

TIDA-01437 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPCB	1		TIDA-01437	Any	Printed Circuit Board	
C1, C7, C13, C51	4	1000pF	885012206083	Würth Elektronik	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603
C2, C8, C14	3	100pF	885012006057	Würth Elektronik	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603
C3, C9, C15	3	10uF	885012209028	Würth Elektronik	CAP, CERM, 10 µF, 25 V, +/- 10%, X7R, 1210	1210
C4, C10, C16	3	47uF	LMK325B7476MM-TR	Taiyo Yuden	CAP, CERM, 47 µF, 10 V, +/- 20%, X7R, 1210	1210
C5, C11, C17, C53	4	2.2uF	CL31B225KCHSUNE	Samsung Electro-Mechanics	CAP, CERM, 2.2 µF, 100 V, +/- 10%, X7R, 1206	1206
C6, C12, C18, C52	4	0.01uF	885012205031	Würth Elektronik	CAP, CERM, 0.01 µF, 16 V, +/- 10%, X7R, 0402	0402
C19, C20, C21, C22, C23, C24, C26, C31, C33, C39, C41, C43, C45, C47, C50	15	0.1uF	C1005X5R1A104K050BA	TDK	CAP, CERM, 0.1 µF, 10 V, +/- 10%, X5R, 0402	0402
C25, C36, C37, C38, C40, C42, C44, C46	8	1uF	GCM155C71A105KE38D	MuRata	CAP, CERM, 1 µF, 10 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0402	0402
C27, C30	2	150pF	885012005062	Würth Elektronik	CAP, CERM, 150 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C28	1	1uF	CGA4J3X7S2A105K125AB	TDK	CAP, CERM, 1 µF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 0805	0805
C29, C32	2	1uF	885012105012	Würth Elektronik	CAP, CERM, 1 µF, 10 V, +/- 20%, X5R, 0402	0402
C48, C49	2	22pF	885012005009	Würth Elektronik	CAP, CERM, 22 pF, 10 V, +/- 5%, C0G/NP0, 0402	0402
C54, C55	2	10uF	C1608X5R1A106M080AC	TDK	CAP, CERM, 10 µF, 10 V, +/- 20%, X5R, 0603	0603
C56	1	33pF	885012005043	Würth Elektronik	CAP, CERM, 33 pF, 25 V, +/- 5%, C0G/NP0, 0402	0402
C57	1	0.01uF	C0402C103J5RACTU	Kemet	CAP, CERM, 0.01 µF, 50 V, +/- 5%, X7R, 0402	0402
C58	1	0.1uF	C0805C104K5RACTU	Kemet	CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0805	0805
D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20	20	Rgb	CLY6D-FKC-CK1N1D1BB7D3D3	Cree	LED, Rgb, SMD	2.8x2.8mm
D21	1	Rgb	150066M153000	Würth Elektronik	LED, Rgb, SMD	1.6x1.6mm
D22	1	60V	B160-13-F	Diodes Inc.	Diode, Schottky, 60 V, 1 A, SMA	SMA
FID1, FID2, FID3	3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
H1, H2, H3, H4	4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw
H5, H6, H7, H8	4		1902C	Keystone	Standoff, Hex, 0.5"L #4-40 Nylon	Standoff
J1	1		43-01205	Conec	M12 Socket, Backmounting, 4Pos, Gold, R/A, TH	M12 Socket, Backmounting, 4Pos, R/A, TH
J2, J9	2		61300311121	Würth Elektronik	Header, 2.54 mm, 3x1, Gold, TH	Header, 2.54mm, 3x1, TH
J3, J4, J5, J6, J7, J10	6		61300211121	Würth Elektronik	Header, 2.54 mm, 2x1, Gold, TH	Header, 2.54mm, 2x1, TH

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J8	1		612 014 217 21	Würth Elektronik	Header (Shrouded), 2.54 mm, 7x2, Gold, R/A, TH	Header, 2.54 mm, 7x2, R/A, TH
L1, L2, L3	3	100uH	744066101	Würth Elektronik	Inductor, Shielded Drum Core, Ferrite, 100 µH, 1.2 A, 0.255 ohm, SMD	WE-TPC-XLH1
L4	1	220uH	744053221	Würth Elektronik	Inductor, Shielded Drum Core, Metal Composite, 220 µH, 0.29 A, 1.17 ohm, SMD	WE-TPC-LH
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
Q1, Q2, Q3, Q4, Q5	5	12V	CSD13202Q2	Texas Instruments	MOSFET, N-CH, 12 V, 22 A, DQK0006C (WSON-6)	DQK0006C
R1, R7, R18, R21, R25, R26	6	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
R2, R11, R19	3	57.6k	CRCW040257K6FKED	Vishay-Dale	RES, 57.6 k, 1%, 0.063 W, 0402	0402
R3, R9, R17	3	768k	CRCW0402768KFKED	Vishay-Dale	RES, 768 k, 1%, 0.063 W, 0402	0402
R4, R12, R20	3	1.00Meg	CRCW04021M00FKED	Vishay-Dale	RES, 1.00 M, 1%, 0.063 W, 0402	0402
R5, R14, R22	3	64.9k	CRCW040264K9FKED	Vishay-Dale	RES, 64.9 k, 1%, 0.063 W, 0402	0402
R6, R15, R23, R56	4	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, 0402	0402
R8, R16, R24	3	158k	CRCW0402158KFKED	Vishay-Dale	RES, 158 k, 1%, 0.063 W, 0402	0402
R10, R13, R27, R28, R29, R30, R37, R38, R39, R40, R41	11	1.0k	CRCW04021K00JNED	Vishay-Dale	RES, 1.0 k, 5%, 0.063 W, 0402	0402
R31, R42, R43, R48, R49	5	2.7k	CRCW04022K70JNED	Vishay-Dale	RES, 2.7 k, 5%, 0.063 W, 0402	0402
R32, R44, R45, R50, R51	5	22k	CRCW040222K0JNED	Vishay-Dale	RES, 22 k, 5%, 0.063 W, 0402	0402
R33, R34, R35	3	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, 0402	0402
R36	1	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R46	1	47k	CRCW040247K0JNED	Vishay-Dale	RES, 47 k, 5%, 0.063 W, 0402	0402
R47, R52	2	150	CRCW0402150RJNED	Vishay-Dale	RES, 150, 5%, 0.063 W, 0402	0402
R53	1	680	CRCW0402680RJNED	Vishay-Dale	RES, 680, 5%, 0.063 W, 0402	0402
R54	1	30.9k	CRCW040230K9FKED	Vishay-Dale	RES, 30.9 k, 1%, 0.063 W, 0402	0402
R55	1	357k	CRCW0402357KFKED	Vishay-Dale	RES, 357 k, 1%, 0.063 W, 0402	0402
R57	1	20.5k	CRCW040220K5FKED	Vishay-Dale	RES, 20.5 k, 1%, 0.063 W, 0402	0402
R58	1	25.5k	CRCW040225K5FKED	Vishay-Dale	RES, 25.5 k, 1%, 0.063 W, 0402	0402
R59	1	113k	CRCW0402113KFKED	Vishay-Dale	RES, 113 k, 1%, 0.063 W, 0402	0402
S1, S2	2		434121025816	Würth Elektronik	Switch, Tactile, SPST, 12 V, SMD	SMD, 6x3.9mm
SH-J3, SH-J4, SH-J5, SH-J6, SH-J7, SH-J9, SH-J10	7		60900213421	Würth Elektronik	Shunt, 2.54mm, Gold, Black	Shunt, 2.54mm, Black
TP1, TP2, TP3, TP4	4		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U1, U2, U3	3		LM5166DRCR	Texas Instruments	3.0-V to 65-V Input, 500-mA Synchronous Buck Converter with Ultra-Low IQ, DRC0010J (VSON-10)	DRC0010J
U4, U8, U9, U10, U11	5		TLC5971RGER	Texas Instruments	12-Channel, 16-Bit ES-PWM RGB LED Driver with 3.3 V Linear Regulator, 6 to 17 V, -40 to 85 degC, 24-pin QFN (RGE24), Green (RoHS & no Sb/Br)	RGE0024H

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U5	1		TIOL111	Texas Instruments	IO-Link Device Transceiver with Integrated Surge Protection, TIOL111 (WSON-10)	TIOL111
U6	1		MSP430FR5969IRGZR	Texas Instruments	Mixed Signal Microcontroller, RGZ0048B (VQFN-48)	RGZ0048B
U7	1		OPT3001DNPR	Texas Instruments	Digital Ambient Light Sensor (ALS) with High Precision Human Eye Response, DNP0006A (USON-6)	DNP0006A
U12	1		HDC1080DMBR	Texas Instruments	HDC1080 Low Power, High Accuracy Digital Humidity Sensor with Temperature Sensor, DMB0006A (WSON-6)	DMB0006A
U13	1		TPS54062DRBT	Texas Instruments	Buck Step Down Regulator with 4.7 to 60 V Input and 0.8 to 58 V Output, -40 to 125 degC, 8-Pin SON (DRB), Green (RoHS & no Sb/Br)	DRB0008B
U14, U15	2		TVS3300DRVR	Texas Instruments	33V Precision Surge Protection Clamp, DRV0006A (WSON-6)	DRV0006A
Y2	1		ABM8-14.7456MHZ-10-1-U-T	Abracon Corporation	Crystal, 14.7456MHz, 18pF, SMD	Crystal, 2.5x1x3.2mm
C34, C35	0	10pF	885012005055	Würth Elektronik	CAP, CERM, 10 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
Y1	0		MS3V-T1R 32.768KHZ 7.0 PF	Micro Crystal AG	Crystal, 32.768 KHz, 7pF, SMD	1.4x1.4x5.0mm SMD

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