REVISION STATUS OF SHEETS

REV										
SH										
REV	G4	G4	A	H	H	D1	H	G4	H	
SH	81	82	83	84	85	86	87	88	89	
REV	H	D	D	H	A	H	G	A	H	H
SH	71	72	73	74	75	76	77	78	79	80
REV	D	F	H	H	A	A	A	A	A	G3
SH	61	62	63	64	65	66	67	68	69	70
REV	A	A	H	A	H	C	F	D	A	A
SH	51	52	53	54	55	56	57	58	59	60
REV	A	F	A	A	A	A	A	A	H	A
SH	41	42	43	44	45	46	47	48	49	50
REV	C	A	H	E	G	A	F	A	H	G2
SH	31	32	33	34	35	36	37	38	39	40
REV	A	E	D2	B	A	A	A	C	A	A
SH	21	22	23	24	25	26	27	28	29	30
REV	A	H	G	A	H	A	A	A	A	D2
SH	11	12	13	14	15	16	17	18	19	20
REV	H	C	A	D	E	A	D2	B	A	A
SH	1	2	3	4	5	6	7	8	9	10

NEXT ASSY | USED ON

APPLICATION

DWN	R.R.P.	DATE 12/10/2012
CHK	T.W.K.	DATE 12/10/2012
ENGR	R.R.P.	DATE 12/10/2012
ENGR-MGR	R.R.P.	DATE 12/10/2012
QA	C.M.D.	DATE 12/10/2012
MFG	R.R.P.	DATE 12/10/2012
RLSE	R.R.P.	DATE 12/10/2012

TEXAS INSTRUMENTS INCORPORATED

Title: VAYU EVM

Page Contents: Title Page

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U52-7

MCASP1_ACLKR	B14				GP5[0]	GP5[0]	68	
MCASP1_ACLKX	C14	RC_MCA1_ACLKX	R602	0	C_MCA1_ACLKX	C_MCA1_ACLKX	3	
MCASP1_FSR	J14				GP5[1]	GP5[1]	68	
MCASP1_FSX	D14	RC_MCA1_AFSX	R609	0	C_MCA1_AFSX	C_MCA1_AFSX	3	
MCASP1_AXR0	G12				C_MCA1_AXR0	C_MCA1_AXR0	3	
MCASP1_AXR1	F12				C_MCA1_AXR1	C_MCA1_AXR1	3	
MCASP1_AXR2	G13				GP5[4]	GP5[4]	59	
MCASP1_AXR3	J11				GP5[5]	GP5[5]	59	
MCASP1_AXR4	E12				GP5[6]	GP5[6]	59	
MCASP1_AXR5	F13				GP5[7]	GP5[7]	59	
MCASP1_AXR6	C12				GP5[8]	GP5[8]	59	
MCASP1_AXR7	D12				GP5[9]	GP5[9]	16	
MCASP1_AXR8	B12				C_MCA6_AXR0	C_MCA6_AXR0	3	
MCASP1_AXR9	A11				C_MCA6_AXR1	C_MCA6_AXR1	3	
MCASP1_AXR10	B13	RC_MCA6_CLKX	R225	0	C_MCA6_CLKX	C_MCA6_CLKX	3	
MCASP1_AXR11	A12	RC_MCA6_FSX	R221	0	C_MCA6_FSX	C_MCA6_FSX	3	
MCASP1_AXR12	E14				C_MCA7_AXR0	C_MCA7_AXR0	3	
MCASP1_AXR13	A13				C_MCA7_AXR1	C_MCA7_AXR1	3	
MCASP1_AXR14	G14	RC_MCA7_CLKX	R613	0	C_MCA7_CLKX	C_MCA7_CLKX	3	
MCASP1_AXR15	F14	RC_MCA7_FSX	R231	0	C_MCA7_FSX	C_MCA7_FSX	3	
MCASP2_ACLKR	E15					SEL_HDMI_I2C2	5	
MCASP2_ACLKX	A19	RC_MCA2_ACLKX	R242	0	C_MCA2_ACLKX	C_MCA2_ACLKX	3	
MCASP2_FSR	A20							
MCASP2_FSX	A18	RC_MCA2_AFSX	R236	0	C_MCA2_AFSX	C_MCA2_AFSX	3	
MCASP2_AXR0	B15				C_MCA2_AXR0	C_MCA2_AXR0	3	
MCASP2_AXR1	A15				C_MCA2_AXR1	C_MCA2_AXR1	3	
MCASP2_AXR2	C15				C_MCA2_AXR2	C_MCA2_AXR2	3	
MCASP2_AXR3	A16				C_MCA2_AXR3	C_MCA2_AXR3	3	
MCASP2_AXR4	D15				C_MCA2_AXR4	C_MCA2_AXR4	3	
MCASP2_AXR5	B16				C_MCA2_AXR5	C_MCA2_AXR5	3	
MCASP2_AXR6	B17				C_MCA2_AXR6	C_MCA2_AXR6	3	
MCASP2_AXR7	A17				C_MCA2_AXR7	C_MCA2_AXR7	3	
MCASP3_ACLKX	B18	RC_MCA3_ACLKX	R237	0	C_MCA3_ACLKX	C_MCA3_ACLKX	3	
MCASP3_FSX	F15	RC_MCA3_AFSX	R224	0	C_MCA3_AFSX	C_MCA3_AFSX	3	
MCASP3_AXR0	B19	RC_MCA3_AXR0	R243	0	C_MCA3_AXR0	C_MCA3_AXR0	3	
MCASP3_AXR1	C17	RC_MCA3_AXR1	R621	0	C_MCA3_AXR1	C_MCA3_AXR1	3	
MCASP4_ACLKX	C18				VIN[5]A_D[15]	VIN[5]A_D[15]	67	
MCASP4_FSX	A21				VIN[5]A_D[14]	VIN[5]A_D[14]	67	
MCASP4_AXR0	G16				VIN[5]A_D[13]	VIN[5]A_D[13]	67	
MCASP4_AXR1	D17				VIN[5]A_D[12]	VIN[5]A_D[12]	67	
MCASP5_ACLKX	AA3	RC_VIN[5]A_D[11]	R541 / R538	NO-POP / 0	MLBP_CLK / VIN[5]A_D[11]	MLBP_CLK / VIN[5]A_D[11]	16 / 67	
MCSAP5_FSX	AB9				VIN[5]A_D[10]	VIN[5]A_D[10]	67	
MCASP5_AXR0	AB3	RC_VIN[5]A_D[9]	R527 / R526	NO-POP / 0	MLBP_SIG / VIN[5]A_D[9]	MLBP_SIG / VIN[5]A_D[9]	16 / 67	
MCASP5_AXR1	AA4	RC_VIN[5]A_D[8]	R177 / R525	NO-POP / 0	MLBP_DAT / VIN[5]A_D[8]	MLBP_DAT / VIN[5]A_D[8]	16 / 67	

X5777BXGABC

67	GP6[17]	GP6[17]	D18	XREF_CLK0		
			E17	XREF_CLK1		
			B26	XREF_CLK2		
69	GP6[20]	GP6[20]	C23	XREF_CLK3		

R764 NO-POP USB2_VBUS 56,57

TP53 (1)

TP56 (1)

R667 NO-POP XREF_CLK2 — XREF_CLK2 16

R263 0 AIC3106_MCLK — AIC3106_MCLK 62

RC_XREF_CLK1 R626 0 C_XREF_CLK1 — C_XREF_CLK1 3

gpio5_4	mcasp1_axr[2]
gpio5_5	mcasp1_axr[3]
gpio5_6	mcasp1_axr[4]
gpio5_7	mcasp1_axr[5]
gpio5_8	mcasp1_axr[6]
gpio5_9	mcasp1_axr[7]
gpio5_10	mcasp1_axr[8]
gpio5_11	mcasp1_axr[9]
gpio5_12	mcasp1_axr[10]
gpio4_17	mcasp1_axr[11]
gpio4_18	mcasp1_axr[12]
gpio6_4	mcasp1_axr[13]
gpio6_5	mcasp1_axr[14]
gpio6_6	mcasp1_axr[15]

mcasp1_axr[8]	mcasp6_axr[0]	vin6a_d[15]
mcasp1_axr[9]	mcasp6_axr[1]	vin6a_d[14]
mcasp1_axr[10]	mcasp6_aclkx	vin6a_d[13]
mcasp1_axr[11]	mcasp6_fsx	vin6a_d[12]
mcasp1_axr[12]	mcasp7_axr[0]	vin6a_d[11]
mcasp1_axr[13]	mcasp7_axr[1]	vin6a_d[10]
mcasp1_axr[14]	mcasp7_aclkx	vin6a_d[9]
mcasp1_axr[15]	mcasp7_fsx	vin6a_d[8]

mcasp1_axr[12]	mcasp7_axr[0]	vin6a_d[11]
mcasp1_axr[13]	mcasp7_axr[1]	vin6a_d[10]
mcasp1_axr[14]	mcasp7_aclkx	vin6a_d[9]
mcasp1_axr[15]	mcasp7_fsx	vin6a_d[8]

mcasp2_aclkx	vin6a_d[7]	
mcasp2_fsx	vin6a_d[6]	
mcasp2_aclkr		
mcasp2_fsr		
mcasp2_axr[0]		
mcasp2_axr[1]		
mcasp2_axr[2]	vin6a_d[5]	
mcasp2_axr[3]	vin6a_d[4]	
mcasp2_axr[4]		
mcasp2_axr[5]		
mcasp2_axr[6]		
mcasp2_axr[7]		

mcasp3_aclkx	vin6a_d[3]	
mcasp3_fsx	vin6a_d[2]	
mcasp3_axr[0]	vin6a_d[1]	
mcasp3_axr[1]	vin6a_d[0]	

	mcasp4_aclkx	vin5a_d[15]
	mcasp4_fsx	vin5a_d[14]
	mcasp4_axr[0]	vin5a_d[13]
	mcasp4_axr[1]	vin5a_d[12]
	McASP5	
	mcasp5_aclkx	vin5a_d[11]
	mcasp5_fsx	vin5a_d[10]
mcasp5_aclkx mlb_clk	mcasp5_axr[0]	vin5a_d[9]
mcasp5_fsx	mcasp5_axr[1]	vin5a_d[8]
mcasp5_axr[0] mlb_sig		
mcasp5_axr[1] mlb_dat		

mcasp1_aclkx	vin6a_fld0	
mcasp1_fsx	vin6a_de0	
mcasp1_aclkr		
mcasp1_fsr		
mcasp1_axr[0]	vin6a_vsync0	
mcasp1_axr[1]	vin6a_hsync0	

xref_clk2 mcasp3_ahclkx

xref_clk1 mcasp6_ahclkx vin6a_clk0

TEXAS INSTRUMENTS INCORPORATED

Title:	VAYU EVM		
Page Contents:	VAYU McASP		
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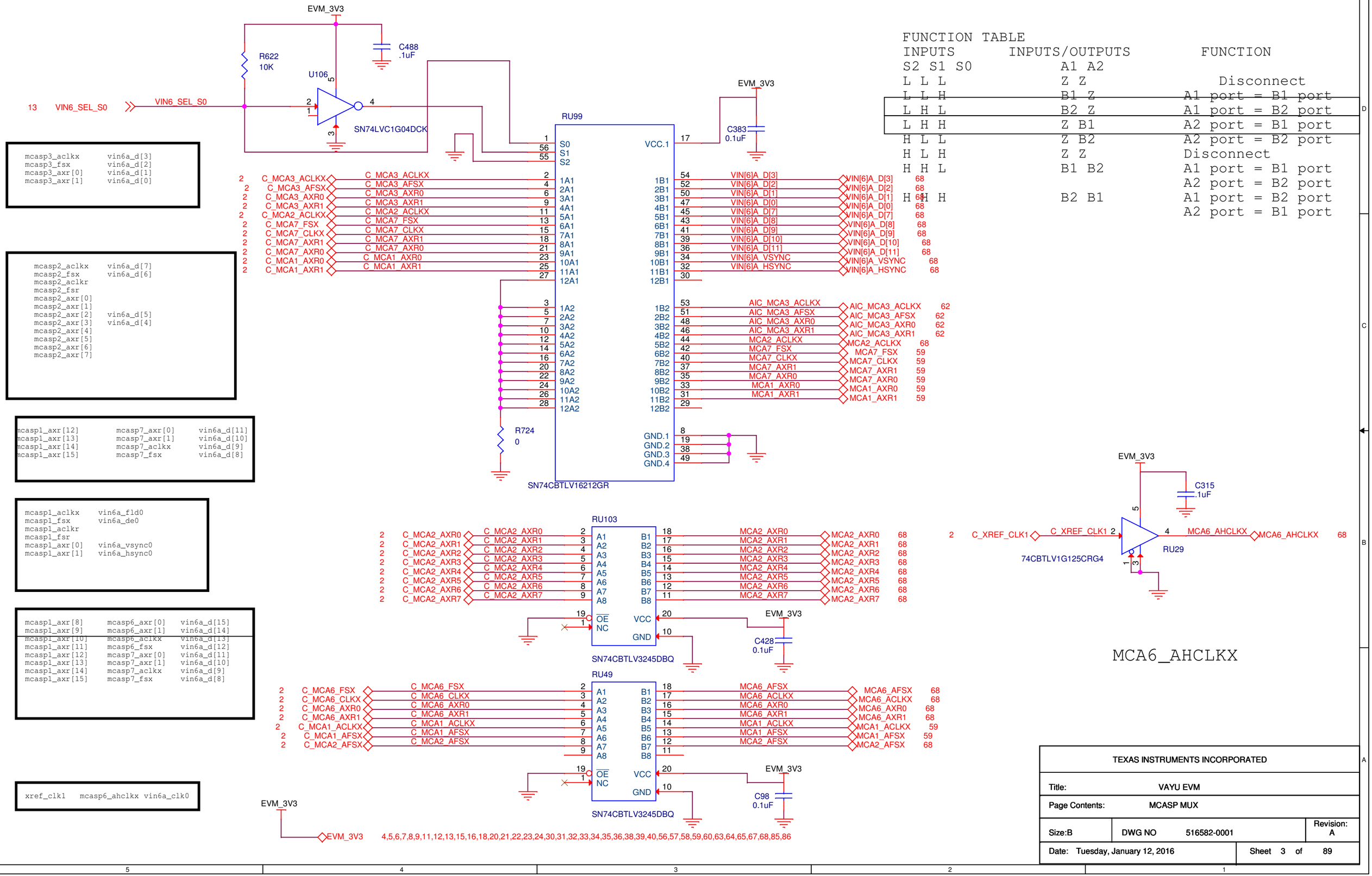
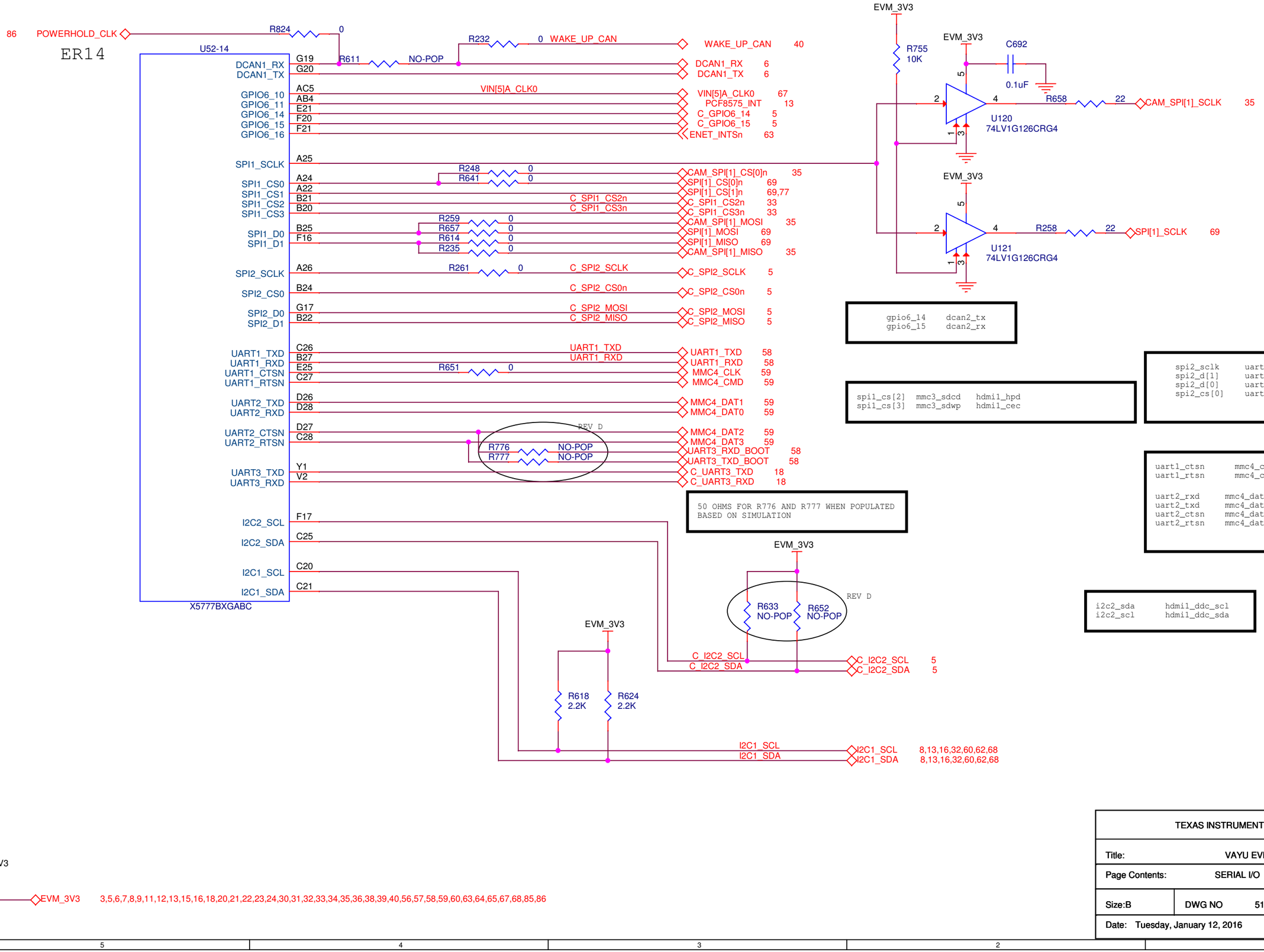


TEXAS INSTRUMENTS INCORPORATED	
Title:	VAYU EVM
Page Contents:	MCASP MUX
Size:B	DWG NO 516582-0001 Revision: A
Date: Tuesday, January 12, 2016	Sheet 3 of 89



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: SERIAL I/O		
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i2c2_sda	hdmi1_ddc_scl	
i2c2_scl	hdmi1_ddc_sda	

spi1_cs[2]	mmc3_sdcd	hdmi1_hpd
spi1_cs[3]	mmc3_sdwp	hdmi1_cec

EVM_3V3

REV D

R233 2.2K

R240 2.2K

I2C2_SCL 13,34,35,69

I2C2_SDA 13,34,35,69

HDMI_DSDA 33

HDMI_DSCL 33

REV E

4,33 C_SPI1_CS2n — HDMI_HPD 4,33

4,33 C_SPI1_CS3n — HDMI_CEC_A 4,33

REV E

EVM_3V3

C122

0.1uF

RU108

SN74CBTLV3257PW

4 C_I2C2_SCL

4 C_I2C2_SDA

EVM_3V3

R229 NO-POP

2 SEL_HDMI_I2C2

R230 10K

EVM_3V3

C129

0.1uF

RU111

SN74CBTLV3257PW

4 C_SPI2_SCLK

4 C_SPI2_MISO

4 C_SPI2_MOSI

4 C_SPI2_CS0n

UART3_RXD 59

UART3_TXD 59

UART3_CTS 59

UART3_RTS 59

SPI[2]_SCLK 69

SPI[2]_MISO 69

SPI[2]_MOSI 69

SPI[2]_CS[0]n 69

EVM_3V3

R246 10K

13 SEL_UART3_SPI2

R247 NO-POP

spi2_sclk	uart3_rxd
spi2_d[1]	uart3_txd
spi2_d[0]	uart3_ctsn
spi2_cs[0]	uart3_rtsn

EVM_3V3

EVM_3V3 3,4,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

EVM_3V3

R268 2.2K

R270 2.2K

I2C3_SDA 67

I2C3_SCL 67

EVM_3V3

C135

0.1uF

RU113

SN74CBTLV3257PW

4 C_GPIO6_14

4 C_GPIO6_15

DCAN2_TX 6

DCAN2_RX 6

EVM_3V3

R264 NO-POP

13 SEL_I2C3_CAN2

R265 10K

DCAN2 signaling is not SW controllable.
Requires HW change: R264 = 10k & R265 = NO-POP

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: SERIAL I/O MUX		
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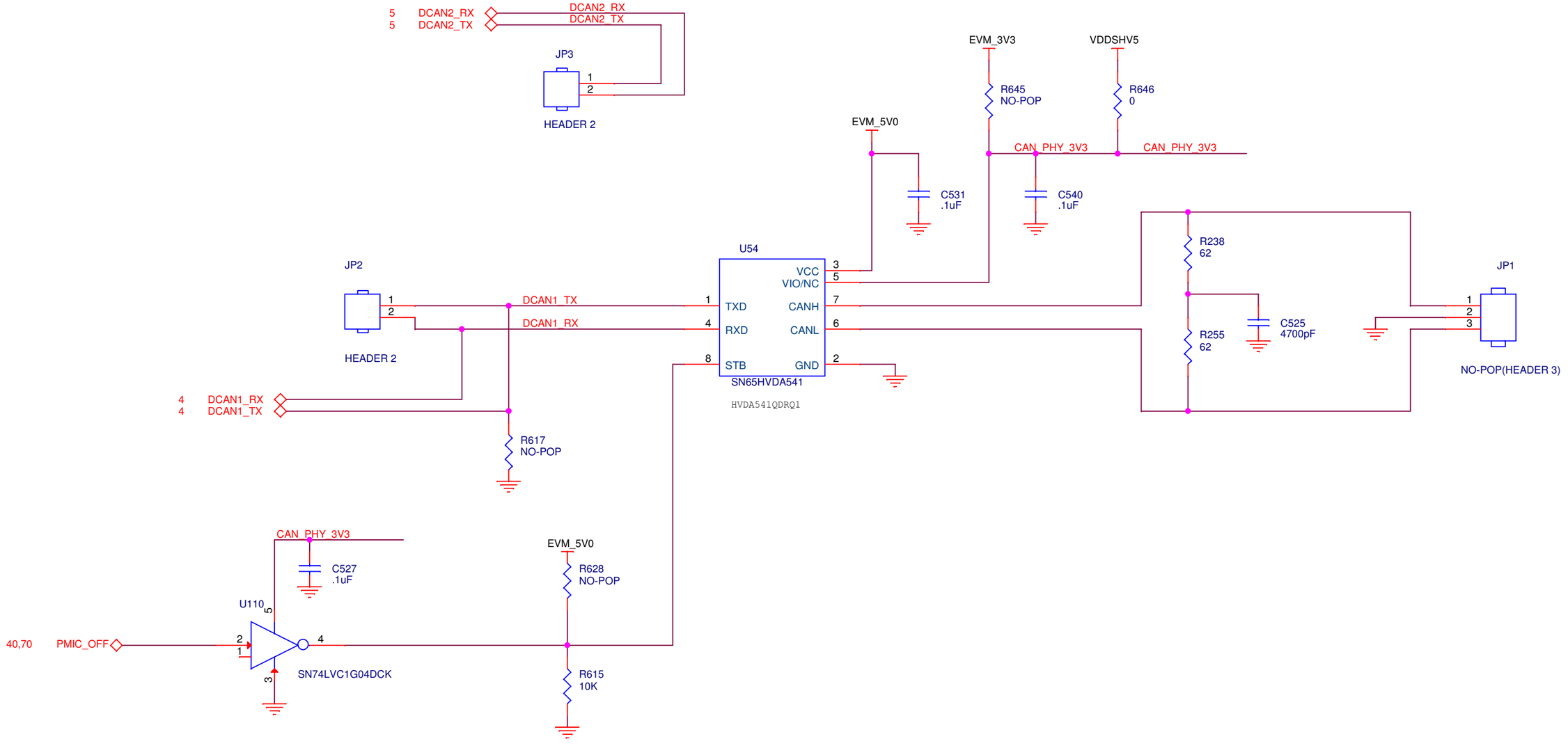

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: CAN CONNECTORS		
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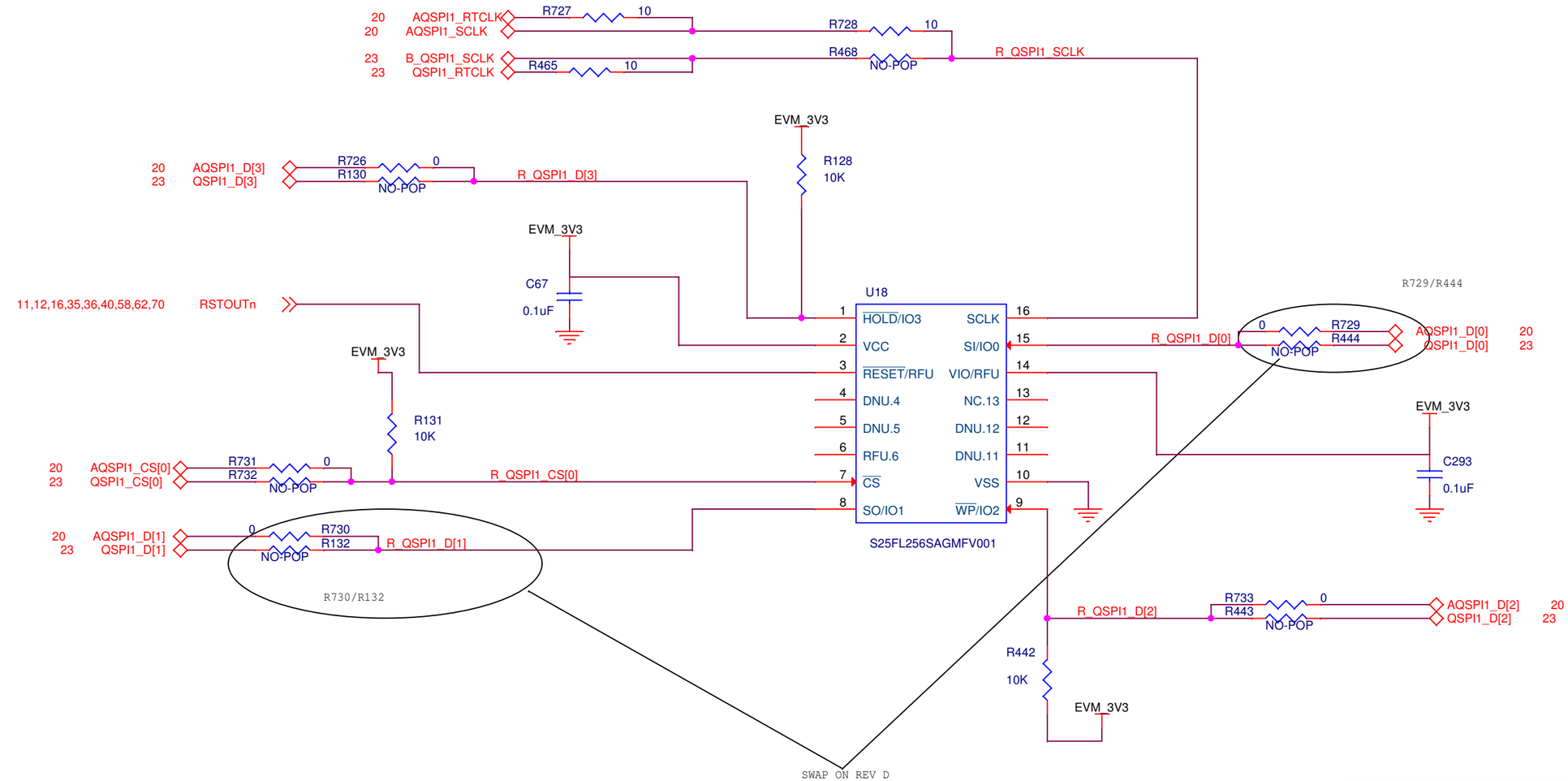
ROUTE THE FOLLOWING SIGNALS AS A GROUP
WITH A NET LENGTH LESS THEN 2.75
INCHES AND 60ps OF SKEW. PLACE THE
DUAL RESISTOR CLOSE TOGETHER NEAR THE
PIN OF THE FLASH.

AQSPI1_SCLK
AQSPI1_RTCLK
AQSPI1_CS[0]
AQSPI1_D[0]
AQSPI1_D[1]
AQSPI1_D[2]
AQSPI1_D[3]



EVM_3V3

EVM_3V3 3,4,5,6,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: SPI FLASH		
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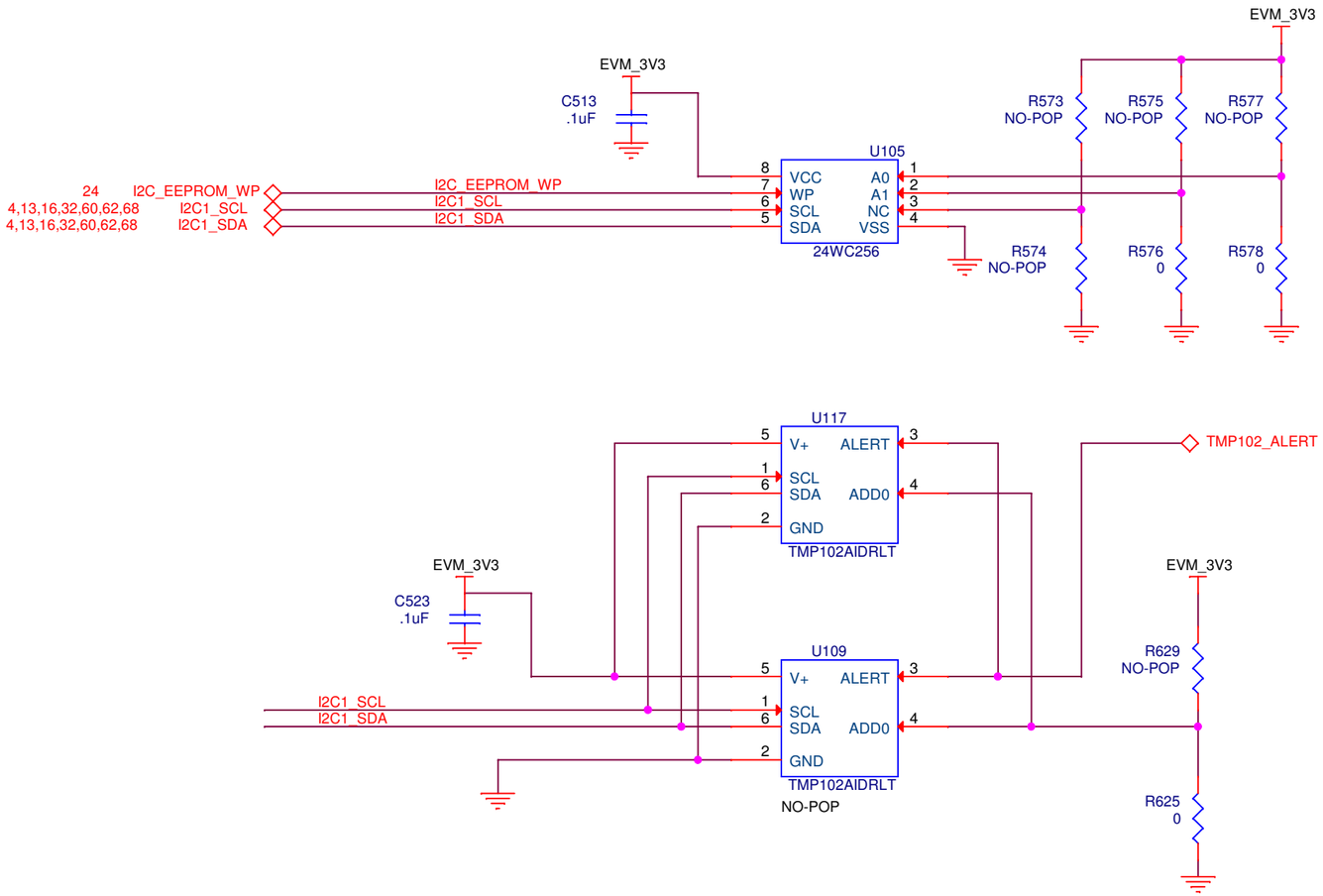

PLACE TEMP SENSOR CLOSE TO PROCESSOR

EVM_3V3

EVM_3V3 3,4,5,6,7,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EEPROM/TEMP SENSOR		
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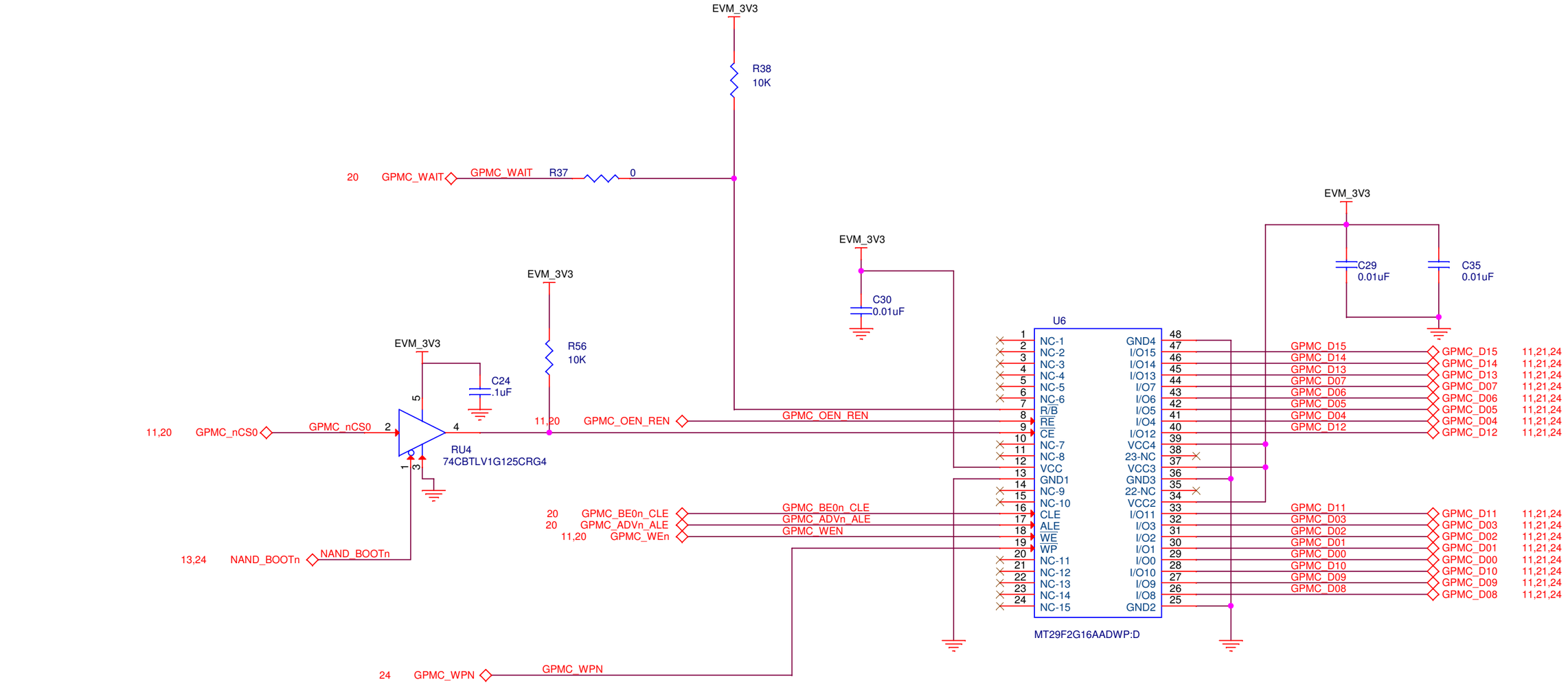

EVM_3V3

EVM_3V3 3,4,5,6,7,8,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: NAND FLASH		
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BLANK REMOVED

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: HPC TOOL		
Size:B	DWG NO 516582-0001	Revision: A
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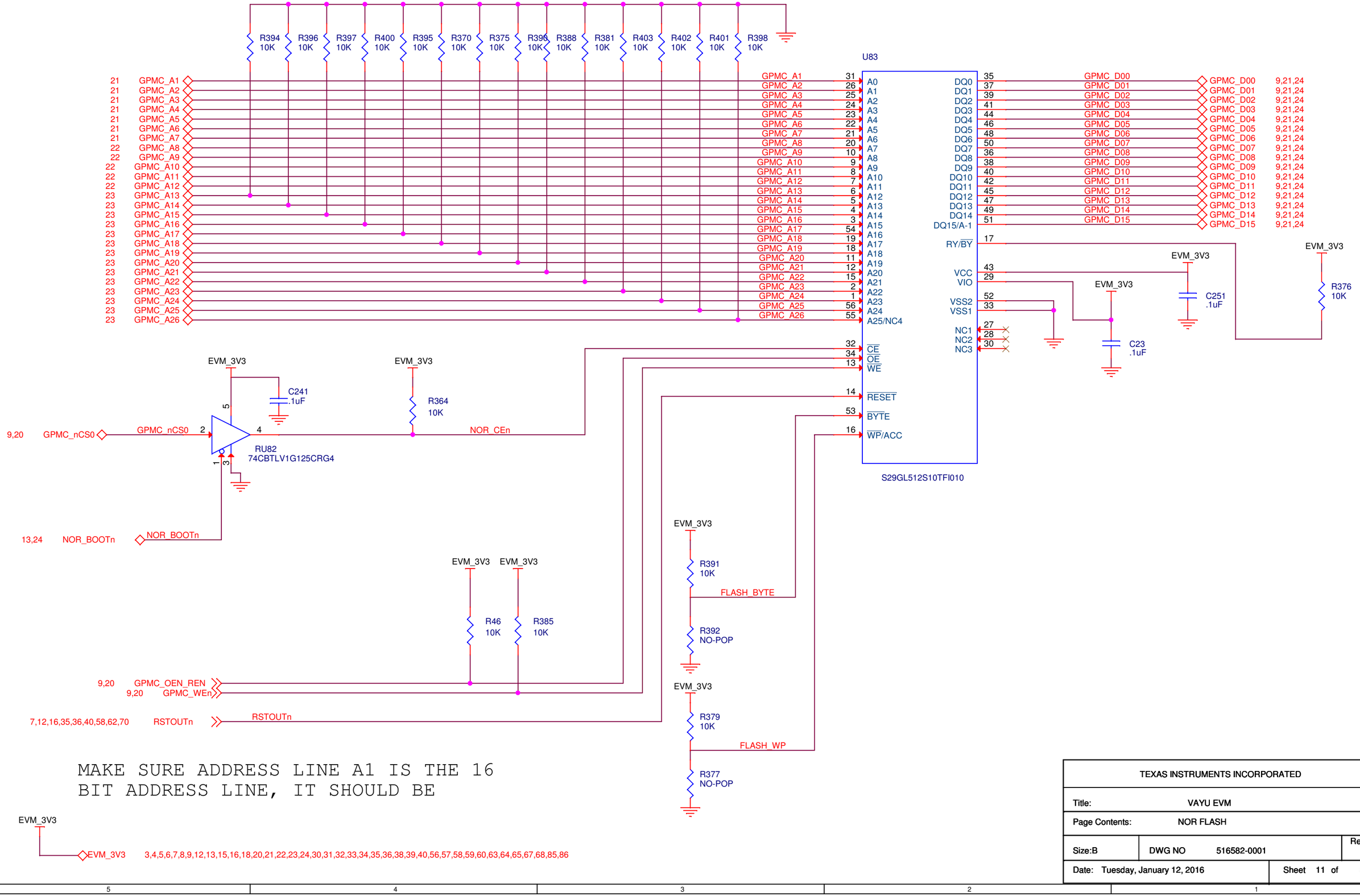

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: NOR FLASH		
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MMC2_VCCQ

R433 NO-POP
R410 47K
R404 47K
R422 47K
R426 47K
R406 47K
R405 47K
R414 47K
R423 47K
R428 47K

ER40

23 MMC2_CLK
23 MMC2_CMD
23 MMC2_DAT0
23 MMC2_DAT1
23 MMC2_DAT2
23 MMC2_DAT3
23 MMC2_DAT4
23 MMC2_DAT5
23 MMC2_DAT6
23 MMC2_DAT7

R427 0

M6 CLK
M5 CMD
A3 DAT0
A4 DAT1
A5 DAT2
B2 DAT3
B3 DAT4
B4 DAT5
B5 DAT6
B6 DAT7
K5 RSTN
C2 VDDI.1

MD1 NC.MD1
MB2 NC.MB2
MA4 NC.MA4
MA6 NC.MA6
MA9 NC.MA9
MA11 NC.MA11
MB13 NC.MB13
MD14 NC.MD14

P1 NC.P1
P2 NC.P2
P7 NC.P7
P8 NC.P8
P9 NC.P9
P10 NC.P10
P11 NC.P11
P12 NC.P12
P13 NC.P13
P14 NC.P14
N1 NC.N1
N3 NC.N3
N7 NC.N7
N6 NC.N6
N8 NC.N8
N9 NC.N9
N10 NC.N10
N11 NC.N11
N12 NC.N12
N13 NC.N13
N14 NC.N14

A1 NC.A1
A2 NC.A2
A6 NC.A6
A7 NC.A7
A8 NC.A8
A9 NC.A9
A10 NC.A10
A11 NC.A11
A12 NC.A12
A13 NC.A13
A14 NC.A14
B1 NC.B1
B7 NC.B7
B8 NC.B8
B9 NC.B9
B10 NC.B10
B11 NC.B11
B12 NC.B12
B13 NC.B13
B14 NC.B14
C1 NC.C1
C3 NC.C3
C5 NC.C5
C7 NC.C7
C8 NC.C8
C9 NC.C9
C10 NC.C10
C11 NC.C11
C12 NC.C12
C13 NC.C13
C14 NC.C14
D1 NC.D1
D2 NC.D2
D3 NC.D3
D4 NC.D4
D12 NC.D12
D13 NC.D13
D14 NC.D14

M1 NC.M1
M2 NC.M2
M3 NC.M3
M7 NC.M7
M8 NC.M8
M9 NC.M9
M10 NC.M10
M11 NC.M11
M12 NC.M12
M13 NC.M13
M14 NC.M14
L1 NC.L1
L2 NC.L2
L3 NC.L3
L12 NC.L12
L13 NC.L13
L14 NC.L14
K1 NC.K1
K2 NC.K2
K3 NC.K3
K6 NC.K6
K7 NC.K7
K10 NC.K10
K12 NC.K12
K13 NC.K13
K14 NC.K14
J1 NC.J1
J2 NC.J2
J3 NC.J3
J5 NC.J5
J12 NC.J12
J13 NC.J13
J14 NC.J14

169 WFBGA EXTENDED MOUNTING PADS

DUAL FOOTPRINT 153/169 USES 153 PIN
NUMBERS FOR COMPATIBLE PINS.

VDD.1 C6
VDD.2 M4
VDD.3 N4
VDD.4 P3
VDD.5 P5

VFF.1 E6
VFF.2 F5
VFF.3 J10
VFF.4 K9

VSS.1 C4
VSS.2 E7
VSS.3 G5
VSS.4 H10
VSS.5 K8
VSS.8 P4
VSS.7 N5
VSS.6 N2
VSS.9 P6

ER21

NC.MAE1 MAE1
NC.MAG2 MAG2
NC.MAH4 MAH4
NC.MAH6 MAH6
NC.MAH9 MAH9
NC.MAH11 MAH11
NC.MAG13 MAG13
NC.MAE14 MAE14

NC.E1 E1
NC.E2 E2
NC.E3 E3
NC.E5 E5
NC.E8 E8
NC.E9 E9
NC.E10 E10
NC.E12 E12
NC.E13 E13
NC.E14 E14
NC.F1 F1
NC.F2 F2
NC.F3 F3
NC.F10 F10
NC.F12 F12
NC.F13 F13
NC.F14 F14
NC.G1 G1
NC.G2 G2
NC.G3 G3
NC.G10 G10
NC.G12 G12
NC.G13 G13
NC.G14 G14
NC.H1 H1
NC.H2 H2
NC.H3 H3
NC.H5 H5
NC.H12 H12
NC.H13 H13
NC.H14 H14

ER23

EVM_1V8
R407 0
EVM_3V3
MMC2_VCCQ
R798 NP
C280 2.2uF
C274 0.22uF
MMC2_VFF
EVM_3V3
R429 0
C273 4.7uF
C290 0.22uF

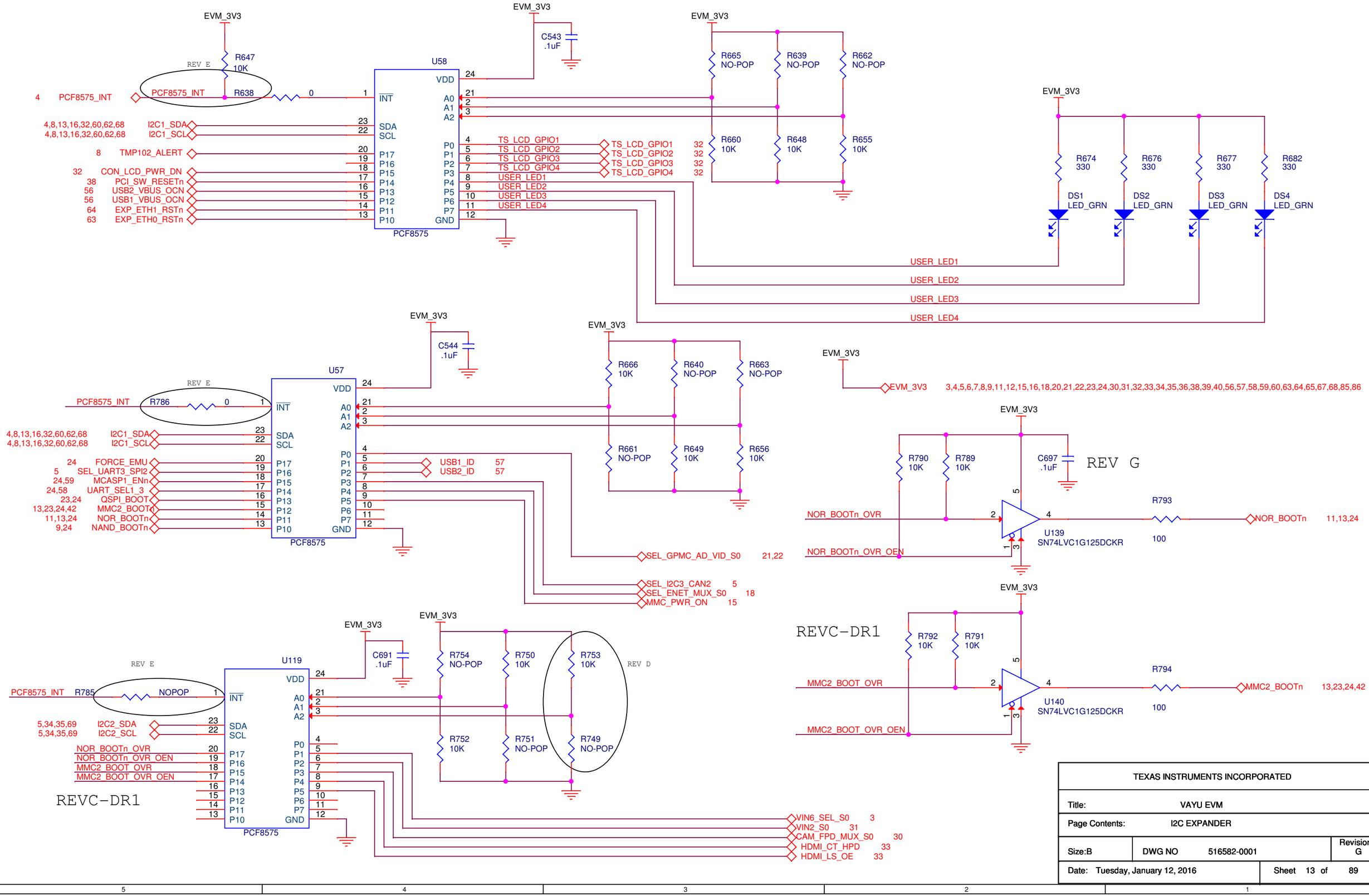
EVM_1V8
15,32,59,60,63,64,68,81 EVM_1V8

EVM_3V3
MMC2_VCCQ
C703 .1uF
R417 47K
REV G
U143 SN74LVC1G125DCKR
7,11,16,35,36,40,58,62,70 RSTOUTn

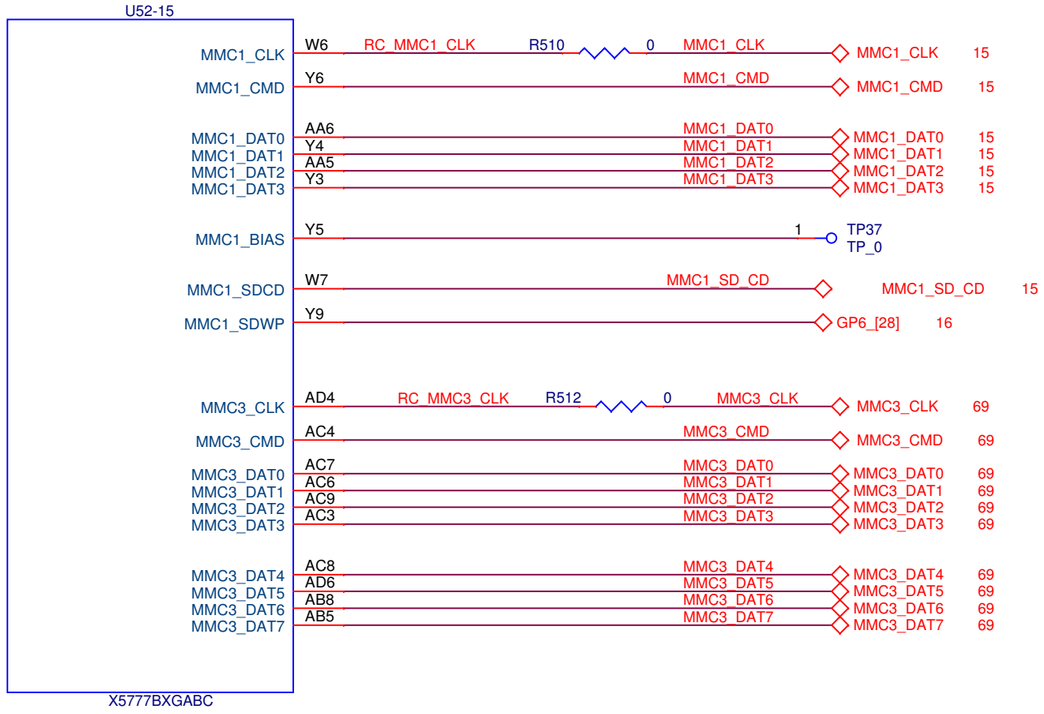
MMC2_VDDI
C698 2.2uF
C269 0.1uF

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED			
Title: VAYU EVM			
Page Contents: EMMC MEMORY			
Size:B	DWG NO 516582-0001		Revision: H
Date: Tuesday, January 12, 2016		Sheet 12 of 89	

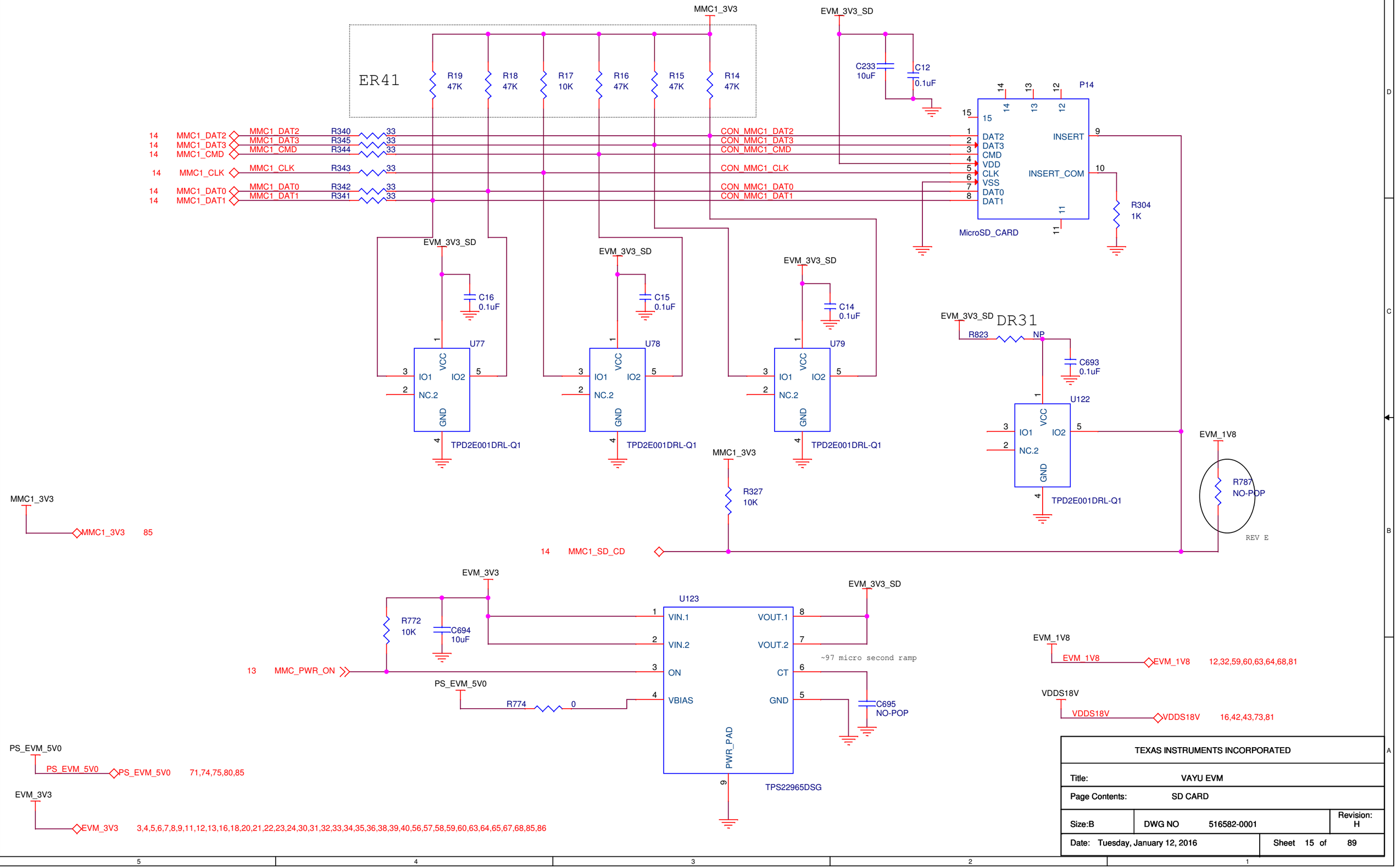


TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: I2C EXPANDER		
Size:B	DWG NO 516582-0001	Revision: G
Date: Tuesday, January 12, 2016		Sheet 13 of 89




```
mmc3_clk          vin5a_d[7]
mmc3_cmd          vin5a_d[6]
mmc3_dat[0]       vin5a_d[5]
mmc3_dat[1]       vin5a_d[4]
mmc3_dat[2]       vin5a_d[3]
mmc3_dat[3]       vin5a_d[2]
mmc3_dat[4]       vin5a_d[1]
mmc3_dat[5]       vin5a_d[0]
mmc3_dat[6]       vin5a_hsync0
mmc3_dat[7]       vin5a_vsync0
```

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: MMC INTERFACE		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 14 of 89	



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: SD CARD		
Size:B	DWG NO 516582-0001	Revision: H
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PLACE 100 OHM RESISTORS AT CPU

VDDS18V

C470
0.1uF

U52-20

AA7 VDDS_MLBP.1
Y7 VDDS_MLBP.2

MLBP_CLK_P
MLBP_CLK_N
AB1
AB2
MLBP_CLK_P
MLBP_CLK_N
R184
100

MLBP_DAT_P
MLBP_DAT_N
AA1
AA2
MLBP_DAT_P
MLBP_DAT_N
R183
100

MLBP_SIG_P
MLBP_SIG_N
AC1
AC2
MLBP_SIG_P
MLBP_SIG_N
R182
100

X5777BXGABC

100 ohm diff pairs

J12
1
2
MLBP_SIG_N
MLBP_SIG_P
NO-POP(HD2-2MM)
R148
NO-POP
R139
NO-POP

J10
1
2
MLBP_DAT_N
MLBP_DAT_P
NO-POP(HD2-2MM)
R137
NO-POP
R136
NO-POP

J9
1
2
NO-POP(HD2-2MM)

MLBP_CLK_N
MLBP_CLK_P
R133
NO-POP
R129
NO-POP

P8

MLBP_CLK 2
MLBP_SIG 2
MLBP_DAT 2
R462 0
XREF_CLK2 2
GP6_[28] 14 GP1[5] REPLACED
GP5[9] 2

7,11,12,35,36,40,58,62,70 RSTOUTn
R460 0

4,8,13,32,60,62,68 I2C1_SCL
4,8,13,32,60,62,68 I2C1_SDA

VDDS18V
VDDS18V VDDS18V 42,43,73,81

EVM_12V
EVM_12V 38,68,74,87

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

SH_GND.3
SH_GND.4
SH_GND.2
SH_GND.1

QSH-020-01-L-D-DP-A

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: MLB		
Size:B	DWG NO 516582-0001	Revision: A
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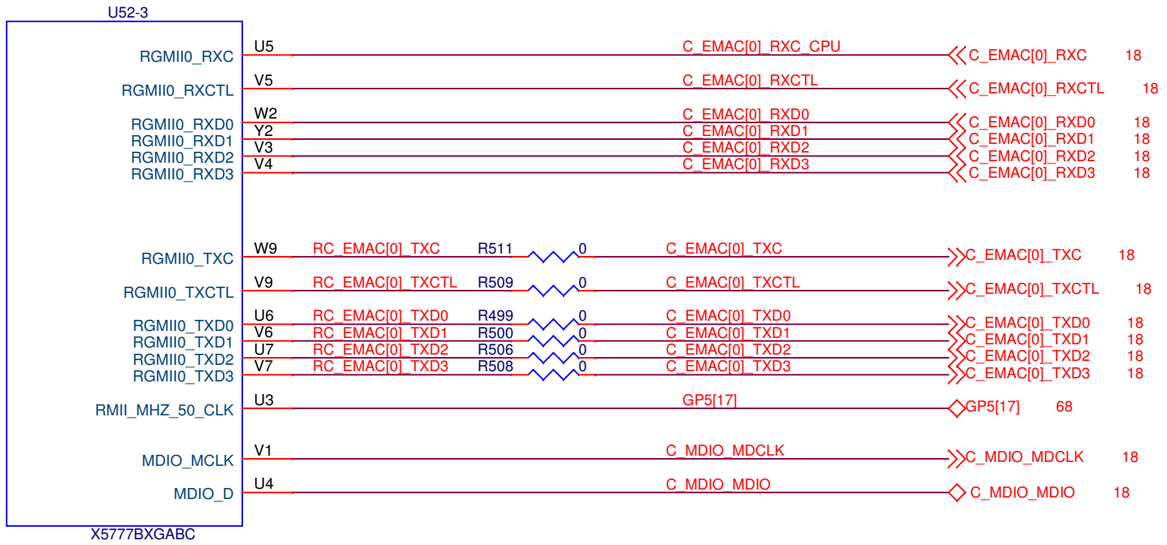
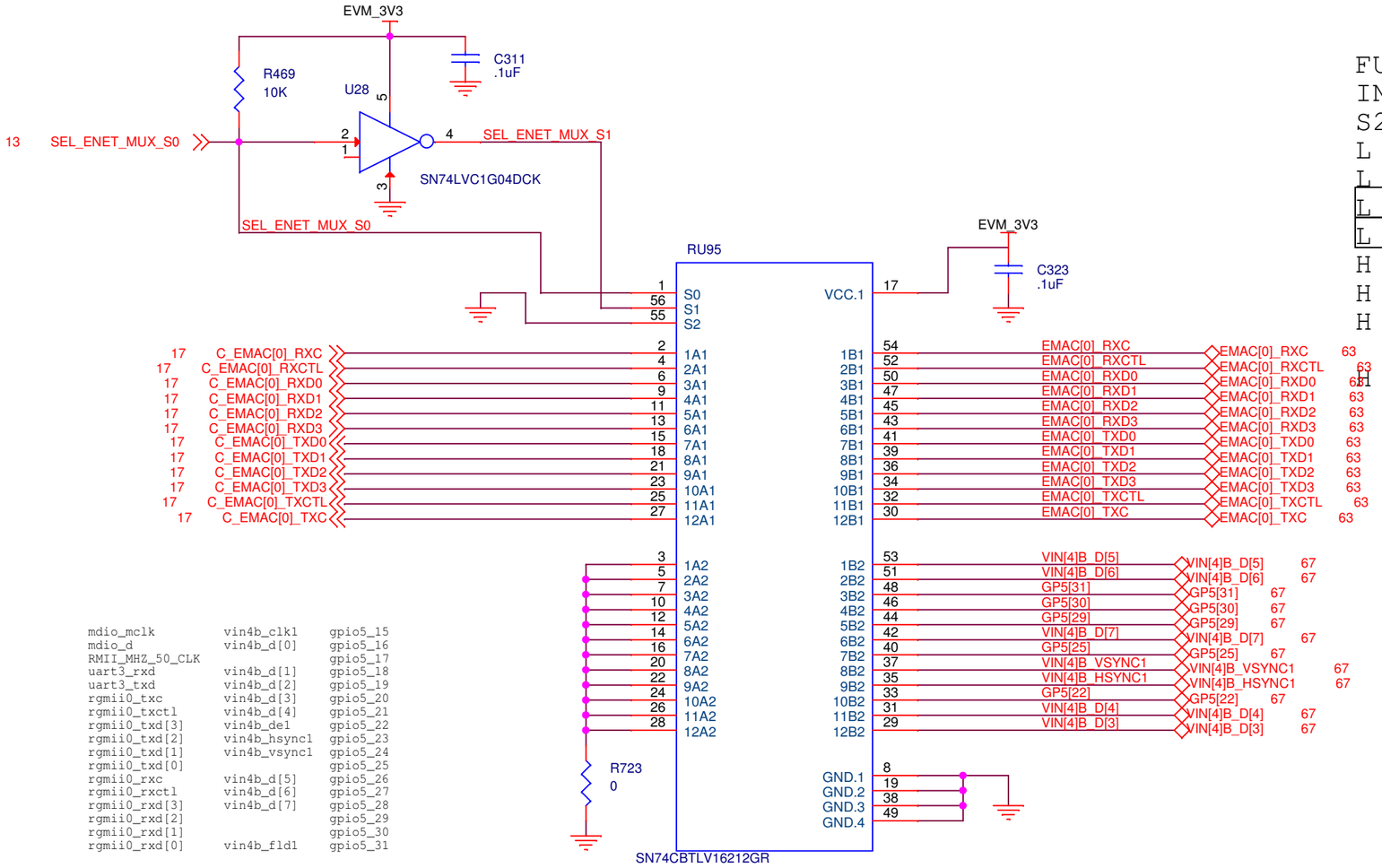


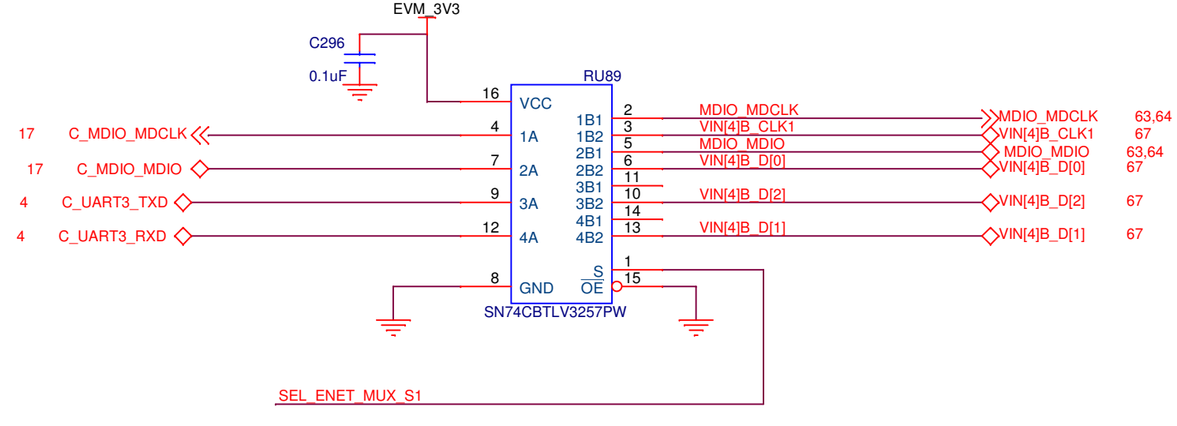

```
mdio_mclk          vin4b_clk1
mdio_d             vin4b_d[0]
RMII_MHZ_50_CLK
uart3_rxd          vin4b_d[1]
uart3_txd          vin4b_d[2]
rgmii0_txc         vin4b_d[3]
rgmii0_txctl       vin4b_d[4]
rgmii0_txd[3]      vin4b_de1
rgmii0_txd[2]      vin4b_hsync1
rgmii0_txd[1]      vin4b_vsync1
rgmii0_txd[0]
rgmii0_rxc         vin4b_d[5]
rgmii0_rxctl       vin4b_d[6]
rgmii0_rxd[3]      vin4b_d[7]
rgmii0_rxd[2]
rgmii0_rxd[1]
rgmii0_rxd[0]      vin4b_fld1
```

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: ETHERNET 0		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 17 of 89	



FUNCTION TABLE

INPUTS S2 S1 S0	INPUTS/OUTPUTS A1 A2	FUNCTION
L L L	Z Z	Disconnect
L L H	B1 Z	A1 port = B1 port
L H L	B2 Z	A1 port = B2 port
L H H	Z B1	A2 port = B1 port
H L L	Z B2	A2 port = B2 port
H L H	Z Z	Disconnect
H H L	B1 B2	A1 port = B1 port A2 port = B2 port
H H H	B2 B1	A1 port = B2 port A2 port = B1 port



EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: ETHERNET 0 / VIN4		
Size:B	DWG NO 516582-0001	Revision: A
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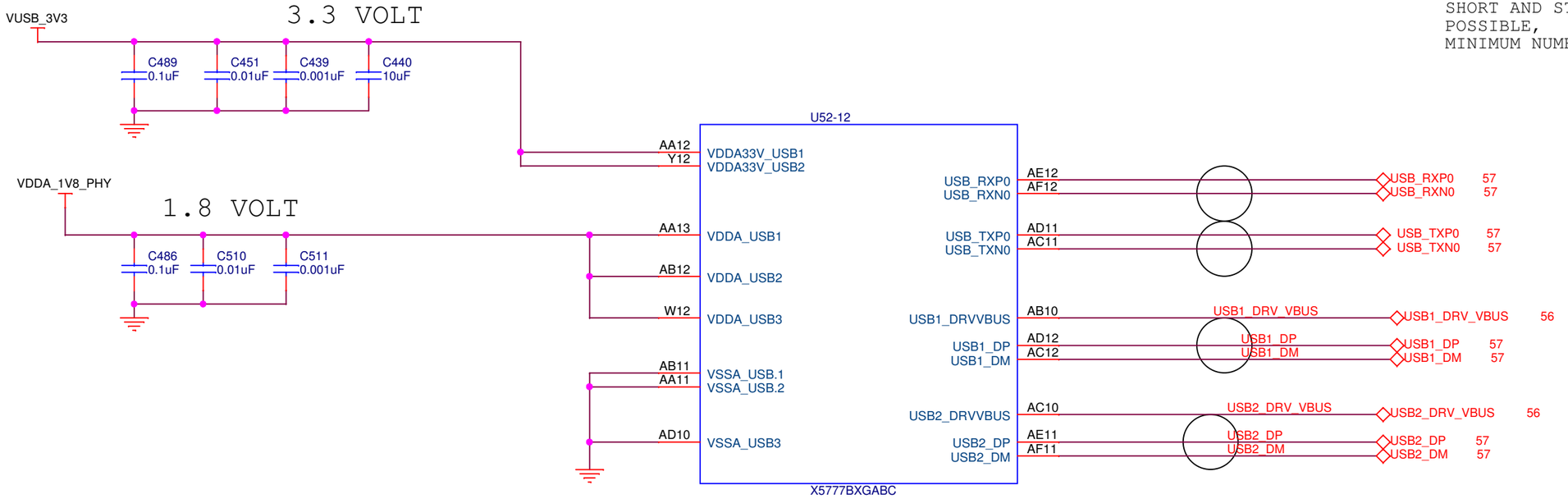
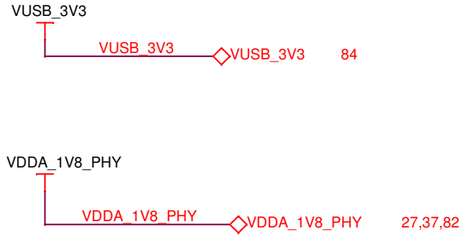
DIFFERENTIAL PAIR
90 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS





TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: USB		
Size:B	DWG NO 516582-0001	Revision: A
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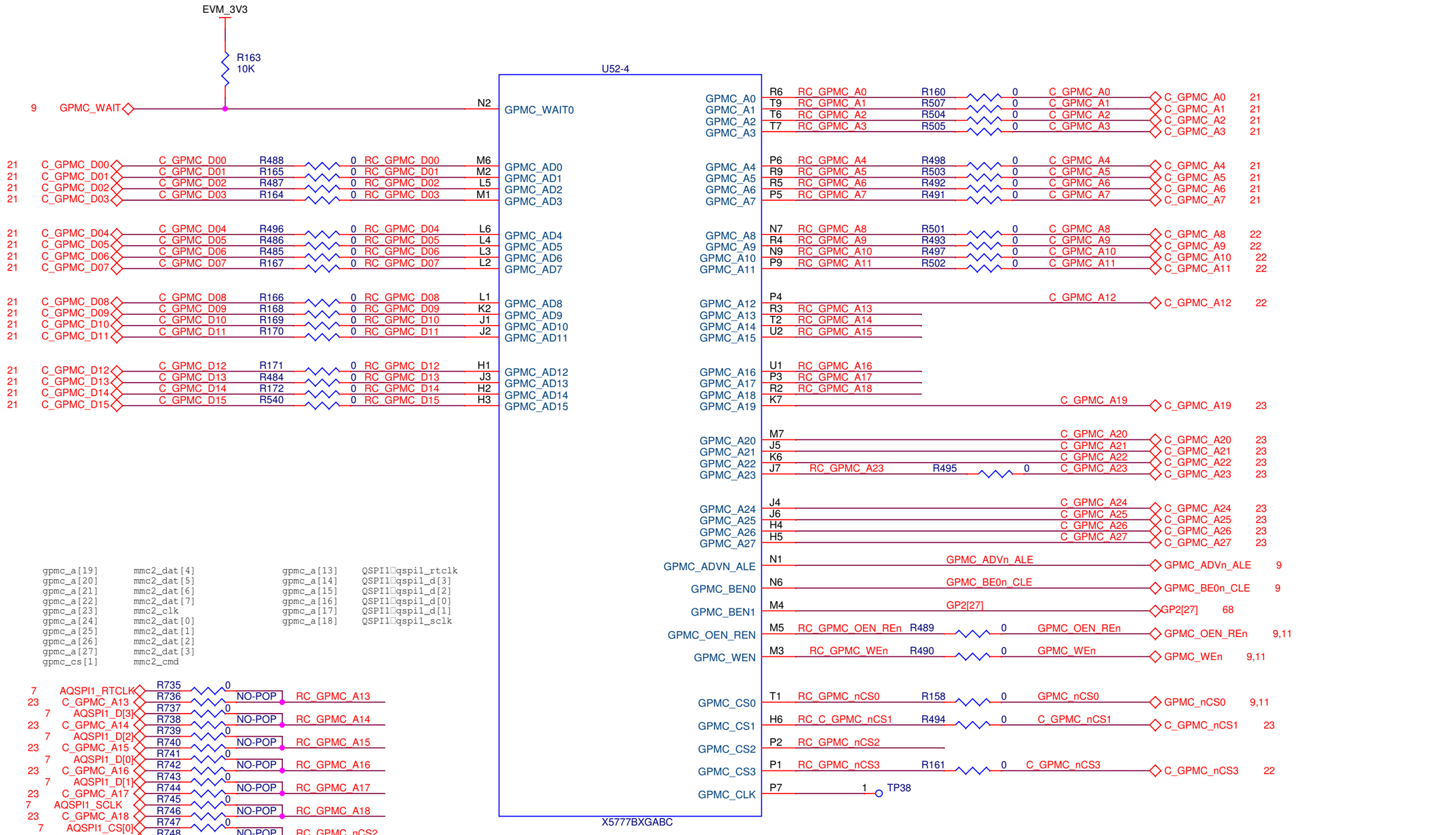

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: GPMC		
Size:B	DWG NO 516582-0001	Revision: D2
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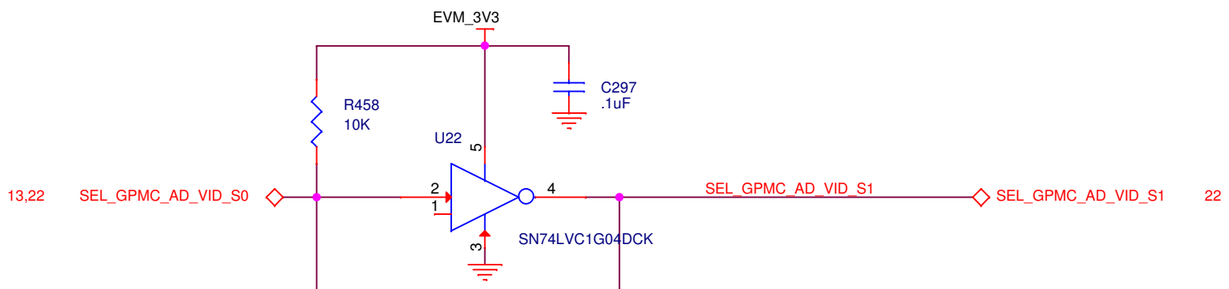
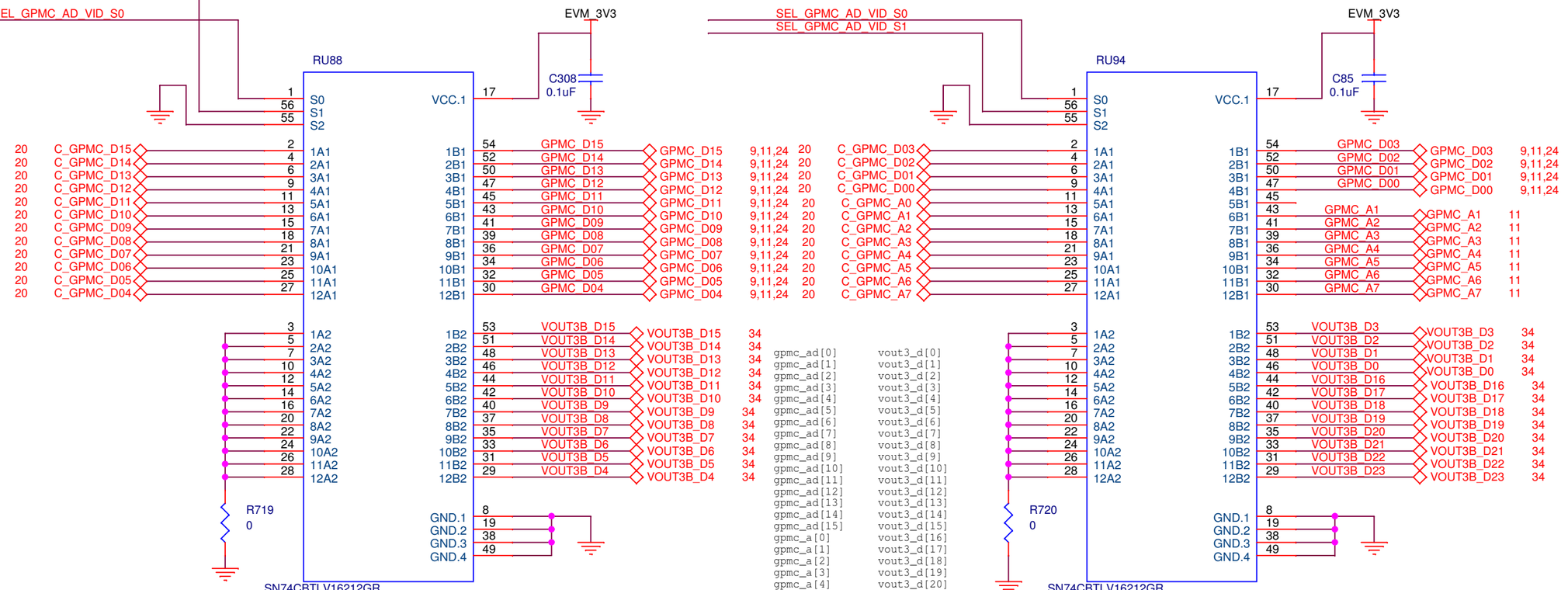
DEFAULTS TO GPMC FOR BOOTING

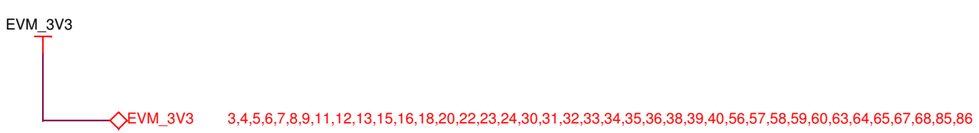
FUNCTION TABLE

INPUTS	INPUTS/OUTPUTS	FUNCTION
S2 S1 S0	A1 A2	
L L L	Z Z	Disconnect
L L H	B1 Z	A1 port = B1 port
L H L	B2 Z	A1 port = B2 port
L H H	Z B1	A2 port = B1 port
H L L	Z B2	A2 port = B2 port
H L H	Z Z	Disconnect
H H L	B1 B2	A1 port = B1 port A2 port = B2 port
H H H	B2 B1	A1 port = B2 port A2 port = B1 port





gpmc_ad[0]	vout3_d[0]
gpmc_ad[1]	vout3_d[1]
gpmc_ad[2]	vout3_d[2]
gpmc_ad[3]	vout3_d[3]
gpmc_ad[4]	vout3_d[4]
gpmc_ad[5]	vout3_d[5]
gpmc_ad[6]	vout3_d[6]
gpmc_ad[7]	vout3_d[7]
gpmc_ad[8]	vout3_d[8]
gpmc_ad[9]	vout3_d[9]
gpmc_ad[10]	vout3_d[10]
gpmc_ad[11]	vout3_d[11]
gpmc_ad[12]	vout3_d[12]
gpmc_ad[13]	vout3_d[13]
gpmc_ad[14]	vout3_d[14]
gpmc_ad[15]	vout3_d[15]
gpmc_a[0]	vout3_d[16]
gpmc_a[1]	vout3_d[17]
gpmc_a[2]	vout3_d[18]
gpmc_a[3]	vout3_d[19]
gpmc_a[4]	vout3_d[20]
gpmc_a[5]	vout3_d[21]
gpmc_a[6]	vout3_d[22]
gpmc_a[7]	vout3_d[23]
gpmc_a[8]	vout3_hsync
gpmc_a[9]	vout3_vsync
gpmc_a[10]	vout3_de
gpmc_a[11]	vout3_fld
gpmc_cs[3]	vout3_clk



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: GPMC MUXES		
Size:B	DWG NO 516582-0001	Revision: A
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DEFAULTS TO GPMC FOR BOOTING

13,21 SEL_GPMC_AD_VID_S0
21 SEL_GPMC_AD_VID_S1

SEL_GPMC_AD_VID_S0
SEL_GPMC_AD_VID_S1

EVM_3V3

C322
0.1uF

RU33

		1	S0	VCC.1	17
		56	S1		
		55	S2		
20	C_GPMC_A8	2	1A1	1B1	54
20	C_GPMC_A9	4	2A1	2B1	52
20	C_GPMC_A10	6	3A1	3B1	50
20	C_GPMC_A11	9	4A1	4B1	47
20	C_GPMC_A12	11	5A1	5B1	45
		13	6A1	6B1	43
		15	7A1	7B1	41
		18	8A1	8B1	39
		21	9A1	9B1	36
		23	10A1	10B1	34
		25	11A1	11B1	32
20	C_GPMC_nCS3	27	12A1	12B1	30
		3	1A2	1B2	53
		5	2A2	2B2	51
		7	3A2	3B2	48
		10	4A2	4B2	46
		12	5A2	5B2	44
		14	6A2	6B2	42
		16	7A2	7B2	40
		20	8A2	8B2	37
		22	9A2	9B2	35
		24	10A2	10B2	33
		26	11A2	11B2	31
		28	12A2	12B2	29
				GND.1	8
				GND.2	19
				GND.3	38
				GND.4	49

C_GPMC_nCS3

R718
0

SN74CBTLV16212GR

GPMC_A8 11
GPMC_A9 11
GPMC_A10 11
GPMC_A11 11
GPMC_A12 11

VOUT3B_HSYNC
VOUT3B_VSYNC
VOUT3B_DE
VOUT3B_INTB

VOUT3B_HSYNC 34
VOUT3B_VSYNC 34
VOUT3B_DE 34
VOUT3B_INTB 34

REV E

VOUT3B_CLK

VOUT3B_CLK 34

gpmc_ad[0]	vout3_d[0]
gpmc_ad[1]	vout3_d[1]
gpmc_ad[2]	vout3_d[2]
gpmc_ad[3]	vout3_d[3]
gpmc_ad[4]	vout3_d[4]
gpmc_ad[5]	vout3_d[5]
gpmc_ad[6]	vout3_d[6]
gpmc_ad[7]	vout3_d[7]
gpmc_ad[8]	vout3_d[8]
gpmc_ad[9]	vout3_d[9]
gpmc_ad[10]	vout3_d[10]
gpmc_ad[11]	vout3_d[11]
gpmc_ad[12]	vout3_d[12]
gpmc_ad[13]	vout3_d[13]
gpmc_ad[14]	vout3_d[14]
gpmc_ad[15]	vout3_d[15]
gpmc_a[0]	vout3_d[16]
gpmc_a[1]	vout3_d[17]
gpmc_a[2]	vout3_d[18]
gpmc_a[3]	vout3_d[19]
gpmc_a[4]	vout3_d[20]
gpmc_a[5]	vout3_d[21]
gpmc_a[6]	vout3_d[22]
gpmc_a[7]	vout3_d[23]
gpmc_a[8]	vout3_hsync
gpmc_a[9]	vout3_vsync
gpmc_a[10]	vout3_de
gpmc_a[11]	vout3_fld

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

gpmc_cs[3] vout3_clk

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: GPMC MUXES		
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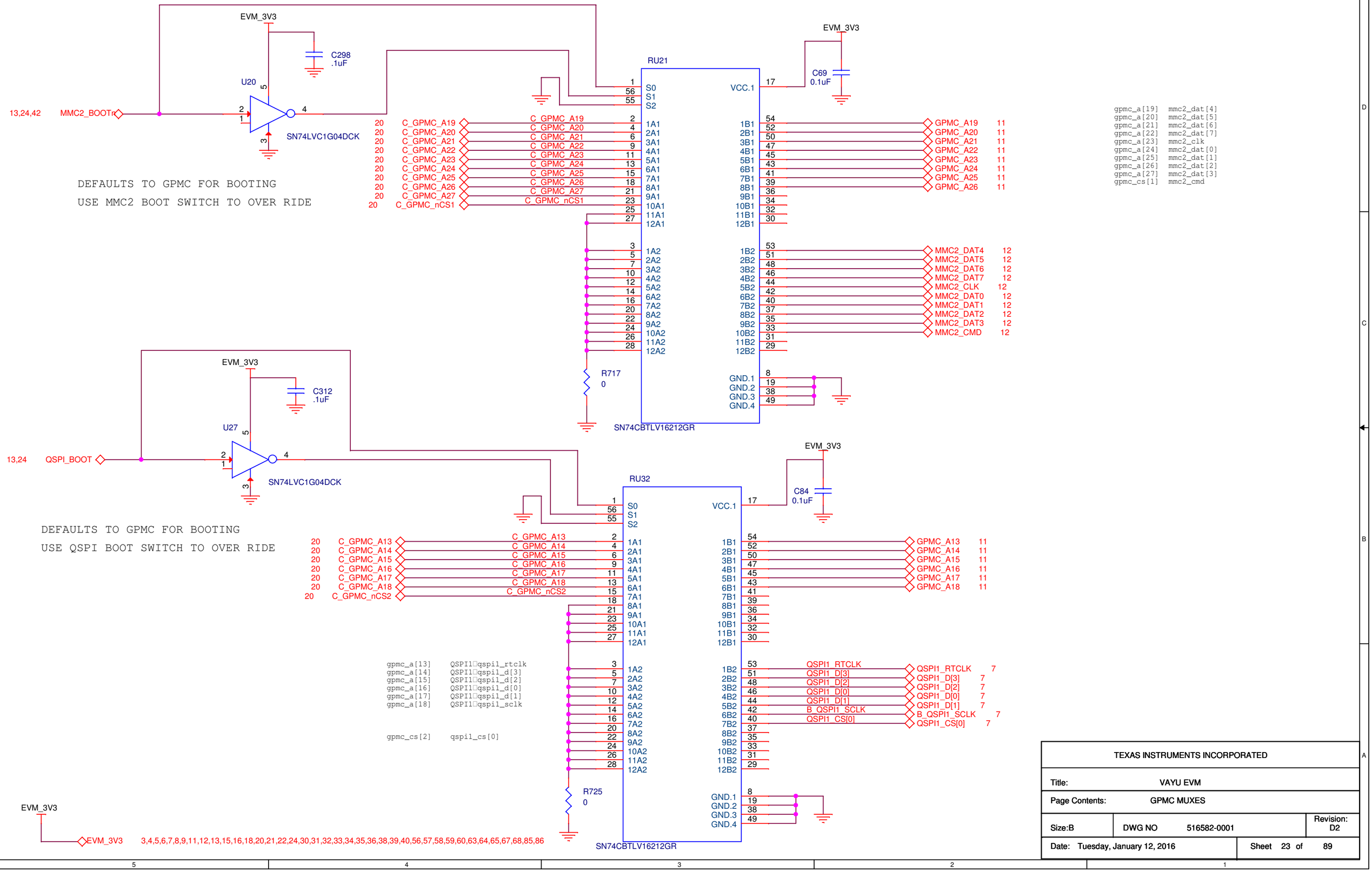
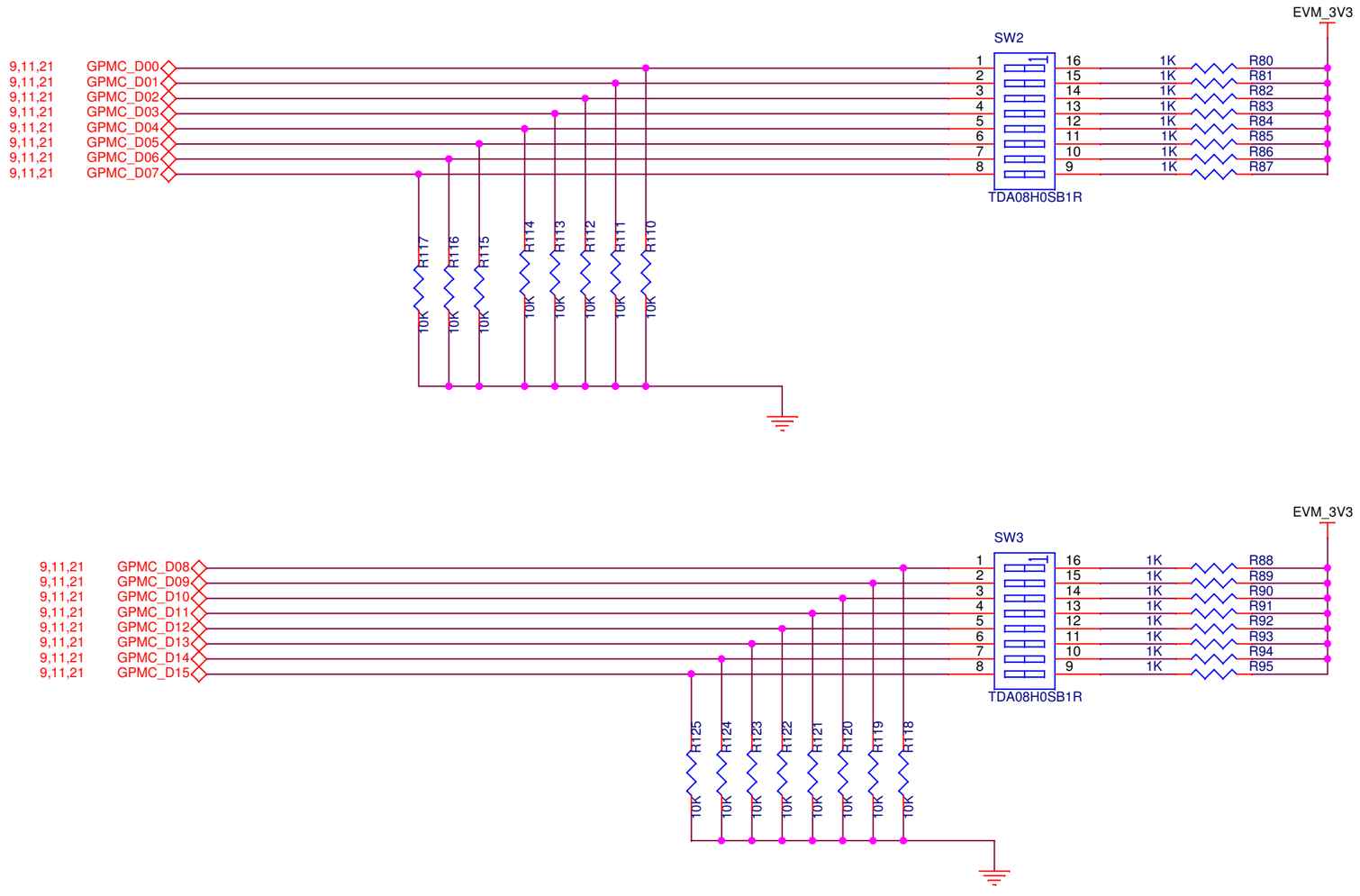
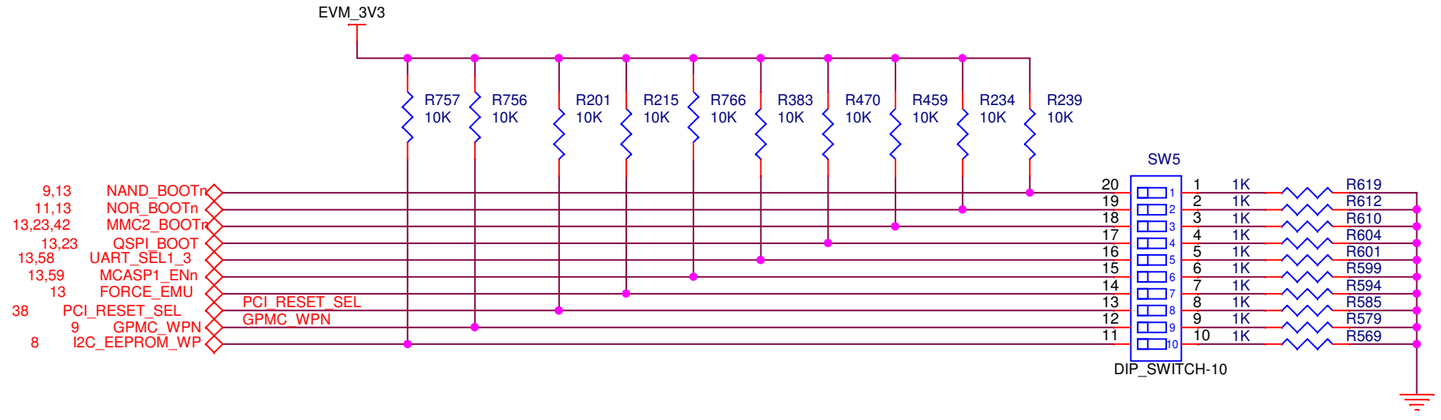


TEXAS INSTRUMENTS INCORPORATED			
Title: VAYU EVM			
Page Contents: GPMC MUXES			
Size:B	DWG NO 516582-0001		Revision: D2
Date: Tuesday, January 12, 2016		Sheet 23 of 89	





MMC2 BOOT PULL UP ON PAGE 23 SET TO LOGIC 0 TO ENABLE MMC2 MUX FOR BOOTING SET TO 1 FOR GPMC BOOTING

QSPI BOOT PULL UP ON PAGE 23 SET TO LOGIC 0 TO ENABLE QSPI MUX FOR BOOTING SET TO 1 FOR GPMC BOOTING

UART SEL1_3 PULL UP ON PAGE 58 SELECTS UART3 MUX INPUT TO BE USART PORT AT MINI_USB A(J1) DURING BOOTING.
MCASP1_ENn MUST BE SET TO LOGIC 1 TO DISABLE COM8. ALSO OTHER MUX NEEDS TO BE IN DEFAULT CONFIGURATION

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: BOOT SWITCHES		
Size:B	DWG NO 516582-0001	Revision: B
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EACH DATA GROUP IS MATCHED WITHIN THE GROUP

differential pairs 100 ohm
6 places

Data Group 0-0

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 0-1

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 0-2

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 0-3

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

U52-5

49	DDR1_DQM0	DDR1_DQM0	AD23	DDR1_DQM0			
49	DDR1_DQS0	DDR1_DQS0	AH25	DDR1_DQS0			
49	DDR1_DQSN0	DDR1_DQSN0	AG25	DDR1_DQSN0			
49	DDR1_D0	DDR1_D0	AF25	DDR1_D0			
49	DDR1_D1	DDR1_D1	AF26	DDR1_D1			
49	DDR1_D2	DDR1_D2	AG26	DDR1_D2			
49	DDR1_D3	DDR1_D3	AH26	DDR1_D3			
49	DDR1_D4	DDR1_D4	AF24	DDR1_D4			
49	DDR1_D5	DDR1_D5	AE24	DDR1_D5			
49	DDR1_D6	DDR1_D6	AF23	DDR1_D6			
49	DDR1_D7	DDR1_D7	AE23	DDR1_D7			
49	DDR1_DQM1	DDR1_DQM1	AB23	DDR1_DQM1			
49	DDR1_DQS1	DDR1_DQS1	AE27	DDR1_DQS1			
49	DDR1_DQSN1	DDR1_DQSN1	AE28	DDR1_DQSN1			
49	DDR1_D8	DDR1_D8	AC23	DDR1_D8			
49	DDR1_D9	DDR1_D9	AF27	DDR1_D9			
49	DDR1_D10	DDR1_D10	AG27	DDR1_D10			
49	DDR1_D11	DDR1_D11	AF28	DDR1_D11			
49	DDR1_D12	DDR1_D12	AE26	DDR1_D12			
49	DDR1_D13	DDR1_D13	AC25	DDR1_D13			
49	DDR1_D14	DDR1_D14	AC24	DDR1_D14			
49	DDR1_D15	DDR1_D15	AD25	DDR1_D15			
49	DDR1_DQM2	DDR1_DQM2	AC26	DDR1_DQM2			
49	DDR1_DQS2	DDR1_DQS2	AD27	DDR1_DQS2			
49	DDR1_DQSN2	DDR1_DQSN2	AD28	DDR1_DQSN2			
49	DDR1_D16	DDR1_D16	V20	DDR1_D16			
49	DDR1_D17	DDR1_D17	W20	DDR1_D17			
49	DDR1_D18	DDR1_D18	AB28	DDR1_D18			
49	DDR1_D19	DDR1_D19	AC28	DDR1_D19			
49	DDR1_D20	DDR1_D20	AC27	DDR1_D20			
49	DDR1_D21	DDR1_D21	Y19	DDR1_D21			
49	DDR1_D22	DDR1_D22	AB27	DDR1_D22			
49	DDR1_D23	DDR1_D23	Y20	DDR1_D23			
49	DDR1_DQM3	DDR1_DQM3	AA27	DDR1_DQM3			
49	DDR1_DQS3	DDR1_DQS3	Y28	DDR1_DQS3			
49	DDR1_DQSN3	DDR1_DQSN3	Y27	DDR1_DQSN3			
49	DDR1_D24	DDR1_D24	AA23	DDR1_D24			
49	DDR1_D25	DDR1_D25	Y22	DDR1_D25			
49	DDR1_D26	DDR1_D26	Y23	DDR1_D26			
49	DDR1_D27	DDR1_D27	AA24	DDR1_D27			
49	DDR1_D28	DDR1_D28	Y24	DDR1_D28			
49	DDR1_D29	DDR1_D29	AA26	DDR1_D29			
49	DDR1_D30	DDR1_D30	AA25	DDR1_D30			
49	DDR1_D31	DDR1_D31	AA28	DDR1_D31			
49	DDR1_DQM_ECC	DDR1_DQM_ECC	V26	DDR1_DQM_ECC			
49	DDR1_DQS_ECC	DDR1_DQS_ECC	V27	DDR1_DQS_ECC			
49	DDR1_DQSN_ECC	DDR1_DQSN_ECC	V28	DDR1_DQSN_ECC			
49	DDR1_ECC_D0	DDR1_ECC_D0	W22	DDR1_ECC_D0			
49	DDR1_ECC_D1	DDR1_ECC_D1	V23	DDR1_ECC_D1			
49	DDR1_ECC_D2	DDR1_ECC_D2	W19	DDR1_ECC_D2			
49	DDR1_ECC_D3	DDR1_ECC_D3	W23	DDR1_ECC_D3			
49	DDR1_ECC_D4	DDR1_ECC_D4	Y25	DDR1_ECC_D4			
49	DDR1_ECC_D5	DDR1_ECC_D5	V24	DDR1_ECC_D5			
49	DDR1_ECC_D6	DDR1_ECC_D6	V25	DDR1_ECC_D6			
49	DDR1_ECC_D7	DDR1_ECC_D7	Y26	DDR1_ECC_D7			

X5777BXGABC

DDR1_BA0	AF17	DDR1_BA0	DDR1_BA0	48,49,51	
DDR1_BA1	AE18	DDR1_BA1	DDR1_BA1	48,49,51	
DDR1_BA2	AB18	DDR1_BA2	DDR1_BA2	48,49,51	
DDR1_A0	AD20	DDR1_A0	DDR1_A0	48,49,51	
DDR1_A1	AC19	DDR1_A1	DDR1_A1	48,49,51	
DDR1_A2	AC20	DDR1_A2	DDR1_A2	48,49,51	
DDR1_A3	AB19	DDR1_A3	DDR1_A3	48,49,51	
DDR1_A4	AF21	DDR1_A4	DDR1_A4	48,49,51	
DDR1_A5	AH22	DDR1_A5	DDR1_A5	48,49,51	
DDR1_A6	AG23	DDR1_A6	DDR1_A6	48,49,51	
DDR1_A7	AE21	DDR1_A7	DDR1_A7	48,49,51	
DDR1_A8	AF22	DDR1_A8	DDR1_A8	48,49,51	
DDR1_A9	AE22	DDR1_A9	DDR1_A9	48,49,51	
DDR1_A10	AD21	DDR1_A10	DDR1_A10	48,49,51	
DDR1_A11	AD22	DDR1_A11	DDR1_A11	48,49,51	
DDR1_A12	AC21	DDR1_A12	DDR1_A12	48,49,51	
DDR1_A13	AF18	DDR1_A13	DDR1_A13	48,49,51	
DDR1_A14	AE17	DDR1_A14	DDR1_A14	48,49,51	
DDR1_A15	AD18	DDR1_A15	DDR1_A15	48,49,51	
DDR1_RASN	AF20	DDR1_RASN	DDR1_RASN	48,49,51	
DDR1_CASN	AC18	DDR1_CASN	DDR1_CASN	48,49,51	
DDR1_WEN	AH21	DDR1_WEN	DDR1_WEN	48,49,51	
DDR1_ODT0	AE20	DDR1_ODT0	DDR1_ODT0	48,49,51	
DDR1_CKE	AG22	DDR1_CKE	DDR1_CKE	48,49,51	
DDR1_CS0N	AH23	DDR1_CSN0	DDR1_CSN0	48,49,51	
DDR1_CK	AG24	DDR1_CLK0	DDR1_CLK0	48,49,51	
DDR1_NCK	AH24	DDR1_CLK0N	DDR1_CLK0N	48,49,51	
DDR1_RST	AG21	R818 NP	DDR1_RST	49,78	
DDR1_VREF0	Y18	DDR1_VREF0			

ER18

DDR_VREFSTL1

R811 NP

CPU_VDD_DDR

R812 1K 1%

R813 1K 1%

CPU_VDD_DDR 26,44,80

C514
0.1uF

DDR_VREFSTL1

DDR_VREFSTL1 DDR_VREFSTL1 49,77

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EACH DATA GROUP IS MATCHED WITHIN THE GROUP

differential pairs 100 ohm
5 places

Data Group 2-0

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 2-1

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 2-2

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

Data Group 2-3

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

U52-6

53	DDR2_DQM0	DDR2_DQM0	F28	DDR2_DQM0			
53	DDR2_DQS0	DDR2_DQS0	G28	DDR2_DQS0			
53	DDR2_DQSN0	DDR2_DQSN0	G27	DDR2_DQSn0			
53	DDR2_D0	DDR2_D0	E26	DDR2_D0			
53	DDR2_D1	DDR2_D1	G25	DDR2_D1			
53	DDR2_D2	DDR2_D2	F25	DDR2_D2			
53	DDR2_D3	DDR2_D3	F24	DDR2_D3			
53	DDR2_D4	DDR2_D4	F26	DDR2_D4			
53	DDR2_D5	DDR2_D5	F27	DDR2_D5			
53	DDR2_D6	DDR2_D6	E27	DDR2_D6			
53	DDR2_D7	DDR2_D7	E28	DDR2_D7			
53	DDR2_DQM1	DDR2_DQM1	G24	DDR2_DQM1			
53	DDR2_DQS1	DDR2_DQS1	H27	DDR2_DQS1			
53	DDR2_DQSN1	DDR2_DQSN1	H28	DDR2_DQSN1			
53	DDR2_D8	DDR2_D8	H23	DDR2_D8			
53	DDR2_D9	DDR2_D9	H25	DDR2_D9			
53	DDR2_D10	DDR2_D10	H24	DDR2_D10			
53	DDR2_D11	DDR2_D11	H26	DDR2_D11			
53	DDR2_D12	DDR2_D12	G26	DDR2_D12			
53	DDR2_D13	DDR2_D13	J25	DDR2_D13			
53	DDR2_D14	DDR2_D14	J26	DDR2_D14			
53	DDR2_D15	DDR2_D15	J24	DDR2_D15			
53	DDR2_DQM2	DDR2_DQM2	K23	DDR2_DQM2			
53	DDR2_DQS2	DDR2_DQS2	K27	DDR2_DQS2			
53	DDR2_DQSN2	DDR2_DQSN2	K28	DDR2_DQSN2			
53	DDR2_D16	DDR2_D16	L22	DDR2_D16			
53	DDR2_D17	DDR2_D17	K20	DDR2_D17			
53	DDR2_D18	DDR2_D18	K21	DDR2_D18			
53	DDR2_D19	DDR2_D19	L23	DDR2_D19			
53	DDR2_D20	DDR2_D20	L24	DDR2_D20			
53	DDR2_D21	DDR2_D21	J23	DDR2_D21			
53	DDR2_D22	DDR2_D22	K22	DDR2_D22			
53	DDR2_D23	DDR2_D23	J20	DDR2_D23			
53	DDR2_DQM3	DDR2_DQM3	M22	DDR2_DQM3			
53	DDR2_DQS3	DDR2_DQS3	M28	DDR2_DQS3			
53	DDR2_DQSN3	DDR2_DQSN3	M27	DDR2_DQSN3			
53	DDR2_D24	DDR2_D24	L27	DDR2_D24			
53	DDR2_D25	DDR2_D25	L26	DDR2_D25			
53	DDR2_D26	DDR2_D26	L25	DDR2_D26			
53	DDR2_D27	DDR2_D27	L28	DDR2_D27			
53	DDR2_D28	DDR2_D28	M23	DDR2_D28			
53	DDR2_D29	DDR2_D29	M24	DDR2_D29			
53	DDR2_D30	DDR2_D30	M25	DDR2_D30			
53	DDR2_D31	DDR2_D31	M26	DDR2_D31			

X5777BXGABC

DDR2_BA0	U23	DDR2_BA0	DDR2_BA0	52,53,55	
DDR2_BA1	U27	DDR2_BA1	DDR2_BA1	52,53,55	
DDR2_BA2	U26	DDR2_BA2	DDR2_BA2	52,53,55	
DDR2_A0	R25	DDR2_A0	DDR2_A0	52,53,55	
DDR2_A1	R26	DDR2_A1	DDR2_A1	52,53,55	
DDR2_A2	R28	DDR2_A2	DDR2_A2	52,53,55	
DDR2_A3	R27	DDR2_A3	DDR2_A3	52,53,55	
DDR2_A4	P23	DDR2_A4	DDR2_A4	52,53,55	
DDR2_A5	P22	DDR2_A5	DDR2_A5	52,53,55	
DDR2_A6	P25	DDR2_A6	DDR2_A6	52,53,55	
DDR2_A7	N20	DDR2_A7	DDR2_A7	52,53,55	
DDR2_A8	P27	DDR2_A8	DDR2_A8	52,53,55	
DDR2_A9	N27	DDR2_A9	DDR2_A9	52,53,55	
DDR2_A10	N23	DDR2_A10	DDR2_A10	52,53,55	
DDR2_A11	P26	DDR2_A11	DDR2_A11	52,53,55	
DDR2_A12	N28	DDR2_A12	DDR2_A12	52,53,55	
DDR2_A13	T22	DDR2_A13	DDR2_A13	52,53,55	
DDR2_A14	R22	DDR2_A14	DDR2_A14	52,53,55	
DDR2_A15	U22	DDR2_A15	DDR2_A15	52,53,55	
DDR2_RASN	T23	DDR2_RASN	DDR2_RASN	52,53,55	
DDR2_CASN	U28	DDR2_CASN	DDR2_CASN	52,53,55	
DDR2_WEN	U25	DDR2_WEN	DDR2_WEN	52,53,55	
DDR2_ODT0	R23	DDR2_ODT0	DDR2_ODT0	52,53,55	
DDR2_CKE	U24	DDR2_CKE	DDR2_CKE	52,53,55	
DDR2_CSN0	P24	DDR2_CSN0	DDR2_CSN0	52,53,55	
DDR2_CK	T28	DDR2_CLK0	DDR2_CLK0	52,53,55	
DDR2_NCK	T27	DDR2_CLK0N	DDR2_CLK0N	52,53,55	
DDR2_RST	R24	R817 NP	DDR2_RST	53,78	
DDR2_VREF0	N22	DDR2_VREF0	R814 NP	DDR_VREFSTL2	

CONTROL GROUP 2

USE 4X SPACING TRACE
TO TRACE EQUAL LENGTH
+/-5 MIL

CLOCK GROUP 2

ER18

C147
0.1uF

R815 1K 1%
R816 1K 1%
CPU_VDD_DDR
CPU_VDD_DDR 25,44,80

DDR2_RST is not part of group

DDR_VREFSSTL is not part of group

```
WARNING [DRC0006]   Net has fewer than two connections N23667068:  VAYU_EVM, SH26 - VAYU DDR EMIF2 INTERFACE  (3.20, 4.00)
WARNING [DRC0006]   Net has fewer than two connections N23667055:  VAYU_EVM, SH26 - VAYU DDR EMIF2 INTERFACE  (3.20, 2.40)
WARNING [DRC0006]   Net has fewer than two connections N25725225:  VAYU_EVM, SH25 - VAYU DDR EMIF1 INTERFACE  (3.10, 3.50)
WARNING [DRC0006]   Net has fewer than two connections N25725223:  VAYU_EVM, SH25 - VAYU DDR EMIF1 INTERFACE  (3.10, 2.20)
```

DDR_VREFSTL2
DDR_VREFSTL2 DDR_VREFSTL2 53,77

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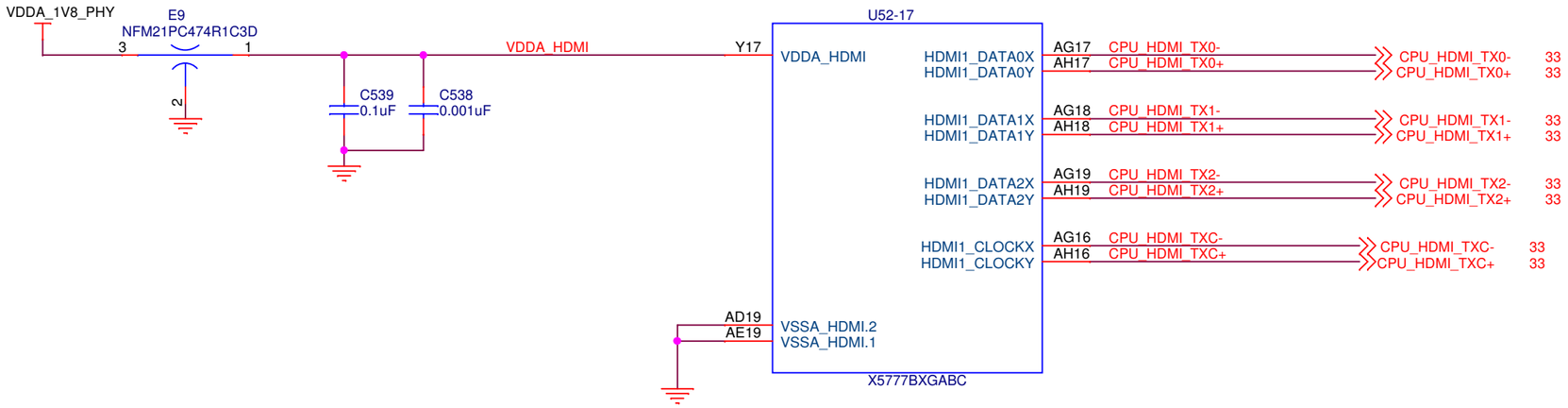
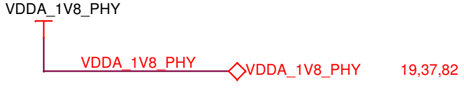
1.8 VOLT





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Page Contents: HDMI INTERFACE		
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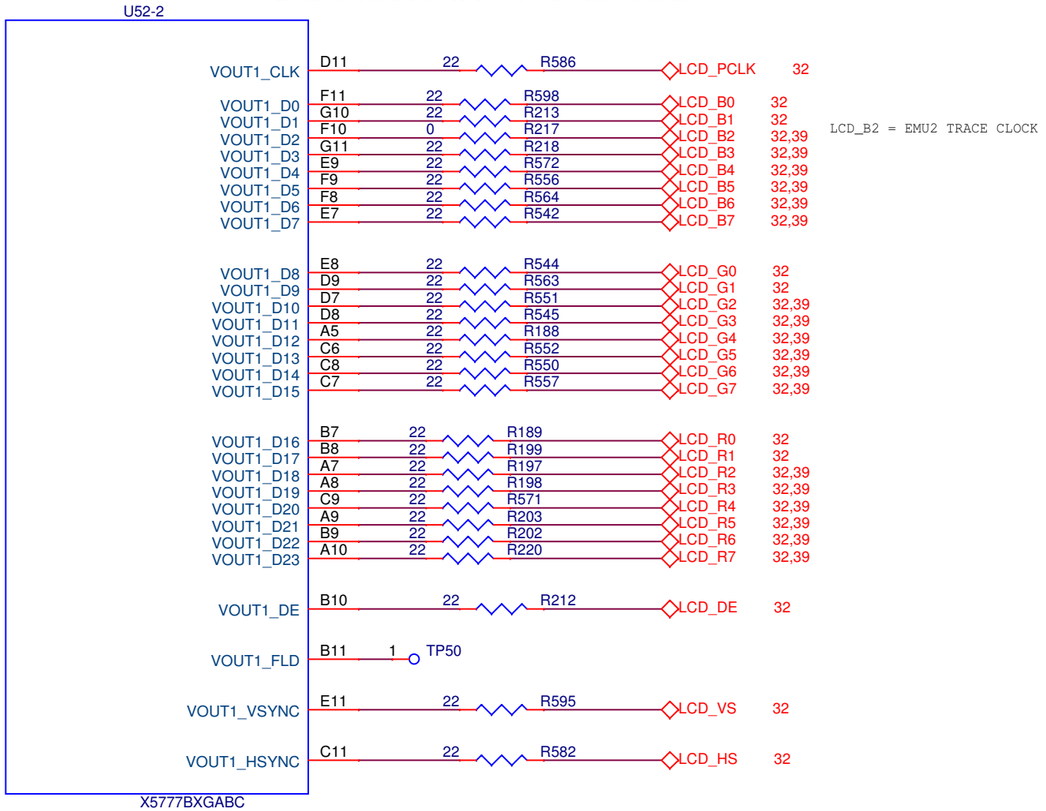
22 OHM OK FOR LCD AS IT IS NOT GOING THROUGH MUXES.



LCD_B2 = EMU2 TRACE CLOCK

TEXAS INSTRUMENTS INCORPORATED		
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Page Contents: VIDEO OUT PORTS		
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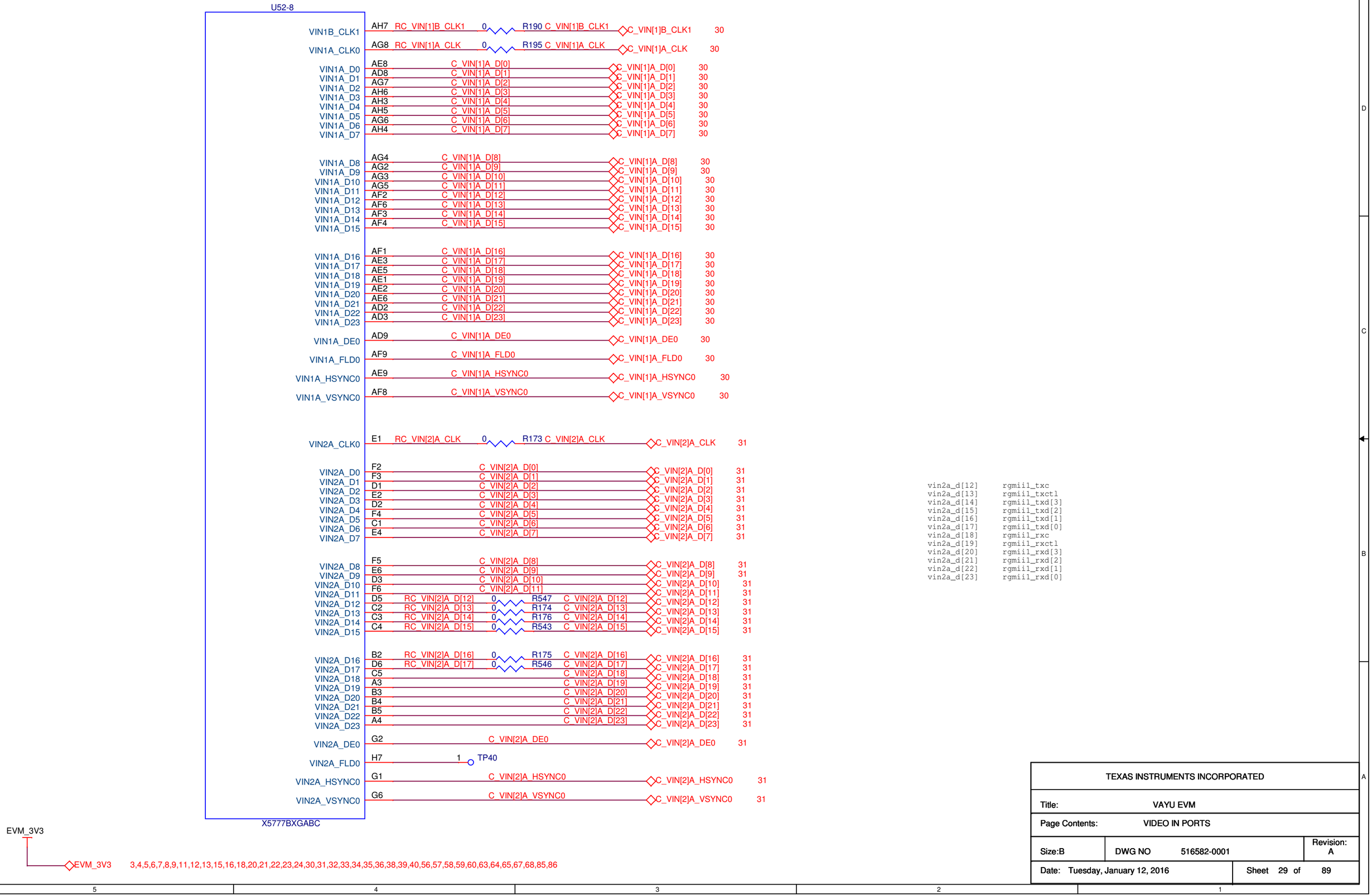

vin2a_d[12]	rgmii1_txc
vin2a_d[13]	rgmii1_txctl
vin2a_d[14]	rgmii1_txd[3]
vin2a_d[15]	rgmii1_txd[2]
vin2a_d[16]	rgmii1_txd[1]
vin2a_d[17]	rgmii1_txd[0]
vin2a_d[18]	rgmii1_rxc
vin2a_d[19]	rgmii1_rxctl
vin2a_d[20]	rgmii1_rxd[3]
vin2a_d[21]	rgmii1_rxd[2]
vin2a_d[22]	rgmii1_rxd[1]
vin2a_d[23]	rgmii1_rxd[0]

TEXAS INSTRUMENTS INCORPORATED		
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EVM_3V3
C313
.1uF
R471
10K
U26
13 CAM_FPD_MUX_S0
SN74LVC1G04DCK
CAM_FPD_MUX_S0
CAM_FPD_MUX_S1
RU96
EVM_3V3
C324
0.1uF
VCC.1
S0
S1
S2
1A1 1A2 2A1 2A2 3A1 3A2 4A1 4A2 5A1 5A2 6A1 6A2 7A1 7A2 8A1 8A2 9A1 9A2 10A1 10A2 11A1 11A2 12A1 12A2
1B1 1B2 2B1 2B2 3B1 3B2 4B1 4B2 5B1 5B2 6B1 6B2 7B1 7B2 8B1 8B2 9B1 9B2 10B1 10B2 11B1 11B2 12B1 12B2
GND.1 GND.2 GND.3 GND.4
SN74CBTLV16212GR
29 C_VIN[1]A_D[0] … 29 C_VIN[1]A_D[11]
VIN[1]A_D[0] … VIN[1]A_D[11] 68
CAMERA_D0 … CAMERA_D11 35

This will allow testing of the ACTVID style of capture with the sensor. Add 0 Ohm series resistor between U24 pin 6 and CAMERA_HSYNC signal.
Add no-pop resistor between CAMERA_HSYNC signal and U24 pin 3 (enables routing CAMERA_HSYNC to VIN[1]A_DE0)."

EVM_3V3
C66
0.1uF
RU24
VCC GND
1A 2A 3A 4A
1B1 1B2 2B1 2B2 3B1 3B2 4B1 4B2
S OE
SN74CBTLV3257PW
29 C_VIN[1]A_DE0
29 C_VIN[1]A_HSYNC0
29 C_VIN[1]A_VSYNC0
29 C_VIN[1]A_CLK
VIN[1]A_DE0 68
VIN[1]A_HSYNC0 68
VIN[1]A_VSYNC0 68
VIN[1]A_CLK 68
CAM_DE0
R_CAMERA_HSYNC
CAMERA_VSYNC 35
CAMERA_CLK 35
R29 NO-POP
R27 0
CAMERA_HSYNC
CAMERA_HSYNC 35
R721 0
CAM_FPD_MUX_S1

CAM_FPD_MUX_S0
CAM_FPD_MUX_S1
RU31
EVM_3V3
C83
0.1uF
VCC.1
S0
S1
S2
1A1 1A2 2A1 2A2 3A1 3A2 4A1 4A2 5A1 5A2 6A1 6A2 7A1 7A2 8A1 8A2 9A1 9A2 10A1 10A2 11A1 11A2 12A1 12A2
1B1 1B2 2B1 2B2 3B1 3B2 4B1 4B2 5B1 5B2 6B1 6B2 7B1 7B2 8B1 8B2 9B1 9B2 10B1 10B2 11B1 11B2 12B1 12B2
GND.1 GND.2 GND.3 GND.4
SN74CBTLV16212GR
29 C_VIN[1]A_D[12] … 29 C_VIN[1]A_D[23]
VIN[1]A_D[12] … VIN[1]A_D[23] 68
CAMERA_D12 35
CAMERA_D13 35
R722 0

EVM_3V3
C337
.1uF
RU42
29 C_VIN[1]B_CLK1
VIN[1]B_CLK1 VIN[1]B_CLK1 68
74CBTLV1G125CRG4

EVM_3V3
C336
.1uF
RU40
29 C_VIN[1]A_FLD0
VIN[1]A_FLD0 VIN[1]A_FLD0 68
74CBTLV1G125CRG4

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

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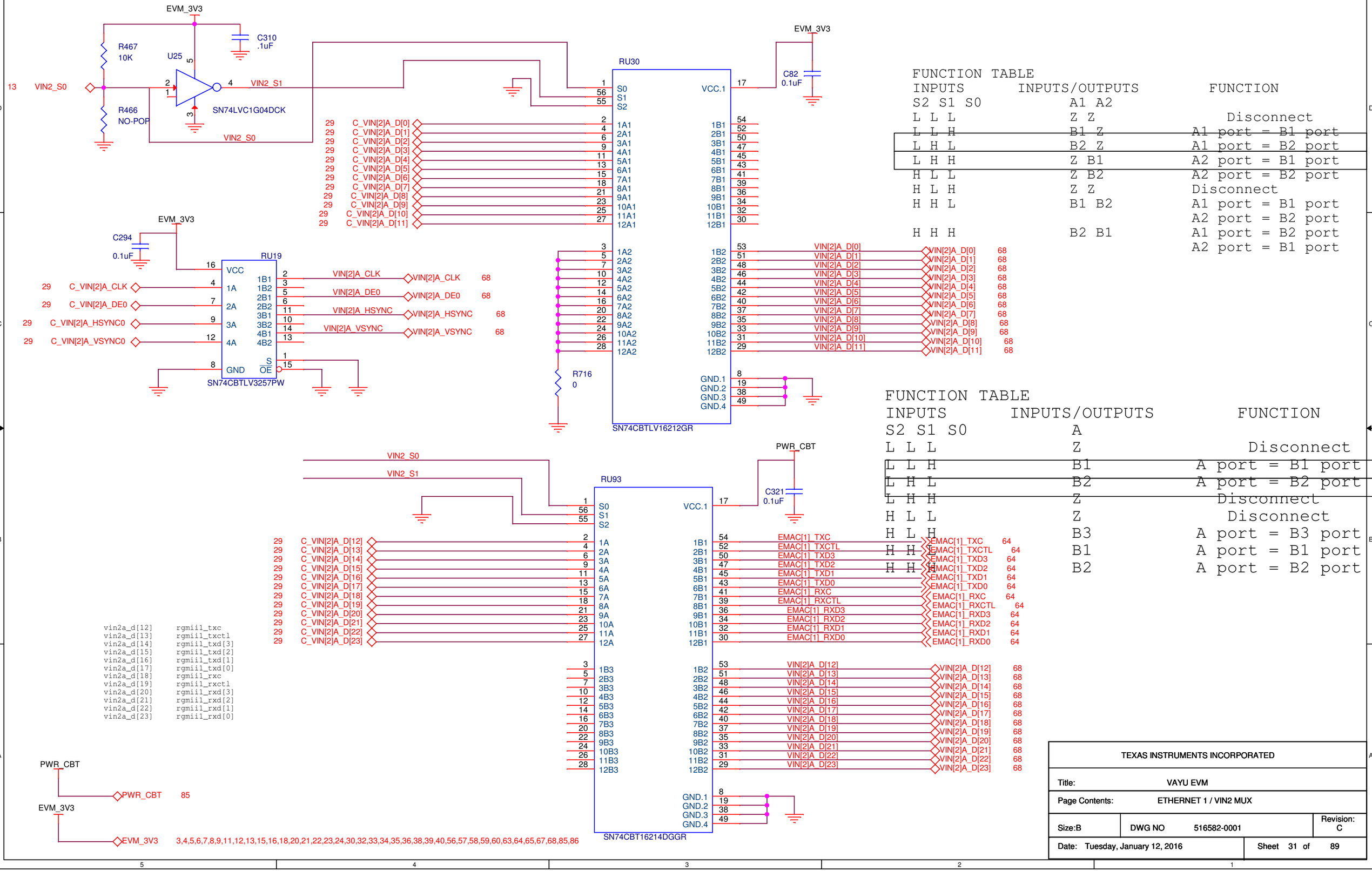
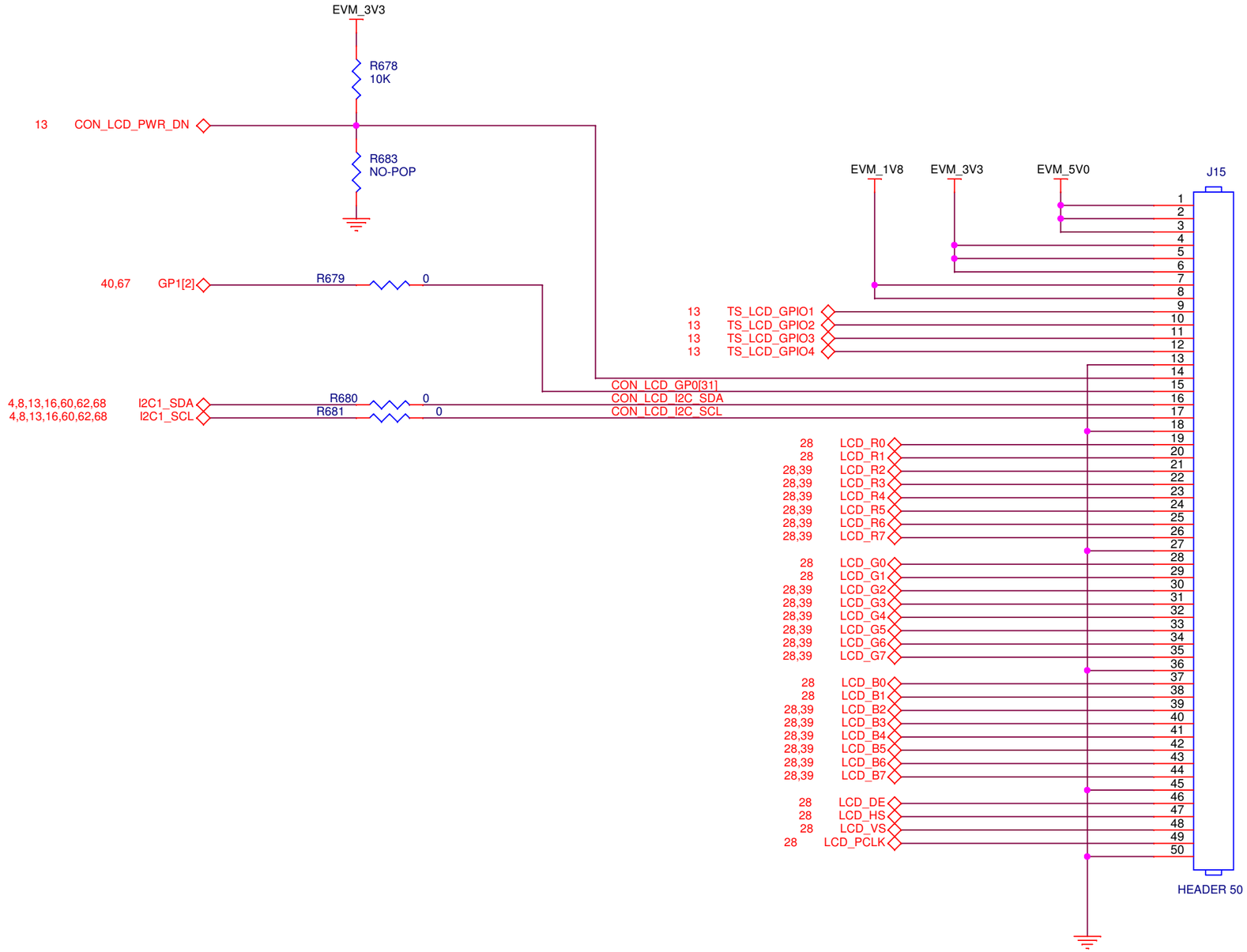

EVM_3V3
R467
10K
C310
.1uF
U25
13 VIN2_S0
2
1
4 VIN2_S1
3
SN74LVC1G04DCK
R466
NO-POP
VIN2_S0
RU30
1 S0
56 S1
55 S2
VCC.1 17
C82
0.1uF
29 C_VIN[2]A_D[0] 2 1A1
29 C_VIN[2]A_D[1] 4 2A1
29 C_VIN[2]A_D[2] 6 3A1
29 C_VIN[2]A_D[3] 9 4A1
29 C_VIN[2]A_D[4] 11 5A1
29 C_VIN[2]A_D[5] 13 6A1
29 C_VIN[2]A_D[6] 15 7A1
29 C_VIN[2]A_D[7] 18 8A1
29 C_VIN[2]A_D[8] 21 9A1
29 C_VIN[2]A_D[9] 23 10A1
29 C_VIN[2]A_D[10] 25 11A1
29 C_VIN[2]A_D[11] 27 12A1
1B1 54
2B1 52
3B1 50
4B1 47
5B1 45
6B1 43
7B1 41
8B1 39
9B1 36
10B1 34
11B1 32
12B1 30
3 1A2
5 2A2
7 3A2
10 4A2
12 5A2
14 6A2
16 7A2
20 8A2
22 9A2
24 10A2
26 11A2
28 12A2
R716
0
1B2 53 VIN[2]A_D[0] VIN[2]A_D[0] 68
2B2 51 VIN[2]A_D[1] VIN[2]A_D[1] 68
3B2 48 VIN[2]A_D[2] VIN[2]A_D[2] 68
4B2 46 VIN[2]A_D[3] VIN[2]A_D[3] 68
5B2 44 VIN[2]A_D[4] VIN[2]A_D[4] 68
6B2 42 VIN[2]A_D[5] VIN[2]A_D[5] 68
7B2 40 VIN[2]A_D[6] VIN[2]A_D[6] 68
8B2 37 VIN[2]A_D[7] VIN[2]A_D[7] 68
9B2 35 VIN[2]A_D[8] VIN[2]A_D[8] 68
10B2 33 VIN[2]A_D[9] VIN[2]A_D[9] 68
11B2 31 VIN[2]A_D[10] VIN[2]A_D[10] 68
12B2 29 VIN[2]A_D[11] VIN[2]A_D[11] 68
GND.1 8
GND.2 19
GND.3 38
GND.4 49
SN74CBTLV16212GR
EVM_3V3
C294
0.1uF
RU19
16 VCC
29 C_VIN[2]A_CLK 4 1A
29 C_VIN[2]A_DE0 7 2A
29 C_VIN[2]A_HSYNC0 9 3A
29 C_VIN[2]A_VSYNC0 12 4A
1B1 2 VIN[2]A_CLK VIN[2]A_CLK 68
1B2 3
2B1 5 VIN[2]A_DE0 VIN[2]A_DE0 68
2B2 6
3B1 11 VIN[2]A_HSYNC VIN[2]A_HSYNC 68
3B2 10
4B1 14 VIN[2]A_VSYNC VIN[2]A_VSYNC 68
4B2 13
S 1
8 GND OE 15
SN74CBTLV3257PW
FUNCTION TABLE
INPUTS INPUTS/OUTPUTS FUNCTION
S2 S1 S0 A1 A2
L L L Z Z Disconnect
L L H B1 Z A1 port = B1 port
L H L B2 Z A1 port = B2 port
L H H Z B1 A2 port = B1 port
H L L Z B2 A2 port = B2 port
H L H Z Z Disconnect
H H L B1 B2 A1 port = B1 port
A2 port = B2 port
H H H B2 B1 A1 port = B2 port
A2 port = B1 port
FUNCTION TABLE
INPUTS INPUTS/OUTPUTS FUNCTION
S2 S1 S0 A
L L L Z Disconnect
L L H B1 A port = B1 port
L H L B2 A port = B2 port
L H H Z Disconnect
H L L Z Disconnect
H L H B3 A port = B3 port
H H L B1 A port = B1 port
H H H B2 A port = B2 port
VIN2_S0
VIN2_S1
RU93
1 S0
56 S1
55 S2
VCC.1 17
PWR_CBT
C321
0.1uF
29 C_VIN[2]A_D[12] 2 1A
29 C_VIN[2]A_D[13] 4 2A
29 C_VIN[2]A_D[14] 6 3A
29 C_VIN[2]A_D[15] 9 4A
29 C_VIN[2]A_D[16] 11 5A
29 C_VIN[2]A_D[17] 13 6A
29 C_VIN[2]A_D[18] 15 7A
29 C_VIN[2]A_D[19] 18 8A
29 C_VIN[2]A_D[20] 21 9A
29 C_VIN[2]A_D[21] 23 10A
29 C_VIN[2]A_D[22] 25 11A
29 C_VIN[2]A_D[23] 27 12A
1B1 54 EMAC[1]_TXC EMAC[1]_TXC 64
2B1 52 EMAC[1]_TXCTL EMAC[1]_TXCTL 64
3B1 50 EMAC[1]_TXD3 EMAC[1]_TXD3 64
4B1 47 EMAC[1]_TXD2 EMAC[1]_TXD2 64
5B1 45 EMAC[1]_TXD1 EMAC[1]_TXD1 64
6B1 43 EMAC[1]_TXD0 EMAC[1]_TXD0 64
7B1 41 EMAC[1]_RXC EMAC[1]_RXC 64
8B1 39 EMAC[1]_RXCTL EMAC[1]_RXCTL 64
9B1 36 EMAC[1]_RXD3 EMAC[1]_RXD3 64
10B1 34 EMAC[1]_RXD2 EMAC[1]_RXD2 64
11B1 32 EMAC[1]_RXD1 EMAC[1]_RXD1 64
12B1 30 EMAC[1]_RXD0 EMAC[1]_RXD0 64
3 1B3
5 2B3
7 3B3
10 4B3
12 5B3
14 6B3
16 7B3
20 8B3
22 9B3
24 10B3
26 11B3
28 12B3
1B2 53 VIN[2]A_D[12] VIN[2]A_D[12] 68
2B2 51 VIN[2]A_D[13] VIN[2]A_D[13] 68
3B2 48 VIN[2]A_D[14] VIN[2]A_D[14] 68
4B2 46 VIN[2]A_D[15] VIN[2]A_D[15] 68
5B2 44 VIN[2]A_D[16] VIN[2]A_D[16] 68
6B2 42 VIN[2]A_D[17] VIN[2]A_D[17] 68
7B2 40 VIN[2]A_D[18] VIN[2]A_D[18] 68
8B2 37 VIN[2]A_D[19] VIN[2]A_D[19] 68
9B2 35 VIN[2]A_D[20] VIN[2]A_D[20] 68
10B2 33 VIN[2]A_D[21] VIN[2]A_D[21] 68
11B2 31 VIN[2]A_D[22] VIN[2]A_D[22] 68
12B2 29 VIN[2]A_D[23] VIN[2]A_D[23] 68
GND.1 8
GND.2 19
GND.3 38
GND.4 49
SN74CBT16214DGGR
vin2a_d[12] rgmii1_txc
vin2a_d[13] rgmii1_txctl
vin2a_d[14] rgmii1_txd[3]
vin2a_d[15] rgmii1_txd[2]
vin2a_d[16] rgmii1_txd[1]
vin2a_d[17] rgmii1_txd[0]
vin2a_d[18] rgmii1_rxc
vin2a_d[19] rgmii1_rxctl
vin2a_d[20] rgmii1_rxd[3]
vin2a_d[21] rgmii1_rxd[2]
vin2a_d[22] rgmii1_rxd[1]
vin2a_d[23] rgmii1_rxd[0]
PWR_CBT
PWR_CBT 85
EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86
TEXAS INSTRUMENTS INCORPORATED
Title: VAYU EVM
Page Contents: ETHERNET 1 / VIN2 MUX
Size:B
DWG NO 516582-0001
Revision: C
Date: Tuesday, January 12, 2016
Sheet 31 of 89



EVM_1V8

EVM_1V8 12,15,59,60,63,64,68,81

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

EVM_5V0

EVM_5V0 6,33,35,38,56,61,68,85

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: LCD CONNECTOR		
Size:B	DWG NO 516582-0001	Revision: A
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DIFFERENTIAL PAIR
100 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

DIFFERENTIAL PAIR
100 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

ER13

REV G

27 CPU_HDMI_TX2+
27 CPU_HDMI_TX2-
FL5 DLW21SN900HQ2
27 CPU_HDMI_TX1+
27 CPU_HDMI_TX1-
FL6 DLW21SN900HQ2
27 CPU_HDMI_TX0+
27 CPU_HDMI_TX0-
FL7 DLW21SN900HQ2
27 CPU_HDMI_TXC+
27 CPU_HDMI_TXC-
FL8 DLW21SN900HQ2

U128 U129 U130 U131 U132 U133 U134 U135 tpd1e05u06 (IO, GND)

HDMI_TX2+
HDMI_TX2-
HDMI_TX1+
HDMI_TX1-
HDMI_TX0+
HDMI_TX0-
HDMI_TXC+
HDMI_TXC-

P4
1 D2+
2 D2 SHIELD
3 D2-
4 D1+
5 D1 SHIELD
6 D1-
7 D0+
8 D0 SHIELD
9 D0-
10 CK+
11 CK SHIELD
12 CK-
13 CE REMOTE
14 NC.14
15 DDC CLK
16 DDC DATA
17 GND
18 +5V
19 HP DET
MTG1 MTG1
MTG2 MTG2
MTG3 MTG3
MTG4 MTG4
HDMI-RA-19-TYPEA

EVM_5V0
EVM_5V0 6,32,35,38,56,61,68,85

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

C230 0.1uF
C1 0.1uF
C3 0.1uF

R517 NO-POP
R711 NO-POP
R712 NO-POP
R713 NO-POP
R305 NO-POP
HDMI_HPD_B

U1 TPD12S016RKTR
VCCA (23) VCC5V (10) 5V_OUT (12)
22 D2+ / 21 D2-
20 D1+ / 19 D1-
17 D0+ / 16 D0-
15 CLK+ / 14 CLK-
24 CEC_A
1 SCL_A / 2 SDA_A
3 HPD_A
11 CT_HPD / 4 LS_OE
GND1 GND2 GND3 (5, 13, 18)

R6 NO-POP
R7 NO-POP

4 HDMI_CEC_A
5 HDMI_DSCL
5 HDMI_DSDA
4 HDMI_HPD
HDMI_CEC_A
HDMI_SCL_A
HDMI_SDA_A
HDMI_HPD_A

CEC_B 6 HDMI_CEC_B
SCL_B 7 HDMI_SCL_B
SDA_B 8 HDMI_SDA_B
HPD_B 9

R322 10K
R321 10K
13 HDMI_CT_HPD
13 HDMI_LS_OE

THE HDMI I2C SIGNALS ARE
CROSSED IN VAYU AND NEED TO BE
UNCROSSED AT THE BOARD LEVEL.
THIS UNCROSS IS MOVED TO RU108
ON SHEET 5, REVE.

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: HDMI CONNECTOR		
Size:B	DWG NO 516582-0001	Revision: H
Date: Tuesday, January 12, 2016	Sheet 33 of 89	

VOUT3 INTERFACE

EVM_3V3

L3 Ferrite Chip

C235 4.7uF

C236 0.1uF

U3

DS90UB925QSQE

30 VDDIO

VDD33 22

C229 4.7uF

C231 0.1uF

L2 Ferrite Chip

EVM_3V3

CAPP12 14

C8 4.7uF

CAPL12 7

C234 4.7uF

C13 4.7uF

CAPHS12 17

C7 4.7uF

TRANSMIT USES 1 DATA - 3 DATA +

DOUT+ 20

DOUT- 19

C5 0.1uF FPD_DOUT+

C6 0.1uF FPD_DOUT-

C216 0.1uF

C215 0.1uF

D4S20D-40ML5

P1

SH1 SH2 SH3 SH4

CMF 23

C232 0.1uF

MODE_SEL 24

EVM_3V3

R332 10K

R20 10K

IDX 6

R333 NO-POP

R338 NO-POP

SCL 8

SDA 9

NC.16 16

RES1 18

RES0 15

DAP(PWRPAD) 49

21	VOUT3B_D23	VOUT3B_D23	34	R7
21	VOUT3B_D22	VOUT3B_D22	33	R6
21	VOUT3B_D21	VOUT3B_D21	32	R5
21	VOUT3B_D20	VOUT3B_D20	29	R4
21	VOUT3B_D19	VOUT3B_D19	28	R3
21	VOUT3B_D18	VOUT3B_D18	27	R2
21	VOUT3B_D17	VOUT3B_D17	26	R1/IO1
21	VOUT3B_D16	VOUT3B_D16	25	R0/IO0
21	VOUT3B_D15	VOUT3B_D15	42	G7
21	VOUT3B_D14	VOUT3B_D14	41	G6
21	VOUT3B_D13	VOUT3B_D13	40	G5
21	VOUT3B_D12	VOUT3B_D12	39	G4
21	VOUT3B_D11	VOUT3B_D11	38	G3
21	VOUT3B_D10	VOUT3B_D10	37	G2
21	VOUT3B_D9	VOUT3B_D9	36	G1/IO3
21	VOUT3B_D8	VOUT3B_D8	35	G0/IO2
21	VOUT3B_D7	VOUT3B_D7	2	B7
21	VOUT3B_D6	VOUT3B_D6	1	B6
21	VOUT3B_D5	VOUT3B_D5	48	B5
21	VOUT3B_D4	VOUT3B_D4	47	B4
21	VOUT3B_D3	VOUT3B_D3	46	B3
21	VOUT3B_D2	VOUT3B_D2	45	B2
21	VOUT3B_D1	VOUT3B_D1	44	B1/I2S_DB/O5
21	VOUT3B_D0	VOUT3B_D0	43	B0/O4
22	VOUT3B_HSYNC	VOUT3B_HSYNC	3	HS
22	VOUT3B_VSYNC	VOUT3B_VSYNC	4	VS
22	VOUT3B_DE	VOUT3B_DE	5	DE
22	VOUT3B_CLK	VOUT3B_CLK	10	PCLK
			31	INTB
			21	PDB
			13	I2S_CLK/O8
			12	I2S_WC/O7
			11	I2S_DA/O6

EVM_3V3

R22 10K

REV E

22 VOUT3B_INTB

EVM_3V3

R8 10K

C228 4.7uF

R11 10K

R9 10K

R10 10K

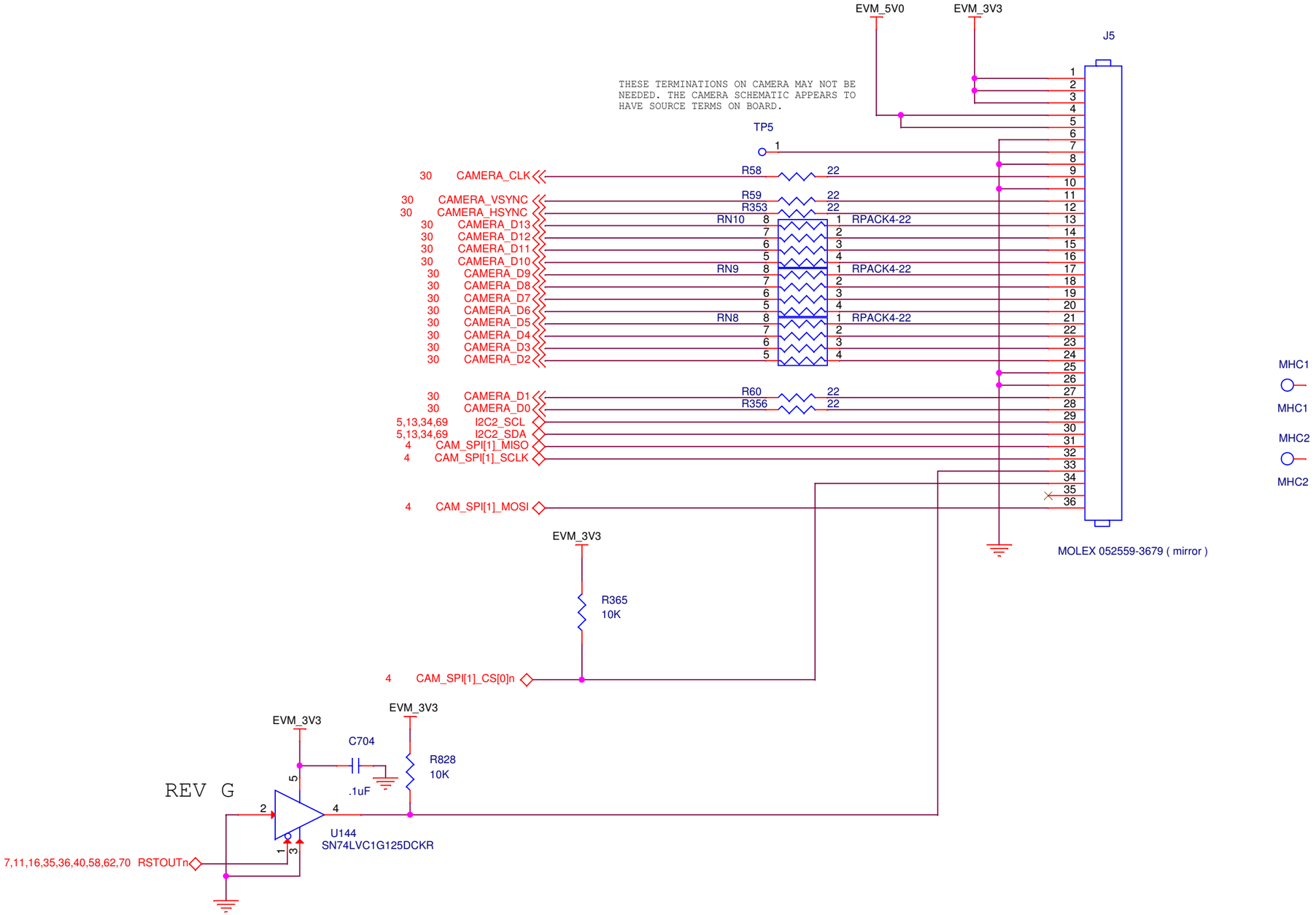
5,13,35,69 I2C2_SDA

5,13,35,69 I2C2_SCL

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: FPD LINK		
Size:B	DWG NO 516582-0001	Revision: E
Date: Tuesday, January 12, 2016	Sheet 34 of 89	



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: CAMERA INTERFACE		
Size:B	DWG NO 516582-0001	Revision: G
Date: Tuesday, January 12, 2016	Sheet 35 of 89	

3V3_VDDA

10K R63

10K R64

no-pop R62

0 R65

LVDS OUTPUT
OSCOUT PIN = OFF

EVM_3V3

L4 Ferrite Chip

3V3_VDDA

C31 10.0uF

C257 0.01uF

C254 0.001uF

C256 0.1uF

DIFFERENTIAL PAIR
100 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

VDD_CDCM9102

C268 0.1uF

C264 0.1uF

C266 10.0uF

C261 0.1uF

U9

3V3_VDDA

10K R70

NO-POP R71

CE = '1' = ON

10 OS1
11 OS0

7 0E
12 RSTn

22 GND.2
14 GND.1
33 PWR_PAD

NC.8 8
NC.13 13
NC.15 15
NC.24 24
NC.25 25
NC.26 26
NC.27 27
NC.28 28
NC.29 29
NC.30 30
NC.31 31
NC.32 32

VDD5 18
VDD4 16
VDD3 9
VDD6 20

VDD1_OUT0 4
VDD2_OUT1 1

OUT1P 3
OUT1N 2

OUT0P 6
OUT0N 5

XIN 21

REG_CAP2 17
REG_CAP1 19

OSCOUT 23

CDCM9102RHBR

SERDES_IN_REFP
SERDES_IN_REFN

PCI_CONN_REFP
PCI_CONN_REFN

SERDES_IN_REFP 37
SERDES_IN_REFN 37

PCI_CONN_REFP 38
PCI_CONN_REFN 38

TP6 1 TP

C39 10.0uF

C36 10.0uF

C42 NO-POP

Y2 25.0000MHz

R75 0

7,11,12,16,35,40,58,62,70 RSTOUTn

OUTCLOCK = 100mHZ

VDD_CDCM9102

VDD_CDCM9102 VDD_CDCM9102 84

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,38,39,40,56,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED			
Title: VAYU EVM			
Page Contents: SERDES CLOCKS			
Size:B	DWG NO 516582-0001		Revision: A
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1.8 VOLT

VDDA_1V8_PHY

E2
NFM21PC474R1C3D
3 1
2

VDDA_SATA_1P8

C416 0.1uF

C423 0.001uF

DIFFERENTIAL PAIR
100 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

AC COUPLING CAP
PLACE BY CONNECTOR

J11

Pin # Function
1 Ground
2 A+ (Transmit)
3 A- (Transmit)
4 Ground
5 B- (Receive)
6 B+ (Receive)
7 Ground
- coding notch

A 7-pin Serial ATA data cable

SATA HEADER 7

CON.SATA_TXP0 C75 10nF SATA_TXP0

CON.SATA_TXN0 C73 10nF SATA_TXN0

CON.SATA_RXN0 C70 10nF SATA_RXN0

CON.SATA_RXP0 C68 10nF SATA_RXP0

U52-1

V13 VDDA_SATA

AH10 SATA1_TXP0
AG10 SATA1_TXN0

AH9 SATA1_RXN0
AG9 SATA1_RXP0

AE10 VSSA_SATA

AH15 LJCB_CLKN
AG15 LJCB_CLKP

VDDA_PCIE W14
VDDA_PCIE0 AA17
VDDA_PCIE1 AA16

PCIE_TXP0 AH14
PCIE_TXN0 AG14

PCIE_RXP0 AG13
PCIE_RXN0 AH13

PCIE_TXP1 AH12
PCIE_TXN1 AG12

PCIE_RXP1 AG11
PCIE_RXN1 AH11

VSSA_PCIE.1 AD13
VSSA_PCIE.2 AE13

X5777BXGABC

1.8 VOLT

VDDA_PCI_1P8

C424 0.001uF

C417 0.1uF

E1
NFM21PC474R1C3D
1 3
2

VDDA_1V8_PHY

PCIE_TXP0

PCIE_TXN0

PCIE_RXN0

PCIE_RXP0

C64 .1uF CON.PCIE_TXP0 CON.PCIE_TXP0 38

C65 .1uF CON.PCIE_TXN0 CON.PCIE_TXN0 38

R78 0 CON.PCIE_RXN0 CON.PCIE_RXN0 38

R77 0 CON.PCIE_RXP0 CON.PCIE_RXP0 38

REV D

AC COUPLING CAP
PLACE BY CONNECTOR

C125 .1uF SERDES_CLKN

C120 .1uF SERDES_CLKP

R223 100

REV E

36 SERDES_IN_REFN
36 SERDES_IN_REFP

R806 NO-POP

R807 NO-POP

DIFFERENTIAL PAIR
100 OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

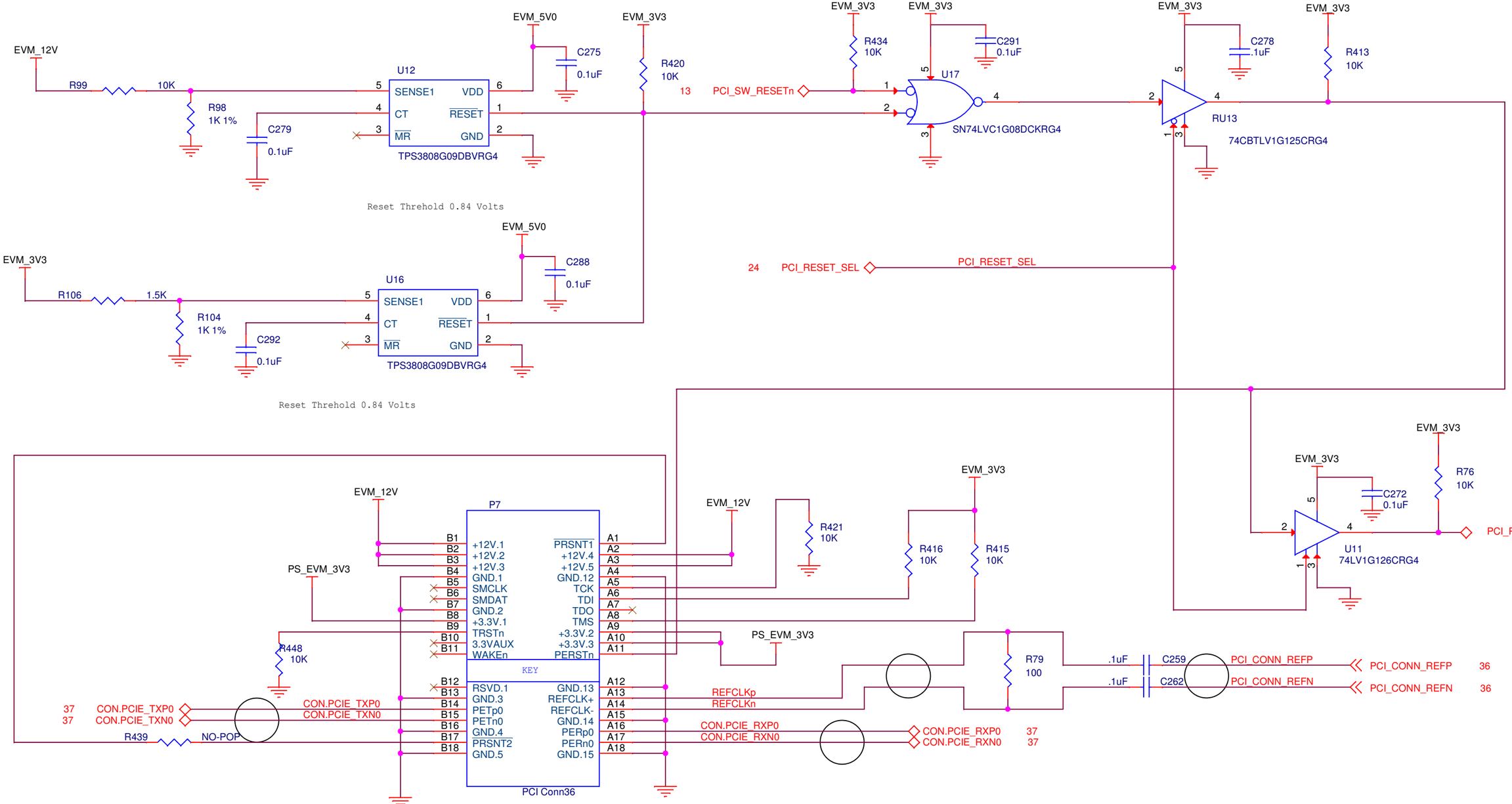
ER25

DIFFERENTIAL PAIR
XXXX OHM DIFFERENTIAL
IMPEDANCE
SHORT AND STRAIGHT AS
POSSIBLE,
MINIMUM NUMBER OF VIAS

VDDA_1V8_PHY

VDDA_1V8_PHY VDDA_1V8_PHY 19,27,82

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: PCIe/SATA INTERFACE		
Size:B	DWG NO 516582-0001	Revision: F
Date: Tuesday, January 12, 2016	Sheet 37 of 89	



PS_EVM_3V3 — PS_EVM_3V3 — PS_EVM_3V3 — 70,71,72,73,74,75,76,78,79,80,81,82,84,86

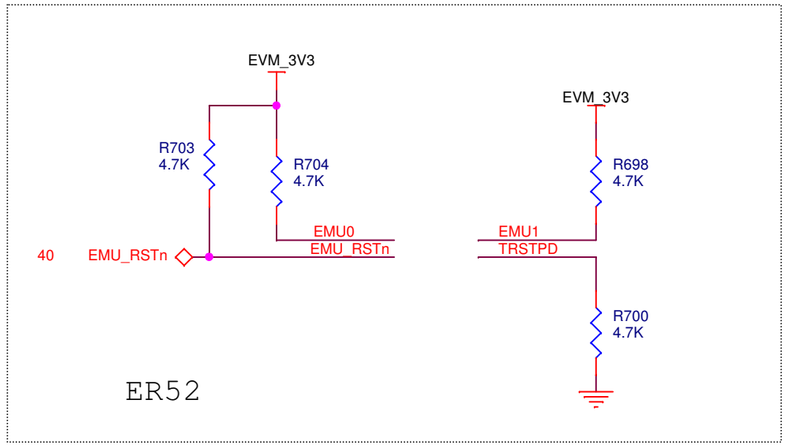
EVM_12V — EVM_12V — 16,68,74,87

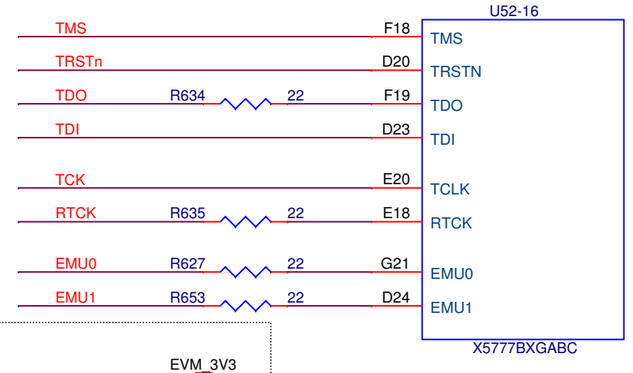
EVM_3V3 — EVM_3V3 — 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,39,40,56,57,58,59,60,63,64,65,67,68,85,86

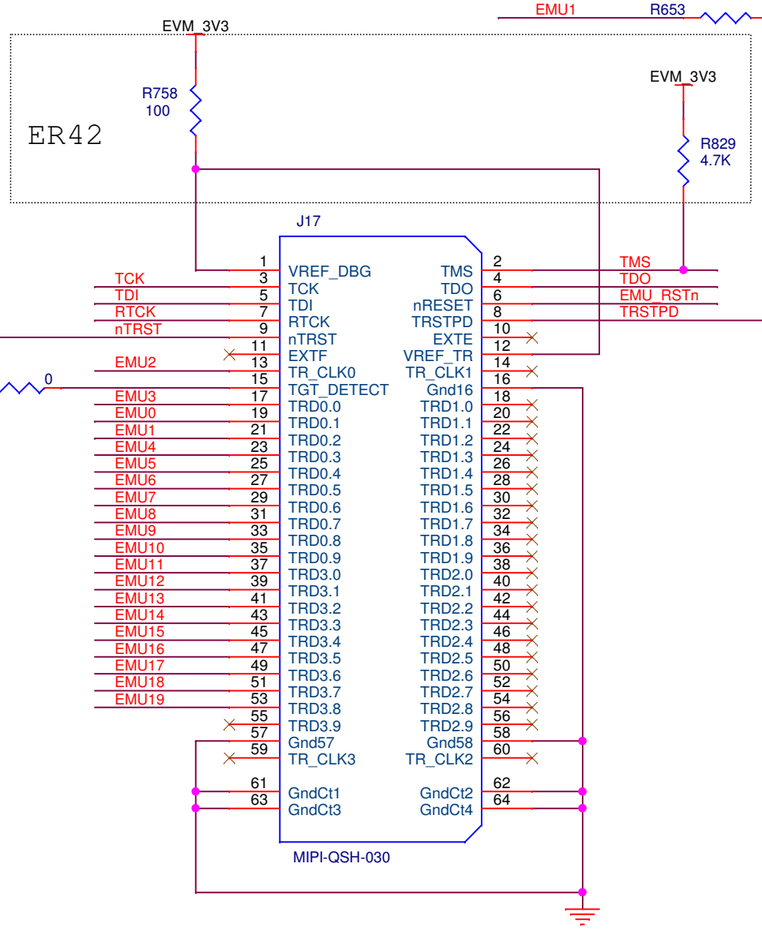
Connector must be less than 2.25 inches
to board edge from key to board edge

EVM_5V0 — EVM_5V0 — 6,32,33,35,56,61,68,85

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: PCIe CONNECTOR		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 38 of 89	







TRSTn == MIPI TRSTPD PULL DOWN VERSION
TRSTn == MIPI nTRST MIPI PULLUP VERSION
FOR CJTAG REMOVE R761 AND POPULATE R760,
AS CTJAG NEEDS THE PULLUP VERSION.

28,32 LCD_B2 EMU2
28,32 LCD_B3 EMU5
28,32 LCD_B4 EMU6
28,32 LCD_B5 EMU7
28,32 LCD_B6 EMU8
28,32 LCD_B7 EMU9

28,32 LCD_G2 EMU3
28,32 LCD_G3 EMU10
28,32 LCD_G4 EMU11
28,32 LCD_G5 EMU12
28,32 LCD_G6 EMU13
28,32 LCD_G7 EMU14

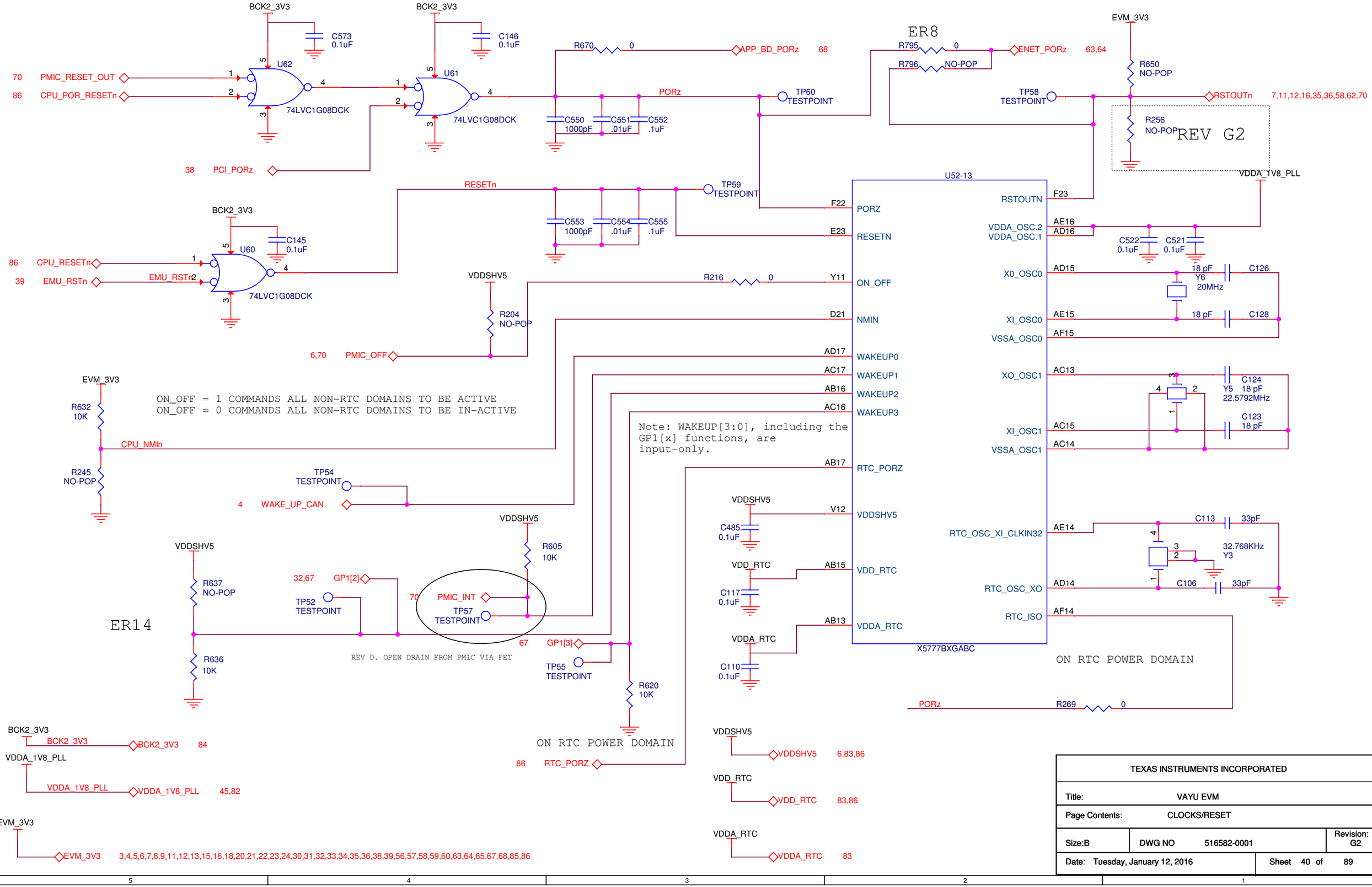
28,32 LCD_R2 EMU4
28,32 LCD_R3 EMU15
28,32 LCD_R4 EMU16
28,32 LCD_R5 EMU17
28,32 LCD_R6 EMU18
28,32 LCD_R7 EMU19

EMUx SIGNALS NEED TO ROUTE FROM U52
THROUGH J17/J14 THEN TO LCD. THE TRACE
LENGTH RULES FOR THE LCD SIGNALS NEEDS
TO BE MAINTAINED.

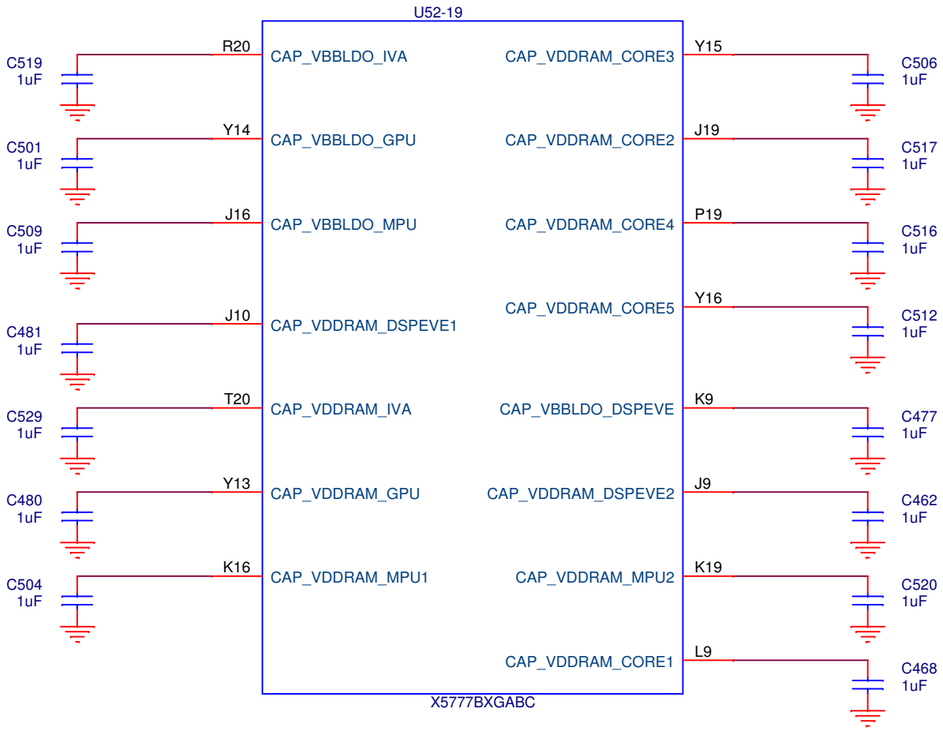
EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,40,56,57,58,59,60,63,64,65,67,68,85,86

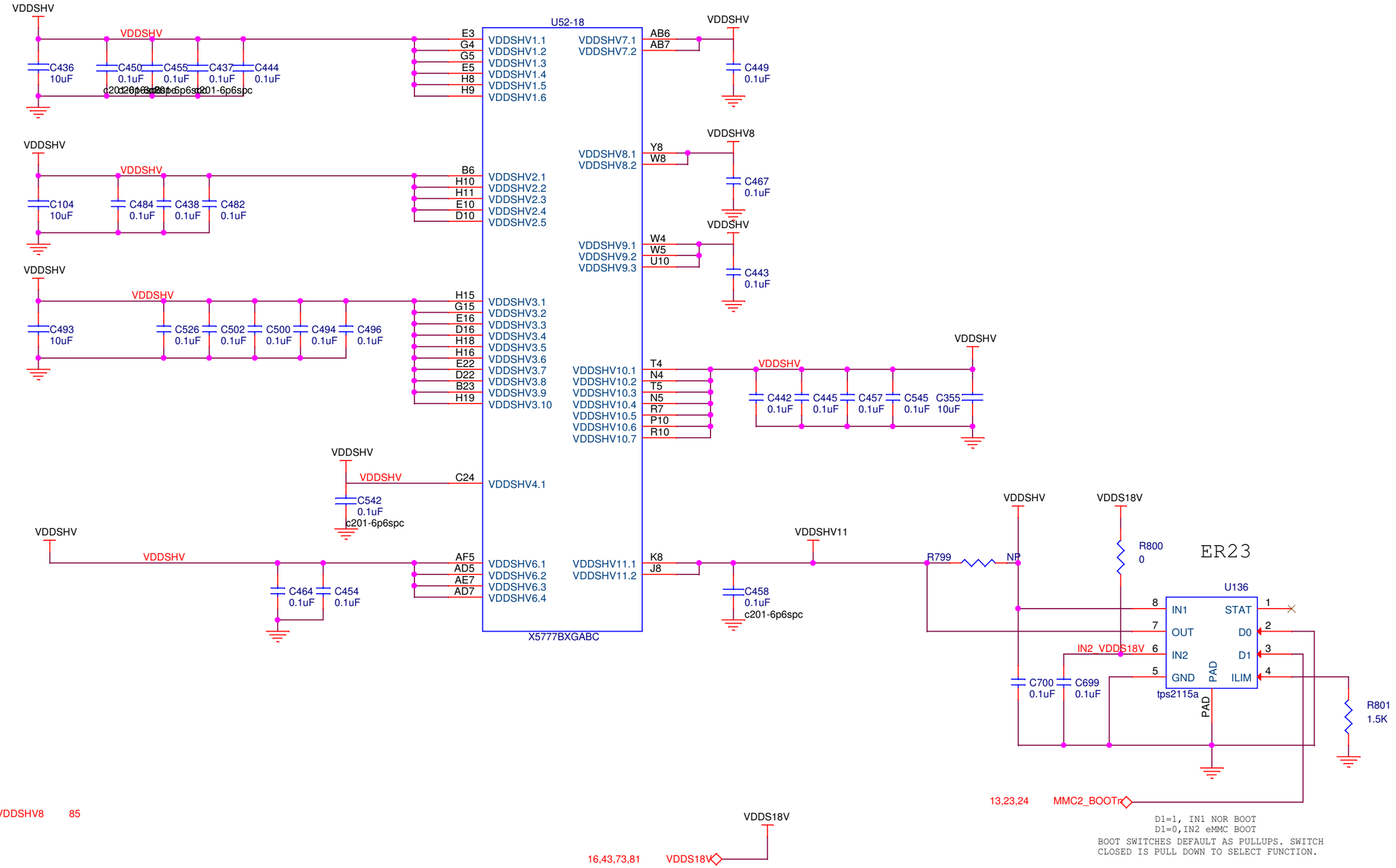
TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: JTAG		
Size:B	DWG NO 516582-0001	Revision: H
Date: Tuesday, January 12, 2016	Sheet 39 of 89	



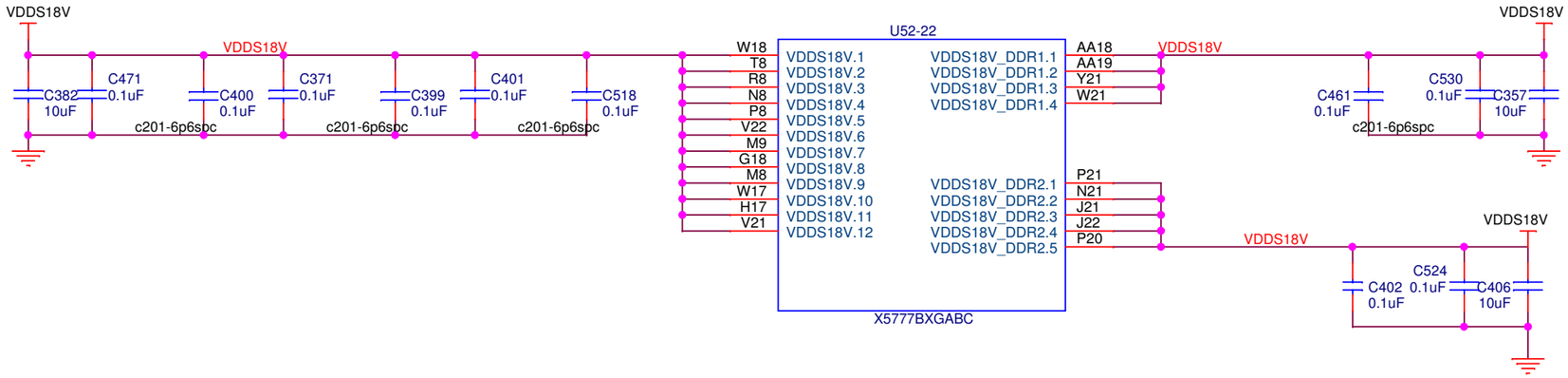
TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: CLOCKS/RESET		
Size:B	DWG NO 516582-0001	Revision: G2
Date: Tuesday, January 12, 2016		Sheet 40 of 89

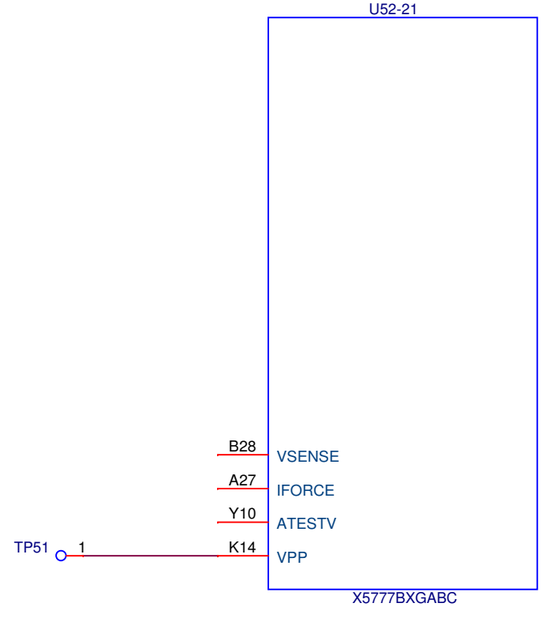


TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: INTERNAL LDOS		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016		Sheet 41 of 89

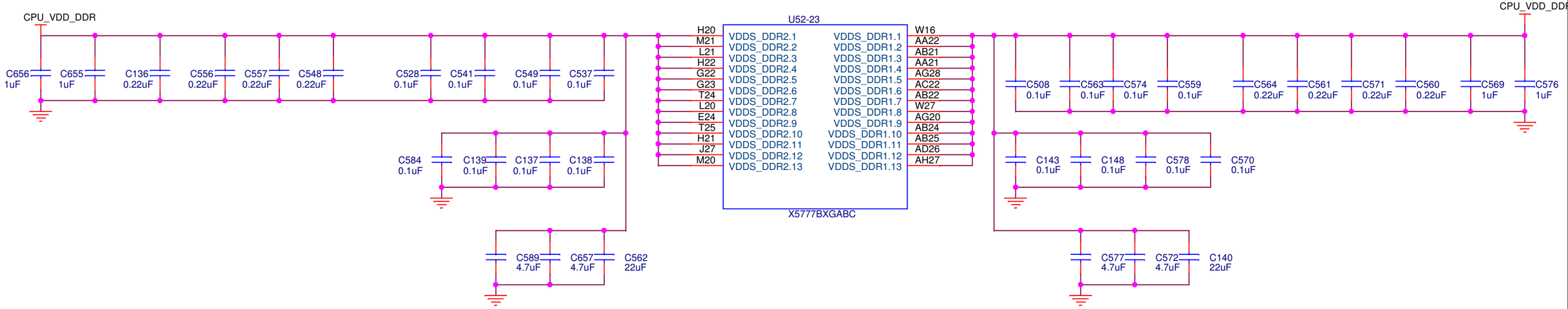


TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: I/O POWER		
Size:B	DWG NO 516582-0001	Revision: F
Date: Tuesday, January 12, 2016	Sheet 42 of 89	





TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: 1V8 POWER		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 43 of 89	



CPU_VDD_DDR

CPU_VDD_DDR → CPU_VDD_DDR 25,26,80

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: DDR3 POWER PINS		
Size:B	DWG NO 516582-0001	Revision: A
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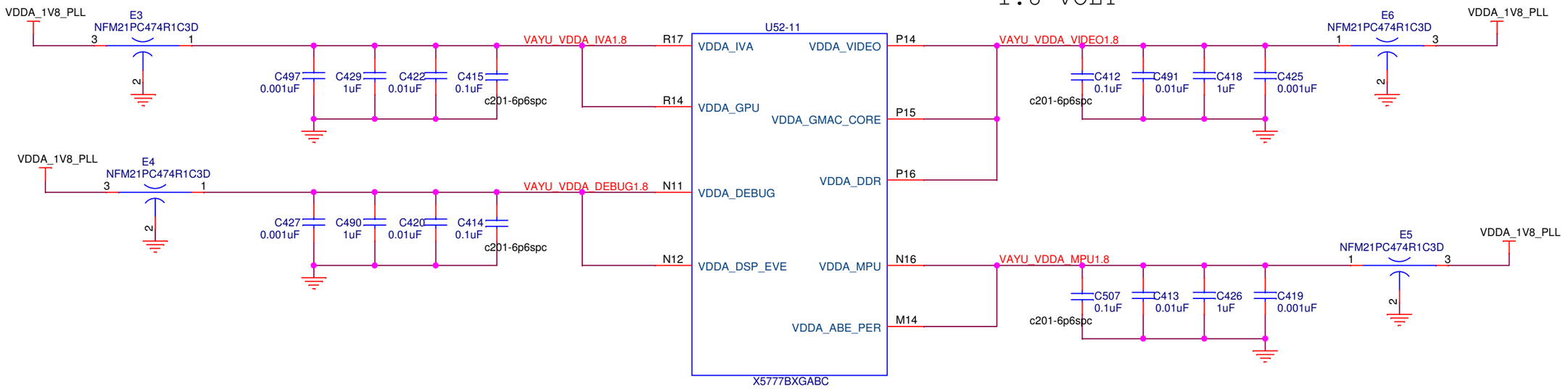
1.8 VOLT



VDDA_1V8_PLL

VDDA_1V8_PLL ◇VDDA_1V8_PLL 40,82

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: 1V8 VDDA		
Size:B	DWG NO 516582-0001	Revision: A
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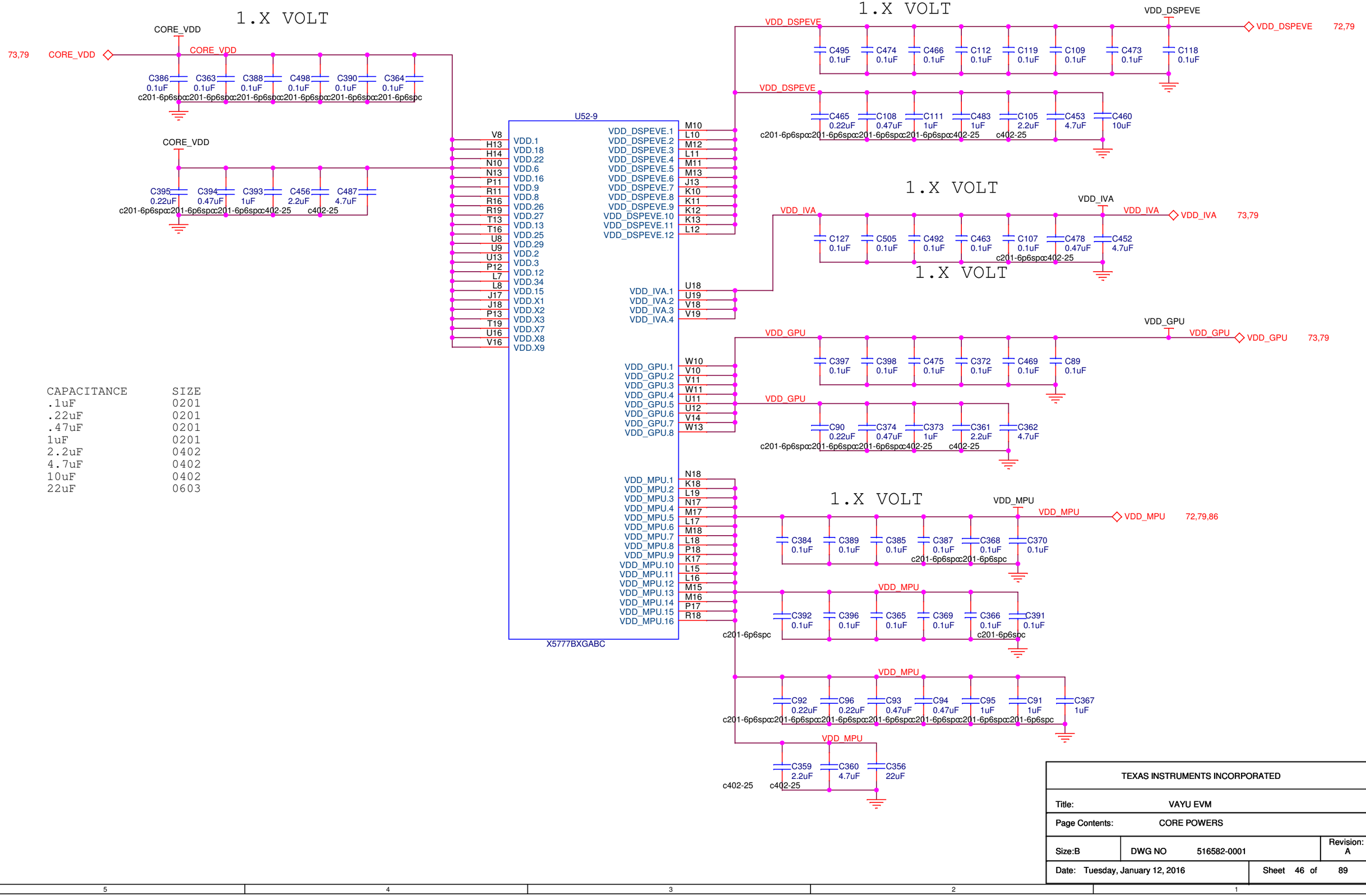
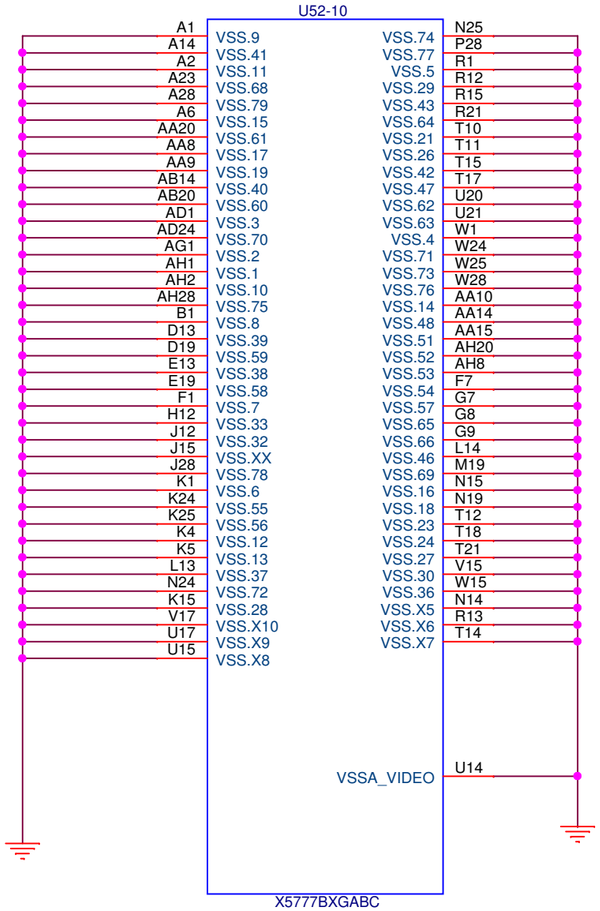
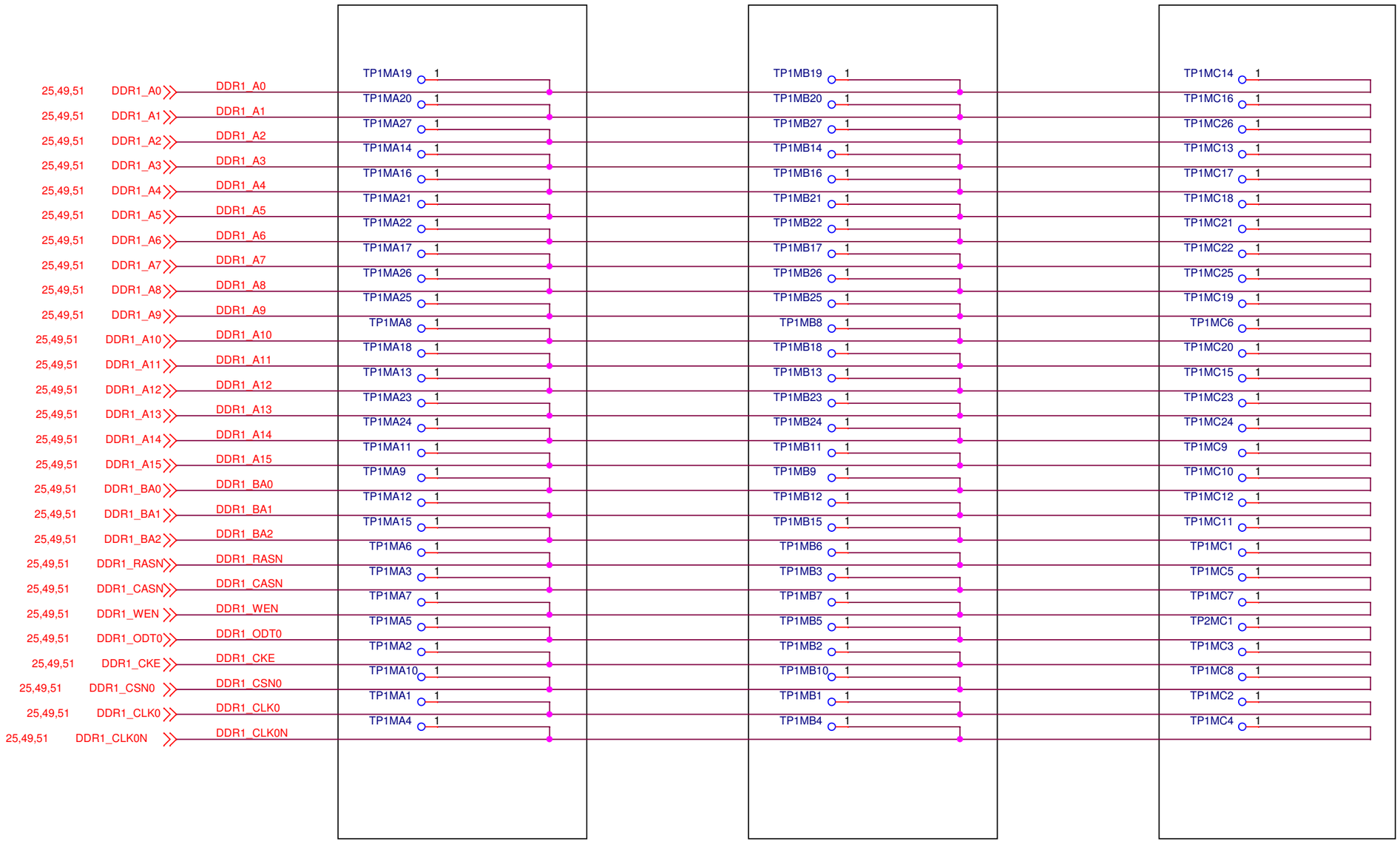


CAPACITANCE	SIZE
.1uF	0201
.22uF	0201
.47uF	0201
1uF	0201
2.2uF	0402
4.7uF	0402
10uF	0402
22uF	0603

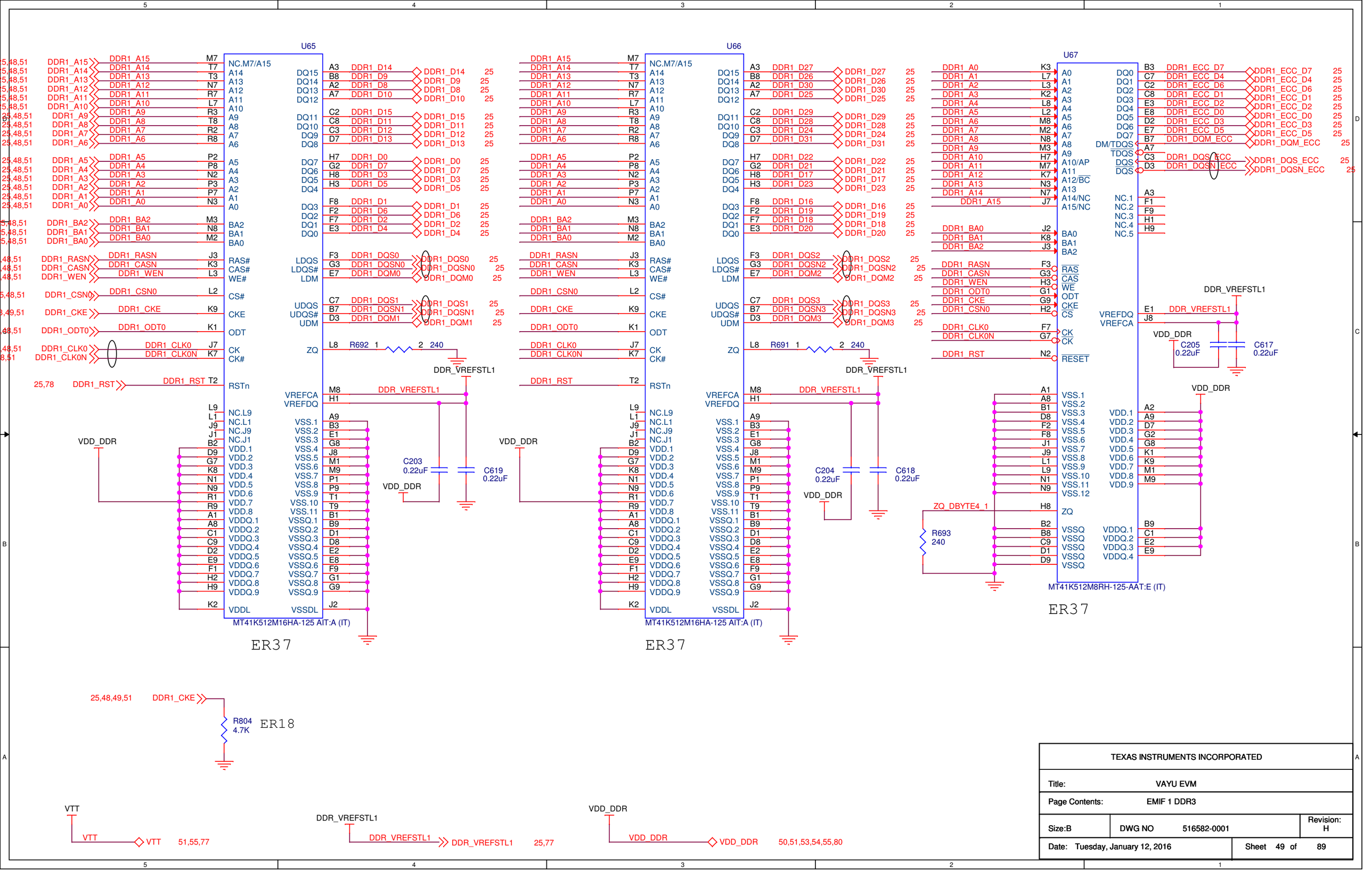
TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: CORE POWERS		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 46 of 89	



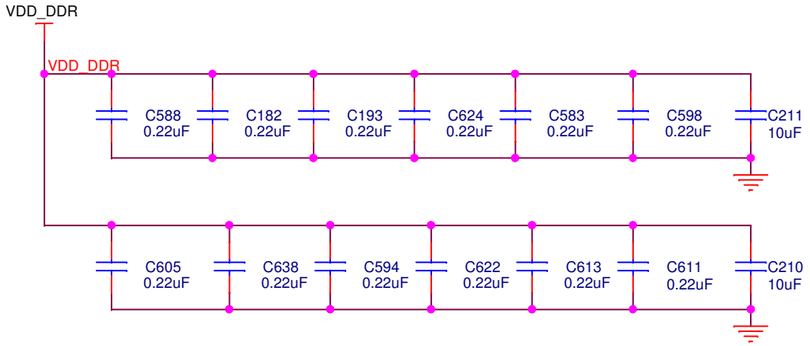
TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: GROUND PINS		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016		Sheet 47 of 89

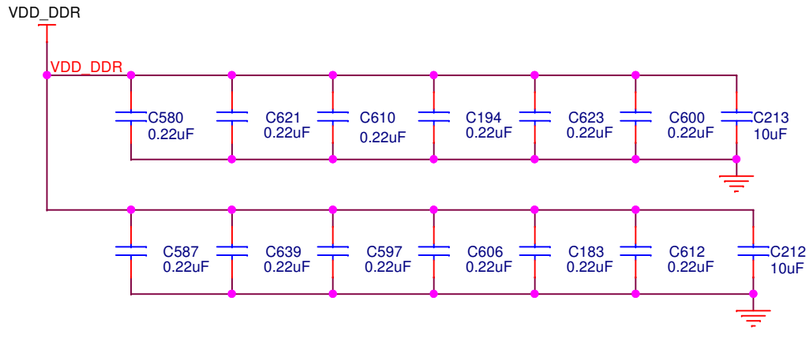


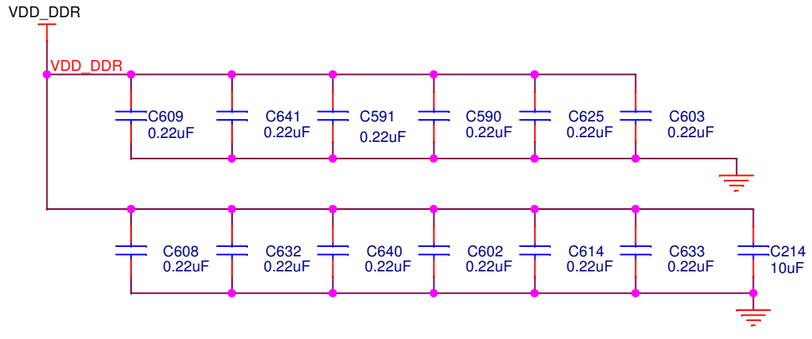
TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 1 DDR3 TESTPOINTS		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 48 of 89	

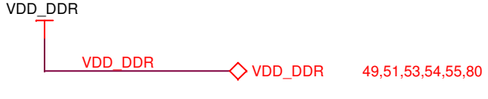


TEXAS INSTRUMENTS INCORPORATED	
Title:	VAYU EVM
Page Contents:	EMIF 1 DDR3
Size:B	DWG NO 516582-0001 Revision: H
Date: Tuesday, January 12, 2016	Sheet 49 of 89

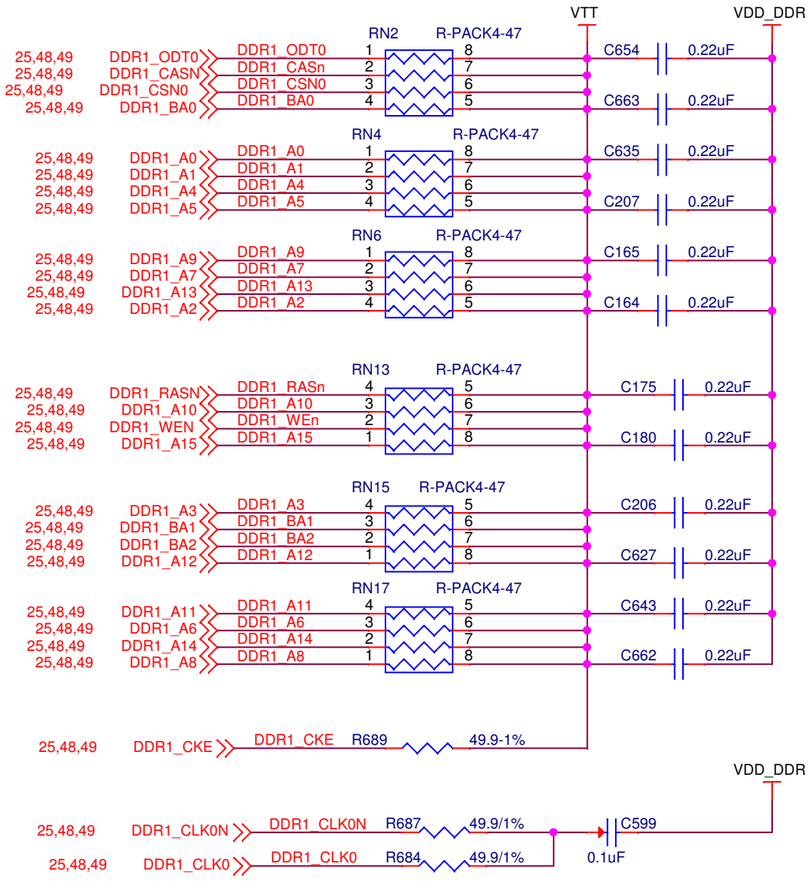


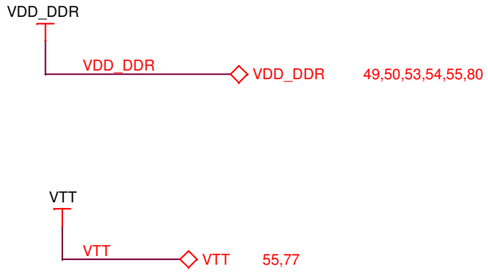






TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 1 DDR3 CAPACITORS		
Size:B	DWG NO 516582-0001	Revision: A
Date: Tuesday, January 12, 2016	Sheet 50 of 89	





TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 1 DDR3 TERMINATION		
Size:B	DWG NO 516582-0001	Revision: A
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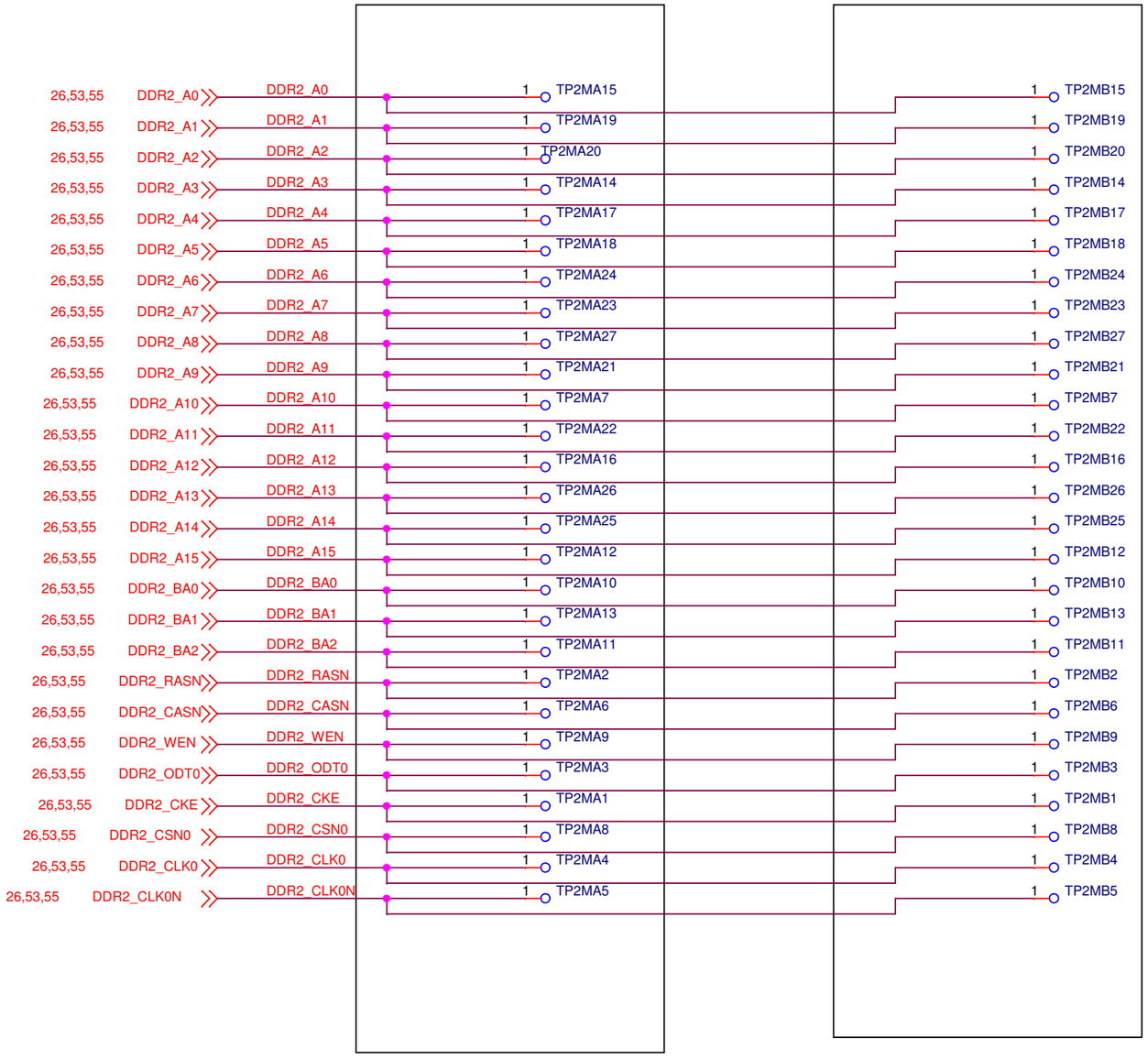
MEMORY 1
MEMORY 2

MEMORY 3
MEMORY 4



This section is an outline of vias labeled as Testpoints in the schematic. This allows us to determine pwb line lengths for memory to memory and CPU to memory it is purely a visibility tool no actual "component" is used the vias are just replaced with a via that is labeled a test point

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: TEST POINTS EMIF 2		
Size:B	DWG NO 516582-0001	Revision: A
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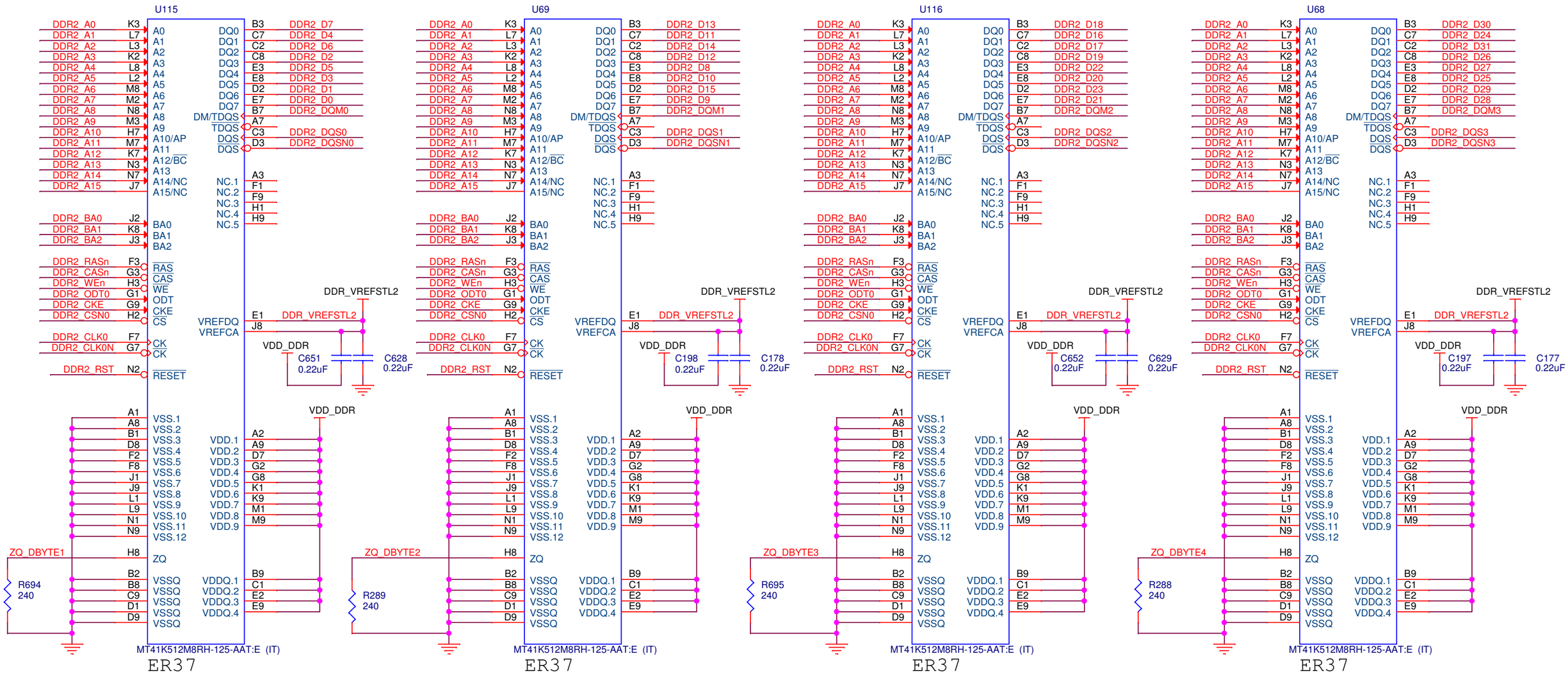
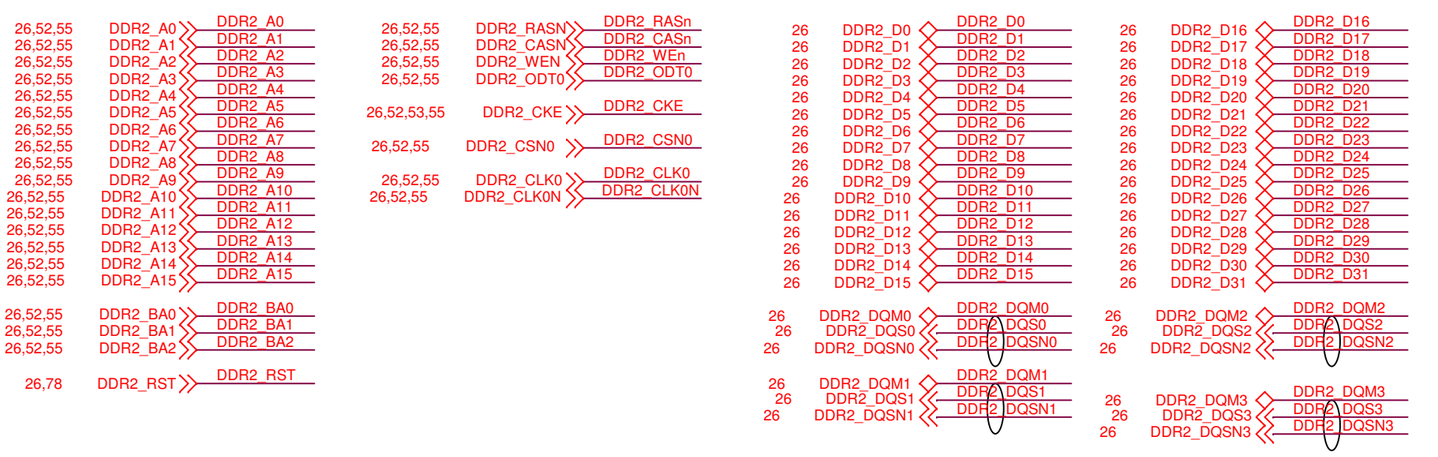
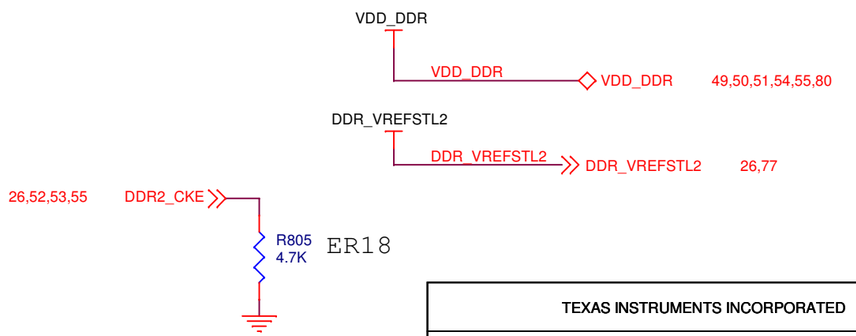
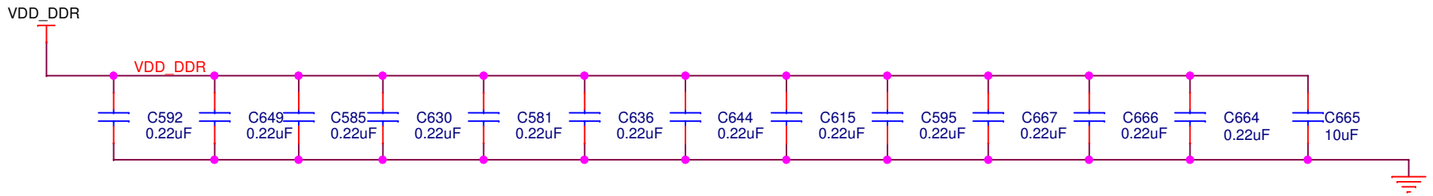
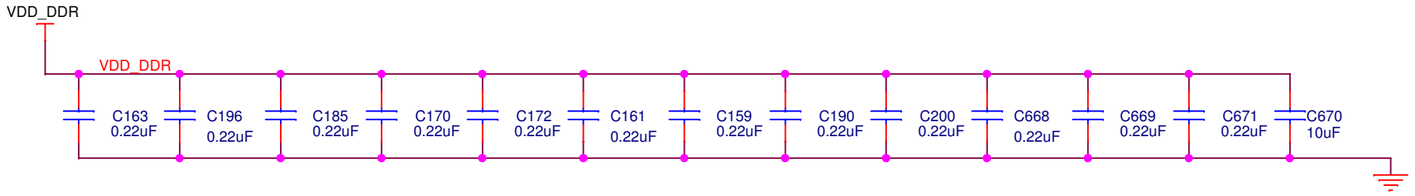


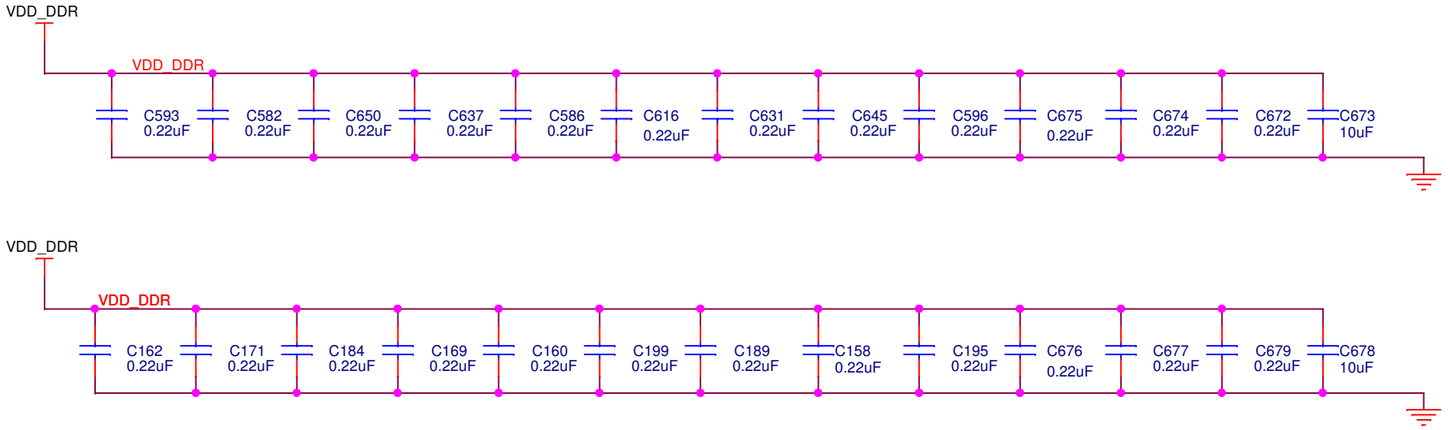




TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 2 DDR3 MEMORIES		
Size:B	DWG NO 516582-0001	Revision: H
Date: Tuesday, January 12, 2016	Sheet 53 of 89	







TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 2 DDR3 CAPACITORS		
Size:B	DWG NO 516582-0001	Revision: A
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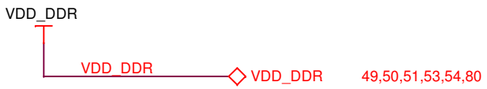
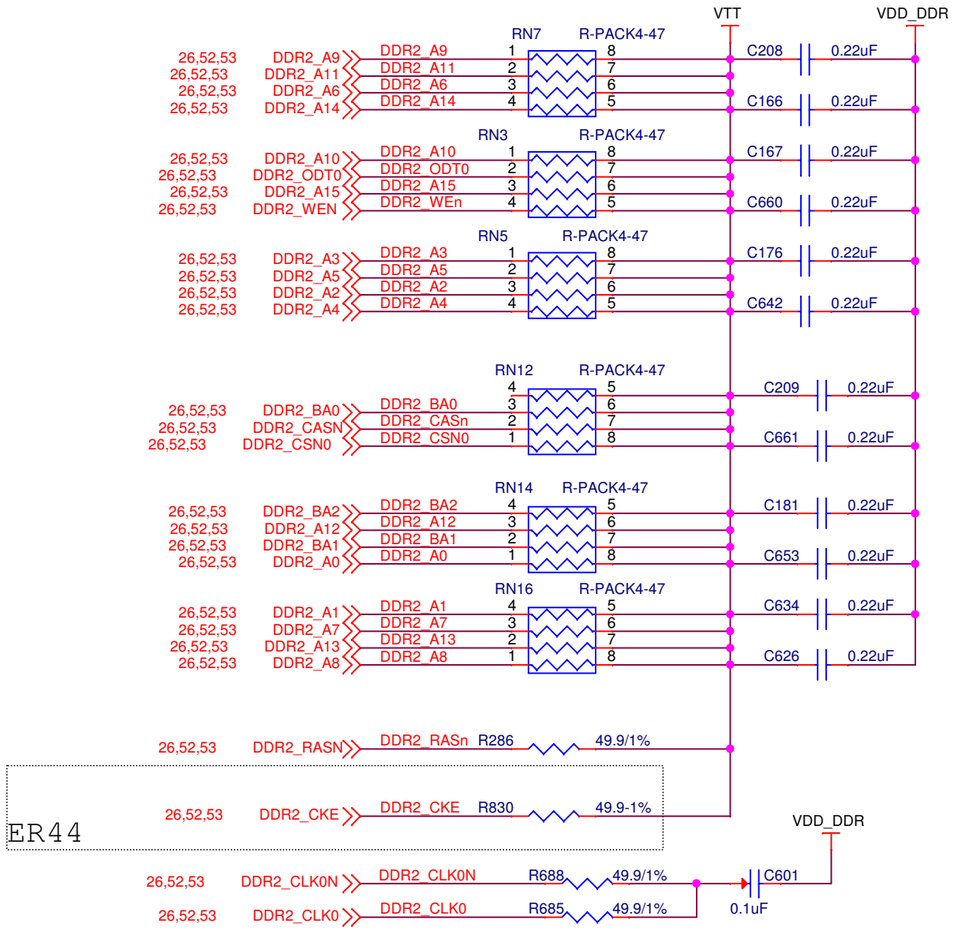
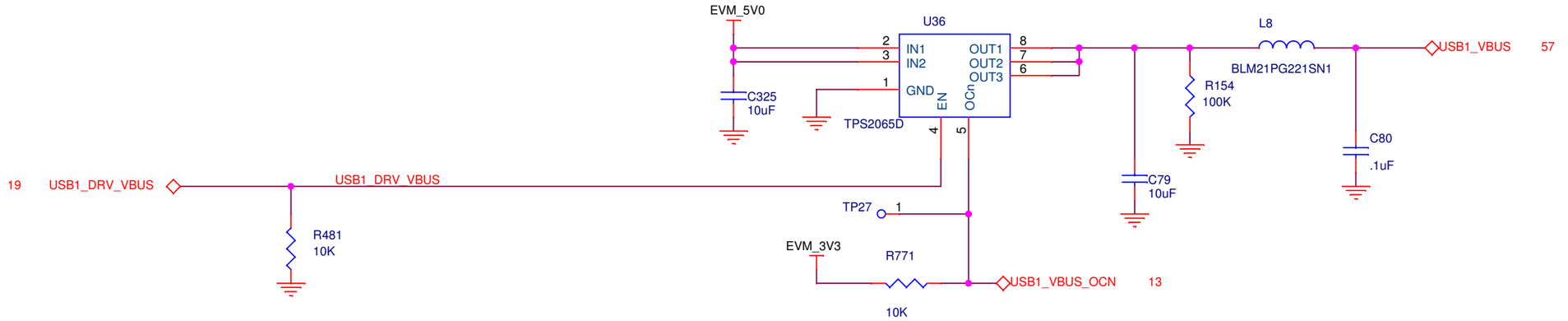
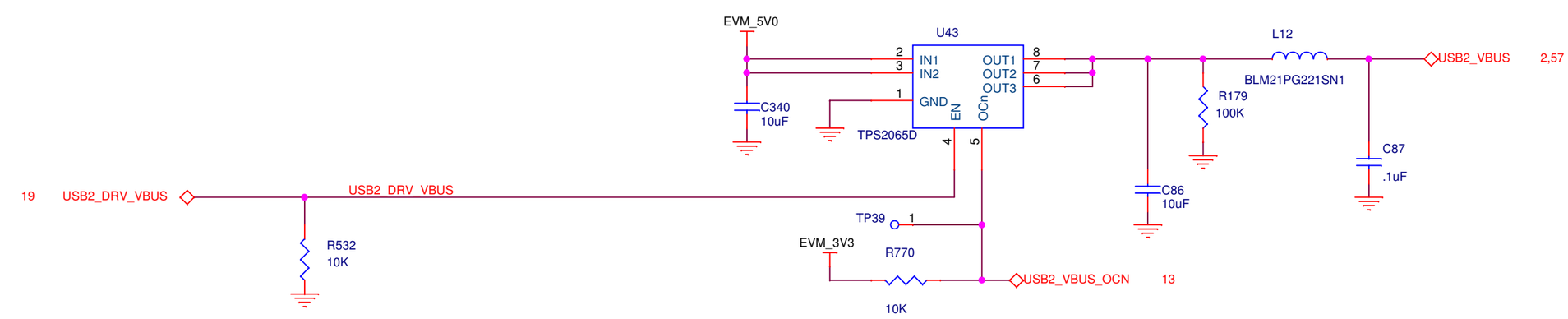




TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: EMIF 2 DDR3 TERMINATION		
Size:B	DWG NO 516582-0001	Revision: H
Date: Tuesday, January 12, 2016		Sheet 55 of 89





EVM_5V0

EVM_5V0 6,32,33,35,38,61,68,85

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,57,58,59,60,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: USB VBUS DRIVERS		
Size:B	DWG NO 516582-0001	Revision: C
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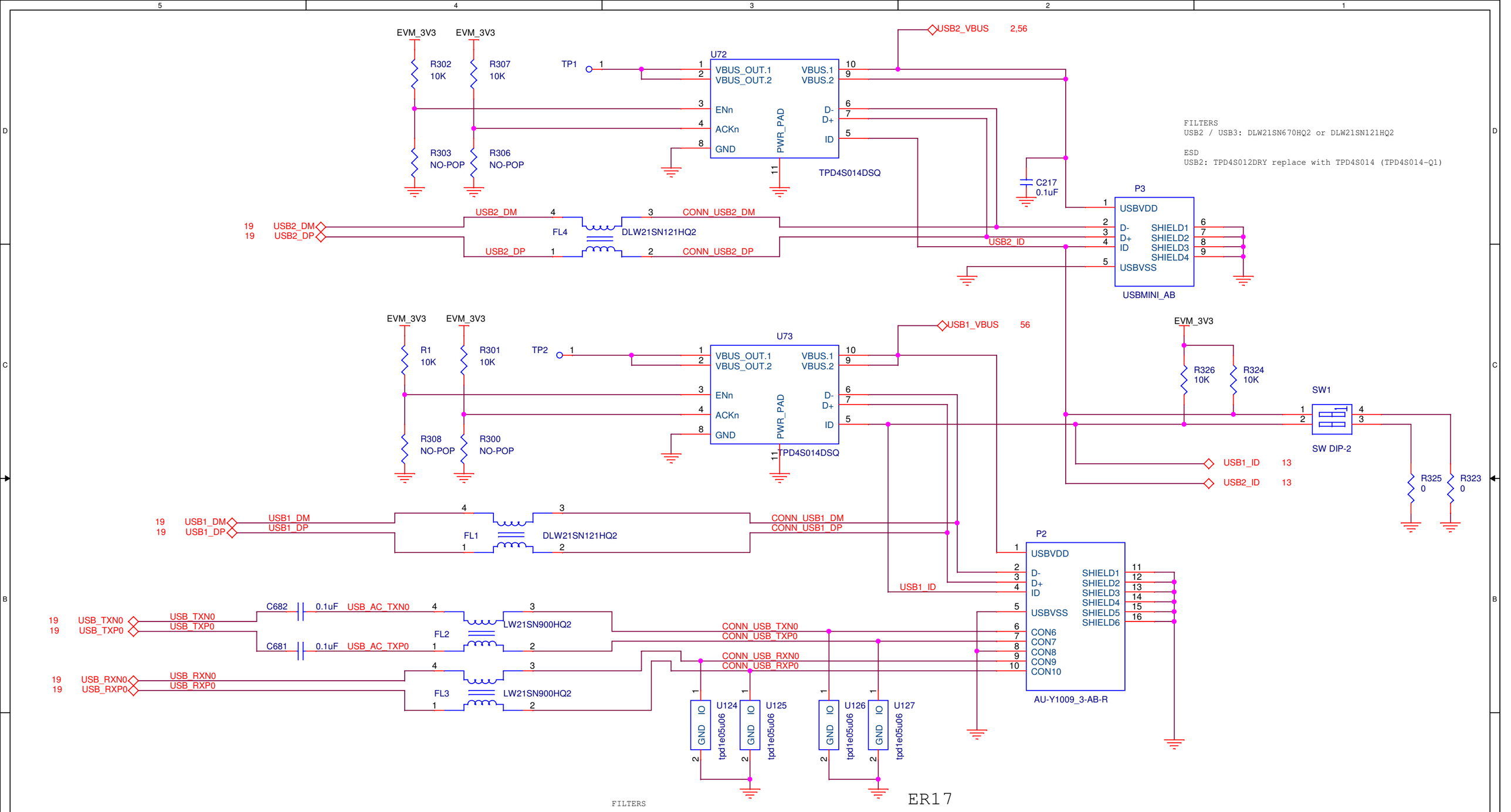
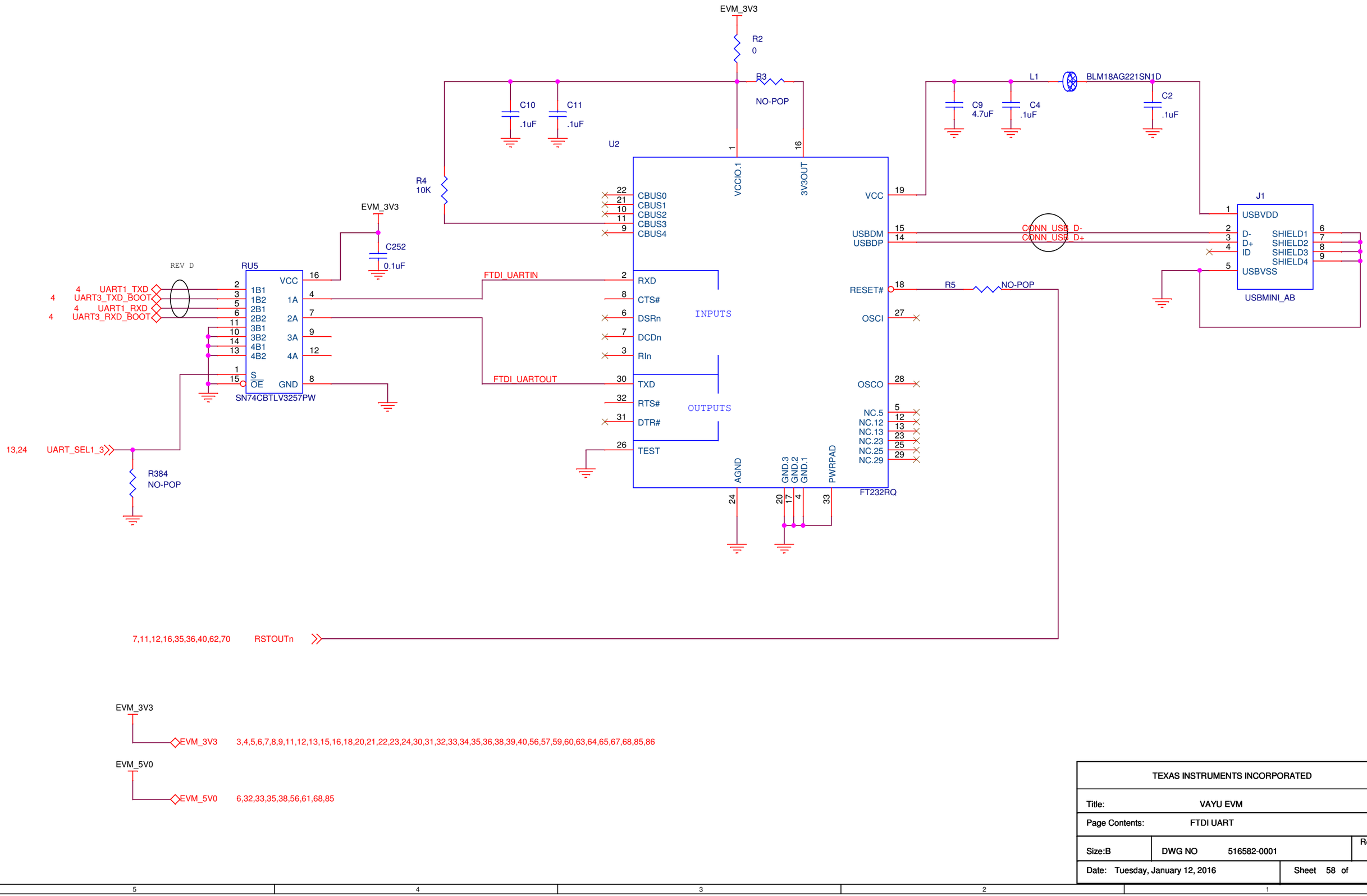


TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: USB CONNECTORS		
Size:B	DWG NO 516582-0001	Revision: F
Date: Tuesday, January 12, 2016	Sheet 57 of 89	



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: FTDI UART		
Size:B	DWG NO 516582-0001	Revision: D
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13,24,59 MCASP1_ENn

EVM_3V3

C404 0.1uF

R539 NO-POP

U46 SN74AVC8T245RHL

LVL_SHIFT_V

C411 0.1uF

C405 0.1uF

R536 NO-POP

R548 0

EVM_1V8

VCCA VCCB DIR OEn A1 A2 A3 A4 A5 A6 A7 A8 B1 B2 B3 B4 B5 B6 B7 B8 GND GND PP GND

2 GP5[4]
2 GP5[8]
2 GP5[6]

BT_EN
WL_EN
GPS_TIME_STAMP

BT_EN 60
WL_EN 60
GPS_TIME_STAMP 60

R714 0

5 UART3_RTS
5 UART3_TXD

BT_UART_CTS
BT_UART_RX

BT_UART_CTS 60
BT_UART_RX 60

L = B TO A
H = A TO B

13,24,59 MCASP1_ENn

EVM_3V3

C331 0.1uF

R479 NO-POP

U35 SN74AVC8T245RHL

LVL_SHIFT_V

C335 0.1uF

C332 0.1uF

VCCA VCCB DIR OEn A1 A2 A3 A4 A5 A6 A7 A8 B1 B2 B3 B4 B5 B6 B7 B8 GND GND PP GND

2 GP5[7]
2 GP5[5]
3 MCA1_AXR0
5 UART3_RXD
5 UART3_CTS
3 MCA7_AXR0

WLAN_IRQ
GPS_PPS_OUT
FM_I2S_DO
BT_UART_TX
BT_UART_RTS
PCM_DOUT

WLAN_IRQ 60
GPS_PPS_OUT 60
FM_I2S_DO 60
BT_UART_TX 60
BT_UART_RTS 60
PCM_DOUT 60

R715 0

L = B TO A
H = A TO B

EVM_3V3

R528 NP

DR26

R178 10K

EVM_3V3

C344 0.1uF

LVL_SHIFT_V

C345 0.1uF

U41

VCCA VCCB 1DIR 1OE 1A1 1A2 1B1 1B2 2DIR 2OE 2A1 2A2 2B1 2B2 GND.1 GND.2 GND.3

R515 0

3 MCA7_CLKX
3 MCA7_FSX

PCM_CLK
PCM_FSYNC

PCM_CLK 60
PCM_FSYNC 60

3 MCA7_AXR1

PCM_DIN

PCM_DIN 60

SN74AVC4T245RGYR

EVM_3V3

R519 10K

R157 NO-POP

L = B TO A
H = A TO B

EVM_1V8

EVM_1V8 12,15,32,60,63,64,68,81

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,60,63,64,65,67,68,85,86

EVM_3V3

R587 NO-POP

C479 0.1uF

DIR=H : A to B
DIR=L : B to A

LVL_SHIFT_V

C472 0.1uF

U104 SN74LVC1T45

VCCB VCCA DIR A B GND

LVL_SHIFT_V

4 MMC4_CLK

COMQ_MMC0_CLK 60

EVM_3V3

C351 0.1uF

LVL_SHIFT_V

C448 0.1uF

10K R520 10K R521 10K R522 10K R523 10K R524

U100 TXS0108EPW

VCCB VCCA A1 A2 A3 A4 A5 A6 A7 A8 B1 B2 B3 B4 B5 B6 B7 B8 OE GND1

20K R559 20K R560 20K R561 20K R562 20K R558

4 MMC4_CMD
4 MMC4_DAT0
4 MMC4_DAT1
4 MMC4_DAT2
4 MMC4_DAT3

COMQ_MMC0_CMD 60
COMQ_MMC0_DAT0 60
COMQ_MMC0_DAT1 60
COMQ_MMC0_DAT2 60
COMQ_MMC0_DAT3 60

EVM_3V3

R584 10K

R200 NO-POP

EVM_3V3

C446 0.1uF

LVL_SHIFT_V

C447 0.1uF

LVL_SHIFT_V

13,24,59 MCASP1_ENn

U48 SN74AVC4T245RGYR_0

VCCA VCCB 1DIR 1OE 1A1 1A2 1B1 1B2 2DIR 2OE 2A1 2A2 2B1 2B2 GND.1 GND.2 GND.3

R568 NO-POP

3 MCA1_ACLKX
3 MCA1_AFSX

FM_I2S_CLK
FM_I2S_FSYNC

FM_I2S_CLK 60
FM_I2S_FSYNC 60

3 MCA1_AXR1

FM_I2S_DI

FM_I2S_DI 60

EVM_3V3

R581 10K

R196 NO-POP

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: COM8 LEVEL TRANSLATOR		
Size:B	DWG NO 516582-0001	Revision: A
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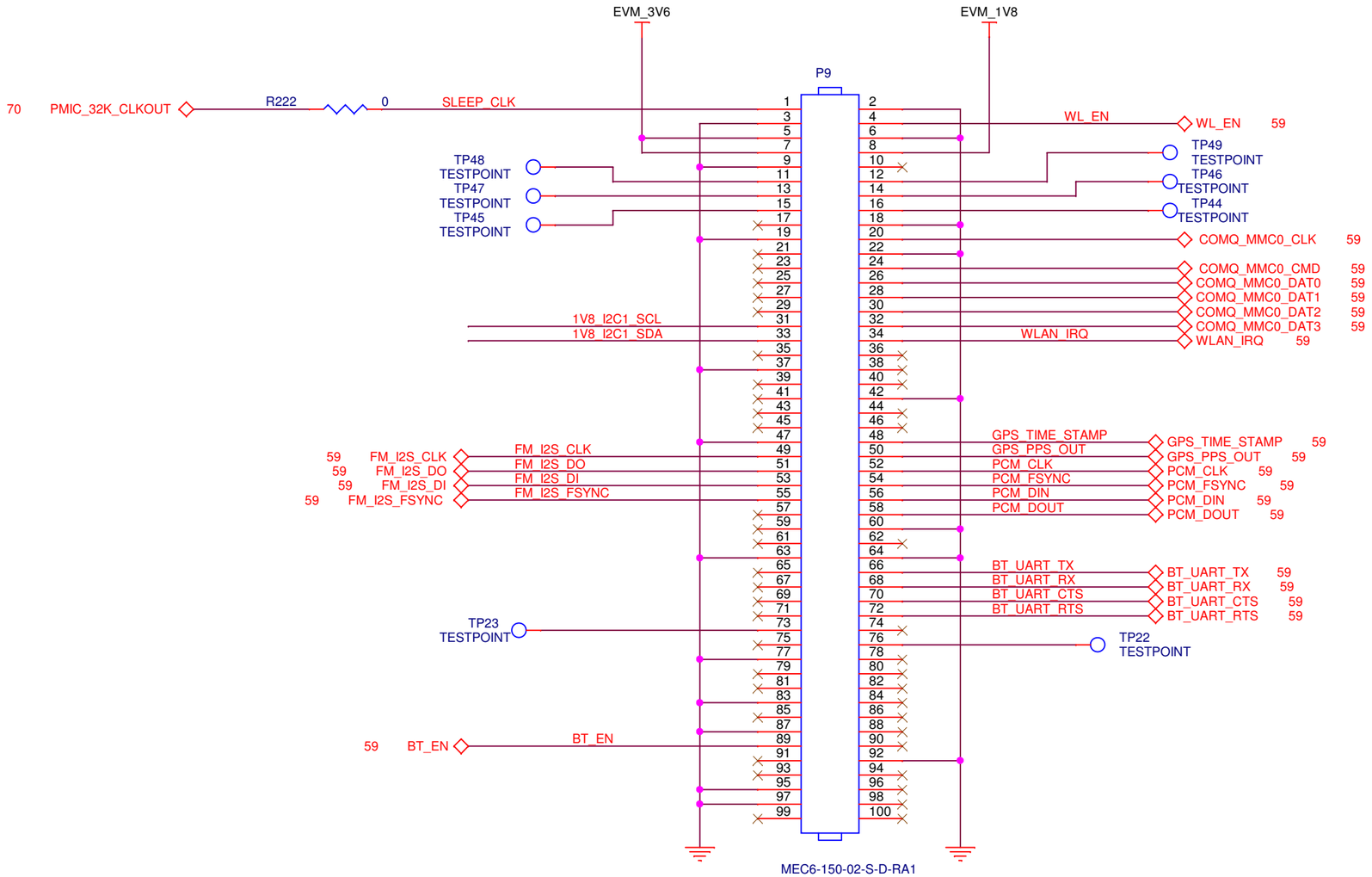

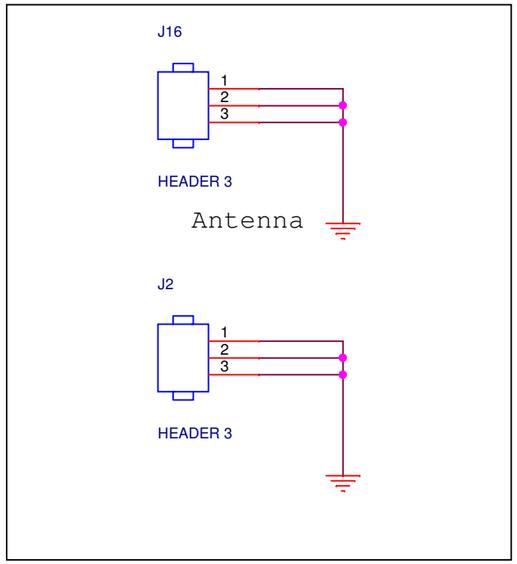

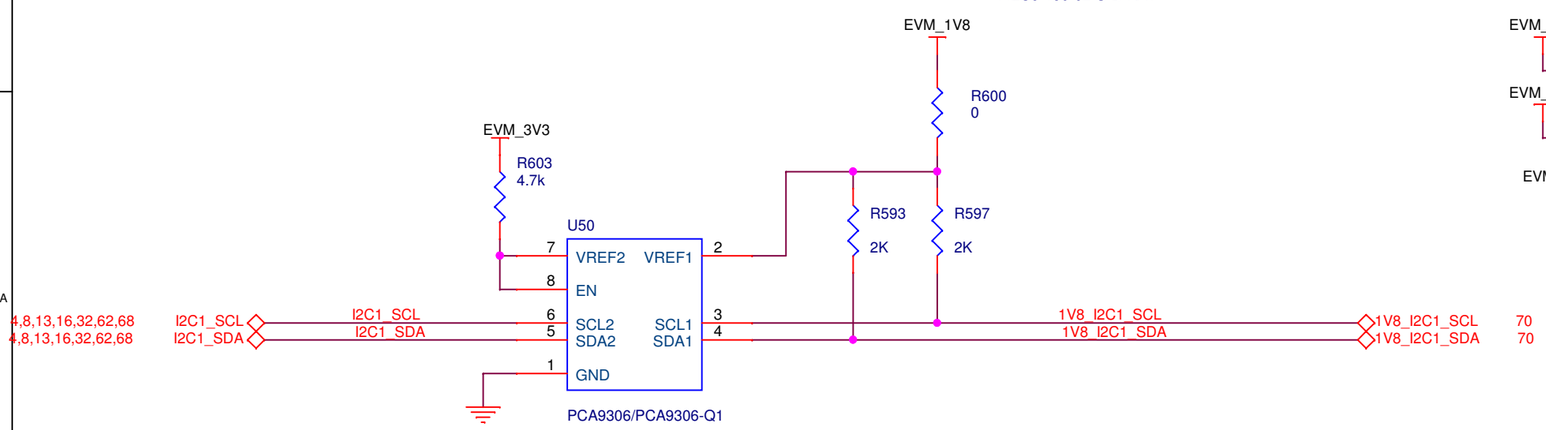

EVM_1V8
EVM_1V8 12,15,32,59,63,64,68,81

EVM_3V6
EVM_3V6 61

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,63,64,65,67,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: COM8 CONNECTOR		
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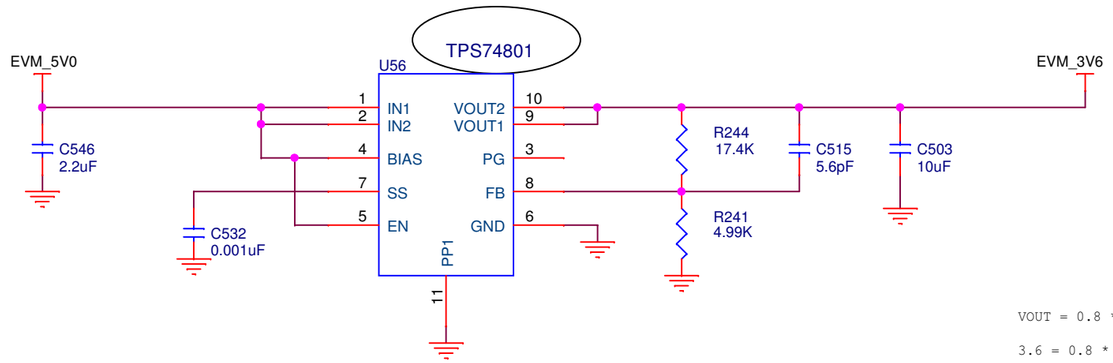
REV D



VOUT = 0.8 * (1+(RTOP/RBOTTOM))

3.6 = 0.8 * (1+(RTOP/RBOTTOM))

4.5 = (1+(RTOP/RBOTTOM))

3.5 = ((RTOP/RBOTTOM))

3.5 RBOTTOM = RTOP

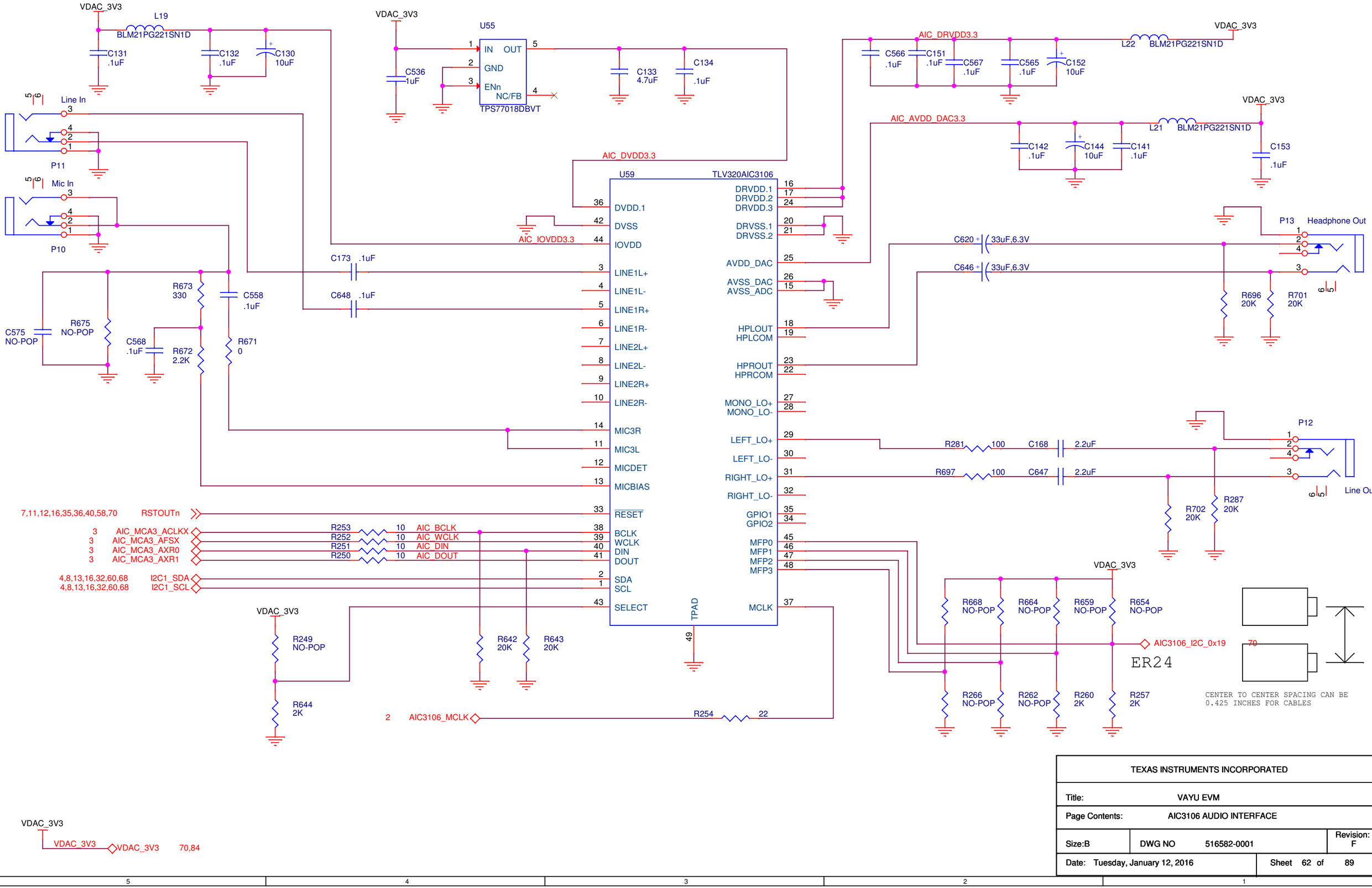
EVM_3V6

EVM_3V6 60

EVM_5V0

EVM_5V0 6,32,33,35,38,56,68,85

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: COM8 POWER		
Size:B	DWG NO 516582-0001	Revision: D
Date: Tuesday, January 12, 2016		Sheet 61 of 89



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: AIC3106 AUDIO INTERFACE		
Size:B	DWG NO 516582-0001	Revision: F
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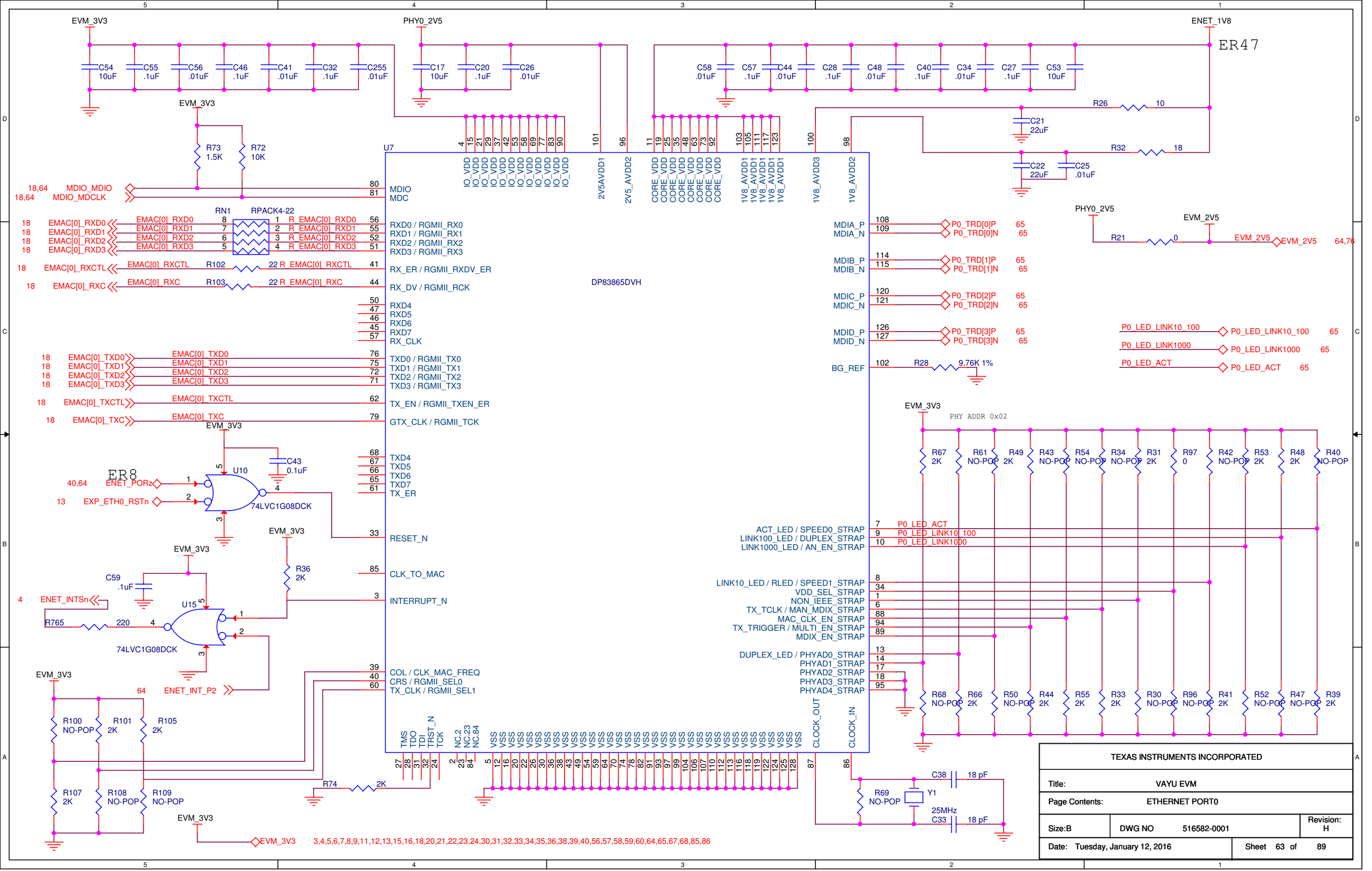
EVM_3V3
C54 10uF
C55 .1uF
C56 .01uF
C46 .1uF
C41 .01uF
C32 .1uF
C255 .01uF
PHY0_2V5
C17 10uF
C20 .1uF
C26 .01uF
ENET_1V8
ER47
C58 .01uF
C57 .1uF
C44 .01uF
C28 .1uF
C48 .01uF
C40 .1uF
C34 .01uF
C27 .1uF
C53 10uF
R26 10
C21 22uF
R32 18
C22 22uF
C25 .01uF
R73 1.5K
R72 10K
U7
DP83865DVH
MDIO
MDC
RXD0 / RGMII_RX0
RXD1 / RGMII_RX1
RXD2 / RGMII_RX2
RXD3 / RGMII_RX3
RX_ER / RGMII_RXDV_ER
RX_DV / RGMII_RCK
RXD4
RXD5
RXD6
RXD7
RX_CLK
TXD0 / RGMII_TX0
TXD1 / RGMII_TX1
TXD2 / RGMII_TX2
TXD3 / RGMII_TX3
TX_EN / RGMII_TXEN_ER
GTX_CLK / RGMII_TCK
TXD4
TXD5
TXD6
TXD7
TX_ER
RESET_N
CLK_TO_MAC
INTERRUPT_N
COL / CLK_MAC_FREQ
CRS / RGMII_SEL0
TX_CLK / RGMII_SEL1
2V5AVDD1
2V5_AVDD2
CORE_VDD
1V8_AVDD1
1V8_AVDD3
1V8_AVDD2
IO_VDD
TMS
TDO
TDI
TRST_N
TCK
NC.2
NC.23
NC.84
VSS
CLOCK_OUT
CLOCK_IN
RN1 RPACK4-22
EMAC[0]_RXD0
EMAC[0]_RXD1
EMAC[0]_RXD2
EMAC[0]_RXD3
R_EMAC[0]_RXD0
R_EMAC[0]_RXD1
R_EMAC[0]_RXD2
R_EMAC[0]_RXD3
EMAC[0]_RXCTL
R102 22
R_EMAC[0]_RXCTL
EMAC[0]_RXC
R103 22
R_EMAC[0]_RXC
EMAC[0]_TXD0
EMAC[0]_TXD1
EMAC[0]_TXD2
EMAC[0]_TXD3
EMAC[0]_TXCTL
EMAC[0]_TXC
MDIO_MDIO
MDIO_MDCLK
MDIA_P
MDIA_N
MDIB_P
MDIB_N
MDIC_P
MDIC_N
MDID_P
MDID_N
BG_REF
R28 9.76K 1%
P0_TRD[0]P
P0_TRD[0]N
P0_TRD[1]P
P0_TRD[1]N
P0_TRD[2]P
P0_TRD[2]N
P0_TRD[3]P
P0_TRD[3]N
PHY0_2V5
R21 0
EVM_2V5
P0_LED_LINK10_100
P0_LED_LINK1000
P0_LED_ACT
PHY ADDR 0x02
R67 2K
R61 NO-POP
R49 2K
R43 NO-POP
R54 NO-POP
R34 NO-POP
R31 2K
R97 0
R42 NO-POP
R53 2K
R48 2K
R40 NO-POP
ACT_LED / SPEED0_STRAP
LINK100_LED / DUPLEX_STRAP
LINK1000_LED / AN_EN_STRAP
LINK10_LED / RLED / SPEED1_STRAP
VDD_SEL_STRAP
NON_IEEE_STRAP
TX_TCLK / MAN_MDIX_STRAP
MAC_CLK_EN_STRAP
TX_TRIGGER / MULTI_EN_STRAP
MDIX_EN_STRAP
DUPLEX_LED / PHYAD0_STRAP
PHYAD1_STRAP
PHYAD2_STRAP
PHYAD3_STRAP
PHYAD4_STRAP
R68 NO-POP
R66 2K
R50 NO-POP
R44 2K
R55 2K
R33 2K
R30 NO-POP
R96 NO-POP
R41 2K
R52 NO-POP
R47 NO-POP
R39 2K
ENET_PORz
EXP_ETH0_RSTn
U10
74LVC1G08DCK
C43 0.1uF
ER8
EVM_3V3
C59 .1uF
ENET_INTSn
R765 220
U15
74LVC1G08DCK
R36 2K
ENET_INT_P2
R100 NO-POP
R101 2K
R105 2K
R107 2K
R108 NO-POP
R109 NO-POP
R74 2K
C38 18 pF
R69 NO-POP
Y1
25MHz
C33 18 pF
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,64,65,67,68,85,86
TEXAS INSTRUMENTS INCORPORATED
Title: VAYU EVM
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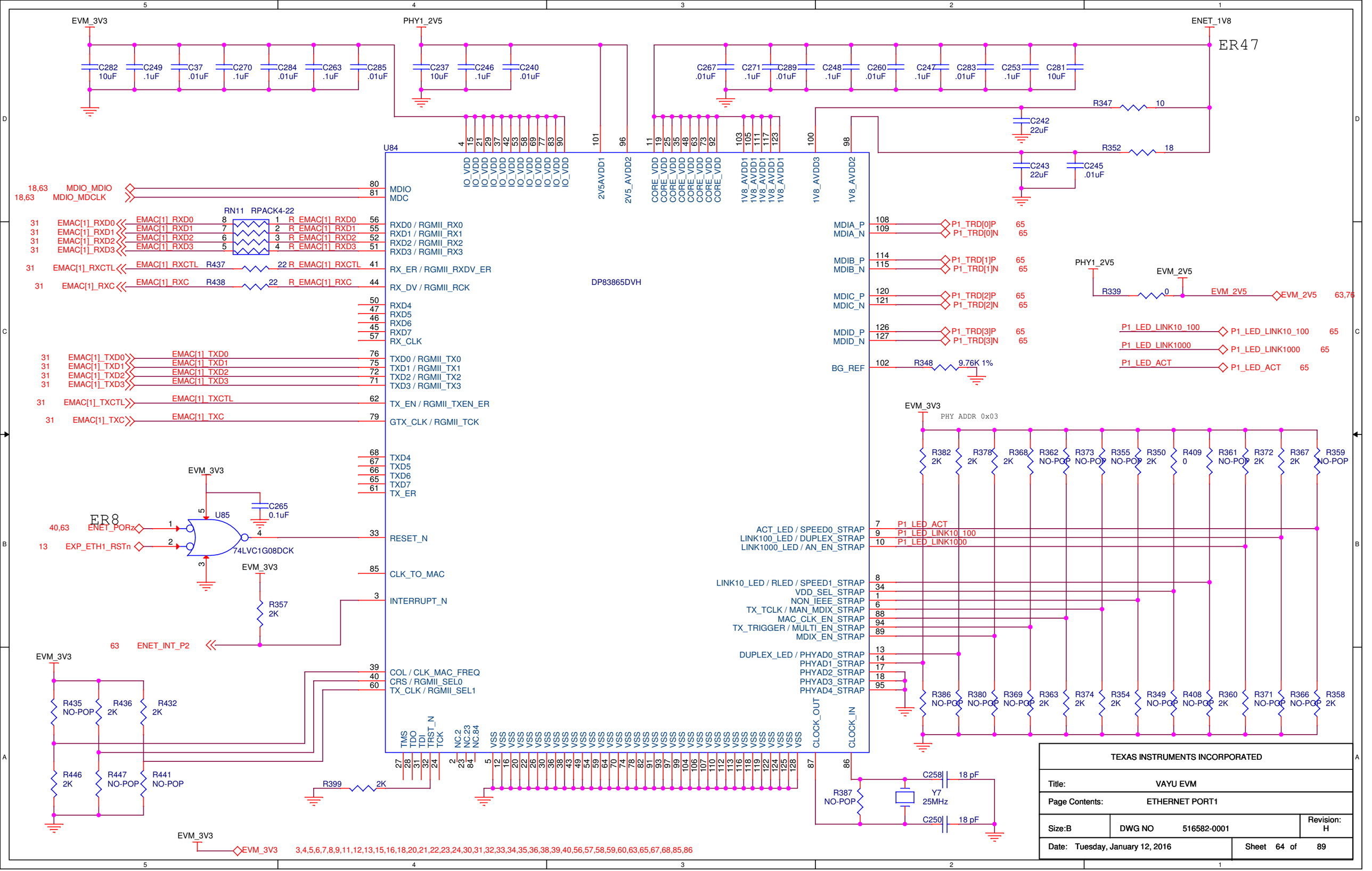
EVM_3V3
PHY1_2V5
ENET_1V8
ER47
C282 10uF
C249 .1uF
C37 .01uF
C270 .1uF
C284 .01uF
C263 .1uF
C285 .01uF
C237 10uF
C246 .1uF
C240 .01uF
C267 .01uF
C271 .1uF
C289 .01uF
C248 .1uF
C260 .01uF
C247 .1uF
C283 .01uF
C253 .1uF
C281 10uF
R347 10
C242 22uF
R352 18
C243 22uF
C245 .01uF
U84
DP83865DVH
IO_VDD
2V5AVDD1
2V5_AVDD2
CORE_VDD
1V8_AVDD1
1V8_AVDD3
1V8_AVDD2
MDIO
MDC
RXD0 / RGMII_RX0
RXD1 / RGMII_RX1
RXD2 / RGMII_RX2
RXD3 / RGMII_RX3
RX_ER / RGMII_RXDV_ER
RX_DV / RGMII_RCK
RXD4
RXD5
RXD6
RXD7
RX_CLK
TXD0 / RGMII_TX0
TXD1 / RGMII_TX1
TXD2 / RGMII_TX2
TXD3 / RGMII_TX3
TX_EN / RGMII_TXEN_ER
GTX_CLK / RGMII_TCK
TXD4
TXD5
TXD6
TXD7
TX_ER
RESET_N
CLK_TO_MAC
INTERRUPT_N
COL / CLK_MAC_FREQ
CRS / RGMII_SEL0
TX_CLK / RGMII_SEL1
ACT_LED / SPEED0_STRAP
LINK100_LED / DUPLEX_STRAP
LINK1000_LED / AN_EN_STRAP
LINK10_LED / RLED / SPEED1_STRAP
VDD_SEL_STRAP
NON_IEEE_STRAP
TX_TCLK / MAN_MDIX_STRAP
MAC_CLK_EN_STRAP
TX_TRIGGER / MULTI_EN_STRAP
MDIX_EN_STRAP
DUPLEX_LED / PHYAD0_STRAP
PHYAD1_STRAP
PHYAD2_STRAP
PHYAD3_STRAP
PHYAD4_STRAP
CLOCK_OUT
CLOCK_IN
TMS
TDO
TDI
TRST_N
TCK
NC.2
NC.23
NC.84
VSS
MDIO_MDIO
MDIO_MDCLK
EMAC[1]_RXD0
EMAC[1]_RXD1
EMAC[1]_RXD2
EMAC[1]_RXD3
RN11 RPACK4-22
R_EMAC[1]_RXD0
R_EMAC[1]_RXD1
R_EMAC[1]_RXD2
R_EMAC[1]_RXD3
EMAC[1]_RXCTL
R437 22
R_EMAC[1]_RXCTL
EMAC[1]_RXC
R438 22
R_EMAC[1]_RXC
EMAC[1]_TXD0
EMAC[1]_TXD1
EMAC[1]_TXD2
EMAC[1]_TXD3
EMAC[1]_TXCTL
EMAC[1]_TXC
MDIA_P
MDIA_N
MDIB_P
MDIB_N
MDIC_P
MDIC_N
MDID_P
MDID_N
BG_REF
R348 9.76K 1%
P1_TRD[0]P
P1_TRD[0]N
P1_TRD[1]P
P1_TRD[1]N
P1_TRD[2]P
P1_TRD[2]N
P1_TRD[3]P
P1_TRD[3]N
PHY1_2V5
EVM_2V5
R339 0
EVM_2V5
P1_LED_LINK10_100
P1_LED_LINK1000
P1_LED_ACT
EVM_3V3
PHY ADDR 0x03
R382 2K
R378 2K
R368 2K
R362 NO-POP
R373 NO-POP
R355 NO-POP
R350 2K
R409 0
R361 NO-POP
R372 2K
R367 2K
R359 NO-POP
R386 NO-POP
R380 NO-POP
R369 NO-POP
R363 2K
R374 2K
R354 2K
R349 NO-POP
R408 NO-POP
R360 2K
R371 NO-POP
R366 NO-POP
R358 2K
ER8
U85
74LVC1G08DCK
C265 0.1uF
ENET_PORz
EXP_ETH1_RSTn
R357 2K
ENET_INT_P2
R435 NO-POP
R436 2K
R432 2K
R446 2K
R447 NO-POP
R441 NO-POP
R399 2K
R387 NO-POP
Y7 25MHz
C258 18 pF
C250 18 pF
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,65,67,68,85,86
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Title: VAYU EVM
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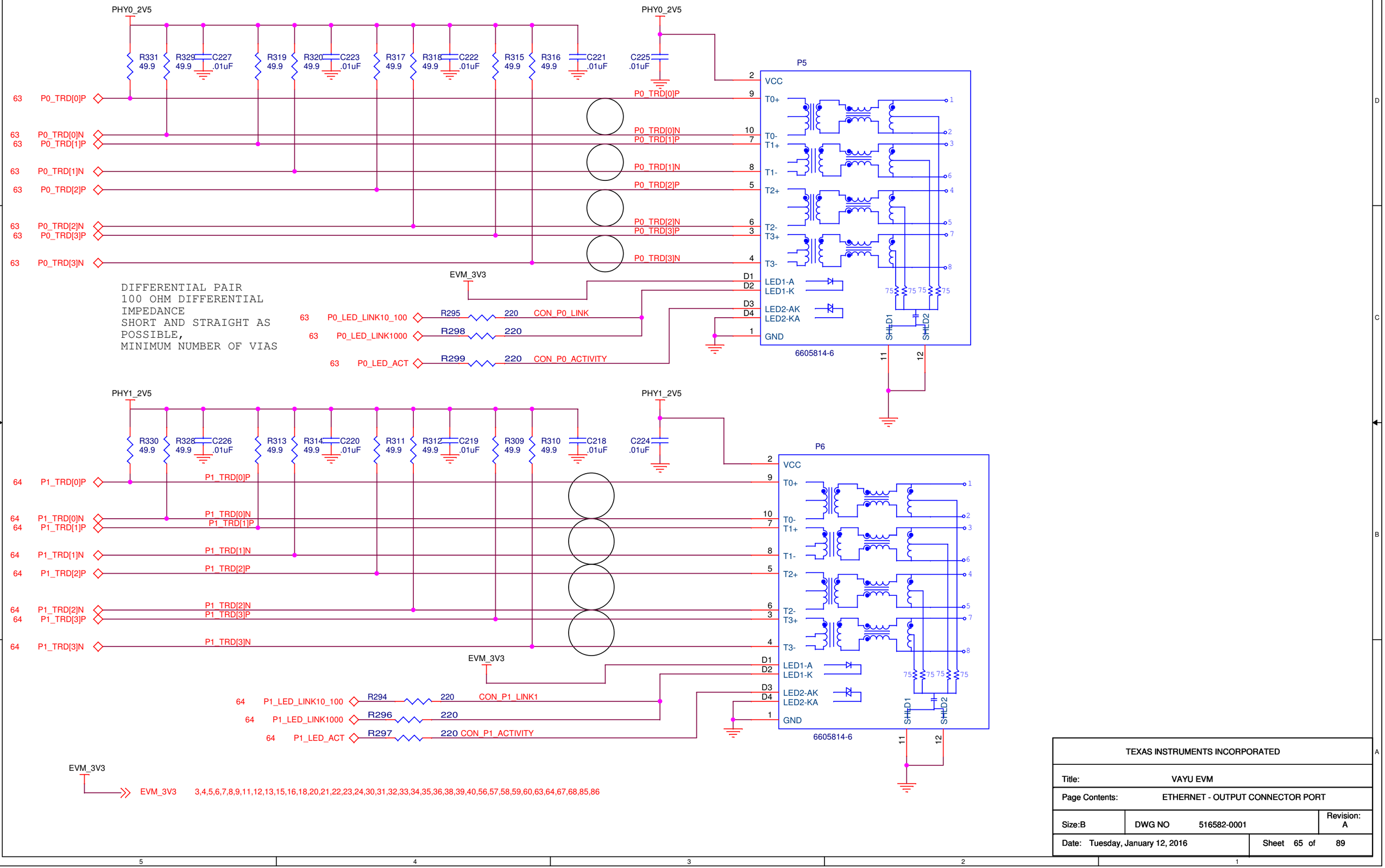

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
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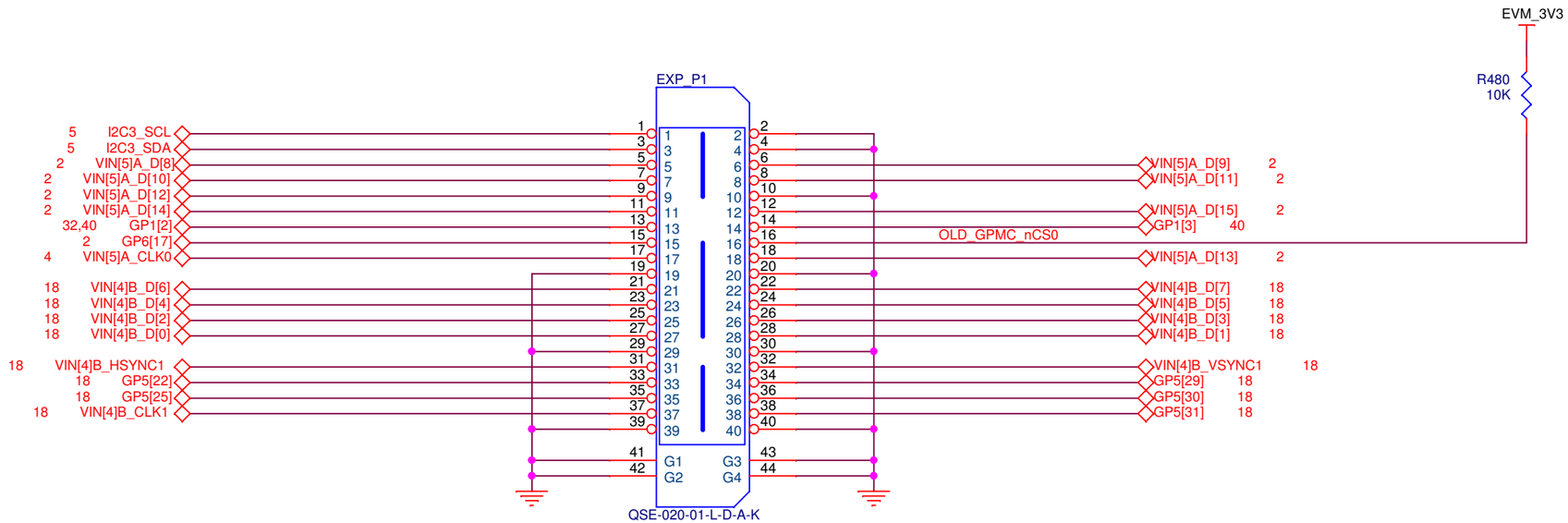

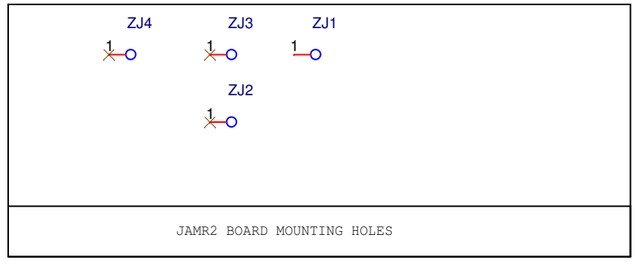

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,68,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: INTERFACE CONN1		
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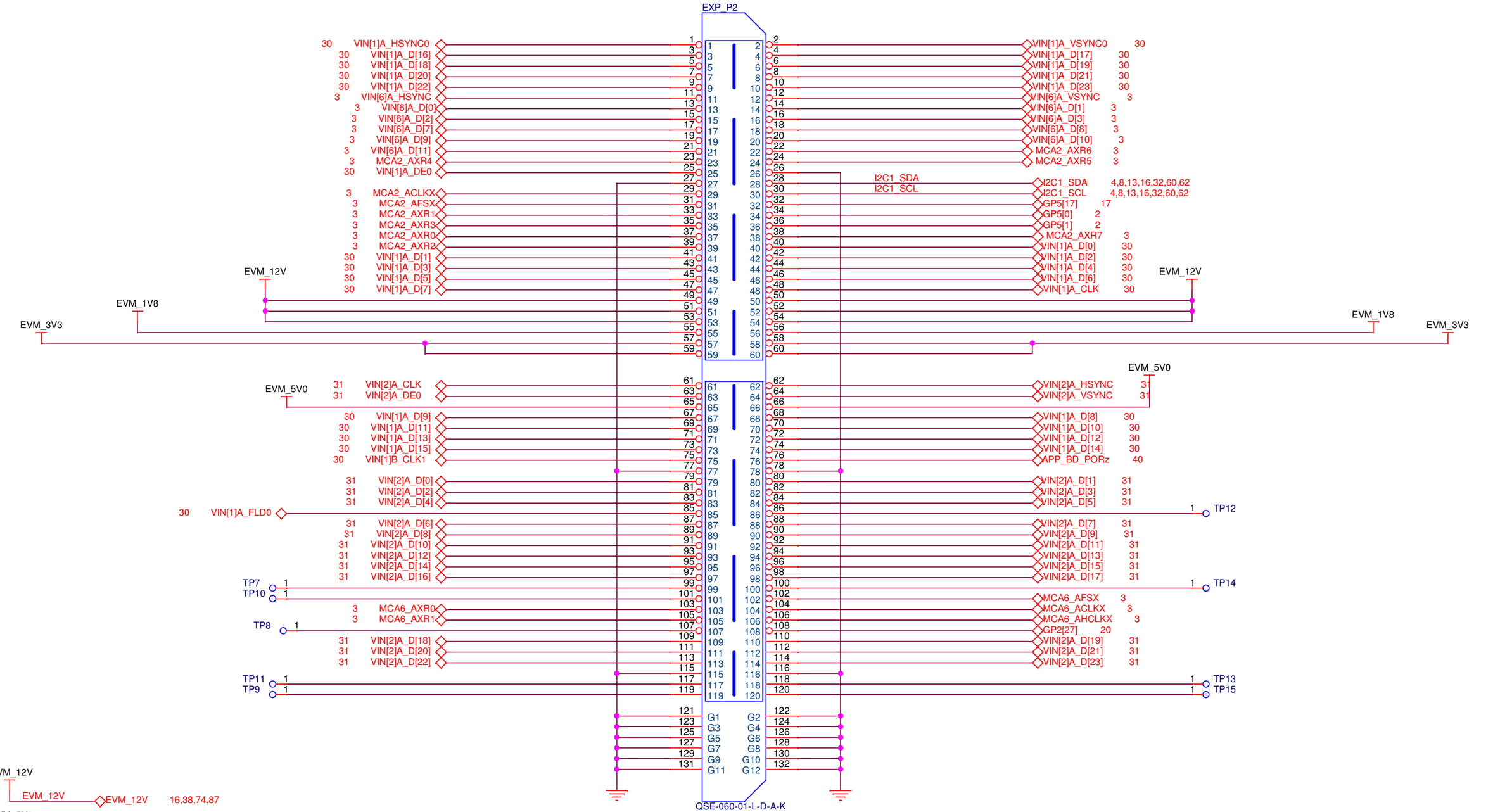

EVM_12V
EVM_12V EVM_12V 16,38,74,87

EVM_5V0
EVM_5V0 6,32,33,35,38,56,61,85

EVM_1V8
EVM_1V8 EVM_1V8 12,15,32,59,60,63,64,81

EVM_3V3
EVM_3V3 EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,85,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: INTERFACE CONN2		
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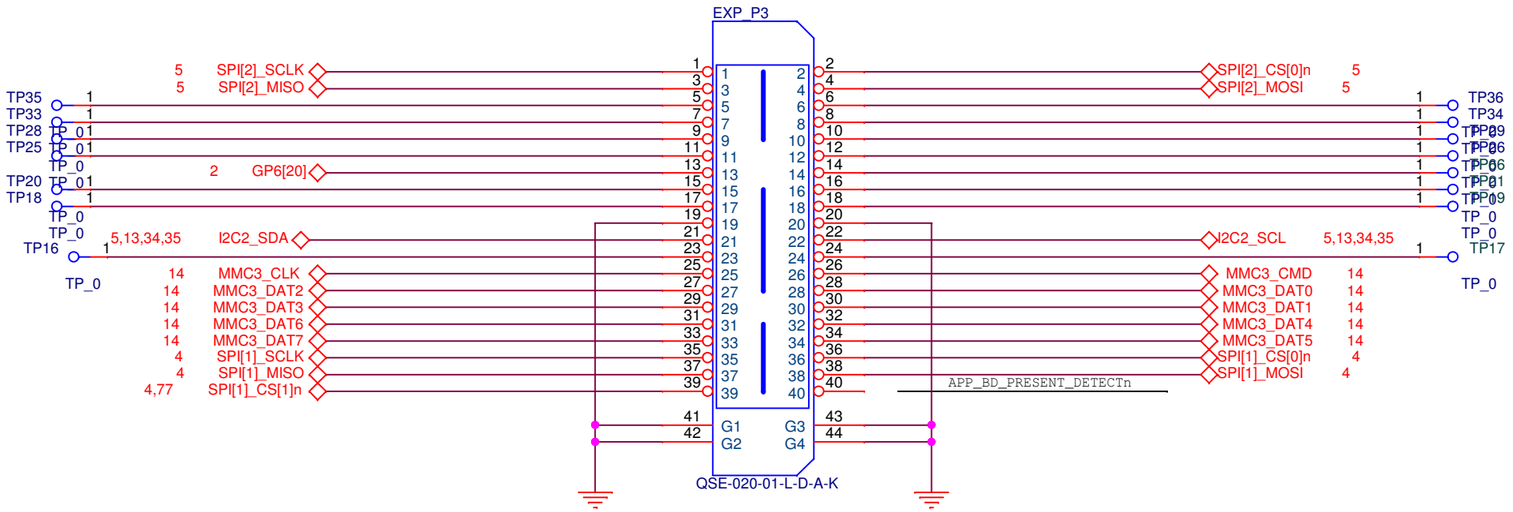

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
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PMIC HAS DUAL FOOTPRINT
FOR 32678 HERTZ AND 16.384
MHZ CRYSTAL

PMIC_VIO IS 1.8 VOLTS
NOT THIS MEANS TRANSLATORS FOR I2C AND OTHERS

C115 12pF/0402/50V
C116 12pF/0402/50V
Y4 Crystal_CM519_CTS407

U45B
TPS659039

CLOCK
OSC16MIN A3 xtal1
OSC16MOUT A2 xtal2
CLK32KGO M11 PMIC_32K_CLKOUT 60
OSC16MCAP C1

REFERENCE
VBG B7
C100 100nF/0402/10V

C403 2.2uF/0402/6.3V

REV D
PMIC_REGEN1 R784 NO-POP
PMIC_GPIO_2 R783 NO-POP PMIC_RESET_OUT 40
R782 0
LT_PMIC_RESET_OUT

PMIC_VIO
PS_EVM_3V3
C435 0.1uF
C696 0.1uF
U101
VCCB VCCA PMIC_INT 40
B1 A1
B2 A2
DIR GND
SN74AVC2T45DCT

REV G3
60 1V8_I2C1_SDA
60 1V8_I2C1_SCL
6,40 PMIC_OFF R211 1.74K
R588 2K
PMIC_VIO

ER20
7,11,12,16,35,36,40,58,62 RSTOUTn R797 1.74K
R210 NP
TP43 TP_0 1
REV G2
R589 2K

CONTROL
L2 I2C1_SDA_SDI TESTIN0
L1 I2C1_SCL_SCK TESTIN1
R709 NO-POP H8
R708 NO-POP M3
I2C2_SDA_SDO
I2C2_SCL_SCE
E5 NSLEEP
E6 NRESWARM
K9 RESET_IN
POWERGOOD J7
INT K1
REGEN1 F8 PMIC_REGEN1
RESET_OUT G6
G8 PWRON
C11 RPWRON
L3 BOOT0
K7 BOOT1
K8 PWRDOWN
ENABLE1 J5

TP_0 TP24 1
TP_0 TP30 1
TP_0 TP41 1
TP_0 TP32 1

TEST
VPROG/TESTV N12
GPADC_REF B4
GPADC_IN0 B2
GPADC_IN1 C2
GPADC_IN2 C3

PS_EVM_3V3
R194 NO-POP
R208 NO-POP
R516 NO-POP
R570 NO-POP
R592 NO-POP
R483 NO-POP
PMIC_VIO
R533 NO-POP
86 PMIC_RESET_IN
PWRON
RPWRON
PMIC_BOOT0
PMIC_BOOT1
PS_EVM_3V3
10K R534
TP31 TP_0 1 J5

BOOT0 low = Vayu sequence
BOOT0 high PMIC RESET_OUT pulse mode
BOOT1 = always low.

VRTC_OUT VRTC_OUT
R518 10K
R514 NO-POP
SW8
SW DIP-2
R809 0
ER15
R788 NO-POP
R513 10K
VDAC_3V3
R710 0
62 AIC3106_I2C_0x19
ER24
VDAC_3V3
VDAC_3V3 62,84
VRTC_OUT
R567 NO-POP
R191 NO-POP

PMIC_GPIO_0
PMIC_GPIO_1
PMIC_GPIO_2
PMIC_GPIO_3
PMIC_GPIO_5
PMIC_GPIO_7
R205 10K
R206 NO-POP
R535 10K
R565 10K
R537 NO-POP
ER14
B12 GPIO_0
C13 GPIO_1/VBUSDET
A12 GPIO_2/REGEN2
H9 GPIO_3
K10 GPIO_4/SYSEN1
C10 GPIO_5/CLK32KGO
N11 GPIO_6/SYSEN2
G9 GPIO_7/POWERHOLD
86 POWERHOLD
75 PMIC_REGEN_3V3 PMIC_GPIO_4
78,80 PMIC_REGEN_DDR PMIC_GPIO_6
ER15
A11 VCC_SENSE2
B3 VCC_SENSE
VCC_SENSE
D8 VBUS
E7 VAC/ACOK
PO9039A387IZWSRQ1
GNDANA A7
AGND_1 F5
AGND_2 M13
REFGND1 A4
GND_DIG M12

PS_EVM_3V3
R209 NO-POP
R549 0
R207 0
R590 10K
PMIC_VIO
PMIC_VIO 73
VRTC_OUT
VRTC_OUT 71,83
PS_EVM_3V3
PS_EVM_3V3 PS_EVM_3V3 38,71,72,73,74,75,76,78,79,80,81,82,84,86

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U45A

TPS659039

LDO7USB_IN1 / LDOUSB_IN2	100mA	VUSB	LDOUSB_OUT	B9
		VRTC	LDOVRTC_OUT	A8
		VANA	LDOVANA_OUT	C8
LDO12_IN	300mA	LDO1	LDO1_OUT	C6
	300mA	LDO2	LDO2_OUT	B6
LDO34_IN	200mA	LDO3	LDO3_OUT	K11
LDO34_IN_1			NC1	K12
NC6			NC2	K4
NC7			NC3	L4
			NC4	C9
NC8			NC5	K5
LDO9_IN	50mA	LDO9	LDO9_OUT	A5
LDOLN_IN	50mA	LDOLN	LDOLN_OUT	B5

PO9039A387IZWSRQ1

ER38

PS_EVM_5V0 — C99 2.2uF/0402/6.3V — A10, A9

PS_EVM_5V0 — A6

PS_EVM_3V3 — L12, L13

PS_EVM_3V3 — M4

PS_EVM_3V3 — N3

PS_EVM_3V3 — N4

PS_EVM_3V3 — C4 — C408 2.2uF/0402/6.3V

C5

C407, C459 10uF/6.3V, C346, C343 NO POP, C339 NO POP

LDOUSB_OUT — C433 2.2uF/0402/6.3V — LDOUSB_OUT 84

VRTC_OUT — C431 2.2uF/0402/6.3V — VRTC_OUT 70,83

LDOVANA_OUT — C680 2.2uF/0402/6.3V — LDOVANA_OUT (NOT BEING USED??)

LDO1_OUT — C430 2.2uF/0402/6.3V — LDO1_OUT 85

LDO2_OUT — C101 2.2uF/0402/6.3V — LDO2_OUT 83

LDO3_OUT — C352 2.2uF/0402/6.3V — LDO3_OUT 82

LDO4_OUT — C347 NO POP — LDO4_OUT 73

The TPS65903x PMIC LDO3 output has a current limit of 300 mA. If all PHYs are used concurrently (not expected in most systems) then the current requirement for the PHYs can exceed this limit. The System use case should be analyzed to verify that the power is less than 300 mA if LDO3 is used to power the PHYs. If greater than 300 mA is required, contact your TI Representative to identify an alternate implementation.

ER39

LDO9_OUT — C102 2.2uF/0402/6.3V — LDO9_OUT 83

PS_EVM_3V3 — C381 2.2uF/0402/6.3V

LDOLN_OUT — C103 2.2uF/0402/6.3V — LDOLN_OUT 82

PS_EVM_5V0 — PS_EVM_5V0 15,74,75,80,85

PS_EVM_3V3 — PS_EVM_3V3 38,70,72,73,74,75,76,78,79,80,81,82,84,86

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Title: VAYU EVM		
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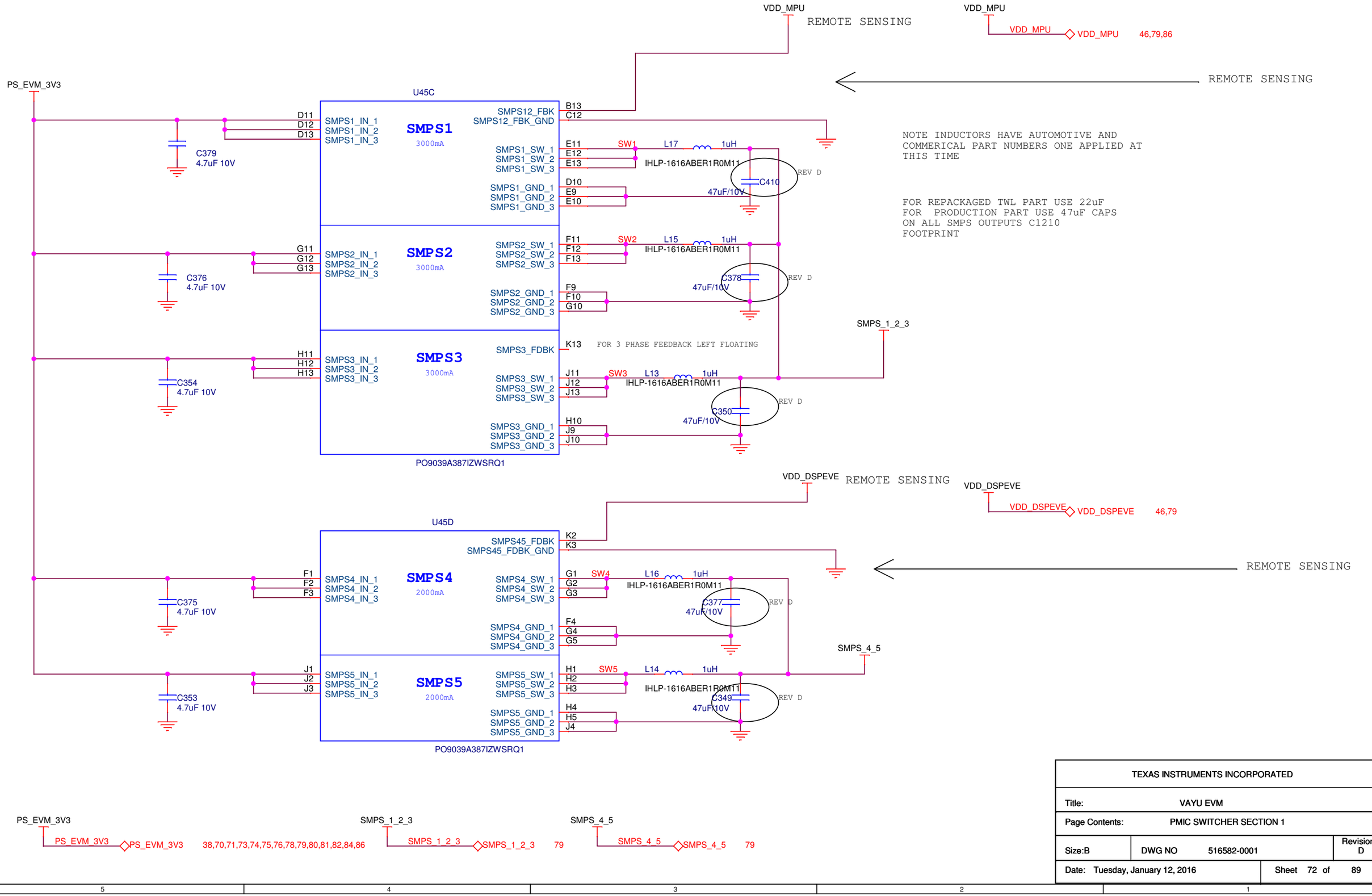

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: PMIC SWITCHER SECTION 1		
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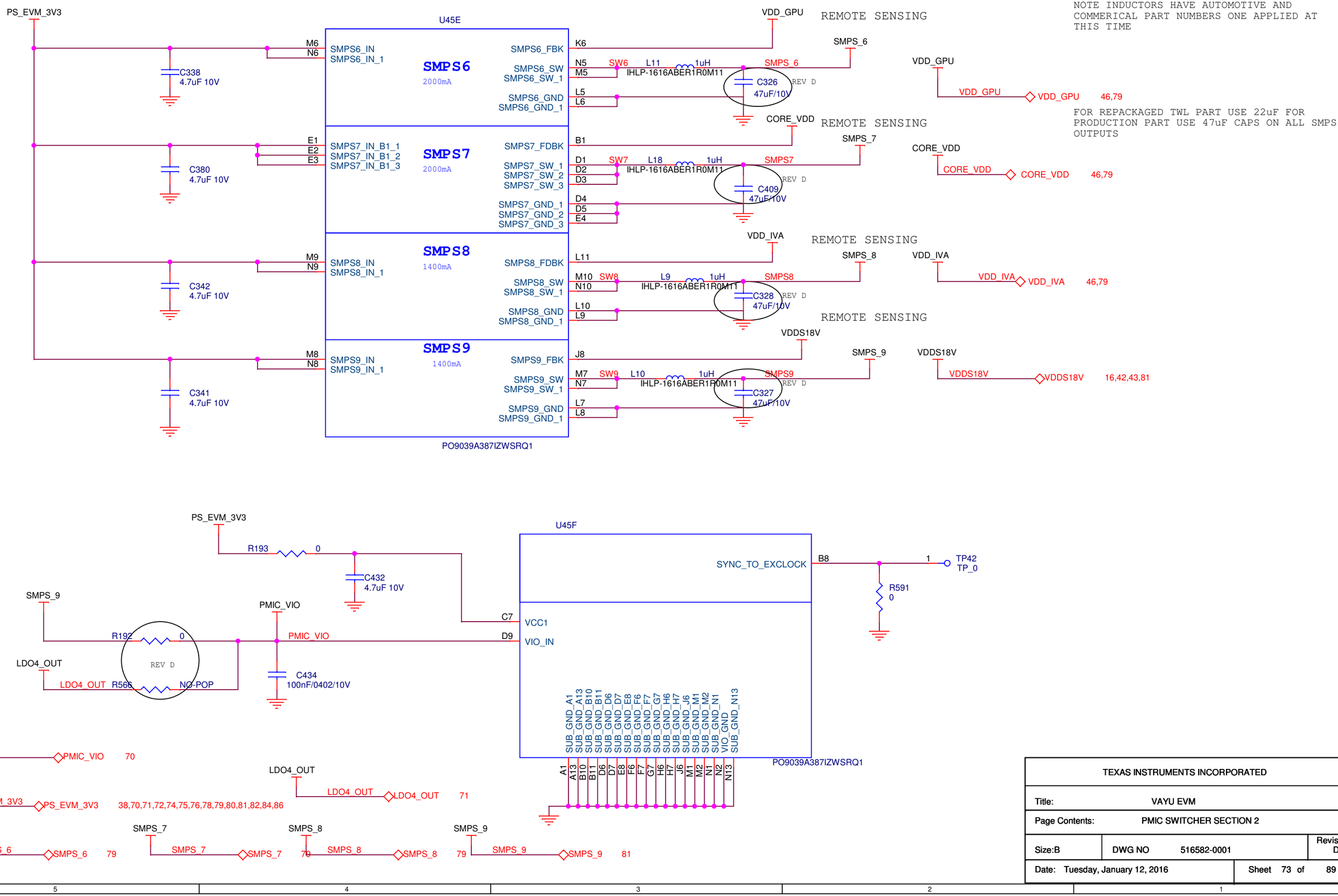
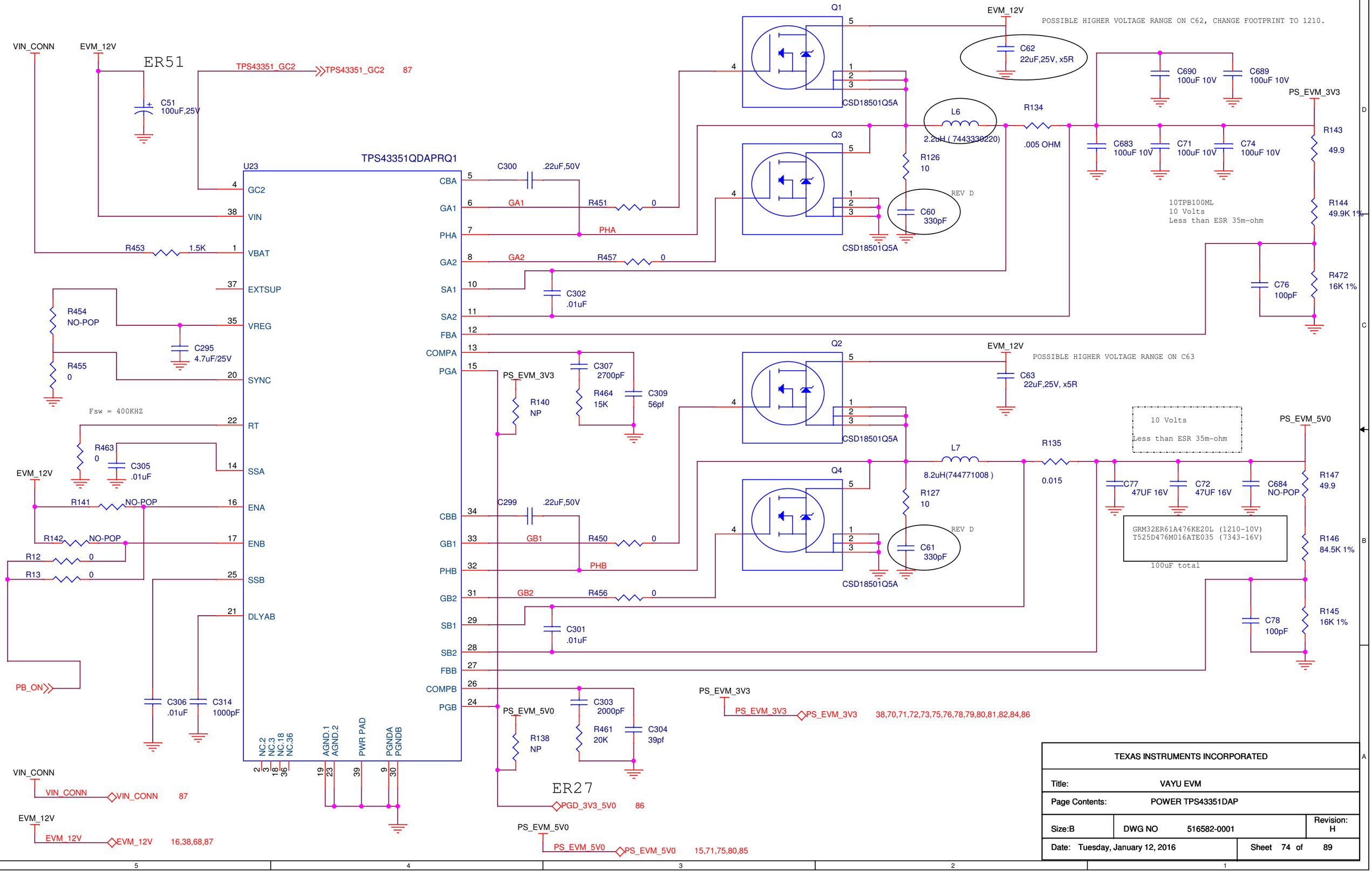


TEXAS INSTRUMENTS INCORPORATED	
Title: VAYU EVM	
Page Contents: PMIC SWITCHER SECTION 2	
Size:B DWG NO 516582-0001	Revision: D
Date: Tuesday, January 12, 2016	Sheet 73 of 89



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: POWER TPS43351DAP		
Size:B	DWG NO 516582-0001	Revision: H
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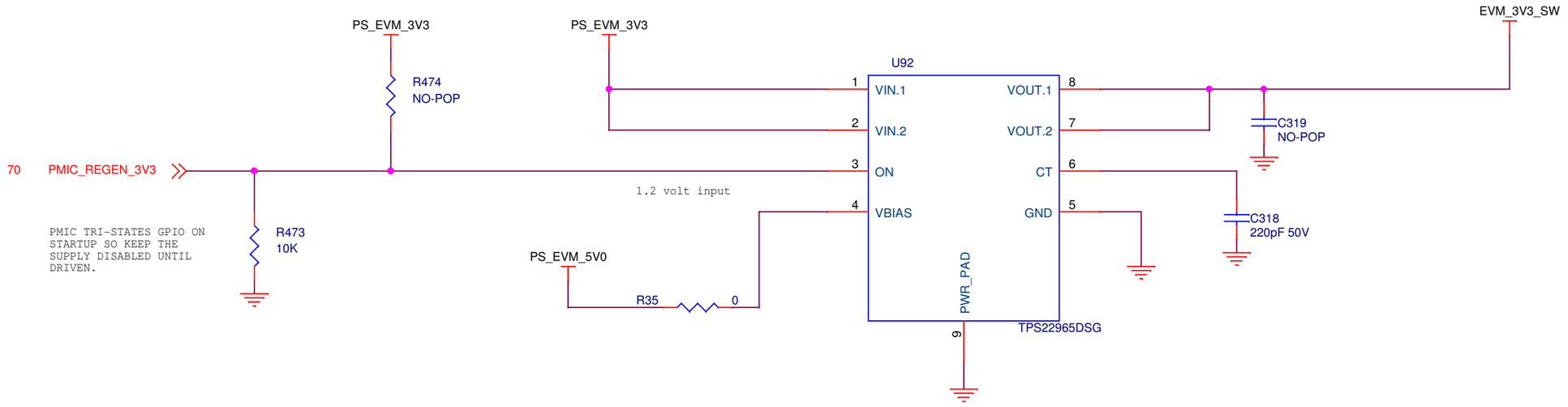

PS_EVM_5V0

PS_EVM_5V0 ◇PS_EVM_5V0 15,71,74,80,85

EVM_3V3_SW

◇EVM_3V3_SW 77,84,85

PS_EVM_3V3

PS_EVM_3V3 ◇PS_EVM_3V3 38,70,71,72,73,74,76,78,79,80,81,82,84,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: POWER TPS22965		
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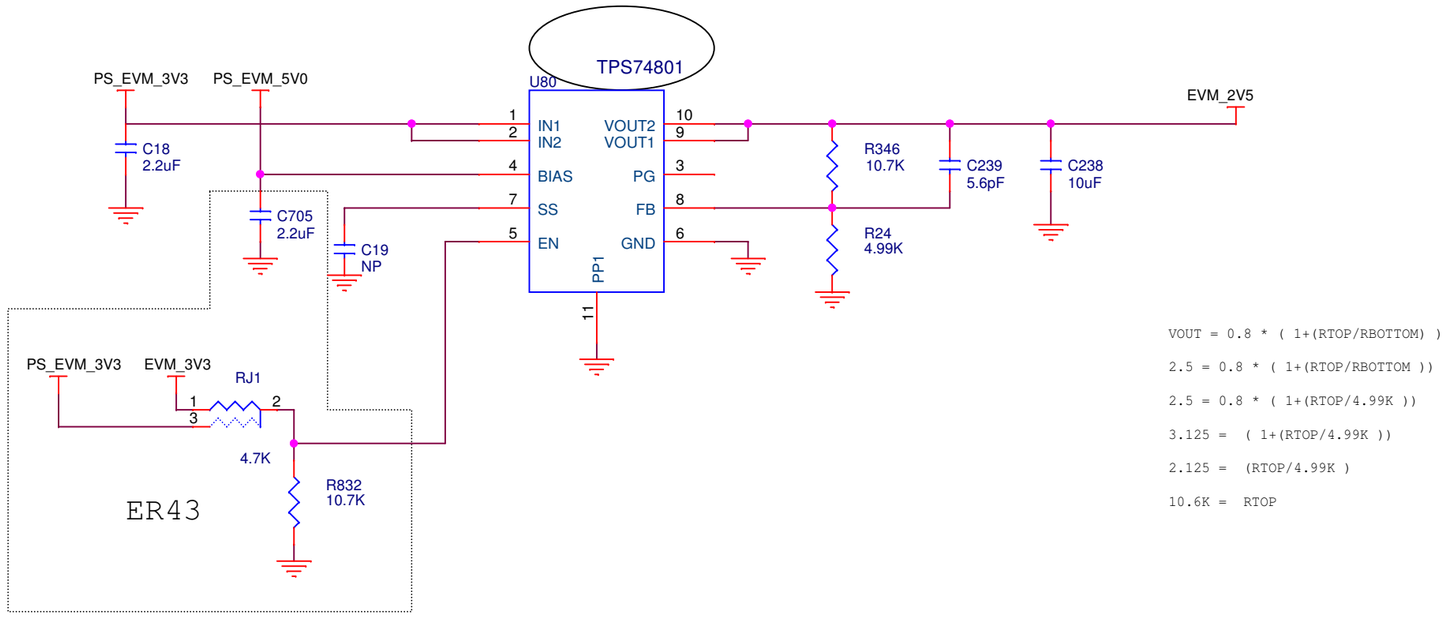
REV D



VOUT = 0.8 * (1+(RTOP/RBOTTOM))

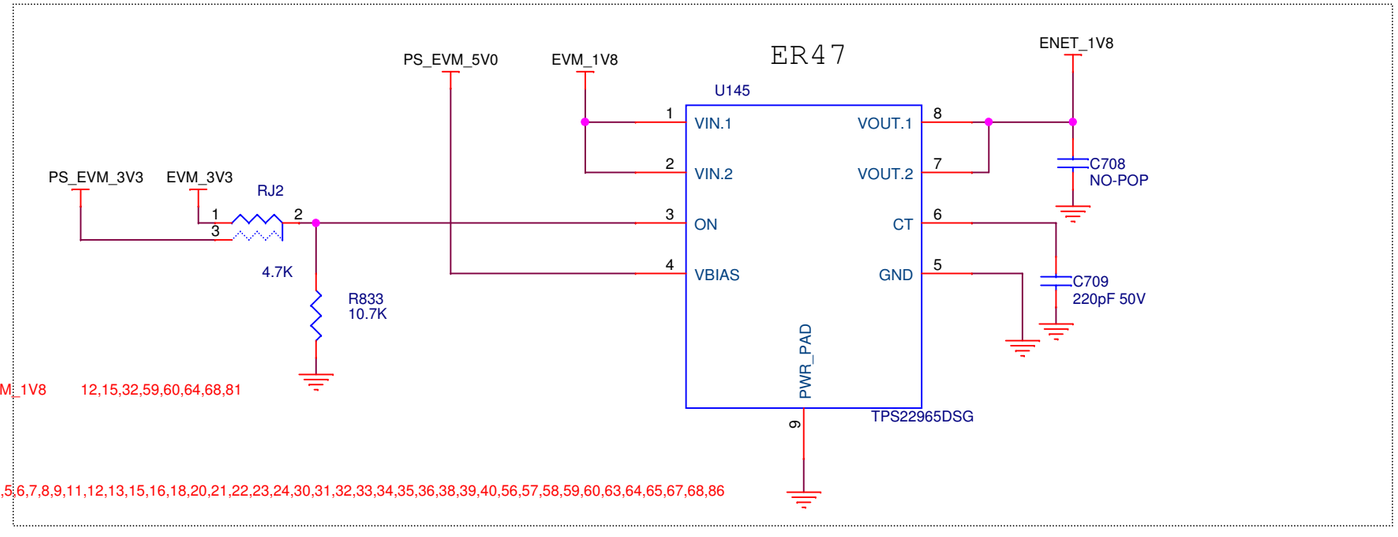
2.5 = 0.8 * (1+(RTOP/RBOTTOM))

2.5 = 0.8 * (1+(RTOP/4.99K))

3.125 = (1+(RTOP/4.99K))

2.125 = (RTOP/4.99K)

10.6K = RTOP



TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
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REV G

PS_EVM_3V3

EVM_3V3

C174
10uF

R282
100K

R283
10K

ER18

4,69 SPI[1]_CS[1]n R808 0

R803
NP

U64
TPS51200

10	VIN	REFIN	1
9	PGOOD	VLDOIN	2
8	GND	VO	3
7	EN	PGND	4
6	REFOUT	VOSNS	5
11	PWRPAD		

C607
0.1uF

1V35_DDR

R292
10.0K

C187
0.001uF

R291
10.0K

C186
1000pF

C659
0.1uF

C201
10uF

C191
10uF

R290
10

C179
10pF

C188
10uF

C192
10uF

C202
10uF

C658
0.1uF

EVM_DDR_VTT

R293 0.025

VTT

TP64
TEST POINT

TP65
TEST POINT

R826 0

REV G

PS_EVM_3V3

R827 10K

Q7
AO3404A(or BSS138)

AO3404A -RDSON ~ 35mOHM

TURN ON ~1.2v

Q6
NTA4153N

DDR_VREFSTL1

DDR_VREFSTL2

R285 0

R284 0

PS_EVM_3V3
PS_EVM_3V3 PS_EVM_3V3 38,70,71,72,73,74,75,76,79,80,81,82,84,86

VTT
VTT VTT 51,55

1V35_DDR
1V35_DDR 1V35_DDR 78,80

DDR_VREFSTL2
DDR_VREFSTL2 DDR_VREFSTL2 26,53

DDR_VREFSTL1
DDR_VREFSTL1 DDR_VREFSTL1 25,49

EVM_3V3
EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,59,60,63,64,65,67,68,85,86

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Title: VAYU EVM		
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1.5V at 2 AMP

PS_EVM_3V3

ER18

R271
10K

ENABLE VOLTAGE 1.2 VOLTS

1V35_DDR

70,80 PMIC_REGEN_DDR

R274 NP

R272
10K

ER18

R819 0 DDR1_RST 25,49

R820 0 DDR2_RST 26,53

TP61
TP-30RD13-NO-POP

PS_EVM_3V3

C149 0.1uF

C156
10uF

U63
TPS57112QRTERQ1

16	VIN.1		
15	EN		
14	PWRGD		
13	BOOT		
1	VIN.2	PH.3	12
2	VIN.3	PH.2	11
3	GND.1	PH.1	10
4	GND.2	SS/TR	9
17	PwrPad	AGND	5
		VSNS	6
		COMP	7
		RT/CLK	8

L20
1.2uH (SD12-1R2-R)

1V35_DDR

C150
NO-POP

C154
47uF

R279
11.0K 1%

R276
NO-POP

C155
4700pF

R278
16.0K 1%

R277
86.6K 1%

R280
12k

C157
12pF

C579
3300pf

PS_EVM_3V3

PS_EVM_3V3 PS_EVM_3V3 38,70,71,72,73,74,75,76,79,80,81,82,84,86

1V35_DDR

1V35_DDR 1V35_DDR 77,80

Texas Instruments		
Title: VAYU EVM		
Page Contents: VDDR REGULATOR		
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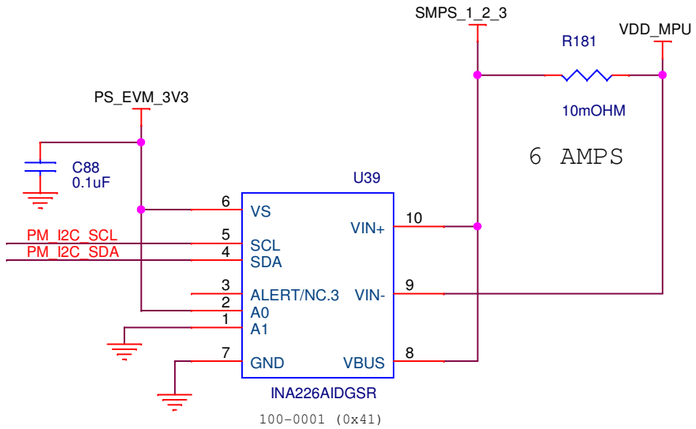

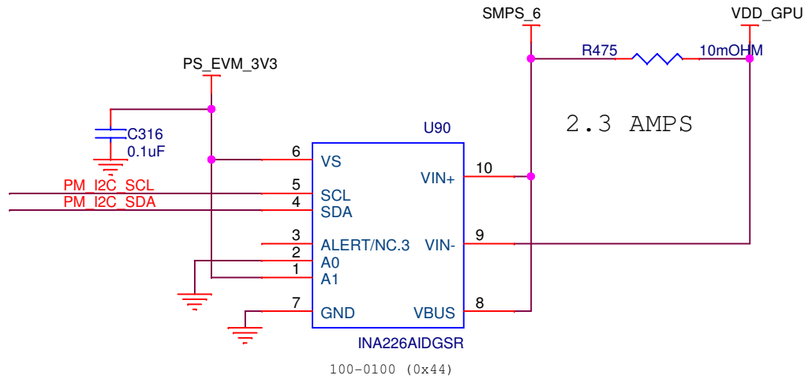

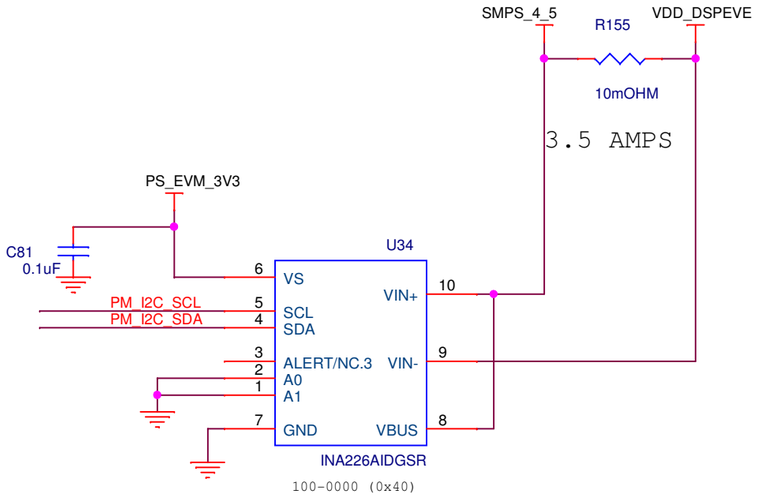

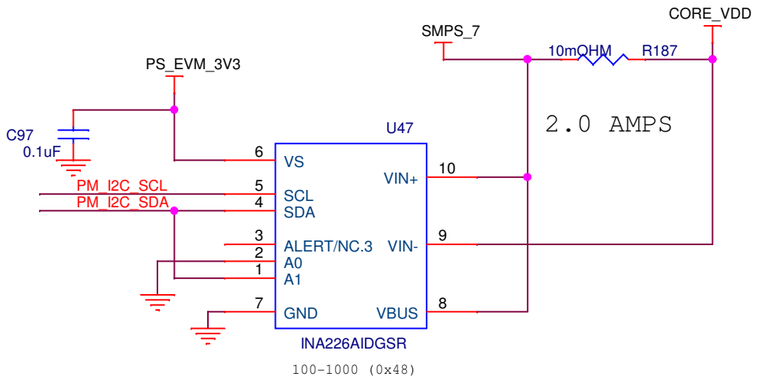

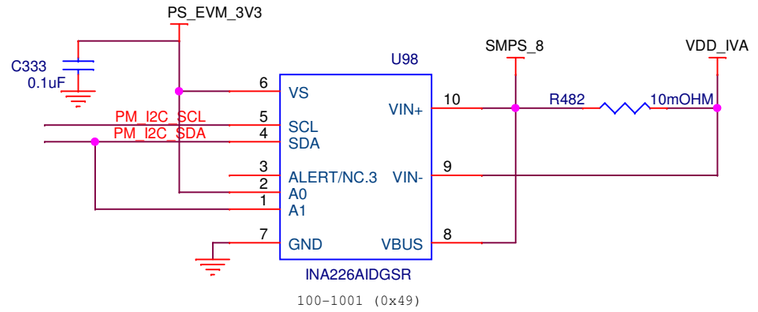

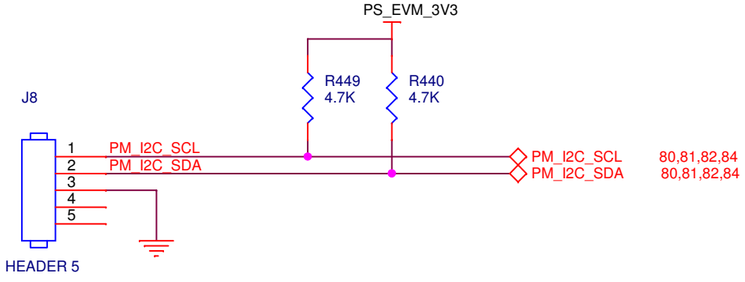

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PS_EVM_3V3 — PS_EVM_3V3 — PS_EVM_3V3 — 38,70,71,72,73,74,75,76,78,80,81,82,84,86

SMPS_1_2_3 — SMPS_1_2_3 — SMPS_1_2_3 — 72

SMPS_4_5 — SMPS_4_5 — SMPS_4_5 — 72

SMPS_6 — SMPS_6 — SMPS_6 — 73

SMPS_7 — SMPS_7 — SMPS_7 — 73

SMPS_8 — SMPS_8 — SMPS_8 — 73

VDD_MPU — VDD_MPU — VDD_MPU — 46,72,86

VDD_DSPEVE — VDD_DSPEVE — VDD_DSPEVE — 46,72

VDD_GPU — VDD_GPU — VDD_GPU — 46,73

CORE_VDD — CORE_VDD — CORE_VDD — 46,73

VDD_IVA — VDD_IVA — VDD_IVA — 46,73

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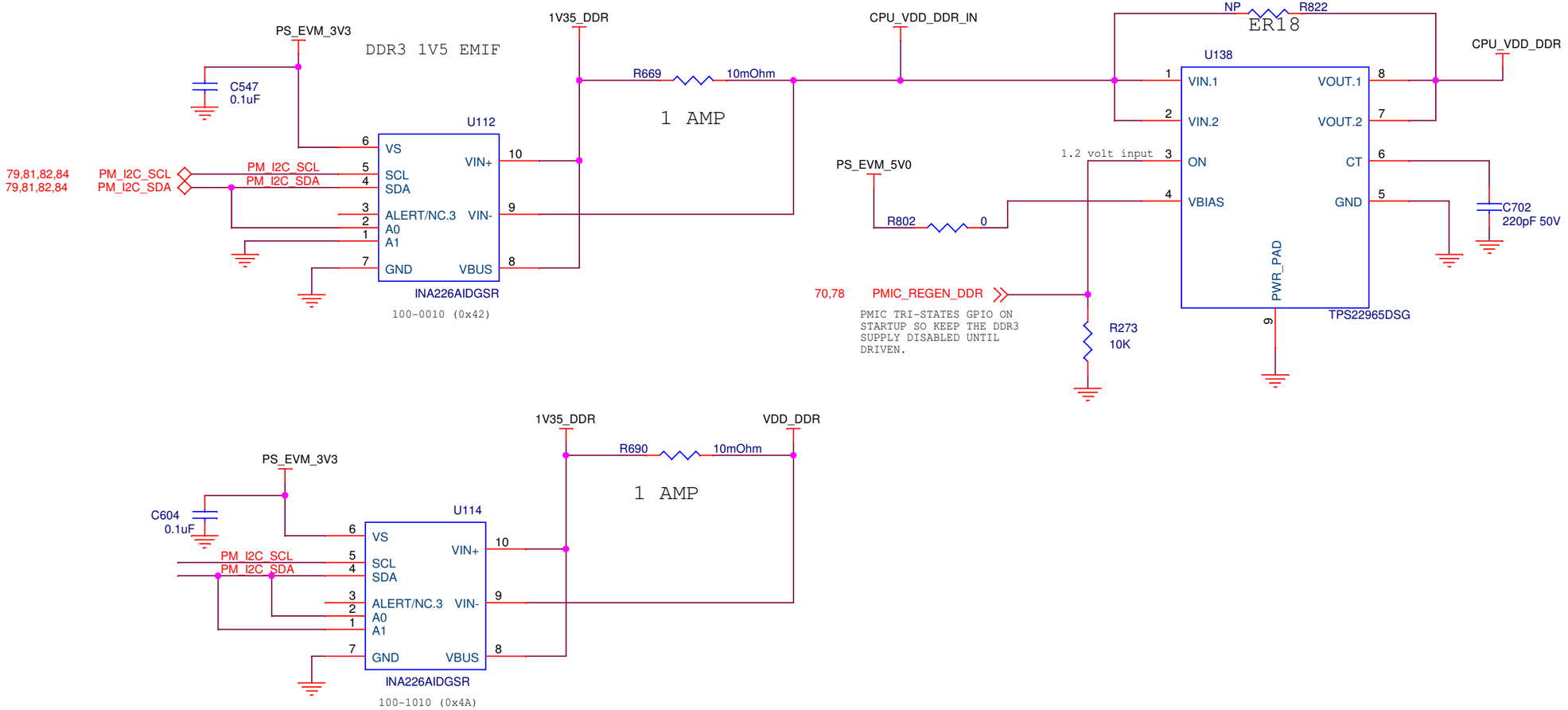

PS_EVM_5V0
PS_EVM_5V0 PS_EVM_5V0 15,71,74,75,85

PS_EVM_3V3
PS_EVM_3V3 PS_EVM_3V3 38,70,71,72,73,74,75,76,78,79,81,82,84,86

1V35_DDR
1V35_DDR 1V35_DDR 77,78

VDD_DDR
VDD_DDR VDD_DDR 49,50,51,53,54,55

CPU_VDD_DDR
CPU_VDD_DDR CPU_VDD_DDR 25,26,44

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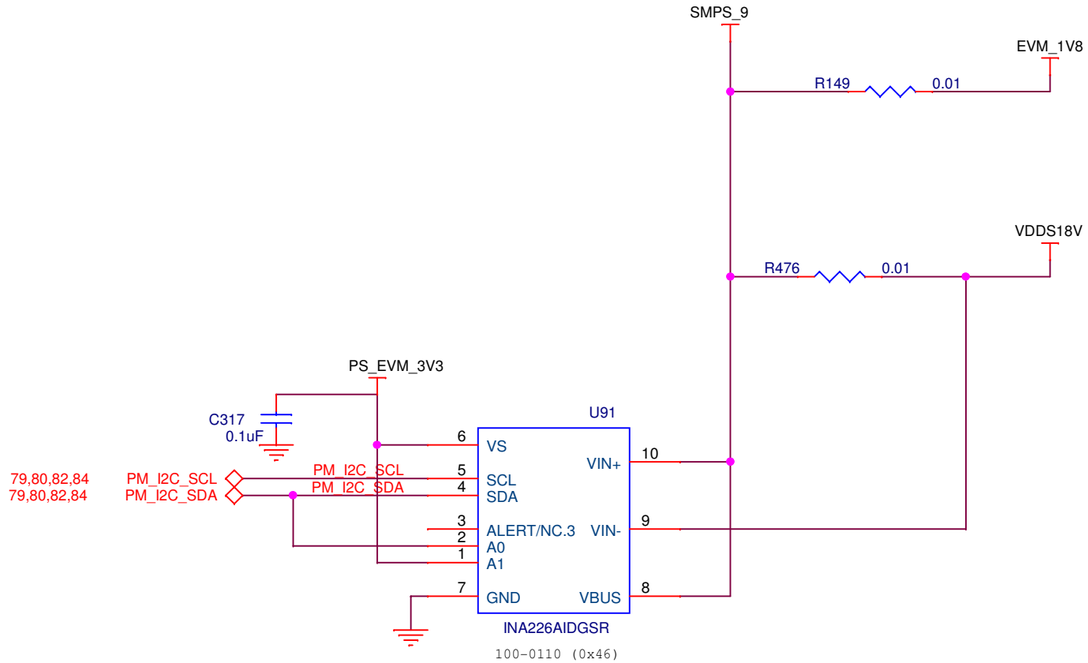

EVM_1V8
EVM_1V8 — EVM_1V8 12,15,32,59,60,63,64,68

SMPS_9
SMPS_9 — SMPS_9 73

VDDS18V
VDDS18V — VDDS18V 16,42,43,73

PS_EVM_3V3
PS_EVM_3V3 — PS_EVM_3V3 38,70,71,72,73,74,75,76,78,79,80,82,84,86

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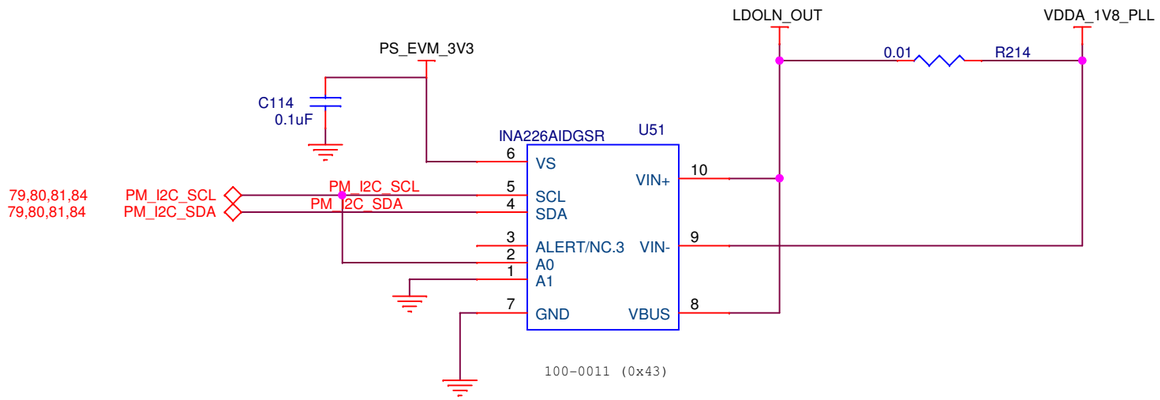

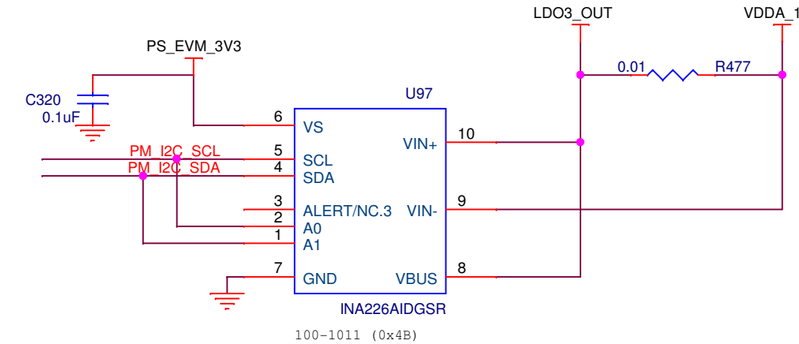

LDO3_OUT

LDO3_OUT — LDO3_OUT — 71

VDDA_1V8_PHY

VDDA_1V8_PHY — VDDA_1V8_PHY — 19,27,37

VDDA_1V8_PLL

VDDA_1V8_PLL — VDDA_1V8_PLL — 40,45

LDOLN_OUT

LDOLN_OUT — LDOLN_OUT — 71

PS_EVM_3V3

PS_EVM_3V3 — PS_EVM_3V3 — 38,70,71,72,73,74,75,76,78,79,80,81,84,86

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: POWER ROUTER 1V8A		
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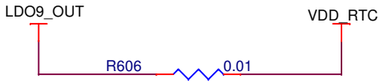

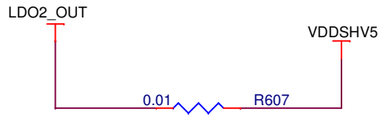

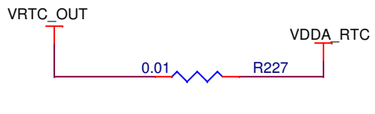

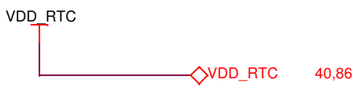

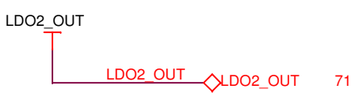

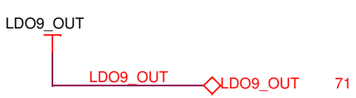

TEXAS INSTRUMENTS INCORPORATED		
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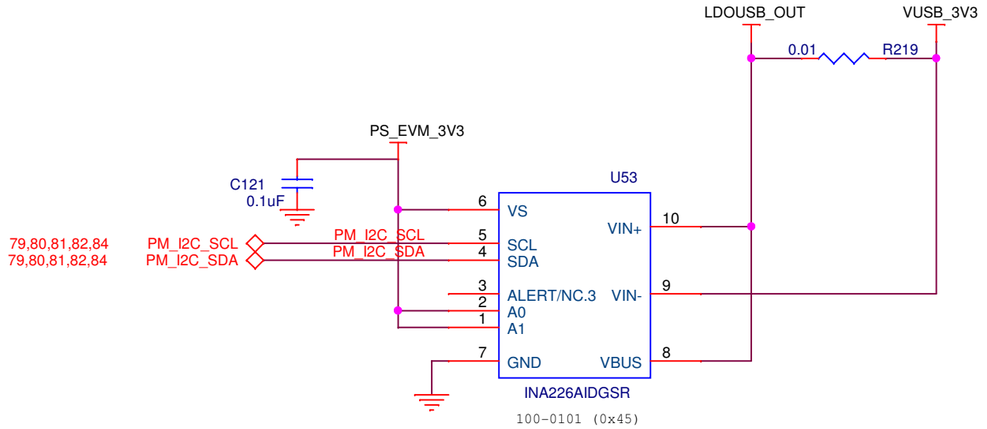

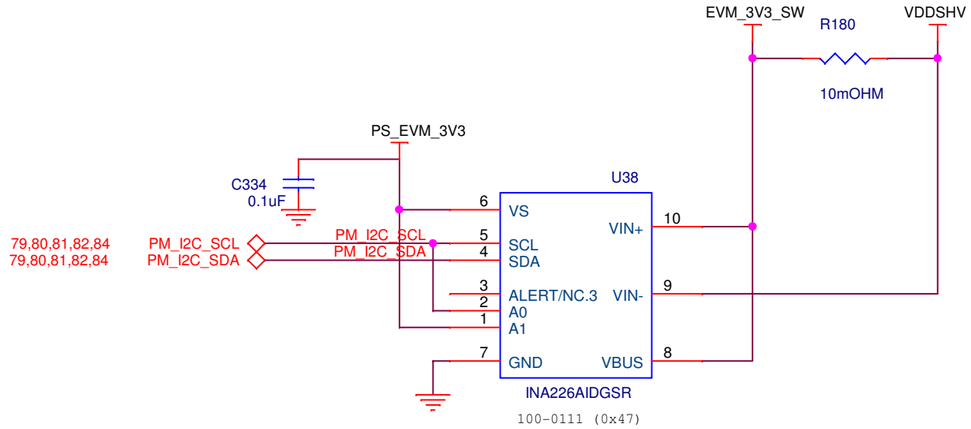

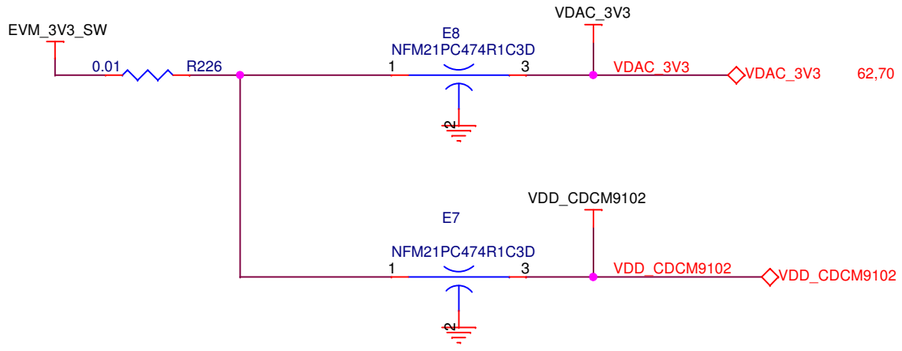

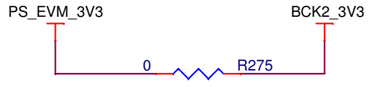

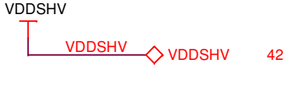

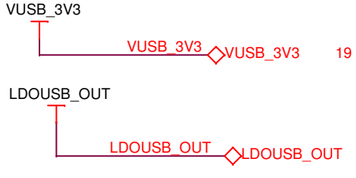

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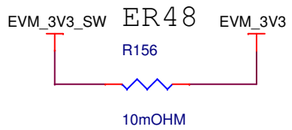

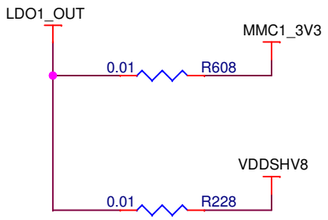

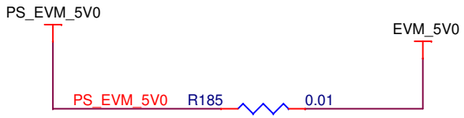

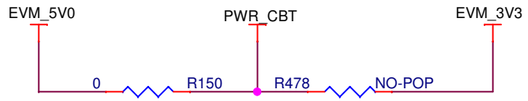

PWR_CBT

PWR_CBT 31

EVM_5V0

EVM_5V0 6,32,33,35,38,56,61,68

PS_EVM_5V0

PS_EVM_5V0 PS_EVM_5V0 15,71,74,75,80

LDO1_OUT

LDO1_OUT LDO1_OUT 71

EVM_3V3_SW

EVM_3V3_SW 75,77,84

MMC1_3V3

MMC1_3V3 15

VDDSHV8

VDDSHV8 VDDSHV8 42

EVM_3V3

EVM_3V3 3,4,5,6,7,8,9,11,12,13,15,16,18,20,21,22,23,24,30,31,32,33,34,35,36,38,39,40,56,57,58,59,60,63,64,65,67,68,86

TEXAS INSTRUMENTS INCORPORATED			
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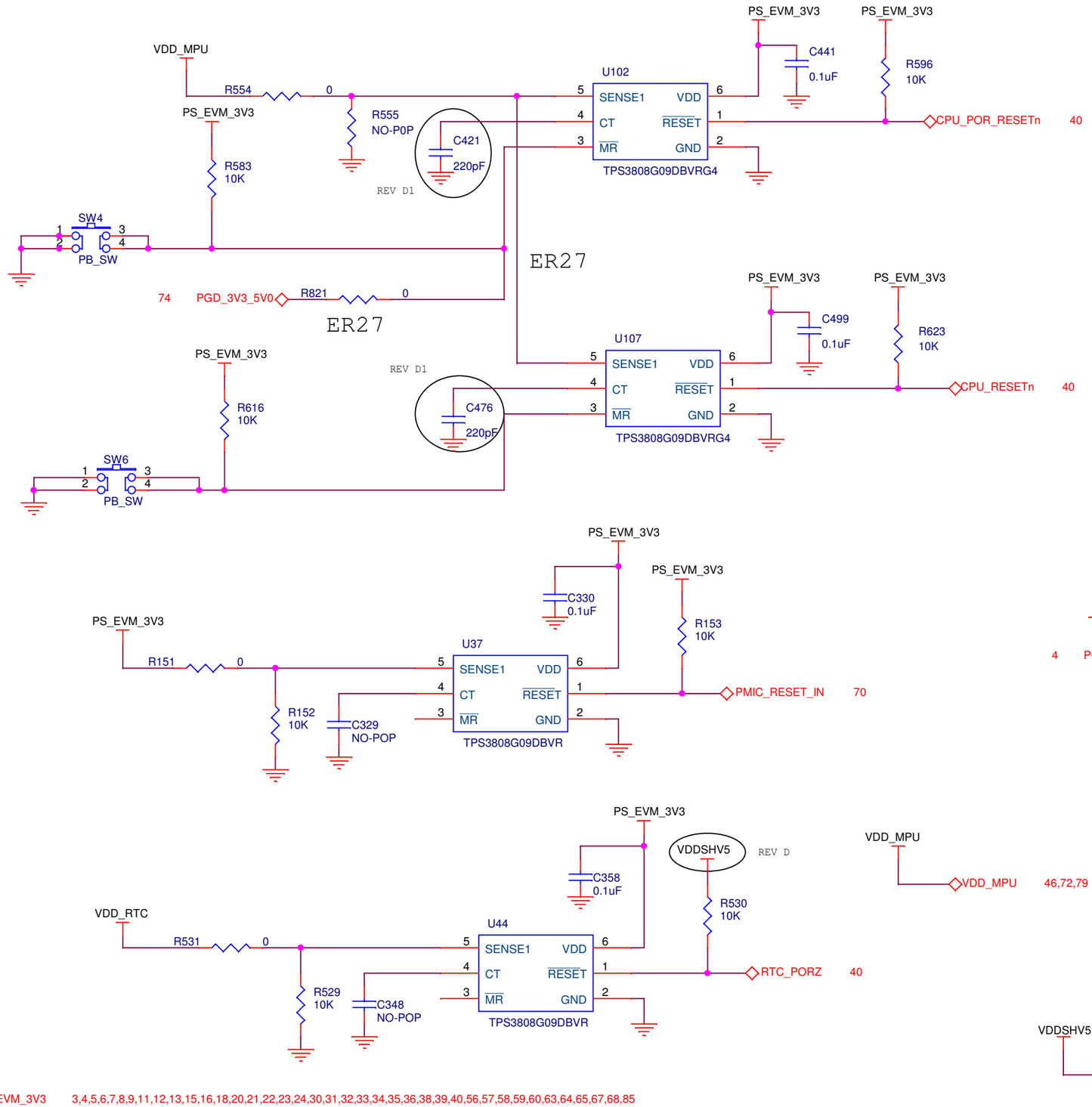

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
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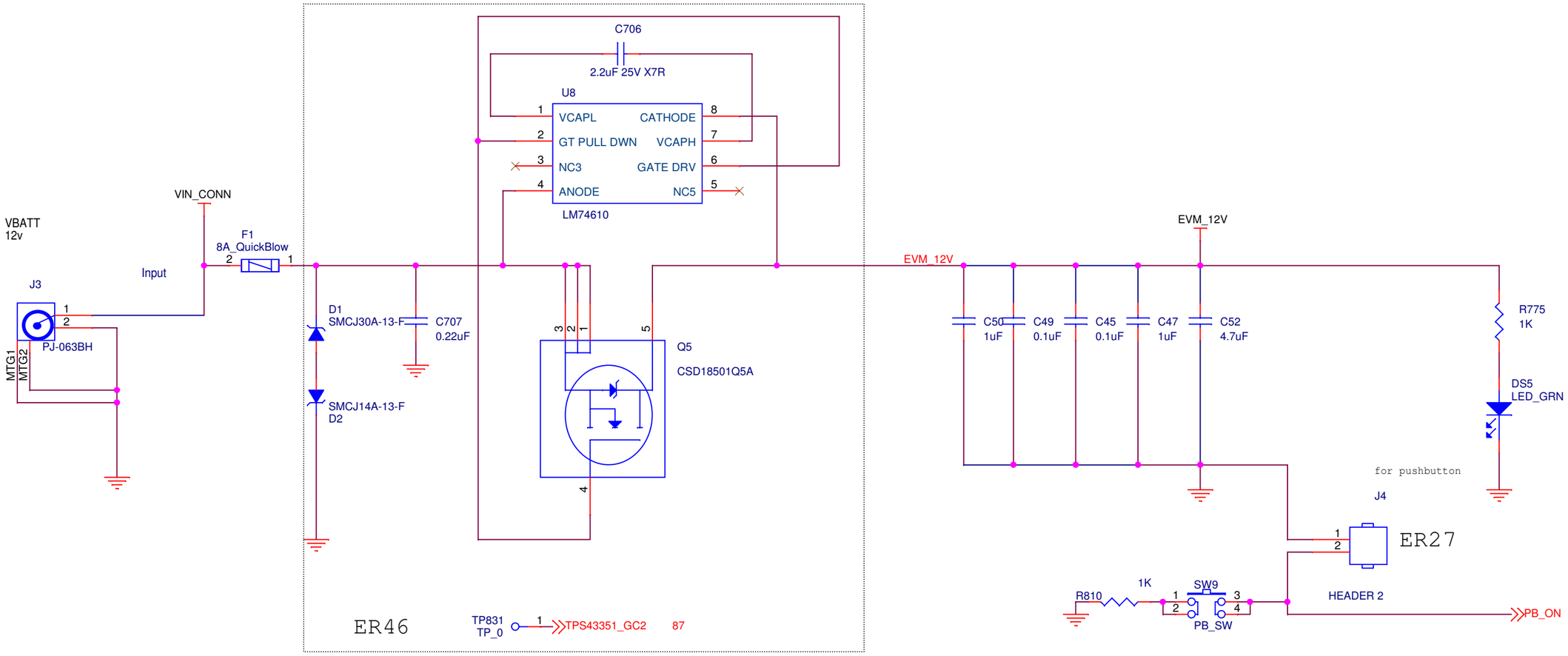
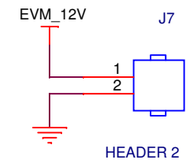
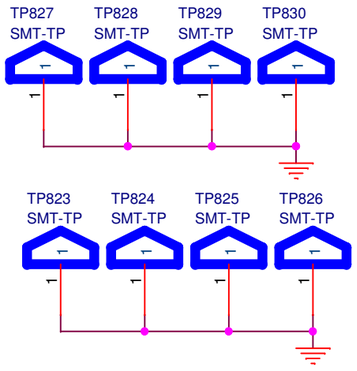


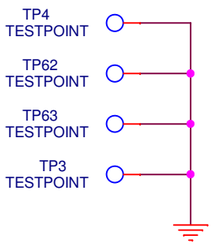


OPTIONAL FAN CONNECTOR

PS_EVM_3V3

PS_EVM_3V3 ◇PS_EVM_3V3 38,70,71,72,73,74,75,76,78,79,80,81,82,84,86





DISTRIBUTE ON BOARD, ONE GND TESTPOINT BY MLB CONNECTOR

EVM_12V

EVM_12V ◇EVM_12V 16,38,68,74

VIN_CONN

VIN_CONN ◇VIN_CONN 74

TEXAS INSTRUMENTS INCORPORATED		
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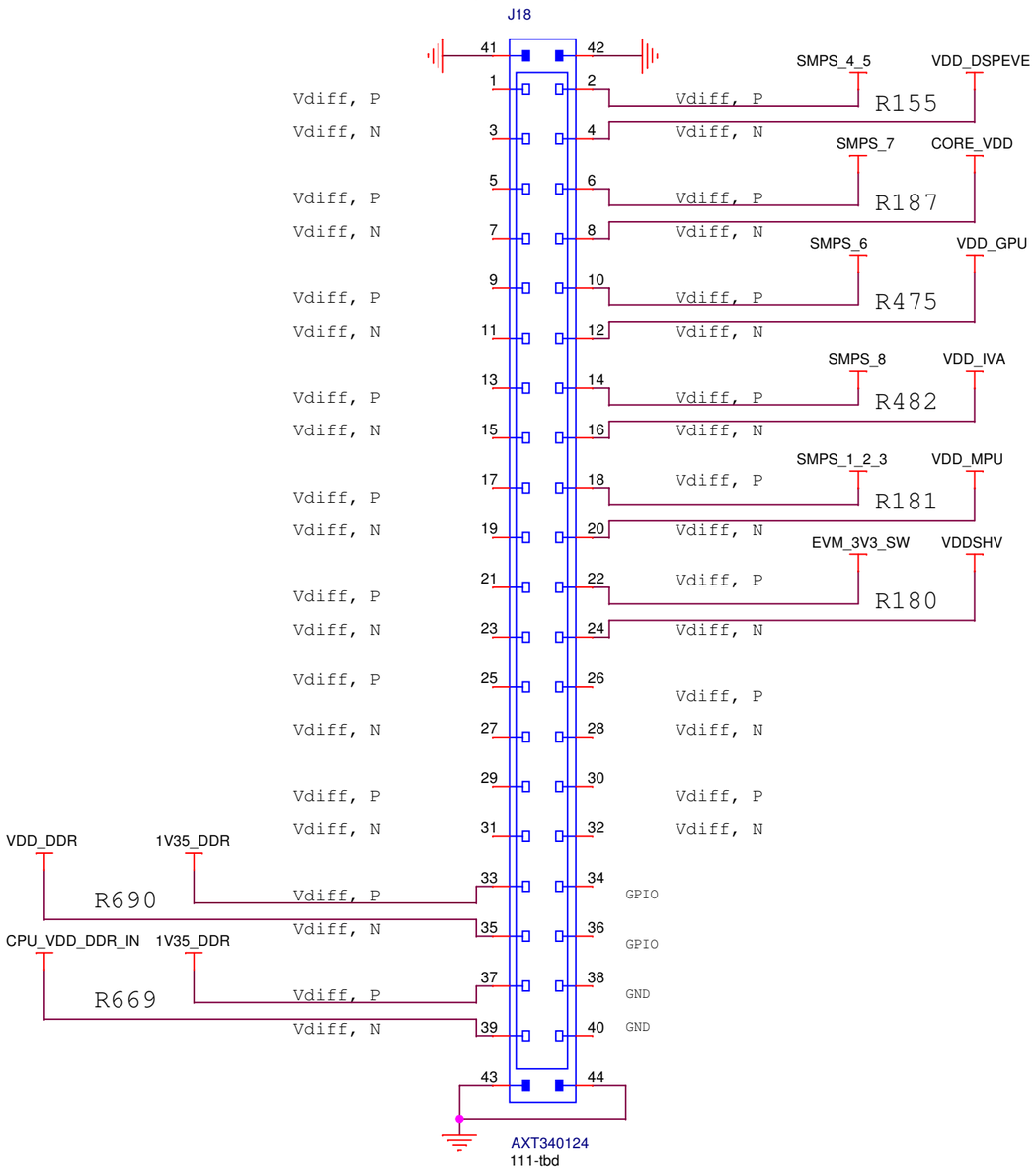
DARA Bd Interface Connector

DARA Bd can be interfaced to conduct more in-depth power measurements.

All Vdiff signal pairs (P & N) shown should be routed as pseudo-Diff Pair segments using min trace widths since these are low voltage sensing nets, not power delivery nets.



ETHERNET STRAPPING		
CLK_MAC_FREQ	Low	(25MHz) <-- CLK_TO_MAC is not used
RGMII_SEL0	High	(RGMII - 3COM)
RGMII_SEL1	High	(RGMII - 3COM)
SPEED0_STRAP	Low	(all speeds ok)
DUPLEX_STRAP	High	(full duplex)
AN_EN_STRAP	High	(auto-negotiation enabled)
SPEED1_STRAP	Low	(all speeds ok)
VDD_SEL_STRAP	High	(3.3V I/O)
NON_IEEE_STRAP	High	(allow IEEE non-compliant operation)
MAN_MDIX_STRAP	Low	(straight through mode)
MAC_CLK_EN_STRAP	Low	(disable CLK_TO_MAC output)
MULTI_EN_STRAP	Low	(single endpoint during auto-negotiation)
MDIX_EN_STRAP	High	(auto MDIX pair swap enable)

SMPS_1_2_3 → SMPS_1_2_3 ◇SMPS_1_2_3 72

SMPS_8 → SMPS_8 ◇SMPS_8 73

VDD_MPU → VDD_MPU ◇VDD_MPU 46,72,86

SMPS_4_5 → SMPS_4_5 ◇SMPS_4_5 72

VDD_DSPEVE → VDD_DSPEVE ◇VDD_DSPEVE 46,72

SMPS_6 → SMPS_6 ◇SMPS_6 73

VDD_GPU → VDD_GPU ◇VDD_GPU 46,73

SMPS_7 → SMPS_7 ◇SMPS_7 73

CORE_VDD → CORE_VDD ◇CORE_VDD 46,73

VDD_IVA → VDD_IVA ◇VDD_IVA 46,73

1V35_DDR → 1V35_DDR ≫1V35_DDR 77,78

VDD_DDR → VDD_DDR ◇VDD_DDR 49,50,51,53,54,55

VDDSHV → VDDSHV ◇VDDSHV 42

EVM_3V3_SW → ◇EVM_3V3_SW 75,77,85

TEXAS INSTRUMENTS INCORPORATED		
Title: VAYU EVM		
Page Contents: POWER MONITOR I2C ADDRESS		
Size:B	DWG NO 516582-0001	Revision: H
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ECN Number	516580-E008			
Date Requested	9/11/2015			
Requester	Tony C.			
Approvals	Tony C.			
Assembly Number	516580-0001			
Current Assembly Rev	G3			
New Assembly Rev	H			
Date Implemented	11/13/2015			
Implentation notes				
Item#	**Init Date**	**Priority**	**Status**	**Description**
				ASSY FROM G3 TO H
				PWB FROM G TO H
				LOGIC FROM G4 TO H
ER35				Upgrade Vayu Processor to ES 2.0
				From 104183-0002R to 104183-0003R
				From X5777AXGABC to X5777BXGABC
				Create new Vayu part # 104183-0003R
				IC,BGA,VAYU,PROCESSOR GP,ES2.0, 9/11/2015
				X5777BXGABC
ER37				Sheet 49, 53
				Update memory to 4GB total
				U115, U116, U68, U69, U67 From 104177-0125R To 104695-0125R
				MT41K512M8RH-125-AAT:E (IT)
				U65 and U66 From 104254-0012R To 104694-0125R
				MT41K512M16HA-125 AIT:A (IT)
ER38				Change Boot voltages for MPU/CORE to 1.15V
				U45 FROM 104252-0005R-TI to 104252-0006R-TI
				Create new PMIC dash number
				104252-0006R-TI and 104252-0006R
				TI Part # PO9039A387IZWSRQ1
ER39				Sheet 71
				Add note about LDO 3 current
				The TPS65903x PMIC LDO3 output has a current limit of 300 mA.
				If all PHYs are used concurrently (not expected in most systems)
				then the current requirement for the PHYs can exceed this limit.
				The System use case should be analyzed to verify that the power
				is less than 300 mA if LDO3 is used to power the PHYs. If
				greater than 300 mA is required, contact your TI Representative
				to identify an alternate implementation.
ER40				Sheet 12
				Update MMC2_DAT[7:0]/CMD Pullups with 47K
				R404, R405, R406,, R414, R422, R423, R426, R428
				From R0402-NOPOP to 101370-4703R
				R410, R417
				From 102145-4993R to 101370-4703R
ER41				Sheet 15
				Update SD Data[3:0]/CMD to 47K
				R19, R18, R16, R15, R14
				From 101370-1003R to 101370-4703R
ER42				Sheet 39
				Add pull-up to TMS (silicon does not include PU or PD, so floating)
				Add R829, 4.7K 101370-4702R
				Change R758 From 0 to 100
				From 101370-0001R To 101370-1001R
				This limits current into VREF with LauterBauch adapter plugged in backwards.
ER43				Sheet 76
				Investigate Power sequence of ENET MAC (core before IO)
				Change the 2.5V PHY power sequence to track EVM_3V3 as recommended in not 7.17 of the datasheet.
				Add C705 101007-0220R, 2.2uF
				Add RJ1,101370-4702R, 4.7K
				Add R832, 100642-1073R, 10.7K
				2.5v ramp speed up to match the 3.3v/1.8v ramps. With C19 installed the 2.5V was delayed until after ENET reset.
				Change C19 From 102058-1102R to C0402-NOPOP
ER44				
				Sheet 55
				Move DDR termination (net DDR2_CKE) to discrete resistor (so can be populated for Suspend to RAM)
				Add R830 49.9, 102145-4990R
ER45				Update part body of SN74AVC8T245RHL devices. Layout only change to improve mfg.
ER46				Sheet 87
				Update reverse battery protection to TI smart diode solution using LM74610
				U8 From 103038-0001R To 104635-0001R
				Q5 From 103998-0001R To 104283-0001R
				ADD C706 101415-0220R
				ADD C707 103885-1220R
				ADD D1 101808-0030R
				ADD D2 101808-0014R
				ADD TP831 TP-18RD8-NO-POP
ER47				Sheet 76, 63, 64
				.Ethernet PHY core 1.8V leakage to 3.3V rail. Use load switch and duplicate power up circuitry used on 3.3V supply so it can be adjusted independently.
				ADD
				C708 C0603-NOPOP
				C709 100993-1223R
				R833 100642-1073R
				RJ2 101370-4702R
				U145 104267-0001R
ER48				Sheet 79, 80, 84, 85
				Current measurement R changes to 10mOhm
				R156 From 104226-0001R To 101396-0001R
				R475 From 104298-0002R To 101396-0001R
				R155 From 104226-0001R To 101396-0001R
				R187 From 104297-0002R To 102598-0001R
				R482 From 104297-0002R To 102598-0001R
				R669 From 102658-0005R To 101396-0001R
				R690 From 102658-0005R To 101396-0001R
				R180 From 104226-0001R To 101396-0001R
				R181 From 104226-0001R To 101396-0001R
ER49				PB free marking in silk screen
ER50				FCC marking in silk screen. "For evaluation only; not FCC approved for res
ER51				Sheet 74
				C51 change to 25V cap from 16 V on 12 V input
				FROM 101290-0102R TO 104700-0102R
ER52				Sheet 39, 88
				Add DARA power measurement and remove unused CTI20 JTAG connector
				Delete
				J14 NO-POP
				R699 101370-0001R
				R705 101370-2200R
				R706 101370-0001R
				R707 101370-2200R
				R767 R0402-NOPOP
				R768 R0402-NOPOP
				R769 R0402-NOPOP
				Add
				J18 104610-0040R
ER53				Sheet 33
				Remove pulldown on HDMI_HPD_B. The TPD device has internal pulldown of 10K and dual 10K is higher load then some monitors can support.
				R305 from 103158-1003R to R0201-NOPOP

Preliminary Information - Subject to change

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