

Bill of Materials

TI DESIGNS

TIDA-00432

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	IPC		Printed Circuit Board	Any	600847	-		
2	18	1V2ADC_INT,		Header, TH, 100mil, 2x1, Gold	Samtec, Inc.	TSW-102-07-G-S	-	TSW-102-07-G-	
3	6	3P3RX, GND, GND1, GND2, GND3, VADJ_RX	Black	Test Point, TH, Multipurpose, Black	Keystone Electronics	5011			
4	1	5VDC		Connector, DC Jack 2.1X5.5 mm, TH	CUI Inc.	PJ-202AH		Conn, DC Jack, pin 2mm Dia.	
5	5	12V, LD, Status1, Status2, USB_PWR	Green	LED, Green, SMD	Lite-On	LTST-C190GKT		1.6x0.8x0.8mm	
6	20	C2, C8, C11, C94, C95,	0.1uF	CAP, CERM, 0.1uF, 10V, +/-10%,	MuRata	GRM155R71A104KA01D		0402	
7	2	C3, C5	100pF	CAP, CERM, 100pF, 16V, +/-10%,	MuRata	GRM033R71C101KA01D		0201	
8	1	C4	10pF	CAP, CERM, 10pF, 50V, +/-5%,	MuRata	GRM1555C1H100JA01D		0402	
9	51	C7, C9, C10, C12, C13,	0.1uF	CAP, CERM, 0.1uF, 6.3V, X5R,	TDK	C0603X5R0J104K	-	0201	
10	1	C16	4.7uF	CAP, CERM, 4.7uF, 6.3V, +/-20%, X5R, 0402	TDK	C1005X5R0J475M050B C		0402	
11	25	C18, C19, C73, C88, C89,	0.1uF	CAP, CERM, 0.1uF, 10V, +/-10%,	TDK	C1005X5R1A104K	-	0402	
12	3	C24, C115, C210	0.1uF	CAP, CERM, 0.1uF, 16V, +/-5%,	AVX	0603YC104JAT2A	-	0603	
13	3	C25, C34, C38	100pF	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	AVX	06035A101JAT2A	-	0603	
14	4	C27, C48, C59, C72	10uF	CAP, TANT, 10uF, 10V, +/-20%, 2.5 ohm, 3528-21 SMD	Vishay-Sprague	293D106X0010B2TE3	-	3528-21	
15	4	C32, C33, C35, C37	4700pF	CAP, CERM, 4700pF, 10V, +/-10%, X5R, 0201	MuRata	GRM033R61A472KA01D	-	0201	
16	9	C39, C40, C49, C50, C60, C61, C125, C143, C205	1uF	CAP, CERM, 1uF, 10V, +/-10%, X5R, 0603	TDK	C1608X5R1A105K		0603	
17	1	C74	100pF	CAP, CERM, 100pF, 25V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1E101JA01D	-	0402	
18	5	C75, C76, C83, C84, C245	47pF	CAP, CERM, 47pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H470JA01D		0402	
19	6	C77, C79, C239, C242, C253, C256	0.01uF	CAP, CERM, 0.01uF, 25V, +/-10%, X7R, 0402	MuRata	GRM155R71E103KA01D		0402	
20	4	C78, C80, C254, C257	27pF	CAP, CERM, 27pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H270JA01D		0402	
21	8	C81, C82, C232, C236,	1uF	CAP, CERM, 1uF, 6.3V, +/-20%,	TDK	C1005X5R0J105M		0402	
22	1	C102	0.01uF	CAP, CERM, 0.01uF, 16V, +/-	TDK	C1005X7R1C103K		0402	
23	4	C108, C155, C201, C211	1uF	CAP, CERM, 1uF, 16V, +/-10%,	TDK	C1608X5R1C105K		0603	
24	20	C116, C126, C129, C130,	0.1uF	CAP, CERM, 0.1uF, 25V, +/-5%,	AVX	06033C104JAT2A		0603	
25	2	C117, C149	330pF	CAP, CERM, 330pF, 50V, +/-5%,	AVX	06035A331JAT2A		0603	
26	1	C122	10uF	CAP, CERM, 10uF, 10V, +/-10%,	Kemet	C0805C106K8PACTU		0805	

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27	2	C127, C160	4.7uF	CAP, CERM, 4.7uF, 10V, +/-10%, X5R, 0603	Kemet	C0603C475K8PACTU		0603	
28	2	C128, C161	0.01uF	CAP, CERM, 0.01uF, 100V, +/-20%, X7R, 0603	AVX	06031C103MAT2A		0603	
29	2	C135, C137	18pF	CAP, CERM, 18pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H180JA01D		0402	
30	2	C138, C212	100uF	CAP, CERM, 100uF, 6.3V, +/-20%, X5R, 1206	MuRata	GRM31CR60J107ME39L		1206	
31	20	C139, C141, C150, C152, C158, C163, C165, C166, C171, C172, C186, C188, C190, C195, C196, C197, C200, C202, C203, C204	10uF	CAP, CERM, 10uF, 10V, +/-10%, C0G/NP0, 0603	TDK	C1608X5R1A106M		0603	
32	4	C145, C146, C173, C184	10uF	CAP, CERM, 10uF, 16V, +/-10%, X5R, 0805	Taiyo Yuden	EMK212BJ106KG-T		0805	
33	1	C154	10pF	CAP, CERM, 10pF, 50V, +/-5%, C0G/NP0, 0603	AVX	06035A100JAT2A		0603	
34	2	C156, C157	47uF	CAP, CERM, 47uF, 6.3V, +/-20%, X5R, 1206	MuRata	GRM31CR60J476ME19L		1206	
35	1	C162	3300pF	CAP, CERM, 3300pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E332KA01D		0603	
36	1	C168	0.22uF	CAP, CERM, 0.22uF, 16V, +/-10%, X7R, 0603	TDK	C1608X7R1C224K		0603	
37	2	C169, C170	0.1uF	CAP, CERM, 0.1uF, 6.3V, +/-10%, X5R, 0402	MuRata	GRM155R60J104KA01D		0402	
38	2	C174, C175	0.027uF	CAP, CERM, 0.027uF, 16V, +/-10%, X7R, 0603	MuRata	GRM188R71C273KA01D		0603	
39	2	C178, C179	0.039uF	CAP, CERM, 0.039uF, 25V, +/-10%, X7R, 0603	AVX	06033C393KAT2A		0603	
40	4	C180, C181, C182, C183	22uF	CAP, CERM, 22uF, 10V, +/-20%, X5R, 1206	MuRata	GRM31CR61A226ME19L		1206	
41	1	C187	560pF	CAP, CERM, 560pF, 50V, +/-5%, C0G/NP0, 0603	AVX	06035A561JAT2A		0603	
42	1	C192	4700pF	CAP, CERM, 4700pF, 16V, +/-10%, X7R, 0603	MuRata	GRM188R71C472KA01D		0603	
43	1	C193	100uF	CAP, AL, 100uF, 25V, +/-20%, TH	Panasonic	EEU-EB1E101S		6.3x11.2mm	
44	1	C194	10uF	CAP, CERM, 10uF, 25V, +/-10%, X6S, 1210	MuRata	GRM32DC81E106KA12L		1210	
45	2	C228, C229	0.5pF	CAP CER 0.5PF 50V NP0 0402	Johanson Technology	500R07S0R5BV4T		0402	
46	6	C233, C237, C238, C241, C246, C248	4.7pF	CAP, CERM, 4.7pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H4R7CA01D		0402	
47	1	C244	560pF	CAP, CERM, 560pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H561JA01D		0402	
48	1	C249	22pF	CAP, CERM, 22pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H220JA01D		0402	
49	2	D2, D4	1.25V	Diode, Ultrafast, 100V, 0.15A, SOD-123	Diodes Inc.	1N4148W-7-F		SOD-123	
50	2	D11, D12	0.5V	Diode, Schottky, 40V, 5A, SMC	ON Semiconductor	MBRS540T3G		SMC	
51	6	DEVCLK, EXT_VCO, LMKCLK, OSCin, VIN+, VIN-		Connector, SMA, Vertical, Thru hole w/SMT center pin	Lighthouse Technology	SASF546-P26-X1		6.35x12.52x6.35 mm	

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52	1	EXT5V_FMC12V	1x3	Header, TH, 100mil, 1x3, Gold plated, 230 mil above insulator	Sullins Connector Solu	PBC03SAAN		PBC03SAAN	
53	1	FMC_RX1		Connector, Receptacle, 400-Pos (40x10), 50x50-mil Pitch, SMT	Molex	ASP-134488-01	45970-4315	2196x280x478mi	
54	4	FTDI_3P3V, OR, RSV, Ts ADD1		Header, TH, 100mil, 3x1, Gold plated, 230 mil above insulator	Samtec, Inc.	TSW-103-07-G-S	Equivalent	TSW-103-07-G-S	
55	2	H3, H4		Standoff, Round, 3/16" x 1-3/16"L #4-40 Aluminum	RAF	1648-440-AL	-	Standoff	
56	2	H5, H6		Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	B&F Fastener Supply	NY PMS 440 0025 PH	-	Screw	
57	2	H9, H11		Will add component to BOM. Useful for cables, nuts, etc. not in libraries	B&F Fastner Supply	PMSSS 256 0075 PH	-	Used in PnP output	
58	2	H10, H12		Will add component to BOM. Useful for cables, nuts, etc. not in libraries	B & F Fastener Supply	HNSS256	-	Used in PnP output	
59	1	J1		Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec, Inc.	TSW-104-07-G-S		TSW-104-07-G-S	
60	9	L1, L27, L28, L29, L30, L31, L32, L33, L34	1000 ohm	0.25A Ferrite Bead, 1000 ohm @ 100MHz, SMD	MuRata	BLM15HG102SN1D		0402	
61	8	L2, L3, L4, L5, L19, L21, L22, L23	330 ohm	1.5A Ferrite Bead, 330 ohm @ 100MHz, SMD	MuRata	BLM18SG331TN1D		0603	
62	9	L6, L9, L10, L13, L15, L16, L17, L18, L26	26 ohm	6A Ferrite Bead, 26 ohm @ 100MHz, SMD	MuRata	BLM18SG260TN1D		0603	
63	5	L7, L14, L20, L24, L25	120 ohm	3A Ferrite Bead, 120 ohm @ 100MHz, SMD	MuRata	BLM18SG121TN1D		0603	
64	1	L8	3uH	Inductor, Shielded Drum Core, Ferrite, 3uH, 3A, 0.024 ohm, SMD	Sumida	CDRH6D28NP-3R0NC		CDRH6D28	
65	1	L11	7uH	Inductor, Shielded Drum Core, Ferrite, 7uH, 4.35A, 0.03 ohm, SMD	Coilcraft	MSS1038-702NLB		MSS1038	
66	1	L12	5.5uH	Inductor, Shielded Drum Core, Superflux, 5.5uH, 10A, 0.0112 ohm, SMD	Würth Elektronik eiSos	744325550		WE-HC6	
67	1	LBL1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	Brady	THT-14-423-10	-	PCB Label 0.650"H x 0.200"W	
68	1	LF1	3900pF	CAP, CERM, 3900pF, 25V, +/-5%, COG/NPO, 0603	TDK	C1608C0G1E392J	-	0603	
69	1	LF2	47pF	CAP, CERM, 47pF, 50V, +/-5%, COG/NPO, 0603	AVX	06035A470JAT2A	-	0603	
70	1	LF3	619	RES, 619 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07619RL	Equivalent	0603	
71	1	LF7	uH	Coupled inductor, 5A, 0.01 ohm, SMD	TDK	ACM7060-301-2PL-TL	-	6x3.5x7 mm	
72	1	NCO		Header, TH, 100mil, 3x2, Gold plated, 230 mil above insulator	Samtec, Inc.	TSW-103-07-G-D	Equivalent	TSW-103-07-G-D	
73	2	OR_T0, OR_T1	Orange	LED, Orange, SMD	Lite-On	LTST-C190KFKT		1.6x0.8x0.8mm	
74	1	R1	8.06k	RES, 8.06k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04028K06FKED		0402	
75	2	R2, R10	1.2k	RES, 1.2k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04021K20JNED		0402	

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76	3	R3, R11, R150	1.0Meg	RES, 1.0Meg ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04021M00JNED		0402	
77	12	R4, R5, R6, R14, R15, R16, R105, R106, R107, R123, R130, R131	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K0FKEA	-	0603	
78	1	R12	1.33k	RES, 1.33k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04021K33FKED		0402	
79	1	R13	3.30k	RES, 3.30k ohm, 0.1%, 0.1W, 0603	Susumu Co Ltd	RG1608P-332-B-T5		0603	
80	1	R17	750	RES, 750 ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-07750RL		0603	
81	2	R19, R20	0	RES, 0 ohm, 5%, 0.05W, 0201	Panasonic	ERJ-1GE0R00C		0201	
82	6	R25, R38, R145, R147, R148, R149	0	RES, 0 ohm, 5%, 0.063W, 0402	Panasonic	ERJ-2GE0R00X		0402	
83	4	R27, R28, R34, R35	100	RES, 100 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402100RFKED		0402	
84	3	R31, R32, R122	1.3k	RES, 1.3k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-071K3L		0603	
85	2	R33, R37	3.3k	RES, 3.3k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04023K30JNED		0402	
86	4	R39, R71, R80, R134	1.0k	RES, 1.0k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-071KL		0603	
87	2	R41, R74	10.7k	RES, 10.7k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K7FKEA		0603	
88	11	R43, R44, R48, R59, R60, R61, R62, R63, R64, R160, R161	0	RES, 0 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04020000Z0ED	[NoValue], [NoValue], Equ	0402	
89	3	R45, R56, R112	270	RES, 270 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603270RJNEA	Equivalent	0603	
90	1	R47	2.32k	RES, 2.32k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-072K32L		0603	
91	2	R49, R77	4.64k	RES, 4.64k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-074K64L		0603	
92	1	R51	51	RES, 51 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW040251R0JNED	Equivalent	0402	
93	2	R52, R53	10	RES, 10 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW060310R0JNEA		0603	
94	12	R65, R68, R109, R110, R111, R113, R114, R115, R117, R118, R124, R125	100	RES, 100 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603100RJNEA		0603	
95	1	R66	1.00k	RES, 1.00k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K00FKEA	-	0603	
96	1	R67	12.0k	RES, 12.0k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-0712KL		0603	
97	1	R70	10k	RES, 10k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-0710KL		0603	
98	1	R72	82.5k	RES, 82.5k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060382K5FKEA		0603	
99	1	R76	22.1k	RES, 22.1k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060322K1FKEA		0603	
100	1	R78	10.0	RES, 10.0 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-0710RL		0603	
101	1	R79	732	RES, 732 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603732RFKEA		0603	
102	1	R81	16.2k	RES, 16.2k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060316K2FKEA		0603	
103	1	R82	7.87k	RES, 7.87k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06037K87FKEA		0603	

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104	1	R85	2.49k	RES, 2.49k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K49FKEA		0603	
105	2	R86, R87	5.90k	RES, 5.90k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06035K90FKEA		0603	
106	2	R88, RR6	4.99k	RES, 4.99k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06034K99FKEA	[NoValue], -	0603	
107	1	R89	2.80k	RES, 2.80k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K80FKEA		0603	
108	1	R91	4.99k	RES, 4.99k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04024K99FKED		0402	
109	1	R93	1.00k	RES, 1.00k ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-071KL		0603	
110	1	R94	1.0k	RES, 1.0k ohm, 5%, 0.25W, 1206	Vishay-Dale	CRCW12061K00JNEA		1206	
111	1	R96	357	RES, 357 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07357RL		0603	
112	4	R97, R98, R101, R102	12.4k	RES, 12.4k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060312K4FKEA		0603	
113	4	R99, R100, R143, RR7	0	RES, 0 ohm, 5%, 0.1W, 0603	Panasonic	ERJ-3GEY0R00V	-	0603	
114	3	R103, R132, R152	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	[NoValue], Equivalent, [No	0603	
115	1	R108	2.2k	RES, 2.2k ohm, 5%, 0.1W, 0603	Yageo America	RC0603JR-072K2L		0603	
116	1	R133	1.00k	RES, 1.00k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04021K00FKED		0402	
117	1	R135	2.10k	RES, 2.10k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K10FKEA		0603	
118	3	R136, R137, R138	4.7k	RES, 4.7k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06034K70JNEA		0603	
119	1	R144	10.0k	RES, 10.0k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040210K0FKED		0402	
120	1	R154	261	RES, 15k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW040215K0JNED		0402	
121	2	R156, R157	127	RES, 127 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402127RFKED		0402	
122	2	R158, R159	82.5	RES, 82.5 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040282R5FKED		0402	
123	1	R162	107	RES, 107 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW0402107RFKED		0402	
124	2	R163, R164	2.2k	RES, 2.2k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04022K20JNED		0402	
125	2	R166, R167	560	RES, 560, 5%, 0.063 W, 0402	Vishay-Dale	CRCW0402560RJNED		0402	
126	1	S1		SWITCH SLIDE SPST 4A PCB, TH	C&K Components	L101011MS02Q		Slide Switch, TH, SPST	
127	11	SH-1V2ADC_INT_1_2, SH-1V2ADC_LDO_1_2, SH-1V9ADC_1_2, SH-1V9INT_1_2, SH-5V_12V_1_2, SH-FTDI_3P3V_1_2, SH-J2_1_2, SH-LMK_INT_1_2, SH-LMK_LDO_1_2, SH-LMX_INT_1_2, SH-LMX_LDO_1_2	1x2	Shunt, 100mil, Gold plated, Black	Samtec, Inc.	SNT-100-BK-G	969102-0000-DA	Shunt	

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128	2	SH-RSV_1_2, SH-Ts ADD1_1_2	1x2	Shunt, 100mil, Gold plated, Black	3M	969102-0000-DA	Equivalent	Shunt	
129	1	SPI		Header, TH, 100mil, 4x2, Gold plated, 230 mil above insulator	Samtec, Inc.	TSW-104-07-G-D	-	TSW-104-07-G-D	
130	1	T1		Transformer, Multi-layer balun	Anaren	B0430J50100AHF		1.3x0.75x2.14 mm	
131	1	T2		Transformer, RF, 50 ohm, 10 to 4000 MHz, SMT	Minicircuits	TCM2-43X+		4.06x4.06x3.81 mm	
132	1	TEMP	Red	LED, Red, SMD	Lite-On	LTST-C170KRKT		LED_0805	
133	3	TMST+, TMST-, VIN	50 Ohm	Connector, SMT, End launch SMA 50 ohm	Emerson Network Pow	142-0701-806		SMA	
134	1	U1		Dual Micro-Power Rail-to-Rail Input CMOS Comparator with Push-Pull Output, 8-pin Narrow SOIC	National Semiconducto	LMC6762AIMX/NOPB		M08A	
135	1	U2		ADC12J4000NKE Ultra-Wideband RF Sampling Subsystem, NKE0068A	Texas Instruments	ADC12J4000NKE		NKE0068A	
136	1	U3		Dual Remote Diode and Local Temperature Sensor with SMBus Interface and TruTherm Technology, 14-pin LLP, Pb-Free	National Semiconducto	LM95233CISD/NOPB		SDA14B	
137	1	U4		Integer-N/Fractional-N PLL with Integrated VCO, RHB0032E	Texas Instruments	TRF3765IRHB		RHB0032E	
138	2	U5, U8		Micropower 800mA Low Noise "Ceramic Stable" Adjustable Voltage Regulator for 1V to 5V Applications, 8-pin PSOP, Pb-Free	National Semiconducto	LP3878MR-ADJ/NOPB		MRA08A	
139	1	U6		Low-Noise Clock Jitter Cleaner with Dual Loop PLLs, NKD0064A	Texas Instruments	LMK04828BISQ/NOPB		NKD0064A	
140	1	U7		3-A OUTPUT SINGLE SYNCHRONOUS STEP DOWN SWITCHER WITH INTEGRATED FET(SWIFT), DDA0008B	Texas Instruments	TPS54327DDA		DDA0008B	
141	1	U9		Dual 2A, 500kHz Wide Input Range Buck Regulator, 16-pin LLP, Pb-Free	National Semiconducto	LM26400YSDE/NOPB		SDA16A	
142	1	U10		3.0A Low Dropout Linear Regulator with Programmable Soft-Start, RGW0020A	Texas Instruments	TPS74901RGW		RGW0020A	
143	1	U11		3A Fast-Transient Response Adjustable Low-Dropout Linear Voltage Regulator, 5-pin TO-263 Thin, Pb-Free	National Semiconducto	LP38513TJ-ADJ/NOPB		TJ5A	
144	1	U12		4-BIT DUAL-SUPPLY BUS TRANSCEIVER WITH CONFIGURABLE VOLTAGE TRANSLATION AND 3-STATE OUTPUTS, PW0016A	Texas Instruments	SN74AVC4T774PW		PW0016A	
145	1	U13		Quad High Speed USB to Multipurpose UART/MPSSSE IC	FTDI	FT4232HL		LQFP_10x10mm	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
146	1	U14		300-mA, Low-IQ, Low-Dropout Regulator, DBV0005A	Texas Instruments	TLV70233DBV		DBV0005A	
147	1	U15		1K, 64x16-bit, 2.5V Microwire Serial EEPROM, 8-Pin MSOP, Industrial Temperature	Microchip Technology	93LC46B-I/MS		MSOP-MS8	
148	1	U17		Divide-by-2 Divider	ON Semiconductor	MC10EP32DG		751-06	
149	1	U18	SN74LVC1G125DBV	IC, Single Bus Buffer Gate With 3-States Output	TI	SN74LVC1G125DBV		DBV	
150	1	USB		MINI USB 2.0 SMT TYPE AB 5 CONTACTS R/A, SMD	Würth Elektronik eiSos	651-305-142-821		9.2x9.9x4 mm	
151	1	uWIRE		Connector, 100mil Shrouded, 5x2, High-Temperature, Gold, TH	3M	N2510-6002-RB		5x2 Shrouded header	
152	1	Y1		OSC 100.0000MHZ 3.3V +/-25PPM SMD	Connor-Winfield	CWX813-100.0M		7x1.3x5mm	
153	1	Y2		Crystal, 12Mhz, 18pF, SMD	Abracon Corporation	ABM3-12.000MHZ-B2-T		ABM3	
154	0	C1, C6	100pF	CAP, CERM, 100pF, 16V, +/-10%, X7R, 0201	MuRata	GRM033R71C101KA01D		0201	
155	0	C30, C36	0.22uF	CAP, CERM, 0.22uF, 6.3V, +/-20%, X5R, 0201	TDK	C0603X5R0J224M		0201	
156	0	C85, C86, C87, C114, C123, C231, C235, C250, C251	0.1uF	CAP, CERM, 0.1uF, 10V, +/-10%, X5R, 0402	TDK	C1005X5R1A104K	-	0402	
157	0	C90, C91, C92, C93, C262, C263	4700pF	CAP, CERM, 4700pF, 10V, +/-10%, X5R, 0201	MuRata	GRM033R61A472KA01D	-	0201	
158	0	C230, C234	47pF	CAP, CERM, 47pF, 50V, +/-5%, C0G/NP0, 0603	MuRata	GRM1885C1H470JA01D		0603	
159	0	C247	2.2pF	CAP, CERM, 2.2pF, 50V, +/-5%, C0G/NP0, 0402	MuRata	GRM1555C1H2R2CA01D		0402	
160	0	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A		Fiducial	
161	0	R7, R8, R9, R18, R21, R22, R23	0	RES, 0 ohm, 5%, 0.05W, 0201	Panasonic	ERJ-1GE0R00C		0201	
162	0	R24	10.0k	RES, 10.0k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040210K0FKED		0402	
163	0	R26, R29, R36, R146	0	RES, 0 ohm, 5%, 0.063W, 0402	Panasonic	ERJ-2GE0R00X		0402	
164	0	R30, R153	49.9	RES, 49.9 ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW040249R9FKED		0402	
165	0	R40, R42, R73, R75, R83, R84, R92, R95	0.002	RES, 0.002 ohm, 1%, 1W, 1206	Stackpole Electronics Inc	CSNL1206FT2L00		1206	
166	0	R50	N/A	RES, xxx ohm, x%, xW, [PackageReference]	Used in BOM report	Used in BOM report	-	Used in PnP output	
167	0	R54, R55, R57, R58, R69, R119, R120, R121, R126, R127	100	RES, 100 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603100RJNEA		0603	
168	0	R90	402	RES, 402 ohm, 1%, 0.1W, 0603	Yageo America	RC0603FR-07402RL		0603	
169	0	R104, R116, R128, R129	24k	RES, 24k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW040224K0JNED	-	0402	
170	0	R139, R140, R141	2.0k	RES, 2.0k ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06032K00JNEA		0603	
171	0	R142	0	RES, 0 ohm, 5%, 0.1W, 0603	Panasonic	ERJ-3GEY0R00V	-	0603	
172	0	R151	0	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA		0603	

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
173	0	R165	51	RES, 51 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW040251R0JNED	Equivalent	0402	
174	0	U16		64Kbit, 400kHz, 4.5V, I2C Serial EEPROM, 8-Pin SOIC 208mil, Commercial Temperature, Tape and Reel				SOIJ-SM8	

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