PCB100

PCB

P200-1

SCREW

P200-2

SCREW

K100

FAN

BRACKET

BRACKET

Title <Title>		
Size B	Document Number <Doc>	Rev 0A
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NV15, 4MX16 TERMINATED DDR, RGB, INTERNAL DVI-I, TV I/F, AGP4X.

PCI DEVICE ID 0X0=0X150 FOR NV15.

GPU : GeForce2 PRO
STRAPS : AGP4X, SIDEBAND DIS, FAST WRITE ENA, ADP BIOS, NORMAL PCIAD, 14.318MHz
STRAP_RAM_TYPE [5 : 2]=1010 4MX16 DDR SDRAM
ALL "NO STUFF" COMPONENTS HIGHLITED
SWITCHER1(VTT) SET TO 1.25V
SWITCHER2(NVVDD) SET TO 2.05V
LINEAR(FBVDDQ) SET TO 2.5V

HISTORY REVISION FROM A01:

1) B00: Added LC TMDS filters on TX- signals on bottom side near the DVI-I connector.

2) B00: Changed R217 to 267R 1%.

3) B00: Changed R500 to 825R 1%.

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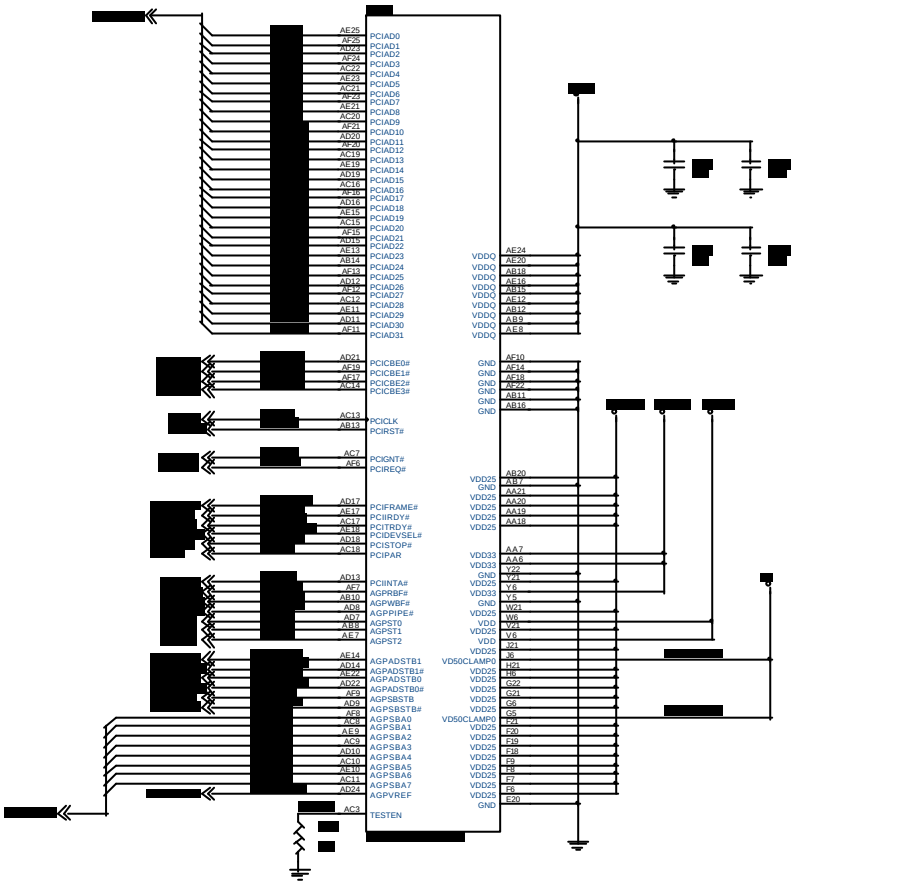

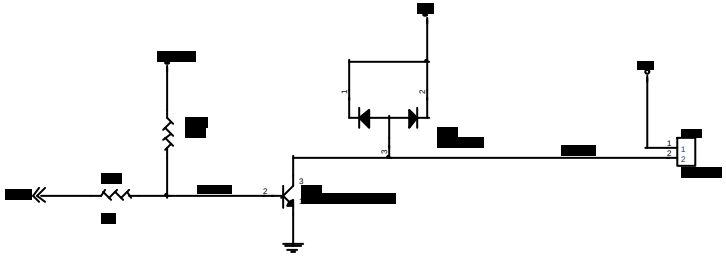

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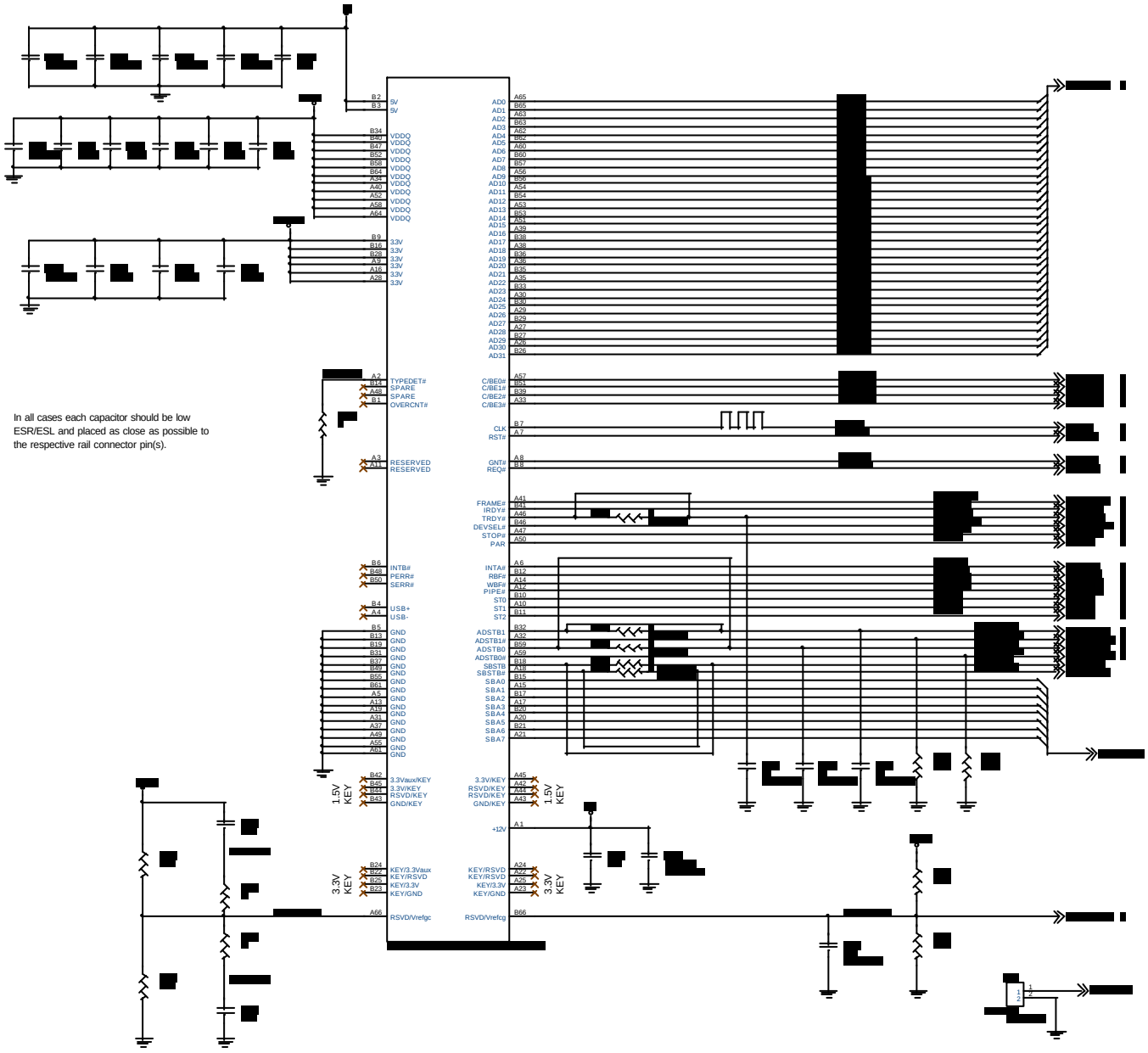
	NV15 HOST



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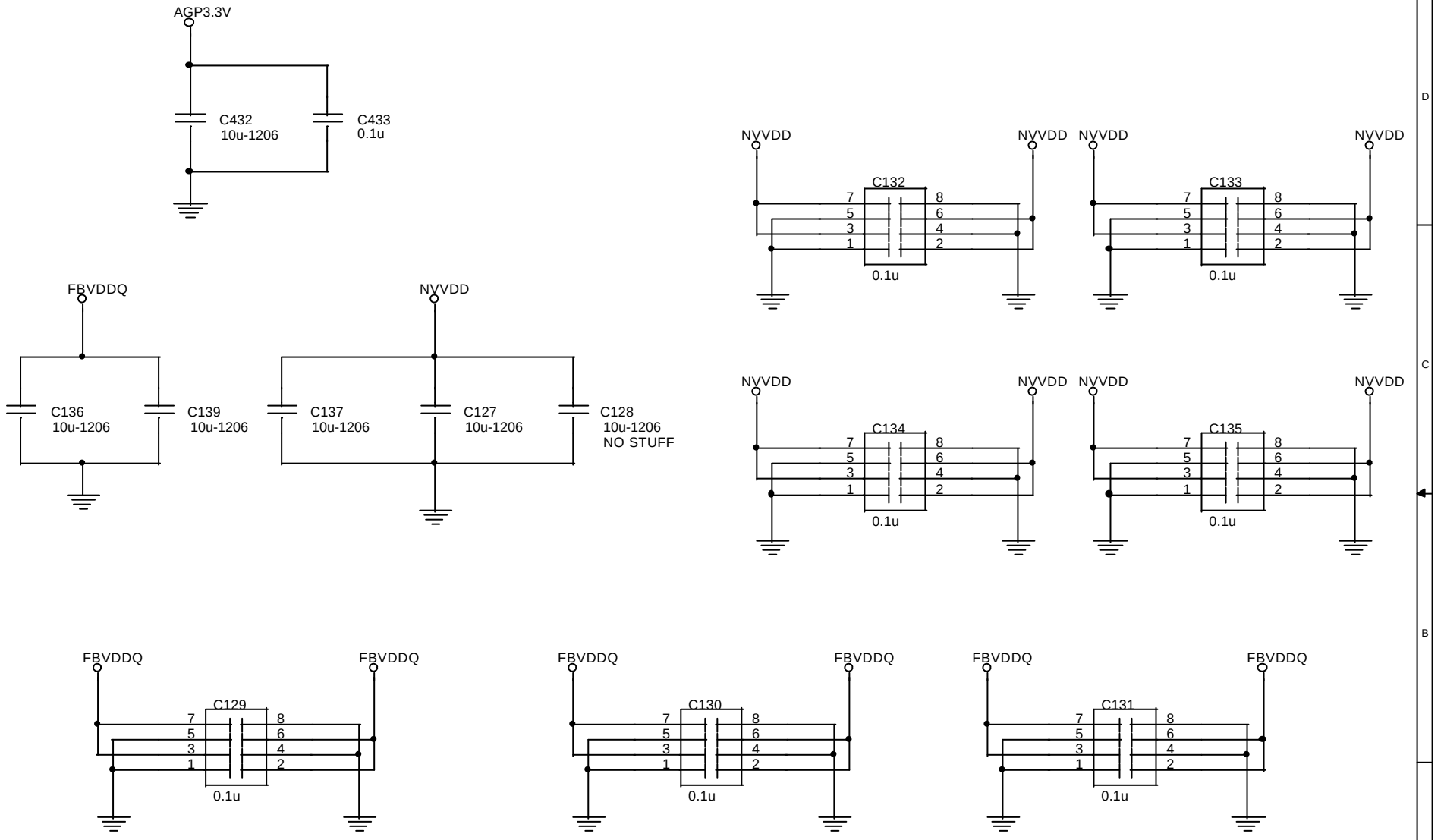
MS-8831	
AGP I/O	



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[0] STRAP_ADSWAP
STRAP_ADSWAP = 0 : PCIAD bus [31 : 0] swaped
STRAP_ADSWAP = 1 : PCIAD bus [31 : 0] normal

[1] STRAP_SUB_VENDOR
STRAP_SUB_VENDOR = 0 : System BIOS
STRAP_SUB_VENDOR = 1 : Adaptor BIOS

[11] STRAP_FAST_WRITES
STRAP_FAST_WRITES = 0 : FAST WRITE ENABLLED
STRAP_FAST_WRITES = 1 : FAST WRITE DISABLLED

[13:12] PCI_DEV_ID
PCI_DEV_ID (0x0) = 0x150

[6] STRAP_CRYSTAL
STRAP_CRYSTAL = 0 : 13.50000MHz
STRAP_CRYSTAL = 1 : 14.31818MHz

[5:2] STRAP_RAM_TYPE
1010 = 4Mx16 DDR SDRAM

[9] STRAP_AG4X
STRAP_AG4X = 0 : AGP4X transfers enabled
STRAP_AG4X = 1 : AGP2X only

[10] STRAP_AGPSBA
STRAP_AGPSBA = 0 : sideband enabled
STRAP_AGPSBA = 1 : pipelined only transfers

STRAP_HOST = 1 : AGP Mode

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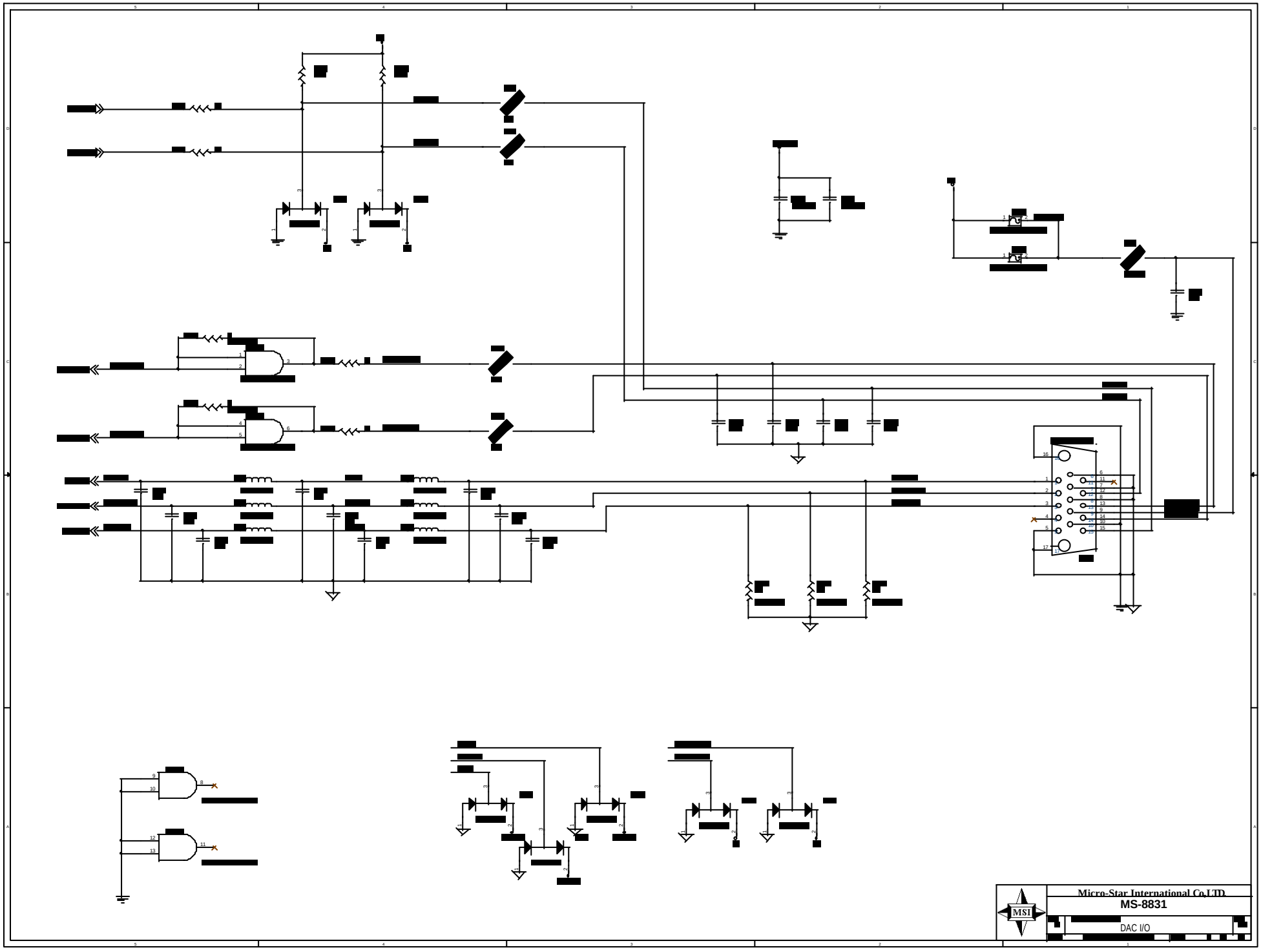

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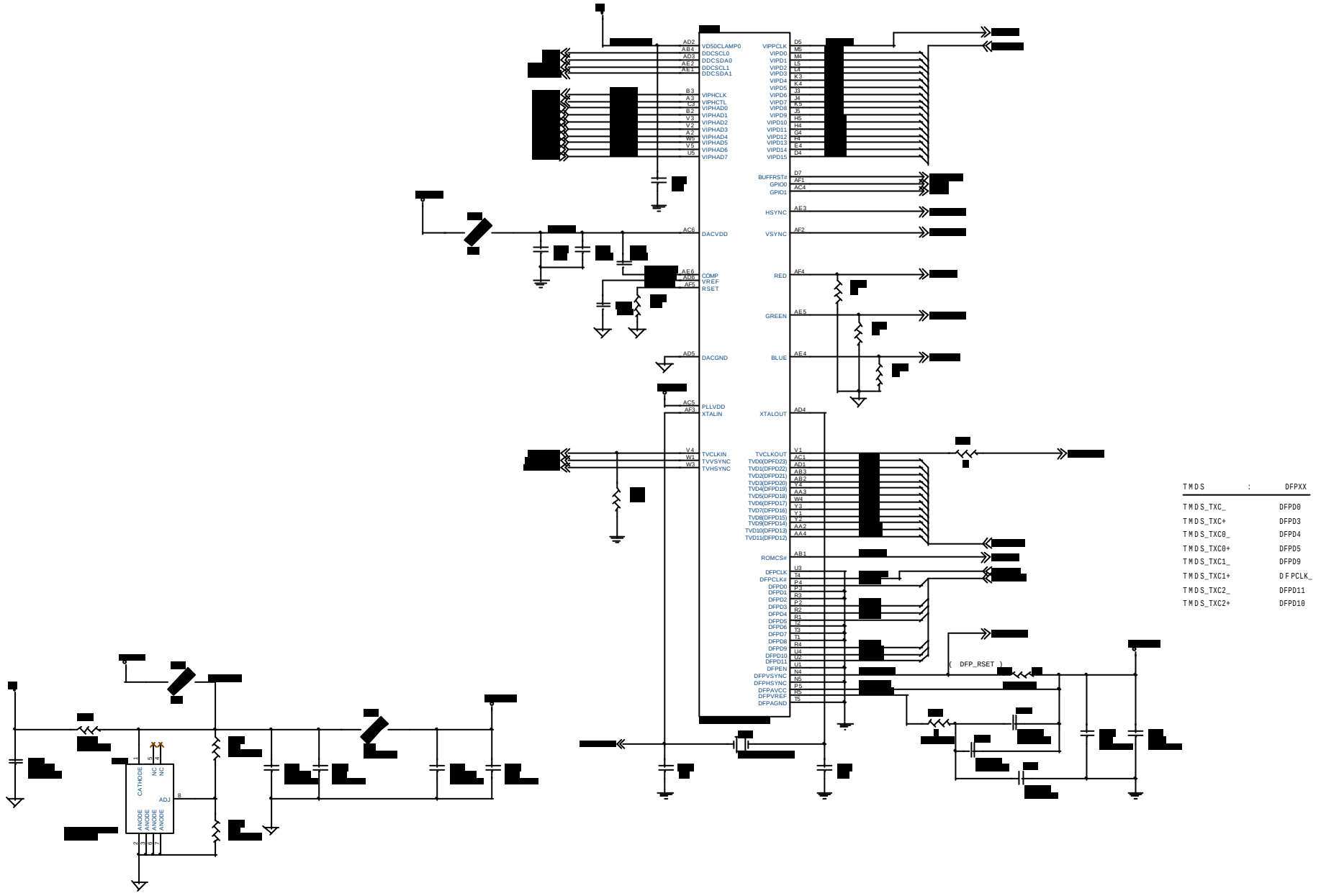
DAC I/O



TMDS	:	DFPXX
TMDS_TXC_		DFPD0
TMDS_TXC+		DFPD3
TMDS_TXC0_		DFPD4
TMDS_TXC0+		DFPD5
TMDS_TXC1_		DFPD9
TMDS_TXC1+		DFPCLK_
TMDS_TXC2_		DFPD11
TMDS_TXC2+		DFPD10

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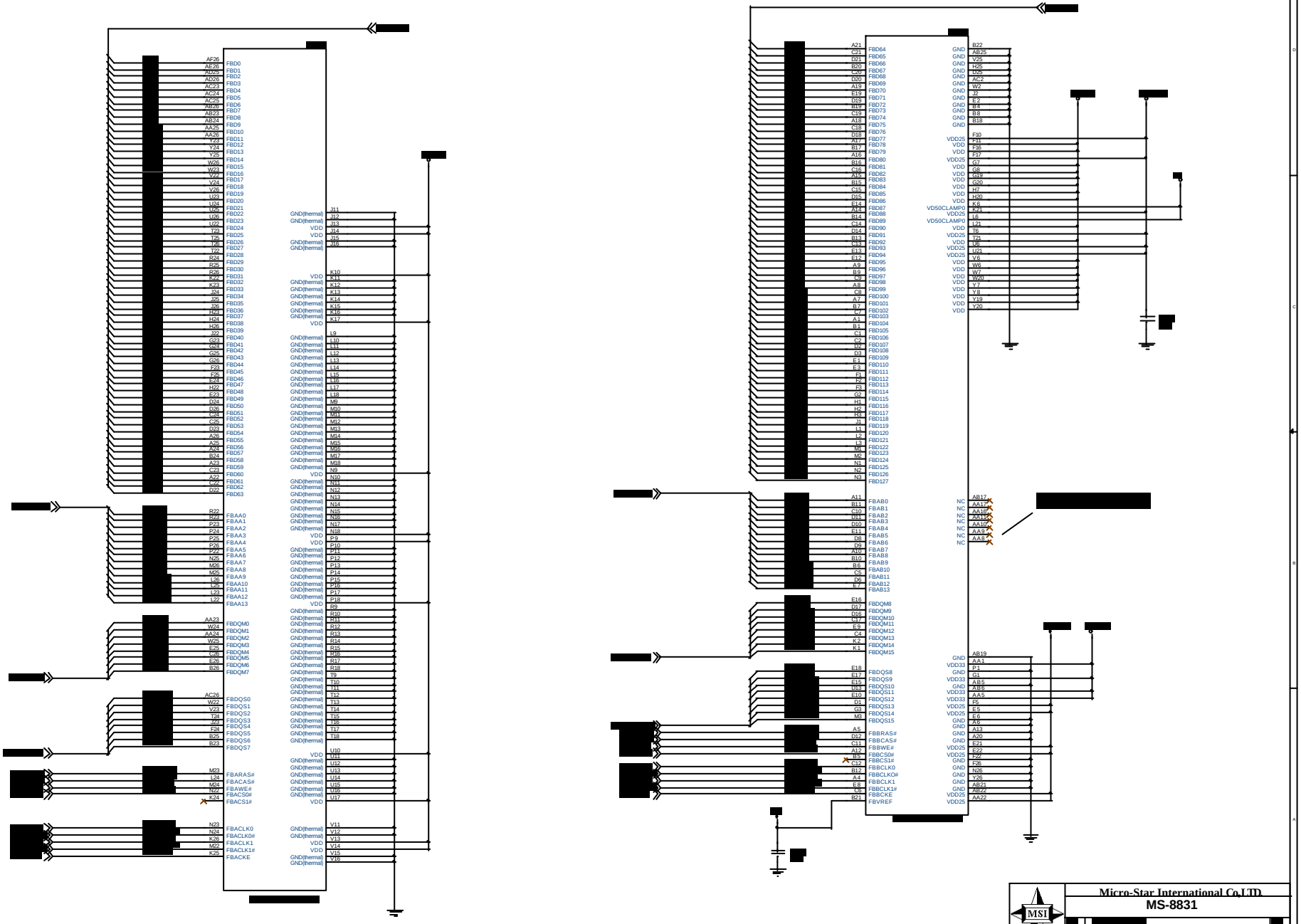
NV15 DAC/TV/TMDS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AE26 FBD1
AD29 FBD2
AD26 FBD3
AC23 FBD4
AC24 FBD5
AC25 FBD6
AB26 FBD7
AB23 FBD8
AB24 FBD9
AA25 FBD10
AA26 FBD11
Y23 FBD12
Y24 FBD13
Y25 FBD14
W26 FBD15
W23 FBD16
V22 FBD17
V24 FBD18
V26 FBD19
U23 FBD20
U24 FBD21
U25 FBD22
U26 FBD23
U22 FBD24
T23 FBD25
T25 FBD26
T26 FBD27
T22 FBD28
R24 FBD29
R25 FBD30
R26 FBD31
R22 FBD32
K23 FBD33
J24 FBD34
J25 FBD35
J26 FBD36
H24 FBD37
H24 FBD38
H26 FBD39
J22 FBD40
G23 FBD41
G24 FBD42
G25 FBD43
G26 FBD44
F23 FBD45
F25 FBD46
E24 FBD47
H22 FBD48
E23 FBD49
D24 FBD50
D26 FBD51
C24 FBD52
C25 FBD53
D23 FBD54
A26 FBD55
A25 FBD56
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C23 FBD60
A22 FBD61
C22 FBD62
D22 FBD63
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R23 FBAA1
P23 FBAA2
P24 FBAA3
P25 FBAA4
P26 FBAA5
P22 FBAA6
N25 FBAA7
M26 FBAA8
M25 FBAA9
L26 FBAA10
L25 FBAA11
L23 FBAA12
L22 FBAA13
AA23 FBDQM0
W24 FBDQM1
AA24 FBDQM2
W25 FBDQM3
E25 FBDQM4
C26 FBDQM5
E26 FBDQM6
B26 FBDQM7
AC26 FBDQS0
W22 FBDQS1
V23 FBDQS2
T24 FBDQS3
K24 FBDQS4
F24 FBDQS5
B25 FBDQS6
B23 FBDQS7
M23 FBARAS#
L24 FBACAS#
M24 FBAWE#
N22 FBACS0#
K24 FBACS1#
N23 FBACLK0
N24 FBACLK0#
K26 FBACLK1
M22 FBACLK1#
K25 FBACKE
GND(thermal) J11
GND(thermal) J12
J13
VDD J14
VDD J15
GND(thermal) J16
VDD K10
GND(thermal) K11
GND(thermal) K12
GND(thermal) K13
GND(thermal) K14
GND(thermal) K15
GND(thermal) K16
K17
L9
GND(thermal) L10
GND(thermal) L11
GND(thermal) L12
GND(thermal) L13
GND(thermal) L14
GND(thermal) L15
GND(thermal) L16
GND(thermal) L17
GND(thermal) L18
GND(thermal) M9
GND(thermal) M10
GND(thermal) M11
GND(thermal) M12
GND(thermal) M13
GND(thermal) M14
GND(thermal) M15
GND(thermal) M16
GND(thermal) M17
GND(thermal) M18
GND(thermal) N9
VDD N10
GND(thermal) N11
GND(thermal) N12
GND(thermal) N13
GND(thermal) N14
GND(thermal) N15
GND(thermal) N16
GND(thermal) N17
GND(thermal) N18
VDD P9
VDD P10
GND(thermal) P11
GND(thermal) P12
GND(thermal) P13
GND(thermal) P14
GND(thermal) P15
GND(thermal) P16
GND(thermal) P17
P18
VDD R9
GND(thermal) R10
GND(thermal) R11
GND(thermal) R12
GND(thermal) R13
GND(thermal) R14
GND(thermal) R15
GND(thermal) R16
GND(thermal) R17
GND(thermal) R18
GND(thermal) T9
GND(thermal) T10
GND(thermal) T11
GND(thermal) T12
GND(thermal) T13
GND(thermal) T14
GND(thermal) T15
GND(thermal) T16
GND(thermal) T17
GND(thermal) T18
VDD U10
GND(thermal) U11
GND(thermal) U12
GND(thermal) U13
GND(thermal) U14
GND(thermal) U15
GND(thermal) U16
GND(thermal) U17
VDD
GND(thermal) V11
GND(thermal) V12
GND(thermal) V13
VDD V14
VDD V15
GND(thermal) V16
GND(thermal)
A21 FBD64
C21 FBD65
D21 FBD66
B20 FBD67
C20 FBD68
D20 FBD69
A19 FBD70
E19 FBD71
D19 FBD72
B19 FBD73
C19 FBD74
A18 FBD75
C18 FBD76
D18 FBD77
A17 FBD78
B17 FBD79
A16 FBD80
B16 FBD81
C16 FBD82
A15 FBD83
B15 FBD84
C15 FBD85
D15 FBD86
E14 FBD87
A14 FBD88
B14 FBD89
C14 FBD90
D14 FBD91
B13 FBD92
C13 FBD93
E13 FBD94
E12 FBD95
A9 FBD96
B9 FBD97
C9 FBD98
A8 FBD99
C8 FBD100
A7 FBD101
B7 FBD102
C7 FBD103
A1 FBD104
B1 FBD105
C1 FBD106
C2 FBD107
D2 FBD108
D3 FBD109
E1 FBD110
E3 FBD111
F1 FBD112
F2 FBD113
F3 FBD114
G2 FBD115
H1 FBD116
H2 FBD117
H3 FBD118
J1 FBD119
L1 FBD120
L2 FBD121
L3 FBD122
M1 FBD123
M2 FBD124
N1 FBD125
N2 FBD126
N3 FBD127
A11 FBAB0
B11 FBAB1
C10 FBAB2
D11 FBAB3
D10 FBAB4
E11 FBAB5
D8 FBAB6
D9 FBAB7
A10 FBAB8
B10 FBAB9
B6 FBAB10
C5 FBAB11
D6 FBAB12
E7 FBAB13
E16 FBDQM8
D17 FBDQM9
D16 FBDQM10
C17 FBDQM11
E9 FBDQM12
C4 FBDQM13
K2 FBDQM14
K1 FBDQM15
E18 FBDQS8
E17 FBDQS9
E15 FBDQS10
D13 FBDQS11
E10 FBDQS12
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G3 FBDQS14
M3 FBDQS15
A5 FBBRAS#
D12 FBBCAS#
C11 FBBWE#
A12 FBBCS0#
B5 FBBCS1#
C12 FBBCLK0
B12 FBBCLK0#
A4 FBBCLK1
E8 FBBCLK1#
C6 FBBCKE
B21 FBVREF
B22
AB25
V25
H25
D25
AC2
W2
J2
E2
B4
B3
B18
GND
F30
F31
F28
F27
G7
G8
G19
G20
H7
H20
K6
K21
L6
L21
T6
T21
U6
U21
V6
W6
W7
W20
Y7
Y8
Y19
Y20
VDD25
VDD
VD50CLAMP0
NC AB17
NC AA17
NC AA16
NC AA15
NC AA10
NC AA9
NC AA8
GND AB19
VDD33 AA1
GND P1
VDD33 G1
GND AB5
VDD33 AB8
VDD33 AA5
VDD33 F5
VDD25 E5
VDD25 E6
GND A6
GND A13
GND A20
GND E21
VDD25 E22
VDD25 F22
GND F26
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GND AB22
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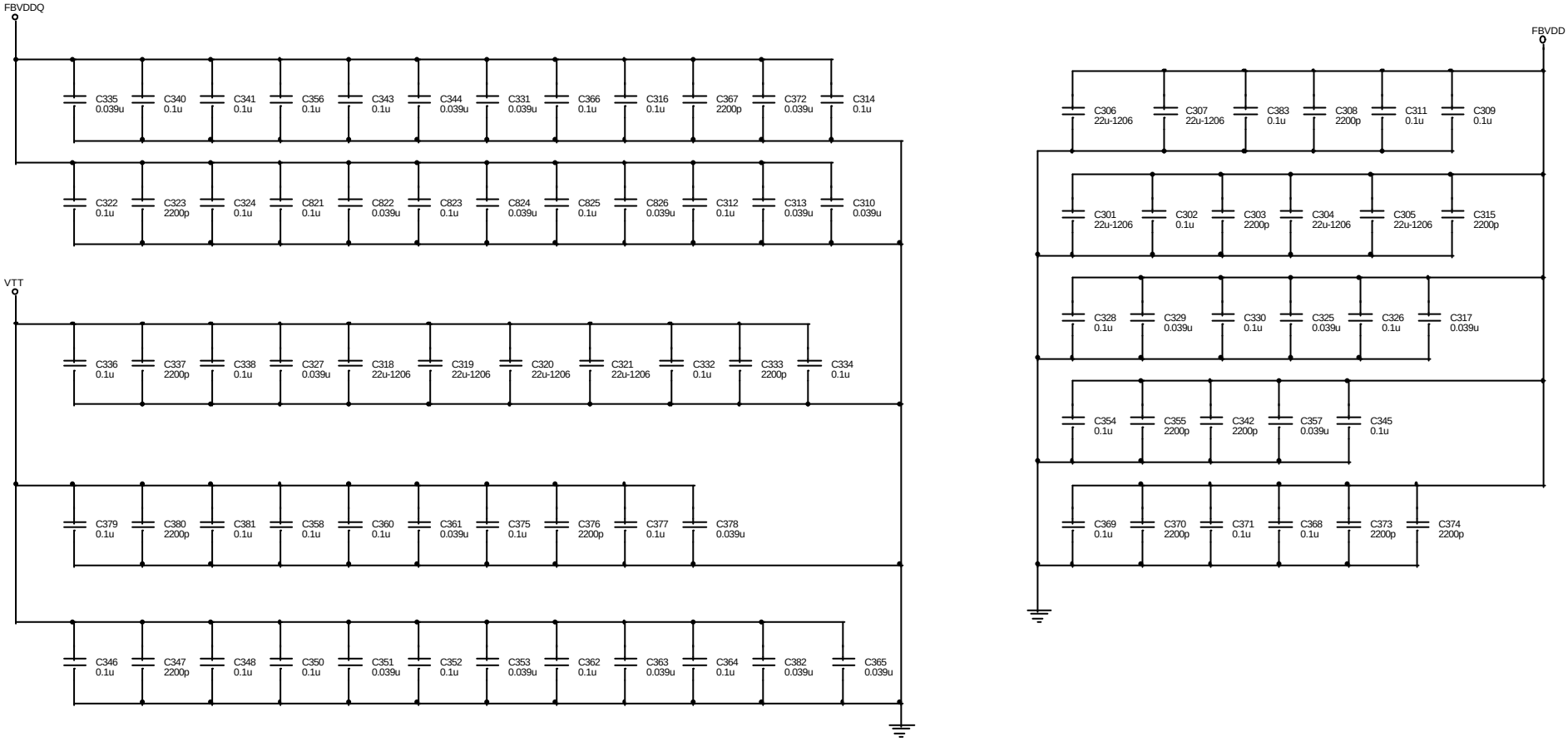
NV15 FBA/FBB



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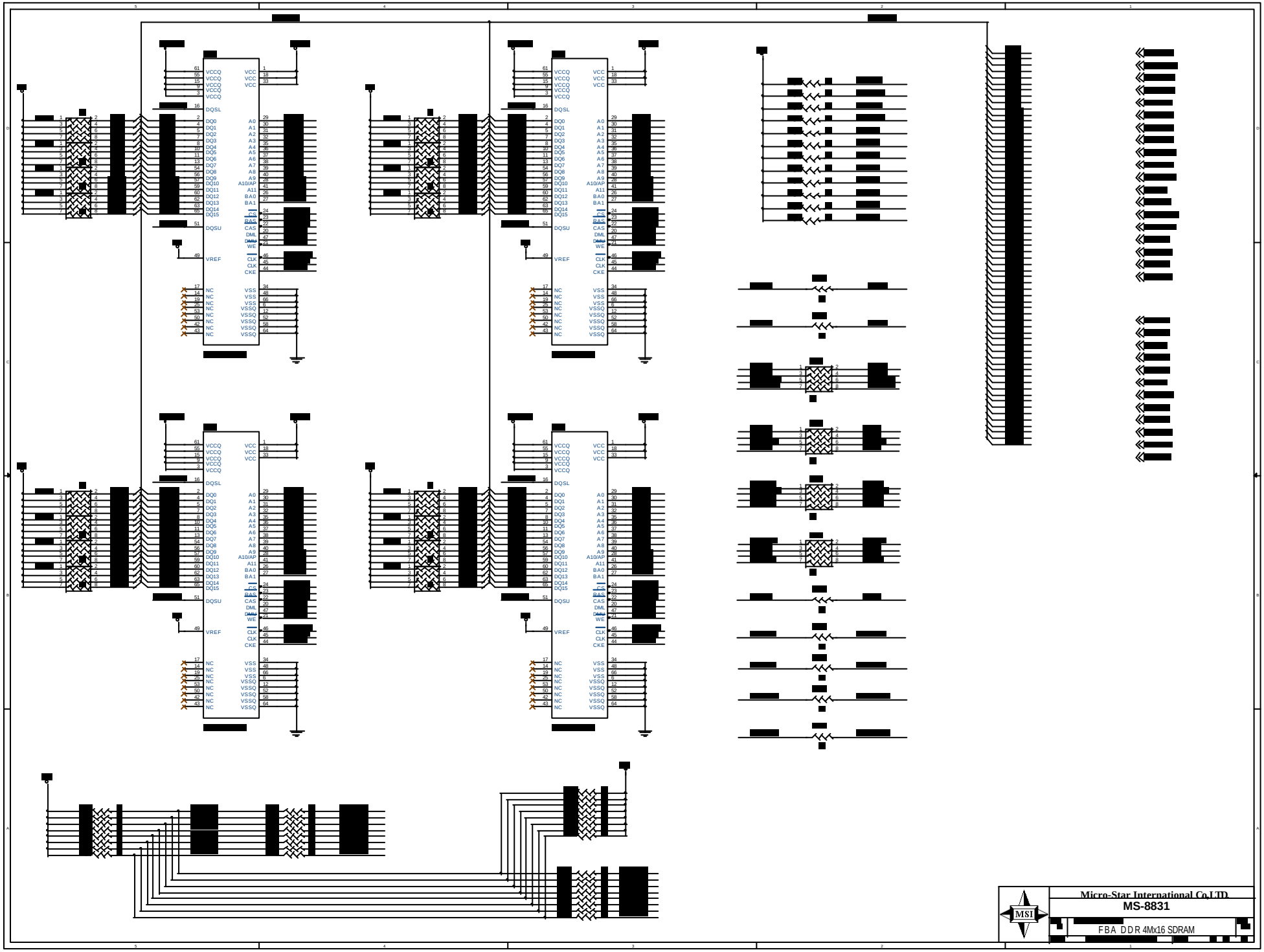
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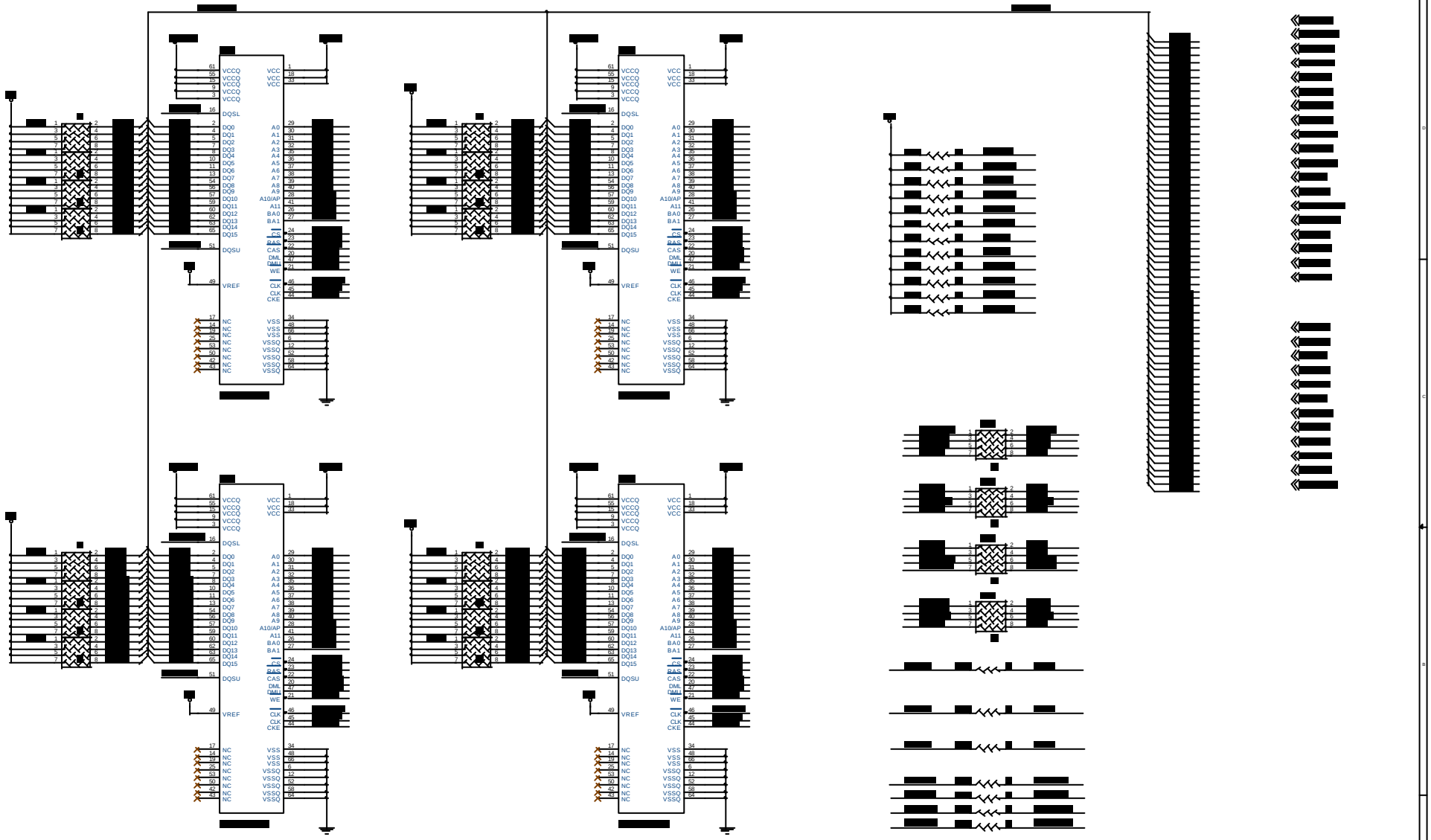
MS-8831
FBA DDR 4Mx16 SDRAM



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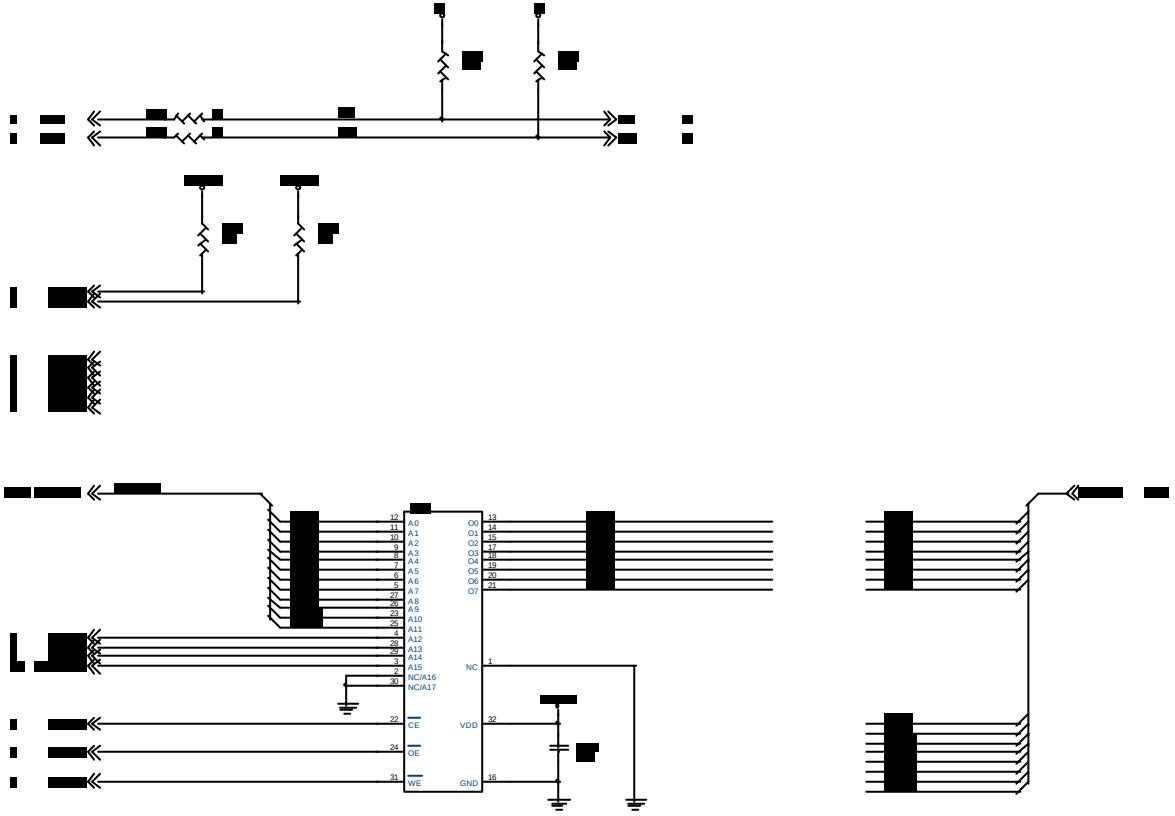
FBB DDR 4Mx16 SDRAM



ROM

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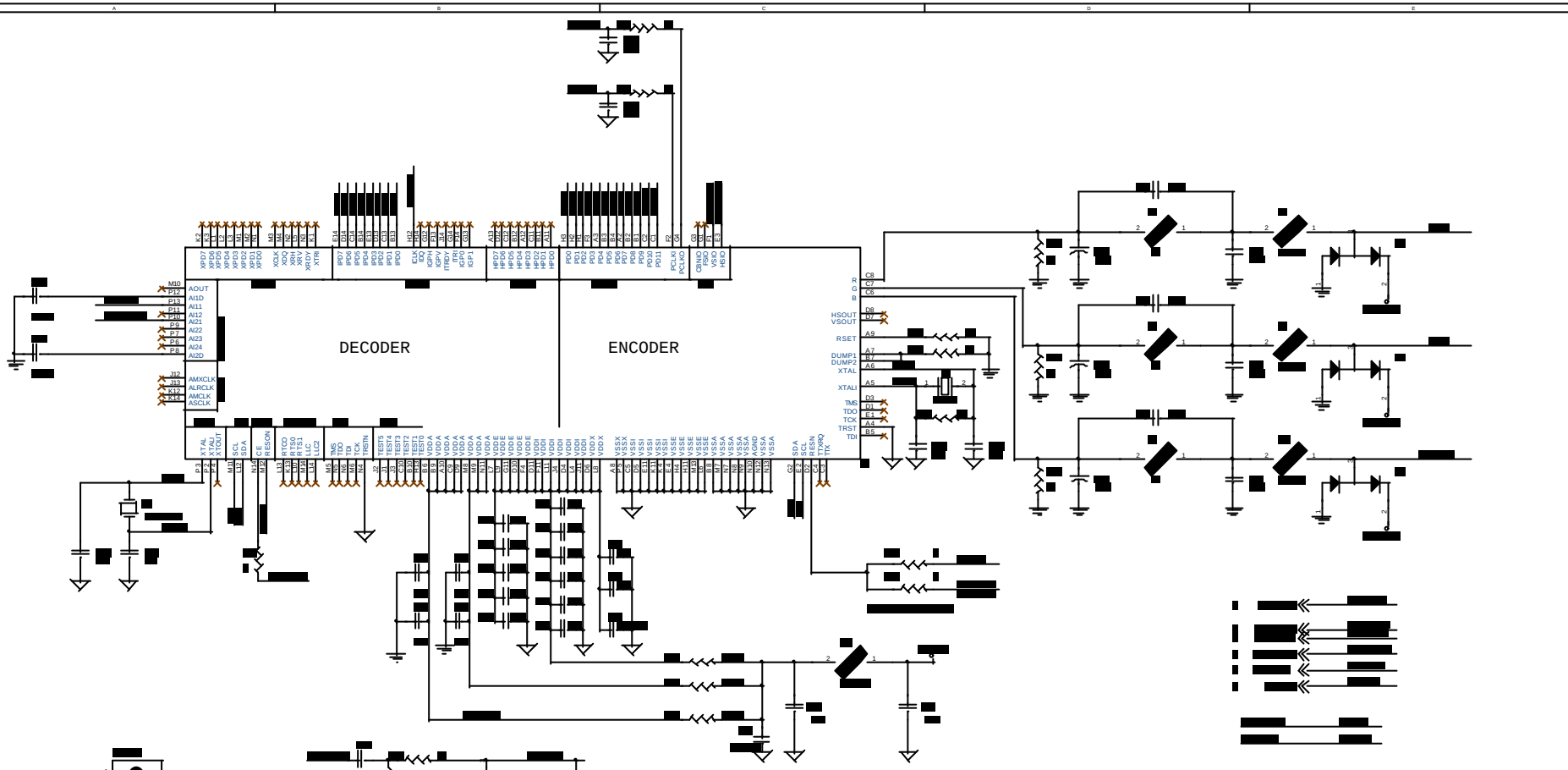
MS-8836

History based on P30-B02



1. EXTAL,EXTALI,DXTAL AND DXTALI NETS SHOULD BE 10 mils width.

PHILIPS 7108 EN/DECORDER

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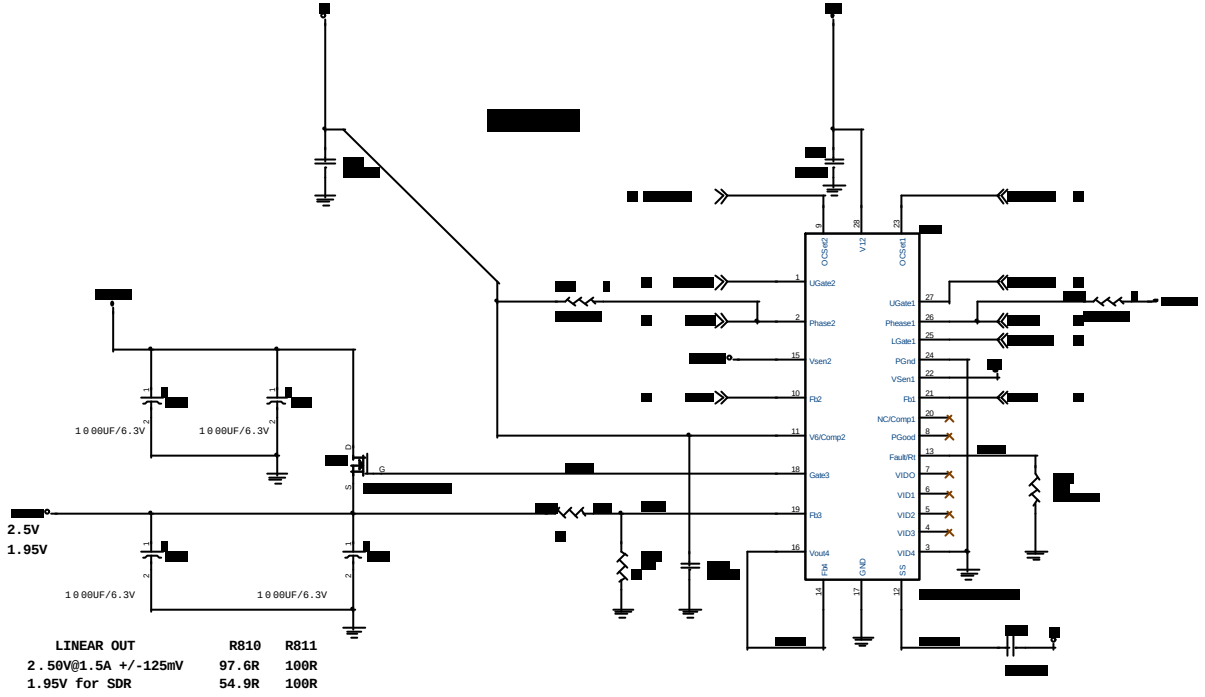
History based on P30-B02

AGP3.3

SWITCHER2=2.05V

LINEAR=2.5V



LINEAR OUT	R810	R811
2.50V@1.5A +/-125mV	97.6R	100R
1.95V for SDR	54.9R	100R

R810=((LINEAR OUT/1.26)-1)*100(R811)

NV15 BASE POWER SOLUTION

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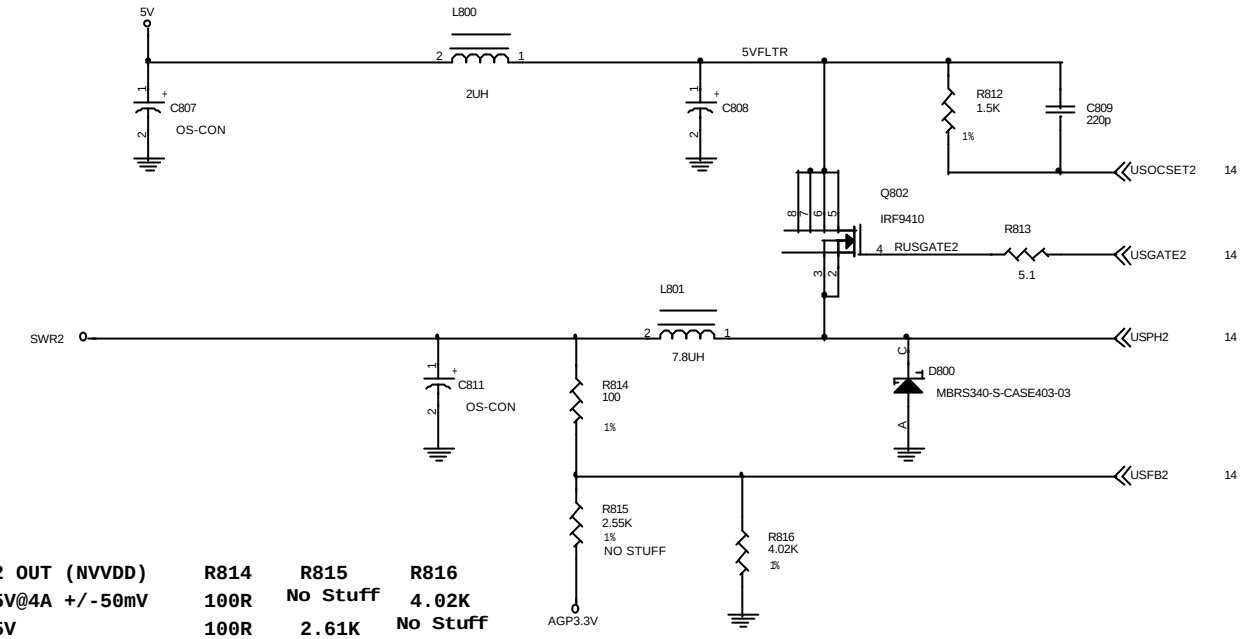
History based on P30-B02



SWR2 OUT (NVVDD)	R814	R815	R816
2.05V@4A +/-50mV	100R	No Stuff	4.02K
1.95V	100R	2.61K	No Stuff

R816=100/((2.05V/2)-1)

R815=130/(2-1.95v)

NV15 DDR POWER ADDER

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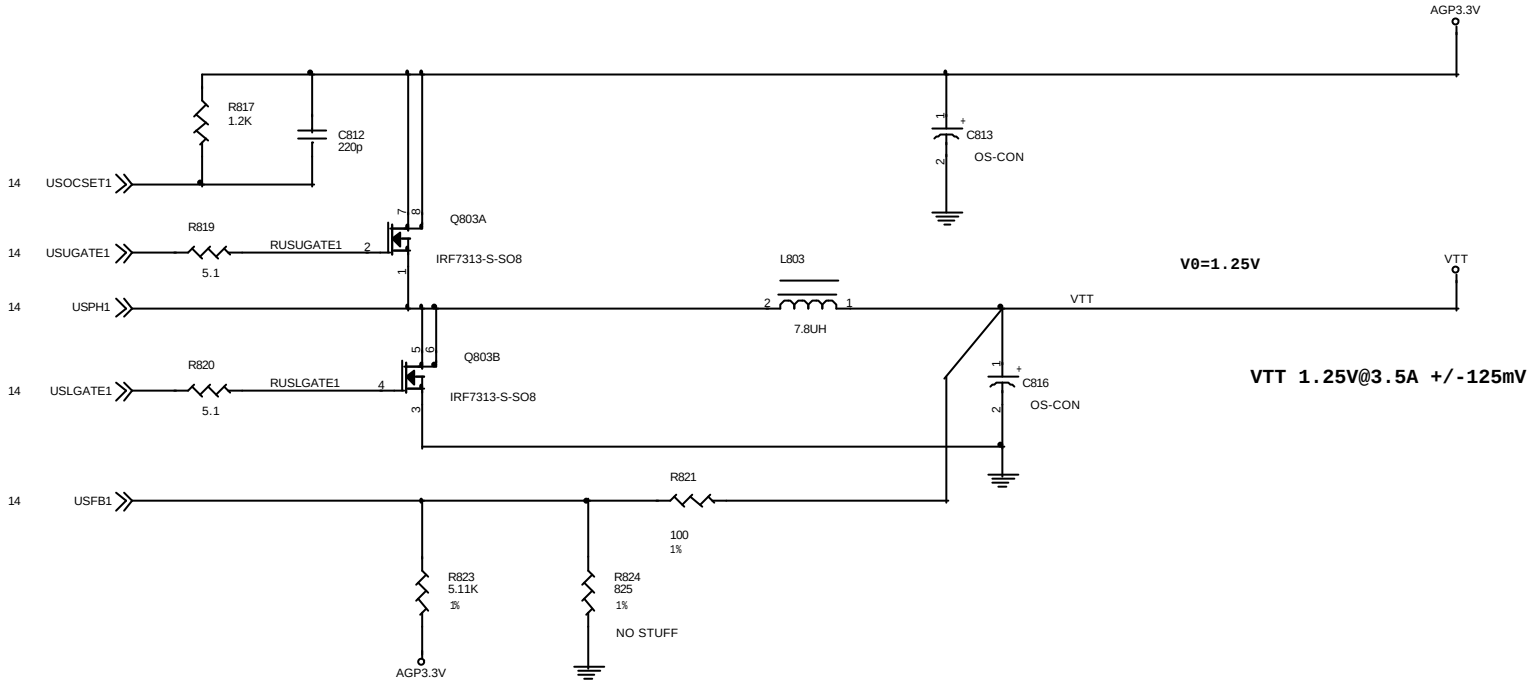

NV15 VTT POWER ADDER

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