

MAIN

main.SchDoc

MECH

mechanical.SchDoc

A

A

B

B

C

C

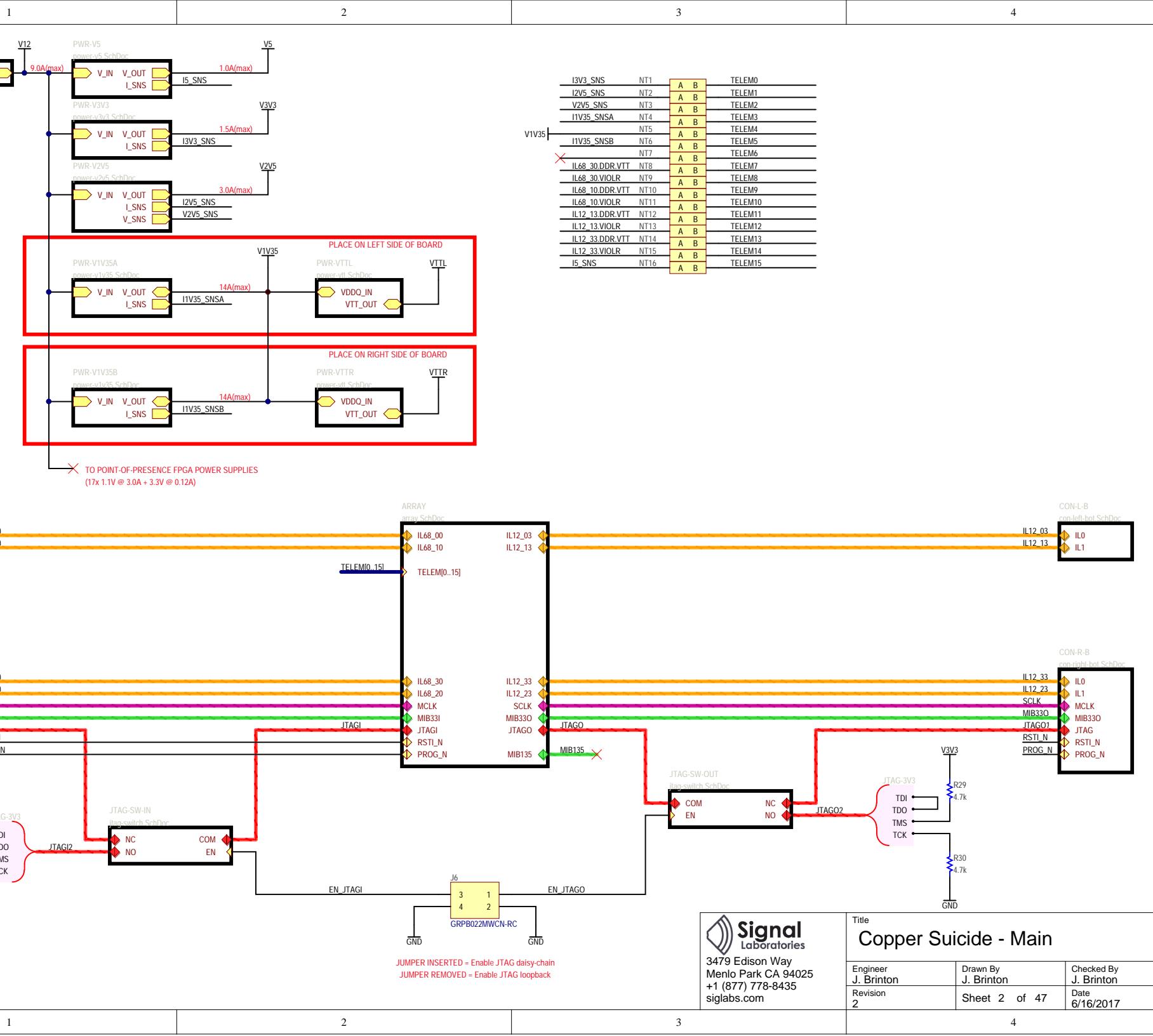
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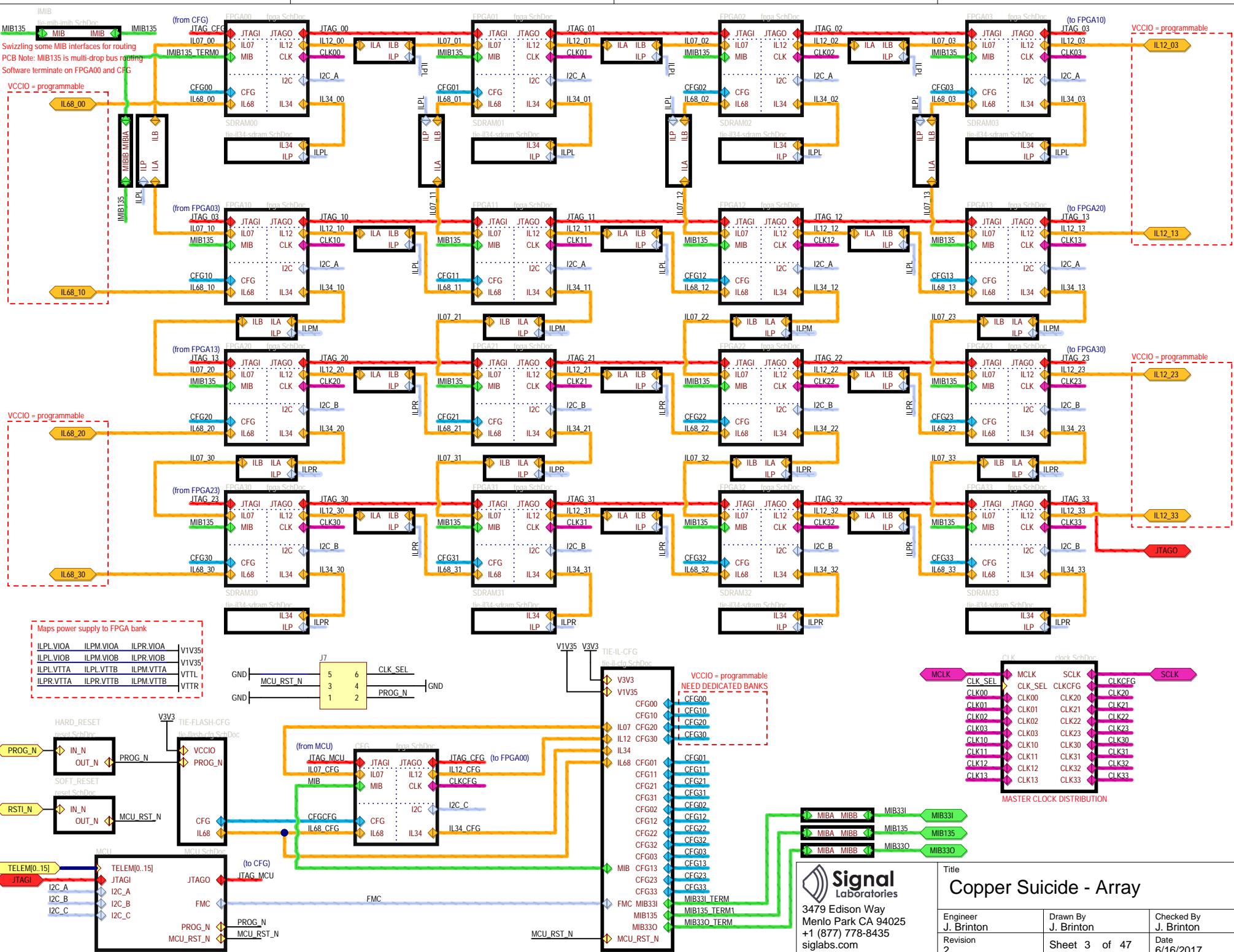
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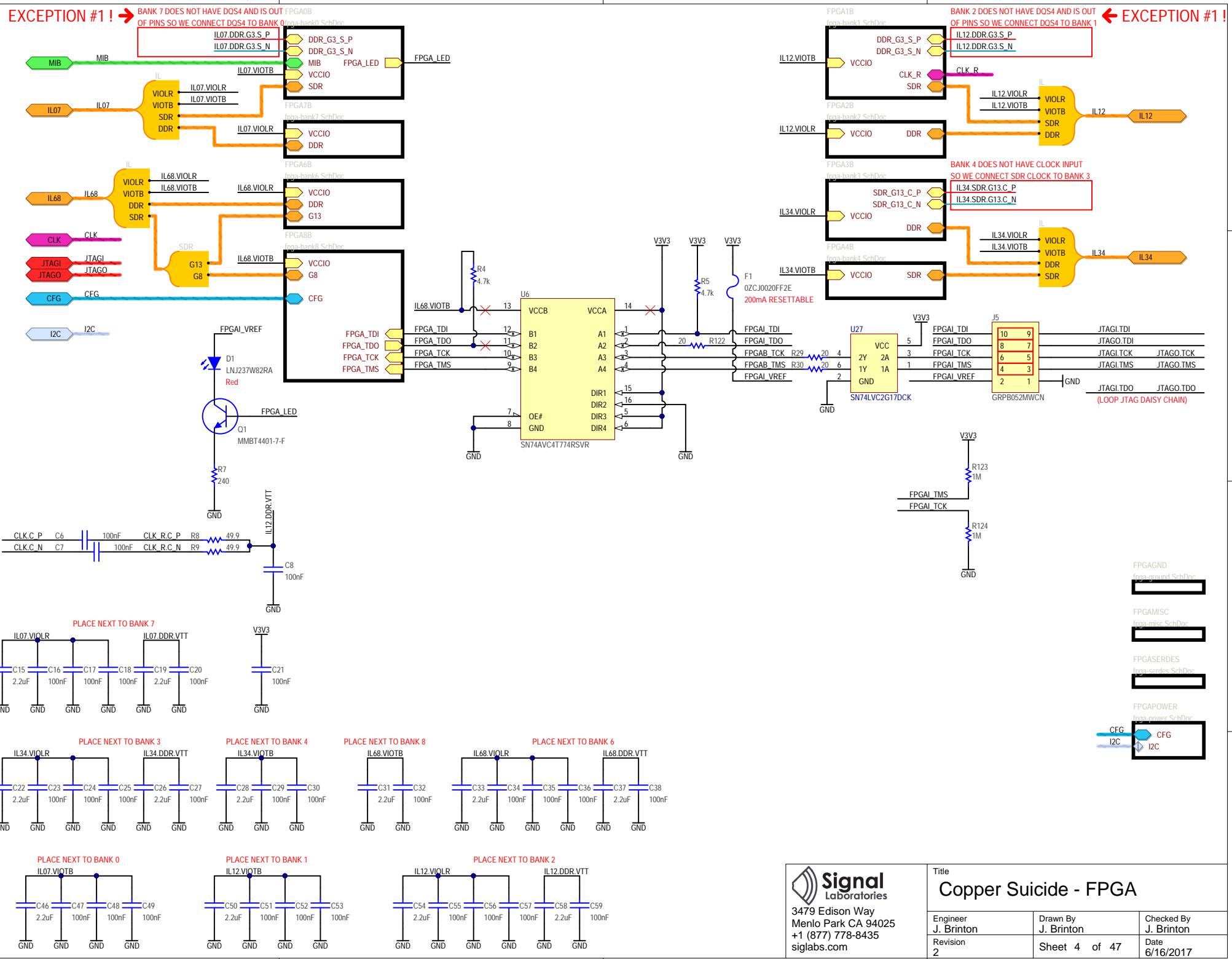


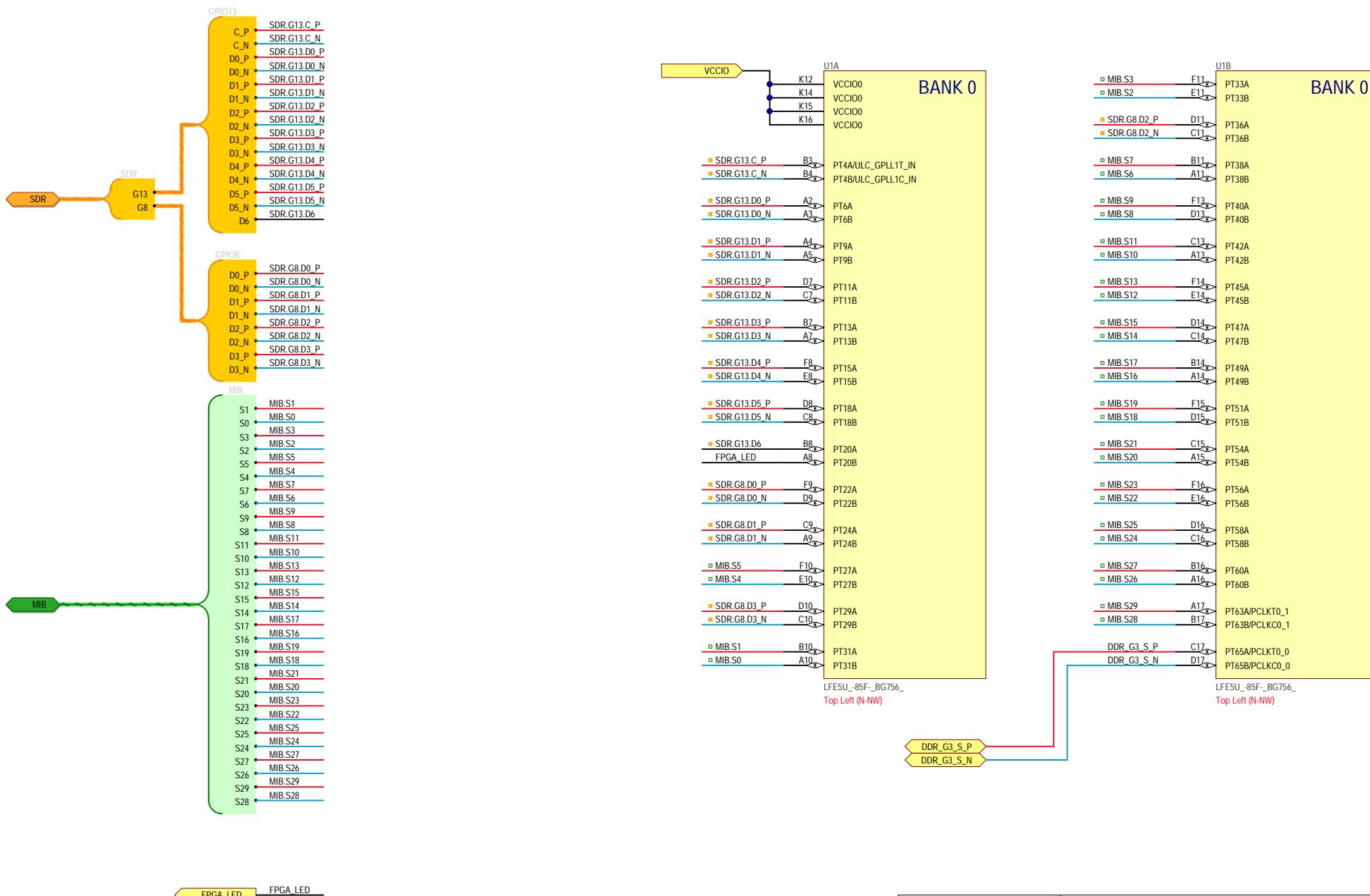
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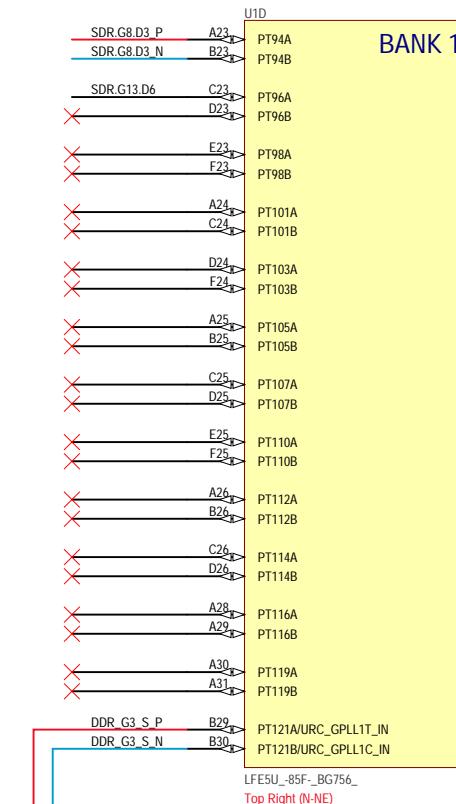
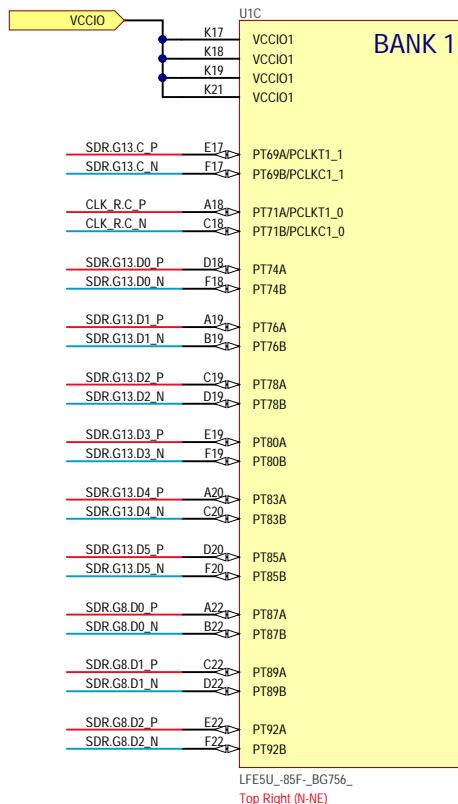
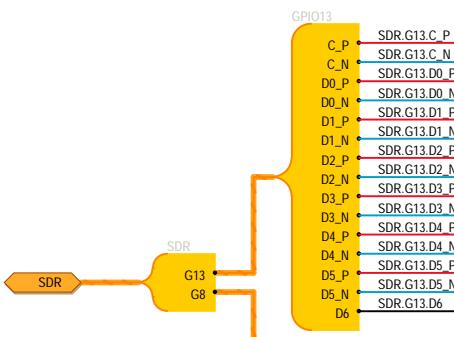
Title		
Copper Suicide - Top		
Engineer	Drawn By	Checked By
J. Brinton	J. Brinton	J. Brinton
Revision	Sheet 1 of 47	Date
2		6/16/2017



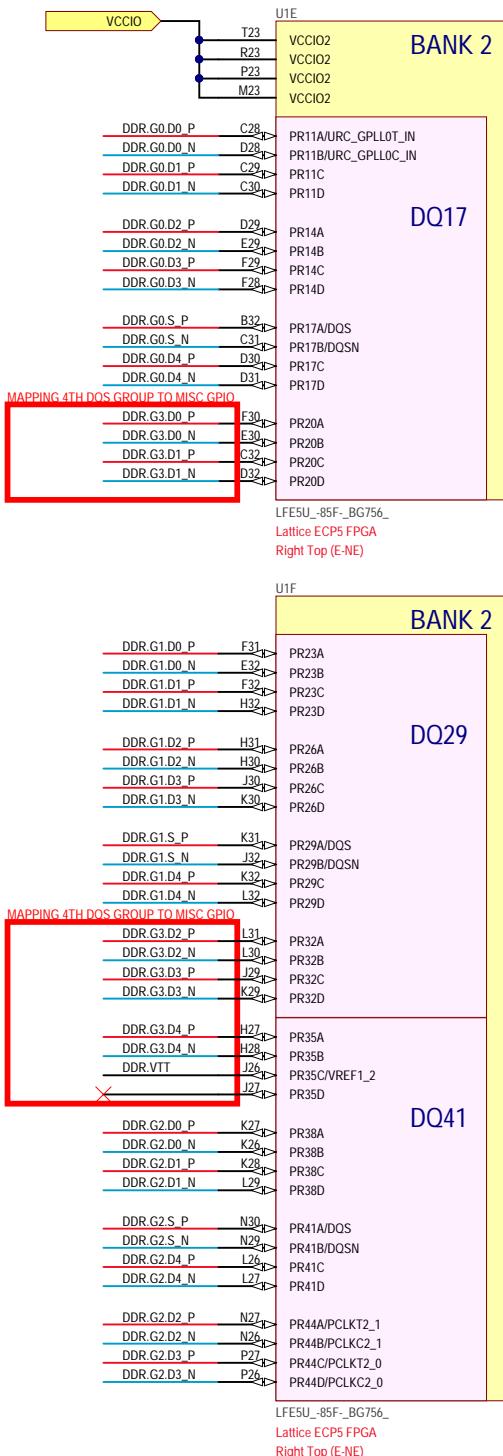
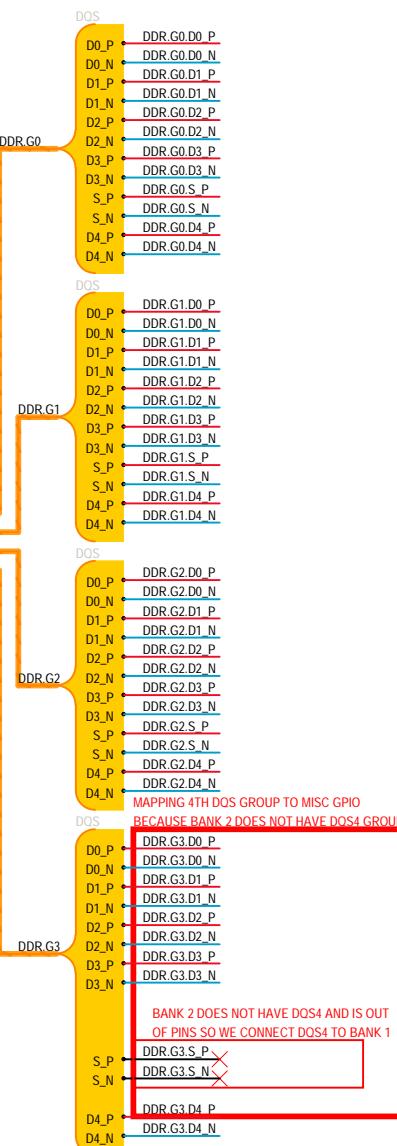


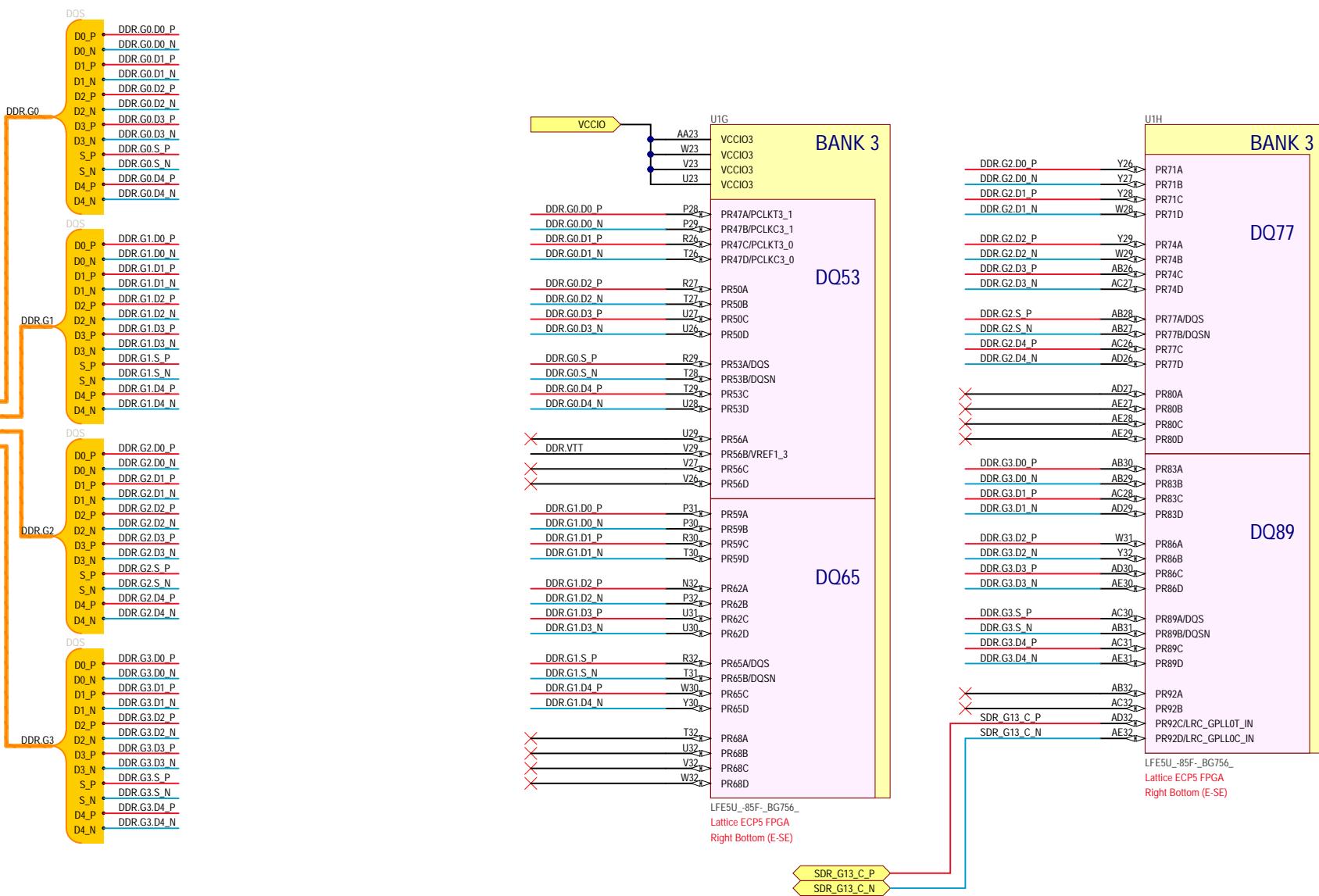


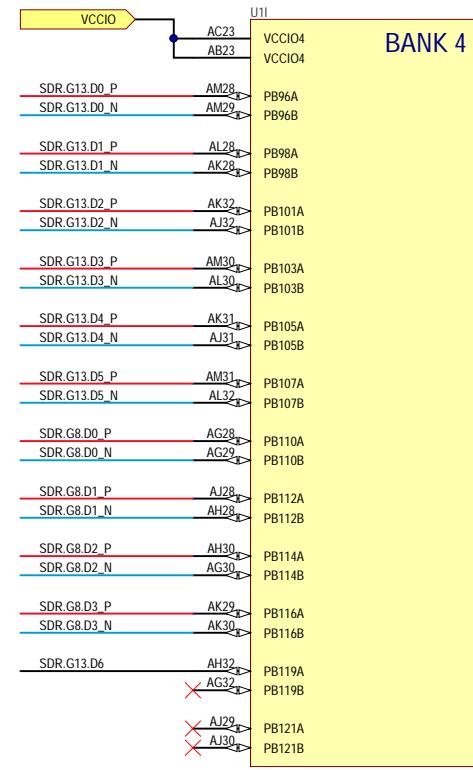
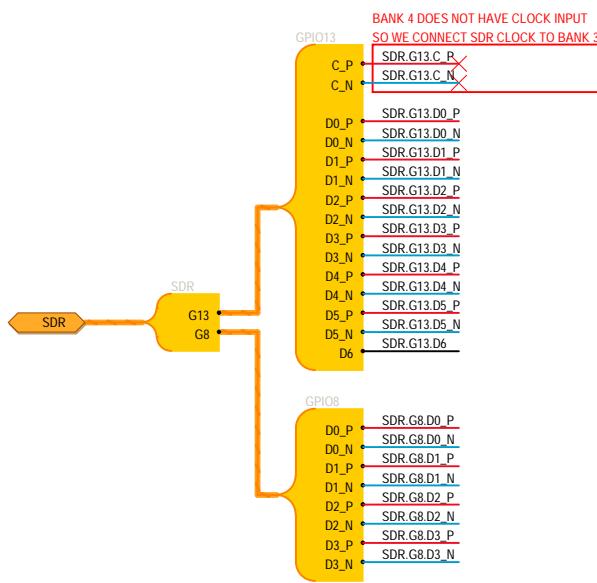




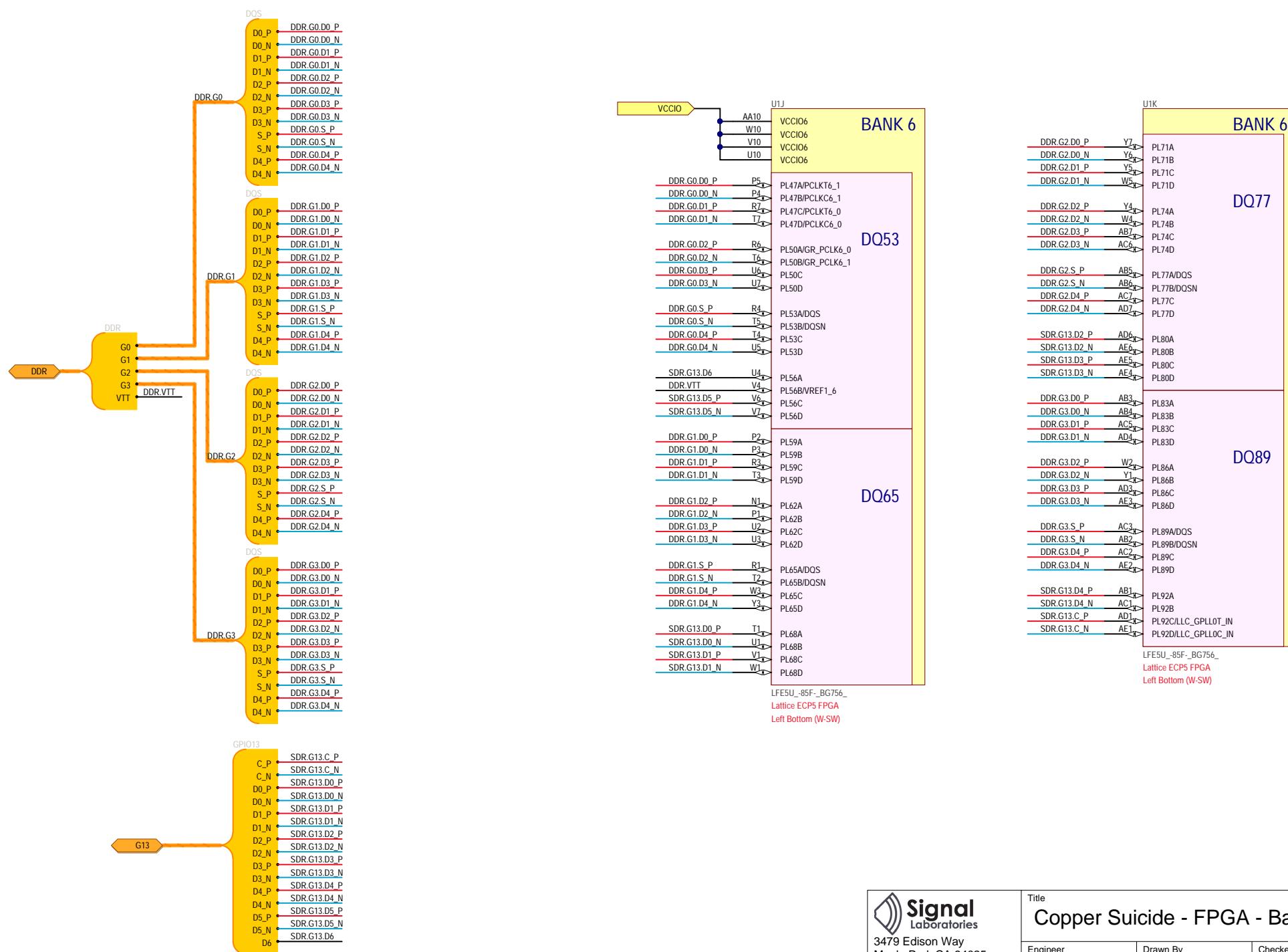
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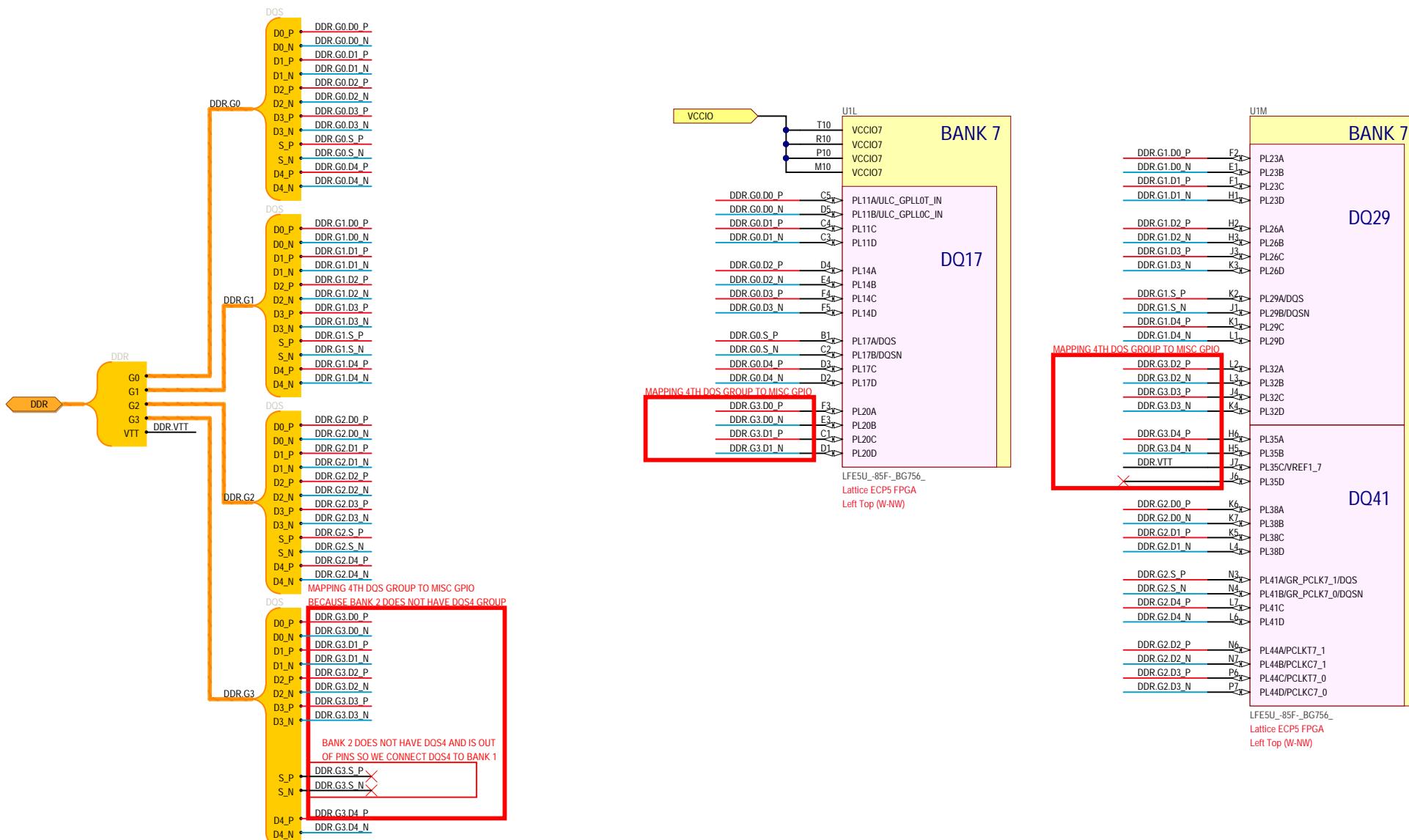






LFE5U-85F-BG756  
Lattice ECP5 FPGA  
Right Bottom (S-SE)





A

A

B

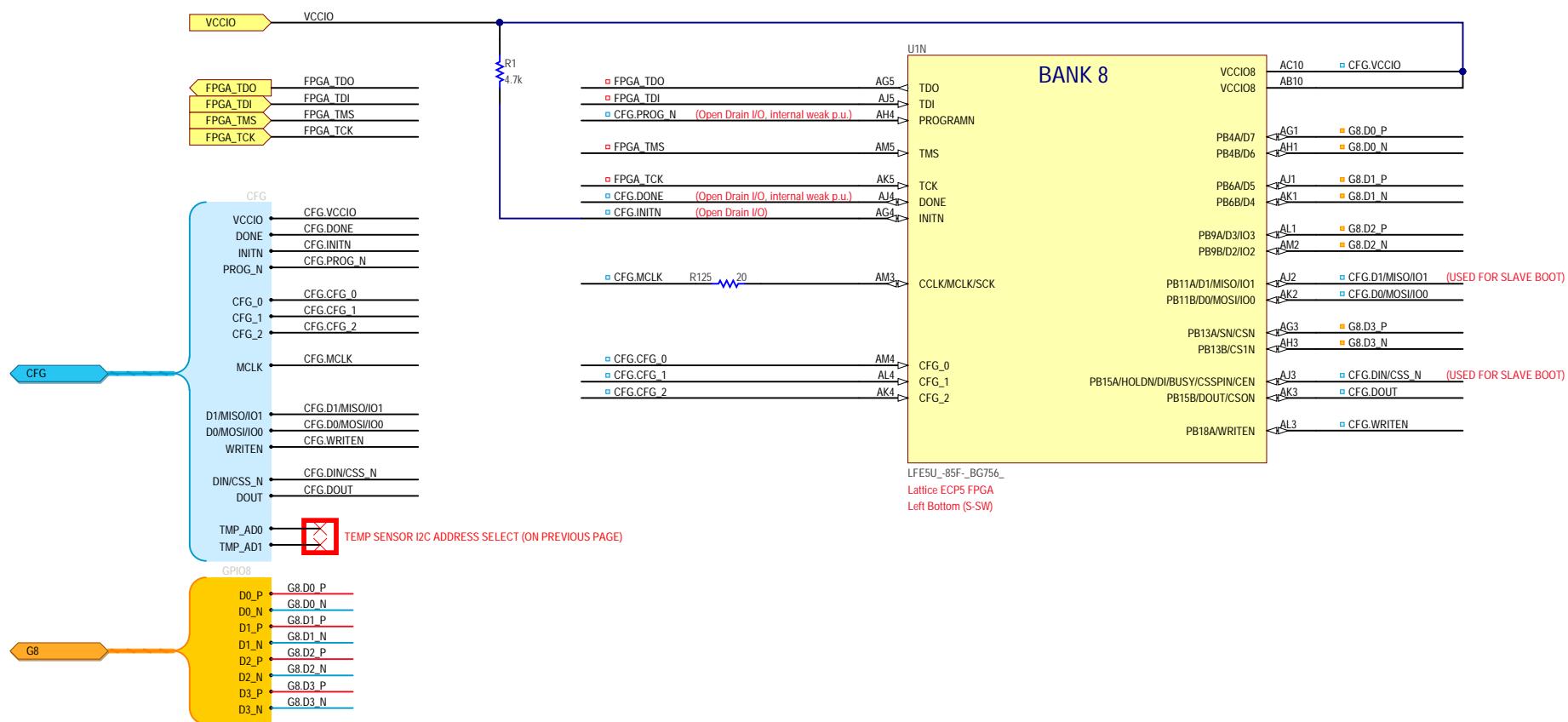
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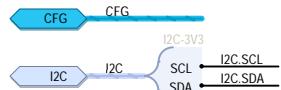
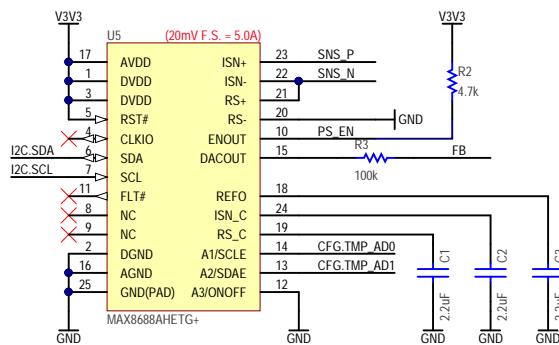
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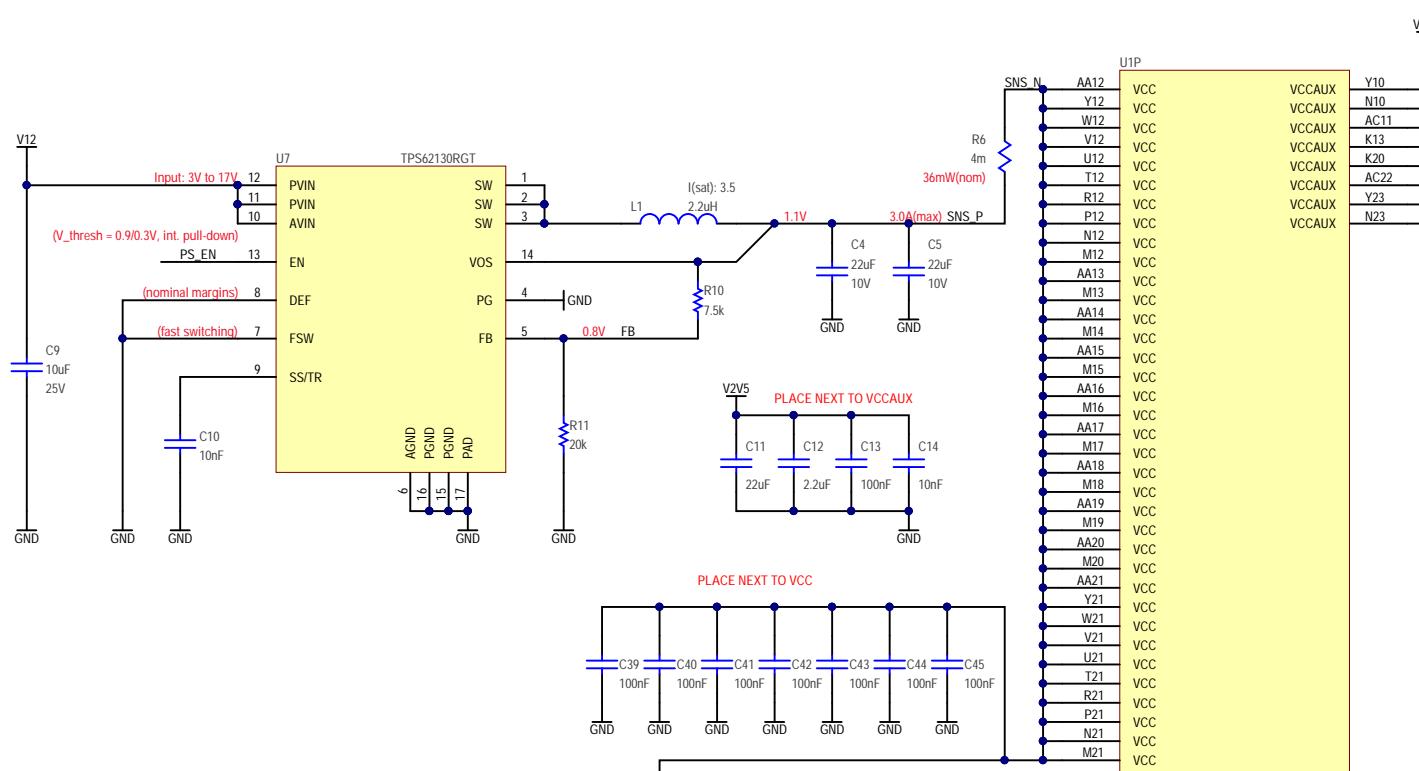
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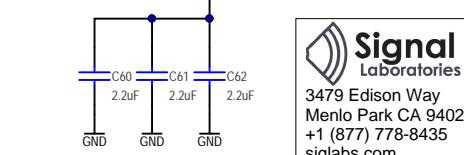
A



B



C



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Title: Copper Suicide - FPGA - Power

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
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Revision 2	Sheet 13 of 47	Date 6/16/2017
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A

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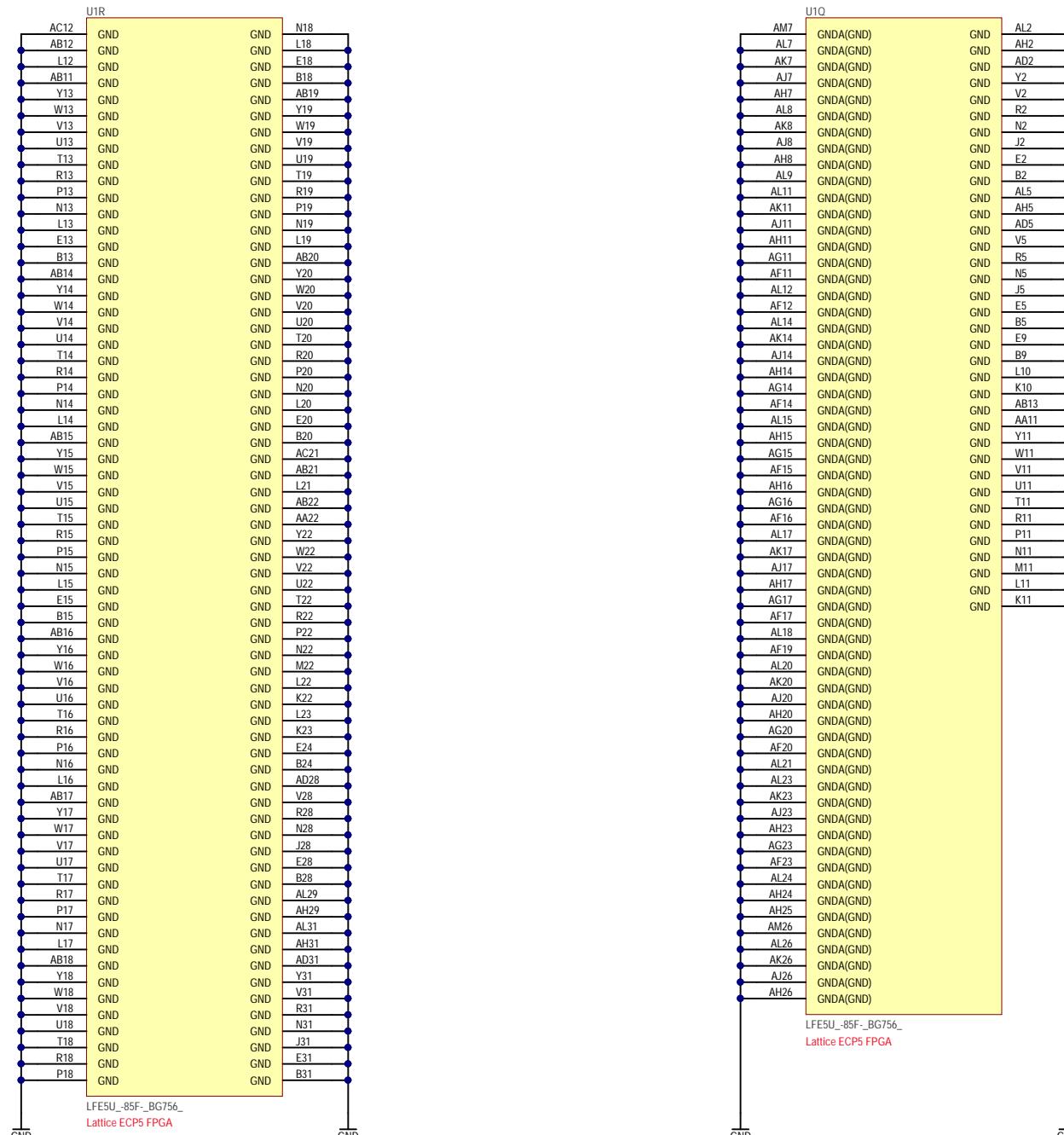
D

A

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Copper Suicide - FPGA - Ground		
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 14 of 47	Date 6/16/2017

A

A

B

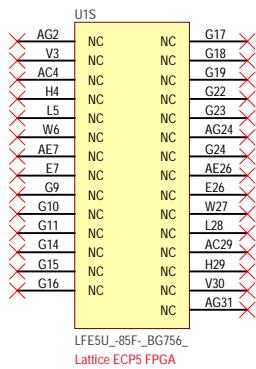
B

C

C

D

D



A

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B

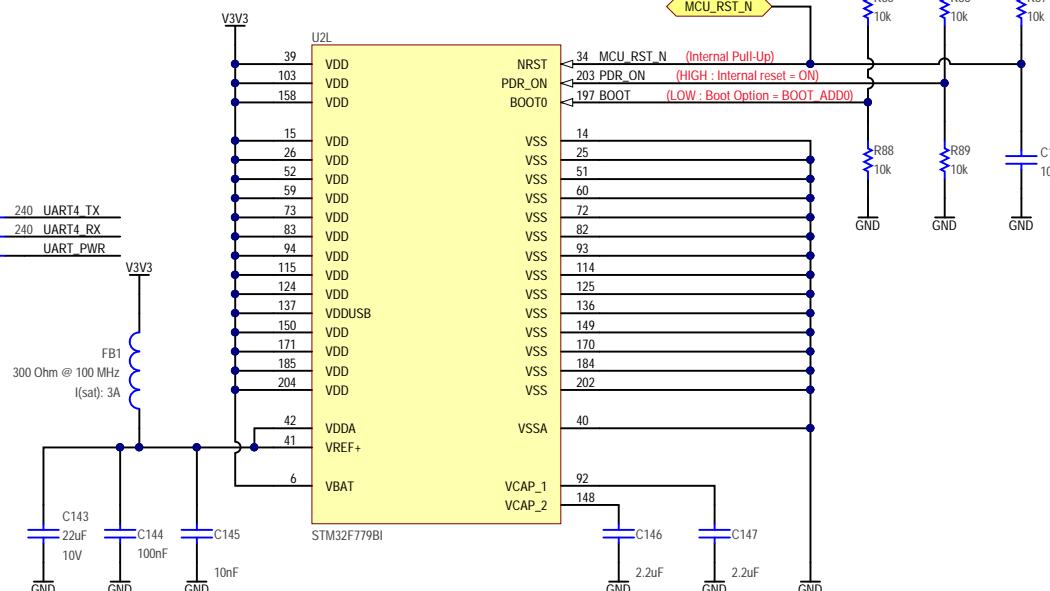
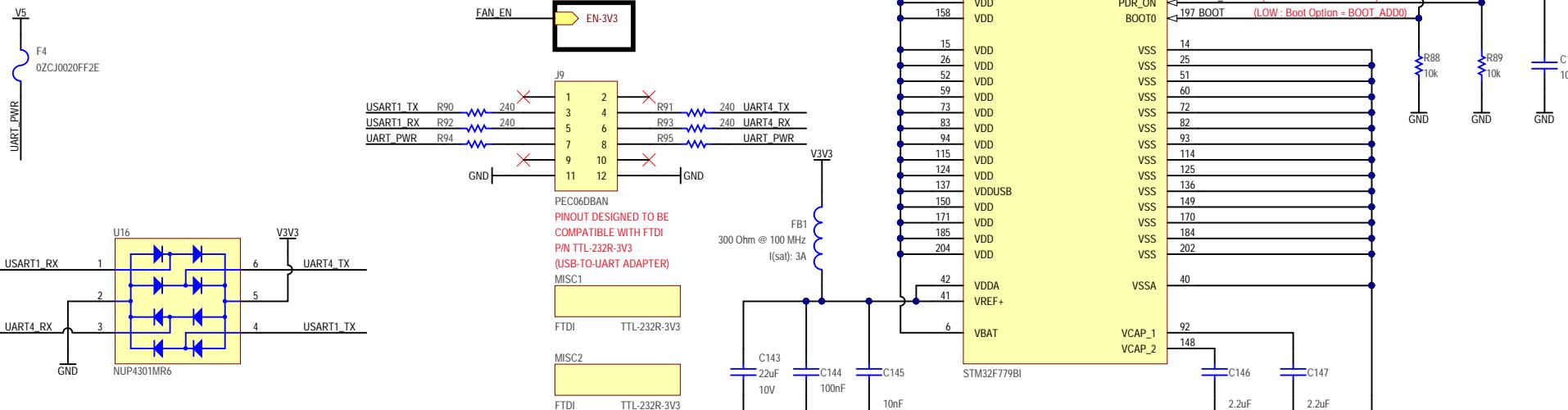
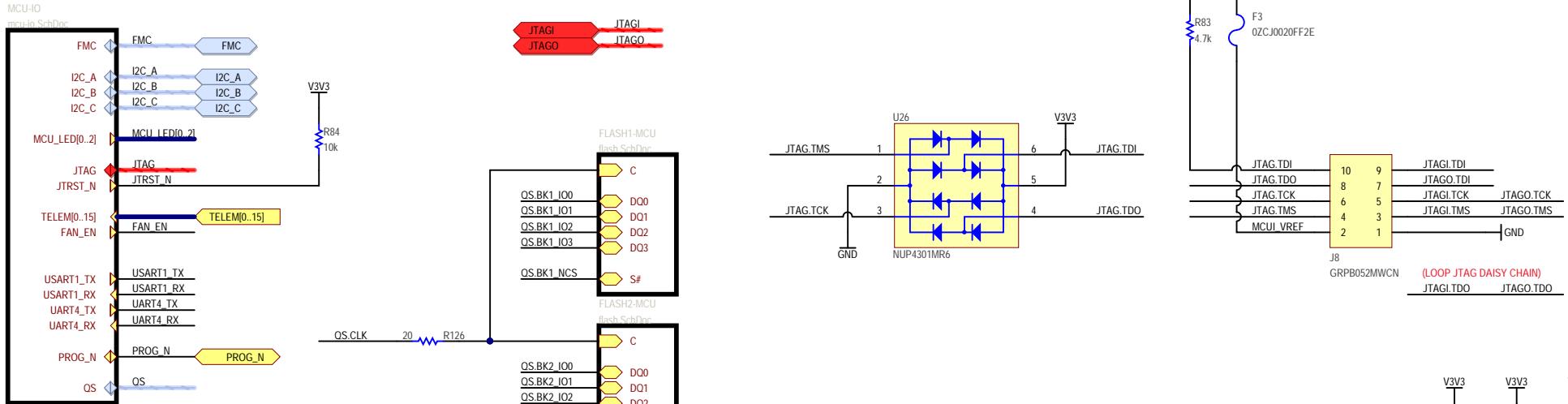
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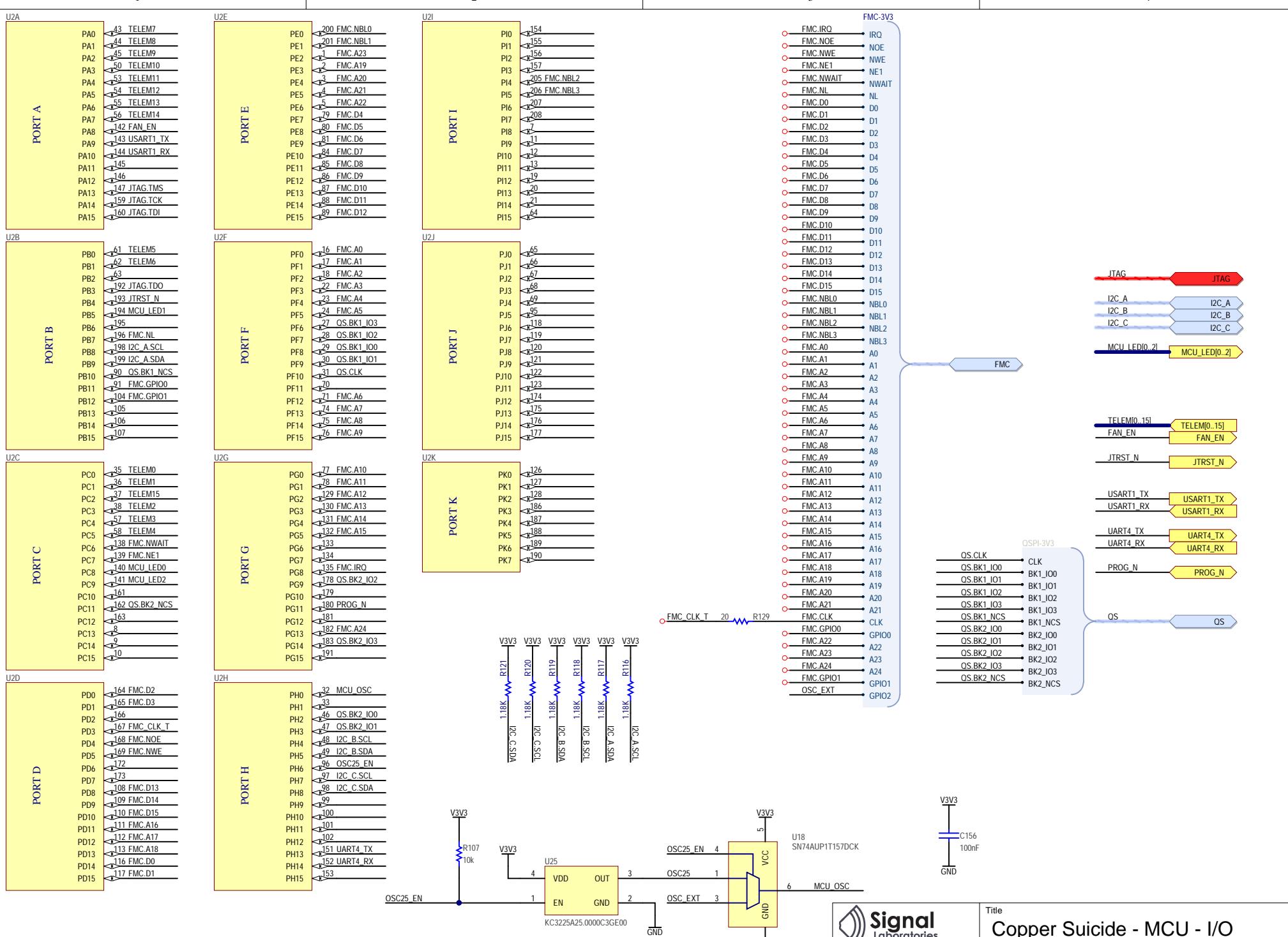
C

D

D





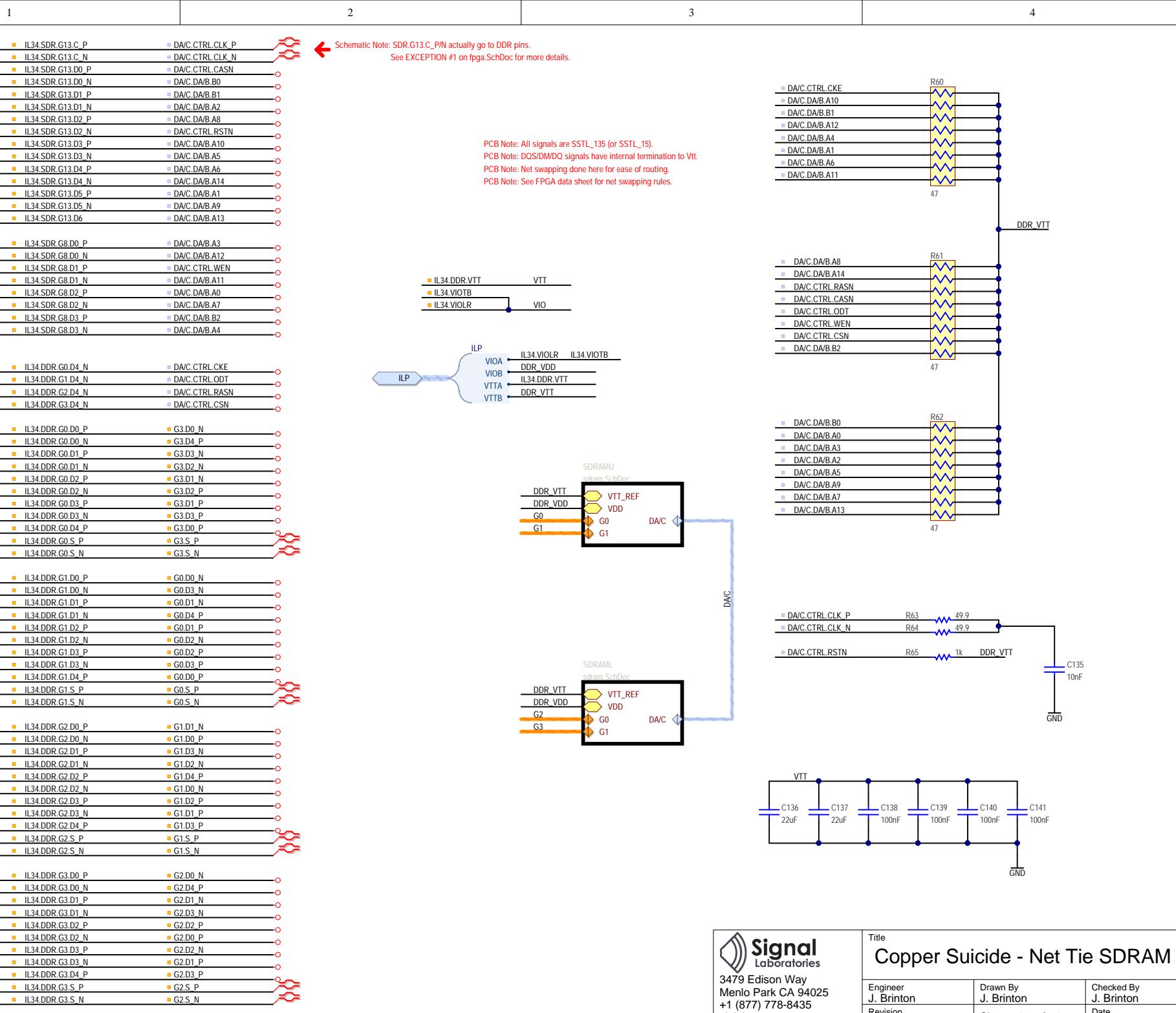


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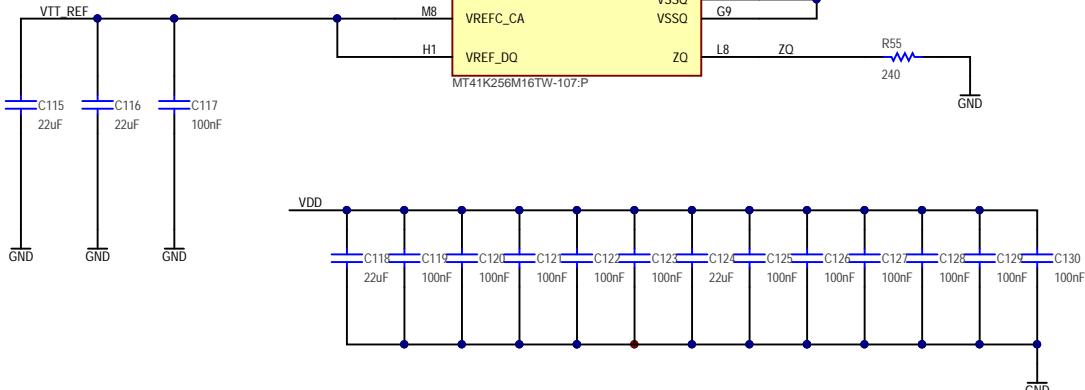
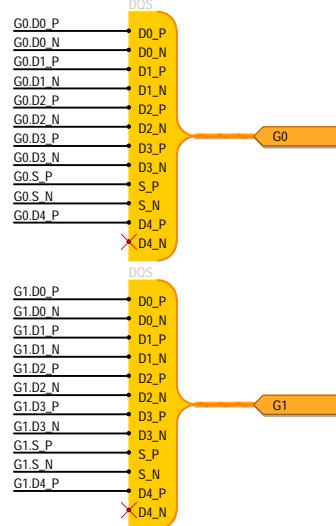
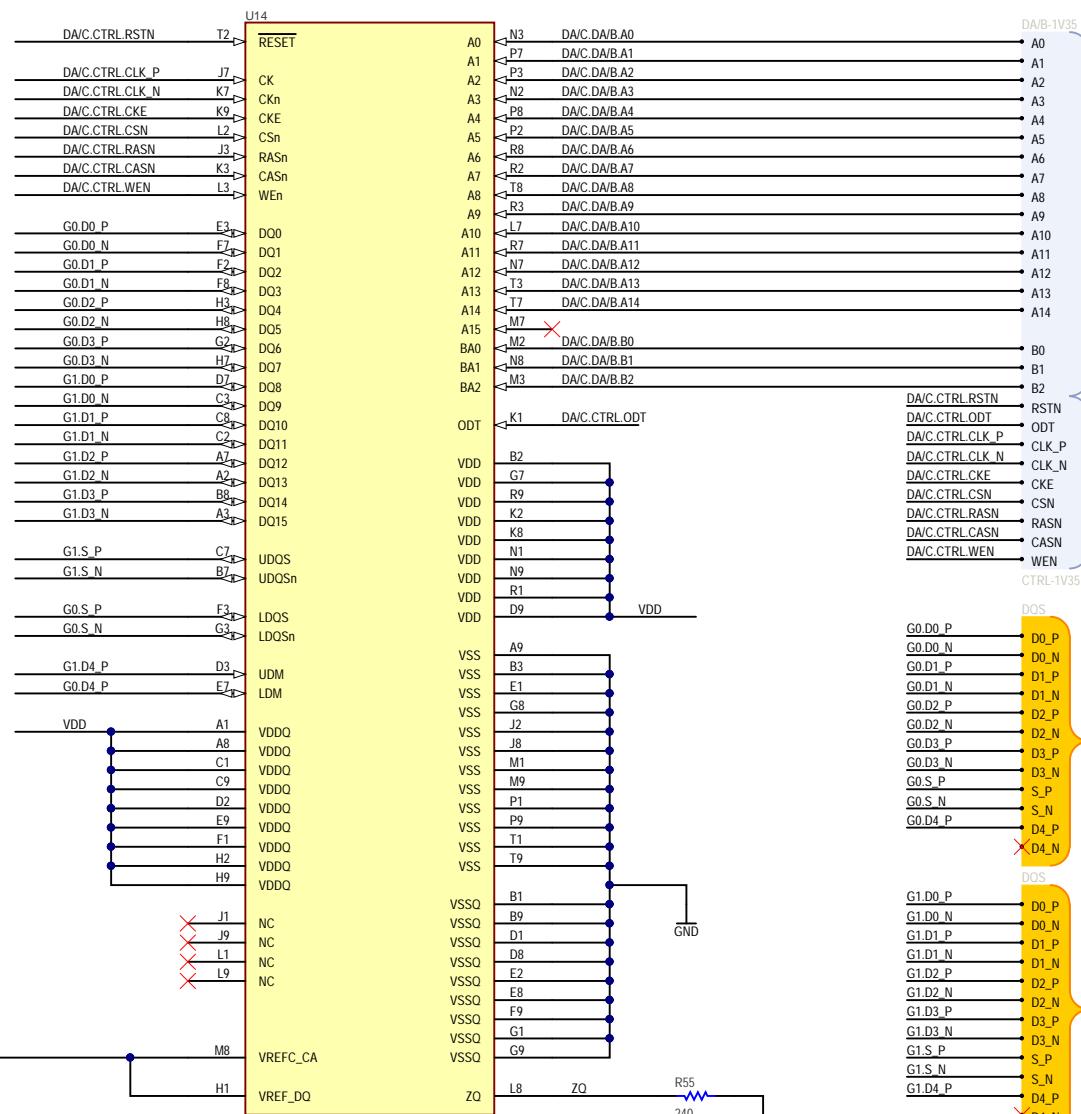
## Title

# Copper Suicide - MCU - I/O

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 18 of 47	Date 6/16/2017



A



A

IL12.SDR.G13.D0_P	CFG10.MCLK
IL12.SDR.G13.D0_N	CFG10.PROG_N
IL12.SDR.G13.D1_P	CFG10.DIN/CSS_N
IL12.SDR.G13.D1_N	CFG10.DONE
IL12.SDR.G13.D2_P	
IL12.SDR.G13.D2_N	
IL12.SDR.G13.D3_P	CFG00.DONE
IL12.SDR.G13.D3_N	CFG10.INITN
IL12.SDR.G13.D4_P	
IL12.SDR.G13.D4_N	CFG00.MCLK
IL12.SDR.G13.D5_P	CFG00.DOUT
IL12.SDR.G13.D5_N	CFG00.PROG_N
IL12.SDR.G13.D6	CFG00.DIN/CSS_N
IL12.SDR.G13.C_P	
IL12.SDR.G13.C_N	
IL12.SDR.G8.D0_P	
IL12.SDR.G8.D0_N	
IL12.SDR.G8.D1_P	
IL12.SDR.G8.D1_N	
IL12.SDR.G8.D2_P	
IL12.SDR.G8.D2_N	
IL12.SDR.G8.D3_P	
IL12.SDR.G8.D3_N	
IL12.VIOTB	CFG00.VCCIO
CONFIG FPGA "BANK 1" (VIOTB)	

VCCIO programmable on FPGAs0/FPGAs10 NEED DEDICATED CFG BANK

IL34.SDR.G13.D0_P	
IL34.SDR.G13.D0_N	CFG20.MCLK
IL34.SDR.G13.D1_P	CFG20.DONE
IL34.SDR.G13.D1_N	CFG20.PROG_N
IL34.SDR.G13.D2_P	CFG20.DIN/CSS_N
IL34.SDR.G13.D2_N	
IL34.SDR.G13.D3_P	
IL34.SDR.G13.D3_N	
IL34.SDR.G13.D4_P	
IL34.SDR.G13.D4_N	
IL34.SDR.G13.D5_P	CFG30.INITN
IL34.SDR.G13.D5_N	CFG30.MCLK
IL12.SDR.G13.C_P	
IL12.SDR.G13.C_N	
IL34.SDR.G13.D6	CFG30.DONE
IL34.SDR.G8.D0_P	CFG30.PROG_N
IL34.SDR.G8.D0_N	CFG30.DIN/CSS_N
IL34.SDR.G8.D1_P	CFG20.INITN
IL34.SDR.G8.D1_N	
IL34.SDR.G8.D2_P	
IL34.SDR.G8.D2_N	
IL34.SDR.G8.D3_P	
IL34.SDR.G8.D3_N	
IL34.VIOTB	CFG20.VCCIO
CONFIG FPGA "BANK 4" (VIOTB)	

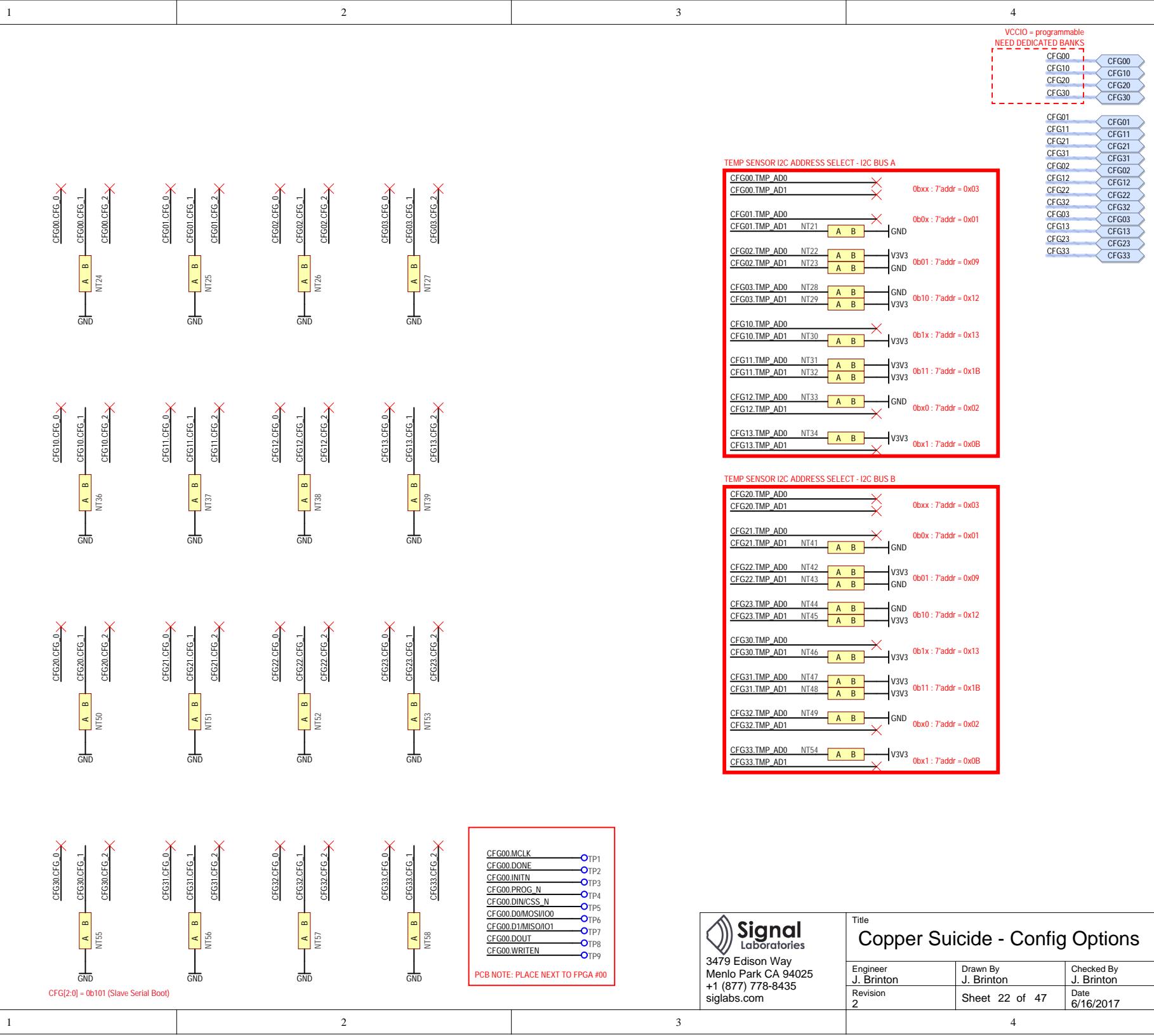
VCCIO programmable on FPGAs0/FPGAs10 NEED DEDICATED CFG BANK

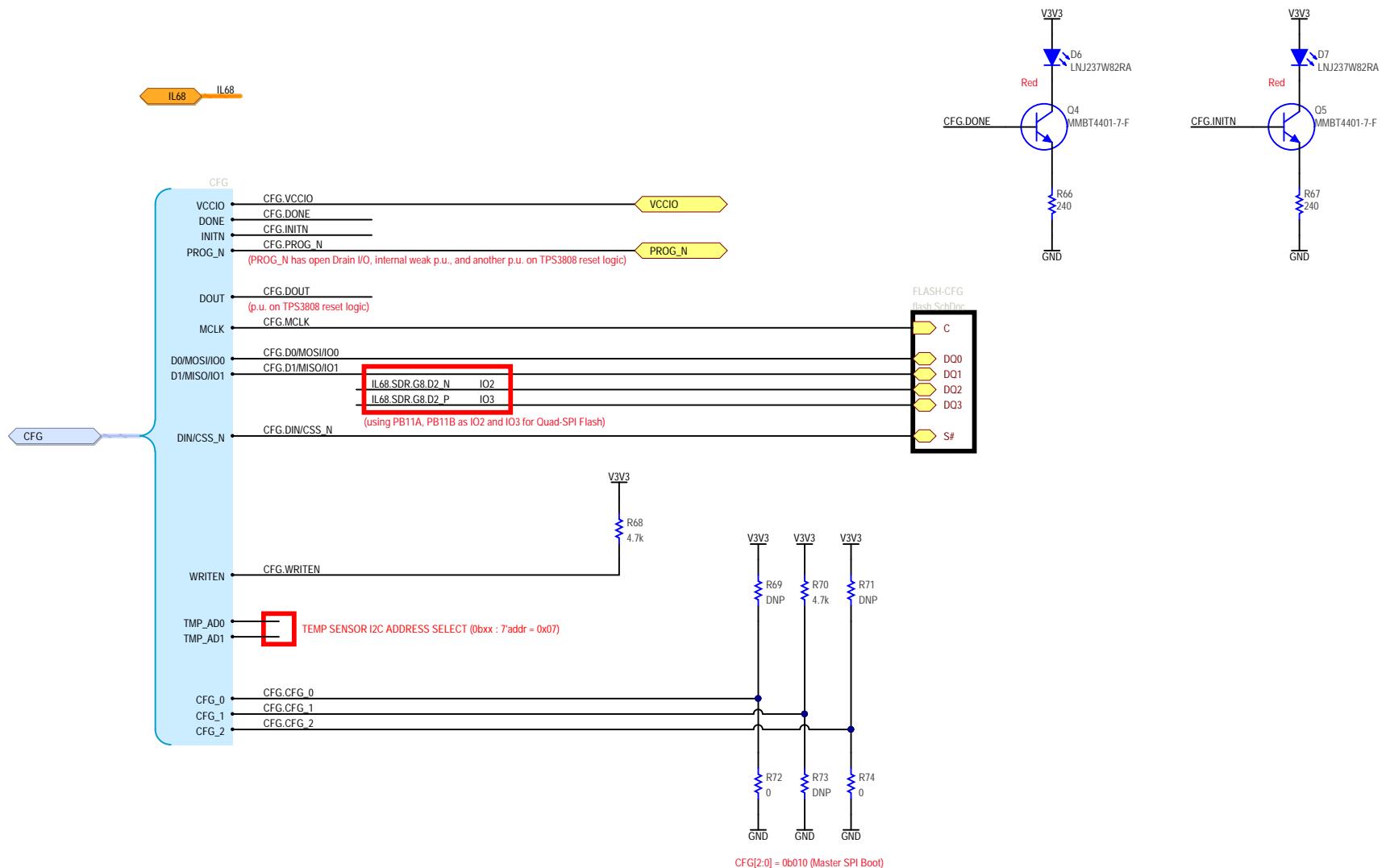
IL34.DDR.G0.D0_P	
IL34.DDR.G0.D0_N	MIB135.S1
IL34.DDR.G0.D1_P	MIB135.S2
IL34.DDR.G0.D1_N	MIB135.S6
IL34.DDR.G0.D2_P	MIB135.S0
IL34.DDR.G0.D2_N	MIB135.S10
IL34.DDR.G0.D3_P	MIB135.S6
IL34.DDR.G0.D3_N	MIB135.S18
IL34.DDR.G0.D4_P	MIB135.S27
IL34.DDR.G0.D4_N	MIB135.S7
IL34.DDR.G0.S_P	MIB135.S20
IL34.DDR.G0.S_N	MIB135.S28
IL34.DDR.G1.D0_P	MIB135.S16
IL34.DDR.G1.D0_N	MIB135.S14
IL34.DDR.G1.D1_P	MIB135.S15
IL34.DDR.G1.D1_N	MIB135.S3
IL34.DDR.G1.D2_P	MIB135.S29
IL34.DDR.G1.D2_N	MIB135.S17
IL34.DDR.G1.D3_P	MIB135.S9
IL34.DDR.G1.D3_N	MIB135.S21
IL34.DDR.G1.D4_P	MIB135.S11
IL34.DDR.G1.D4_N	MIB135.S4
IL34.DDR.G1.S_P	MIB135.S12
IL34.DDR.G1.S_N	MIB135.S13
IL34.DDR.G2.D0_P	MIB135.S25
IL34.DDR.G2.D0_N	MIB135.S19
IL34.DDR.G2.D1_P	MIB135.S2
IL34.DDR.G2.D1_N	MIB135.S24
IL34.DDR.G2.D2_P	MIB135.S22
IL34.DDR.G2.D2_N	MIB135.S5
IL34.DDR.G2.D3_P	MIB135.S8
IL34.DDR.G2.D3_N	MIB135.S23
IL34.DDR.G2.D4_P	
IL34.DDR.G2.D4_N	
IL34.DDR.G2.S_P	
IL34.DDR.G2.S_N	
IL34.DDR.G3.D0_P	
IL34.DDR.G3.D0_N	
IL34.DDR.G3.D1_P	
IL34.DDR.G3.D1_N	
IL34.DDR.G3.D2_P	
IL34.DDR.G3.D2_N	
IL34.DDR.G3.D3_P	
IL34.DDR.G3.D3_N	
IL34.DDR.G3.D4_P	
IL34.DDR.G3.D4_N	
IL34.DDR.G3.S_P	
IL34.DDR.G3.S_N	
IL34.DDR.G3.D5_P	
IL34.DDR.G3.D5_N	
IL34.SDR.G13.C_P	
IL34.SDR.G13.C_N	
IL34.VIOLR	V1V35
CONFIG FPGA "BANK 3" (VIOLR)	

VCCIO programmable on FPGAs0/FPGAs10 NEED DEDICATED CFG BANK

MIB.S0	FMC.A16
MIB.S1	FMC.D15
MIB.S2	FMC.A6
MIB.S3	FMC.A0
MIB.S4	FMC.A3
MIB.S5	FMC.A22
MIB.S6	FMC.A18
MIB.S7	FMC.A17
MIB.S8	FMC.D0
MIB.S9	FMC.A21
MIB.S10	FMC.A12
MIB.S11	FMC.D1
MIB.S12	FMC.NBL2
MIB.S13	FMC.A20
MIB.S14	FMC.A23
MIB.S15	FMC.NBL1
MIB.S16	FMC.A14
MIB.S17	FMC.A13
MIB.S18	FMC.A19
MIB.S19	FMC.NBL0
MIB.S20	FMC.A15
MIB.S21	FMC.NL
MIB.S22	FMC.NBL3
MIB.S23	FMC.A24
MIB.S24	FMC.NWE
MIB.S25	FMC.NOE
MIB.S26	FMC.NWAIT
MIB.S27	FMC.IRO
MIB.S28	FMC.NE1
MIB.S29	FMC.CLK
MIB bus on "BANK0" (IL07.VIOTB)	
IL07.SDR.G13.C_P	FMC.GPIO1
IL07.SDR.G13.C_N	FMC.GPIO2
IL07.SDR.G13.D0_P	FMC.D7
IL07.SDR.G13.D0_N	FMC.GPIO0
IL07.SDR.G13.D1_P	FMC.D12
IL07.SDR.G13.D1_N	FMC.D11
IL07.SDR.G13.D2_P	FMC.D10
IL07.SDR.G13.D2_N	FMC.D9
IL07.SDR.G13.D3_P	FMC.D8
IL07.SDR.G13.D3_N	FMC.D13
IL07.SDR.G13.D4_P	FMC.D4
IL07.SDR.G13.D4_N	FMC.D6
IL07.SDR.G13.D5_P	FMC.A10
IL07.SDR.G13.D5_N	FMC.D5
IL07.SDR.G13.D6_P	FMC.A9
IL07.SDR.G13.D6_N	FMC.A8
IL07.SDR.G8.D0_P	FMC.A11
IL07.SDR.G8.D1_P	FMC.A7
IL07.SDR.G8.D1_N	FMC.D14
IL07.SDR.G8.D2_P	FMC.A1
IL07.SDR.G8.D2_N	FMC.A2
IL07.SDR.G8.D3_P	FMC.A5
IL07.SDR.G8.D3_N	FMC.A4
IL07.VIOTB	V3V3
CONFIG FPGA "BANK 0" (VIOTB)	

IL68.SDR.G0.D0_P	MIB331.S15
IL68.SDR.G0.D0_N	MIB331.S14
IL68.SDR.G0.D1_P	MIB331.S1
IL68.SDR.G0.D1_N	MIB331.S0
IL68.SDR.G0.D2_P	MIB331.S3
IL68.SDR.G0.D2_N	MIB331.S2
IL68.SDR.G0.D3_P	MIB331.S5
IL68.SDR.G0.D3_N	MIB331.S4
IL68.SDR.G0.D4_P	MIB331.S7
IL68.SDR.G0.D4_N	MIB331.S6
IL68.SDR.G0.S_P	MIB331.S9
IL68.SDR.G0.S_N	MIB331.S8
IL68.SDR.G1.D0_P	MIB331.S11
IL68.SDR.G1.D0_N	MIB331.S10
IL68.SDR.G1.D1_P	MIB331.S13
IL68.SDR.G1.D1_N	MIB331.S12
IL68.SDR.G1.D2_P	FMC.D3
IL68.SDR.G1.D2_N	FMC.D2
IL68.SDR.G1.D3_P	MIB331.S17
IL68.SDR.G1.D3_N	MIB331.S16
IL68.SDR.G1.D4_P	MIB331.S19
IL68.SDR.G1.D4_N	MIB331.S18
IL68.SDR.G1.D5_P	MIB331.S21
IL68.SDR.G1.D5_N	MIB331.S20
IL68.SDR.G1.D6_P	MIB331.S23
IL68.SDR.G1.D6_N	MIB331.S22
IL68.SDR.G2.D0_P	MIB331.S25
IL68.SDR.G2.D0_N	MIB331.S24
IL68.SDR.G2.D1_P	MIB331.S27
IL68.SDR.G2.D2_P	MIB331.S26
IL68.SDR.G2.D3_P	MIB331.S29
IL68.SDR.G2.D3_N	MIB331.S28
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IL68.SDR.G2.D5_N	MIB330.S4
IL68.SDR.G2.D6_P	MIB330.S7
IL68.SDR.G2.D6_N	MIB330.S6
IL68.SDR.G3.D0_P	MIB330.S12
IL68.SDR.G3.D0_N	MIB330.S11
IL68.SDR.G3.D1_P	MIB330.S14
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IL68.SDR.G3.D2_P	MIB330.S16
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IL68.SDR.G3.D3_P	MIB330.S18
IL68.SDR.G3.D3_N	MIB330.S17
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IL68.SDR.G3.D5_P	MIB330.S22
IL68.SDR.G3.D5_N	MIB330.S21
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IL68.SDR.G3.D6_N	MIB330.S23
IL68.SDR.G3.D7_P	MIB330.S26
IL68.SDR.G3.D7_N	MIB330.S25
IL68.SDR.G3.D8_P	MIB330.S28
IL68.SDR.G3.D8_N	MIB330.S27
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IL68.SDR.G3.DA_P	MIB330.S32
IL68.SDR.G3.DA_N	MIB330.S31
IL68.SDR.G3.DB_P	MIB330.S34
IL68.SDR.G3.DB_N	MIB330.S33
IL68.SDR.G3.DC_P	MIB330.S36
IL68.SDR.G3.DC_N	MIB330.S35
IL68.SDR.G3.DD_P	MIB330.S38
IL68.SDR.G3.DD_N	MIB330.S37
IL68.SDR.G3.DE_P	MIB330.S40
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IL68.SDR.G3.DF_P	MIB330.S42
IL68.SDR.G3.DF_N	MIB330.S41
IL68.SDR.G3.DG_P	MIB330.S44
IL68.SDR.G3.DG_N	MIB330.S43
IL68.SDR.G3.DH_P	MIB330.S46
IL68.SDR.G3.DH_N	MIB330.S45
IL68.SDR.G3.DI_P	MIB330.S48
IL68.SDR.G3.DI_N	MIB330.S47
IL68.SDR.G3.DJ_P	MIB330.S50
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IL68.SDR.G3.DK_P	MIB330.S52
IL68.SDR.G3.DK_N	MIB330.S51
IL68.SDR.G3.DL_P	MIB330.S54
IL68.SDR.G3.DL_N	MIB330.S53
IL68.SDR.G3.DM_P	MIB330.S56
IL68.SDR.G3.DM_N	MIB330.S55
IL68.SDR.G3.DN_P	MIB330.S58
IL68.SDR.G3.DN_N	MIB330.S57
IL68.SDR.G3.DO_P	MIB330.S60
IL68.SDR.G3.DO_N	MIB330.S59
IL68.SDR.G3.DP_P	MIB330.S62
IL68.SDR.G3.DP_N	MIB330.S61
IL68.SDR.G3.DQ_P	MIB330.S64
IL68.SDR.G3.DQ_N	MIB330.S63
IL68.SDR.G3.DR_P	MIB330.S66
IL68.SDR.G3.DR_N	MIB330.S65
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B

C

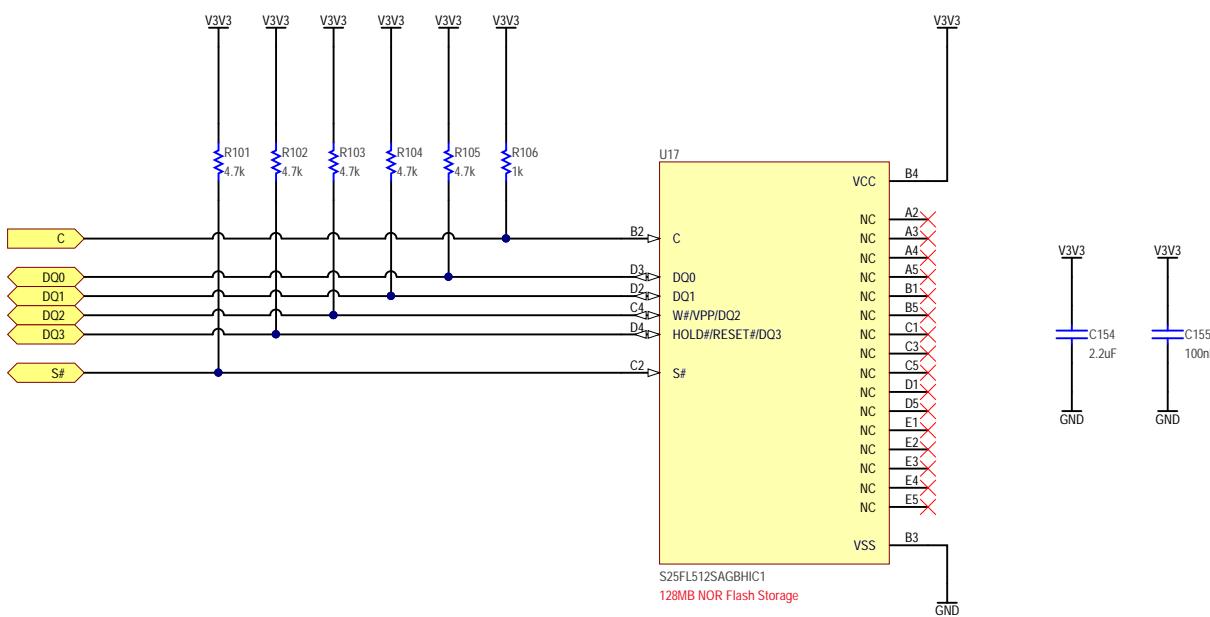
D

A

B

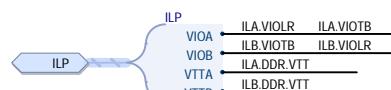
C

D





A



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ILA.SDR.G13.D6	ILB.SDR.G13.D6
	○
ILA.SDR.G8.D0_P	ILB.SDR.G13.D0_P
ILA.SDR.G8.D0_N	ILB.SDR.G13.D0_N
ILA.SDR.G8.D1_P	ILB.SDR.G8.D3_P
ILA.SDR.G8.D1_N	ILB.SDR.G8.D3_N
ILA.SDR.G8.D2_P	ILB.SDR.G8.D0_P
ILA.SDR.G8.D2_N	ILB.SDR.G8.D0_N
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ILA.SDR.G8.D3_N	ILB.SDR.G13.D3_N

A

B

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ILA.DDR.G3.S_P	ILB.DDR.G3.S_P
ILA.DDR.G3.S_N	ILB.DDR.G3.S_N

B

C

PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



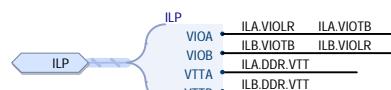
## Title

### Copper Suicide - Net Tie 12:07

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 25 of 47	Date 6/16/2017



A



ILA.SDR.G13.C_P	ILB.SDR.G13.C_P
ILA.SDR.G13.C_N	ILB.SDR.G13.C_N
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ILA.SDR.G13.D1_P	ILB.SDR.G13.D5_P
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ILA.SDR.G8.D1_P	ILB.SDR.G8.D2_P
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ILA.SDR.G8.D2_N	ILB.SDR.G8.D1_N
ILA.SDR.G8.D3_P	ILB.SDR.G8.D3_P
ILA.SDR.G8.D3_N	ILB.SDR.G8.D3_N

A

B

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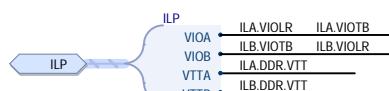
C

D

PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



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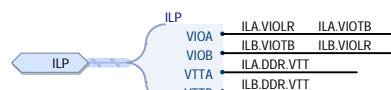
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ILA_DDR.G2.S_P	ILB_DDR.G2.S_P
ILA_DDR.G2.S_N	ILB_DDR.G2.S_N

ILA_DDR.G3.D0_P	ILB_DDR.G3.D0_P
ILA_DDR.G3.D0_N	ILB_DDR.G3.D0_N
ILA_DDR.G3.D1_P	ILB_DDR.G3.D1_P
ILA_DDR.G3.D1_N	ILB_DDR.G3.D1_N
ILA_DDR.G3.D2_P	ILB_DDR.G3.D2_P
ILA_DDR.G3.D2_N	ILB_DDR.G3.D2_N
ILA_DDR.G3.D3_P	ILB_DDR.G3.D3_P
ILA_DDR.G3.D3_N	ILB_DDR.G3.D3_N
ILA_DDR.G3.D4_P	ILB_DDR.G3.D4_P
ILA_DDR.G3.D4_N	ILB_DDR.G3.D4_N
ILA_DDR.G3.S_P	ILB_DDR.G3.S_P
ILA_DDR.G3.S_N	ILB_DDR.G3.S_N

PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



A



ILA.SDR.G13.C_P	ILB.SDR.G13.C_P
ILA.SDR.G13.C_N	ILB.SDR.G13.C_N
ILA.SDR.G13.D0_P	ILB.SDR.G13.D1_P
ILA.SDR.G13.D0_N	ILB.SDR.G13.D1_N
ILA.SDR.G13.D1_P	ILB.SDR.G13.D0_P
ILA.SDR.G13.D1_N	ILB.SDR.G13.D0_N
ILA.SDR.G13.D2_P	ILB.SDR.G13.D3_P
ILA.SDR.G13.D2_N	ILB.SDR.G13.D3_N
ILA.SDR.G13.D3_P	ILB.SDR.G13.D2_P
ILA.SDR.G13.D3_N	ILB.SDR.G13.D2_N
ILA.SDR.G13.D4_P	ILB.SDR.G13.D4_P
ILA.SDR.G13.D4_N	ILB.SDR.G13.D4_N
ILA.SDR.G13.D5_P	ILB.SDR.G13.D5_P
ILA.SDR.G13.D5_N	ILB.SDR.G13.D5_N
ILA.SDR.G13.D6	ILB.SDR.G13.D6
	○
ILA.SDR.G8.D0_P	ILB.SDR.G8.D0_P
ILA.SDR.G8.D0_N	ILB.SDR.G8.D0_N
ILA.SDR.G8.D1_P	ILB.SDR.G8.D1_P
ILA.SDR.G8.D1_N	ILB.SDR.G8.D1_N
ILA.SDR.G8.D2_P	ILB.SDR.G8.D2_P
ILA.SDR.G8.D2_N	ILB.SDR.G8.D2_N
ILA.SDR.G8.D3_P	ILB.SDR.G8.D3_P
ILA.SDR.G8.D3_N	ILB.SDR.G8.D3_N

A

B

ILA_DDR.G0.D3_P	ILB_DDR.G0.D0_P
ILA_DDR.G0.D3_N	ILB_DDR.G0.D0_N
ILA_DDR.G0.D2_P	ILB_DDR.G0.D1_P
ILA_DDR.G0.D2_N	ILB_DDR.G0.D1_N
ILA_DDR.G0.D1_P	ILB_DDR.G0.D2_P
ILA_DDR.G0.D1_N	ILB_DDR.G0.D2_N
ILA_DDR.G0.D0_P	ILB_DDR.G0.D3_P
ILA_DDR.G0.D0_N	ILB_DDR.G0.D3_N
ILA_DDR.G0.D4_P	ILB_DDR.G0.D4_P
ILA_DDR.G0.D4_N	ILB_DDR.G0.D4_N
ILA_DDR.G0.S_P	ILB_DDR.G0.S_P
ILA_DDR.G0.S_N	ILB_DDR.G0.S_N
ILA_DDR.G1.D0_P	ILB_DDR.G1.D0_P
ILA_DDR.G1.D0_N	ILB_DDR.G1.D0_N
ILA_DDR.G1.D1_P	ILB_DDR.G1.D1_P
ILA_DDR.G1.D1_N	ILB_DDR.G1.D1_N
ILA_DDR.G1.D2_P	ILB_DDR.G1.D2_P
ILA_DDR.G1.D2_N	ILB_DDR.G1.D2_N
ILA_DDR.G1.D4_P	ILB_DDR.G1.D3_P
ILA_DDR.G1.D4_N	ILB_DDR.G1.D3_N
ILA_DDR.G1.D3_P	ILB_DDR.G1.D4_P
ILA_DDR.G1.D3_N	ILB_DDR.G1.D4_N
ILA_DDR.G1.S_P	ILB_DDR.G1.S_P
ILA_DDR.G1.S_N	ILB_DDR.G1.S_N
ILA_DDR.G2.D0_P	ILB_DDR.G2.D0_P
ILA_DDR.G2.D0_N	ILB_DDR.G2.D0_N
ILA_DDR.G2.D1_P	ILB_DDR.G2.D1_P
ILA_DDR.G2.D1_N	ILB_DDR.G2.D1_N
ILA_DDR.G2.D2_P	ILB_DDR.G2.D2_P
ILA_DDR.G2.D2_N	ILB_DDR.G2.D2_N
ILA_DDR.G2.D3_P	ILB_DDR.G2.D3_P
ILA_DDR.G2.D3_N	ILB_DDR.G2.D3_N
ILA_DDR.G2.D4_P	ILB_DDR.G2.D4_P
ILA_DDR.G2.D4_N	ILB_DDR.G2.D4_N
ILA_DDR.G2.S_P	ILB_DDR.G2.S_P
ILA_DDR.G2.S_N	ILB_DDR.G2.S_N
ILA_DDR.G3.D3_P	ILB_DDR.G3.D0_P
ILA_DDR.G3.D3_N	ILB_DDR.G3.D0_N
ILA_DDR.G3.D2_P	ILB_DDR.G3.D1_P
ILA_DDR.G3.D2_N	ILB_DDR.G3.D1_N
ILA_DDR.G3.D1_P	ILB_DDR.G3.D2_P
ILA_DDR.G3.D1_N	ILB_DDR.G3.D2_N
ILA_DDR.G3.D0_P	ILB_DDR.G3.D3_P
ILA_DDR.G3.D0_N	ILB_DDR.G3.D3_N
ILA_DDR.G3.D4_P	ILB_DDR.G3.D4_P
ILA_DDR.G3.D4_N	ILB_DDR.G3.D4_N
ILA_DDR.G3.S_P	ILB_DDR.G3.S_P
ILA_DDR.G3.S_N	ILB_DDR.G3.S_N

B

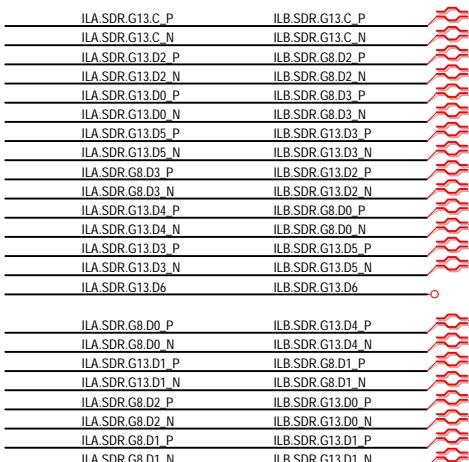
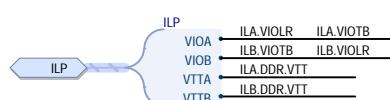
C

D

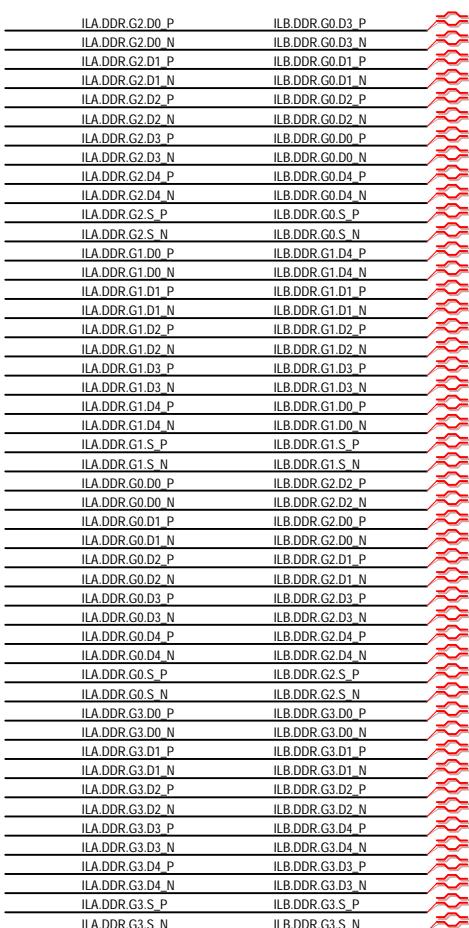
PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



A



B



C

PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



## Title Copper Suicide - Net Tie 07:07

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 29 of 47	Date 6/16/2017

A

A

B

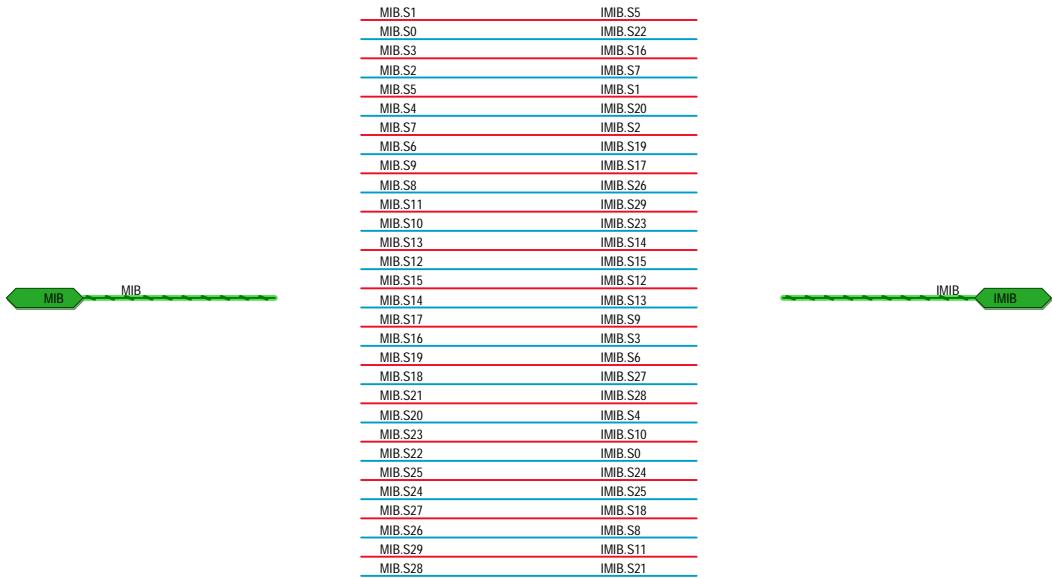
B

C

C

D

D



PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



Title  
**Copper Suicide - Net Tie MIB**

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 30 of 47	Date 6/16/2017

A

A

B

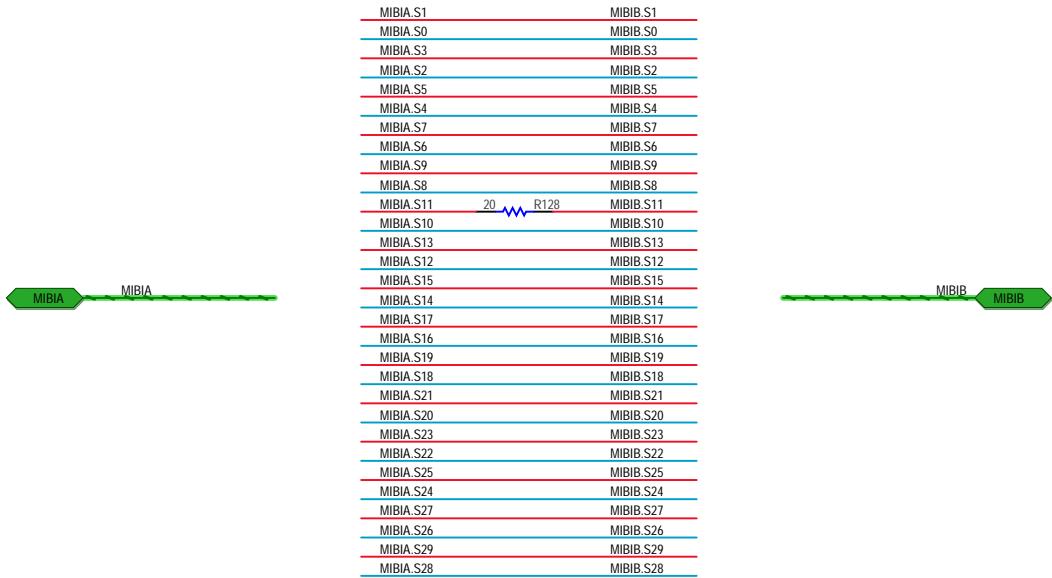
B

C

C

D

D



PIN SWAPPING TO REDUCE ROUTING COMPLEXITY



Title  
**Copper Suicide - Net Tie MIB**

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 31 of 47	Date 6/16/2017

A

A

B

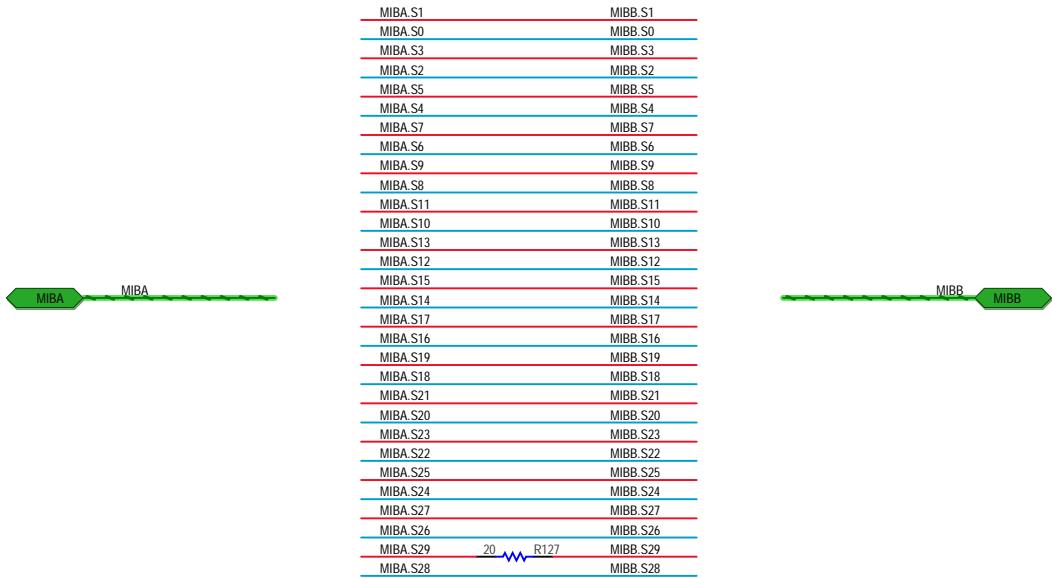
B

C

C

D

D

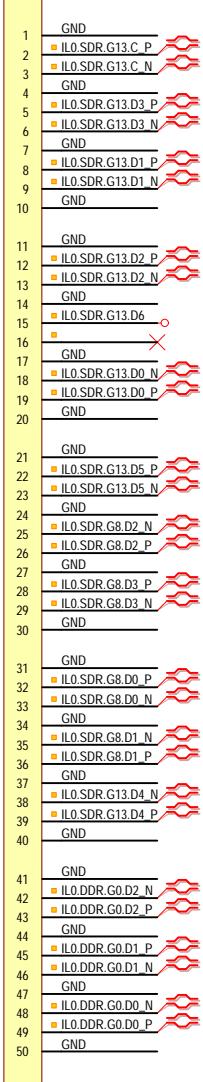


PIN SWAPPING TO REDUCE ROUTING COMPLEXITY

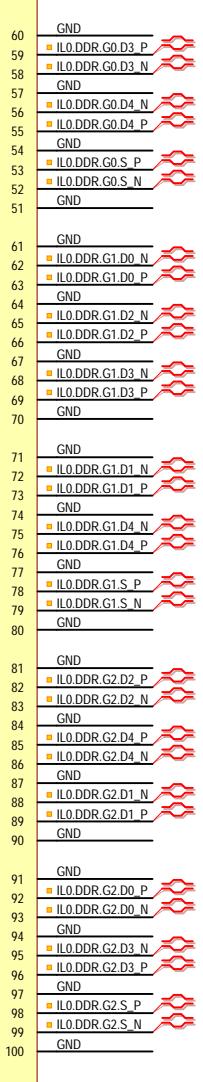


Title  
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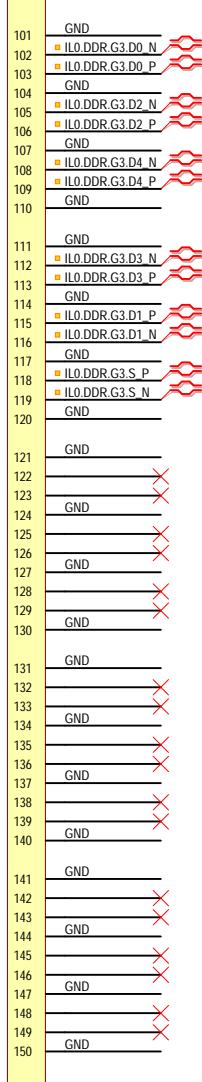
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 32 of 47	Date 6/16/2017

A  
J4A  
SEAM-40-11.0-S-10-2-A-K-TR

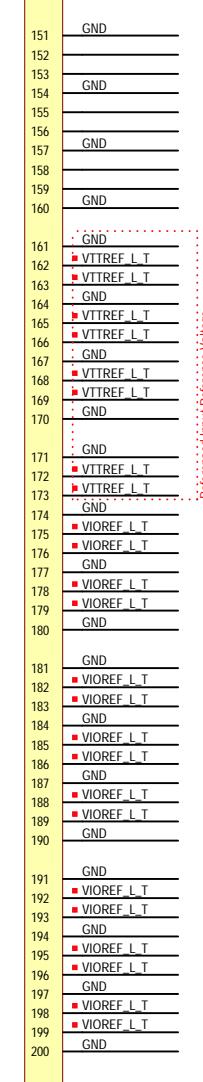
J4B



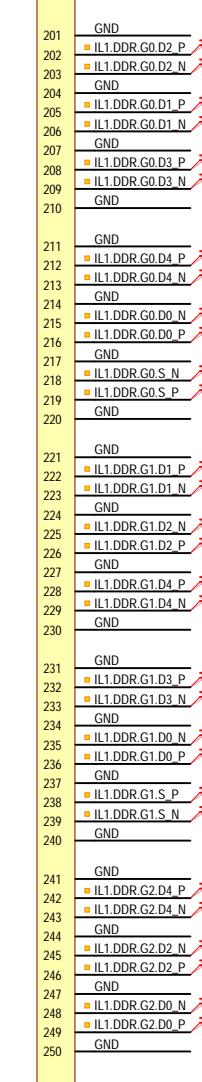
J4C



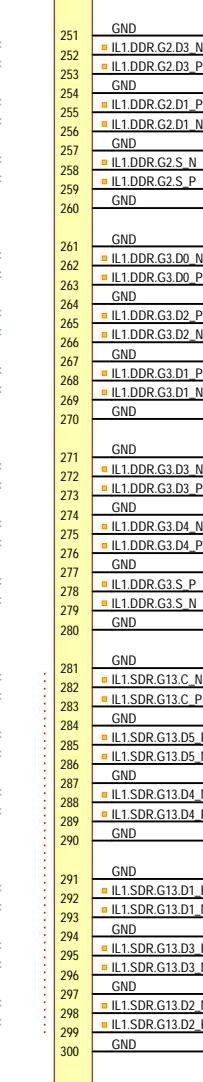
J4D



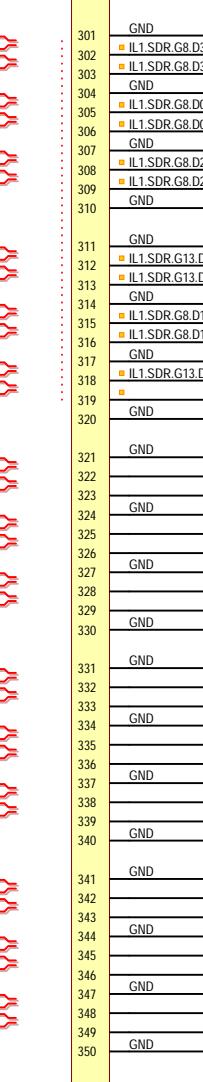
J4E



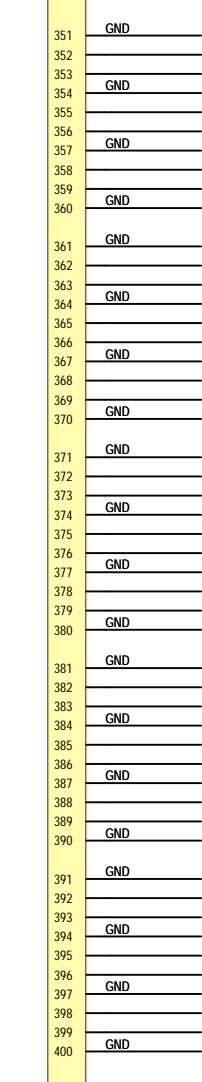
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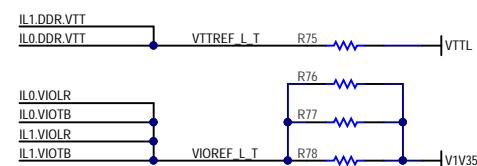
J4G



J4H



Reference Input Reference Voltage



Title  
**Copper Suicide - Left Top**

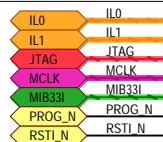
Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 33 of 47	Date 6/16/2017

1

2

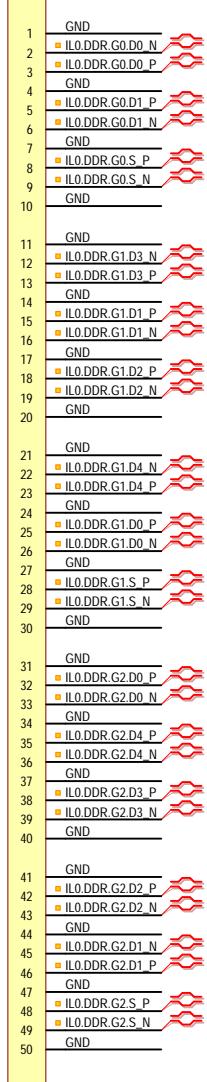
3

4

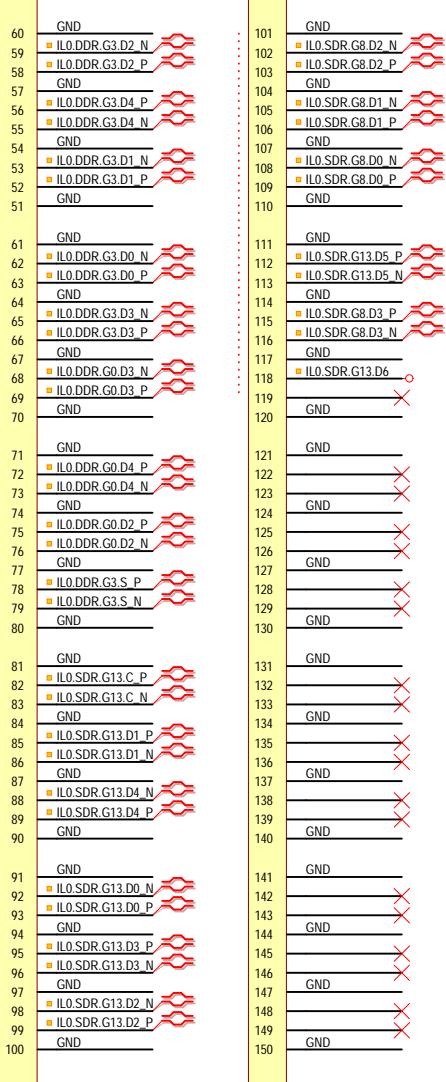


V48  
V48

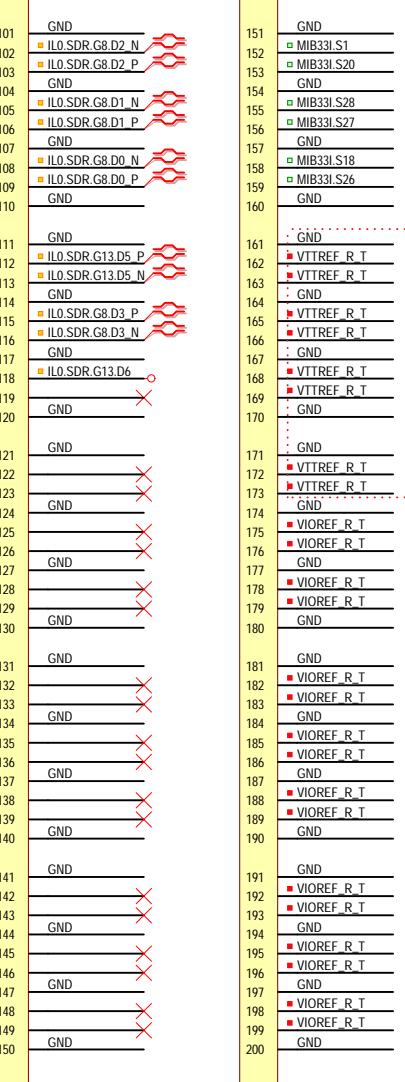
J3A  
SEAM-40-11.0-S-10-2-A-K-TR



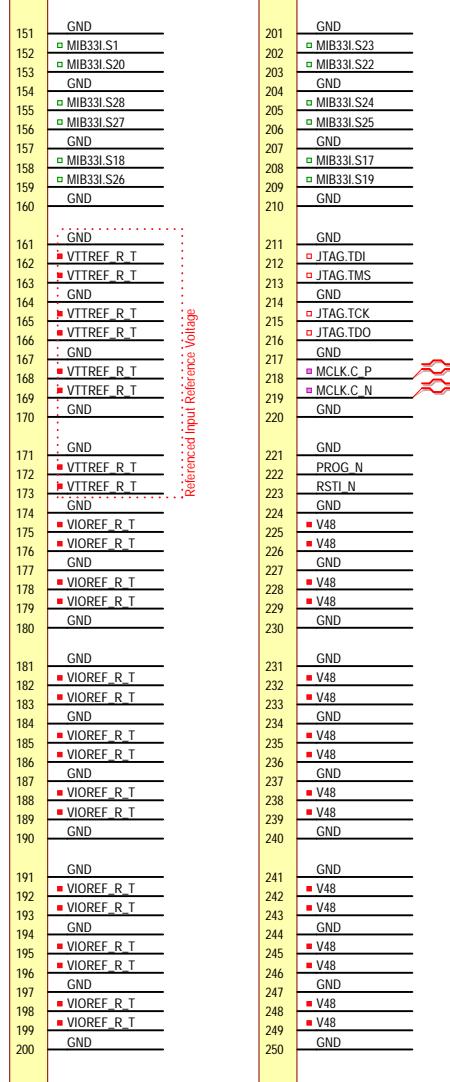
J3B



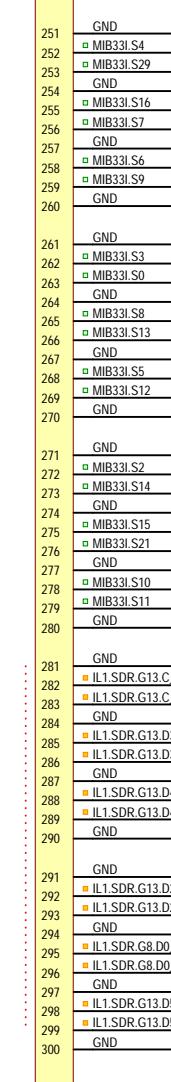
J3C



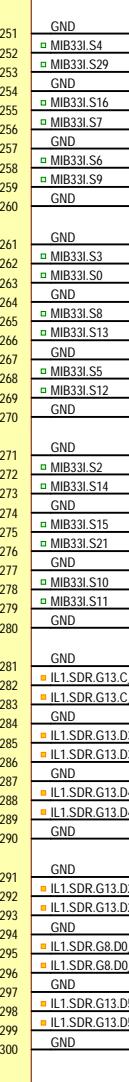
J3D



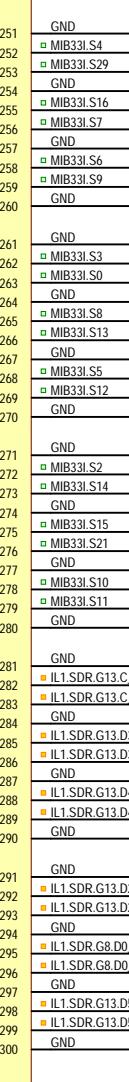
J3E



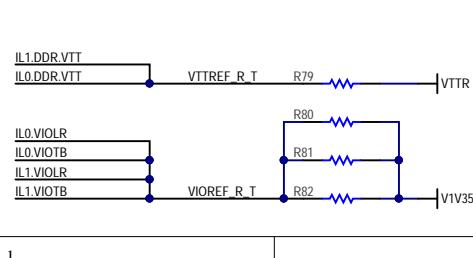
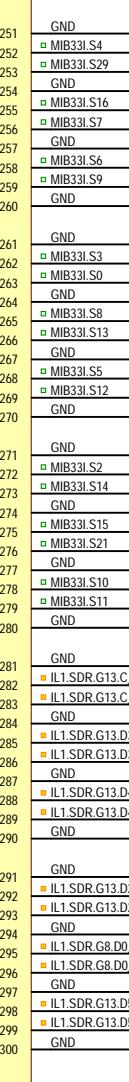
J3F



J3G



J3H



GND  
GND

Signal Laboratories  
3479 Edison Way  
Menlo Park CA 94025  
+1 (877) 778-8435  
siglabs.com

Title:  
**Copper Suicide - Right Top**

Engineer	Drawn By	Checked By
J. Brinton	J. Brinton	J. Brinton

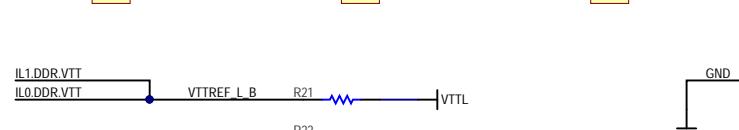
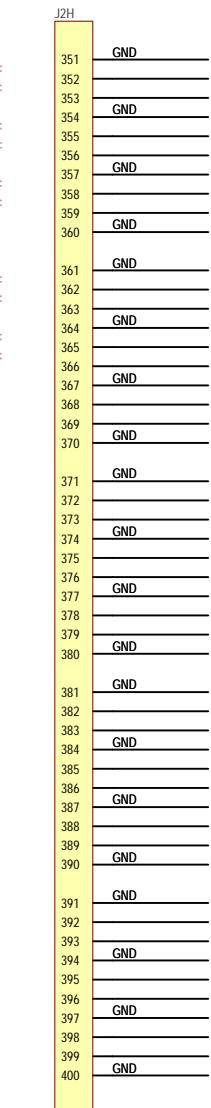
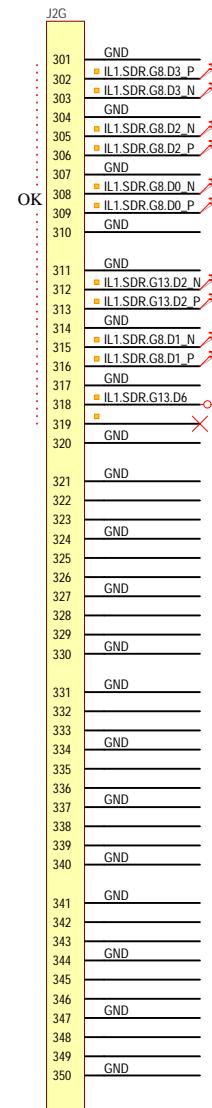
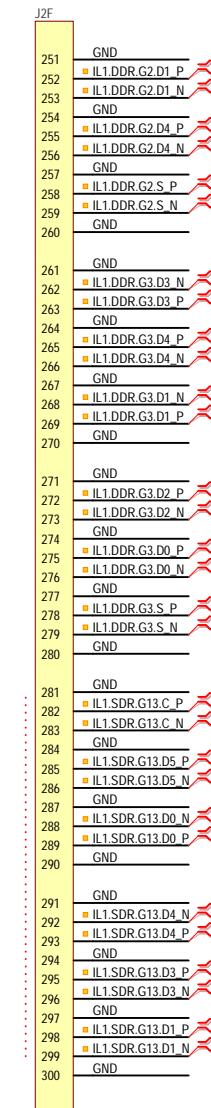
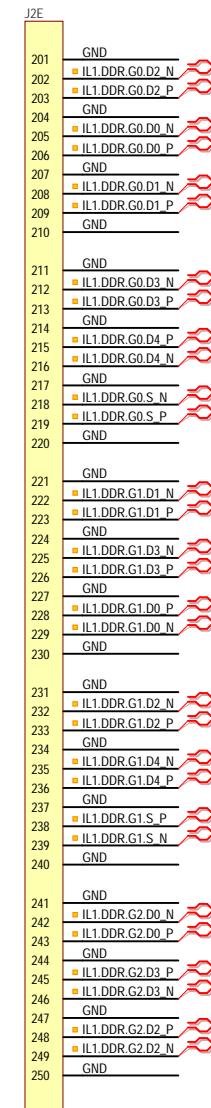
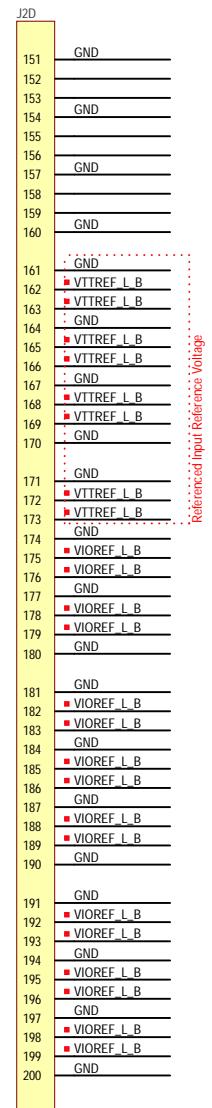
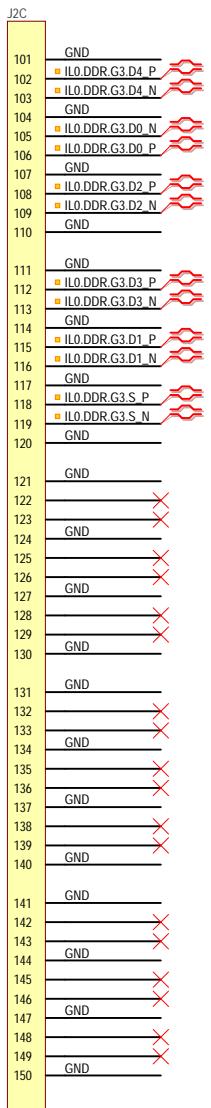
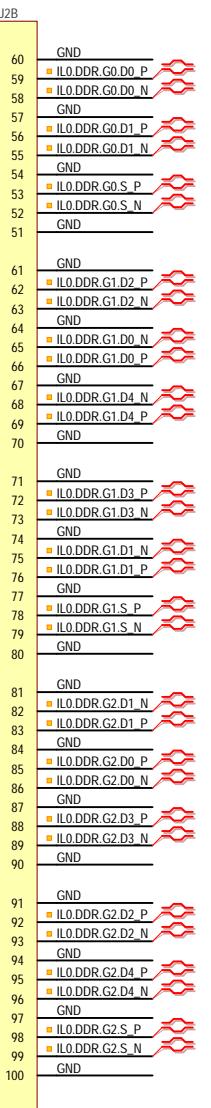
Revision 2 Date 6/16/2017

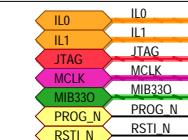


A

J2A  
SEAF-40-06-S-10-2-A-K-TR

1	GND
2	■ IL0.SDR.G13.C.N
3	■ IL0.SDR.G13.C.P
4	GND
5	■ IL0.SDR.G13.D5.N
6	■ IL0.SDR.G13.D5.P
7	GND
8	■ IL0.SDR.G13.D1.P
9	■ IL0.SDR.G13.D1.N
10	GND
11	GND
12	■ IL0.SDR.G13.D0.N
13	■ IL0.SDR.G13.D0.P
14	GND
15	■ IL0.SDR.G13.D2.N
16	■ IL0.SDR.G13.D2.P
17	GND
18	■ IL0.SDR.G13.D4.P
19	■ IL0.SDR.G13.D4.N
20	GND
21	GND
22	■ IL0.SDR.G13.D3.N
23	■ IL0.SDR.G13.D3.P
24	GND
25	■ IL0.SDR.G8.D1.P
26	■ IL0.SDR.G8.D1.N
27	GND
28	■ IL0.SDR.G8.D3.N
29	■ IL0.SDR.G8.D3.P
30	GND
31	GND
32	■ IL0.SDR.G8.D2.N
33	■ IL0.SDR.G8.D2.P
34	GND
35	■ IL0.SDR.G8.D0.P
36	■ IL0.SDR.G8.D0.N
37	GND
38	■ IL0.SDR.G13.D6
39	■ GND
40	GND
41	GND
42	■ IL0.DDR.G0.D3.P
43	■ IL0.DDR.G0.D3.N
44	GND
45	■ IL0.DDR.G0.D2.N
46	■ IL0.DDR.G0.D2.P
47	GND
48	■ IL0.DDR.G0.D4.P
49	■ IL0.DDR.G0.D4.N
50	GND





V48  
V48

J1A  
SEAF-40-06-S-10-2-A-K-TR

1	GND
2	ILO.DDR.G0.D3.P
3	ILO.DDR.G0.D3.N
4	GND
5	ILO.DDR.G0.D2.N
6	ILO.DDR.G0.D2.P
7	GND
8	ILO.DDR.G0.S.P
9	ILO.DDR.G0.S.N
10	GND
11	GND
12	ILO.DDR.G1.D2.P
13	ILO.DDR.G1.D2.N
14	GND
15	ILO.DDR.G1.D1.P
16	ILO.DDR.G1.D1.N
17	GND
18	ILO.DDR.G1.D4.P
19	ILO.DDR.G1.D4.N
20	GND
21	GND
22	ILO.DDR.G1.D3.P
23	ILO.DDR.G1.D3.N
24	GND
25	ILO.DDR.G1.D0.P
26	ILO.DDR.G1.D0.N
27	GND
28	ILO.DDR.G1.S.P
29	ILO.DDR.G1.S.N
30	GND
31	GND
32	ILO.DDR.G2.D1.P
33	ILO.DDR.G2.D1.N
34	GND
35	ILO.DDR.G2.D2.N
36	ILO.DDR.G2.D2.P
37	GND
38	ILO.DDR.G2.D0.P
39	ILO.DDR.G2.D0.N
40	GND
41	GND
42	ILO.DDR.G2.D3.N
43	ILO.DDR.G2.D3.P
44	GND
45	ILO.DDR.G2.D4.P
46	ILO.DDR.G2.D4.N
47	GND
48	ILO.DDR.G2.S.P
49	ILO.DDR.G2.S.N
50	GND

J1B

60	GND
59	ILO.SDR.G3.D0.P
58	ILO.SDR.G3.D0.N
57	GND
56	ILO.DDR.G3.D2.P
55	ILO.DDR.G3.D2.N
54	GND
53	ILO.SDR.G3.D1.N
52	ILO.SDR.G3.D1.P
51	GND
61	GND
62	ILO.SDR.G13.D3.P
63	ILO.SDR.G13.D3.N
64	GND
65	ILO.DDR.G3.D4.P
66	ILO.DDR.G3.D4.N
67	GND
68	ILO.SDR.G0.D4.P
69	ILO.SDR.G0.D4.N
70	GND
71	GND
72	ILO.DDR.G0.D0.P
73	ILO.DDR.G0.D0.N
74	GND
75	ILO.SDR.G0.D1.P
76	ILO.SDR.G0.D1.N
77	GND
78	ILO.DDR.G3.S.P
79	ILO.DDR.G3.S.N
80	GND
81	GND
82	ILO.SDR.G13.C.P
83	ILO.SDR.G13.C.N
84	GND
85	ILO.SDR.G13.D3.P
86	ILO.SDR.G13.D3.N
87	GND
88	ILO.SDR.G13.D1.P
89	ILO.SDR.G13.D1.N
90	GND
91	GND
92	ILO.SDR.G13.D2.N
93	ILO.SDR.G13.D2.P
94	GND
95	ILO.SDR.G13.D0.P
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97	GND
98	ILO.SDR.G13.D6
99	GND
100	GND

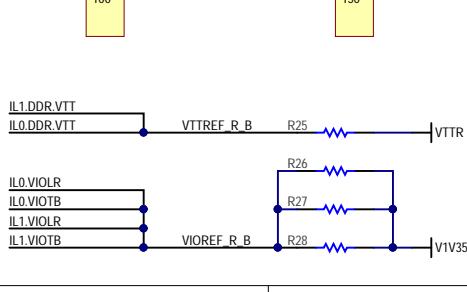
J1C

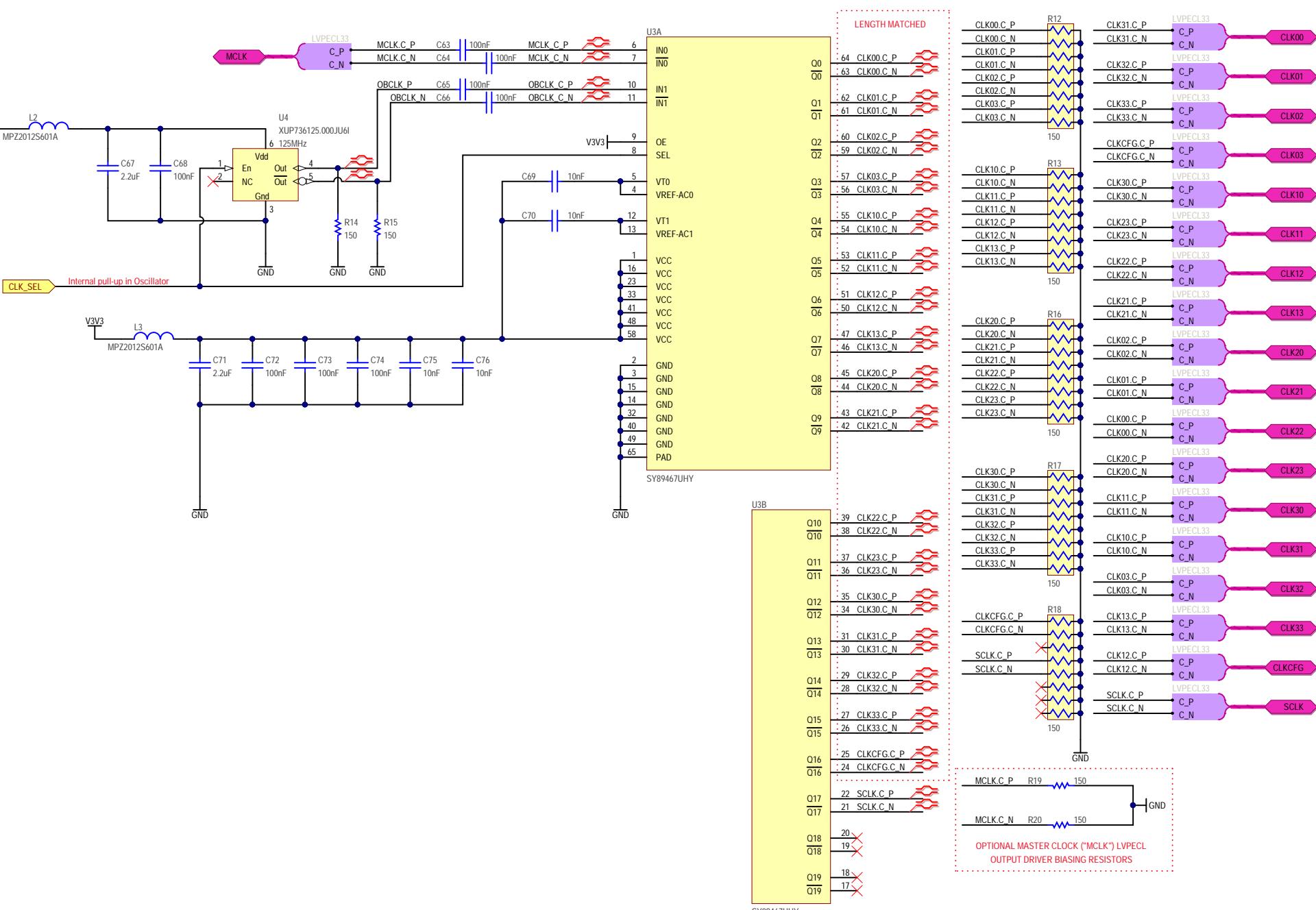
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102	ILO.SDR.G8.D1.N
103	GND
104	ILO.SDR.G8.D2.P
105	ILO.SDR.G8.D2.N
106	GND
107	ILO.SDR.G8.D3.P
108	ILO.SDR.G8.D3.N
109	GND
110	GND
111	GND
112	ILO.SDR.G13.D5.P
113	ILO.SDR.G13.D5.N
114	GND
115	ILO.SDR.G8.D0.P
116	ILO.SDR.G8.D0.N
117	GND
118	ILO.SDR.G13.D4.P
119	ILO.SDR.G13.D4.N
120	GND
121	GND
122	X
123	GND
124	GND
125	X
126	GND
127	GND
128	X
129	GND
130	GND
131	GND
132	X
133	GND
134	GND
135	X
136	GND
137	GND
138	X
139	GND
140	GND
141	GND
142	X
143	GND
144	GND
145	X
146	GND
147	GND
148	X
149	GND
150	GND

J1D

151	MIB33O.S22
152	MIB33O.S8
153	GND
154	MIB33O.S19
155	MIB33O.S16
156	GND
157	MIB33O.S27
158	MIB33O.S7
159	GND
160	GND
161	GND
162	JTAG.TDI
163	JTAG.TMS
164	GND
165	JTAG.TCK
166	GND
167	MCLK.C.P
168	JTAG.TDO
169	MCLK.C.N
170	GND
171	GND
172	VIOTREF.R.B
173	VIOTREF.R.B
174	GND
175	VIOTREF.R.B
176	GND
177	VIOTREF.R.B
178	VIOTREF.R.B
179	VIOTREF.R.B
180	GND
181	GND
182	V48
183	VIOTREF.R.B
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187	VIOTREF.R.B
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189	VIOTREF.R.B
190	GND
191	GND
192	V48
193	VIOTREF.R.B
194	GND
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196	GND
197	VIOTREF.R.B
198	VIOTREF.R.B
199	VIOTREF.R.B
200	GND
201	GND
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203	MIB33O.S25
204	GND
205	MIB33O.S14
206	MIB33O.S26
207	GND
208	MIB33O.S0
209	MIB33O.S11
210	GND
211	GND
212	MIB33O.S23
213	MIB33O.S24
214	GND
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216	GND
217	MIB33O.S18
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219	MIB33O.S29
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222	PROG.N
223	RSTI.N
224	GND
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229	V48
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232	V48
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241	GND
242	V48
243	GND
244	V48
245	GND
246	GND
247	V48
248	GND
249	V48
250	GND
251	GND
252	MIB33O.S9
253	MIB33O.S5
254	GND
255	MIB33O.S12
256	MIB33O.S15
257	GND
258	MIB33O.S10
259	MIB33O.S20
260	GND
261	GND
262	ILO.SDR.G8.D2.P
263	ILO.SDR.G8.D2.N
264	GND
265	ILO.SDR.G8.D0.P
266	ILO.SDR.G8.D0.N
267	GND
268	MIB33O.S29
269	MIB33O.S1
270	GND
271	GND
272	MIB33O.S2
273	MIB33O.S13
274	GND
275	MIB33O.S3
276	MIB33O.S6
277	GND
278	MIB33O.S28
279	MIB33O.S21
280	GND
281	GND
282	ILO.SDR.G13.C.P
283	ILO.SDR.G13.C.N
284	GND
285	ILO.SDR.G13.D2.P
286	ILO.SDR.G13.D2.N
287	GND
288	ILO.SDR.G13.D3.P
289	ILO.SDR.G13.D3.N
290	GND
291	GND
292	ILO.SDR.G13.D0.N
293	ILO.SDR.G13.D0.P
294	GND
295	ILO.SDR.G13.D1.P
296	ILO.SDR.G13.D1.N
297	GND
298	ILO.SDR.G13.D6
299	X
300	GND
301	GND
302	ILO.SDR.G13.D5.P
303	ILO.SDR.G13.D5.N
304	GND
305	ILO.SDR.G8.D1.P
306	ILO.SDR.G8.D1.N
307	GND
308	ILO.SDR.G8.D3.P
309	ILO.SDR.G8.D3.N
310	GND
311	GND
312	ILO.SDR.G2.D2.P
313	ILO.SDR.G2.D2.N
314	GND
315	ILO.SDR.G8.D0.P
316	ILO.SDR.G8.D0.N
317	GND
318	ILO.SDR.G13.D4.P
319	ILO.SDR.G13.D4.N
320	GND
321	GND
322	ILO.DDR.G0.D2.N
323	ILO.DDR.G0.D2.P
324	GND
325	ILO.DDR.G0.D4.N
326	ILO.DDR.G0.D4.P
327	GND
328	ILO.DDR.G0.D0.P
329	ILO.DDR.G0.D0.N
330	GND
331	GND
332	ILO.DDR.G0.D1.N
333	ILO.DDR.G0.D1.P
334	GND
335	ILO.DDR.G0.D3.P
336	ILO.DDR.G0.D3.N
337	GND
338	ILO.DDR.G0.S.P
339	ILO.DDR.G0.S.N
340	GND
341	GND
342	ILO.DDR.G1.D2.N
343	ILO.DDR.G1.D2.P
344	GND
345	ILO.DDR.G1.D1.N
346	ILO.DDR.G1.D1.P
347	GND
348	ILO.DDR.G1.D0.N
349	ILO.DDR.G1.D0.P
350	GND
351	GND
352	ILO.DDR.G1.D3.N
353	ILO.DDR.G1.D3.P
354	GND
355	ILO.DDR.G1.D4.P
356	ILO.DDR.G1.D4.N
357	GND
358	ILO.DDR.G1.S.P
359	ILO.DDR.G1.S.N
360	GND
361	GND
362	ILO.DDR.G2.D1.P
363	ILO.DDR.G2.D1.N
364	GND
365	ILO.DDR.G2.D1.N
366	GND
367	ILO.DDR.G2.D4.P
368	ILO.DDR.G2.D4.N
369	GND
370	GND
371	GND
372	ILO.DDR.G2.D3.P
373	ILO.DDR.G2.D3.N
374	GND
375	ILO.DDR.G2.D0.P
376	ILO.DDR.G2.D0.N
377	GND
378	ILO.DDR.G2.S.P
379	ILO.DDR.G2.S.N
380	GND
381	GND
382	ILO.DDR.G3.D4.P
383	ILO.DDR.G3.D4.N
384	GND
385	ILO.DDR.G3.D2.N
386	GND
387	ILO.DDR.G3.D2.P
388	ILO.DDR.G3.D1.N
389	GND
390	GND
391	GND
392	ILO.DDR.G3.D3.P
393	ILO.DDR.G3.D3.N
394	GND
395	ILO.DDR.G3.D0.N
396	GND
397	ILO.DDR.G3.S.P
398	ILO.DDR.G3.S.N
399	GND
400	GND

GND  
GND





REVIEW COMPLETE: JDB 10/7/2016

A

A

B

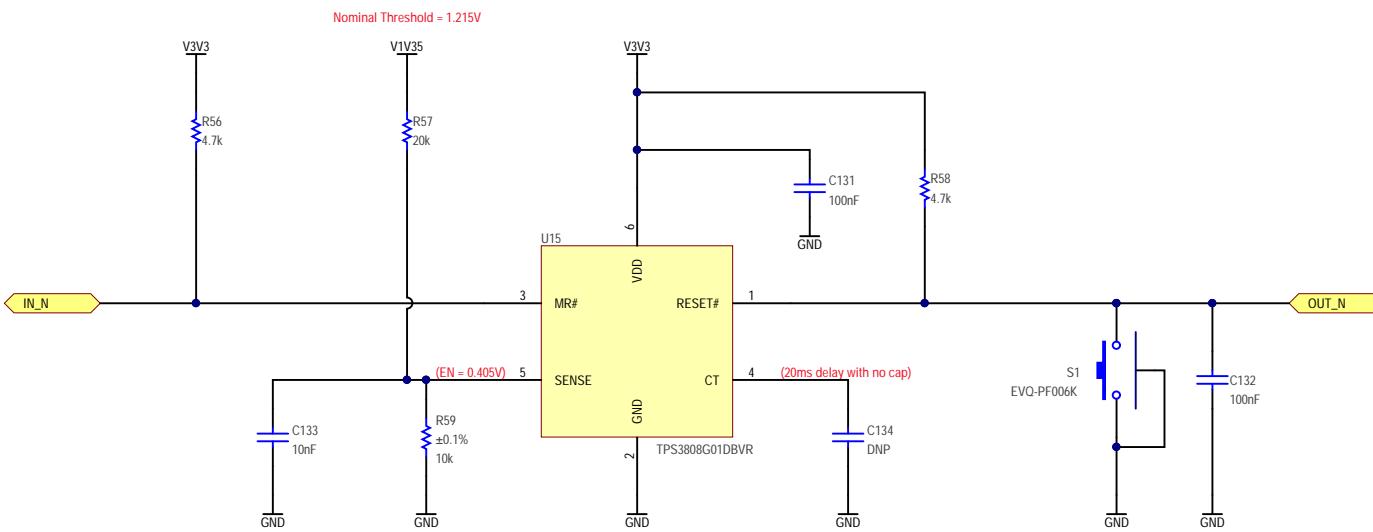
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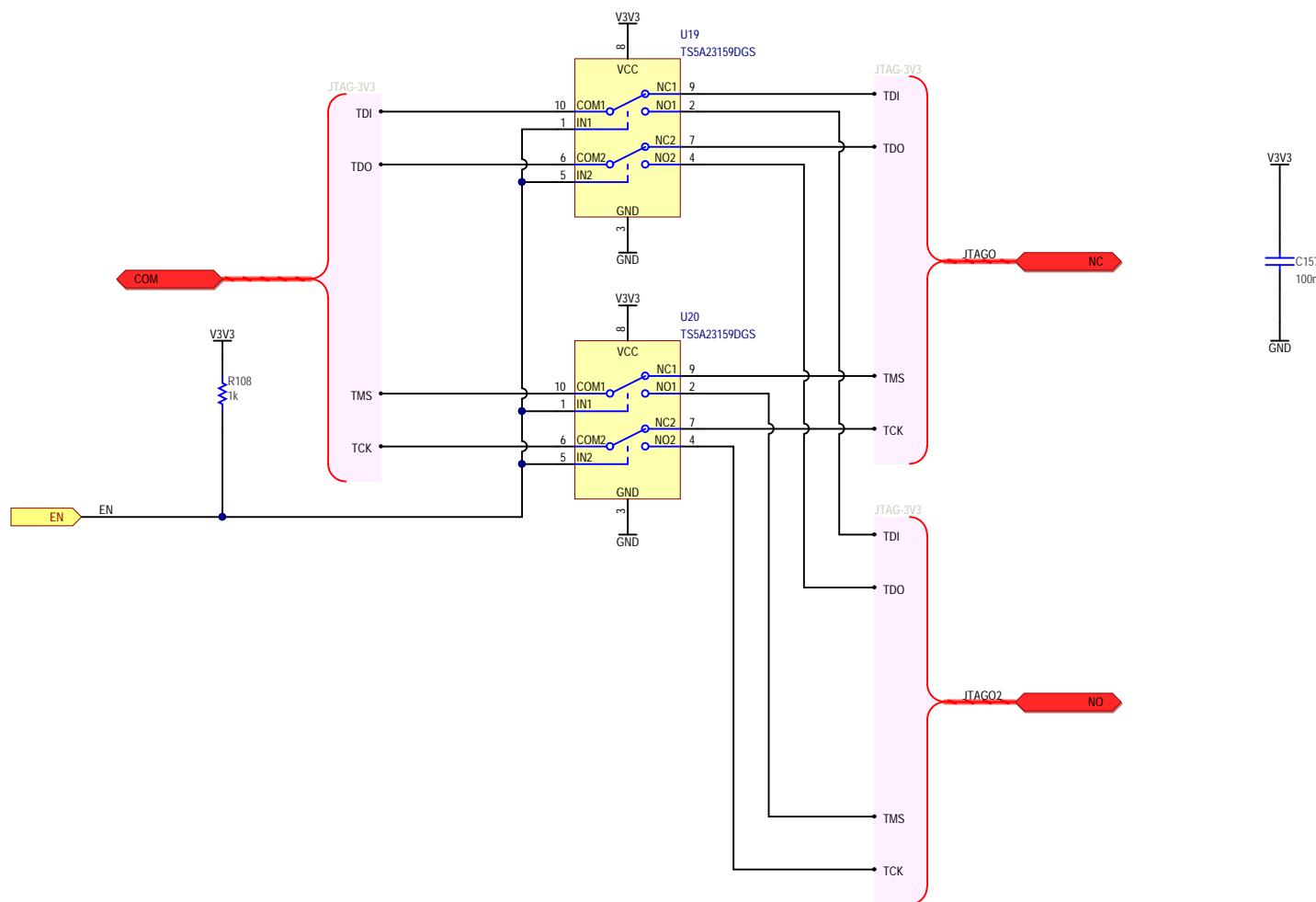
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D

D



A

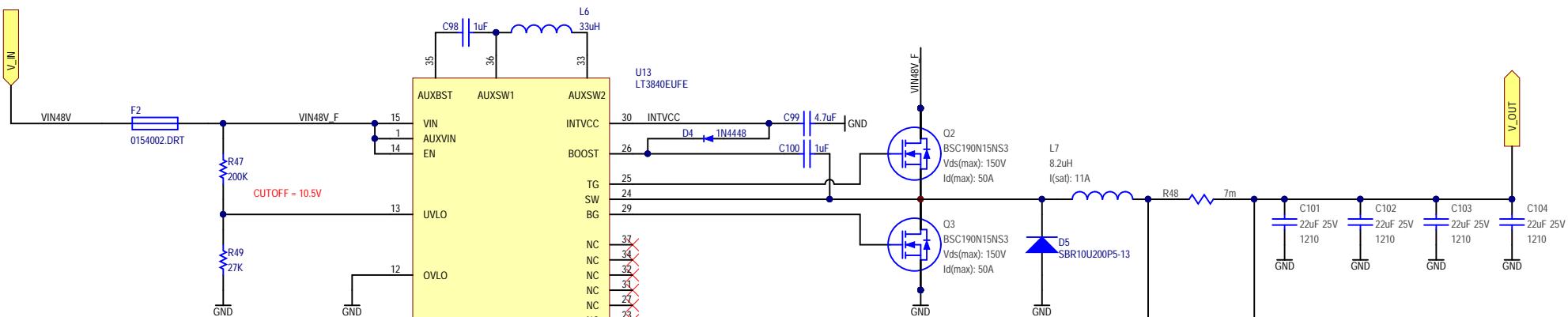


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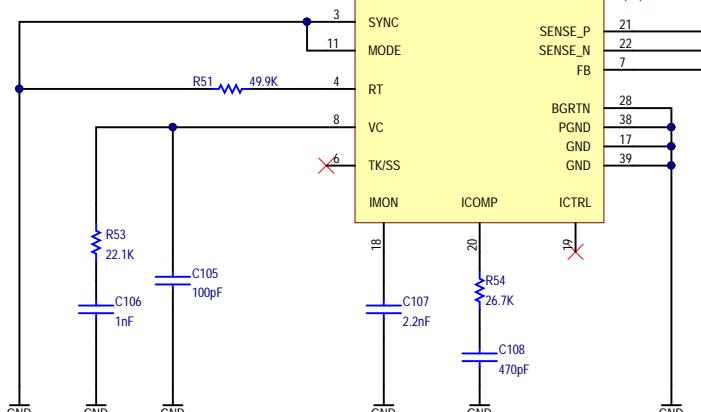
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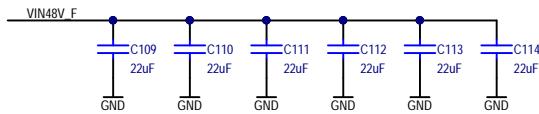
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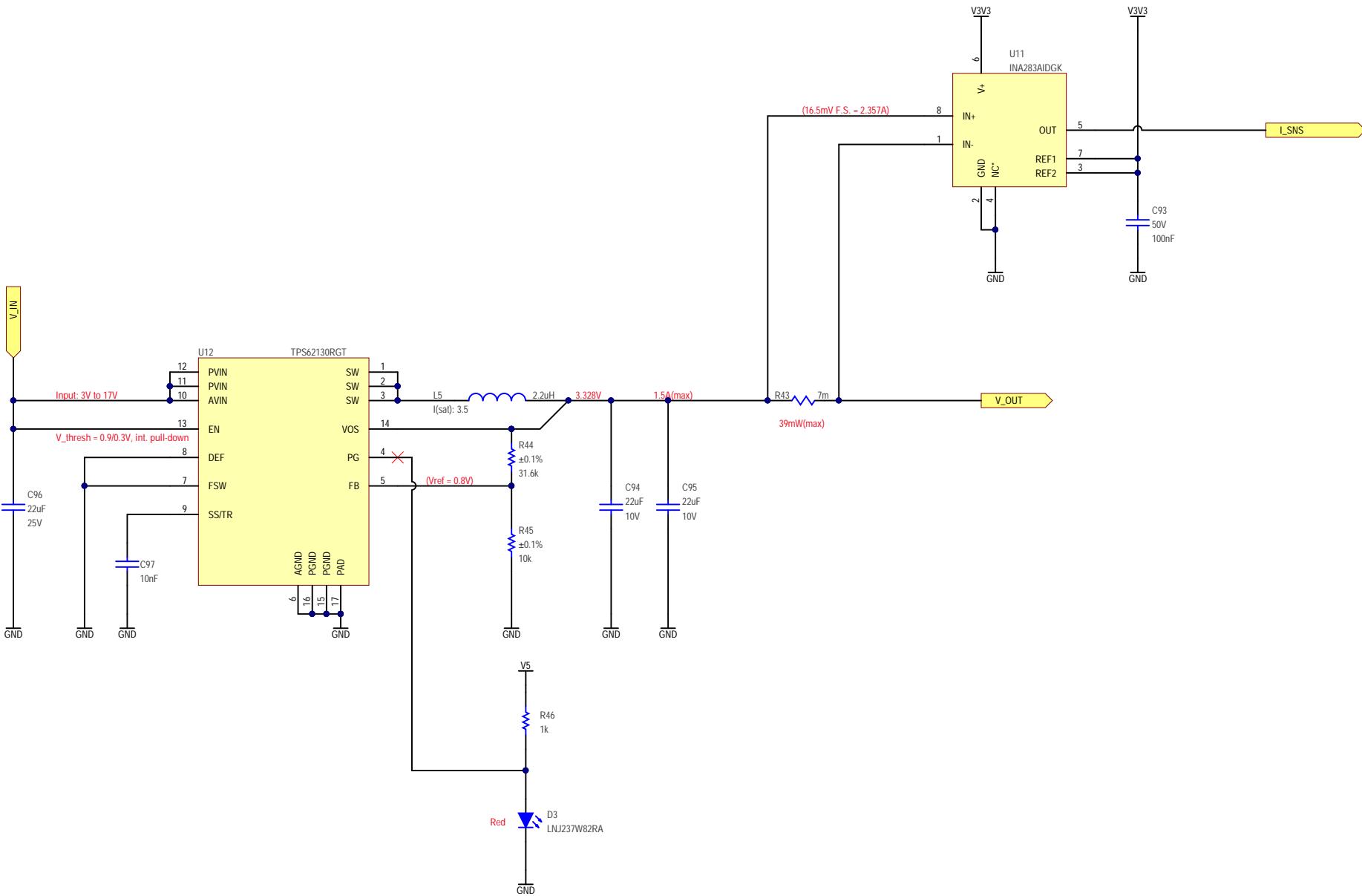


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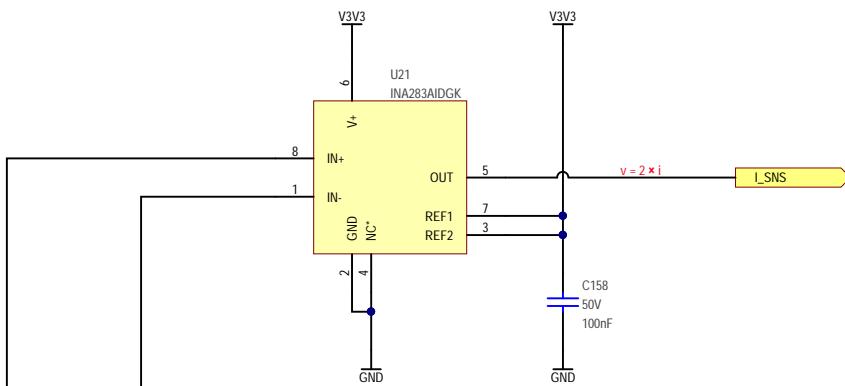


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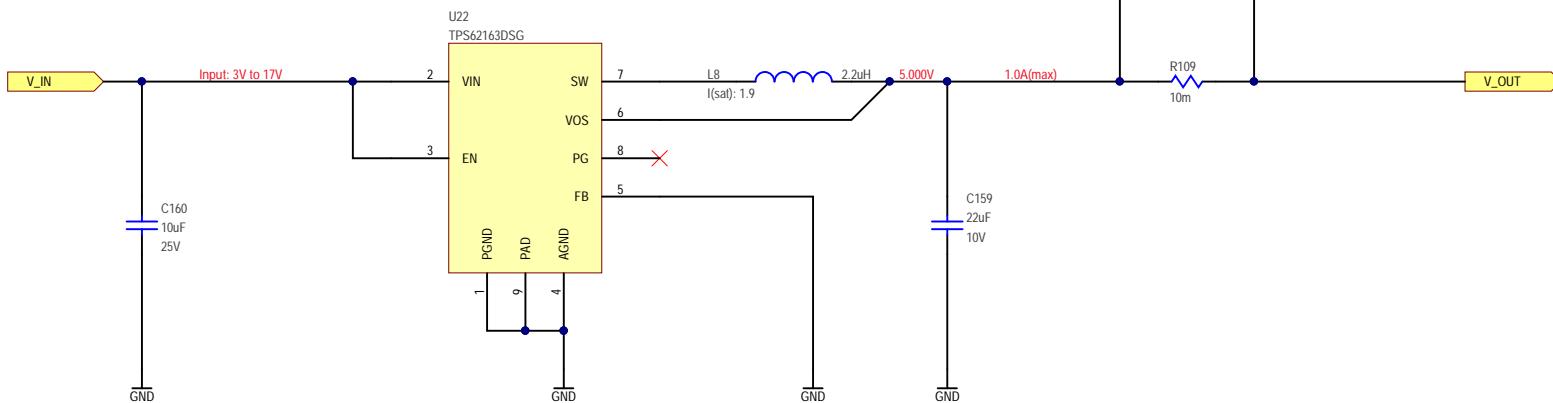




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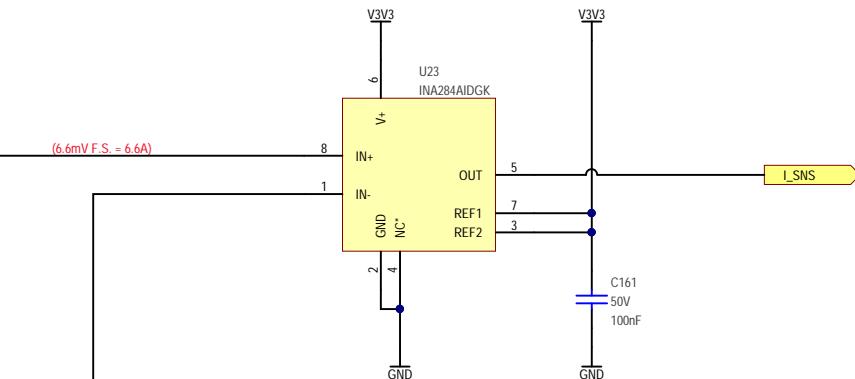
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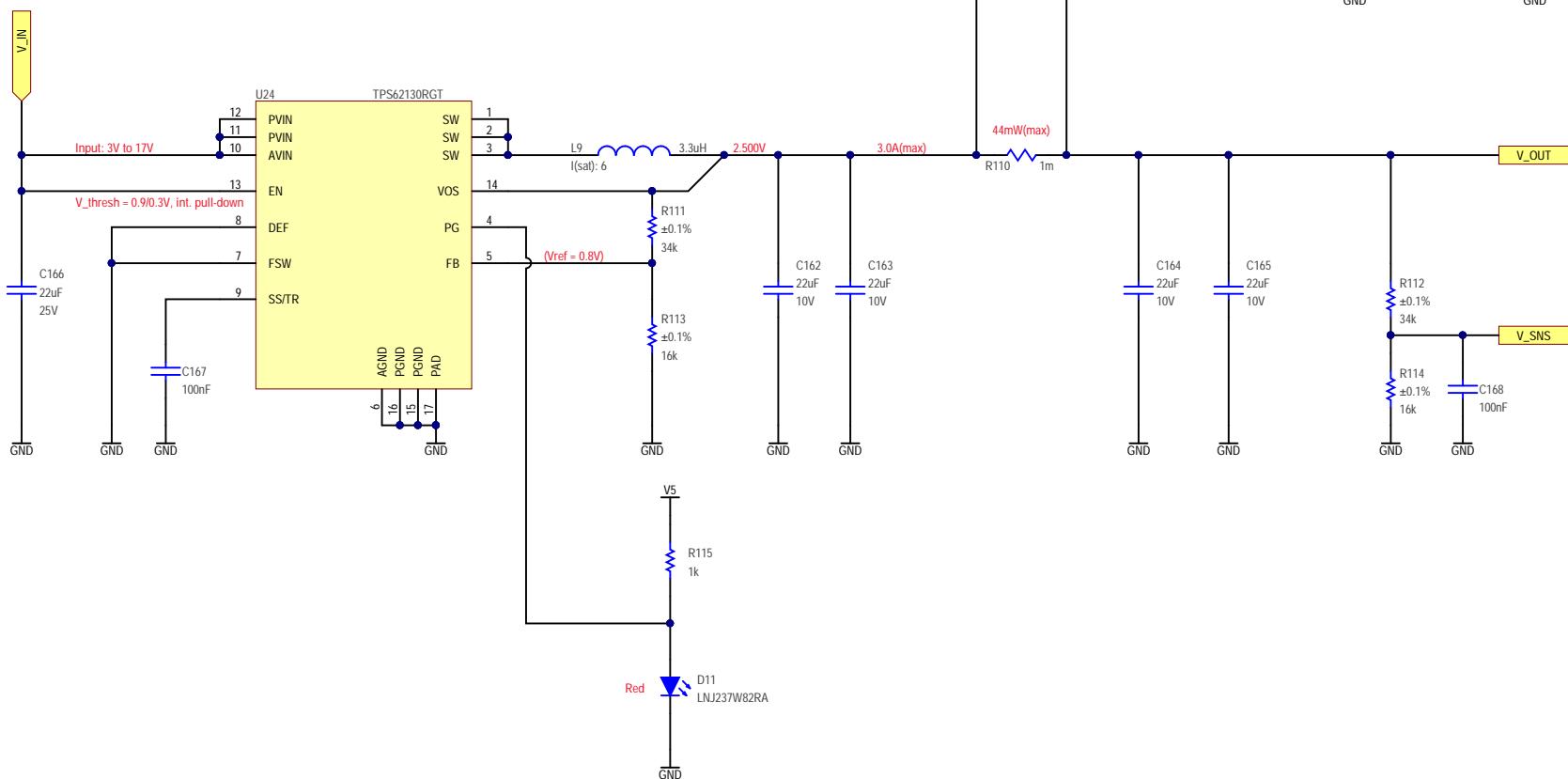
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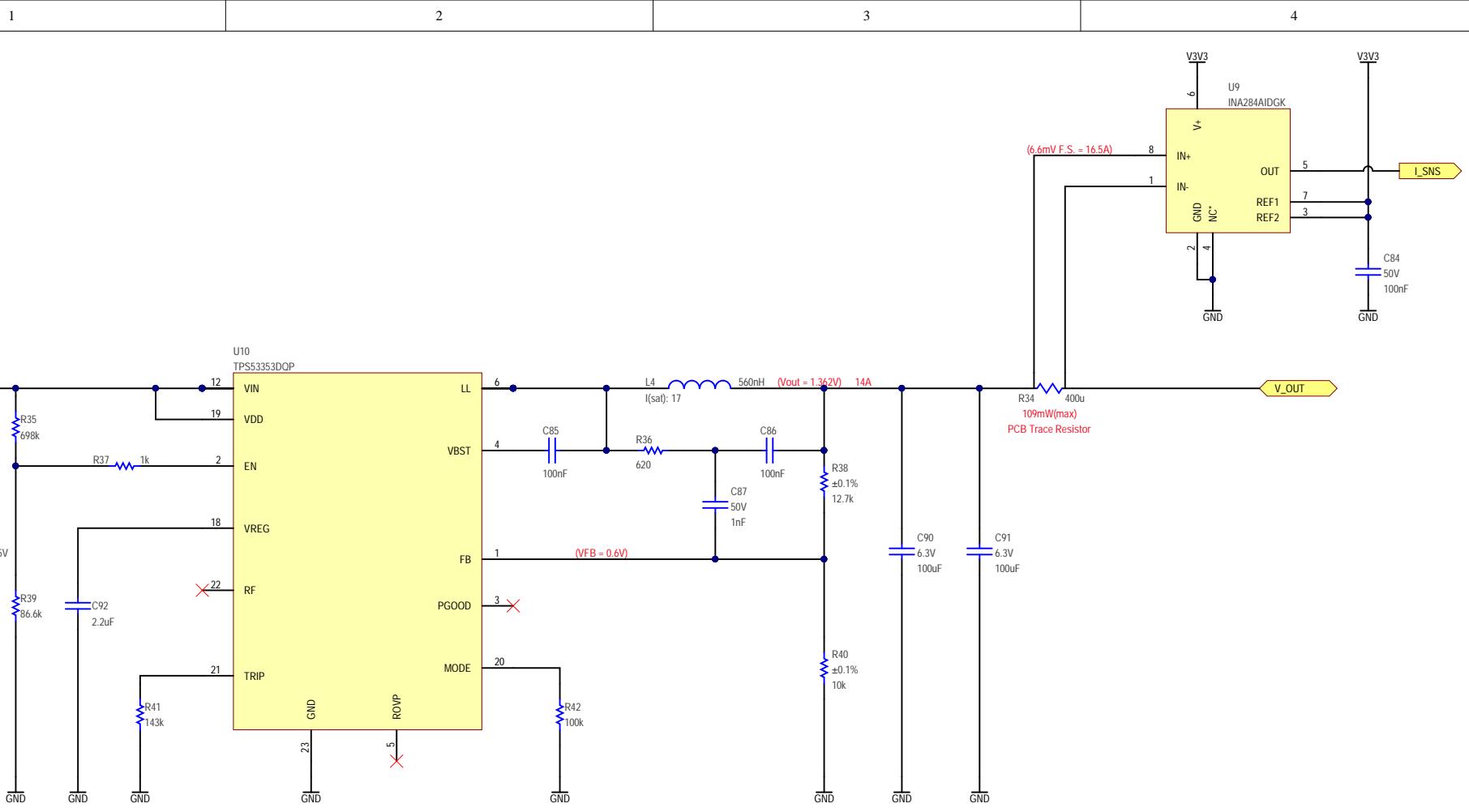
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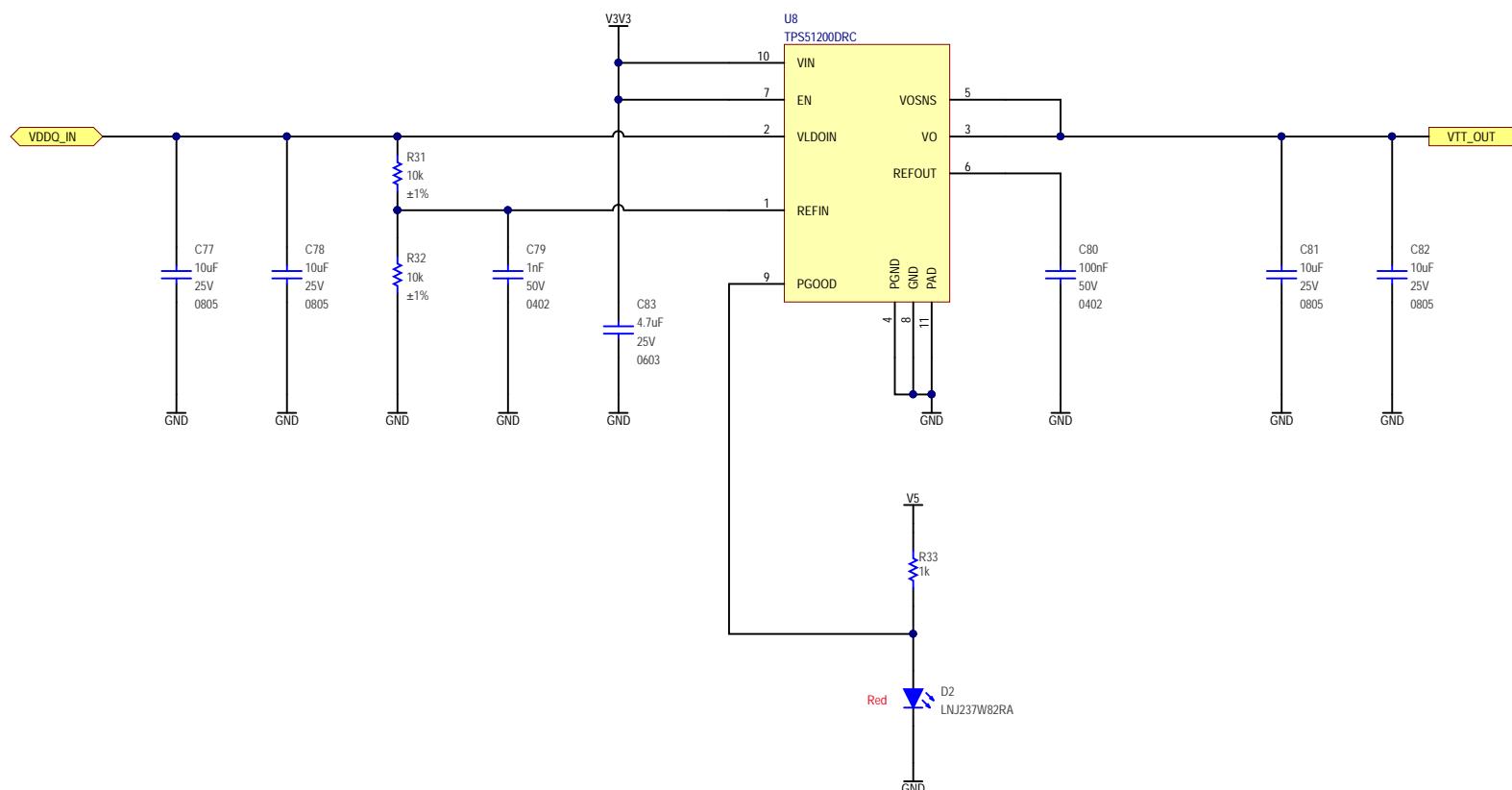
E

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3



 **Signal**  
Laboratories

3479 Edison Way Menlo Park CA 94025 +1 (877) 778-8435 siglabs.com	Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
	Revision 2	Sheet 45 of 47	Date 6/16/2017

A

A

B

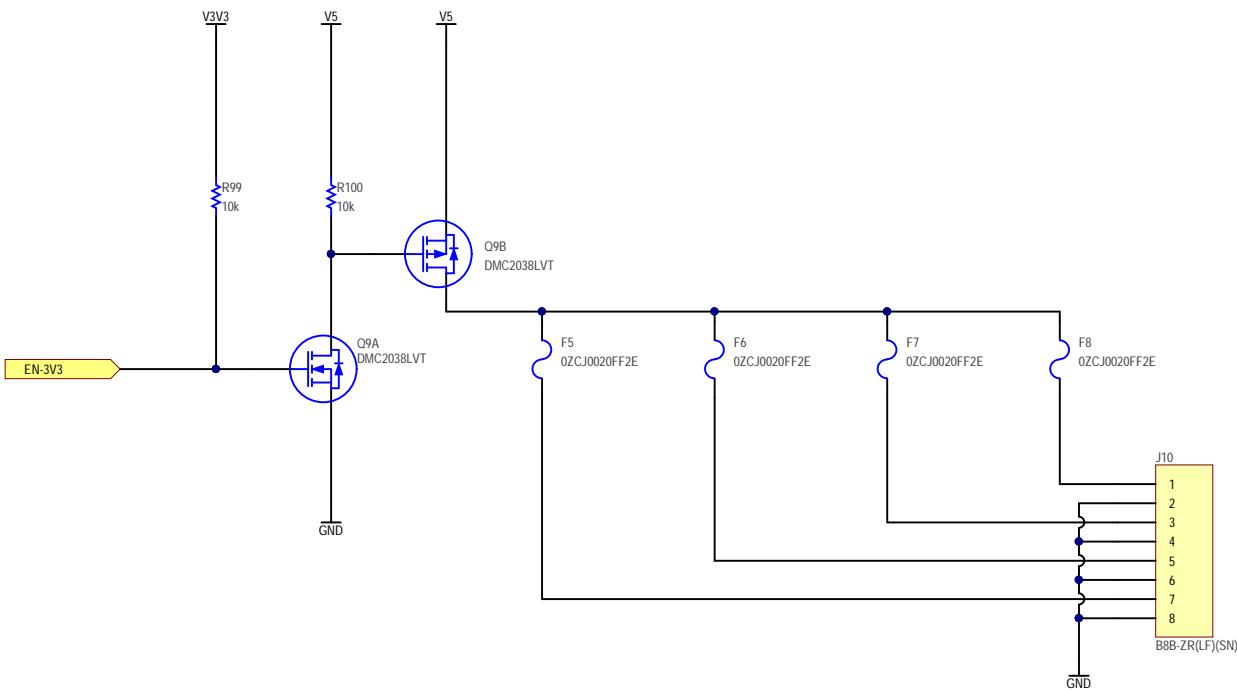
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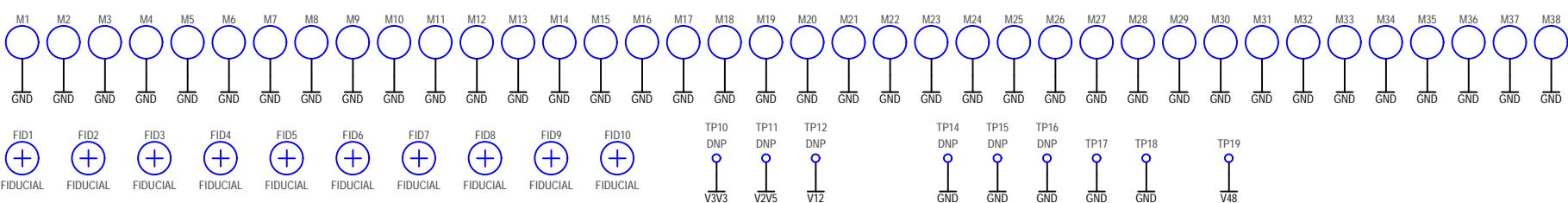
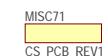
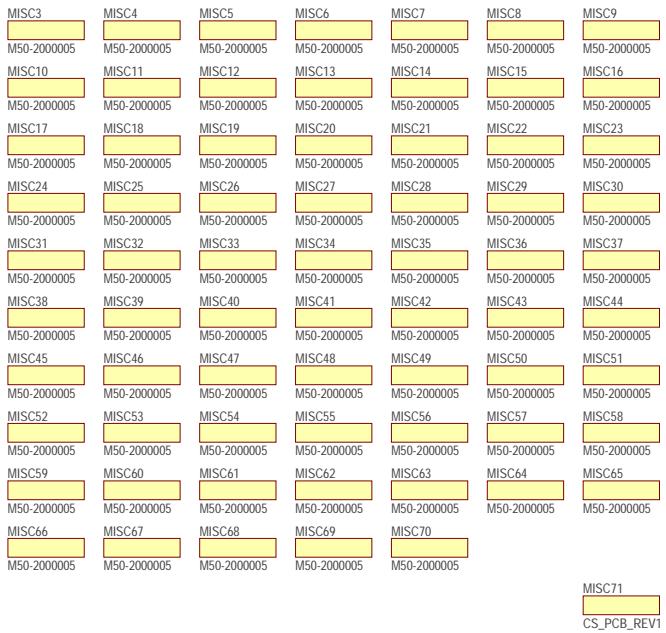
B

C

C

8

1



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## Title

# Copper Suicide - Mechanical

Engineer J. Brinton	Drawn By J. Brinton	Checked By J. Brinton
Revision 2	Sheet 47 of 47	Date 6/16/2017