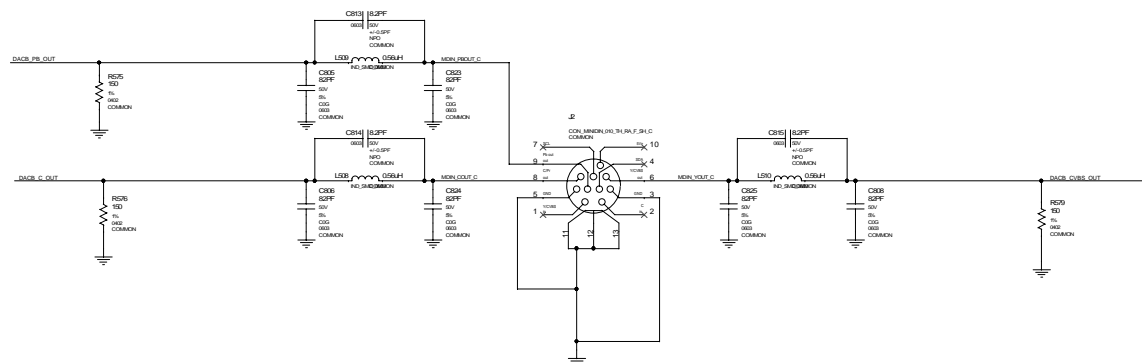
DACB .. MiniDIN VIDEO OUT CONNECTOR

DACB .. MiniDIN VIDEO OUT CONNECTOR

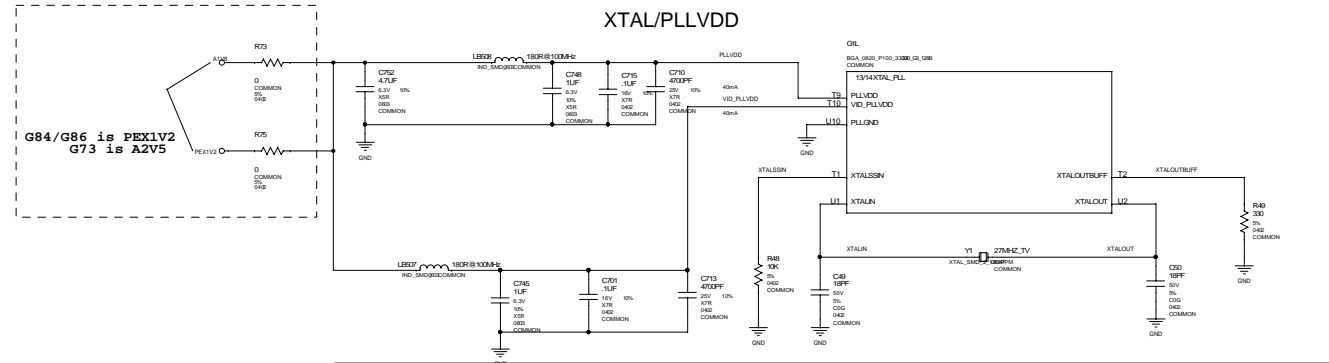
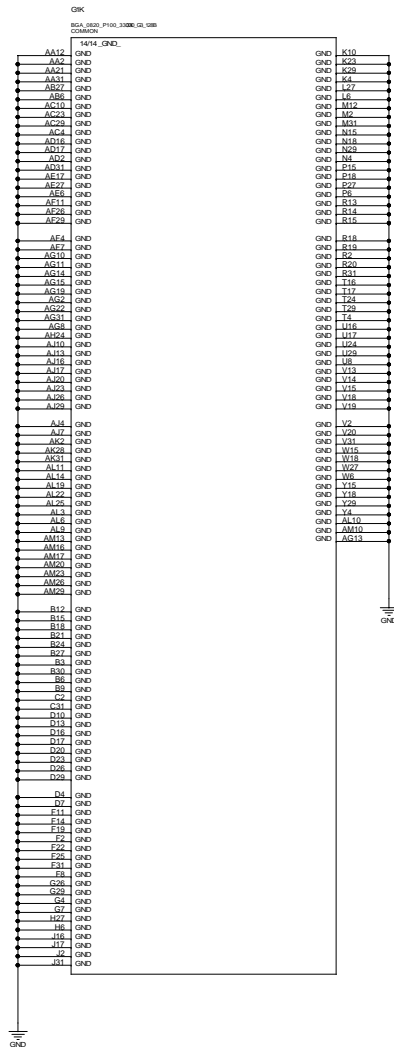
DACB NET RULES

	NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
	DACB_C_OUT	1	SOHM	
	MINI_VOUT_C		SOHM	
	DACB_CVSS_OUT	1	SOHM	
	MINI_VOUT_C	1	SOHM	
	DACB_PS_OUT	1	SOHM	
	MINI_IBOUT_C	1	SOHM	

	NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
IN	DACS_VDD	3.30000	0.07	16.0
IN	DACS_VREF			16.0
IN	DACS_RESET			16.0

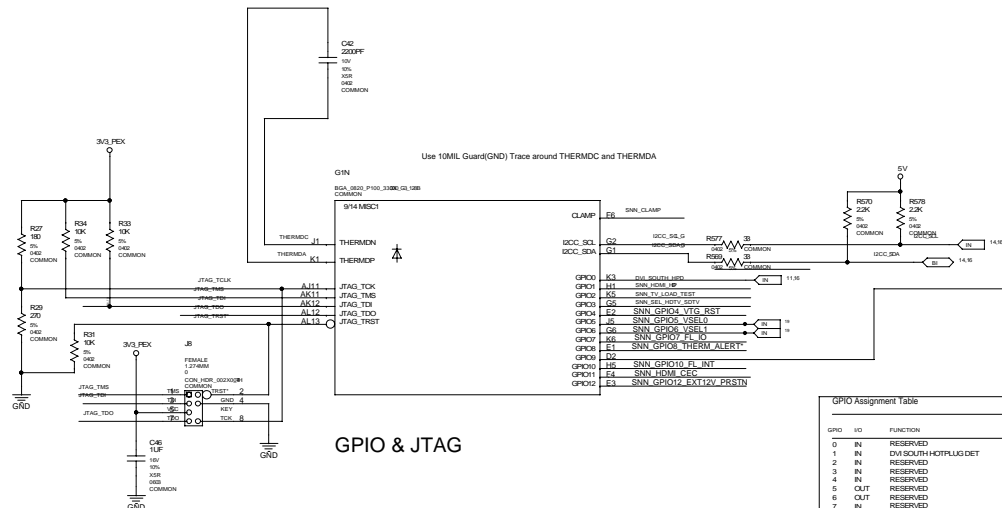


GND/XTAL/PLLVDD



	NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
IN	XTALIN	1	500m	
IN	XTALOUI	1	500m	
	NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
IN	PW_VDD	2.0V	0.5	120M
IN	VDD_PULVDD	2.0V	0.5	12.0

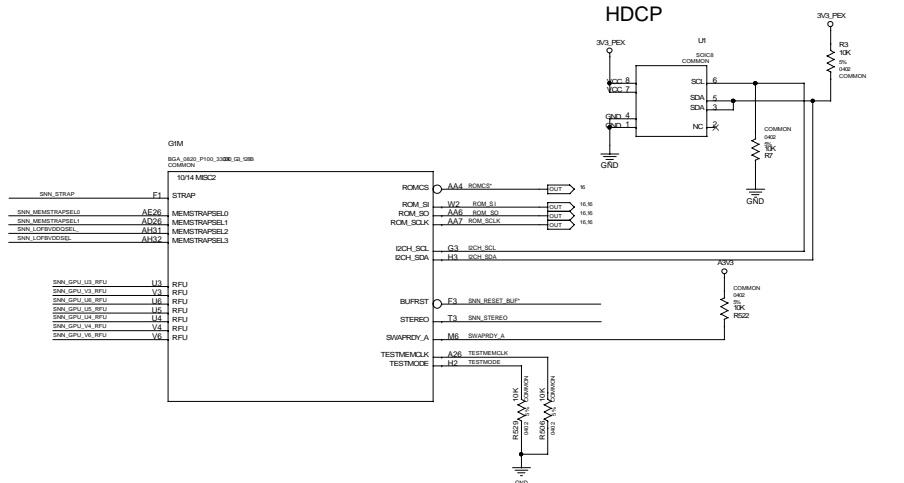
GPIO / JTAG / HDCP / BIOS / SPDIF



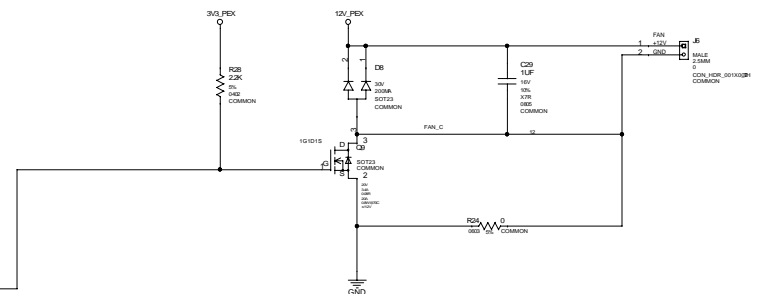
GPIO Assignment Table

GPIO	IO	FUNCTION
0	IN	RESERVED
1	IN	DIV3OUTH_HOPPLUGDET
2	IN	RESERVED
3	IN	RESERVED
4	IN	RESERVED
5	OUT	RESERVED
6	OUT	RESERVED
7	IN	RESERVED
8	IN	RESERVED
9	OUT	FAN COMBINATION(OFF)
10	OUT	RESERVED
11	IN	RESERVED
12	IN	RESERVED

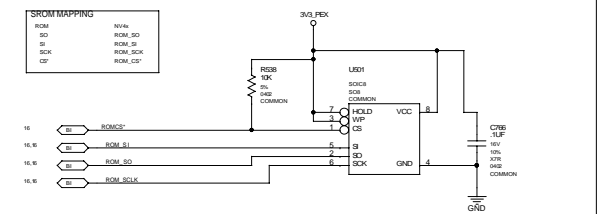
HDCP



GPIO ON/OFF FAN Control



BIOS (serial)



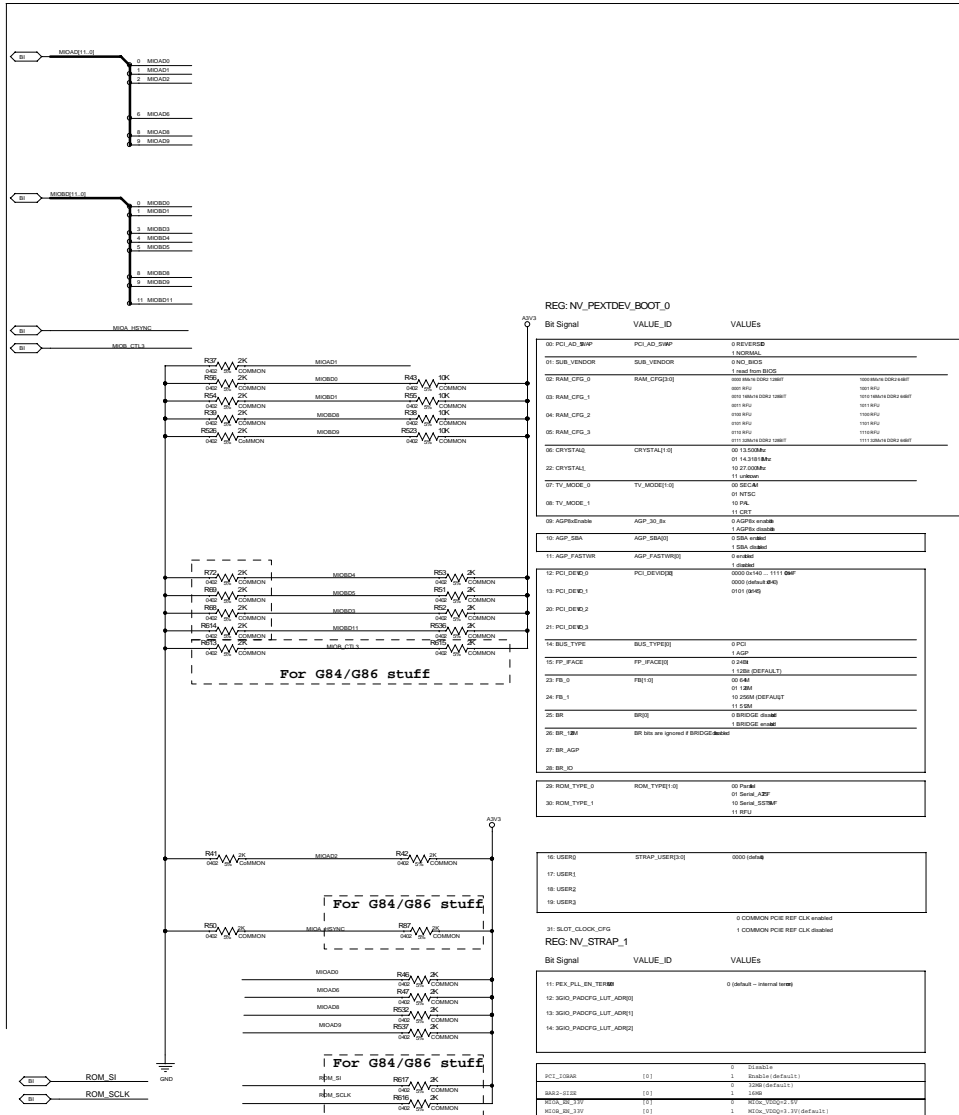
MISC NET RULES

NET	IO	FUNCTION	IO	FUNCTION
14, 15	IN	DCC_SCL	2	SOC0A
14, 15	IN	DCC_SDA	2	SOC0A
14, 15	IN	DCC_SDA_0	2	SOC0A
14, 15	IN	DCC_SDA_1	2	SOC0A
14, 15	IN	DCC_SDA_2	2	SOC0A
14, 15	IN	DCC_SDA_3	2	SOC0A
14, 15	IN	DCC_SDA_4	2	SOC0A
14, 15	IN	DCC_SDA_5	2	SOC0A
14, 15	IN	DCC_SDA_6	2	SOC0A
14, 15	IN	DCC_SDA_7	2	SOC0A
14, 15	IN	DCC_SDA_8	2	SOC0A
14, 15	IN	DCC_SDA_9	2	SOC0A
14, 15	IN	DCC_SDA_10	2	SOC0A
14, 15	IN	DCC_SDA_11	2	SOC0A
14, 15	IN	DCC_SDA_12	2	SOC0A
14, 15	IN	DCC_SDA_13	2	SOC0A
14, 15	IN	DCC_SDA_14	2	SOC0A
14, 15	IN	DCC_SDA_15	2	SOC0A
14, 15	IN	DCC_SDA_16	2	SOC0A
14, 15	IN	DCC_SDA_17	2	SOC0A
14, 15	IN	DCC_SDA_18	2	SOC0A
14, 15	IN	DCC_SDA_19	2	SOC0A
14, 15	IN	DCC_SDA_20	2	SOC0A
14, 15	IN	DCC_SDA_21	2	SOC0A
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14, 15	IN	DCC_SDA_23	2	SOC0A
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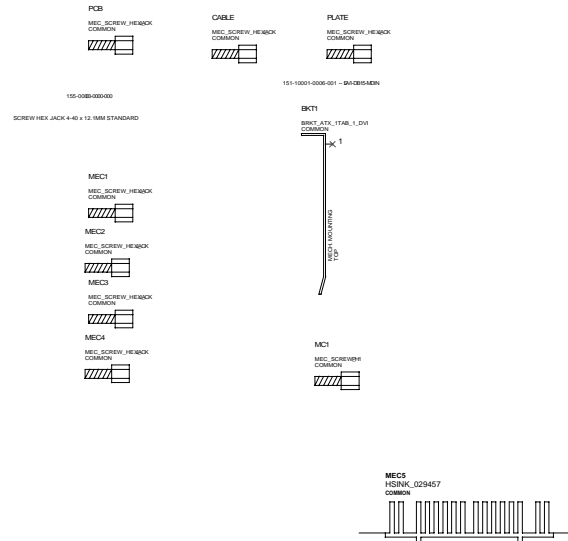
STRAPS, Mechanical Parts

Straps

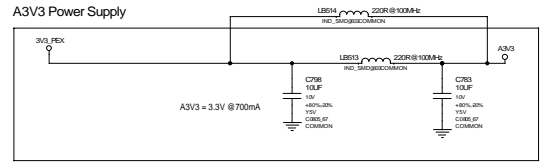
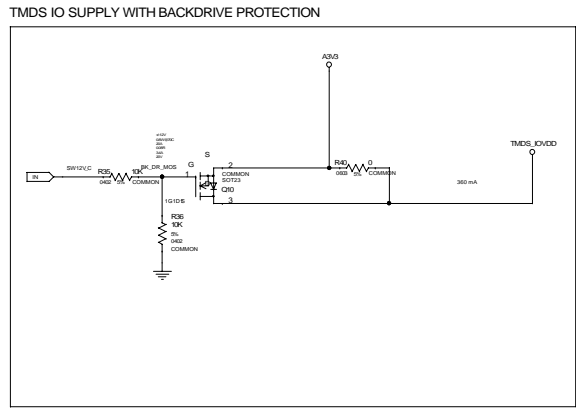
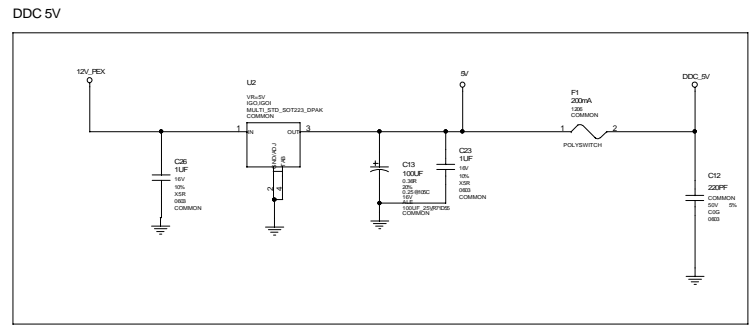
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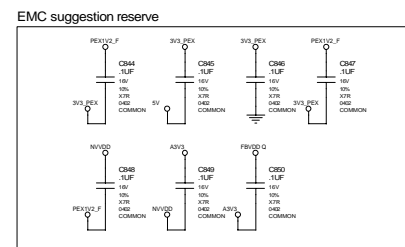
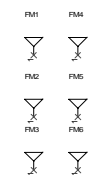
Mechanical parts



Power Supply:TMDS_IOVDD/A3V3/5V/DAC_REF

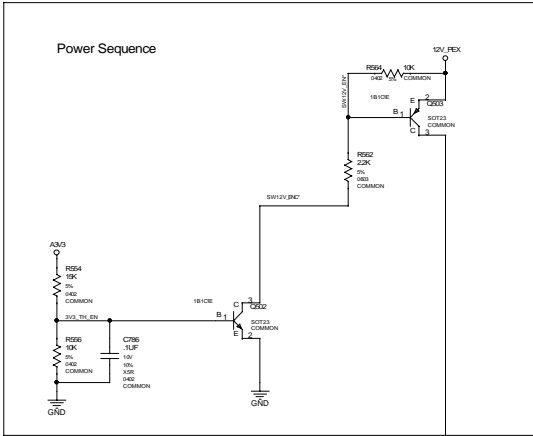


NETNAME	MAX_CURRENT	MIN_LINE_WIDTH	VOLTAGE
DDC_5V	500mA	12.0	5.0000
A3V3	700mA	25.0	3.3000
TMDS_IOVDD	300mA	30.0	3.3000
A3V3	700mA	25.0	3.3000
5V	500mA	35.0	5.0000



PowerSupply: NVVDD, A2V5

Net Name	LINE_WIDTH	Current	Voltage
12V_F	12V_F	3000	12.000
NV_VDD	NV_VDD	1000	1.200
PEX_VDD	PEX_VDD	1000	1.200
2.18	NV_VDD_SENSE	1000	1.2V
2.19	NV_VDD_SENSEB	1000	1.2V



ISL6549(SC2621A)

C795 change to 12K for APW7068 OCP
R565 remove for APW7068

Reserve for
RT9259A OCP

28A

A1V8
 $V_{out} = V_{ref} * (1 + R_{top}/R_{bot})$
 $2.48V = 0.8V * (1 + (3.32k/1.07k))$ (ISL6549)
 $2.5V = 0.5V * (1 + (4.53k/1.13k))$ (SC2621A)
 $1.8V = 0.8V * (1 + (1.27k/1.1k))$ (ISL6549)

NV_VSE1	NV_VSEB	NV_VDD
0	0	1.05V
0	1	1.21V (DEFAULT)
1	0	1.17V
1	1	1.32V

NV_VDD_GPIO5
NV_VDD_GPIO6

NV_VDD
 $V_{out} = V_{ref} * (1 + R_{top}/R_{bot})$
 $1.2V = 0.8V * (1 + (1.54k/3.09k))$ (ISL6549)
 $1.2V = 0.5V * (1 + (14.7k/10.5k))$ (SC2621A)
 $1.153V = 0.8V * (1 + (1.18k/2.67k))$ (ISL6549)

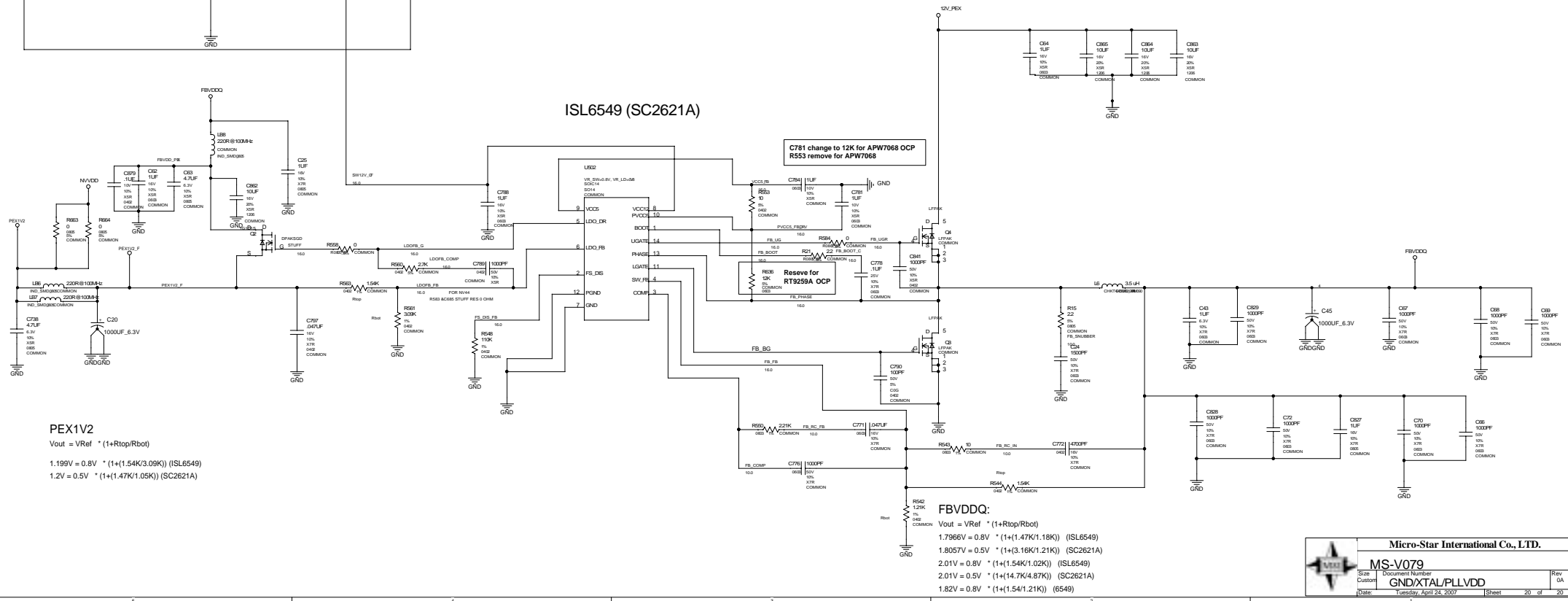
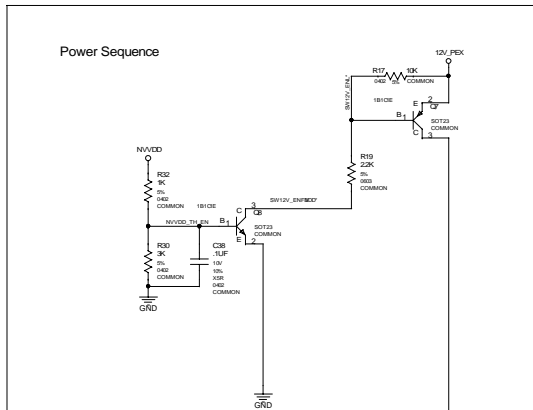



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PowerSupplyIII: FBVDDQ, PEX1V2



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