

### TIDA-01021 REV E2 Bill of Materials

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	IPC B1	1		TIDA-01021	Any	Printed Circuit Board	
2	C1, C14, C23, C108, C109, C110, C111, C113, C114, C115, C117, C120, C124, C198, C199	15	0.1uF	C0603C104J3RACTU	Kemet	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	0603
3	C2, C35, C38, C40, C41, C135, C139, C144, C148, C153, C155, C160, C162, C164, C165, C175, C181	17	0.1uF	GRM155R71C104KA88D	MuRata	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	0402
4	C3, C4, C5, C6, C9, C10, C12, C15, C16, C173, C174, C178, C202	13	0.1uF	C1005X7R1E104M050BB	TDK	CAP, CERM, 0.1 uF, 25 V, +/- 20%, X7R, 0402	0402
5	C7	1	47pF	GRM0335C1E470JA01D	MuRata	CAP, CERM, 47 pF, 25 V, +/- 5%, C0G/NP0, 0201	0201
6	C8	1	3900pF	0201ZD392KAT2A	AVX	CAP, CERM, 3900 pF, 10 V, +/- 10%, X5R, 0201	0201
7	C13, C52, C53, C85, C86	5	10uF	C0805C106K8PACTU	Kemet	CAP, CERM, 10uF, 10V, +/-10%, X5R, 0805	0805
8	C17	1	0.68uF	C1005X5R1A684K050BB	TDK	CAP, CERM, 0.68 uF, 10 V, +/- 10%, X5R, 0402	0402
9	C18, C20, C21	3	33pF	C0603C330J5GACTU	Kemet	CAP, CERM, 33pF, 50V, +/-5%, C0G/NP0, 0603	0603
10	C19	1	100pF	04025A101FAT2A	AVX	CAP, CERM, 100 pF, 50 V, +/- 1%, C0G/NP0, 0402	0402
11	C24, C25, C27, C29, C30	5	0.1uF	GRM033R60J104KE19D	MuRata	CAP, CERM, 0.1 uF, 6.3 V, +/- 10%, X5R, 0201	0201
12	C26, C28, C31, C32, C33, C34, C37, C130, C136, C140, C150, C151, C156, C161, C183	15	1uF	C1005X7S1A105K050BC	TDK	CAP, CERM, 1 uF, 10 V, +/- 10%, X7S, 0402	0402
13	C36, C39, C74, C116, C122, C145, C149, C166, C167, C168, C169, C170, C171, C172, C188, C197	16	0.01uF	GRM155R71E103KA01D	MuRata	CAP, CERM, 0.01 uF, 25 V, +/- 10%, X7R, 0402	0402
14	C42, C43, C73	3	22uF	885012208019	Würth Elektronik	CAP, CERM, 22 uF, 10 V, +/- 10%, X7R, 1206_190	1206_190
15	C44, C45, C48, C57, C61, C64, C77, C78, C81, C90, C94, C97	12	0.01uF	520L103KT16T	AT Ceramics	CAP, CERM, 0.01 uF, 16 V, +/- 10%, X7R, 0402	0402

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
16	C46, C47, C49, C55, C56, C63, C66, C79, C80, C82, C88, C89, C96, C99, C118, C121	16	1uF	C1608X7R1C105K080AC	TDK	CAP, CERM, 1 µF, 16 V, +/- 10%, X7R, 0603	0603
17	C50, C51, C54, C71, C72, C83, C84, C87, C104, C105, C192, C193	12	0.1uF	0603YC104JAT2A	AVX	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	0603
18	C58, C91	2	1800pF	GRM1885C1H182JA01D	MuRata	CAP, CERM, 1800 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
19	C60, C93	2	0.056uF	GRM188R71H563KA93D	MuRata	CAP, CERM, 0.056 µF, 50 V, +/- 10%, X7R, 0603	0603
20	C62, C95	2	1500pF	GRM1885C1H152JA01J	MuRata	CAP, CERM, 1500 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
21	C65, C67, C68, C69, C70, C98, C100, C101, C102, C103	10	10uF	C1608X5R1A106M080AC	TDK	CAP, CERM, 10 µF, 10 V, +/- 20%, X5R, 0603	0603
22	C75	1	0.01uF	GRM188R71E103KA01D	MuRata	CAP, CERM, 0.01 µF, 25 V, +/- 10%, X7R, 0603	0603
23	C76, C106, C107, C112, C123, C129, C134, C138, C143, C147, C152, C154, C159, C163, C180, C182, C194, C195	18	10uF	GRM188R61A106ME69D	MuRata	CAP, CERM, 10 µF, 10 V, +/- 20%, X5R, 0603	0603
24	C119	1	100uF	GRM32ER61A107ME20L	MuRata	CAP, CERM, 100 µF, 10 V, +/- 20%, X5R, 1210	1210
25	C125, C126	2	27pF	GRM1885C2A270JA01D	MuRata	CAP, CERM, 27 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
26	C127, C128, C131	3	1uF	08053D105KAT2A	AVX	CAP, CERM, 1 µF, 25 V, +/- 10%, X5R, 0805	0805
27	C132, C133	2	1000pF	06031C102MAT2A	AVX	CAP, CERM, 1000 pF, 100 V, +/- 20%, X7R, 0603	0603
28	C137, C141, C157	3	47uF	C3225X5R1A476M250AC	TDK	CAP, CERM, 47 µF, 10 V, +/- 20%, X5R, 1210	1210
29	C142, C146, C158, C196	4	33uF	C2012X5R1A336M125AC	TDK	CAP, CERM, 33 µF, 10 V, +/- 20%, X5R, 0805	0805
30	C176	1	2200pF	GRM155R71E222KA01D	MuRata	CAP, CERM, 2200 pF, 25 V, +/- 10%, X7R, 0402	0402
31	C177	1	10pF	GRM1555C1H100JA01D	MuRata	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
32	C187	1	4.7uF	C1005X5R0J475M050BC	TDK	CAP, CERM, 4.7 µF, 6.3 V, +/- 20%, X5R, 0402	0402
33	C200, C203, C204	3	100pF	GRM1555C1H101JA01D	MuRata	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
34	C201	1	10uF	293D106X0010B2TE3	Vishay-Sprague	CAP, TA, 10 µF, 10 V, +/- 20%, 2.5 ohm, SMD	3528-21
35	C205, C206	2	10uF	GRM188R61C106MAALD	MuRata	CAP, CERM, 10 µF, 16 V, +/- 20%, X5R, 0603	0603
36	C207	1	0.01uF	GRM188R71C103KA01D	MuRata	CAP, CERM, 0.01 µF, 16 V, +/- 10%, X7R, 0603	0603
37	C208	1	0.1uF	CL10B104K08NNNC	Samsung Electro-Mechanics	CAP, CERM, 0.1 µF, 16 V, +/- 10%, X7R, 0603	0603
38	C209, C211, C212, C213	4	0.1uF	C1005X7R1E104M050BB	TDK	CAP, CERM, 0.1 µF, 25 V, +/- 20%, X7R, 0402	0402
39	C210	1	0.1uF	C0603C104J3RACTU	Kemet	CAP, CERM, 0.1 µF, 25 V, +/- 5%, X7R, 0603	0603

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
40	CE_TP1, CE_TP2, RMPCLK1, RMPCLK2, RMPDIR1, RMPDIR2, SYNC, TP17, TP18, TP19, Vcc_TP1, Vcc_TP2, Vtune_TP1, Vtune_TP2	14	White	5007	Keystone	Test Point, Compact, White, TH	White Compact Testpoint
41	D1, D2, D3, D4, D5, D6, D10, D11, D13, D14, D15, D17	12	Green	LTST-C191TGKT	Lite-On	LED, Green, SMD	LED_0603
42	D8	1	15V	SMBJ15CA	Fairchild Semiconductor	Diode, TVS, Bi, 15 V, 24.4 Vc, SMB	SMB
43	D9	1	30V	MBR130T1G	ON Semiconductor	Diode, Schottky, 30 V, 1 A, SOD-123	SOD-123
44	D16	1	Green	LTST-C190GKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
45	J1, J3, J4, J6, J7, J9, J11, J13, J15, J21, J24, J32, OSCinM1, OSCinM2, OSCinP1, OSCinP2	16		142-0701-201	Emerson Network Power	Connector, TH, SMA	SMA
46	J2, J5	2		QSH-030-01-L-D-A	Samtec	Receptacle, 0.5 mm, 30x2, Gold, TH	Receptacle, 0.5 mm, 30x2, TH
47	J8, J16, J33	3		TSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	2x1 Header
48	J10, J12, J14	3		800-10-004-10-001000	Mill-Max	Header, 100mil, 4x1, TH	Header, 4x1, 100mil, TH
49	J17	1		651305142821		WR-COM Mini USB 2.0 Type AB SMT Horizontal 5 Contacts	
50	J19	1		52601-S10-8LF	FCI	Header (shrouded), 100mil, 5x2, Gold, SMT	SMT Header
51	J20	1		TSW-104-07-G-D	Samtec	Header, 100mil, 4x2, Gold, TH	4x2 Header
52	J22	1		32K101-400L5	Rosenberger	SMA, 50 Ohm, Gold, TH	SMA, TH
53	J23	1		0022284033	Molex	Header, 2.54mm, 3x1, Tin, TH	Header, 2.54mm, 3x1, TH
54	J25	1		RAPC722X	Switchcraft	Power Jack, mini, 2.1mm OD, R/A, TH	Jack, 14.5x11x9mm
55	L1, L2, L3, L4, L5, L6, L7, L8, L9, L10	10	120 ohm	BLM18AG121SN1D	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 0.5 A, 0603	0603
56	L11, L12, L13, L14	4	18nH	LQG15HS18NJ02D	MuRata	Inductor, Multilayer, Air Core, 18 nH, 0.3 A, 0.36 ohm, SMD	0402 polarized
57	L15, L16, L18, L21, L22, L25, L27, L31, L33, L34	10	120 ohm	BLM31PG121SN1L	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 3.5 A, 1206	1206
58	L17	1	26 ohm	BLM18SG260TN1D	MuRata	Ferrite Bead, 26 ohm @ 100 MHz, 6 A, 0603	0603
59	L35	1	1.5uH	XAL7030-152MEB	Coilcraft	Inductor, Shielded, Composite, 1.5 uH, 15 A, 0.0076 ohm, SMD	XAL7030
60	L36	1	120 ohm	BLM18SG121TN1D	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 3 A, 0603	0603
61	LBL1	1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650"H x 0.200"W
62	OSCinN, OSCinP	2		142-0701-851	Emerson Network Power Con	Connector, SMT, End launch SMA 50 ohm	SMA
63	Q1	1	20V	CSD15571Q2	Texas Instruments	MOSFET, N-CH, 20 V, 10 A, DQK0006C (WSON-6)	DQK0006C
64	Q2, Q3	2	40 V	MMBT3904	Fairchild Semiconductor	Transistor, NPN, 40 V, 0.2 A, SOT-23	SOT-23

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
65	R1, R2, R4, R5, R7, R8, R9, R10, R19, R20, R25, R27, R41, R42, R45, R46, R55, R57, R62, R63, R70, R73, R99, R100, R103, R132, R137, R165, R168, R182, R183, R184, R192, R193, R194, R196, R197, R208, R218, R219, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R277, R285, R291, R297, R298, R299, R313,	76	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
66	R11, R12, R58, R59	4	220	CRCW0402220RJNED	Vishay-Dale	RES, 220, 5%, 0.063 W, 0402	0402
67	R13, R14, R21, R22, R29, R30, R31, R32, R47, R48, R49, R50, R286, R287, R288, R289	16	120	CRCW0402120RJNED	Vishay-Dale	RES, 120, 5%, 0.063 W, 0402	0402
68	R28	1	620	RC0201FR-07620RL	Yageo America	RES, 620, 1%, 0.05 W, 0201	0201
69	R33, R249	2	100	CRCW0402100RFKED	Vishay-Dale	RES, 100, 1%, 0.063 W, 0402	0402
70	R36, R38	2	18	CRCW040218R0JNED	Vishay-Dale	RES, 18, 5%, 0.063 W, 0402	0402
71	R51, R209	2	12k	CRCW040212K0JNED	Vishay-Dale	RES, 12 k, 5%, 0.063 W, 0402	0402
72	R52	1	39.0k	RC0201FR-0739KL	Yageo America	RES, 39.0 k, 1%, 0.05 W, 0201	0201
73	R53	1	51	CRCW060351R0JNEA	Vishay-Dale	RES, 51 ohm, 5%, 0.1W, 0603	0603
74	R68, R203, R227, R271, R333, R334	6	0	ERJ-1GN0R00C	Panasonic	RES, 0, 5%, 0.05 W, AEC-Q200 Grade 0, 0201	0201
75	R69, R204	2	51	RC0201JR-0751RL	Yageo America	RES, 51, 5%, 0.05 W, 0201	0201
76	R74	1	100	RC0201FR-07100RL	Yageo America	RES, 100, 1%, 0.05 W, 0201	0201
77	R77, R78, R79, R80	4	750	CRCW0603750RFKEA	Vishay-Dale	RES, 750, 1%, 0.1 W, 0603	0603
78	R82, R86, R93, R97, R115, R119, R126, R130	8	50	FC0402E50R0BST1	Vishay-Dale	RES, 50, 0.1%, 0.05 W, 0402	0402

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
79	R83, R85, R87, R88, R89, R91, R116, R118, R120, R121, R122, R124, R148	13	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
80	R90, R123	2	100k	CRCW0603100KJNEA	Vishay-Dale	RES, 100 k, 5%, 0.1 W, 0603	0603
81	R94, R127	2	270	RC0603JR-07270RL	Yageo America	RES, 270, 5%, 0.1 W, 0603	0603
82	R95, R107, R112, R128, R140, R145, R304, R315	8	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
83	R96, R129	2	120	CRCW0603120RJNEA	Vishay-Dale	RES, 120, 5%, 0.1 W, 0603	0603
84	R102, R109, R135, R142, R154, R156, R157, R158, R159, R178, R181, R207, R212	13	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
85	R105, R136	2	330	RC0603JR-07330RL	Yageo America	RES, 330 ohm, 5%, 0.1W, 0603	0603
86	R133, R276, R281, R301	4	100	CRCW0402100RJNED	Vishay-Dale	RES, 100, 5%, 0.063 W, 0402	0402
87	R149, R150	2	10.0	CRCW060310R0FKEAHP	Vishay-Dale	RES, 10.0, 1%, 0.25 W, 0603	0603
88	R151, R152, R155, R160, R161, R162, R205, R308, R309, R310, R312	11	10k	CRCW060310K0JNEA	Vishay-Dale	RES, 10 k, 5%, 0.1 W, 0603	0603
89	R153	1	12k	CRCW060312K0JNEA	Vishay-Dale	RES, 12k ohm, 5%, 0.1W, 0603	0603
90	R163	1	2.0k	CRCW06032K00JNEA	Vishay-Dale	RES, 2.0 k, 5%, 0.1 W, 0603	0603
91	R164	1	1.00Meg	CRCW06031M00FKEA	Vishay-Dale	RES, 1.00 M, 1%, 0.1 W, 0603	0603
92	R166	1	45.3k	CRCW060345K3FKEA	Vishay-Dale	RES, 45.3 k, 1%, 0.1 W, 0603	0603
93	R169	1	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
94	R170, R171, R174, R175, R176, R177, R179, R180, R295	9	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.063 W, 0402	0402
95	R213, R214, R215, R216	4	10.0k	CRCW040210K0DHEDP	Vishay-Dale	RES, 10.0 k, 0.5%, 0.063 W, 0402	0402
96	R217, R220, R222, R223, R224, R342	6	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00 k, 1%, 0.1 W, 0603	0603
97	R221	1	33.2k	CRCW060333K2FKEA	Vishay-Dale	RES, 33.2 k, 1%, 0.1 W, 0603	0603
98	R226	1	48.7k	CRCW060348K7FKEA	Vishay-Dale	RES, 48.7 k, 1%, 0.1 W, 0603	0603
99	R228	1	51.1	CRCW060351R1FKEA	Vishay-Dale	RES, 51.1, 1%, 0.1 W, 0603	0603
100	R229	1	100k	RG1608P-104-B-T5	Susumu Co Ltd	RES, 100 k, 0.1%, 0.1 W, 0603	0603
101	R230	1	31.6k	CRCW060331K6FKEA	Vishay-Dale	RES, 31.6 k, 1%, 0.1 W, 0603	0603
102	R231	1	4.99k	CRCW06034K99FKEA	Vishay-Dale	RES, 4.99 k, 1%, 0.1 W, 0603	0603
103	R232	1	182k	CRCW0603182KFKEA	Vishay-Dale	RES, 182 k, 1%, 0.1 W, 0603	0603
104	R245, R246, R247, R248	4	160	CRCW0402160RJNED	Vishay-Dale	RES, 160, 5%, 0.063 W, 0402	0402
105	R270	1	82.0	RC0603FR-0782RL	Yageo America	RES, 82.0, 1%, 0.1 W, 0603	0603
106	R282, R283, R292, R293	4	20.0	CRCW040220R0FKED	Vishay-Dale	RES, 20.0, 1%, 0.063 W, 0402	0402

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
107	R294	1	47.5k	ERJ-3EKF4752V	Panasonic	RES, 47.5 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
108	R302, R303, R305, R306, R307	5	33	CRCW060333R0JNEA	Vishay-Dale	RES, 33, 5%, 0.1 W, 0603	0603
109	R316, R317, R318	3	10.0k	ERJ-2RKF1002X	Panasonic	RES, 10.0 k, 1%, 0.1 W, 0402	0402
110	R319	1	750	CRCW0603750RJNEA	Vishay-Dale	RES, 750, 5%, 0.1 W, 0603	0603
111	R320, R321	2	1.3k	RC0603JR-071K3L	Yageo America	RES, 1.3 k, 5%, 0.1 W, 0603	0603
112	R323	1	33k	CRCW040233K0JNED	Vishay-Dale	RES, 33 k, 5%, 0.063 W, 0402	0402
113	R324, R326	2	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
114	R331	1	25.5k	CRCW060325K5FKEA	Vishay-Dale	RES, 25.5 k, 1%, 0.1 W, 0603	0603
115	R332	1	11.8k	CRCW060311K8FKEA	Vishay-Dale	RES, 11.8 k, 1%, 0.1 W, 0603	0603
116	RFoutAM1, RFoutAM2, RFoutAP1, RFoutAP2, RFoutBM1, RFoutBM2, RFoutBP1, RFoutBP2	8		142-0771-831	Johnson	JACK, SMA, 50 Ohm, Gold, Edge Mount	JACK, SMA, 50 Ohm, Gold, Edge Mount
117	S1, S2, S3, S4	4		TCBS-6-01	Richco Plastics	HEX STANDOFF SPACER, 9.53 mm	7.9x9.5 mm
118	S5	1		L101011MS02Q	C&K Components	SWITCH SLIDE SPST 4A PCB, TH	Slide Switch, TH, SPST
119	T1	1		TC1-1-13M+	Mini Circuits	RF Transformer 4.5 to 3000 MHz, 50 ohm	AT224-1A
120	TP1, TP2, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP20, VCCCORE	13		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
121	TP4, TP5	2		5010	Keystone	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint
122	TP6	1		5012	Keystone	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint
123	TP7	1		5011	Keystone	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint
124	U1	1		LMK04828BISQ	Texas Instruments	LMK04828	
125	U2	1		LMK61E2-SIAT	Texas Instruments	Ultra-Low Jitter Programmable Oscillator with Internal EEPROM, SIA0008B	SIA0008B
126	U3, U4	2		LMX2594RHAT	Texas Instruments	High Performance, Wideband PLLatinum RF Synthesizer, RHA0040A (VQFN-40)	RHA0040A
127	U5	1		FT232HL-REEL	FTDI	Single Channel Hi-Speed USB to Multipurpose UART/FIFO IC, LQFP-48	QFP, 48-Leads, Body 7x7mm, Pitch 0.5mm
128	U6	1		TLV70233DBVT	Texas Instruments	Single Output LDO, 300 mA, Fixed 3.3 V Output, 2 to 5.5 V Input, with Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
129	U7	1		93LC56BT-I/OT	Microchip	2K Microwire Compatible Serial EEPROM, SOT-23-6	SOT-23-6
130	U8	1		TPS259250DRCT	Texas Instruments	5V, 5A, 30mQ eFuse with Adjustable +/-15% Accurate Current Limit, DRC0010J (VSON-10)	DRC0010J
131	U9	1	TPS54318R TE	TPS54318RTE	TI	IC, 2.95V To 6V Input, 3A Output, 2MHz, Synchronous SWIFT	QFN-16
132	U10, U11	2		TPS7A4700RGWR	Texas Instruments	36-V, 1-A, 4.17-µVRMS, RF LDO Voltage Regulator, RGW0020A (VQFN- 20)	RGW0020A
133	U12	1		TPS7A8300RGRR	Texas Instruments	2-A, 6-µVRMS, RF, LDO Voltage Regulator, RGR0020A (VQFN-20)	RGR0020A
134	U13, U18, U19	3		SN74CBTLV3257DGVR	Texas Instruments	Low-Voltage 4-Bit 1-Of-2 FET Multiplexer/Demultiplexer, DGV0016A (TVSOP-16)	DGV0016A

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
135	U14	1		SN74LVC1G08DCKR	Texas Instruments	Single 2-Input Positive-AND Gate, DCK0005A (SOT-5)	DCK0005A
136	U15	1		SN74LVC2G53DCU	TI	IC, SPDT Analog Switch	VSSOP8
137	U16	1		LMK00304SQ/NOPB	Texas Instruments	3.1-GHz Differential Clock Buffer/Level Translator, RTV0032A (WQFN-32)	RTV0032A
138	U17	1	27 uF	NFM31PC276B0J3L	MuRata	FILTER LC HIGH FREQ 27uF 1206	3.2x1.6mm
139	U20	1		LM95233CISD/NOPB	Texas Instruments	Dual Remote Diode and Local Temperature Sensor with SMBus Interface and TruTherm Technology, 15-pin LLP	SDA14B
140	U21	1		NB7V33MMNTXG	ON Semiconductor	1.8V / 2.5V, 10GHz ±4 Clock Divider with CML Outputs, QFN-16	3x3mm 16-QFN
141	U22	1		TPS7A9001DSKR	Texas Instruments	500mA High-Accuracy Low-Noise Low-Dropout (LDO) Voltage Regulator, DSK0010A (WSON-10)	DSK0010A
142	U23, U24	2		DS90LV028AQMA	Texas Instruments	Automotive LVDS Dual Differential Line Receiver, 8-pin Narrow SOIC	M08A
143	Y1	1		CVHD-950-100.000	Crystek Corporation	VCXO, 100 MHz, 3.3V, SMD	CVHD-950-4
144	Y2	1		ABM3-12.000MHZ-D2Y-T	Abrakon Corporation	Crystal, 12Mhz, 18pF, SMD	2-SMD
145	C11	0	12pF	C0402C120J3GACAUTO	Kemet	CAP, CERM, 12 pF, 25 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
146	C22, C179, C184, C185, C186, C189, C190, C191	0	0.1uF	C1005X7R1E104M050BB	TDK	CAP, CERM, 0.1 µF, 25 V, +/- 20%, X7R, 0402	0402
147	C59, C92	0	300pF	GRM1885C2A301JA01D	MuRata	CAP, CERM, 300pF, 100V, +/-5%, C0G/NP0, 0603	0603
148	D7, D12	0	24V	PGB1010603MR	Littelfuse	PulseGuard ESD Suppressor, 24VDC, SMT	0603 TVS Diode
149	FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
150	L19, L20, L23, L24, L26, L28, L29, L30, L32	0	120 ohm	BLM31PG121SN1L	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 3.5 A, 1206	1206
151	R3, R6, R37, R39, R54, R56, R81, R84, R92, R98, R101, R108, R110, R114, R117, R125, R131, R134, R141, R143, R172, R173, R191, R195, R200, R201, R202, R262, R263, R264, R265, R266, R267, R268, R269, R274, R275, R278, R279, R280, R284, R290, R300, R322, R329, R335, R336, R338, R340, R341	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
152	R15, R16, R17, R18, R23, R24, R60, R61, R64, R65, R66, R67	0	240	CRCW0402240RJNED	Vishay-Dale	RES, 240, 5%, 0.063 W, 0402	0402
153	R26, R72, R272, R273	0	49.9	CRCW020149R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.05 W, 0201	0201
154	R34, R40	0	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, 0402	0402
155	R35, R343	0	10.0k	ERJ-2RKF1002X	Panasonic	RES, 10.0 k, 1%, 0.1 W, 0402	0402
156	R43, R44	0	12k	CRCW040212K0JNED	Vishay-Dale	RES, 12 k, 5%, 0.063 W, 0402	0402

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
157	R71, R106, R111, R139, R144, R211	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0, 5%, 0.1 W, 0603	0603
158	R75, R76	0	294	CRCW0402294RFKED	Vishay-Dale	RES, 294, 1%, 0.063 W, 0402	0402
159	R104, R113, R138, R146	0	51	CRCW060351R0JNEA	Vishay-Dale	RES, 51, 5%, 0.1 W, 0603	0603
160	R147	0	39k	CRCW060339K0JNEA	Vishay-Dale	RES, 39 k, 5%, 0.1 W, 0603	0603
161	R167	0	10.0k	CRCW060310K0FKEA	Vishay-Dale	RES, 10.0 k, 1%, 0.1 W, 0603	0603
162	R185, R186, R187, R188, R189, R206, R225	0	100	CRCW0603100RFKEA	Vishay-Dale	RES, 100, 1%, 0.1 W, 0603	0603
163	R190	0	47	CRCW040247R0JNED	Vishay-Dale	RES, 47, 5%, 0.063 W, 0402	0402
164	R198, R199	0	130	CRCW0402130RFKED	Vishay-Dale	RES, 130, 1%, 0.063 W, 0402	0402
165	R210, R296, R311	0	33	CRCW060333R0JNEA	Vishay-Dale	RES, 33, 5%, 0.1 W, 0603	0603
166	R327, R328	0	0	ERJ-1GN0R00C	Panasonic	RES, 0, 5%, 0.05 W, AEC-Q200 Grade 0, 0201	0201



## IMPORTANT NOTICE FOR TI DESIGN INFORMATION AND RESOURCES

Texas Instruments Incorporated ("TI") technical, application or other design advice, services or information, including, but not limited to, reference designs and materials relating to evaluation modules, (collectively, "TI Resources") are intended to assist designers who are developing applications that incorporate TI products; by downloading, accessing or using any particular TI Resource in any way, you (individually or, if you are acting on behalf of a company, your company) agree to use it solely for this purpose and subject to the terms of this Notice.

TI's provision of TI Resources does not expand or otherwise alter TI's applicable published warranties or warranty disclaimers for TI products, and no additional obligations or liabilities arise from TI providing such TI Resources. TI reserves the right to make corrections, enhancements, improvements and other changes to its TI Resources.

You understand and agree that you remain responsible for using your independent analysis, evaluation and judgment in designing your applications and that you have full and exclusive responsibility to assure the safety of your applications and compliance of your applications (and of all TI products used in or for your applications) with all applicable regulations, laws and other applicable requirements. You represent that, with respect to your applications, you have all the necessary expertise to create and implement safeguards that (1) anticipate dangerous consequences of failures, (2) monitor failures and their consequences, and (3) lessen the likelihood of failures that might cause harm and take appropriate actions. You agree that prior to using or distributing any applications that include TI products, you will thoroughly test such applications and the functionality of such TI products as used in such applications. TI has not conducted any testing other than that specifically described in the published documentation for a particular TI Resource.

You are authorized to use, copy and modify any individual TI Resource only in connection with the development of applications that include the TI product(s) identified in such TI Resource. NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT OF TI OR ANY THIRD PARTY IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information regarding or referencing third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of TI Resources may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI RESOURCES ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING TI RESOURCES OR USE THEREOF, INCLUDING BUT NOT LIMITED TO ACCURACY OR COMPLETENESS, TITLE, ANY EPIDEMIC FAILURE WARRANTY AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY YOU AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS EVEN IF DESCRIBED IN TI RESOURCES OR OTHERWISE. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, DIRECT, SPECIAL, COLLATERAL, INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES IN CONNECTION WITH OR ARISING OUT OF TI RESOURCES OR USE THEREOF, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

You agree to fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of your non-compliance with the terms and provisions of this Notice.

This Notice applies to TI Resources. Additional terms apply to the use and purchase of certain types of materials, TI products and services. These include; without limitation, TI's standard terms for semiconductor products (<http://www.ti.com/sc/docs/stdterms.htm>), [evaluation modules](#), and [samples](http://www.ti.com/sc/docs/sampterm.htm) (<http://www.ti.com/sc/docs/sampterm.htm>).

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2018, Texas Instruments Incorporated