

Bill of Materials

TI DESIGNS

TIDA-00646

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	PCB Footprint	Note
1	1	!PCB	TIDA-00646	Printed Circuit Board	Any	TIDA-00646			
2	1	A1		PCB Antenna. There is nothing to buy or mount.	N/A	ANTENNA_HELICAL		Top and Bottom layers	
3	1	BT1		Battery Holder, Nylon, CR2, SMT	Keystone	1010			
4	1	C1	1200 µF, 10 V, +/- 20%, TH	CAP, AL, 1200 µF, 10 V, +/- 20%, TH	Panasonic	EEUFM1A122	WE 860 080 275 017	Thru hole	
5	2	C2, C3	2.2 µF, 6.3 V	CAP, CERM, 2.2 µF, 6.3 V, +/- 20%, X5R, 0402	MuRata	GRM155R60J225ME15D	WE 885012105007	0402	DNP
6	1	C4	10 µF, 10 V, +/- 20%, X5R	CAP, CERM, 10 µF, 10 V, +/- 20%, X5R, 0603	MuRata	GRM188R61A106ME69		0603	
7	13	C5, C41, C42, C43, C131, C221, C342, C343, C351, C441, C451, C481, C482	0.1 µF, 25 V, +/- 10%, X5R	CAP, CERM, 0.1 µF, 25 V, +/- 10%, X5R, 0402	MuRata	GRM155R61E104KA87D	WE 885012205037	0402	
8	2	C11, C22	3.6 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 3.6 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H3R6CA01		0402	
9	1	C12	2.7 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 2.7 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H2R7CA01		0402	
10	1	C13	6.2 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 6.2 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H6R2CA01D		0402	
11	1	C14	3.3 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 3.3 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H3R3CA01D	WE 885012005052	0402	
12	2	C15, C21	100 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H101JA01D	WE 885012005061	0402	
13	1	C16	1 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 1 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H1R0CA01D	WE 885012005049	0402	
14	6	C46, C48, C61, C62, C461, C471	12 pF, 50 V, +/- 5%, C0G/NP0	CAP, CERM, 12 pF, 50 V, +/- 5%, C0G/NP0, 0402	MuRata	GRM1555C1H120JA01D	WE	0402	DNP C46 and C48
15	2	C47, C231	1 µF, 10 V, +/- 10%, X5R	CAP, CERM, 1 µF, 10 V, +/- 10%, X5R, 0402	MuRata	GRM155R61A105KE15D	WE 885012105012	0402	
16	3	C50, C51, C52	1000 pF, 50 V, +/- 10%, X5R	CAP, CERM, 1000 pF, 50 V, +/- 10%, X5R, 0402	MuRata	GRM155R61H102KA01D	WE 885012205061	0402	
17	2	C331, C341	22 µF, 6.3 V, +/- 20%, X5R	CAP, CERM, 22 µF, 6.3 V, +/- 20%, X5R, 0603	MuRata	GRM188R60J226MEA0J	WE	0603	
18	1	D1	LED, GREEN, 0805	LED, Green, SMD	Lite-On / Wuerth Elektronik	LTST-C170KRKT	150080GS75000	0805	DNP
19	3	FID1, FID2, FID3		Fiducial mark. There is nothing to buy or mount.	N/A	N/A		N/A	
20	2	H1, H4		Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	B&F Fastener Supply	NY PMS 440 0025 PH			
21	1	J1	3-pin Header	Header, TH, 100mil, 3x1, Gold plated, 230 mil above insulator	Samtec/Wuerth Elektronik	TSW-103-07-G-S	613 003 111 21	Header, 100mil, 3x1, TH	
22	1	J3	4-pin Header	Header, TH, 100mil, 4x1, Gold plated, 230 mil above insulator	Samtec/Wuerth Elektronik	TSW-104-07-G-S	613 004 111 21	Header, 100mil, 4x1, TH	
23	3	J4, J5, J13	10-pin, 1.27mm, 2x5 Header	Header, 1.27mm, 5x2, SMT	GradConn/Wuerth Elektronik	BB02-BS101-KA8-025B00	621 310 210 21	Header, 50mil, 5x2	DNP J3 and J5
24	1	J6	Antenna SMA connector	Connector, SMA, Vertical, Thru hole w/SMT center pin	Lighthouse Technologies / TE connectivity	SASF546-P26-X1	5-1814832-1	SMA, 5-pin	
25	5	J9, J11, J15, J16, J17	DNP	Header, 50mil, 4x1, Gold, TH	Preci-Dip	850-10-004-10-001101		Header, 50mil, 4x1, TH	DNP
26	1	J12	2-pin Header	Header, 100mil, 2x1, TH	Mill-Max	800-10-002-10-001000	613 002 111 21	Header, 100mil, 2x1, TH	DNP
27	1	J14	DNP	Header, 50mil, 3x1, Gold, TH	Mill-Max	850-10-003-10-001000		Header, 50mil, 3x1	DNP
28	1	J21	DNP	Header, 50mil, 5x1, Gold, TH	Sullins Connector Solutions	GRPB051VWVN-RC		Header, 50mil, 5x1	DNP
29	1	L1	DNP	Inductor, Shielded, Ferrite, 2.2 µH, 0.8 A, 0.23 ohm, SMD	MuRata	LQM21PN2R2NGC	74479775222A	0805	DNP
30	1	L11	18 nH, 0.37 A, 0.27 ohm	Inductor, Wirewound, 18 nH, 0.37 A, 0.27 ohm, SMD	MuRata	LQW15AN18NJ00D	744765118A	0402	
31	2	L12, L21	7.5 nH, 0.57 A, 0.13 ohm	Inductor, Wirewound, 7.5 nH, 0.57 A, 0.13 ohm, SMD	MuRata	LQW15AN7N5G00D	744765075A	0402	
32	2	L13, L14	6.8 nH, 0.7 A, 0.09 ohm	Inductor, Wirewound, 6.8 nH, 0.7 A, 0.09 ohm, SMD	MuRata	LQW15AN6N8G00D	744765068A	0402	
33	1	L15	12 nH, 0.5 A, 0.14 ohm	Inductor, Wirewound, 12 nH, 0.5 A, 0.14 ohm, SMD	MuRata	LQW15AN12NJ00D	744765112A	0402	
34	1	L331		Inductor, Multilayer, Ferrite, 6.8 µH, 0.11 A, 0.25 ohm, SMD	TDK	MLZ2012N6R8LT000	74479777268	0805	
35	1	LCD1	LCD 4-MUX, 1/3 bias, 4 x24 Segments	BTL002 4COM LCD		BTL002		DIP28	DNP
36	4	R11, R12, R22, R24	0 Ohm, 5%, 0.063 W	RES, 0, 5%, 0.063 W, 0402	Vishay-Dale	CRCW04020000Z0ED		0402	
37	1	R21	47 k, 5%, 0.1 W	RES, 47 k, 5%, 0.1 W, 0603	Vishay-Dale	CRCW060347K0JNEA		0603	
38	1	R23	200 ohm, 5%, 0.1W	RES, 200 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW0603200RJNEA		0603	DNP
39	1	R351	100 k, 1%, 0.1 W	RES, 100 k, 1%, 0.1 W, 0402	Panasonic	ERJ-2RKF1003X		0402	
40	1	TP1	DNP	Test Point, Miniature, SMT	Keystone	5015		SMT	DNP

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41	2	TP2, TP3	DNP	TEST POINT SLOTTED .118", TH	Keystone	1040			DNP
42	1	U1	DNP	Buck Step Down Regulator with 1.9 to 3.9 V Input and 2.1 V Output, -40 to 85 degC, 6-Pin SON (DRY), Green (RoHS & no Sb/Br)	Texas Instruments	TPS62730DRYR			DNP
43	1	U4	MSP430FR4133IPM	16-bit Ultra-Low-Power MCU	Texas Instruments	MSP430FR4133IPM		LQFP	DNP
44	1	U5		Sub-1 GHz and 2.4 GHz Multi-standard RF IC Family, RGZ0048A	Texas Instruments	CC1310F128RGZR		QFN	
45	1	Y1		Crystal, 32.768 KHz, 12.5 pF, SMD	Epson	FC-135 32.7680KA-A3		3215	
46	1	Y2		Crystal, 24 MHz, 9 pF, SMD	Epson	TSX-3225		3225	
47	1	Y3		Crystal, 32.768kHz, 12.5pF, SMD	Micro Crystal AG	MS3V-T1R 32.768KHZ +/-			DNP

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