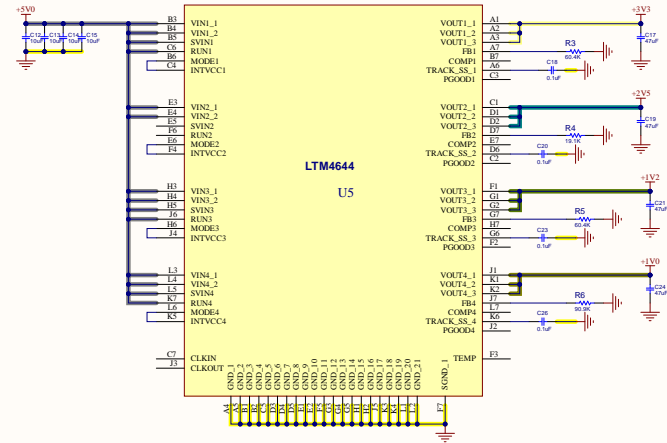
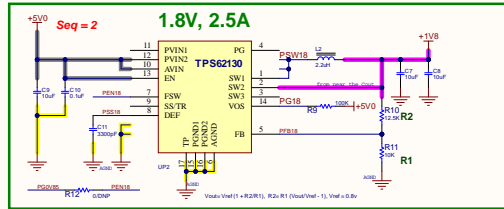
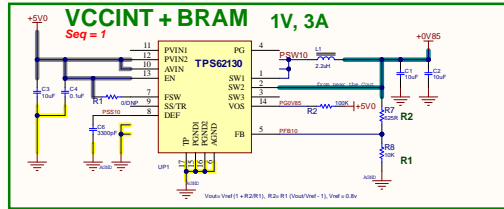


CPU - POWER



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BOTTOM

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MD USER114	219	361	361	361	361
MD USER115	221	363	363	363	363
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C								
D	<div><div><div>CONFIDENTIAL. Do not distribute.</div><div>Title:Variant: [No Variations]</div><div>Page Contents:CPU.SchDocChecked by</div><div>Size:DWG NORevision:</div><div>Date:11/8/2021Sheet 3 of 8</div></div></div>							
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CPU - DDR4 MEM

DESIGN NOTE:

Pull down resistor RX3 is added to trace SDCKE0 in Rev B4 by soldering to an existing open via. Change will be made permanent in layout with the Rev C board.

DESIGN NOTE:

Using bit swapping for DATA bus to allow easy pcb routing.

DESIGN NOTE:

When using data bit swapping the low order bit of each byte must reside at bit 0 of the byte. The remaining 7 data bits can be swapped freely. This restriction is for write leveling calibration. Example D0 to D0 or D0 to D6, and D1-7 can be swapped.

DESIGN NOTE:

When swapping byte lanes on 16-bit memories, remember to move the DOM, DOSx, and DOsx_B signals for that byte lane.

DESIGN NOTE:

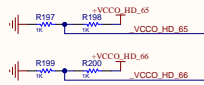
Replace 2GB DRAM with 1GB DRAM

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CPU - IO

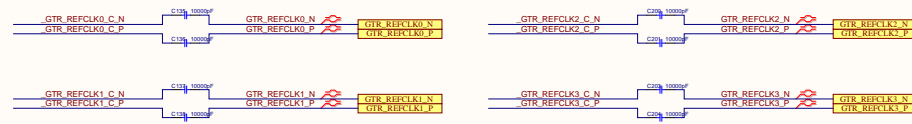
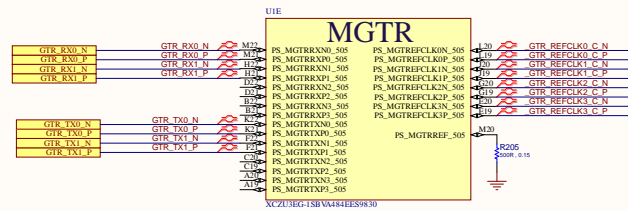


EUB

IO

XSI HP DP 00 P	XSI HP DP 00 P	64	IO L12N, ADIN_26	VRFF_65	VOCO HD 65		
XSI HP DP 01 P	XSI HP DP 01 P	65	IO L12P, ADIN_26	IO L1P, TOL N0, DBC_65	XSI HP DP 04	XSI HP DP 04	
XSI HP DP 02 P	XSI HP DP 02 P	66	IO L12P, ADIN_26	IO L1N, TOL N1, DBC_65	XSI HP DP 05	XSI HP DP 05	
XSI HP DP 03 P	XSI HP DP 03 P	67	IO L14N, ADIN_26	IO L2P, TOL N2_65	XSI HP DP 06	XSI HP DP 06	
XSI HP DP 04 P	XSI HP DP 04 P	68	IO L14N, ADIN_26	IO L3N, TOL N3_65	XSI HP DP 07	XSI HP DP 07	
XSI HP DP 05 P	XSI HP DP 05 P	69	IO L14N, ADIN_26	IO L3P, TOL N4_65	XSI HP DP 08	XSI HP DP 08	
XSI HP DP 06 P	XSI HP DP 06 P	70	IO L14P, ADIN_26	IO L3N, TOL N5, ADIN_65	XSI HP DP 09	XSI HP DP 09	
XSI HP DP 07 P	XSI HP DP 07 P	71	IO L16N, ADIN_26	IO L4P, TOL N6, DBC, ADIF, SDA_65	XSI HP DP 10	XSI HP DP 10	
XSI HP DP 08 P	XSI HP DP 08 P	72	IO L16P, ADIN_26	IO L4N, TOL N7, DBC, ADIF_65	XSI HP DP 11	XSI HP DP 11	
XSI HP DP 09 P	XSI HP DP 09 P	73	IO L16P, ADIN_26	IO L5P, TOL N8, DBC_65	XSI HP DP 12	XSI HP DP 12	
XSI HP DP 10 P	XSI HP DP 10 P	74	IO L18N, DDC_65, ADN_26	IO L5N, TOL N9, ADIN_65	XSI HP DP 13	XSI HP DP 13	
XSI HP DP 11 P	XSI HP DP 11 P	75	IO L18P, DDC_65, ADN_26	IO L6P, TOL N10, ADIF_65	XSI HP DP 14	XSI HP DP 14	
XSI HP DP 12 P	XSI HP DP 12 P	76	IO L18P, DDC_65, ADN_26	IO L6N, TOL N11, ADIN_65	XSI HP DP 15	XSI HP DP 15	
XSI HP DP 13 P	XSI HP DP 13 P	77	IO L18P, DDC_65, ADN_26	IO TOL N12, VRFF_65	XSI HP DP 16	XSI HP DP 16	
XSI HP DP 14 P	XSI HP DP 14 P	78	IO L18N, DDC_65, ADN_26	IO L7P, TOL N13, QBC, ADIF_65	XSI HP DP 17	XSI HP DP 17	
XSI HP DP 15 P	XSI HP DP 15 P	79	IO L18P, DDC_65, ADN_26	IO L7N, TOL N14, ADIF_65	XSI HP DP 18	XSI HP DP 18	
XSI HP DP 16 P	XSI HP DP 16 P	80	IO L18P, DDC_65, ADN_26	IO L8N, TOL N15, ADIN_65	XSI HP DP 19	XSI HP DP 19	
XSI HP DP 17 P	XSI HP DP 17 P	81	IO L18P, DDC_65, ADN_26	IO L8P, TOL N16, ADIF_65	XSI HP DP 20	XSI HP DP 20	
XSI HP DP 18 P	XSI HP DP 18 P	82	IO L18P, DDC_65, ADN_26	IO L8N, TOL N17, ADIN_65	XSI HP DP 21	XSI HP DP 21	
XSI HP DP 19 P	XSI HP DP 19 P	83	IO L18P, DDC_65, ADN_26	IO L9P, TOL N18, ADIF_65	XSI HP DP 22	XSI HP DP 22	
XSI HP DP 20 P	XSI HP DP 20 P	84	IO L18P, DDC_65, ADN_26	IO L9N, TOL N19, ADIN_65	XSI HP DP 23	XSI HP DP 23	
XSI HP DP 21 P	XSI HP DP 21 P	85	IO L18P, DDC_65, ADN_26	IO L10P, TOL N20, ADIF_65	XSI HP DP 24	XSI HP DP 24	
XSI HP DP 22 P	XSI HP DP 22 P	86	IO L18P, DDC_65, ADN_26	IO L10N, TOL N21, ADIN_65	XSI HP DP 25	XSI HP DP 25	
XSI HP DP 23 P	XSI HP DP 23 P	87	IO L18P, DDC_65, ADN_26	IO L10P, TOL N22, ADIF_65	XSI HP DP 26	XSI HP DP 26	
XSI HP DP 24 P	XSI HP DP 24 P	88	IO L18P, DDC_65, ADN_26	IO L10N, TOL N23, ADIN_65	XSI HP DP 27	XSI HP DP 27	
XSI HP DP 25 P	XSI HP DP 25 P	89	IO L18P, DDC_65, ADN_26	IO L11P, TOL N24_65	XSI HP DP 28	XSI HP DP 28	
XSI HP DP 26 P	XSI HP DP 26 P	90	IO L18P, DDC_65, ADN_26	IO L11N, TOL N25, GC_65	XSI HP DP 29	XSI HP DP 29	
XSI HP DP 27 P	XSI HP DP 27 P	91	IO L18P, DDC_65, ADN_26	IO L12P, TOL N26_65	XSI HP DP 30	XSI HP DP 30	
XSI HP DP 28 P	XSI HP DP 28 P	92	IO L18P, DDC_65, ADN_26	IO L12P, TOL N27, GC_65	XSI HP DP 31	XSI HP DP 31	
XSI HP DP 29 P	XSI HP DP 29 P	93	IO L18P, DDC_65, ADN_26	IO L12N, TOL N28, GC_65	XSI HP DP 32	XSI HP DP 32	
XSI HP DP 30 P	XSI HP DP 30 P	94	IO L18P, DDC_65, ADN_26	IO L12N, TOL N29, GC_65	XSI HP DP 33	XSI HP DP 33	
XSI HP DP 31 P	XSI HP DP 31 P	95	IO L18P, DDC_65, ADN_26	IO L12N, TOL N30, GC_65	XSI HP DP 34	XSI HP DP 34	
XSI HP DP 32 P	XSI HP DP 32 P	96	IO L18P, DDC_65, ADN_26	IO L12N, TOL N31, GC_65	XSI HP DP 35	XSI HP DP 35	
XSI HP DP 33 P	XSI HP DP 33 P	97	IO L18P, DDC_65, ADN_26	IO L12N, TOL N32, GC_65	XSI HP DP 36	XSI HP DP 36	
XSI HP DP 34 P	XSI HP DP 34 P	98	IO L18P, DDC_65, ADN_26	IO L12N, TOL N33, GC_65	XSI HP DP 37	XSI HP DP 37	
XSI HP DP 35 P	XSI HP DP 35 P	99	IO L18P, DDC_65, ADN_26	IO L12N, TOL N34, GC_65	XSI HP DP 38	XSI HP DP 38	
XSI HP DP 36 P	XSI HP DP 36 P	100	IO L18P, DDC_65, ADN_26	IO L12N, TOL N35, GC_65	XSI HP DP 39	XSI HP DP 39	
XSI HP DP 37 P	XSI HP DP 37 P	101	IO L18P, DDC_65, ADN_26	IO L12N, TOL N36, GC_65	XSI HP DP 40	X	
XSI HP DP 38 P	XSI HP DP 38 P	102	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N0, DBC, ADIF_65	XSI HP DP 41	X	
XSI HP DP 39 P	XSI HP DP 39 P	103	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N1, DBC, ADIN_65	XSI HP DP 42	X	
XSI HP DP 40 P	XSI HP DP 40 P	104	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N2, DBC, ADIF_65	XSI HP DP 43	X	
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XSI HP DP 43 P	XSI HP DP 43 P	107	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N5, DBC, ADIN_65	XSI HP DP 46	X	
XSI HP DP 44 P	XSI HP DP 44 P	108	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N6, DBC, ADIF_65	XSI HP DP 47	X	
XSI HP DP 45 P	XSI HP DP 45 P	109	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N7, DBC, ADIN_65	XSI HP DP 48	X	
XSI HP DP 46 P	XSI HP DP 46 P	110	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N8, DBC, ADIF_65	XSI HP DP 49	X	
XSI HP DP 47 P	XSI HP DP 47 P	111	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N9, DBC, ADIN_65	XSI HP DP 50	X	
XSI HP DP 48 P	XSI HP DP 48 P	112	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N10, DBC, ADIF_65	XSI HP DP 51	X	
XSI HP DP 49 P	XSI HP DP 49 P	113	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N11, DBC, ADIN_65	XSI HP DP 52	X	
XSI HP DP 50 P	XSI HP DP 50 P	114	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N12, DBC, ADIF_65	XSI HP DP 53	X	
XSI HP DP 51 P	XSI HP DP 51 P	115	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N13, DBC, ADIN_65	XSI HP DP 54	X	
XSI HP DP 52 P	XSI HP DP 52 P	116	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N14, DBC, ADIF_65	XSI HP DP 55	X	
XSI HP DP 53 P	XSI HP DP 53 P	117	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N15, DBC, ADIN_65	XSI HP DP 56	X	
XSI HP DP 54 P	XSI HP DP 54 P	118	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N16, DBC, ADIF_65	XSI HP DP 57	X	
XSI HP DP 55 P	XSI HP DP 55 P	119	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N17, DBC, ADIN_65	XSI HP DP 58	X	
XSI HP DP 56 P	XSI HP DP 56 P	120	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N18, DBC, ADIF_65	XSI HP DP 59	X	
XSI HP DP 57 P	XSI HP DP 57 P	121	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N19, DBC, ADIN_65	XSI HP DP 60	X	
XSI HP DP 58 P	XSI HP DP 58 P	122	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N20, DBC, ADIF_65	XSI HP DP 61	X	
XSI HP DP 59 P	XSI HP DP 59 P	123	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N21, DBC, ADIN_65	XSI HP DP 62	X	
XSI HP DP 60 P	XSI HP DP 60 P	124	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N22, DBC, ADIF_65	XSI HP DP 63	X	
XSI HP DP 61 P	XSI HP DP 61 P	125	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N23, DBC, ADIN_65	XSI HP DP 64	X	
XSI HP DP 62 P	XSI HP DP 62 P	126	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N24, DBC, ADIF_65	XSI HP DP 65	X	
XSI HP DP 63 P	XSI HP DP 63 P	127	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N25, DBC, ADIN_65	XSI HP DP 66	X	
XSI HP DP 64 P	XSI HP DP 64 P	128	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N26, DBC, ADIF_65	XSI HP DP 67	X	
XSI HP DP 65 P	XSI HP DP 65 P	129	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N27, DBC, ADIN_65	XSI HP DP 68	X	
XSI HP DP 66 P	XSI HP DP 66 P	130	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N28, DBC, ADIF_65	XSI HP DP 69	X	
XSI HP DP 67 P	XSI HP DP 67 P	131	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N29, DBC, ADIN_65	XSI HP DP 70	X	
XSI HP DP 68 P	XSI HP DP 68 P	132	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N30, DBC, ADIF_65	XSI HP DP 71	X	
XSI HP DP 69 P	XSI HP DP 69 P	133	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N31, DBC, ADIN_65	XSI HP DP 72	X	
XSI HP DP 70 P	XSI HP DP 70 P	134	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N32, DBC, ADIF_65	XSI HP DP 73	X	
XSI HP DP 71 P	XSI HP DP 71 P	135	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N33, DBC, ADIN_65	XSI HP DP 74	X	
XSI HP DP 72 P	XSI HP DP 72 P	136	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N34, DBC, ADIF_65	XSI HP DP 75	X	
XSI HP DP 73 P	XSI HP DP 73 P	137	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N35, DBC, ADIN_65	XSI HP DP 76	X	
XSI HP DP 74 P	XSI HP DP 74 P	138	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N36, DBC, ADIF_65	XSI HP DP 77	X	
XSI HP DP 75 P	XSI HP DP 75 P	139	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N37, DBC, ADIN_65	XSI HP DP 78	X	
XSI HP DP 76 P	XSI HP DP 76 P	140	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N38, DBC, ADIF_65	XSI HP DP 79	X	
XSI HP DP 77 P	XSI HP DP 77 P	141	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N39, DBC, ADIN_65	XSI HP DP 80	X	
XSI HP DP 78 P	XSI HP DP 78 P	142	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N40, DBC, ADIF_65	XSI HP DP 81	X	
XSI HP DP 79 P	XSI HP DP 79 P	143	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N41, DBC, ADIN_65	XSI HP DP 82	X	
XSI HP DP 80 P	XSI HP DP 80 P	144	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N42, DBC, ADIF_65	XSI HP DP 83	X	
XSI HP DP 81 P	XSI HP DP 81 P	145	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N43, DBC, ADIN_65	XSI HP DP 84	X	
XSI HP DP 82 P	XSI HP DP 82 P	146	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N44, DBC, ADIF_65	XSI HP DP 85	X	
XSI HP DP 83 P	XSI HP DP 83 P	147	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N45, DBC, ADIN_65	XSI HP DP 86	X	
XSI HP DP 84 P	XSI HP DP 84 P	148	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N46, DBC, ADIF_65	XSI HP DP 87	X	
XSI HP DP 85 P	XSI HP DP 85 P	149	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N47, DBC, ADIN_65	XSI HP DP 88	X	
XSI HP DP 86 P	XSI HP DP 86 P	150	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N48, DBC, ADIF_65	XSI HP DP 89	X	
XSI HP DP 87 P	XSI HP DP 87 P	151	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N49, DBC, ADIN_65	XSI HP DP 90	X	
XSI HP DP 88 P	XSI HP DP 88 P	152	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N50, DBC, ADIF_65	XSI HP DP 91	X	
XSI HP DP 89 P	XSI HP DP 89 P	153	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N51, DBC, ADIN_65	XSI HP DP 92	X	
XSI HP DP 90 P	XSI HP DP 90 P	154	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N52, DBC, ADIF_65	XSI HP DP 93	X	
XSI HP DP 91 P	XSI HP DP 91 P	155	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N53, DBC, ADIN_65	XSI HP DP 94	X	
XSI HP DP 92 P	XSI HP DP 92 P	156	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N54, DBC, ADIF_65	XSI HP DP 95	X	
XSI HP DP 93 P	XSI HP DP 93 P	157	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N55, DBC, ADIN_65	XSI HP DP 96	X	
XSI HP DP 94 P	XSI HP DP 94 P	158	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N56, DBC, ADIF_65	XSI HP DP 97	X	
XSI HP DP 95 P	XSI HP DP 95 P	159	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N57, DBC, ADIN_65	XSI HP DP 98	X	
XSI HP DP 96 P	XSI HP DP 96 P	160	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N58, DBC, ADIF_65	XSI HP DP 99	X	
XSI HP DP 97 P	XSI HP DP 97 P	161	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N59, DBC, ADIN_65	XSI HP DP 100	X	
XSI HP DP 98 P	XSI HP DP 98 P	162	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N60, DBC, ADIF_65	XSI HP DP 101	X	
XSI HP DP 99 P	XSI HP DP 99 P	163	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N61, DBC, ADIN_65	XSI HP DP 102	X	
XSI HP DP 100 P	XSI HP DP 100 P	164	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N62, DBC, ADIF_65	XSI HP DP 103	X	
XSI HP DP 101 P	XSI HP DP 101 P	165	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N63, DBC, ADIN_65	XSI HP DP 104	X	
XSI HP DP 102 P	XSI HP DP 102 P	166	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N64, DBC, ADIF_65	XSI HP DP 105	X	
XSI HP DP 103 P	XSI HP DP 103 P	167	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N65, DBC, ADIN_65	XSI HP DP 106	X	
XSI HP DP 104 P	XSI HP DP 104 P	168	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N66, DBC, ADIF_65	XSI HP DP 107	X	
XSI HP DP 105 P	XSI HP DP 105 P	169	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N67, DBC, ADIN_65	XSI HP DP 108	X	
XSI HP DP 106 P	XSI HP DP 106 P	170	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N68, DBC, ADIF_65	XSI HP DP 109	X	
XSI HP DP 107 P	XSI HP DP 107 P	171	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N69, DBC, ADIN_65	XSI HP DP 110	X	
XSI HP DP 108 P	XSI HP DP 108 P	172	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N70, DBC, ADIF_65	XSI HP DP 111	X	
XSI HP DP 109 P	XSI HP DP 109 P	173	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N71, DBC, ADIN_65	XSI HP DP 112	X	
XSI HP DP 110 P	XSI HP DP 110 P	174	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N72, DBC, ADIF_65	XSI HP DP 113	X	
XSI HP DP 111 P	XSI HP DP 111 P	175	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N73, DBC, ADIN_65	XSI HP DP 114	X	
XSI HP DP 112 P	XSI HP DP 112 P	176	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N74, DBC, ADIF_65	XSI HP DP 115	X	
XSI HP DP 113 P	XSI HP DP 113 P	177	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N75, DBC, ADIN_65	XSI HP DP 116	X	
XSI HP DP 114 P	XSI HP DP 114 P	178	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N76, DBC, ADIF_65	XSI HP DP 117	X	
XSI HP DP 115 P	XSI HP DP 115 P	179	IO L12P, TOL N2, ADIF_65	IO L19N, TOL N77, DBC, ADIN_65	XSI HP DP 118	X	
XSI HP DP 116 P	XSI HP DP 116 P	180	IO L12P, TOL N2, ADIF_65	IO L19P, TOL N78, DBC, ADIF_65	XSI HP DP 119	X	
XSI HP DP 117 P	XSI HP DP 117 P	181	IO L12P, TOL N2, ADIF_65				

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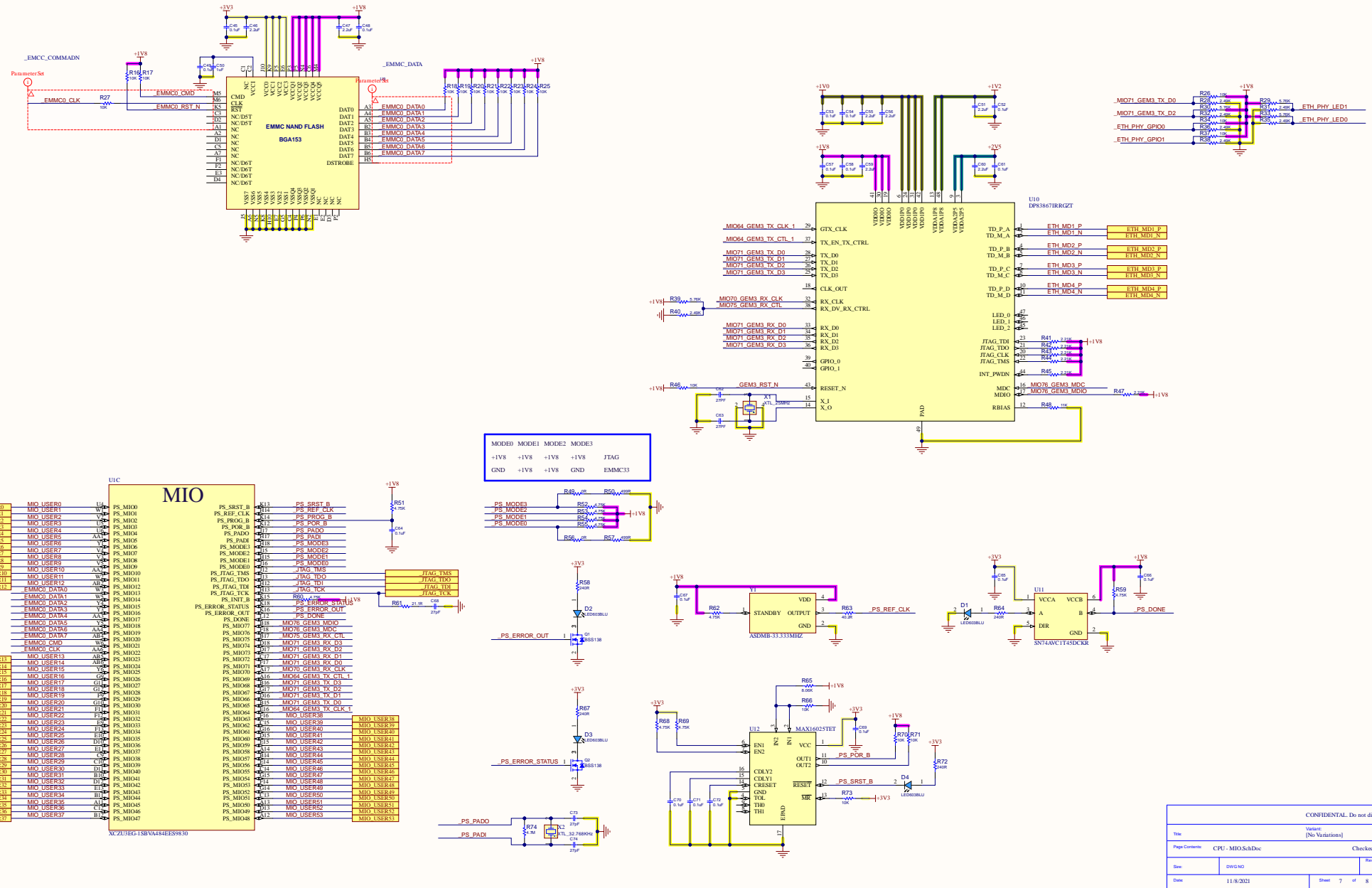


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