

Ti60F225 DEVELOPMENT BOARD

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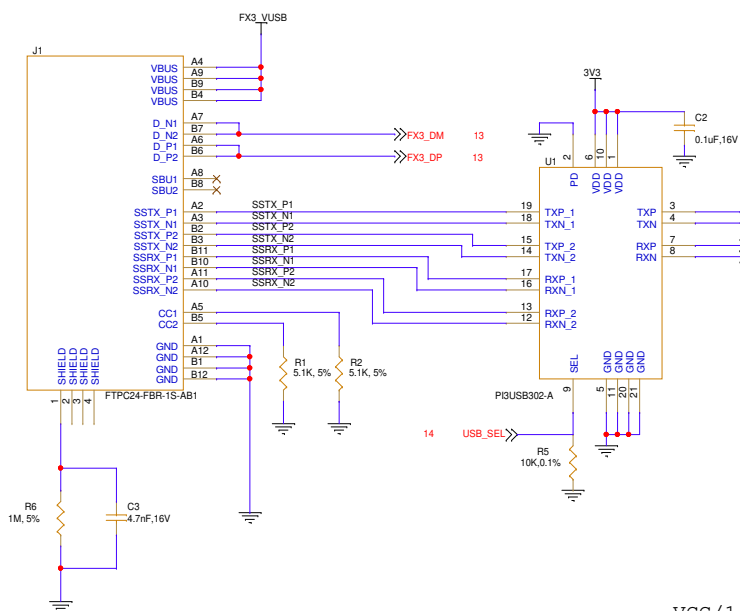
REVISION HISTORY

0.1 12/17/2020 KCLEE Initial Creation
0.2 05/02/2021 Hanson ES Release
0.3 18/06/2021 Hanson Production Release
0.9 09/08/2021 Hanson modify for offical release
1.0 07/09/2021 Hanson modify Parts for offical release
1.1 07/10/2021 Hanson update U5 with symbol F225 v1.1
1.2 06/12/2021 Hanson update 74.25Mhz label
1.3 21/03/2022 Hanson Fixes naming U28D, U27H

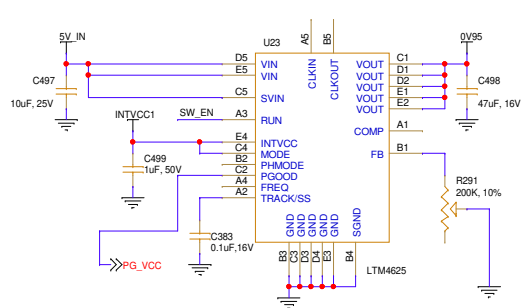
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Title			
BLOCK DIAGRAM			
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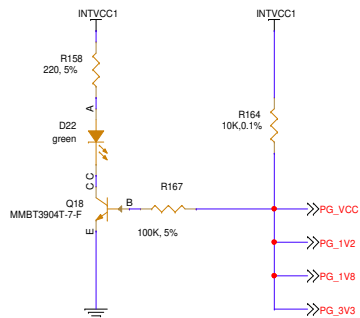
USB Type-C Input (To FX3)



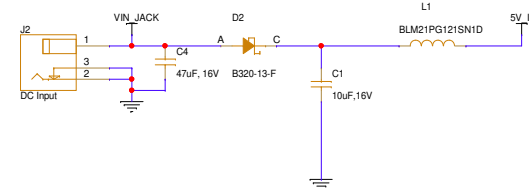
0.85V - 0.95V for VCC @ 5A supply



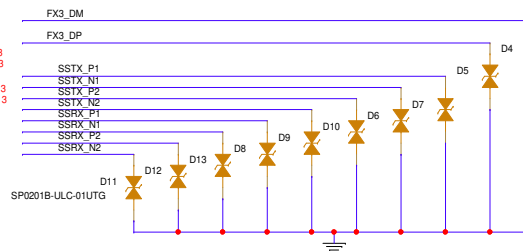
VCC/1.2v/1.8v/3.3v Power Good (OPEN-DRAIN)



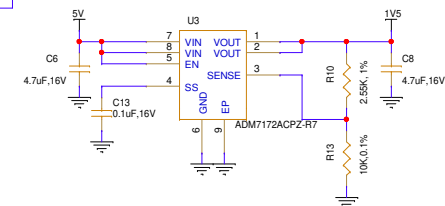
DC Power Connector 5v to 12v Input



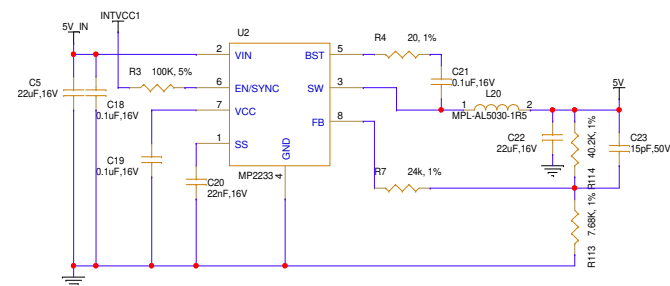
USB protection



1.5V @ 500mA

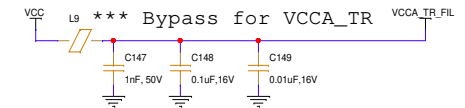
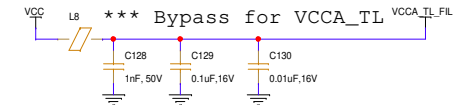
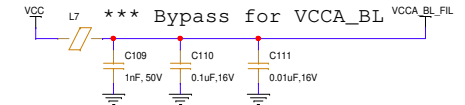
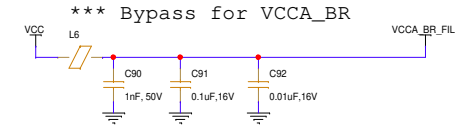
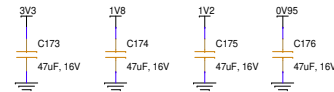
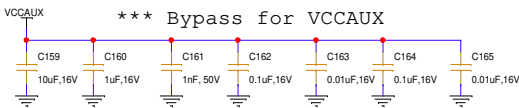
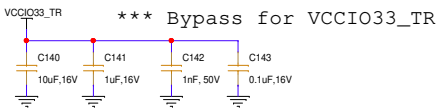
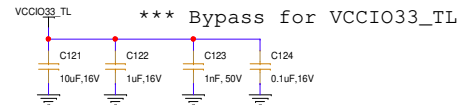
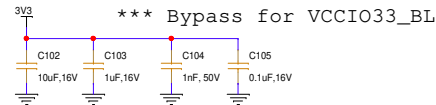
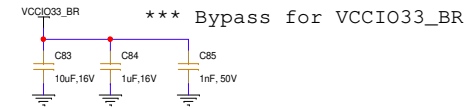
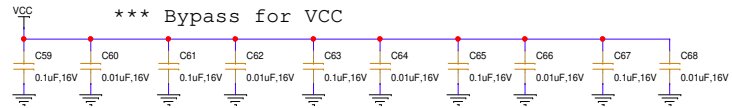
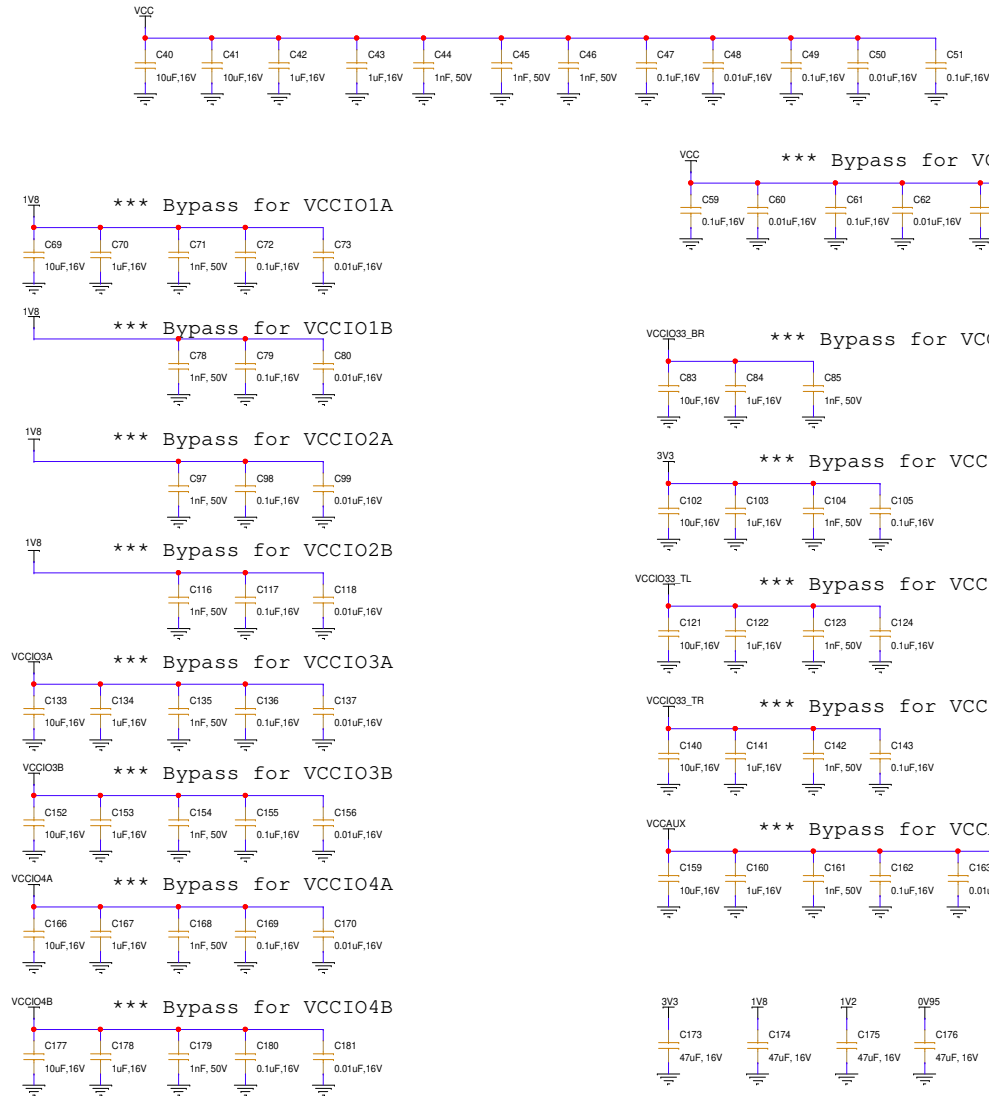


5V @ 3A



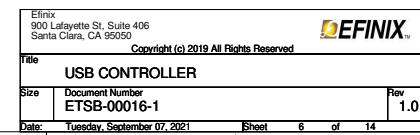
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File POWER INPUT			Rev 1.0	
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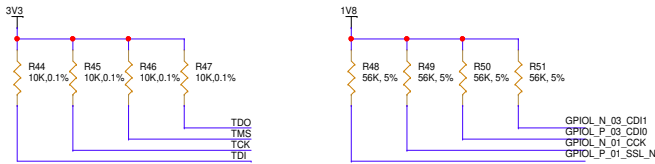
Please contact for specify Vcc Low Current Power Up sequence
support@efinixinc.com



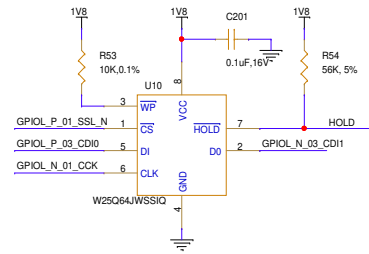
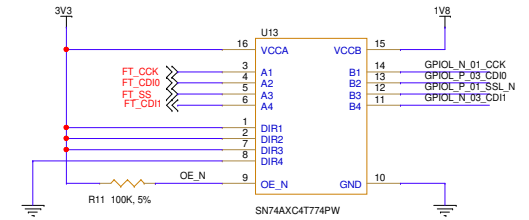
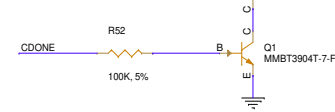
***Each set of 0.1uF and 0.01uF place close to each pair of BGA ball for all VCCIO

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FPGA POWER 2		
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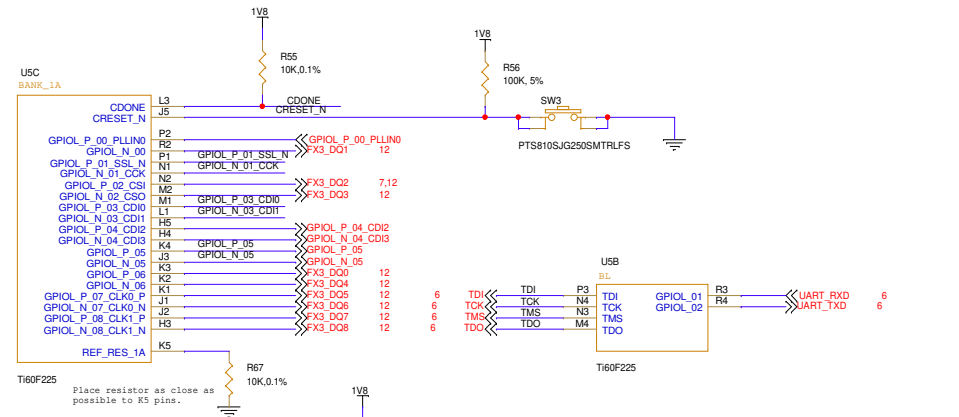
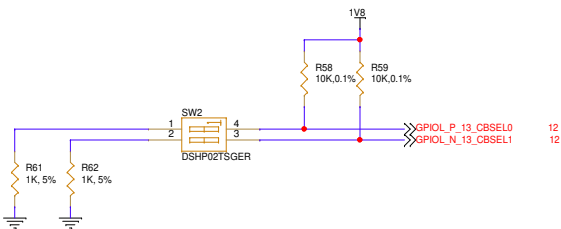
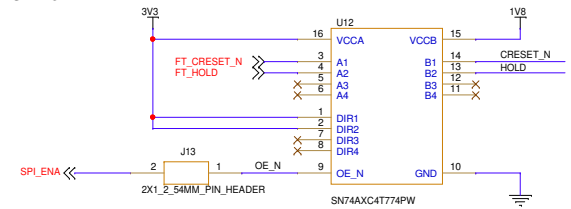
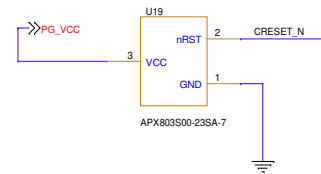




CDONE

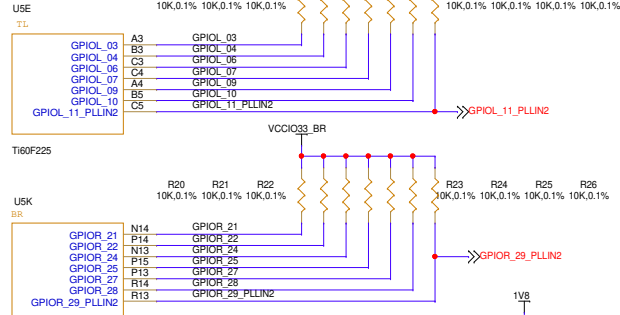
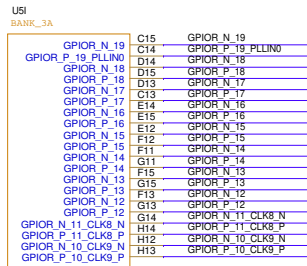


POWER VOLTAGE DETECTOR
Open-Drain Output with Active-Low
Delay Reset

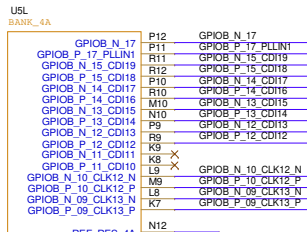
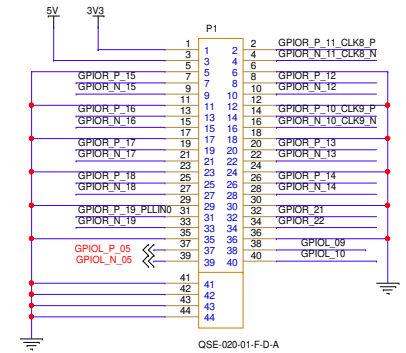


ON POSITION - LOGIC CIRCUIT CONNECT TO GROUND
OFF POSITION - LOGIC CIRCUIT CONNECT TO VCC

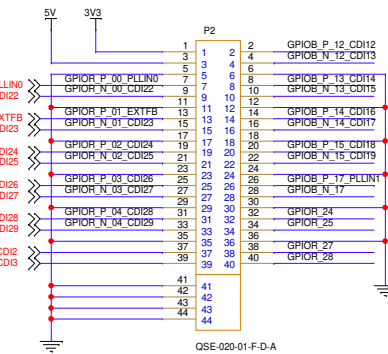
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CONFIGURATION			
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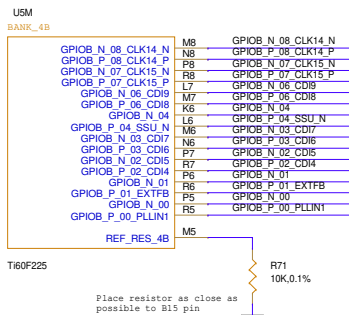
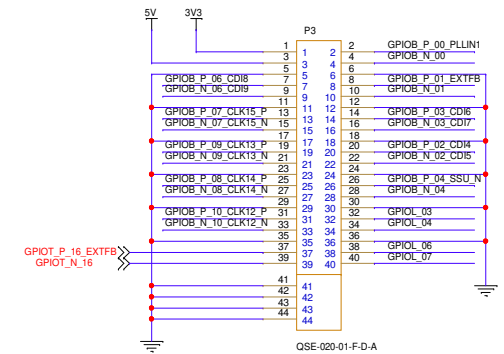
MIPI Bank I7/I8 (10 pairs HSIO)



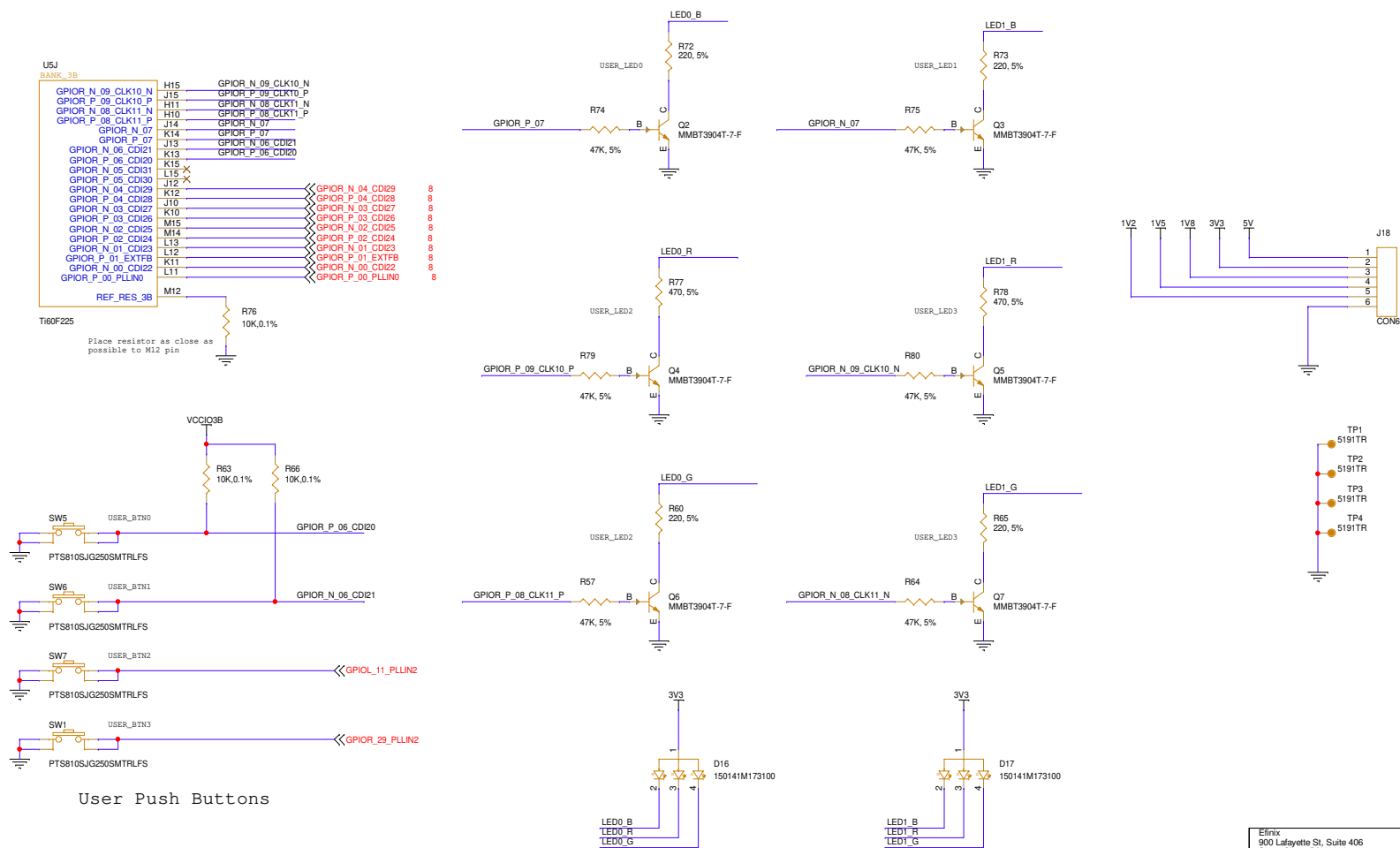
MIPI Bank I6/I11 (10 pairs HSIO)

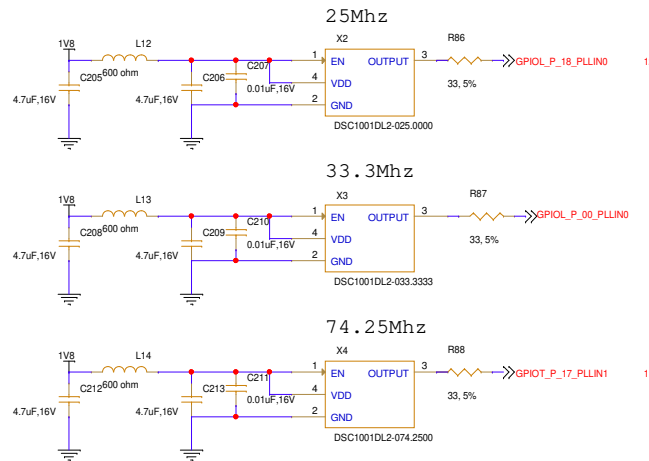
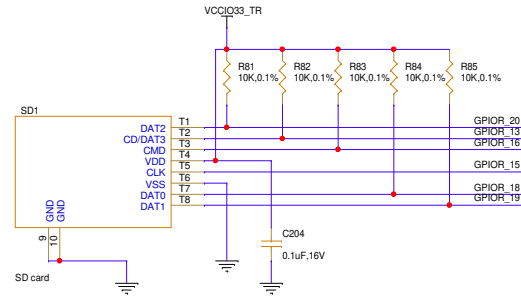
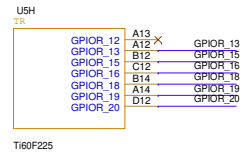


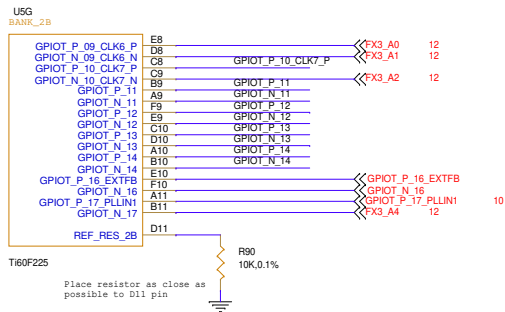
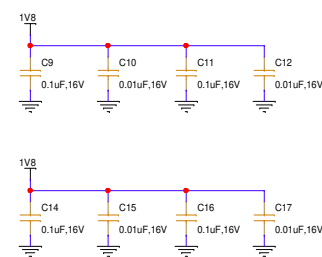
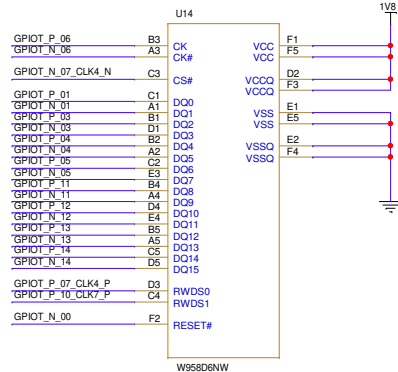
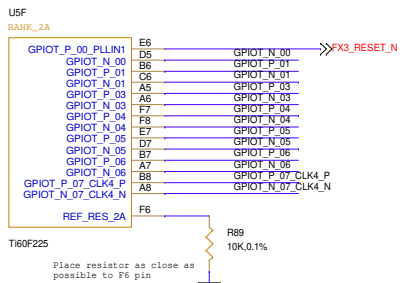
MIPI Bank I9/I10 (10 pairs HSIO)



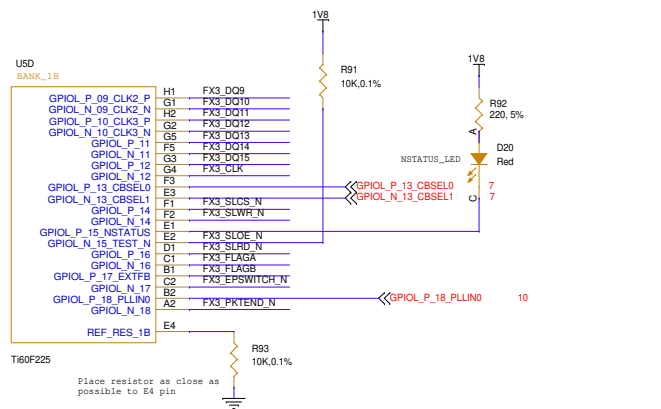
User LEDs



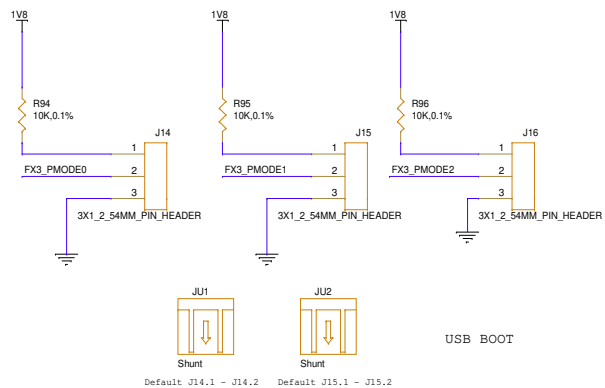




Place one capacitor to each power pin

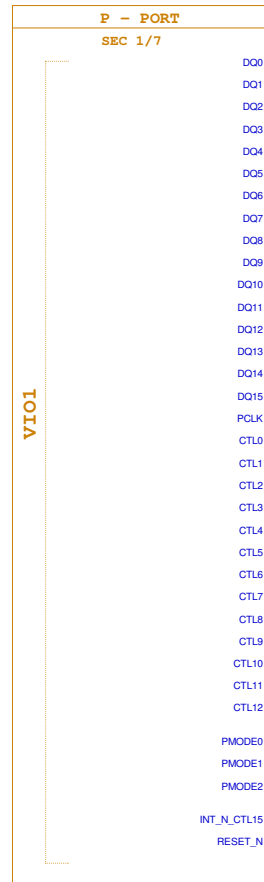


PMODE SELECTION



IO PORT 1

U16A



FX3_121_BUMP_4

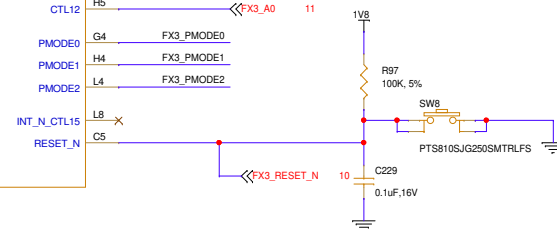
IO PORT 2

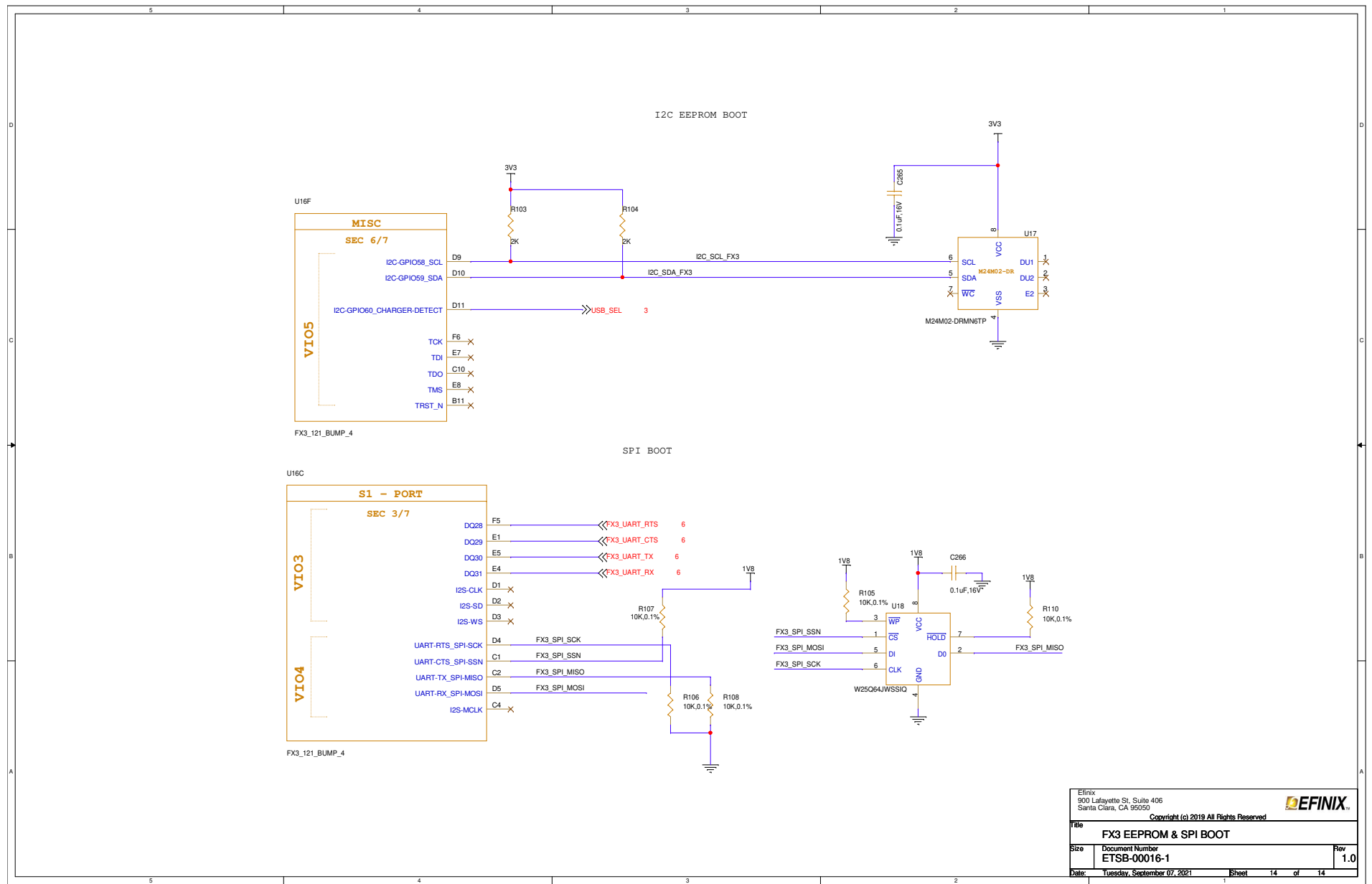
U16B



FX3_121_BUMP_4

IO PORT 3







Item	Quantity	Reference	Part	PCB Footprint
1	2	CR1,CR2	PGB1010603	TVS0603
2	13	C1,C40,C41,C69,C83,C102,C121,C133,C140,C152,C159, C166,C177	10uF,16V	C0805
3	73	C2,C9,C11,C13,C14,C16,C18,C19,C21,C47,C49,C51,C59,C61,C63,C65,C67,C72,C79,C91,C98,C105,C110,C117,C124,C129,C136,C143,C148,C155,C162,C164,C169,C180,C184,C185,C187,C188,C189,C190,C192,C193,C194,C197,C200,C201,C204,C229,C230,C232,C235,C237,C239,C240,C242,C244,C245,C247,C249,C251,C253,C255,C256,C258,C260,C261,C262,C265,C266,C383,C503,C507,C511	0.1uF,16V	C0201
4	2	C3,C7	4.7nF,16V	C0402
5	9	C4,C173,C174,C175,C176,C498,C501,C505,C509	47uF, 16V	C1210
6	5	C5,C22,C234,C254,C259	22uF,16V	C1206
7	11	C6,C8,C186,C191,C195,C205,C206,C208,C209,C212,C213	4.7uF,16V	C0603
8	38	C10,C12,C15,C17,C48,C50,C60,C62,C64,C66,C68,C73,C80,C92,C99,C111,C118,C130,C137,C149,C156,C163,C165,C170,C181,C207,C210,C211,C231,C233,C236,C238,C241,C243,C246,C248,C252,C257	0.01uF,16V	C0201
9	1	C20	22nF,16V	C0201
10	1	C23	15pF,50V	C0402
11	12	C42,C43,C70,C84,C103,C122,C134,C141,C153,C160,C167,C178	1uF,16V	C0402
12	20	C44,C45,C46,C71,C78,C85,C90,C97,C104,C109,C116,C123,C128,C135,C142,C147,C154,C161,C168,C179	1nF, 50V	C0402
13	1	C196	3.3uF, 6.3V	C1206
14	2	C198,C199	10pF,50V	C0402
15	1	C250	2.2uF,16V	C0402
16	2	C263,C264	13pF_50V	C0402
17	4	C497,C500,C504,C508	10uF, 25V	C0805
18	4	C499,C502,C506,C510	1uF, 50V	C0805
19	1	D2	B320-13-F	DO-SMC
20	10	D4,D5,D6,D7,D8,D9,D10,D11,D12,D13	SP0201B-U LC-01UTG	TVS-0201DFN
21	2	D15,D22	green	LED-0603
22	2	D16,D17	150141M173100	SFTW_3528_150141M173100
23	1	D20	Red	LED-0603
24	4	FB1,FB2,FB3,FB4	MPZ2012S601A	L0805

25	11	JU1,JU2,JU3,JU4,JU5,JU6,JU7,JU8,JU9,JU10,JU11	Shunt	Jumper
26	1	J1	FTPC24-FBR-1S-AB1	USB-TYPEC-FTPC24-FBR
27	1	J2	PJ-037BH-SMT	DC-PJ-037BH-SMT
28	5	J3,J8,J9,J10,J11	2X3_2_54MM_PIN_HEADER	SIP2-2.54
29	2	J4,J13	2X1_2_54MM_PIN_HEADER	CON2X2-2.54A
30	3	J5,J6,J7	2X2_2_54MM_PIN_HEADER	CON3X2-2.54A
31	1	J12	J21194-U414330A1	USB-TYPEC-FTPC16-FBR
32	3	J14,J15,J16	3X1_2_54MM_PIN_HEADER	SIP3-2.54
33	1	J18	6X1_2_54MM_PIN_HEADER	SIP6-2.54
34	1	L1	BLM21PG121SN1D	L0805
35	4	L6,L7,L8,L9	220 ohm	L0402
36	2	L10,L11	33 ohm @ 100MHz	L0402
37	3	L12,L13,L14	600 ohm	L0402
38	1	L20	MPL-AL5030-1R5	L252012-GSLQ252012MP
39	3	P1,P2,P3	QSE-020-01-F-D-A	CON20X2-QSE02001XXXDA-2HOLD
40	8	Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q18	MMBT3904T-7-F	SOT523-EBC
41	4	R1,R2,R40,R41	5.1K, 5%	R0402
42	7	R3,R11,R42,R52,R56,R97,R167	100K, 5%	R0402
43	1	R4	20, 1%	R0402
44	66	R5,R9,R12,R13,R14,R15,R16,R17,R18,R19,R20,R21,R22,R23,R24, R25,R26,R27,R28,R29,R30,R31,R32,R36,R37,R38,R44,R45,R46, R47,R53,R55,R58,R59,R63,R66,R67,R68,R69,R70,R71,R72,R73, R76,R77,R78,R81,R82,R83,R84,R85,R89,R90,R91,R93,R94,R95, R96,R98,R105,R106,R107,R108,R110,R112,R164	10K,0.1%	R0402
45	2	R6,R8	1M, 5%	R0402
46	3	R7,R60,R65	24k, 1%	R0402
47	1	R10	2.55K, 1%	R0402
48	4	R33,R34,R99,R100	10R, 5%	R0402
49	1	R35	12K 5%	R0402
50	1	R39	2.2K, 5%	R0402
51	7	R43,R92,R158	220, 5%	R0402
52	5	R48,R49,R50,R51,R54	56K, 5%	R0402
53	6	R57,R64,R74,R75,R79,R80	47K, 5%	R0402
54	2	R61,R62	1K, 5%	R0402
55	3	R86,R87,R88	33, 5%	R0402

56	1	R101	200 Ohm / 1%	R0402
57	1	R102	6.04K / 1%	R0402
58	2	R103,R104	2K	R0402
59	1	R113	7.68K, 1%	R0402
60	1	R114	40.2K, 1%	R0402
61	1	R291	200K, 10%	3362P-1-204LF
62	1	R296	60.4k, 1%	R0402
63	1	R299	30.1k, 1%	R0402
64	1	R303	13.3k, 1%	R0402
65	1	SD1	SD card	SD-FG-MCD-111643
66	6	SW1,SW3,SW5,SW6,SW7,SW8	PTS810SJG250SMTRLFS	SW-4.2X3.2-PTS810
67	1	SW2	DSHP02TSGER	SW-SMD4-1.27-DSHP
68	1	SW4	OS102011MS2QN1	SW-3P-SPDT-OS102011MS2QN1
69	4	TP1,TP2,TP3,TP4	5191TR	test point
70	1	U1	PI3USB302-A	TQFN20-4.5X2.5-.5TH3X1
71	1	U2	MP2233	TSOT23
72	1	U3	ADM7172ACPZ-R7	DFN8-3X3-.5TH2.4X1.6
73	1	U5	Ti60F225ES	BGA225-1010-.65-SOCKET
74	1	U8	FT4232H-56Q	QFN56-0808-.5TH5.9
75	1	U9	93LC56BT-I/OT	SOT23-6
76	2	U10,U18	W25Q64JWSSIQ	SO8-6-1.27
77	2	U12,U13	SN74AXC4T774PW	tssop16-065-5_1x4_5x1_2mm
78	1	U14	W958D6NW	WLCSP30
79	1	U16	CYUSB3014-BZXC	BGA121-1010-.8
80	1	U17	M24M02-DRMN6TP	SO8-6-1.27
81	1	U19	APX803S00-23SA-7	SOT-23-3
82	4	U23,U24,U25,U26	LTM4625	BGA25
83	1	X2	DSC1001DL2-025.0000	CRY-2520-4P
84	1	X3	DSC1001DL2-033.3333	CRY-2520-4P
85	1	X4	DSC1001DL2-074.2500	CRY-2520-4P
86	1	Y1	19.2 MHz	CRY-3225-4P
87	1	Y2	12 MHz	CRY-3225-4P



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