

C116, NV18, 8MX16DDR, 128MB, Video IN/OUT, DVI-I, VGA

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A00

HISTORY:

- X00: INITIAL VERSION
- X01 Remove R117, C87, C131, C143 for CKE
- Change C736, C743 to 18pf capacitors.
- Remove C1099 - additional Capacitor for AGPVREFog
- Changed AGPVREFog circuit.

C116 Base on P112 to Modify.

1. Change page 4~7 & page 18 Reference.
2. Change J1 foot print from silm type to stand D-SUB.
3. Remove I1394 function.
- ~~4. Page 2, change voltage C75.1 & Q2.F from 3V3 to A3V3.~~
5. Page 8, Add Twin Bios for MSI function.
6. Page 16 ,replace INTERNAL VIDEO CAPTURE CONNECTOR.
7. Page 17 ,ADD C874 & C1098 ALE CAP. (DUAL-LAY)
8. Page 18 , Add H/W Monitor founction for MSI .
9. Page 2 change Q508, Q509 footprint from SOT23 to SOT-6 U200 package.

00A change to version 100.

1. DACA and DACB signal swap.

8935 version 0A.

- 1 change all 0402 footprint to 0603.
2. Page 2
- a.removeC62,C590,C574,C566,C615,C628,C642,C631,C626,C648,C647,C645,C624,R609,R625
- b.add 2 MOSFET for U200 daul-lay
3. Page 3
- remove C603,C609,C618,C611,C612,C610,C604,C592, R768,R770,R772,R774
4. Page 4,5
- a.removeC1112,C238,C241,C1115,C250,C1113,
- C1114,C228,C230,C1120,C1119,C247,C245,C244,
- C1121,C232,C1122
- b.removeC1100,C247,C277,C1101,C1102,C286,C264,
- C1104,C1106,C280,C281,C299,C1107,C1108,
- C269,C270
- c.remove memory data all damping(15ohm).
- d.Move bypass capacitors(C1161,C1162,C1163,C1164)of memory clock to
- close GPU(PAGE3).
5. Page 6
- remove U13(BIOS(ALTERNATIVE)),TEMP Sensor
- add R3000,R30001 for fan control
6. Page 7
- change Y3 package to DIP
7. Page 8
- remove R695,R694,R693,R7,R1,C788,C797,C819,
- C806,C787,C796,C805,C818,C786,
- C795,C817,C804,L510,L509,L508
8. Page 10
- a.remove S_OUT1,AV_OUT1,C789,C809,C790,
- C810,C791,C812,L519,L520,L521
- b.add 9pin-mini-din
9. Page 11
- a.remove ISL6529
- b.add mosfet and OP(LM358) for NVVDD,FBVDD,FBVDDQ
- c.change C41,C39 to DIP package

600-10116-000X-A00

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A

B

C

D

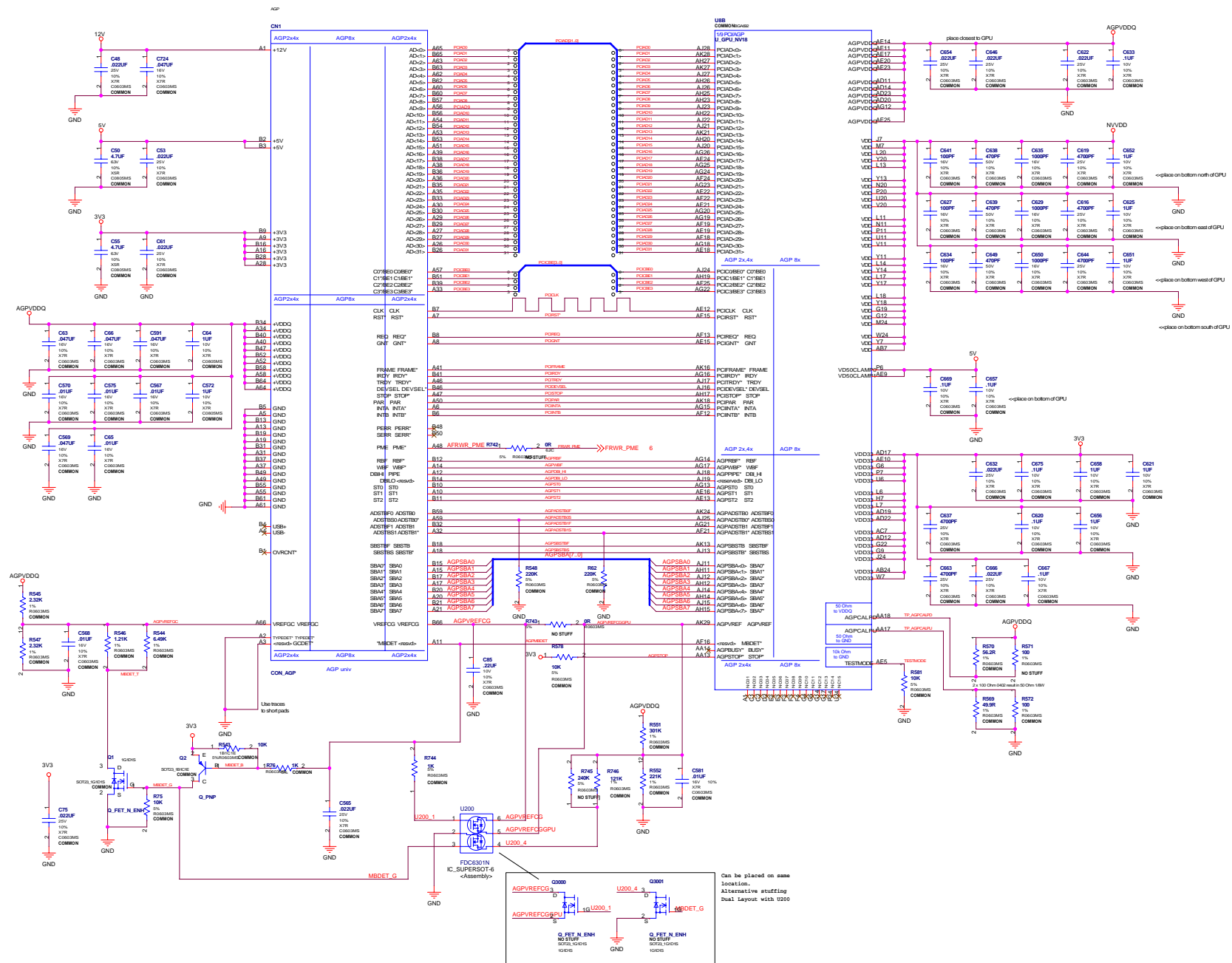
E

F

G

H

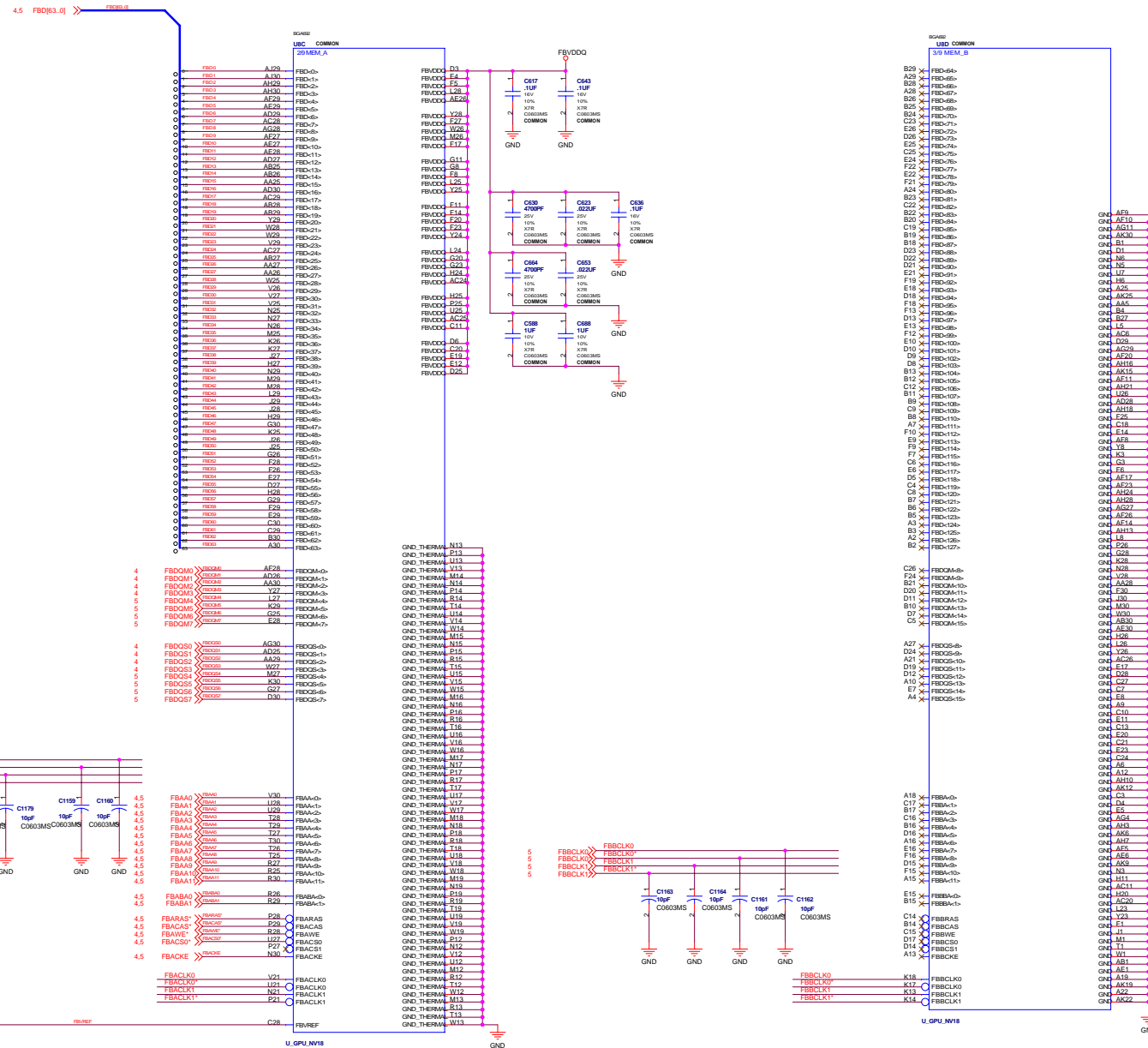
NV18 AGP SECTION AND AGP CONNECTOR



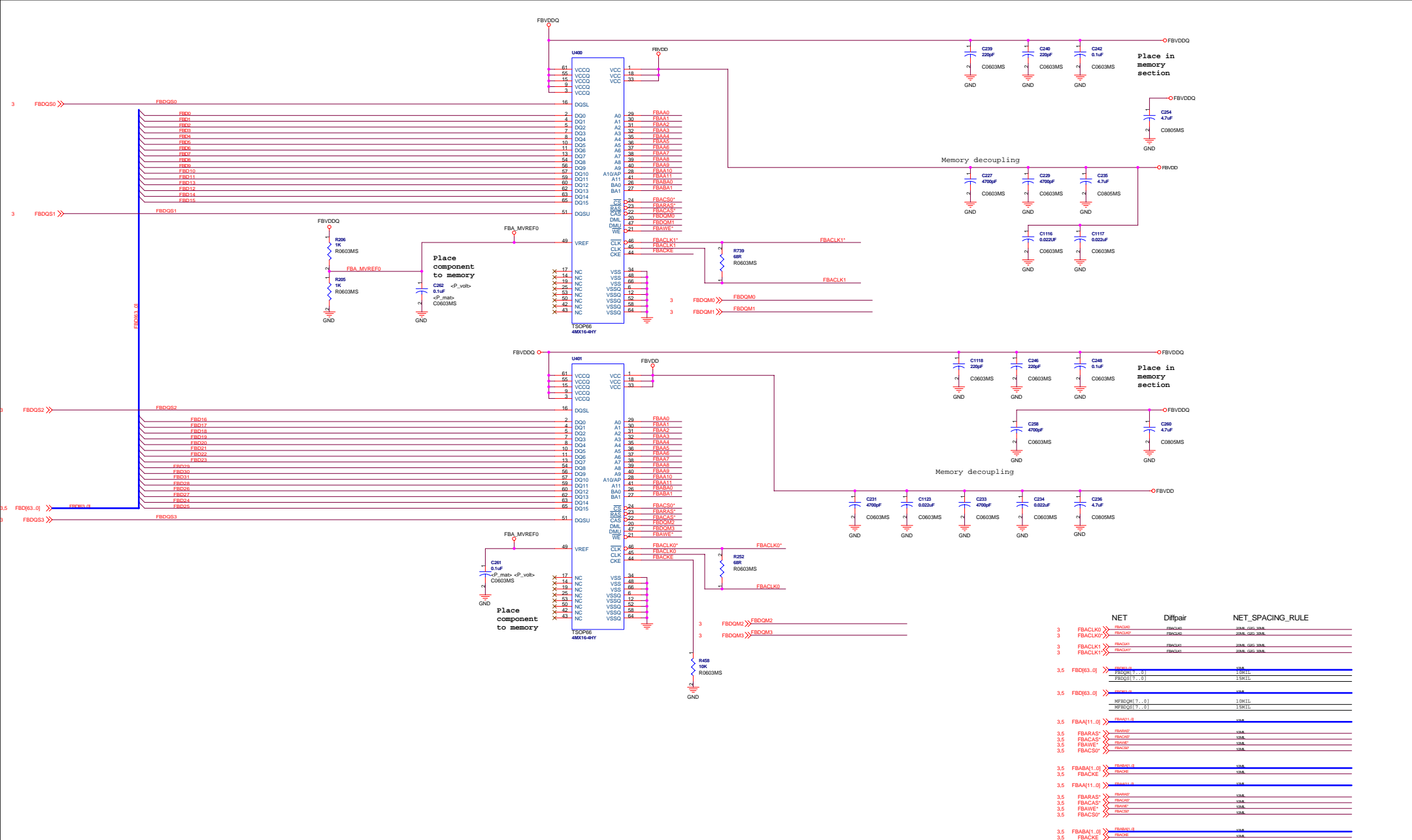
AGP spacing rules

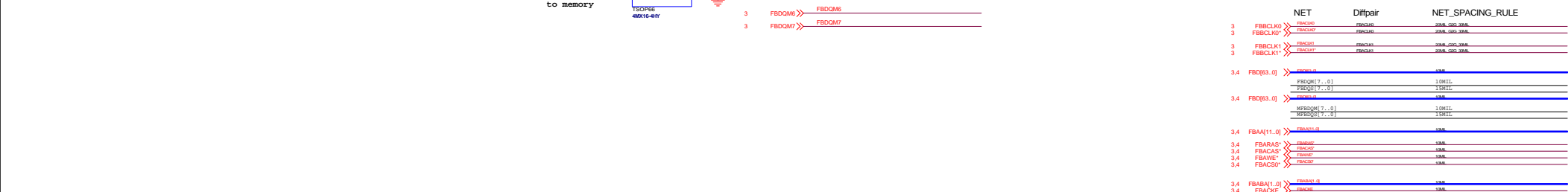
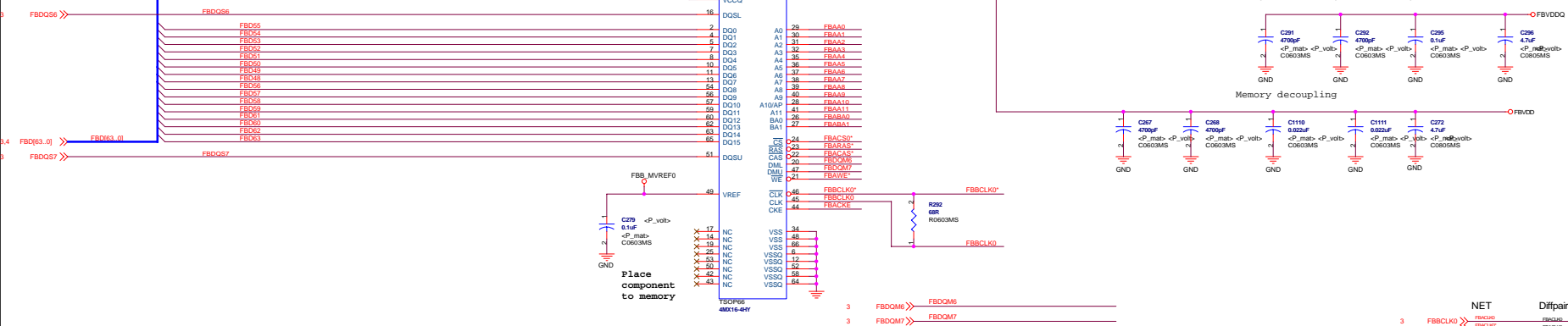
PCICAD(31,0)	20M(1)
PCICDR(3,0)	20M(1)
PCCLK	20M(1)
PCRSR	10M(1)
PCRFQ	10M(1)
PCRGN	10M(1)
PCRRAME	10M(1)
PCRRM	10M(1)
PCRRYR	10M(1)
PCSTCM	10M(1)
PCDEVELSEL	10M(1)
PCQWR	10M(1)
PCNTA	10M(1)
PCNTE	10M(1)
ACQPRF	10M(1)
ACQPVWF	10M(1)
ACQPR_H	10M(1)
ACQPRB_L0	20M(1)
ACQST0	15M(1)
ACQST1	15M(1)
ACQST2	15M(1)
ACQADSTBOP	25M(1)
ACQADSTOR	25M(1)
ACQADSTETIF	25M(1)
ACQADSTETIF	25M(1)
ACQPSBSTEP	25M(1)
ACQPSBSTEP	25M(1)
ACQPSBSTEP	25M(1)
ACQPSBQNT_01	20M(1)
ACQPSBVFCC	10M(1)
ACQPSBVFCH	10M(1)
ACQPSBMB	10M(1)
ACQPSBOP	10M(1)

NV18 FRAMEBUFFER INTERFACE AND DECOUPLING

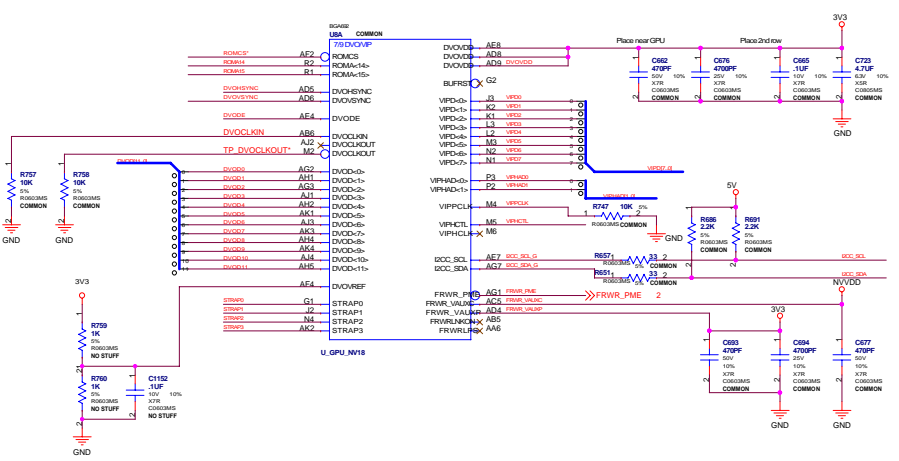


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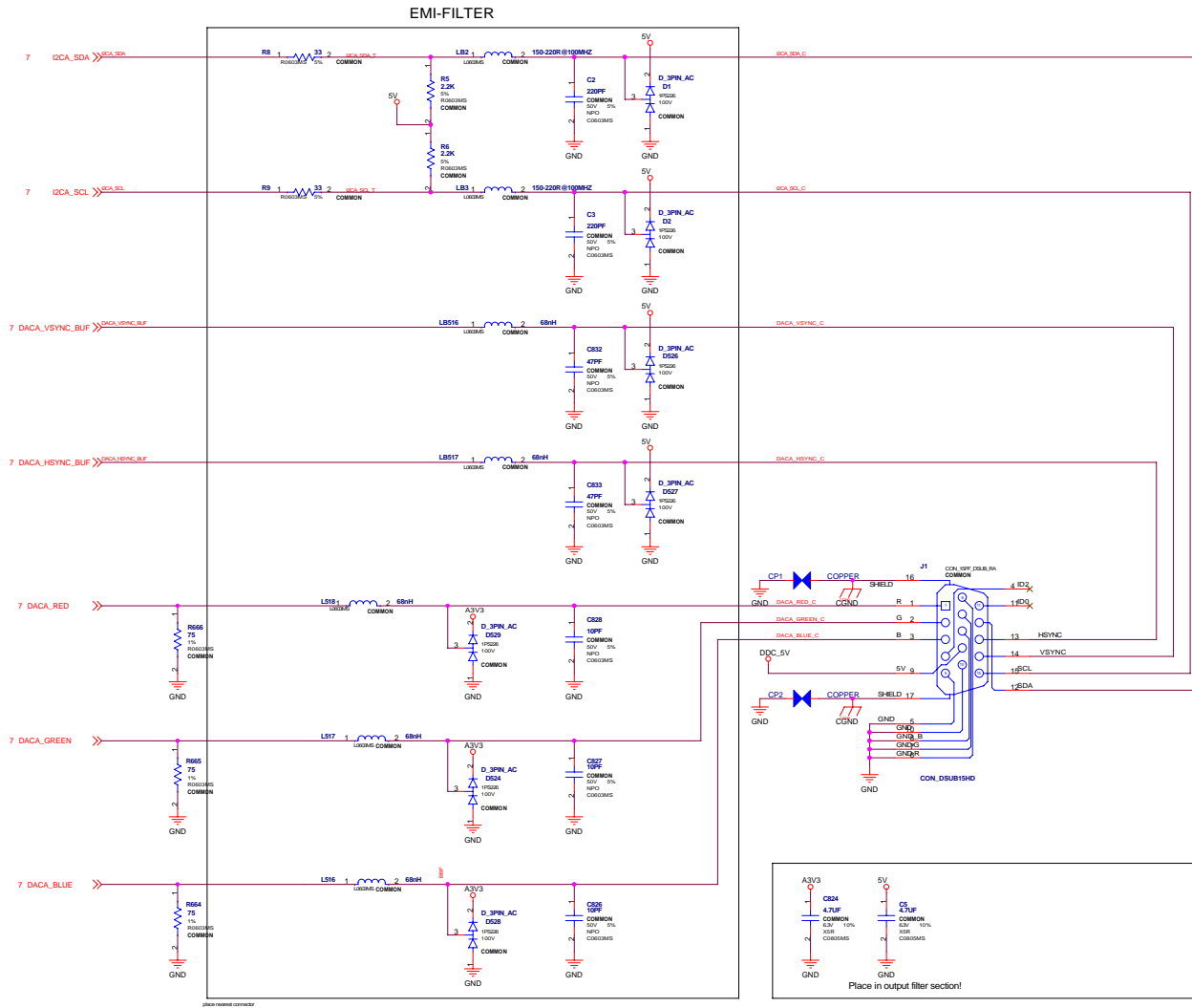
NV18 STRAPPING, I/O INTERFACE, BIOS, FAN CONTROL AND TEMP SENSOR



[illegible]

dual lay with
U1,lay them on
the bottom

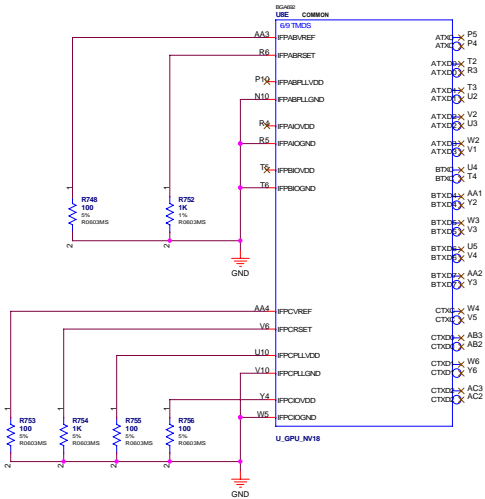
DACB output



NET	NET_PHYSICAL_TYPE	IMPEDANCE_RULE	NET_SPACING_TYPE
DACA_RED_C	10MIL_TRACE		20MIL
DACA_GREEN_C	10MIL_TRACE		20MIL
DACA_BLUE_C	10MIL_TRACE		20MIL
ARF	10MIL_TRACE		20MIL
ARF	10MIL_TRACE		20MIL
ARF	10MIL_TRACE		20MIL

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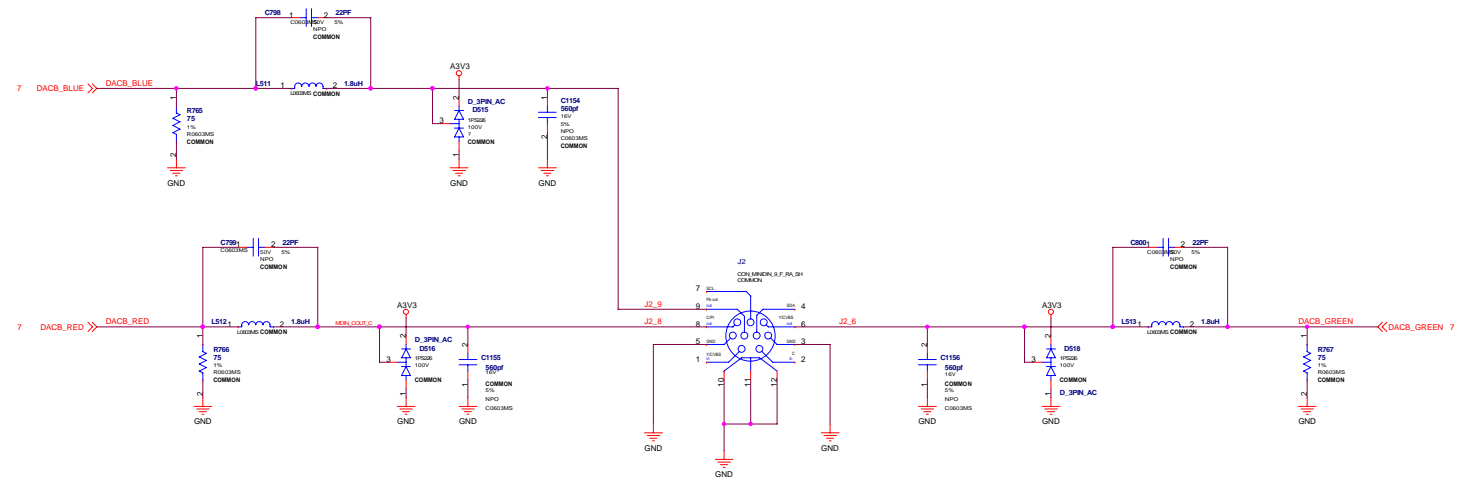
INTERNAL TMD5 POWER AND DECOUPLING



NET	NET_PHYSICAL_TYPE	VOLTAGE
PPVABREF	12ML_TRACE	3.3V
PPVAPLLED	12ML_TRACE	3.3V
PPACVDD	12ML_TRACE	3.3V
PPBODD	12ML_TRACE	3.3V
PPCVRREF	12ML_TRACE	3.3V
PPCPLLED	12ML_TRACE	3.3V
PPCVDVDD	12ML_TRACE	3.3V
FAB_RETURN	12ML_TRACE	3.3V
WAKE_BACK	12ML_TRACE	3.3V

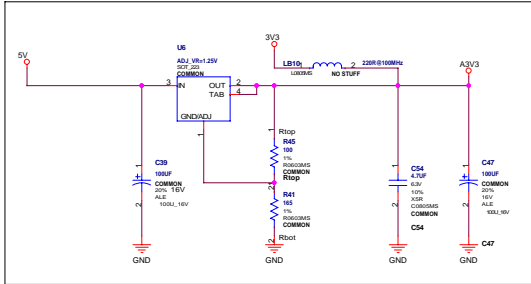
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VIDEO IN/OUT CONNECTOR



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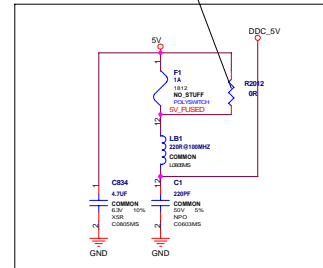
ANALOG 3V3



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

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

DDC 5V



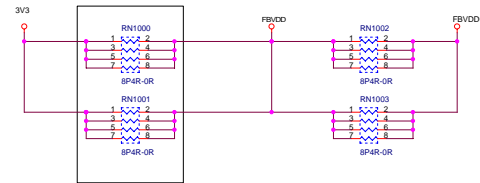
dual lay with F1

```

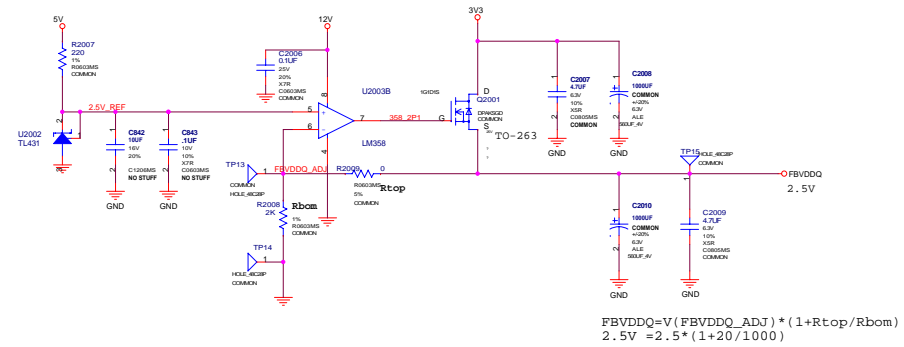
RN1000 PIN2,4,6,8
RN1002 PIN1,3,5,7

```

NO STUFF

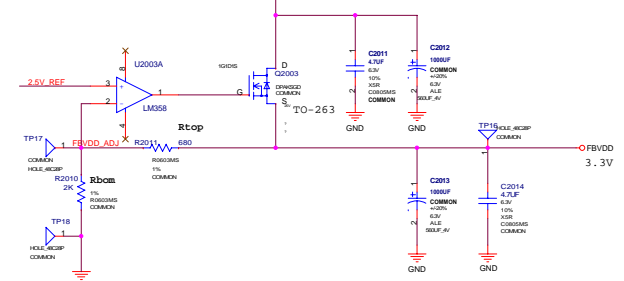


FBVDDQ



$$2.5V = 2.5 * (1 + 20/1000)$$

FBVDD NO STUFF

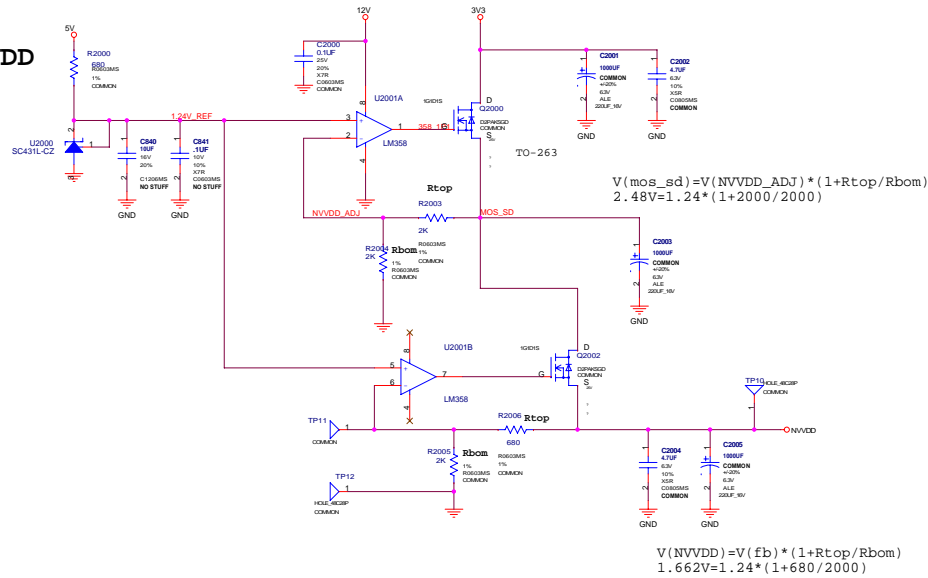


$$\text{FBVDD} = \text{V}(\text{FBVDD_ADJ}) * (1 + \text{Rtop}/\text{Rbom})$$

$$3.35\text{V} = 2.5 * (1 + 680/2000)$$

NET	NET_PHYSICAL_TYPE	VOLTAGE
FBVDD	12ML TRACE	3.3V
FBVDDQ	12ML TRACE	2.5V
NVDDQ	12ML TRACE	1.65V
MOS_SD	12ML TRACE	
5V	12ML TRACE	5V
12V	12ML TRACE	12V
3V3	12ML TRACE	3.3V
5V_FUSED	12ML TRACE	5V
DDC_5V	12ML TRACE	5V
356_1P1	10ML TRACE	
356_2P1	10ML TRACE	
NVDDQ_A2U	10ML TRACE	
FBVDDQ_A2U	10ML TRACE	
FBVDD_A2U	10V11_1 TRACE	

NVVDD



$$V(\text{mos_sd}) = V(\text{NVDD_ADJ}) * (1 + R_{\text{top}} / R_{\text{bom}})$$

$$2.48\text{V} = 1.24 * (1 + 2000 / 2000)$$

$$V(NVDD) = V(fb) * (1 + R_{top}/R_{bom})$$

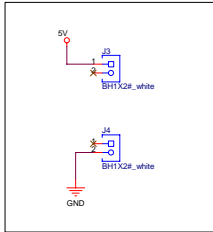
$$1.662V = 1.24 * (1 + 680/2000)$$

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MECHANICS



NO STUFF



For test the resistance
NO STUFF

NET	NET_PHYSICAL_TYPE	VOLTAGE
3V3	12ML_TRACE	
FB/CD	12ML_TRACE	
5V	12ML_TRACE	
FB/CD /GND	10ML_TRACE	

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