## TIDA-00640 REV E1 Bill of Materials



Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
PCB1	1		TIDA-00640	Any	Printed Circuit Board	
C1, C2, C3, C5,	7	0.1uF	GRM155R70J104KA01D	MuRata	CAP, CERM, 0.1 µF, 6.3 V, +/- 10%, X7R, 0402	0402
C6, C8, C9						
C4, C10, C11	3	1uF	GRM155R61A105KE15D	MuRata	CAP, CERM, 1 µF, 10 V, +/- 10%, X5R, 0402	0402
C7	1	220pF	GRM1555C1H221JA01D	MuRata	CAP, CERM, 220 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C12, C13	2	22pF	GRM1555C1H220JA01D	MuRata	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C14, C15	2	DNP	0402YC132KAT2A	AVX	CAP, CERM, 1300 pF, 16 V, +/- 10%, X7R, 0402	0402
C16, C17	2	12pF	GRM1555C1H120JA01D	MuRata	CAP, CERM, 12 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C18	1	0.01uF	GRM155R61C103KA01D	MuRata	CAP, CERM, 0.01 µF, 16 V, +/- 10%, X5R, 0402	0402
C19	1	1uF	GRM188R61C105KA93D	MuRata	CAP, CERM, 1 µF, 16 V, +/- 10%, X5R, 0603	0603
C20	1	10uF	GRM188R60J106ME47D	MuRata	CAP, CERM, 10 µF, 6.3 V, +/- 20%, X5R, 0603	0603
C21	1	750pF	GRM1555C1H751JA01D	MuRata	CAP, CERM, 750 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C22, C25	2	2.2uF	GRM32ER72A225KA35L	MuRata	CAP, CERM, 2.2 µF, 100 V, +/- 10%, X7R, 1210	1210
C23	1	1000pF	GRM155R71H102KA01D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0402	0402
C24	1	0.1uF	C0402C104K4RACAUTO	Kemet	CAP, CERM, 0.1 µF, 16 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
DEBUG	1		FTSH-105-01-L-DV-K	Samtec	Header(Shrouded), 1.27mm, 5x2, Gold, SMT	Header(Shrouded),
						1.27mm, 5x2, SMT
E1	1		ANTENNA_DN007A	N/A	2.4GHz PCB Antenna. There is nothing to buy or mount.	SMD, 3-Leads
FL1	1	2.45 GHz	LFB182G45BG5D920	MuRata	Filter, BandPass, 2.45GHz, SMD	1.6x0.8mm
J1, J2, J3, J4	4		1727010	Phoenix Contact	Conn Term Block, 2POS, 3.81mm, TH	2POS Terminal Block
J5	1		0022284043	Molex	Header, 2.54mm, 4x1, Tin, TH	Header, 2.54mm, 4x1, TH
L1	1	330uH	LPS5030-334MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 330 µH, 0.2 A, 1.8 ohm, SMD	LPS5030
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
R1	1	56.0k	RK73H1ETTP5602F	KOA Speer	RES, 56.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R2	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R3	1	0 1.15k	CRCW04021K15FKED	Vishay-Dale	RES, 1.15 k, 1%, 0.063 W, 0402	0402
R4	1	300k	CRCW0402300KFKED	Vishay-Dale	RES, 300 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
R5, R9	2	249k	CRCW1206249KFKEA	Vishay-Dale	RES, 249 k, 1%, 0.25 W, 1206	1206
R6	1	88.7k	CRCW040288K7FKED	Vishay-Dale	RES, 88.7 k, 1%, 0.063 W, 0402	0402
R7	1	51.1k	CRCW040251K1FKED	Vishay-Dale	RES, 51.1 k, 1%, 0.063 W, 0402	0402
R8	1	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, 0402	0402
R10	1	13.0k	CRCW040213K0FKED	Vishay-Dale	RES, 13.0 k, 1%, 0.063 W, 0402	0402
R11	1	2.15	CRCW04022R15FKED	Vishay-Dale	RES, 2.15, 1%, 0.063 W, 0402	0402
R12	1	6.12k	RT0805BRD076K12L	Yageo America	RES, 6.12 k, 0.1%, 0.125 W, 0805	0805
R13	1	2.2k	CRCW04022K20JNED	Vishay-Dale	RES, 2.2 k, 5%, 0.063 W, 0402	0402
R14	1	10.0k	ERJ-6ENF1002V	Panasonic	RES, 10.0 k, 1%, 0.125 W, 0805	0805
RS1	1	0.001	LRMAP3920B-R001FT	TT Electronics/IRC	RES, 0.001, 1%, 4 W, AEC-Q200 Grade 0, 3920	3920
U1	1		CC2538NF11RTQR	Texas Instruments	A Powerful System-On-Chip for 2.4-GHz IEEE 802.15.4, 6LoWPAN and ZigBee Applications, RTQ0056F	RTQ0056C
U2	1		TLV342AID	Texas Instruments	Low-Voltage, Rail-To-Rail Output CMOS Operational Amplifier, 1.5 to 5.5 V, -40 to 125 degC, 8-pin SOIC (D0008A), Green (RoHS & no Sb/Br)	D0008A
U3	1		LM5017MRX/NOPB	Texas Instruments	100V, 600mA Constant On-Time Synchronous Buck Regulator, DDA0008B	DDA0008B
Y1	1		FC-12M 32.7680KA-A3	Epson	Crystal, 32.768kHz, 12.5pF, SMD	Crystal 2.05x.6x1.2mm
Y2	1	1	FA-128 32.0000MF20X-K3	Epson	Crystal, 32MHz, 10pF, SMD	1.6x.5x2mm
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial

## **IMPORTANT NOTICE FOR TI REFERENCE DESIGNS**

Texas Instruments Incorporated ('TI') reference designs are solely intended to assist designers ("Designer(s)") who are developing systems that incorporate TI products. TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.

TI's provision of reference designs and any other technical, applications or design advice, quality characterization, reliability data or other information or services 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 reference designs or other items.

TI reserves the right to make corrections, enhancements, improvements and other changes to its reference designs and other items.

Designer understands and agrees that Designer remains responsible for using its independent analysis, evaluation and judgment in designing Designer's systems and products, and has full and exclusive responsibility to assure the safety of its products and compliance of its products (and of all TI products used in or for such Designer's products) with all applicable regulations, laws and other applicable requirements. Designer represents that, with respect to its applications, it has 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. Designer agrees that prior to using or distributing any systems that include TI products, Designer will thoroughly test such systems and the functionality of such TI products as used in such systems. Designer may not use any TI products in life-critical medical equipment unless authorized officers of the parties have executed a special contract specifically governing such use. Life-critical medical equipment is medical equipment where failure of such equipment would cause serious bodily injury or death (e.g., life support, pacemakers, defibrillators, heart pumps, neurostimulators, and implantables). Such equivalent classifications outside the U.S.

Designers are authorized to use, copy and modify any individual TI reference design only in connection with the development of end products that include the TI product(s) identified in that reference design. HOWEVER, 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 published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of the reference design or other items described above 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 REFERENCE DESIGNS AND OTHER ITEMS DESCRIBED ABOVE ARE PROVIDED "AS IS" AND WITH ALL FAULTS. TI DISCLAIMS ALL OTHER WARRANTIES OR REPRESENTATIONS, EXPRESS OR IMPLIED, REGARDING THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, 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 DESIGNERS AGAINST ANY CLAIM, INCLUDING BUT NOT LIMITED TO ANY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON ANY COMBINATION OF PRODUCTS AS DESCRIBED IN A TI REFERENCE DESIGN 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 THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, AND REGARDLESS OF WHETHER TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

TI's standard terms of sale for semiconductor products (<u>http://www.ti.com/sc/docs/stdterms.htm</u>) apply to the sale of packaged integrated circuit products. Additional terms may apply to the use or sale of other types of TI products and services.

Designer will fully indemnify TI and its representatives against any damages, costs, losses, and/or liabilities arising out of Designer's noncompliance with the terms and provisions of this Notice.

> Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265 Copyright © 2016, Texas Instruments Incorporated