

TSW14J56 BOM REV B							
Item	Quantity	Reference	Note	Part	Part Number	Manufacturer	Foot Print
1	4	CN1,CN2,CN3,CN4		0.1uF	W2A4ZC104MAT2A	AVX	cnet4_0508
2	4	C1,C2,C3,C5		0.1uF	GRM155R61C104KA88D	MURATA	402
3	1	C4		0.1uF	GRM155R71E103KA01D	MURATA	402
4	4	C6,C7,C8,C9		0.1uF	C0603X7S1A104K030BC	TDK	201
5	20	C10,C11,C12,C13,C14,C15,C16,C17,C18,C19,C20,C21,C22,C23,C24,C25,C26,C372,C373,C374		2.2nF	GRM033R71A222KA01D	Murata	201
6	4	C27,C28,C369,C371		3.3nF	GRM033R71A332KA01D	Murata	201
7	4	C29,C30,C31,C370		4.7nF	GRM033R71A472KA01D	Murata	201
8	8	C32,C33,C34,C35,C36,C37,C38,C39		0.01uF	GRM033R71A103KA01J	Murata	201
9	8	C41,C42,C43,C44,C45,C46,C47,C48		0.1uF	GRM033R61A104KE15D	Murata	201
10	8	C50,C51,C52,C53,C54,C55,C56,C57		0.47uF	CL03A474KQ3NNNC	Samsung Electro-Mechanics America, Inc	201
11	1	C58		10uF	GRM31CR61E106KA12L	MURATA	1206
12	1	C59		100pF	GRM1555C1H101J201B	MURATA	402
13	2	C60,C61		0.1uF	GRM155R71C104KA88D	MURATA	402
14	1	C65		1uF	GRM155R61A104KA01D	MURATA	402
15	1	C66		100pF	04025C101KAT2A	AVX CORP	402
16	1	C69		2200pF	ECJ-0EB1E222K	Panasonic	402
17	1	C70		10pF	GRM1555C1H100J201D	MURATA	402
18	0	C73	DNI	CAP_0402_10pF		Murata	402
19	8	C74,C75,C76,C77,C78,C79,C80,C81		1uF	GRM033R61A104KE15D	MURATA	201
20	13	C82,C83,C84,C85,C86,C87,C88,C112,C140,C165,C166,C361,C362		100uF	TCJB107M006R0045	AVX Corp	3528
21	48	C94,C95,C96,C97,C98,C99,C100,C101,C102,C103,C104,C105,C106,C107,C108,C109,C110,C111,C113,C116,C117,C118,C119,C120,C121,C122,C123,C124,C125,C126,C127,C128,C129,C130,C131,C132,C137,C159,C167,C168,C177,C178,C189,C353,C356,C357,C365,C402		4.7uF	C1005X5R0J475K050BC	TDK	402
22	15	C114,C138,C157,C171,C172,C173,C179,C182,C183,C184,C185,C358,C359,C367,C404		0.1uF	C1005X7R1E104K050BB	TDK	402
23	2	C115,C139		22nF	GRM155R71E223KA61D	Murata	402
24	3	C158,C176,C188		220uF	T520B227M006ATE070	Kemet	3528
25	3	C160,C180,C199		0.22uF	160X14X224MMV4T	Johanson Dielectrics Inc	C-0603_X2Y
26	3	C161,C181,C200		0.1uF	100X14W104MMV4T	Johanson Dielectrics Inc	C-0603_X2Y
27	3	C162,C300,C303		47nF	160X14W473MMV4T	Johanson Dielectrics Inc	C-0603_X2Y
28	3	C163,C286,C301		22nF	250X14W223MMV4T	Johanson Dielectrics Inc	C-0603_X2Y
29	3	C164,C287,C302		1uF	100X14W105MMV4T	Johanson Dielectrics Inc	C-0603_X2Y
30	5	C169,C170,C363,C364,C366		0.22uF	CL05B224KP5NNNC	Samsung Electro-Mechanics America, Inc	402
31	5	C174,C175,C354,C355,C403		22nF	CL05B223KP5NNNC	Samsung Electro-Mechanics America, Inc	402
32	21	C201,C202,C214,C215,C224,C225,C236,C241,C249,C255,C264,C272,C285,C293,C328,C334,C337,C376,C391,C396,C409		0.1uF	GRM155R71C104KA88D	Murata	402
33	10	C203,C204,C205,C206,C207,C208,C209,C210,C212,C282		0.1uF	GRM188R71C104KA01D	Murata	603
34	2	C211,C213		4.7uF	C0603C475K8PACTU	Kemet	603
35	1	C216		4.7uF	TAJA475K006RNI	AVX	TANT_A
36	15	C217,C220,C243,C254,C269,C278,C279,C280,C283,C284,C292,C333,C375,C394,C408		10uF	GRM188R60J106ME47D	Murata	603
37	1	C218		0.01uF	GRM155R71E103KA01D	Murata	402
38	2	C219,C221		100uF	C1206C107M9PACTU	Kemet	1206
39	0	C222,C223	DNI	22pF	GRM1885C2A220JA01D	Murata	603
40	2	C226,C227		27pF	GRM1885C2A270JA01D	MURATA	603
41	4	C228,C230,C231,C234		0.1uF	GRM188R71C104KA01D	MURATA	402
42	2	C229,C232		4.7uF	C1005X5R0J475K	TDK	402
43	1	C233		0.01uF	ECJ-0EB1E103K	Panasonic	402
44	2	C235,C281		1000pF	C1005X7R1H102K	TDK	402
45	24	C237,C238,C239,C240,C250,C251,C252,C253,C265,C266,C267,C268,C288,C289,C290,C291,C329,C330,C331,C332,C400,C401,C406,C407		100uF	C3216X5R1A107M	TDK	1206
46	1	C245		68pF	C1005C0G1H680G	TDK	402
47	6	C246,C260,C275,C295,C338,C399		0.022uF	GRM155R71C223KA01D	Murata	402
48	6	C247,C258,C273,C296,C339,C395		22uF	C2012X5R1A226K/1.25	TDK	805
49	1	C248		3300pF	GRM155R71H332KA01D	Murata	402
50	4	C259,C274,C294,C398		330pF	GRM155R71H331KA01D	Murata	402
51	4	C261,C276,C297,C397		1500pF	GRM155R71H152KA01D	Murata	402
52	1	C277		4.7uF	C1608X5R1A475K/0.50	TDK	603
53	2	C298,C393		33uF	T520B336M010ATE035	Kemet	3528
54	3	C299,C327,C392		1uF	GRM188R60J105KA01D	Murata	603
55	1	C324		10uF	GRM32DR71C106KA01L	Murata	1210
56	1	C325		680uF	EEV-FK1V681Q	Panasonic	CAP_SMD_12_5MM
57	1	C326		47uF	EEE-HA1V470UP	Panasonic	CAP_SMD_8MM
58	4	C335,C345,C351,C385		47uF	GRM32ER61A476KE20L	MURATA	1210
59	2	C336,C352		330uF	TPMD337K010R0035	AVX	TANT_D
60	1	C340		8200pF	GRM155R71E822KA01D	Murata	402
61	2	C341,C390		10uF	GRM218R61E106KA73L	MURATA	805
62	4	C342,C346,C387,C388		1uF	GRM155R71C104KA88D	MURATA	402
63	2	C343,C389		0.01uF	GRM155R71H103KA88D	MURATA	402
64	4	C344,C347,C384,C386		1.0uF	C1608X7R1E105K	Yageo	603
65	1	C348		1uF	GRM188R71C104KA01	Murata	603
66	2	C349,C350	LOW ESR	10uF	TAJT106K016RNI	TDK	3528
67	9	D1,D2,D3,D4,D5,D6,D7,D8,D17		LED GREEN	LTST-C170KGKT	Liteon	LED_0805
68	0	D9	DNI	LED GREEN	LTST-C170KGKT	Liteon	LED_0805
69	4	D11,D13,D16,D19		LED BLUE	LB L293-M2P1-36-1-Z	OSRAM Opto Semiconductors Inc	LED_0603
70	7	D21,D23,D25,D26,D27,D30,D33		LED BLUE	LB L293-M2P1-36-1-Z	Lumex Opto/Components Inc	LED_0603

71	1	D24		B540C-13-F	B540C-13-F	Diodes Inc.	DO-214AB_RECTRON
72	1	D28		GREEN	LTST-C170KGT	Liteon	LED_0805
73	1	D32		LED RED	LTST-C170KRKT	Lite-On	LED_0805
74	1	FB1		1K OHM @ 100MHz	BLM41PG102SN1L	MURATA	1806
75	1	FB2		120 OHM @ 100MHz	BLM31PG121SN1L	MURATA	1206
76	2	FB3,FB4		68 OHM @ 100MHz	EXC-ML32A680U	Panasonic	1206
77	2	FB5,FB6		220 OHMS @ 100MHz	BLM18KG221SN1D	Murata	603
78	11	FB7,FB8,FB9,FB10,FB11,FB12,FB13,FB14,FB15,FB16,FB17		30 OHM @ 100MHz	742792609	Würth Electronics Inc	603
79	2	JP1,JP8	SHUNT 1-2	HDR, THVT, 3POS	HTSW-103-07-G-S	SAMTEC	HDR_THVT_1x3_100_M
80	1	JP3		HDR, THVT, 2POS	HTSW-102-08-G-S	SAMTEC	HDR_THVT_1X2_100_M
81	1	JP9	(SHUNT 2-3)	HEADER_1x3_100_430L	HMTSW-103-07-G-S-.240	Samtec	HDR_THVT_1x3_100_M
81a	4	JP4,JP5,JP6,JP7	SHUNT 1-2	HEADER_1x3_100_430L	HMTSW-103-07-G-S-.240	Samtec	HDR_THVT_1x3_100_M
82	1	J1		22-11-2032	22-11-2032	Molex	HDR_THVT_1x3_100_M_KEYED
83	1	J2		JTAG HEADER	5102153-1	Tyco	CON_THVT_2x5_100_M
84	5	J3,J5,J6,J7,J8		SMA_THVT_REC	142-0701-201	Johnson Components	SMA_THVT_312x312
85	1	J4		CON_40X10_VITA57_F	SEAF-40-05.0-S-10-2-A-K-TR	SAMTEC	con_40x10_asp_134486_01_f_via
86	1	J9		CONN RECEP USB 5POS RT ANG SMD	678038020	Molex	CON_SMRT_USBMNE20_F
87	1	J10		HTSW-105-07-G-D	HTSW-105-07-G-D	SAMTEC	HDR_THVT_2x5_100_M
88	1	J11		CONN JACK PWR	RAPC722	Switchcraft	CON_THRT_POWERJACK_RAPC722
89	1	L1		1K @ 100MHZ	BLM21AG102SN1D	Murata	805
90	6	L2,L3,L4,L5,L8,L9		1.5uH	MSS1048-152NL	Coilcraft	IND_SM_MSS1048
91	0	Q1	DNI	NDS331N/SOT	NDS331N	Fairchild Semiconductor	TO236
92	1	Q2		NDS331N/SOT	NDS331N	Fairchild Semiconductor	TO236
93	12	Q10,Q11,Q12,Q13,Q14,Q15,Q16,Q17,Q18,Q19,Q20,Q21		DTC114EET1G	DTC114EET1G	ON Semiconductor	SOT_416_3_63x31
94	8	RSHN1,RSHN5,RSHN6,RSHN7,RSHN8,RSHN9,RSHN10,RSHN11		SHUNT RES	ERJ-2GEOR00X	Panasonic Electronic Components	
95	1	RSHN14		SHUNT RES	ERJ-6GEYOR00V	Panasonic Electronic Components	
96	14	R1,R2,R3,R4,R6,R11,R14,R16,R17,R18,R20,R232,R233,R235		1K	ERJ-2RKF1001X	Panasonic	402
97	8	R5,R8,R9,R10,R12,R15,R19,R22		75	ERJ-2RKF75R0X	Panasonic	402
98	23	R7,R21,R92,R96,R112,R117,R118,R119,R120,R125,R171,R177,R184,R197,R203,R224,R236,R237,R255,R269,R325,R326,R342		0	ERJ-2GEOR00X	Panasonic	402
99	4	R13,R258,R319,R322		0	ERJ-2GEOR00X	Panasonic	402
100	0	R23	DNI	0	ERJ-8GEYOR00V	Panasonic	1206
101	3	R24,R29,R327		0	ERJ-8GEYOR00V	Panasonic	1206
102	6	R25,R99,R100,R101,R102,R103		1K	ERJ-2RKF1001X	Panasonic	402
103	1	R26		4.75K	ERJ-8ENF4751V	Panasonic	1206
104	0	R27	DNI	165	ERJ-3EKF1650V	Panasonic	603
105	1	R30		0	ERJ-2GEOR00X	Panasonic	402
106	1	R31		47K	ERJ-2RKF4702X	Panasonic	402
107	2	R32,R33		0	ERJ-8GEYOR00V	Panasonic	1206
108	0	R34,R243	DNI	10K	ERJ-2RKF1002X	Panasonic	402
109	46	R35,R36,R37,R38,R39,R40,R41,R42,R43,R44,R45,R46,R47,R48,R49,R50,R51,R52,R53,R54,R55,R56,R57,R59,R60,R61,R62,R63,R64,R65,R66,R67,R68,R69,R70,R71,R72,R73,R74,R76,R77,R78,R79,R80,R291,R313		51	RC0603F510CS	Samsung	201
110	2	R58,R75		100	ERJ-1GEF1000C	Panasonic	201
111	4	R81,R82,R83,R84		240	ERJ-1GEF2400C	Panasonic	201
112	0	R85,R192	DNI	4.75K	ERJ-2RKF4751X	Panasonic	402
113	1	R87		22.1	ERJ-2RKF22R1X	PANASONIC	402
114	3	R89,R90,R315		100	ERJ-2RKF1000X	Panasonic	402
115	0	R91,R95	DNI	130	ERJ-2RKF1300X	DALE	402
116	0	R93,R97	DNI	82	ERJ-2RKF82R0X	Panasonic	402
117	49	R104,R105,R108,R137,R142,R143,R144,R145,R146,R147,R148,R149,R150,R151,R152,R153,R154,R155,R156,R157,R174,R176,R181,R183,R188,R190,R193,R194,R200,R202,R207,R214,R221,R223,R226,R230,R234,R253,R268,R334,R335,R336,R337,R338,R339,R341,R344,R345,R346		10K	ERJ-2RKF1002X	Panasonic	402
118	1	R106		680	ERJ-2RKF6800X	Panasonic	402
119	0	R107,R110,R111,R191	DNI	0	ERJ-2GEOR00X	Panasonic	402
120	4	R113,R114,R115,R116		1.8K	ERJ-2RKF1801X	Panasonic	402
121	2	R130,R132		10	RC0603FR-0710RL	Yageo	603
122	1	R134		4.75K	ERJ-2RKF4751X	Panasonic	402
123	1	R135		12K	ERJ-3EKF1202V	Panasonic	603
124	1	R136		1K	ERJ-3EKF1001V	Panasonic	603
125	5	R138,R139,R140,R165,R166		10K	ERJ-2RKF1002X	PANASONIC	402
126	1	R141		2.2K	ERJ-2RKF2201X	Panasonic	402
127	12	R158,R159,R178,R185,R204,R225,R228,R249,R254,R261,R271,R343		4.75K	ERJ-2RKF4751X	Panasonic	402
128	4	R160,R161,R238,R259		36.5K	ERJ-2RKF3652X	Panasonic	402
129	1	R162		20K	ERJ-2RKF2002X	Panasonic	402
130	1	R163		1K	ERJ-3EKF1001V	Panasonic	603
131	1	R164		10k	ERJ-3EKF1002V	Panasonic	603
132	4	R167,R168,R169,R170		33	ERJ-2RKF33R0X	PANASONIC	402
133	6	R172,R179,R186,R198,R219,R265		100K	ERJ-3EKF1003V	Panasonic	603
134	1	R173		634	ERJ-2RKF6340X	Panasonic	402
135	1	R175		6.34K	ERJ-2RKF6341X	Panasonic	402
136	1	R180		2.49K	ERJ-2RKF2491X	Panasonic	402
137	4	R182,R189,R201,R273		2.49K	ERJ-2RKF2491X	Panasonic	402
138	1	R187		27.4K	ERJ-2RKF2742X	Panasonic	402
139	1	R195		249	ERJ-3EKF2490V	Panasonic	603
140	1	R196		100K	ERJ-2RKF1003X	Panasonic	402
141	2	R199,R272		8.66K	ERJ-2RKF8661X	Panasonic	402

142	1	R220		28K	ERJ-2RKF2802X	Panasonic	402
143	1	R222		1.69K	ERJ-2RKF1691X	Panasonic	402
144	3	R227,R248,R262		0	ERJ-3GEYOR00V	Panasonic	603
145	0	R229,R252,R256,R260,R320,R321,R323,R324	DNI	0	ERJ-2GEOR00X	Panasonic	402
146	1	R231		249K	ERJ-3EKF2493V	Panasonic	603
147	0	R239	DNI	1K	ERJ-2RKF1001X	Panasonic	402
148	3	R240,R330,R331		10K	ERJ-2RKF1002X	PANASONIC	402
149	2	R241,R242		100	ERJ-2RKF1000X	PANASONIC	402
150	0	R244,R245	DNI	Res_0402_Zero_H		Panasonic	402
151	2	R311,R312		4.70K	RC0603F472CS	Samsung	201
152	2	R316,R318		90.9	ERJ-2RKF90R9X	Panasonic	402
153	0	R332,R333	DNI	10K	ERJ-2RKF1002X	PANASONIC	402
154	12	R340,R347,R348,R349,R350,R351,R352,R353,R354,R355,R356,R357		0	ERJ-2GEOR00X	Panasonic	402
155	8	SHN1,SHN3,SHN4,SHN5,SHN6,SHN7,SHN8,S HN9		SHUNT HEADER	MJ-5.97-G or equivalent	Keltron	
156	4	SJP1,SJP9,SJP10,SJP11	SHUNT 1-2 (using item 94)	SOLDER JUMPER, 0402	SMD PADS (NO PART)	NO PART	SMD JUMPER_L_0402
157	4	SJP5,SJP6,SJP7,SJP8	SHUNT 2-3 (using item 94)	JUMPER 1x3 SMT	SMD PADS - NO PART	N/A	SMD JUMPER_L_0402
158	1	SJP12	SHUNT 1-2 (using item 95)	SOLDER JUMPER, 0603	SMD PADS (NO PART)	NO PART	SMD_JUMPER_0805
159	2	SW1,SW4		TDA04H0SB1R	TDA04H0SB1R	CK Components	SW-SMD-8
160	4	SW2,SW3,SW5,SW7		SW PUSHBUTTON	PT5635SL43	ITT Industries/C&K Div	SW_RESET_PT5635
161	1	SW6		SLIDE-4P2T	EG4208A	E-SWITCH	SW_THVT_4P2T_SLIDE_12
162	1	SW8		SW DIP-5	219-SMST	CTS	SW_DIP_SMVT_SPST_10_series219
163	1	SW9		SWITCH, SMT, PUSHBUTTON	EVQ-PNF04M	Panasonic	SW_SMVT_SPST_EVQPJX_2
164	16	TP1,TP2,TP3,TP13,TP15,TP17,TP19,TP21,TP22,TP24,TP26,TP27,TP30,TP31,TP32,TP36		RED	5010	Keystone	testpoint_62dia
165	15	TP4,TP5,TP7,TP8,TP12,TP14,TP16,TP18,TP20,TP23,TP25,TP28,TP29,TP33,TP37		BLK	5011	Keystone	testpoint_62dia
166	1	TP10		TP WHITE	5007	Keystone	testpoint_62dia
167	1	TP11		TP_THVT_060_RND-RED	5000	Keystone	testpoint_62dia
168	1	TP34		Testloop_Red	5010	Keystone	testpoint_62dia
169	1	TP35		Testloop_Black	5011	KEYSTONE	testpoint_62dia
170	1	U1		5AG2ME1EH29	5AG2ME1E3H29C4N	Altera	BGA_28X28_780_1mm
171	4	U2,U3,U4,U5		MT41J128M16HA	MT41J128M16HA-125-D	Micron	Micron_ddr3_96_9x14
172	1	U6		SN74AUP1T14DCK	SN74AUP1T14DCK	Texas Instruments	SOP_5_85X55_26
173	1	U7		SN74AVC4T245	SN74AVC4T245DGVR	Texas Instruments	TVSOP_16_146x177_16
174	1	U8		TPS76933DBVT	TPS76933DBVT	Texas Instruments	SOT_5_118x67_57
175	1	U9		FT4232H	FT4232HL	FTDI	LQFP_64_402x402_20
176	2	U10,U11		SN74AVC8T245	SN74AVC8T245DGVR	Texas Instruments	TVSOP_24_201x177_16
177	1	U12		93LC468-I/SN	93LC468-I/SN	Microchip	SOIC-8
178	1	U13	Needs to be programmed before installation	UCD90120A	UCD90120ARGC	Texas Instruments	QFN_64_360x360_0P50MM_RGC
179	6	U14,U15,U16,U18,U21,U27		TPS54620RGY	TPS54620RGY	Texas Instruments	QFN_14_144x144_pwrpad
180	1	U17		TPS51200	TPS51200DRCT	Texas Instruments	SON_DRC_10
181	2	U19,U26		TPS7A7300	TPS7A7300RGW	Texas Instruments	qfn20_rgw_p65pitch
182	2	U22,U25		TPS7A4700	TPS7A4700RGWT	Texas Instruments	qfn20_rgw_p65pitch
183	1	U23		TPS76733	TPS76733QPWP	Texas Instruments	HTSSOP_20_260x177_26_PWRPAD
184	1	Y1		10.0000MHz	FVXO-HC73BR-10.000000	FOX ELECTRONICS	OSC_6_SM_295X205_100_CUSTOM
185	1	Y2		100.00MHz	ECS-LVDS25-1000-A	ECS	VCXO_6_CUSTOM
186	1	Y3		12MHz w/ 10pF	ABM8G-12.000MHZ-B4Y-T	Abracon	XTAL_4_SM_130x102
187	1	Z_FANHEATSINK1		FAN HEATSINK FOR FPGA	ALT008	RADIAN HEATSINKS	
188	6	Z_STANDOFF SCREW1,Z_STANDOFF SCREW2,Z_STANDOFF SCREW3,Z_STANDOFF SCREW4,Z_STANDOFF SCREW5,Z_STANDOFF SCREW6	SCREW FOR STANDOFF	PANHEAD SCREW 4-40 x 3/8	PMSSS 440 0038 PH	Building Fasteners	
189	6	Z_STANDOFF1,Z_STANDOFF2,Z_STANDOFF3,Z_STANDOFF4,Z_STANDOFF5,Z_STANDOFF6	STANDOFF	STANDOFF ALUM HEX 4-40 x 3/4"	2204	Keystone	

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