History :

1.0 KHHO 20240229 Final Release with Jumper Default Connection Remark

Ti375 PCIe Early Access Board
Schematics and BOM

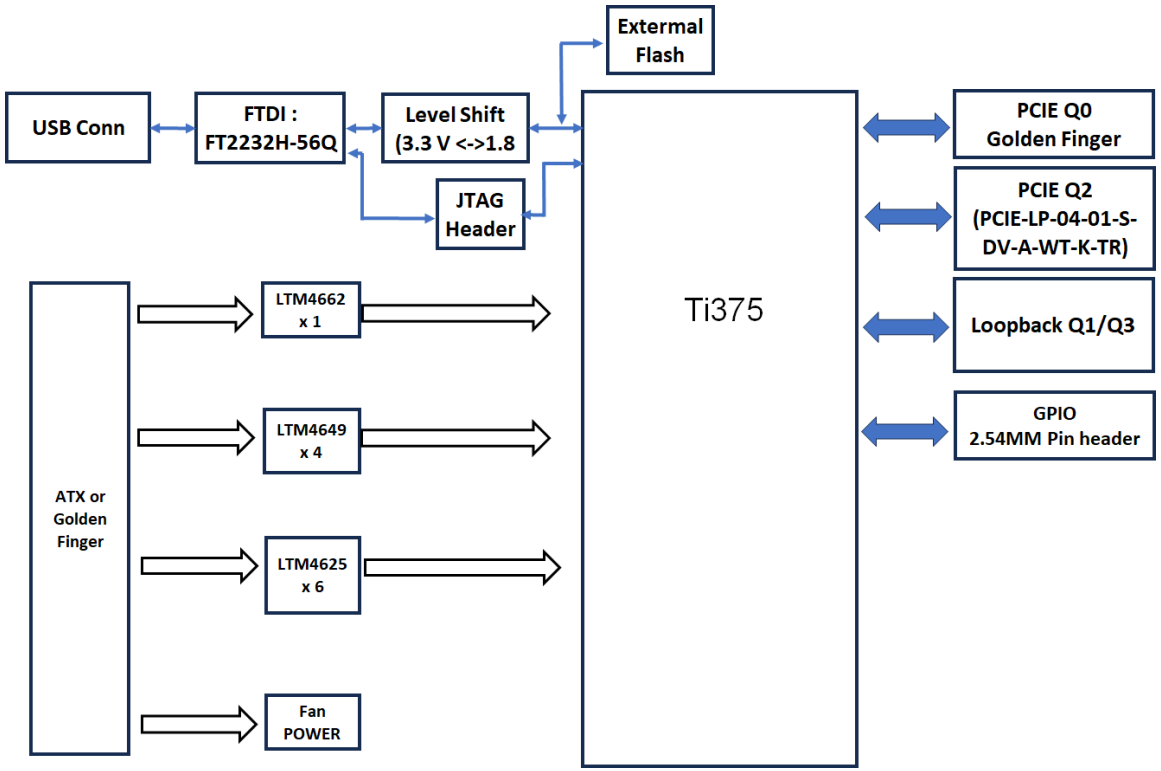
LOGO1
LOGO_EFINIX

FD1 FD_040
FD2 FD_040
FD3 FD_040
FD4 FD_040
FD5 FD_040
FD6 FD_040
FD7 FD_040
FD8 FD_040

EFINIX®

Page Name: 00_TABLE OF CONTENT	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev. <RevCode> / Size A2 / PAGE 1 of 16

BLOCK DIAGRAM



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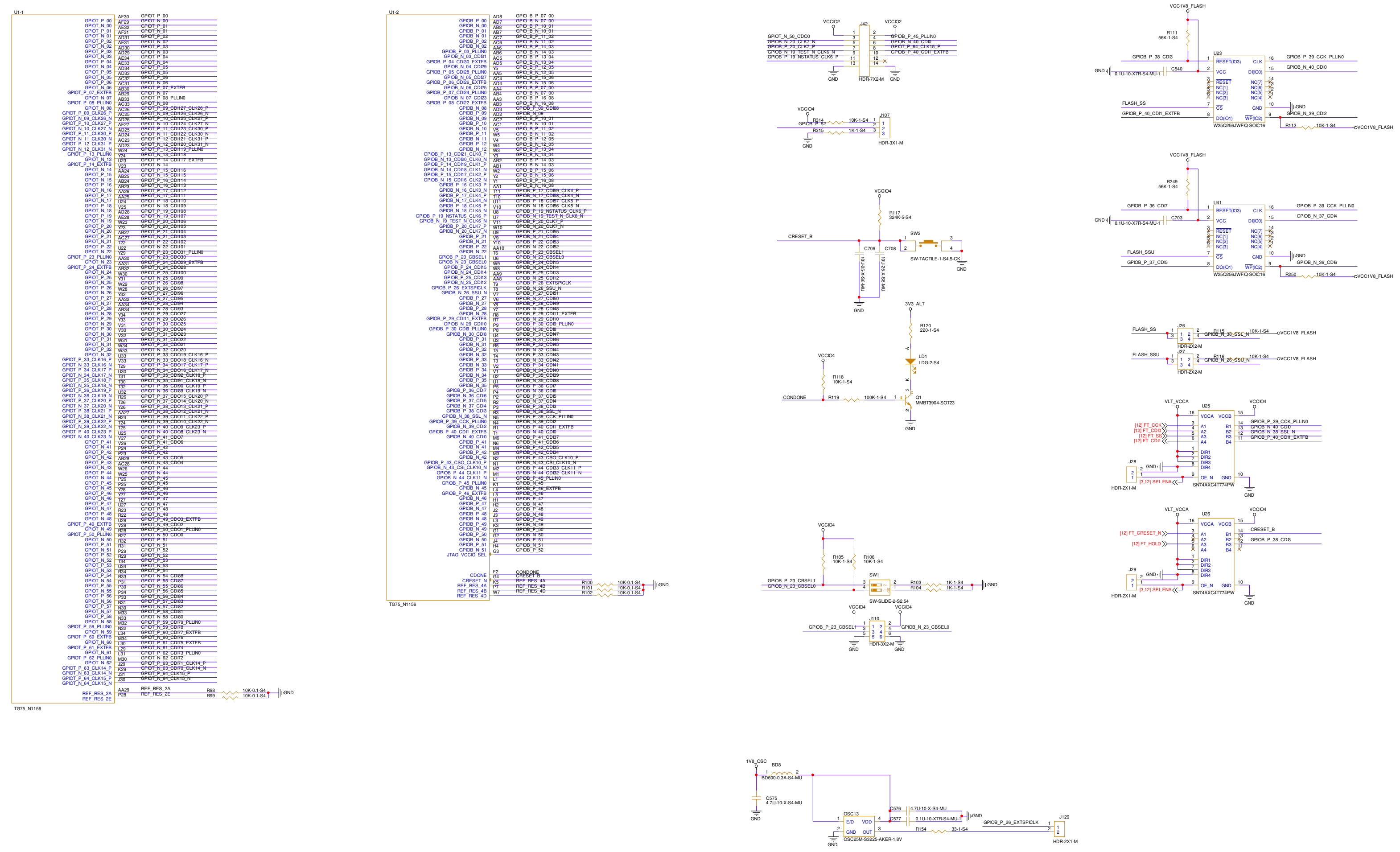
Page Name: 01_Block_Diagram	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev. <RevCode> Size A2 PAGE 2 of 16



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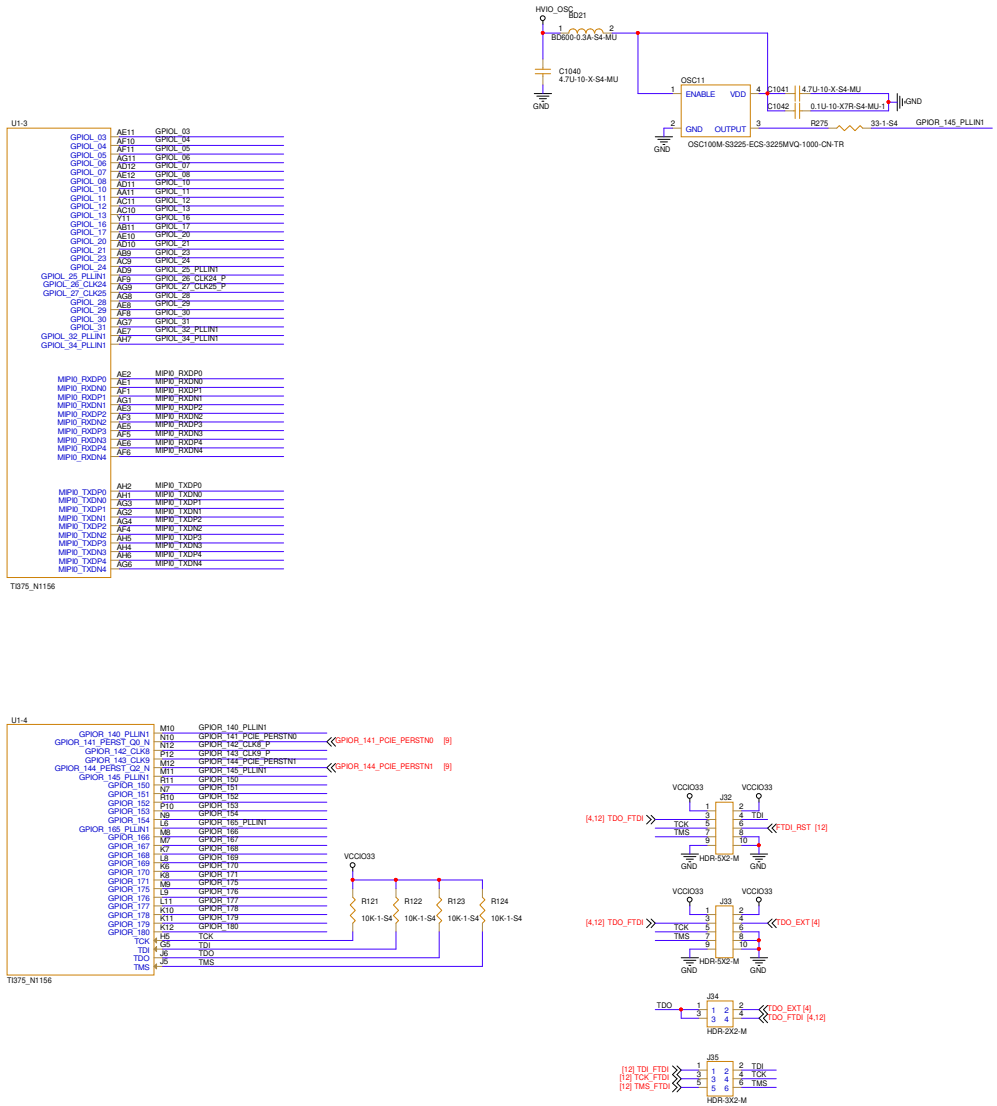
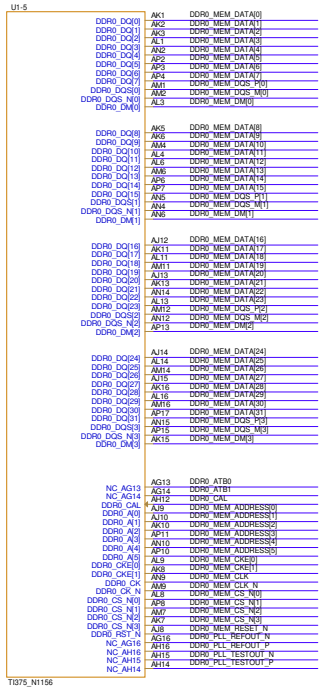
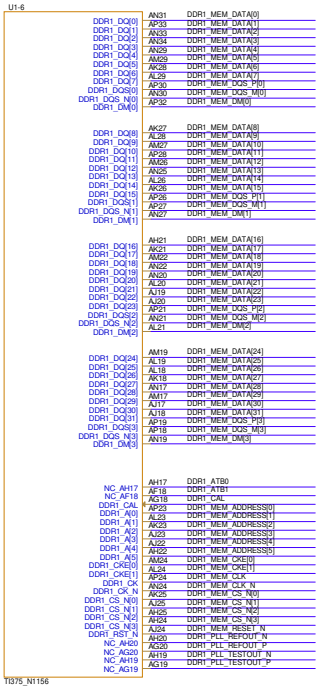
Page Name: 02_BANK2_4	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_Efinix01	Rev: <RevCode> Size: Custom PAGE: 3 of 18



EFINIX®

Page Name: 03_BL_BR_CORNER	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev: <RevCode> Size: A2 PAGE: 4 of 16





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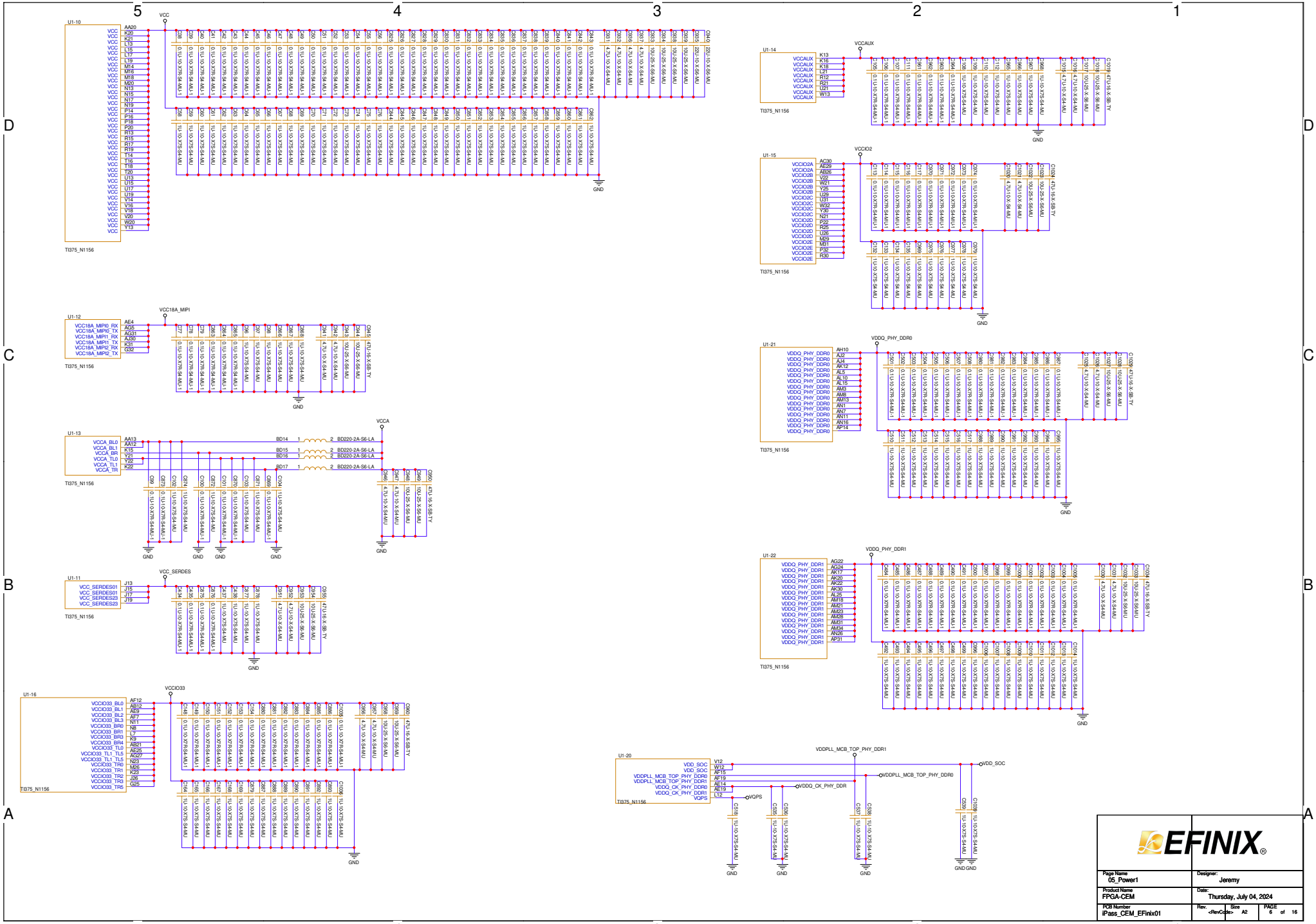
Page Name: 04_DDR	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 5 of 16


VCC
VCCAUX
VCCIO2
VDDQ_PHY_DDR0
VCC18A_MIPI
VCCA
VCC_SERDES
VDDQ_PHY_DDR1
VCCIO33
VDDPLL_MCB_TOP_PHY_DDR1
VDDPLL_MCB_TOP_PHY_DDR0
VDDQ_CK_PHY_DDR
VDD_SOC
VQPS
GND
TI375_N1156
EFINIX
Page Name
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Designer:
Jeremy
Product Name
FPGA-CEM
Date:
Thursday, July 04, 2024
PCB Number
iPass_CEM_EFinix01
Rev.
<RevCode>
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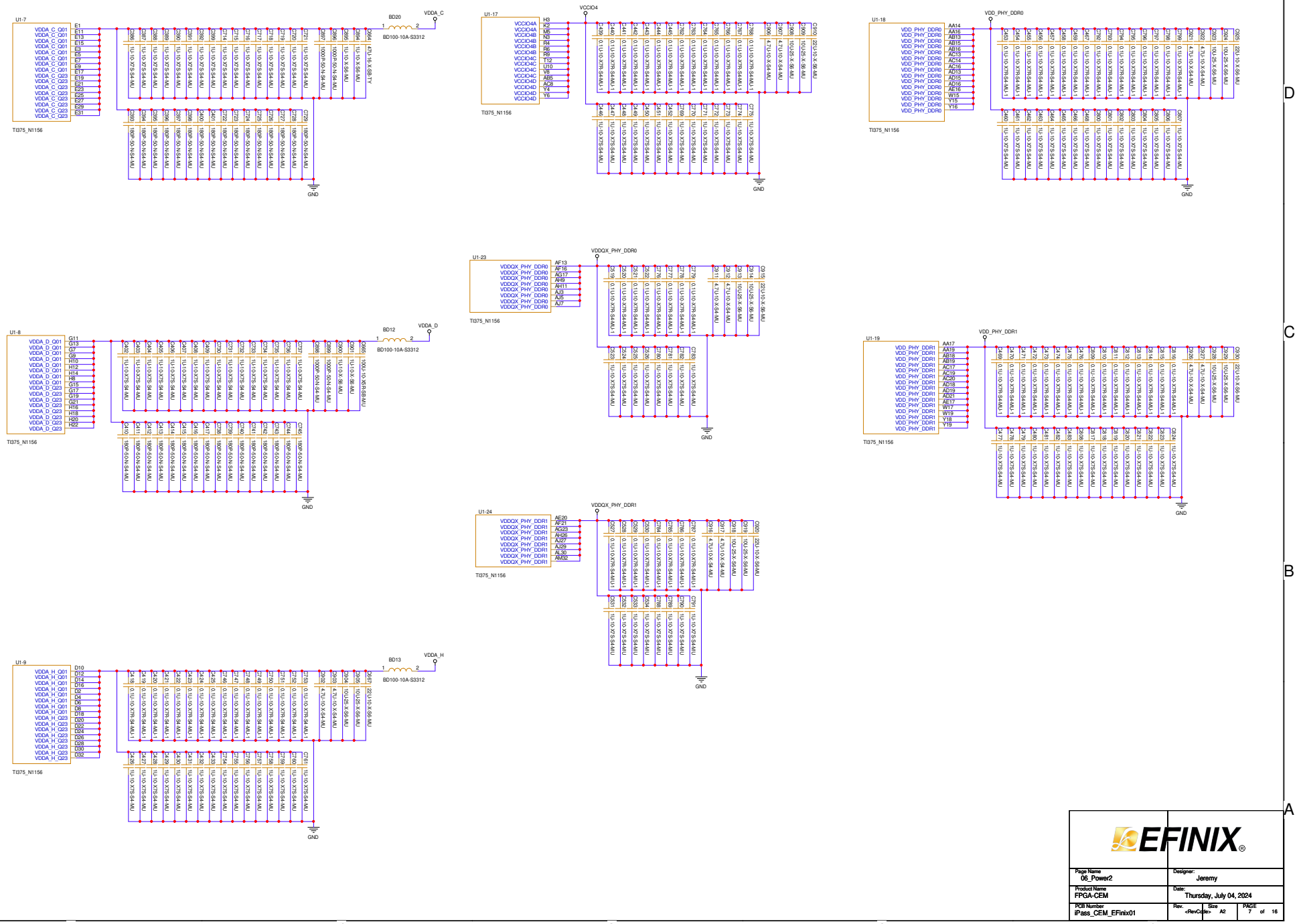
U1-7
TI375_N1156
BD20
BD100-10A-S3312
VDDA_C
U1-17
VCCIO4
TI375_N1156
U1-18
VDD_PHY_DDR0
TI375_N1156
U1-8
TI375_N1156
BD12
BD100-10A-S3312
VDDA_D
U1-23
VDDQX_PHY_DDR0
TI375_N1156
U1-19
VDD_PHY_DDR1
TI375_N1156
U1-9
TI375_N1156
BD13
BD100-10A-S3312
VDDA_H
U1-24
VDDQX_PHY_DDR1
TI375_N1156
GND
EFINIX
Page Name
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Designer:
Jeremy
Product Name
FPGA-CEM
Date:
Thursday, July 04, 2024
PCB Number
iPass_CEM_EFinix01
Rev.
<RevCode>
Size
A2
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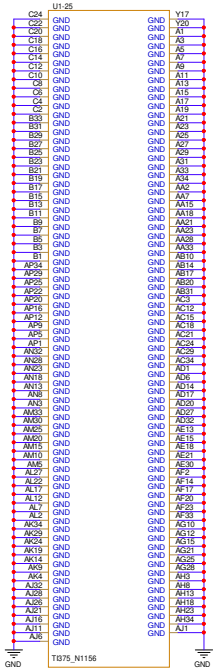

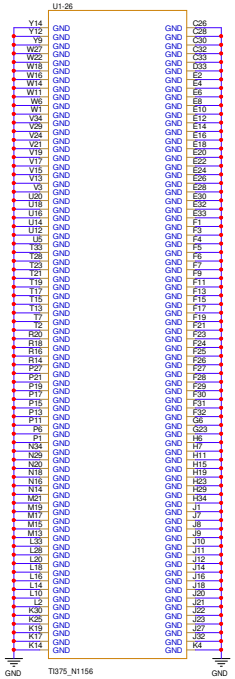

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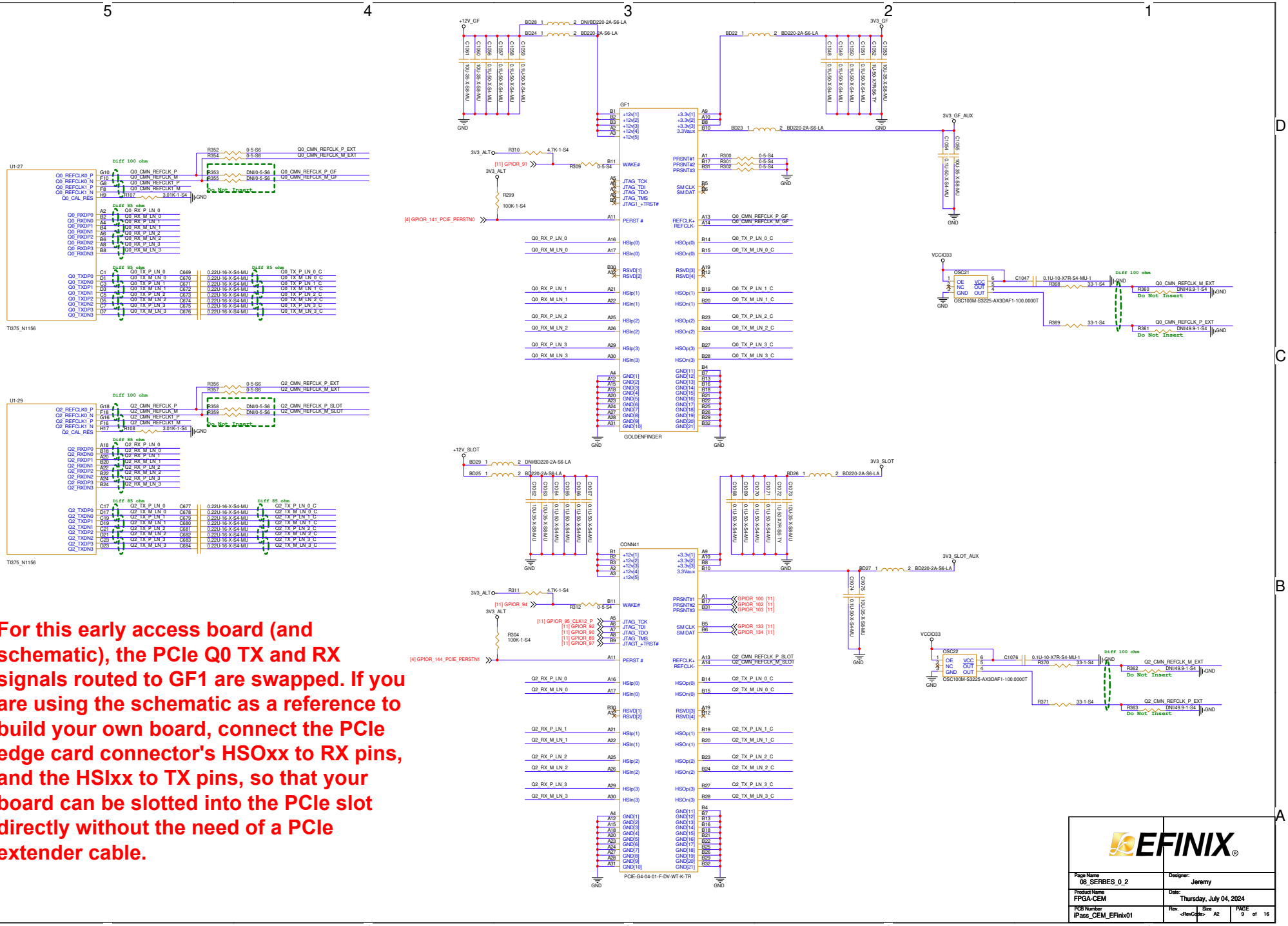
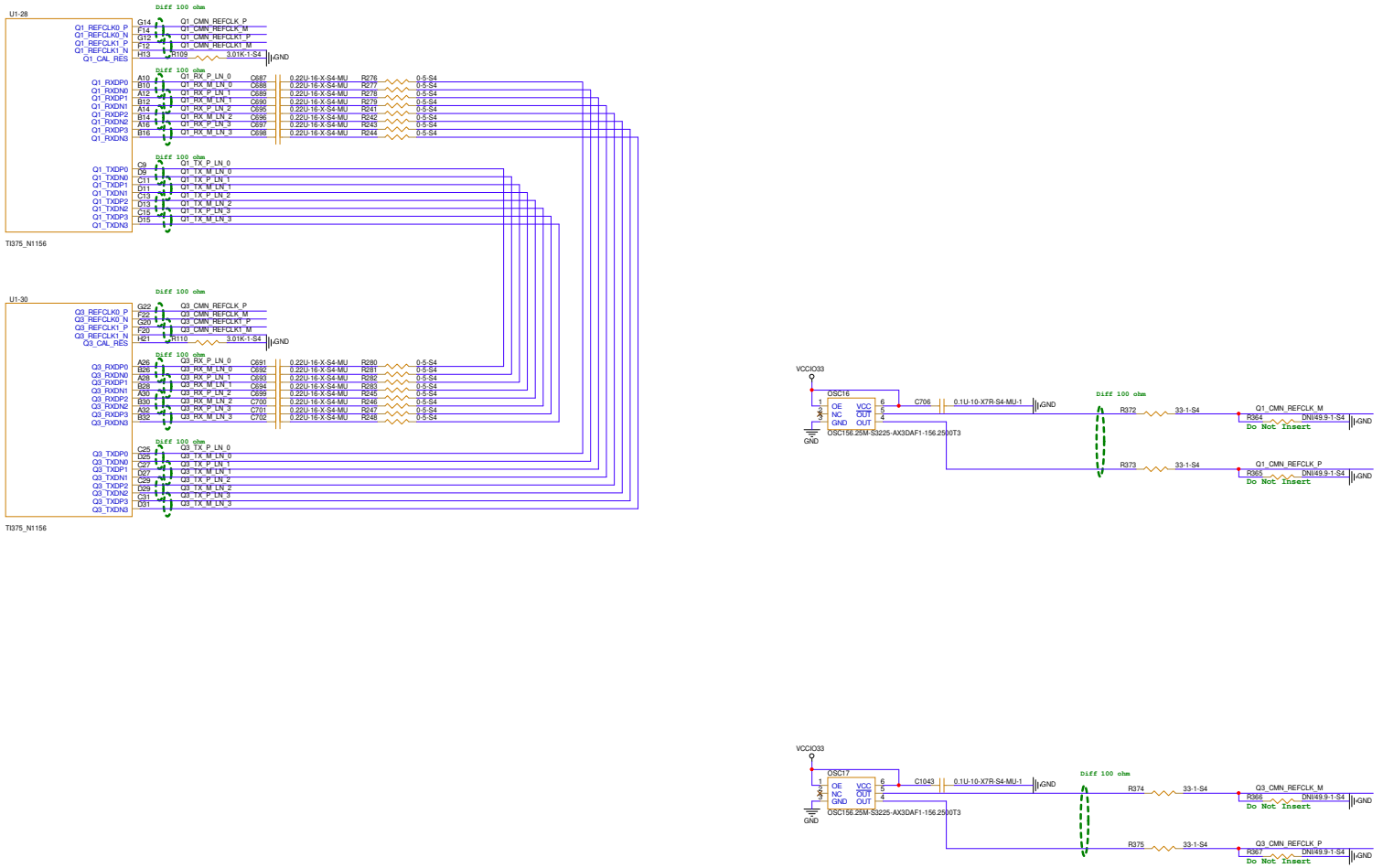
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev: <RevCode> Size: A2 PAGE: 8 of 16



For this early access board (and schematic), the PCIe Q0 TX and RX signals routed to GF1 are swapped. If you are using the schematic as a reference to build your own board, connect the PCIe edge card connector's HSOxx to RX pins, and the HSIxx to TX pins, so that your board can be slotted into the PCIe slot directly without the need of a PCIe extender cable.

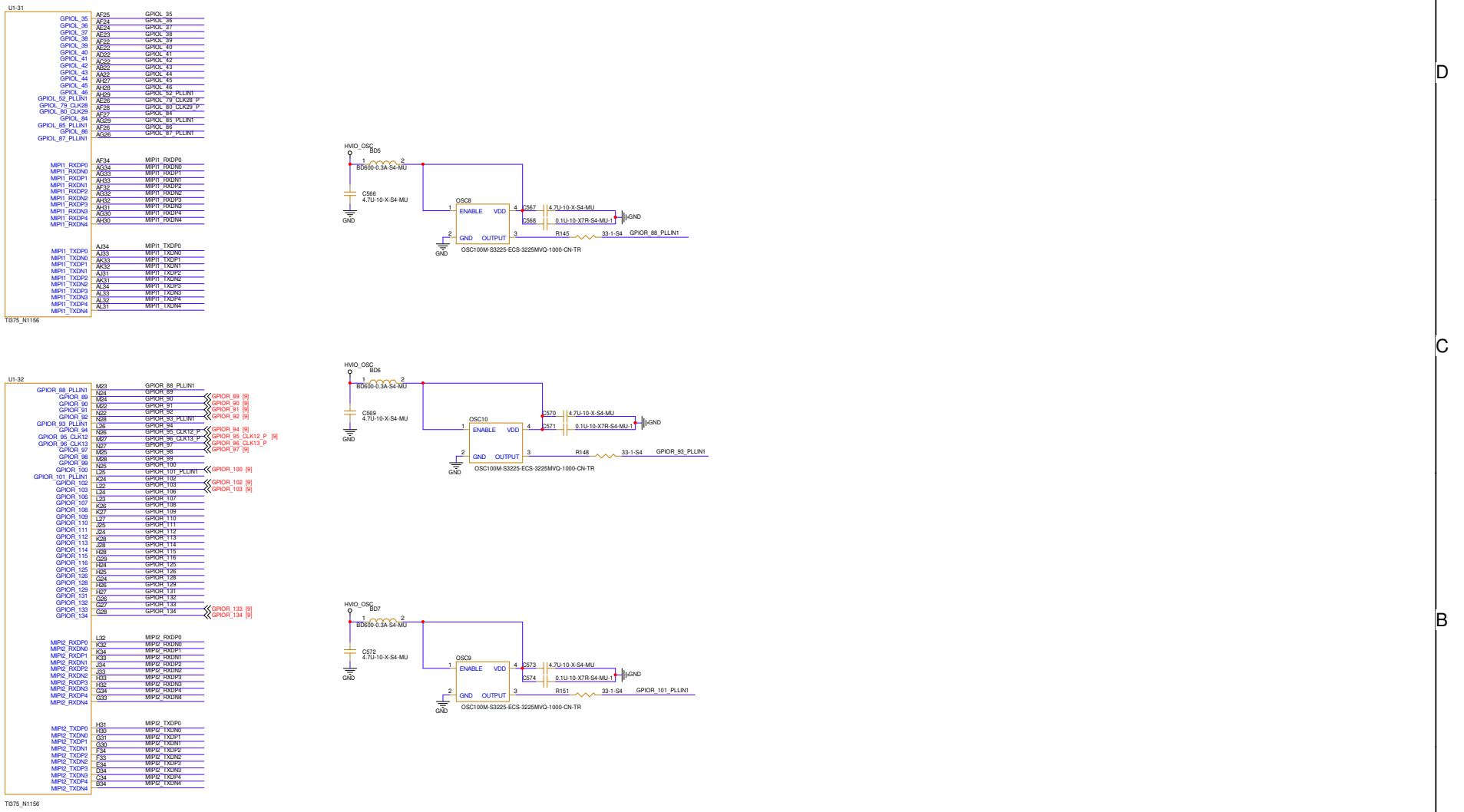
EFINIX

Page Name: 08_SERBES_0_2	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 9 of 16



EFINIX®

Page Name: 09_SERDES_1_3	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 10 of 16



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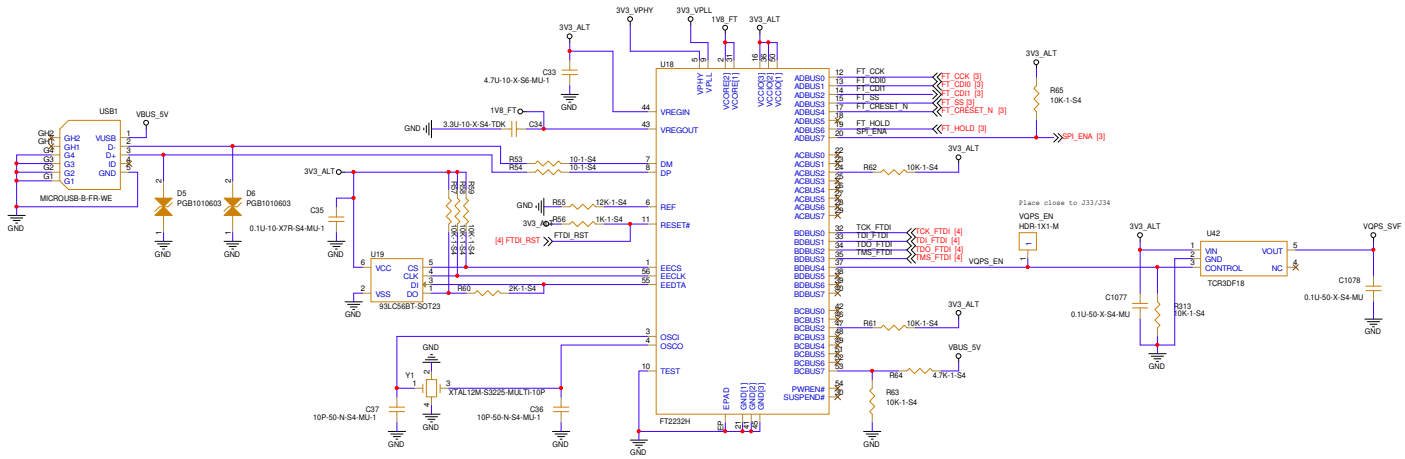
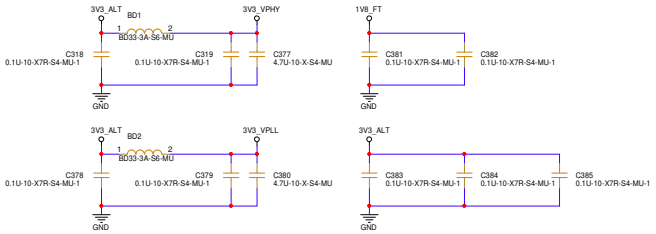
Page Name: 10_TL_TR_CORNER	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 11 of 16





Page Name: 11_USB CONTROLLER	Designer: Jeremy
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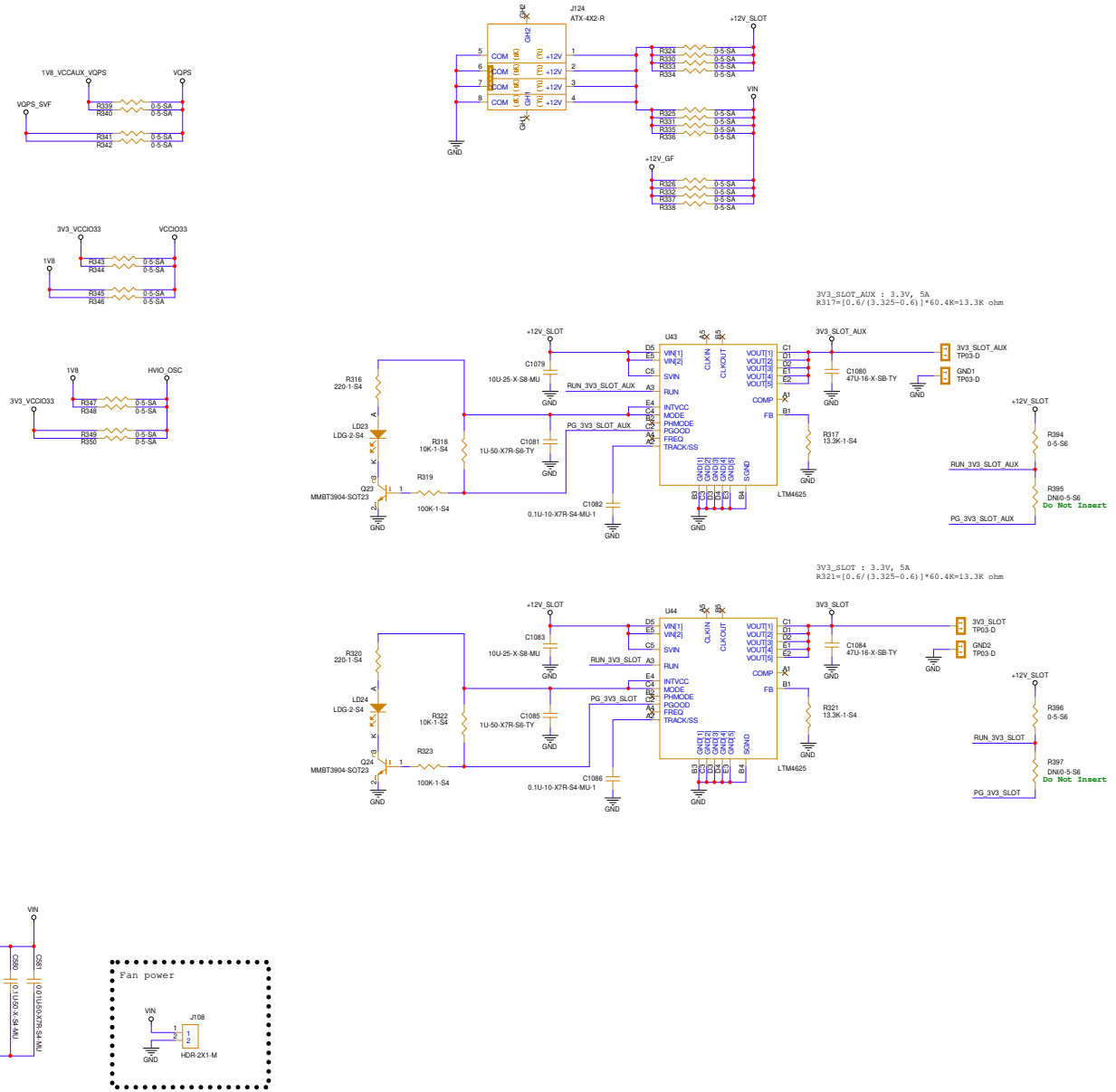
PCB Number: iPass_CEM_EFinix01	Rev: <RevCode> Size: A2 PAGE: 12 of 16



Page Name: 12_POWER_SELECTION	Designer: Jeremy
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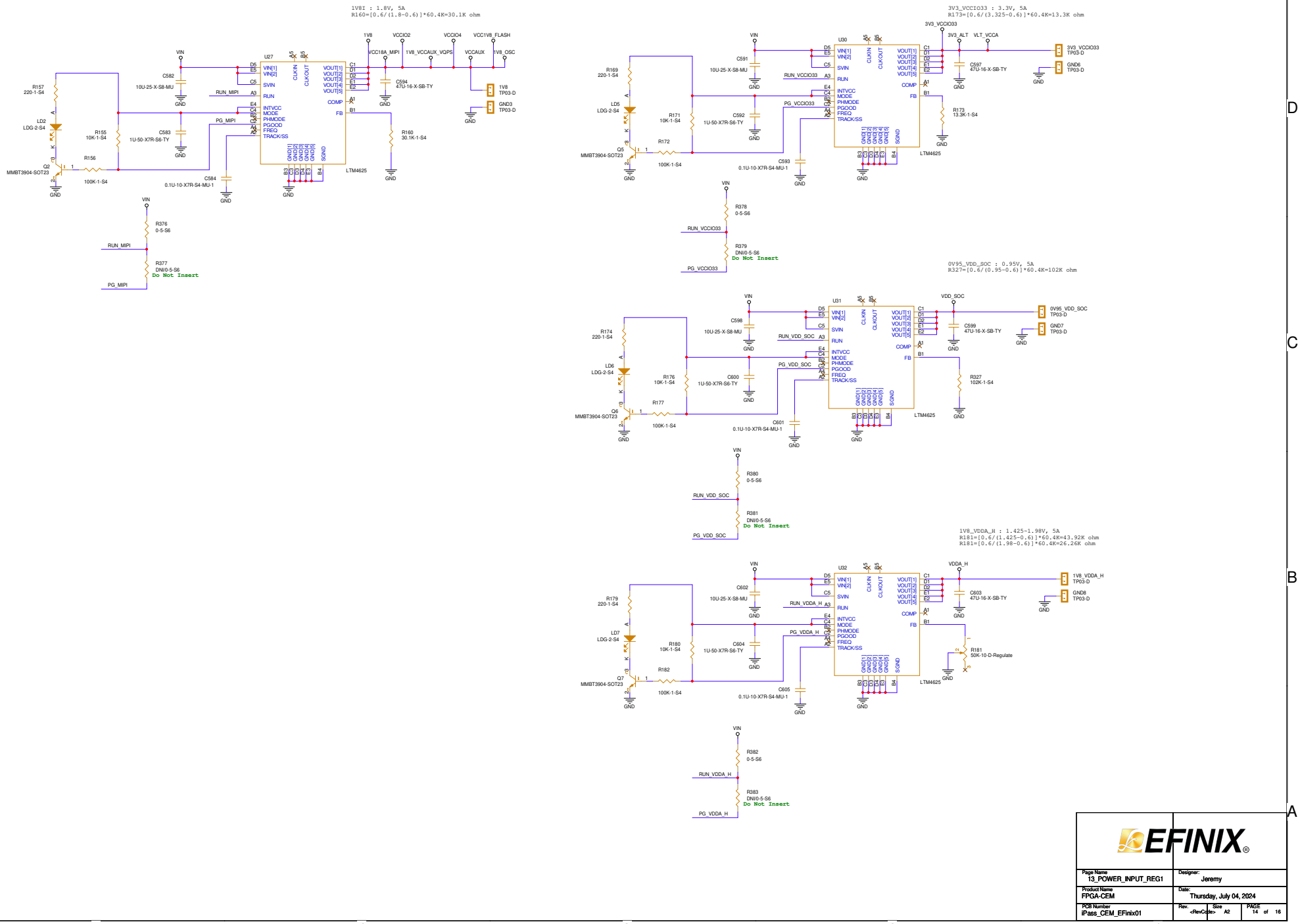
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 13 of 16


1V8I : 1.8V, 5A
R160=[0.6/(1.8-0.6)]*60.4K=30.1K ohm
3V3_VCCIO33 : 3.3V, 5A
R173=[0.6/(3.325-0.6)]*60.4K=13.3K ohm
0V95_VDD_SOC : 0.95V, 5A
R327=[0.6/(0.95-0.6)]*60.4K=102K ohm
1V8_VDDA_H : 1.425~1.98V, 5A
R181=[0.6/(1.425-0.6)]*60.4K=43.92K ohm
R181=[0.6/(1.98-0.6)]*60.4K=26.26K ohm
U27
U30
U31
U32
LTM4625
VIN
GND
RUN_MIPI
PG_MIPI
RUN_VCCIO33
PG_VCCIO33
RUN_VDD_SOC
PG_VDD_SOC
RUN_VDDA_H
PG_VDDA_H
Do Not Insert
EFINIX
Page Name
13_POWER_INPUT_REG1
Designer:
Jeremy
Product Name
FPGA-CEM
Date:
Thursday, July 04, 2024
PCB Number
iPass_CEM_EFinix01
Rev.
<RevCode>
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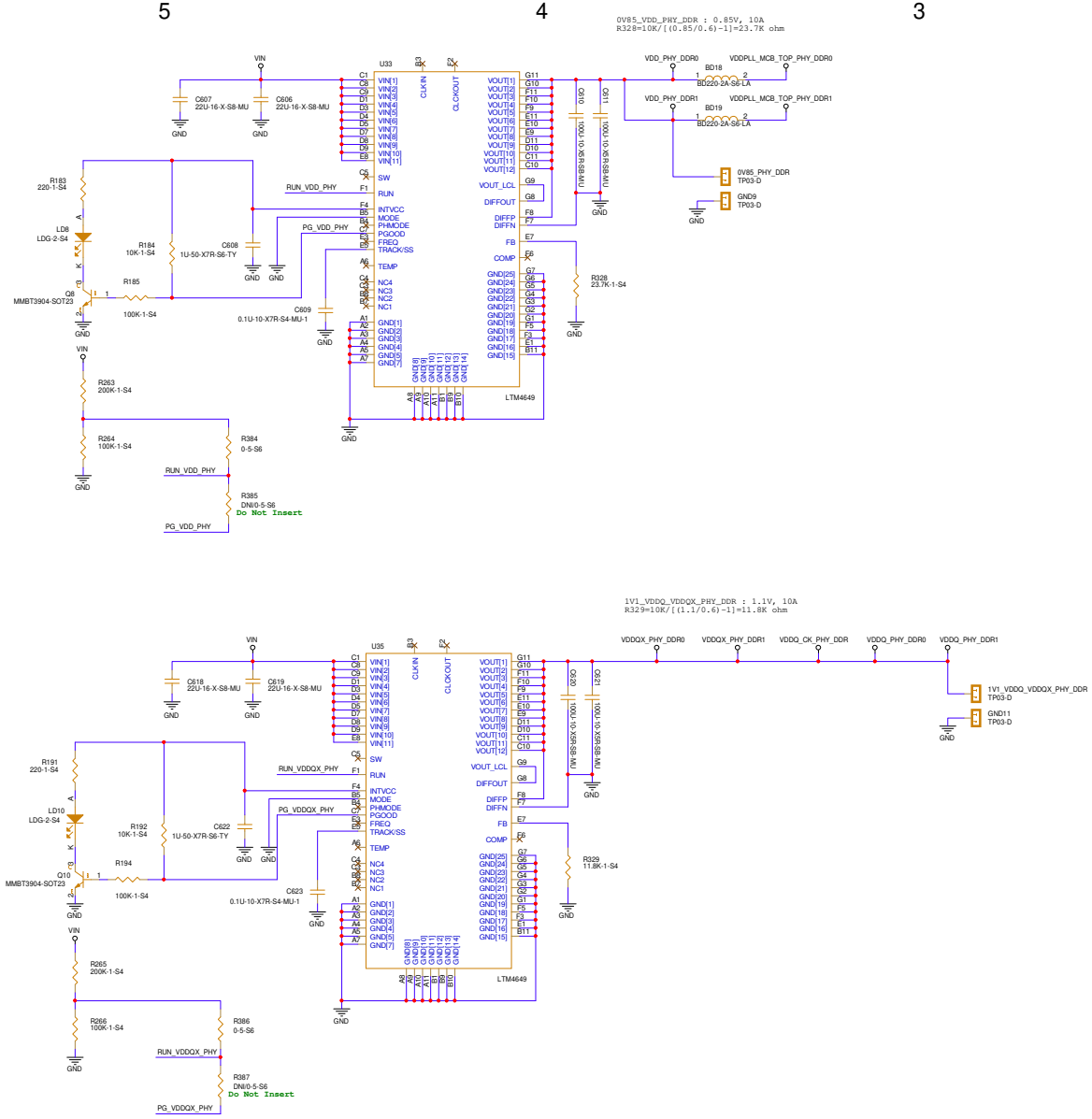
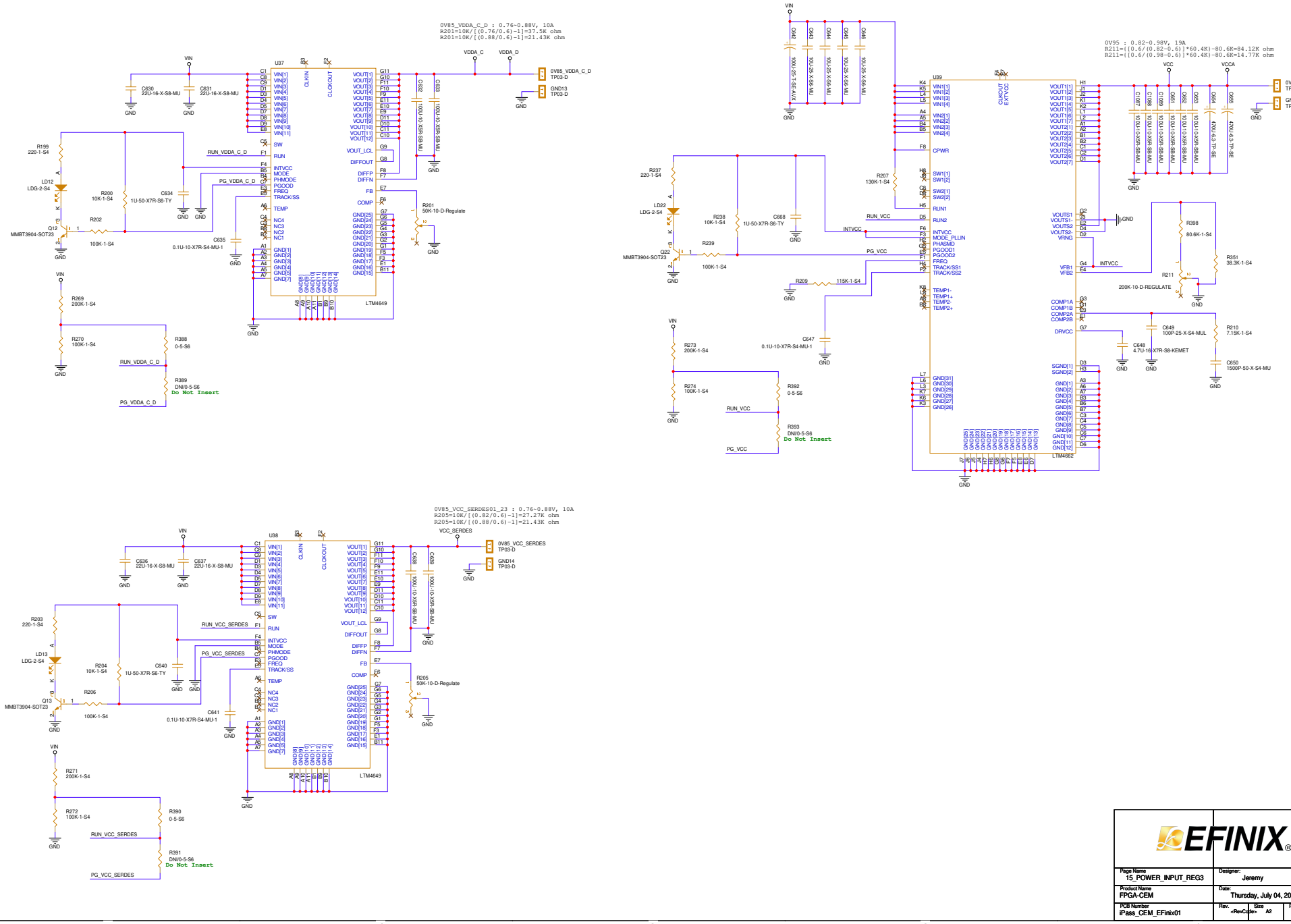


Page Name: 14_POWER_INPUT_REG2	Designer: Jeremy
Product Name: FPGA-CEM	Date: Thursday, July 04, 2024
PCB Number: iPass_CEM_EFinix01	Rev.: <RevCode> Size: A2 PAGE: 15 of 16


0V85_VDDA_C_D : 0.76~0.88V, 10A
R201=10K/[(0.76/0.6)-1]=37.5K ohm
R201=10K/[(0.88/0.6)-1]=21.43K ohm
0V95 : 0.82~0.98V, 19A
R211=[(0.6/(0.82-0.6)]*60.4K)-80.6K=84.12K ohm
R211=[(0.6/(0.98-0.6)]*60.4K)-80.6K=14.77K ohm
0V85_VCC_SERDES01_23 : 0.76~0.88V, 10A
R205=10K/[(0.82/0.6)-1]=27.27K ohm
R205=10K/[(0.88/0.6)-1]=21.43K ohm
U37
U38
U39
LTM4649
LTM4662
VIN
VDDA_C
VDDA_D
VCC
VCCA
VCC_SERDES
0V85_VDDA_C_D
0V85_VCC_SERDES
0V95_VCC
GND13
GND14
GND15
RUN_VDDA_C_D
PG_VDDA_C_D
RUN_VCC_SERDES
PG_VCC_SERDES
RUN_VCC
PG_VCC
INTVCC
R201 50K-10-D-Regulate
R205 50K-10-D-Regulate
R211 200K-10-D-REGULATE
Do Not Insert
EFINIX
Page Name 15_POWER_INPUT_REG3
Designer: Jeremy
Product Name FPGA-CEM
Date: Thursday, July 04, 2024
PCB Number iPass_CEM_EFinix01
Rev. <RevCode>
Size A2
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Ti375 PCIe Early Access Board							
Revised: Thursday, February 29, 2024							
Item	Quantity	Reference	Part	Footprint	Manufacturer	Mfg P/N	Description
1	6	U27,U30,U31,U32,U43,U44	LTM4625	BGA25-1_27-LTM4625	Analog Devices Inc.	LTM4625EY#PBF	DC DC CONVERTER 0.6-5.5V
2	4	U33,U35,U37,U38	LTM4649	BGA68-1_27-LTM4649	Analog Devices Inc.	LTM4649EY#PBF	DC DC CONVERTER 0.6-3.3V 33W
3	1	U39	LTM4662	BGA88-1_27-LTM4662	Analog Devices Inc.	LTM4662IY#PBF	DC DC CNVRTR 0.6-5.5V 0.6-5.5V
4	1	C581	0.01U-50-X7R-S4-MU	C0402	Murata Electronics	GCM155R71H103KA55D	CAP CER 10000PF 50V X7R 0402
5	38	C35,C99,C100,C101,C318,C319,C378,C379,C381,C382,C383,C384,C385,C540,C568,C571,C574,C577,C584,C593,C601,C605,C609,C623,C635,C641,C647,C703,C706,C869,C870,C873,C1042,C1043,C1047,C1076,C1082,C1086	0.1U-10-X7R-S4-MU-1	C0402	Murata Electronics	GRM155R61A104KA01J	CAP CER 0.1UF 10V X5R 0402
6	21	C580,C1048,C1049,C1050,C1051,C1054,C1056,C1057,C1058,C1059,C1064,C1065,C1066,C1067,C1068,C1069,C1070,C1071,C1074,C1077,C1078	0.1U-50-X-S4-MU	C0402	Murata Electronics	GRM155R71H104KE14D	CAP CER 0.1UF 50V X7R 0402
7	32	C669,C670,C671,C672,C673,C674,C675,C676,C677,C678,C679,C680,C681,C682,C683,C684,C687,C688,C689,C690,C691,C692,C693,C694,C695,C696,C697,C698,C699,C700,C701,C702	0.22U-16-X-S4-MU	C0402	Murata Electronics	GCM155R71C224KE02D	CAP CER 0.22UF 16V X7R 0402
8	4	C896,C897,C898,C899	1000P-50-N-S4-MU	C0402	Murata Electronics	GRM1555C1H102JA01D	CAP CER 1000PF 50V C0G/NP0 0402
9	1	C649	100P-25-X-S4-MUL	C0402	Murata Electronics	GRM1555C1E101JA01D	CAP CER 100PF 25V C0G/NP0 0402
10	2	C36,C37	10P-50-N-S4-MU-1	C0402	Murata Electronics	GRM1555C1H100FA01D	CAP CER 10PF 50V C0G/NP0 0402
11	1	C650	1500P-50-X-S4-MU	C0402	Murata Electronics	GRM155R71H152KA01D	CAP CER 1500PF 50V X7R 0402
12	32	C393,C394,C395,C396,C397,C398,C400,C401,C410,C411,C412,C413,C414,C415,C416,C417,C722,C723,C724,C725,C726,C727,C728,C729,C738,C739,C740,C741,C742,C743,C744,C745	180P-50-N-S4-MU	C0402	Murata Electronics	GRM1555C1H181JA01D	CAP CER 180PF 50V C0G/NP0 0402
13	201	C58,C59,C60,C61,C62,C63,C64,C65,C66,C67,C68,C69,C70,C71,C72,C73,C74,C75,C76,C96,C97,C98,C102,C103,C104,C108,C109,C110,C112,C132,C133,C134,C135,C164,C165,C166,C167,C168,C169,C426,C427,C428,C429,C430,C431,C432,C433,C437,C438,C446,C447,C448,C449,C450,C451,C452,C460,C461,C462,C463,C464,C465,C466,C468,C477,C478,C479,C480,C481,C482,C483,C492,C493,C494,C495,C496,C497,C498,C499,C510,C511,C512,C513,C514,C515,C516,C517,C523,C524,C525,C526,C531,C532,C533,C534,C535,C536,C754,C755,C756,C757,C758,C759,C760,C761,C769,C770,C771,C772,C773,C774,C775,C780,C781,C782,C783,C788,C789,C790,C791,C800,C801,C802,C803,C804,C805,C806,C807,C808,C817,C818,C819,C820,C821,C822,C823,C824,C844,C845,C846,C847,C848,C849,C850,C851,C852,C853,C854,C855,C856,C857,C858,C859,C860,C861,C862,C866,C867,C868,C871,C872,C874,C877,C878,C879,C887,C888,C889,C890,C891,C892,C893,C965,C966,C967,C968,C969,C975,C976,C977,C978,C979,C988,C989,C990,C991,C992,C993,C994,C995,C996,C1006,C1007,C1008,C1009,C1010,C1011,C1012,C1013,C1014,C1036	1U-10-X7S-S4-MU	C0402	Murata Electronics	GCM155C71A105KE38D	CAP CER 1UF 10V X7S 0402
14	1	C34	3.3U-10-X-S4-TDK	C0402	TDK Corporation	C1005X5R1A335K050BC	CAP CER 3.3UF 10V X5R 0402
15	44	C377,C380,C566,C567,C569,C570,C572,C573,C575,C576,C902,C903,C906,C907,C911,C912,C916,C917,C921,C922,C926,C927,C931,C932,C936,C937,C941,C942,C946,C947,C951,C952,C956,C957,C1015,C1016,C1020,C1021,C1025,C1026,C1030,C1031,C1040,C1041	4.7U-10-X-S4-MU	C0402	Murata Electronics	GRM155R61A475MEAAD	CAP CER 4.7UF 10V X5R 0402
16	193	C38,C39,C40,C41,C42,C43,C44,C45,C46,C47,C48,C49,C50,C51,C52,C53,C54,C55,C56,C77,C78,C79,C105,C106,C107,C111,C113,C114,C115,C116,C117,C148,C149,C150,C151,C152,C153,C154,C418,C419,C420,C421,C422,C423,C424,C425,C434,C435,C439,C440,C441,C442,C443,C444,C445,C453,C454,C455,C456,C457,C458,C459,C467,C469,C470,C471,C472,C473,C474,C475,C476,C484,C485,C486,C487,C488,C489,C490,C491,C500,C501,C502,C503,C504,C505,C506,C507,C508,C519,C520,C521,C522,C527,C528,C529,C530,C746,C747,C748,C749,C750,C751,C752,C753,C762,C763,C764,C765,C766,C767,C768,C776,C777,C778,C779,C784,C785,C786,C787,C792,C793,C794,C795,C796,C797,C798,C799,C809,C810,C811,C812,C813,C814,C815,C816,C825,C826,C827,C828,C829,C830,C831,C832,C833,C834,C835,C836,C837,C838,C839,C840,C841,C842,C843,C863,C864,C865,C875,C876,C880,C881,C882,C883,C884,C885,C886,C961,C962,C963,C964,C970,C971,C972,C973,C974,C980,C981,C982,C983,C984,C985,C986,C987,C997,C998,C999,C1000,C1001,C1002,C1003,C1004,C1005,C1035	0.1U-10-X7R-S4-MU-1	C0402_BGA	Murata Electronics	GRM155R61A104KA01J	CAP CER 0.1UF 10V X5R 0402
17	37	C386,C387,C388,C389,C390,C391,C392,C399,C402,C403,C404,C405,C406,C407,C408,C409,C518,C537,C538,C539,C714,C715,C716,C717,C718,C719,C720,C721,C730,C731,C732,C733,C734,C735,C736,C737,C1039	1U-10-X7S-S4-MU	C0402_BGA	Murata Electronics	GCM155C71A105KE38D	CAP CER 1UF 10V X7S 0402
18	38	C643,C644,C645,C646,C708,C709,C904,C905,C908,C909,C913,C914,C918,C919,C923,C924,C928,C929,C933,C934,C938,C939,C943,C944,C948,C949,C953,C954,C958,C959,C1017,C1018,C1022,C1023,C1027,C1028,C1032,C1033	10U-25-X-S6-MU	C0603	Murata Electronics	GRM188R61E106MA73D	CAP CER 10UF 25V X5R 0603
19	4	C894,C895,C900,C901	1U-10-X-S6-MU	C0603	Murata Electronics	GRM188R61A105KA61D	CAP CER 1UF 10V X5R 0603
20	14	C579,C583,C592,C600,C604,C608,C622,C634,C640,C668,C1052,C1072,C1081,C1085	1U-50-X7R-S6-TY	C0603	Taiyo Yuden	UMK107AB7105MA-T	CAP CER 1UF 50V X7R 0603
21	8	C667,C910,C915,C920,C925,C930,C935,C940	22U-10-X-S6-MU	C0603	Murata Electronics	GRM188R61A226ME15D	CAP CER 22UF 10V X5R 0603
22	1	C33	4.7U-10-X-S6-MU-1	C0603	Murata Electronics	GRM188C71A475KE11D	CAP CER 4.7UF 10V X7S 0603
23	7	C578,C582,C591,C598,C602,C1079,C1083	10U-25-X-S8-MU	C0805	Murata Electronics	GRM21BR61E106KA73L	CAP CER 10UF 25V X5R 0805
24	8	C1053,C1055,C1060,C1061,C1062,C1063,C1073,C1075	10U-35-X-S8-MU	C0805	Murata Electronics	GRM21BR6YA106ME43L	CAP CER 10UF 35V X5R 0805
25	8	C606,C607,C618,C619,C630,C631,C636,C637	22U-16-X-S8-MU	C0805	Murata Electronics	GRM21BC81C226ME44L	CAP CER 22UF 16V X6S 0805
26	1	C648	4.7U-16-X7R-S8-KEMET	C0805	KEMET	C0805C475K4RAC7800	CAP CER 4.7UF 16V X7R 0805
27	15	C610,C611,C620,C621,C632,C633,C638,C639,C651,C652,C653,C665,C1087,C1088,C1089	100U-10-X5R-SB-MU	C1210	Murata Electronics	GRM32ER61A107ME20L	CAP CER 100UF 10V X5R 1210
28	15	C594,C597,C599,C603,C664,C945,C950,C955,C960,C1019,C1024,C1029,C1034,C1080,C1084	47U-16-X-SB-TY	C1210	Taiyo Yuden	EMK325BJ476MM-P	CAP CER 47UF 16V X5R 1210
29	1	C642	100U-25-T-SE-AVX	CODE_E	KYOCERA AVX	TPSE107M025R0150	CAP TANT 100UF 20% 25V 2917
30	2	C654,C655	470U-6.3-TP-SE	CODE_E	Panasonic Electronic Components	6TPB470M	CAP TANT POLY 470UF 6.3V 2917
31	3	J26,J27,J34	HDR-2X2-M	CONN_2X2_2P54MM_PH			Pin Header, 2x2, 2.54mm, 公座
32	2	J35,J110	HDR-3X2-M	CONN_3X2_2P54MM			Pin Header, 3x2, 2.54mm, 公座
33	1	J42	HDR-7X2-M	CONN_7X2_2P54MM_PH			Pin Header, 7x2, 2.54mm, 公座
34	1	J124	ATX-4X2-R	CONN_SD172448_8P_MOLEX	Molex	1724480008	CONN HEADER R/A 8POS 4.2MM
35	12	BD14,BD15,BD16,BD17,BD18,BD19,BD22,BD23,BD24,BD25,BD26,BD27	BD220-2A-S6-LA	FB0603	Murata Electronics	BLM18EG221SN1D	FERRITE BEAD 220 OHM 0603 1LN
36	2	BD1,BD2	BD33-3A-S6-MU	FB0603	Murata Electronics	BLM18PG330SN1D	FERRITE BEAD 33 OHM 0603 1LN
37	3	BD12,BD13,BD20	BD100-10A-S3312	FB-HI3312X101R-10	Laird-Signal Integrity Products	HI3312X101R-10	FERRITE BEAD 100 OHM 3312 1LN
38	1	VQPS_EN	HDR-1X1-M	JP_1P_RD070_040			Pin Header, 1x1, 2.54mm, 公座

39	4	J28,J29,J108,J129	HDR-2X1-M	JP_2P_100			Pin Header, 2x1, 2.54mm, 公座
40	1	J107	HDR-3X1-M	JP_3P_100			Pin Header, 3x1, 2.54mm, 公座
41	2	J32,J33	HDR-5X2-M	JP_5X2P_100			Pin Header, 5x2, 2.54mm, 公座
42	5	BD5,BD6,BD7,BD8,BD21	BD600-0.3A-S4-MU	L0402	Murata Electronics	BLM15AG601SN1D	FERRITE BEAD 600 OHM 0402 1LN
43	2	D5,D6	PGB1010603	L0603	Littelfuse Inc.	PGB1010603MR	TVS DIODE 24VWM 150VC 0603
44	12	LD1,LD2,LD5,LD6,LD7,LD8,LD10,LD12,LD13,LD22,LD23,LD24	LDG-2-S4	LED_0402	SunLED	XZVG68W-2	LED GREEN CLEAR CHIP SMD
45	1	USB1	MICROUSB-B-FR-WE	MICROUSB_629105150521	Würth Elektronik	629105150521	CONN RCPT USB2.0 MICRO B SMD R/A
46	4	OSC8,OSC9,OSC10,OSC11	OSC100M-S3225-ECS-3225MVQ-1000-CN-TR	OSC_3P2X2P5MM_4P	ECS Inc.	ECS-3225MVQ-1000-CN-TR	XTAL OSC XO 100.0000MHZ CMOS SMD
47	1	OSC13	OSC25M-S3225-AKER-1.8V	OSC_3P2X2P5MM_4P	Abracon LLC	ASE3-25.000MHZ-E-K-T	XTAL OSC XO 25.0000MHZ CMOS SMD
48	1	Y1	XTAL12M-S3225-MULTI-10P	OSC_3P2X2P5MM_4P	Abracon LLC	ABM8G-12.000MHZ-4Y-T3	CRYSTAL 12.0000MHZ 10PF SMD
49	2	OSC21,OSC22	OSC100M-S3225-AX3DAF1-100.0000T	OSC_3P2X2P5MM_6P_H1P2MM	Abracon LLC	AX3DAF1-100.0000T	XTAL OSC XO 100MHZ 3.3V LVDS
50	2	OSC16,OSC17	OSC156.25M-S3225-AX3DAF1-156.2500T3	OSC_3P2X2P5MM_6P_H1P2MM	Abracon LLC	AX3DAF1-156.2500T3	XTAL OSC XO 156.25MHZ 3.3V LVDS
51	1	CONN41	PCIE-G4-04-01-F-DV-WT-K-TR	PCIE-G4-04-01-F-DV-WT-K-TR	Samtec Inc.	PCIE-G4-04-01-F-DV-WT-K-TR	CONN PCI EXP FMALE 64POS 0.039
52	21	R241,R242,R243,R244,R245,R246,R247,R248,R276,R277,R278,R279,R280,R281,R282,R283,R300,R301,R302,R309,R312	0-5-S4	R0402			RES 0 OHM JUMPER - 0402
53	19	R119,R156,R172,R177,R182,R185,R194,R202,R206,R239,R264,R266,R270,R272,R274,R299,R304,R319,R323	100K-1-S4	R0402			RES 100K OHM 1% 1/16W 0402
54	2	R53,R54	10-1-S4	R0402			RES 10 OHM 1% 1/16W 0402
55	1	R327	102K-1-S4	R0402			RES SMD 102K OHM 1% 1/10W 0402
56	5	R98,R99,R100,R101,R102	10K-0.1-S4	R0402			RES SMD 10K OHM 0.1% 1/16W 0402
57	31	R57,R58,R59,R61,R62,R63,R65,R105,R106,R112,R115,R116,R118,R121,R122,R123,R124,R155,R171,R176,R180,R184,R192,R200,R204,R238,R250,R313,R314,R318,R322	10K-1-S4	R0402			RES SMD 10K OHM 1% 1/16W 0402
58	1	R329	11.8K-1-S4	R0402			RES 11.8K OHM 1% 1/16W 0402
59	1	R209	115K-1-S4	R0402			RES 115K OHM 1% 1/16W 0402
60	1	R55	12K-1-S4	R0402			RES 12K OHM 1% 1/16W 0402
61	3	R173,R317,R321	13.3K-1-S4	R0402			RES 13.3K OHM 1% 1/16W 0402
62	1	R207	130K-1-S4	R0402			RES 130K OHM 1% 1/16W 0402
63	4	R56,R103,R104,R315	1K-1-S4	R0402			RES 1K OHM 1% 1/16W 0402
64	5	R263,R265,R269,R271,R273	200K-1-S4	R0402			RES 200K OHM 1% 1/16W 0402
65	12	R120,R157,R169,R174,R179,R183,R191,R199,R203,R237,R316,R320	220-1-S4	R0402			RES 220 OHM 1% 1/16W 0402
66	1	R328	23.7K-1-S4	R0402			RES 23.7K OHM 1% 1/16W 0402
67	1	R60	2K-1-S4	R0402			RES 2K OHM 1% 1/16W 0402
68	4	R107,R108,R109,R110	3.01K-1-S4	R0402			RES 3.01K OHM 1% 1/16W 0402
69	1	R160	30.1K-1-S4	R0402			RES 30.1K OHM 1% 1/16W 0402
70	1	R117	324K-5-S4	R0402			RES 324K OHM 1% 1/16W 0402
71	13	R145,R148,R151,R154,R275,R368,R369,R370,R371,R372,R373,R374,R375	33-1-S4	R0402			RES 33 OHM 1% 1/16W 0402
72	1	R351	38.3K-1-S4	R0402			RES 38.3K OHM 1% 1/16W 0402
73	3	R64,R310,R311	4.7K-1-S4	R0402			RES 4.7K OHM 1% 1/16W 0402
74	2	R111,R249	56K-1-S4	R0402			RES 56K OHM 1% 1/16W 0402
75	1	R210	7.15K-1-S4	R0402			RES 7.15K OHM 1% 1/16W 0402
76	1	R398	80.6K-1-S4	R0402			RES 80.6K OHM 1% 1/16W 0402
77	15	R352,R354,R356,R357,R376,R378,R380,R382,R384,R386,R388,R390,R392,R394,R396	0-5-S6	R0603			RES 0 OHM JUMPER 1/10W 0603
78	20	R324,R326,R330,R332,R333,R334,R337,R338,R339,R340,R341,R342,R343,R344,R345,R346,R347,R348,R349,R350	0-5-SA	R1206			RES 0 OHM JUMPER 1/4W 1206
79	2	U23,U41	W25Q256JWFIQ-SOIC16	SOP16_10P5X1P27MM	Winbond Electronics	W25Q256JWFIQ	IC FLASH 256MBIT SPI/QUAD 16SOIC
80	12	Q1,Q2,Q5,Q6,Q7,Q8,Q10,Q12,Q13,Q22,Q23,Q24	MMBT3904-SOT23	SOT23_132	Diotec Semiconductor	MMBT3904	TRANS NPN 40V 200MA SOT23-3
81	1	U19	93LC56BT-SOT23	SOT23L_6	Microchip Technology	93LC56BT-I/OT	IC EEPROM 2KBIT MIC WIRE SOT23-6
82	1	U42	TCR3DF18	SOT25-5	Toshiba Semiconductor and Storage	TCR3DF18,LM(CT	IC REG LINEAR 1.8V 300MA SMV
83	1	SW2	SW-TACTILE-1-S4.5-CK	SW_4P5X6P5MM_4P_SMT	C&K	PTS 647 SN50 SMTR2 LFS	TACT 4.5 X 4.5, 5.0 MM H, 1.0N,
84	1	SW1	SW-SLIDE-2-S2.54	SW_DIPX2_4P	CTS Electrocomponents	219-2LPSTR	SWITCH SLIDE DIP SPST 100MA 20V
85	2	U25,U26	SN74AXC4T774PW	TSSOP-16P-0_65	Texas Instruments	SN74AXC4T774PWR	IC TRANSLATOR BIDIR 16TSSOP
86	1	U18	FT2232H	VQFN56_0P5_8X8	FTDI, Future Technology Devices International Ltd	FT2232H-56Q-TRAY	IC DUAL USB TO UART/FIFO 56VQFN
89	20		Jumper帽蓋				Jumper帽蓋
90	1				Mechatronics Fan Group	MA2506M12C-RSR	FAN AXIAL 25X6.1MM 12VDC WIRE
98	1	U1	TI375_N1156	SK-BGA1156-35X35-P1_0-TI375N	ENFINIX	TI375N	
87	1	R211	200K-10-D-REGULATE	VR-PVG3A	Bourns Inc.	PVG3A204C01R00	TRIMMER 200KOHM 0.25W J LEAD TOP
88	3	R181,R201,R205	50K-10-D-Regulate	VR-PVG3G	Bourns Inc.	PVG3G503C01R00	TRIMMER 50K OHM 0.25W GW TOP ADJ
DNI,不上件							
91	2	BD28,BD29	DNI/BD220-2A-S6-LA	FB0603			
92	8	FD1,FD2,FD3,FD4,FD5,FD6,FD7,FD8	FD_040	FD_040			
93	1	LOGO1	LOGO_EFINIX	LOGO_EFINIX			
94	1	GF1	GOLDENFINGER	PCIE-LP-04_GOLDEN-FINGER			
95	8	R360,R361,R362,R363,R364,R365,R366,R367	DNI/49.9-1-S4	R0402			
96	15	R353,R355,R358,R359,R377,R379,R381,R383,R385,R387,R389,R391,R393,R395,R397	DNI/0-5-S6	R0603			
97	4	R325,R331,R335,R336	DNI/0-5-SA	R1206			
99	22	GND1,GND2,GND3,GND6,GND7,GND8,GND9,GND11,1V1_VDDQ_VDDQX_PHY_DDR,GND13,GND14,GND15,1V8_VDDA_H,1V8,3V3_SLOT_AUX,3V3_SLOT,0V85_VDDA_C_D,0V85_VCC_SERDES,0V85_PHY_DDR,0V95_VDD_SOC,0V95_VCC,3V3_VCCIO33	TP03-D	TP_060_040			

Awwembly Note
1. R181, R201, R205, R211 set to correct resistance before assembly to PCB.

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