

C116-B, NV18B/NV31/NV34, 8MX16DDR, 64MB, VIDEO OUT, VGA

Page Overview

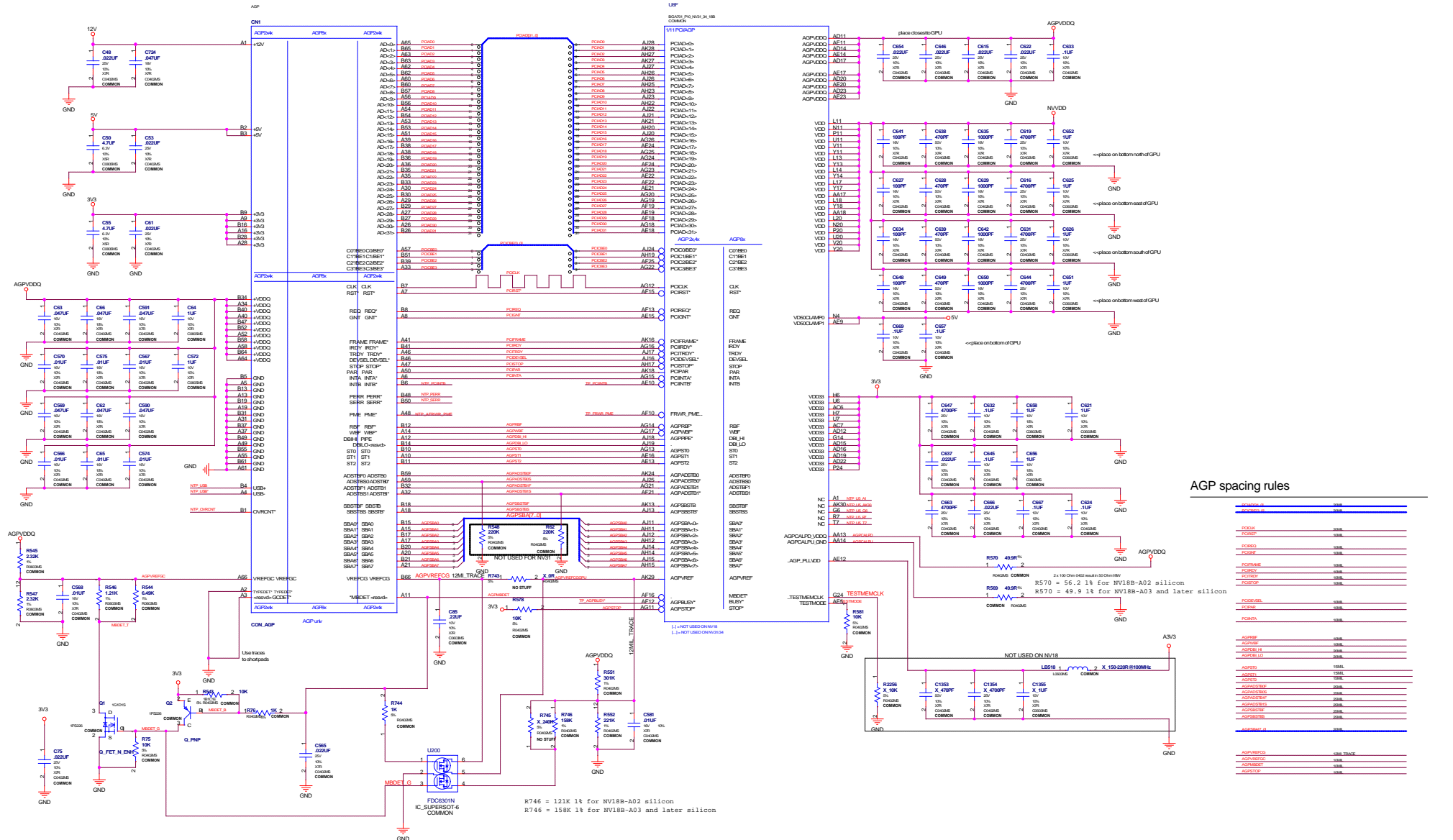
- 1 C116B PAGE OVERVIEW
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- 4 MEMORY 64MB, 8Mx16DDR Bits 0..31
- 5 MEMORY 64MB, 8Mx16DDR Bits 32..63
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- 7 NV18B DACA, DACB output, SYNC amplifier & PLL Section
- 8 PRIMARY DISPLAY Filter and Connector
- 9 NV18 TMDS Power, VIDEO OUT CONNECTOR
- 10 POWER SUPPLY & A3V3 & FBVDDQ & NVVDD & FBVDD
- 11 MECHANICS

HISTORY:

0B

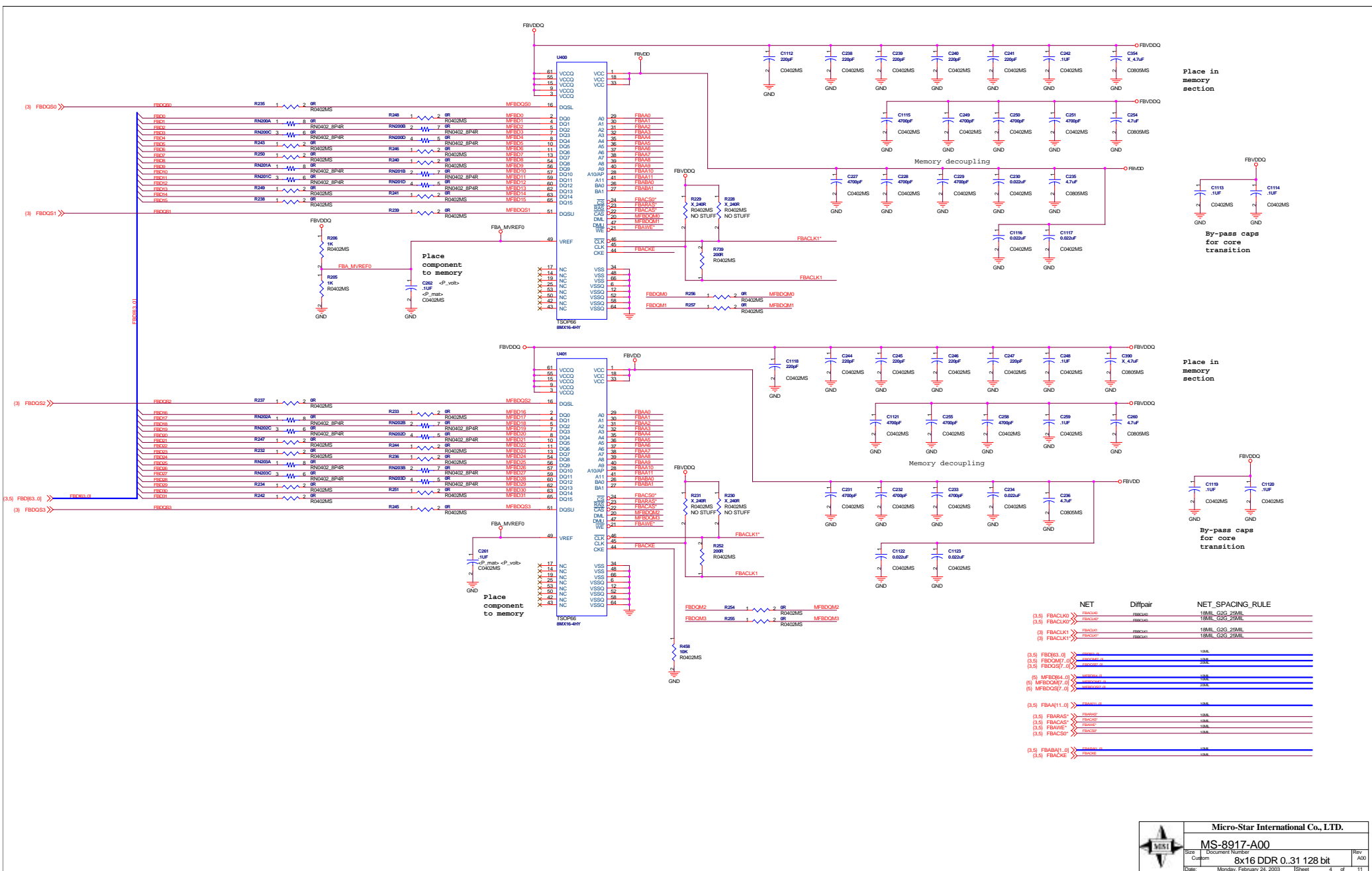
- B00: INITIAL VERSION
- 1. Change the 11 pcs component footprint of SOT23 to 1P226
 - 2. Check the P/N & footprint for C1362.
 - 3. Check the signal quality for Address/Command with long stub length.
 - 4. Change memory P/N to Samsung M12-K4D26K2-S02.
 - 5. Change FBVDD power from 3V3 to FBVDDQ for Samsung M12-K4D26K2-S02 part.
 - 6. Change PCB P/N.
 - 7. Change Bracket P/N.
 - 8. Enhance thermal PAD for Q3.
 - 9. Enhance power channel for NVVDD in layer 2.
 - 10. Check the signal quality for net AGPST1.
 - 11. Check EMI solution.
 - 12. Check if L2 & C1098 mount or not.
 - 13. Add Composite connector & relative component.
 - 14. C1339, C1333, C1338 default not mount.

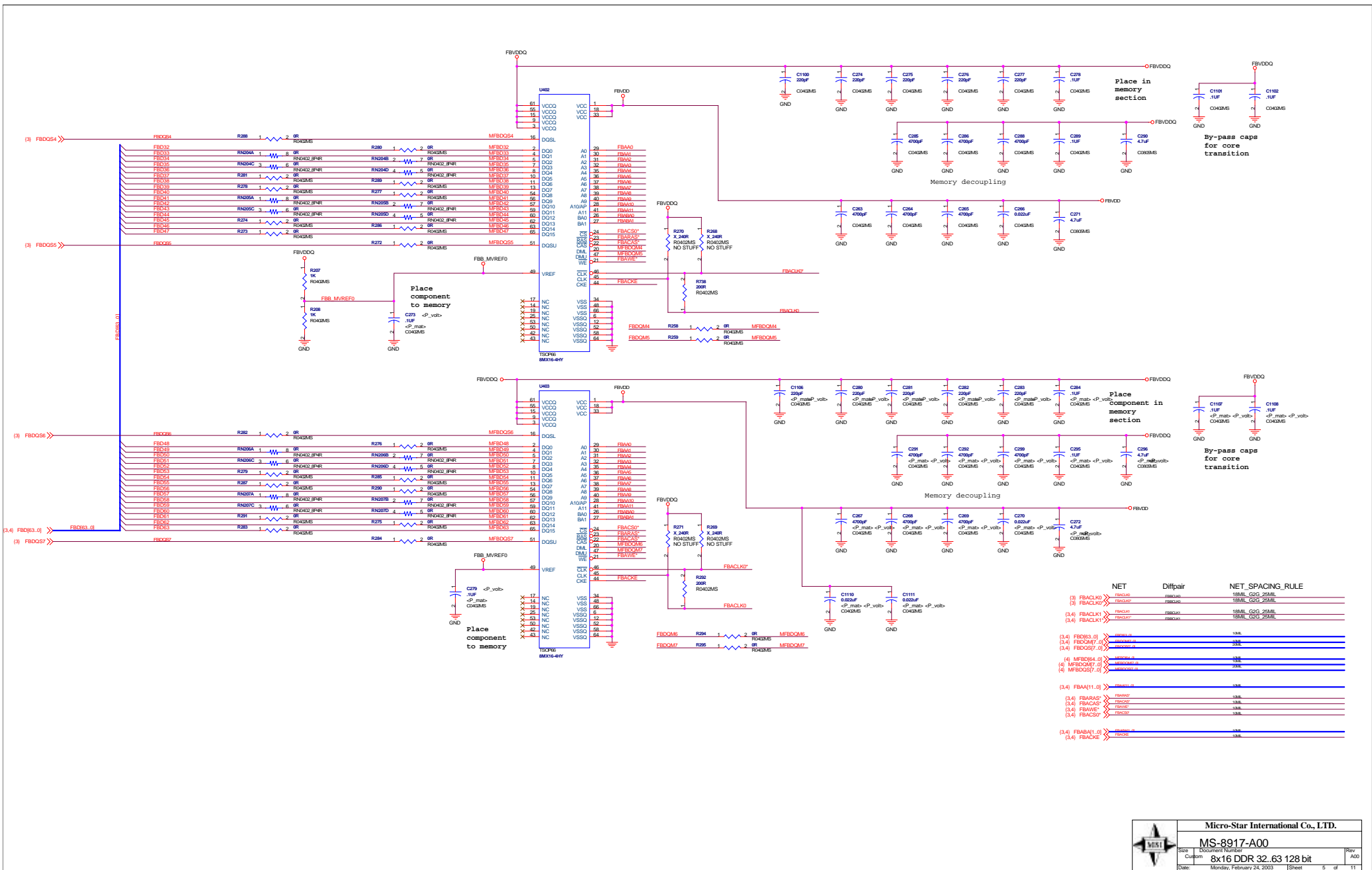
NV18 AGP SECTION AND AGP CONNECTOR

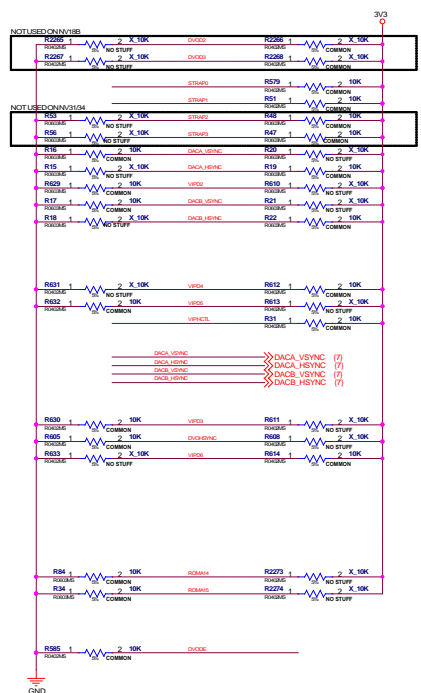
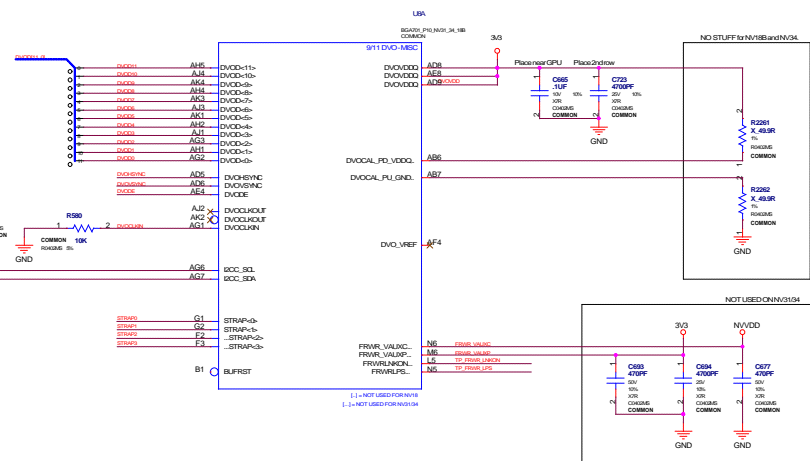
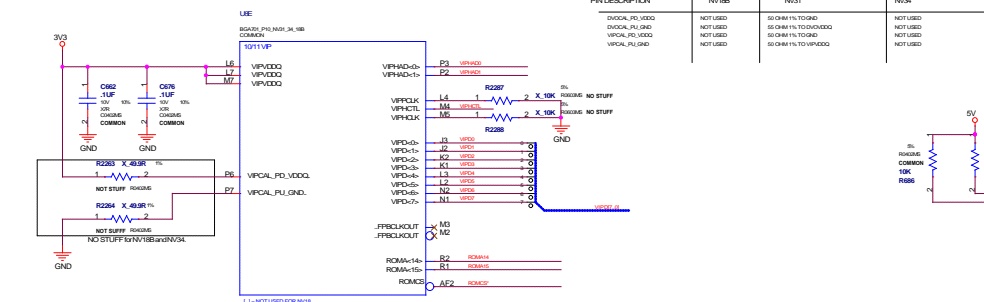


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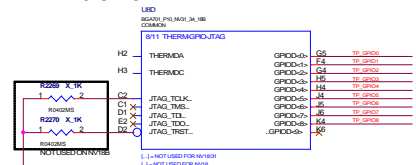




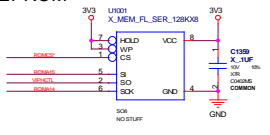
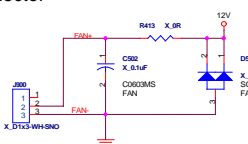
STRAPPING OPTIONS

BE	Signal	VALUE_ID	VALUES
00	POL_AD_SAMP	POL_AD	0.00000000 1.00000000
01	SUB_VENDOR	SUB_VENDOR	0x01_0000 1.00000000
02	RAW_CPLX_0	RAWCPLX0q	0.00000000000000000000 1.00000000000000000000
03	RAW_CPLX_1	RAWCPLX1q	0.00000000000000000000 1.00000000000000000000
04	RAW_CPLX_2	RAWCPLX2q	0.00000000000000000000 1.00000000000000000000
05	RAW_CPLX_3	RAWCPLX3q	0.00000000000000000000 1.00000000000000000000
06	CRYSTAL_0	CRYSTAL0Hz	60.15000000 10.27.00000000 1.00000000
07	TV_MCODE_0	TVMCODE0Hz	0.00000000 0.00000000
08	TV_MCODE_1	TVMCODE1Hz	10.00000000 1.00000000
09	ACQTIME		
10	ASCP_SBA	ASCP_SBA	0.00000000 1.00000000
11	ASCP_FADDER		
12	POL_DEVID_0	POL_DEVID0q	0000000000 - 1111000000
13	POL_DEVID_1		
14	SUB_TTYPE	SUB_TTYPEq	0.0000 1.0000
15	PP_PNACE		
16	USER_0		
17	USER_1		
18	USER_2		
19	USER_3		
20	POL_DEVID_2		
21	POL_DEVID_3		
22	CRYSTAL_1		
23	FE_0		
24	FE_1		
25	SR		
26	SR_CSM		
27	SR_ACP		
28	SR_XI		
29	NCM_TTYPE_0	NCM_TTYPE0Hz	0.00000000 0.00000000
30	NCM_TTYPE_1	NCM_TTYPE1Hz	10.00000000 1.00000000
31			
32	NCM_DEVID_0	NCMDEVID0q	0.00000000 1.00000000

NV18 GPIO



EEPROM

FAN
Connector

Place close together south-west of GPU

NET	NET_PHYSICAL_TYPE	VOLTAGE
TR004	3048_TRACE	
TR005	3048_TRACE	
NET	Diffpair	NET_SPACING_RULE
TR004		3048_030_3048
TR005		3048_030_3048
DIFFPAIR_03	3048	
DIFF001	3048	
DIFF002	3048	
DIFF003	3048	
DIFF004	3048	



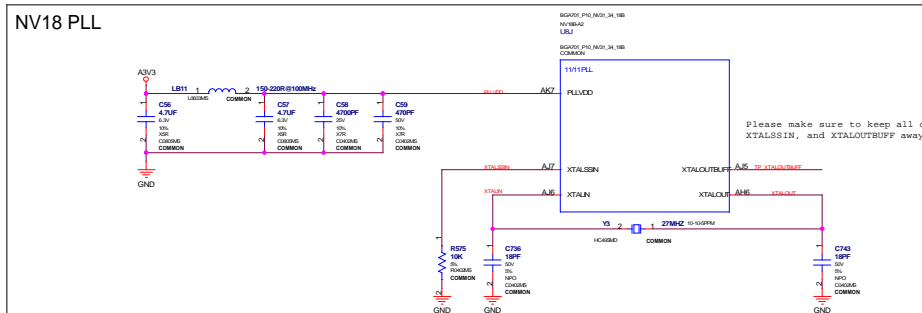
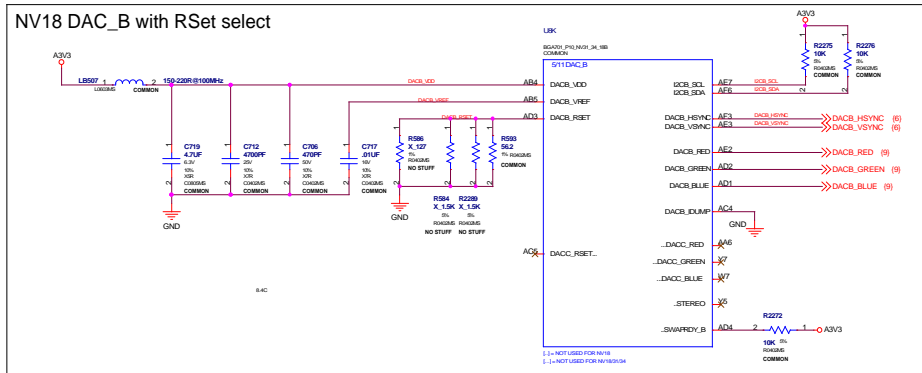
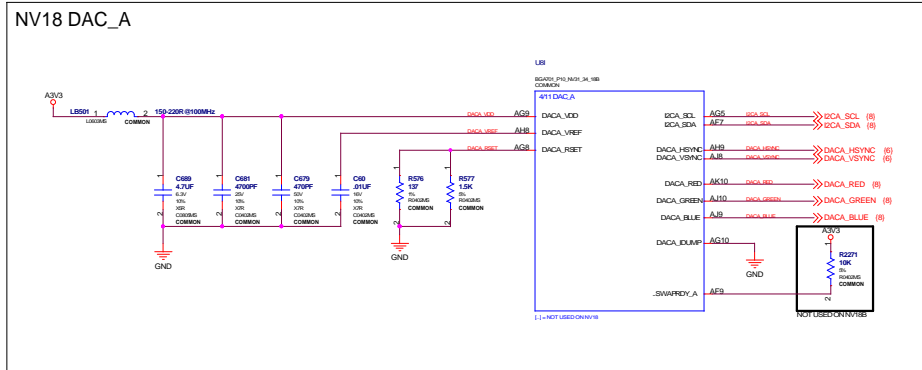
Micro-Star International Co., LTD.

MS-8917-A00

Document Number
Form NV18B STRAPPING, BIOS

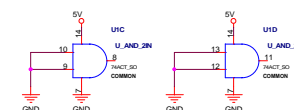
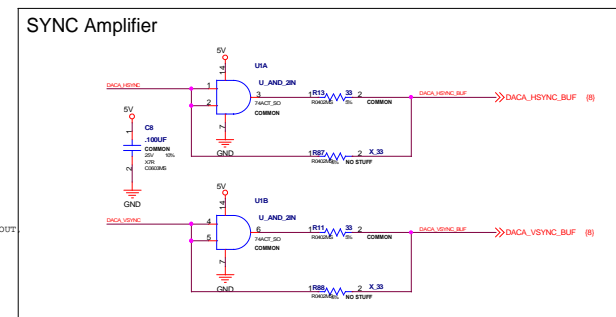
Date: Monday, February 24, 2003 Sheet 6 of 6

NV18 DAC_A, DAC_B, PLL, SYNC AMPL



Please make sure to keep all components and nets related to pins XTALIN, XTALOUT, XTALSSIN, and XTALOUTBUFF away from everything else (place all on TOP).

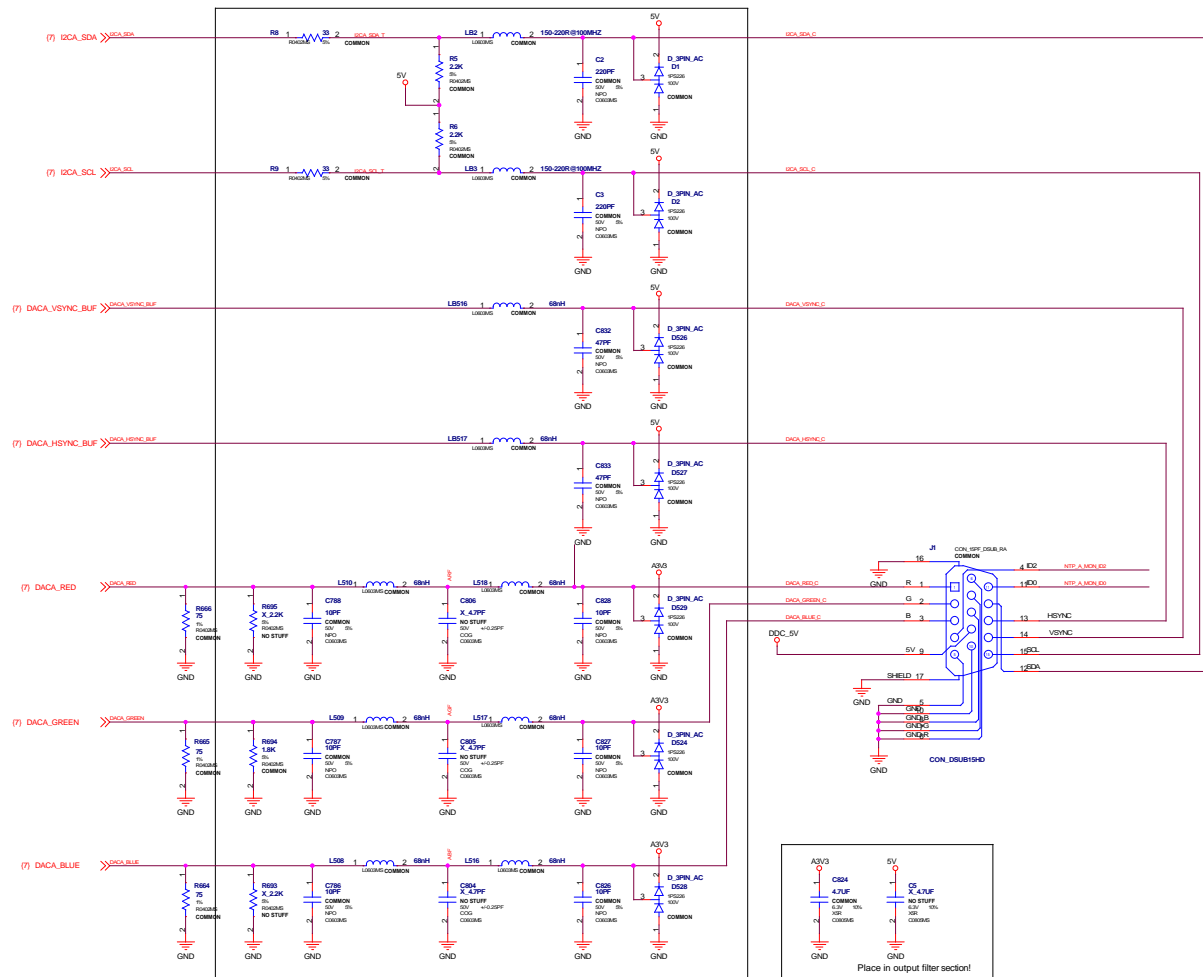
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	DACA_001	DACA_TRACE	3.3V
	DACA_002	DACA_TRACE	3.3V
	DACA_003	DACA_TRACE	3.3V
	DACA_004	DACA_TRACE	3.3V
	DACA_005	DACA_TRACE	3.3V
	DACA_006	DACA_TRACE	3.3V
	DACA_007	DACA_TRACE	3.3V
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	DACA_325	DACA_TRACE	3.3V
	DACA_326	DACA_TRACE	3.3V
	DACA_327	DACA_TRACE	3.3V
	DACA_328	DACA_TRACE	3.3V
	DACA_329	DACA_TRACE	3.3V
	DACA_330	DACA_TRACE	3.3V
	DACA_331	DACA_TRACE	3.3V
	DACA_332	DACA_TRACE	3.3V
	DACA_333	DACA_TRACE	3.3V
	DACA_334	DACA_TRACE	3.3V
	DACA_335	DACA_TRACE	3.3V
	DACA_336	DACA_TRACE	3.3V
	DACA_337	DACA_TRACE	3.3V
	DACA_338	DACA_TRACE	3.3V
	DACA_339	DACA_TRACE	3.3V
	DACA_340	DACA_TRACE	3.3V
	DACA_341	DACA_TRACE	3.3V
	DACA_342	DACA_TRACE	3.3V
	DACA_343	DACA_TRACE	3.3V
	DACA_344	DACA_TRACE	3.3V
	DACA_345	DACA_TRACE	3.3V
	DACA_346	DACA_TRACE	3.3V
	DACA_347	DACA_TRACE	3.3V
	DACA_348	DACA_TRACE	3.3V
	DACA_349	DACA_TRACE	3.3V
	DACA_350	DACA_TRACE	3.3V
	DACA_351	DACA_TRACE	3.3V
	DACA_352	DACA_TRACE	3.3V
	DACA_353	DACA_TRACE	3.3V
	DACA_354	DACA_TRACE	3.3V
	DACA_355	DACA_TRACE	3.3V
	DACA_356	DACA_TRACE	3.3V
	DACA_357	DACA_TRACE	3.3V
	DACA_358	DACA_TRACE	3.3V
	DACA_359	DACA_TRACE	3.3V
	DACA_360	DACA_TRACE	3.3V
	DACA_361	DACA_TRACE	3.3V
	DACA_362	DACA_TRACE	3.3V
	DACA_		



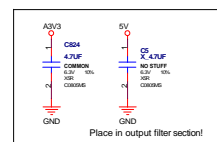
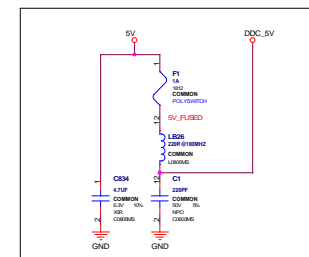
DACB output

NET	IMPEDANCE	NET_SPACING_RULE
REF	37.5 OHM	20MIL_DACB_XMIL
REF	37.5 OHM	20MIL_DACB_XMIL
REF	37.5 OHM	20MIL_DACB_XMIL
DACA_RED.C	10MIL_TRACE	20MIL_DACB_XMIL
DACA_GREEN.C	10MIL_TRACE	20MIL_DACB_XMIL
DACA_BLUE.C	10MIL_TRACE	20MIL_DACB_XMIL

EMI-FILTER



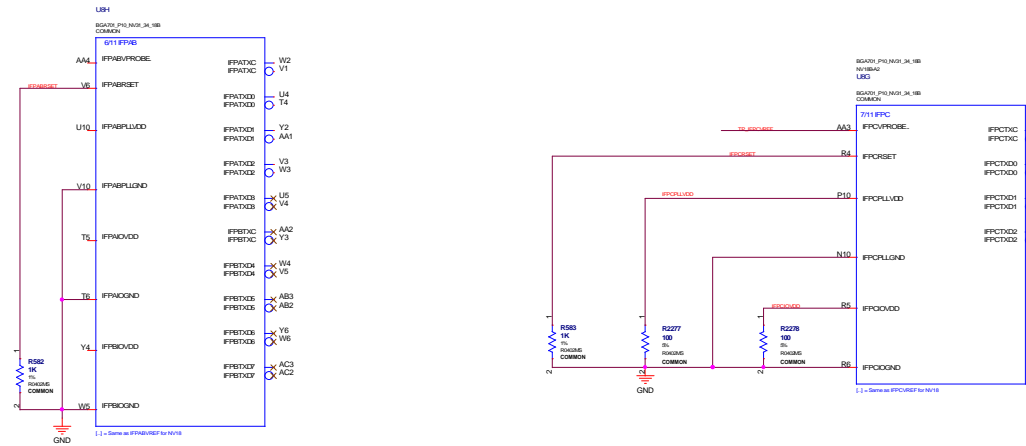
DDC 5V



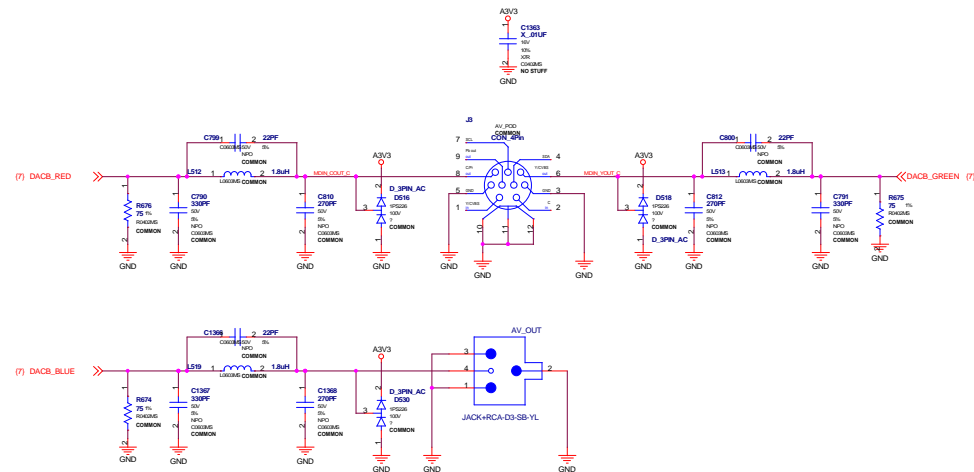
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INTERNAL TMDS POWER AND DECOUPLING



VIDEO OUT CONNECTOR

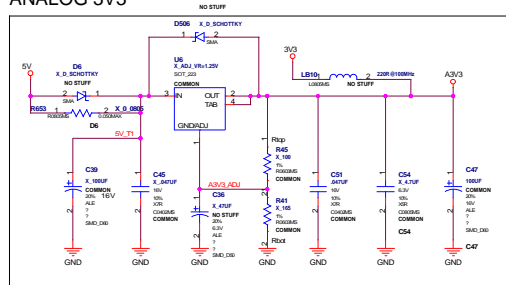


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POWER SUPPLY

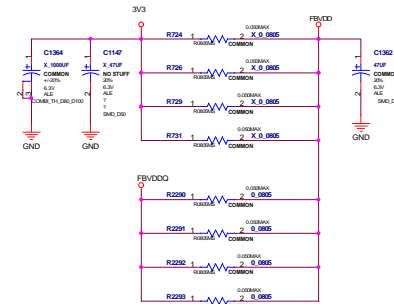
ANALOG 3V3



$$V_{out} = V_{Ref} * (1 + R_{bot}/R_{top})$$

$$3.31V = 1.25V * (1 + (165/100))$$

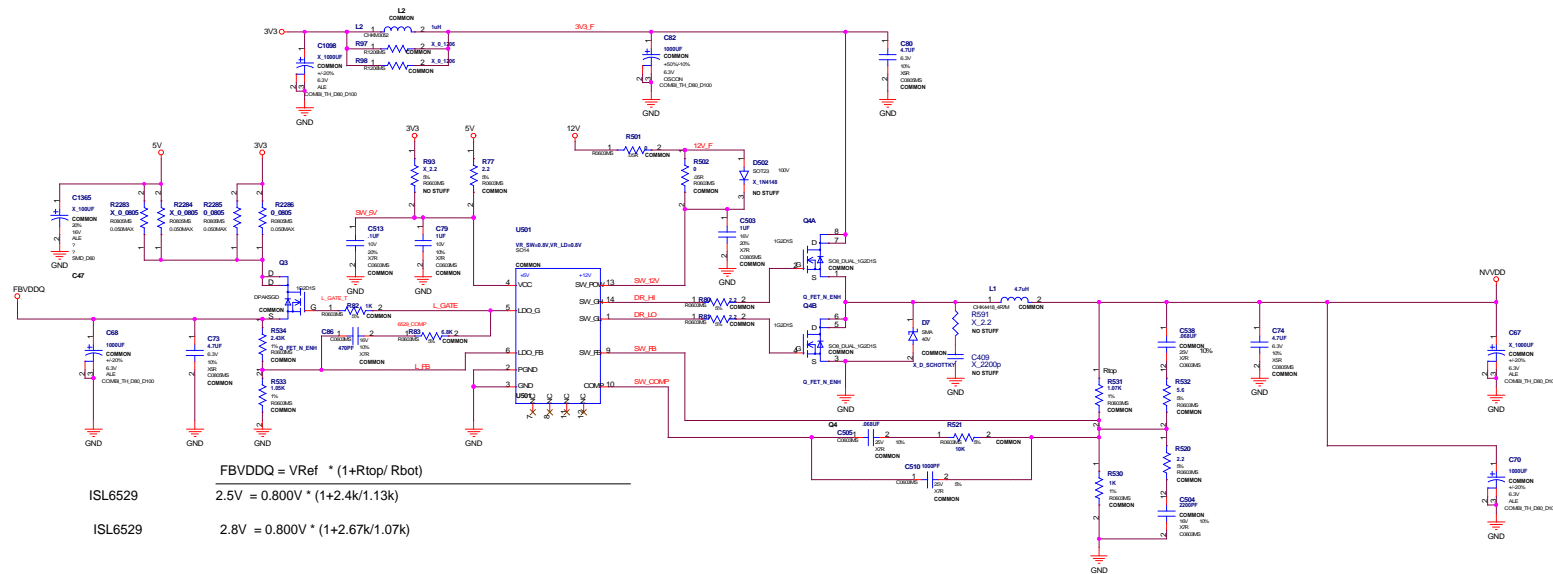
FBVDD 3.3V



For SAMSUNG DDR FBVDD=FBVDDQ=2.6
HYNIX DDR FBVDD=3V3=3.3V

12V	5V	NAVDD	AVDD	3V3	NET_PHYSICAL_TYPE	VOLTAGE
					NET	
					IO1	1.8V
					IO2	1.8V
					IO3	1.8V
					IO4	1.8V
					IO5	1.8V
					IO6	1.8V
					IO7	1.8V
					IO8	1.8V
					IO9	1.8V
					IO10	1.8V
					IO11	1.8V
					IO12	1.8V
					IO13	1.8V
					IO14	1.8V
					IO15	1.8V
					IO16	1.8V
					IO17	1.8V
					IO18	1.8V
					IO19	1.8V
					IO20	1.8V
					IO21	1.8V
					IO22	1.8V
					IO23	1.8V
					IO24	1.8V
					IO25	1.8V
					IO26	1.8V
					IO27	1.8V
					IO28	1.8V
					IO29	1.8V
					IO30	1.8V
					IO31	1.8V
					IO32	1.8V
					IO33	1.8V
					IO34	1.8V
					IO35	1.8V
					IO36	1.8V
					IO37	1.8V
					IO38	1.8V
					IO39	1.8V
					IO40	1.8V
					IO41	1.8V
					IO42	1.8V
					IO43	1.8V
					IO44	1.8V
					IO45	1.8V
					IO46	1.8V
					IO47	1.8V
					IO48	1.8V
					IO49	1.8V
					IO50	1.8V
					IO51	1.8V
					IO52	1.8V
					IO53	1.8V
					IO54	1.8V
					IO55	1.8V
					IO56	1.8V
					IO57	1.8V
					IO58	1.8V
					IO59	1.8V
					IO60	1.8V
					IO61	1.8V
					IO62	1.8V
					IO63	1.8V
					IO64	1.8V
					IO65	1.8V
					IO66	1.8V
					IO67	1.8V
					IO68	1.8V
					IO69	1.8V
					IO70	1.8V
					IO71	1.8V
					IO72	1.8V
					IO73	1.8V
					IO74	1.8V
					IO75	1.8V
					IO76	1.8V
					IO77	1.8V
					IO78	1.8V

NVDD-SWITCHER / FBVDD-LDO CONTROLER ISL6529



$$FBVDDQ = V_{Ref} * (1 + R_{top} / R_{bot})$$

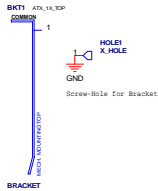
$$2.5V = 0.800V * (1 + 2.4k/1.13k)$$

ISL6529 $2.8V = 0.800V * (1+2.67k/1.07k)$

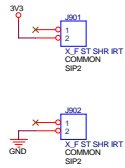
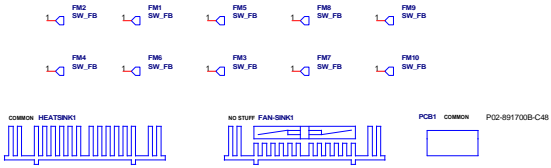
$$NVDD = V_{Ref} * (1 + R_{top} / R_{bot})$$

ISL6529	$1.656V = 0.800V * (1+1070/1000)$
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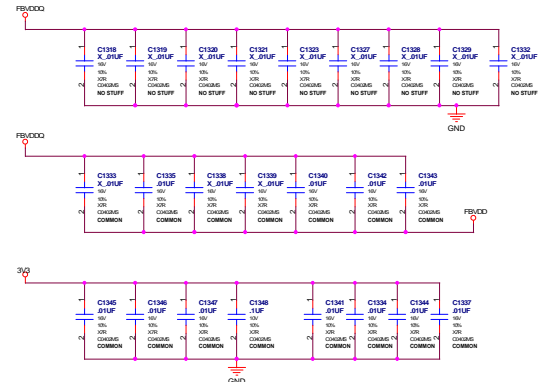
MECHANICS




E22-0000541-C22
Mech, Card, Bracket, SPCC3, V067, with M3x0.5 screw*1, For MS-8878
Bracket Same as MS-8847



NET	NET_PHYSICAL_TYPE	VOLTAGE
3V3	3V3	3.3V
FBVDD	3V3	3.3V
5V	5V	5V



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