

TIDA-00550 REV E1 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
PCB1	1		TIDA-00550	Any	Printed Circuit Board	
C1_ADC1, C1_ADC2, C2_ADC1, C2_ADC2, C3_ADC1, C3_ADC2, C4_ADC1, C4_ADC2, C5_ADC1, C5_ADC2, C7_ADC1, C7_ADC2, C9_ADC1, C9_ADC2, C10_ADC1, C10_ADC2, C26_AFE1, C26_AFE2, C31, C32, C33, C34, C36, C38, C43_PWR1, C43_PWR2, C54_PWR1, C54_PWR2, C56_PWR1, C56_PWR2	30	0.1uF	C1005X7R1H104K	TDK	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0402	0402
C6_ADC1, C6_ADC2, C8_ADC1, C8_ADC2, C14_ADC1, C14_ADC2, C15_ADC1, C15_ADC2, C16_ADC1, C16_ADC2, C37	11	1uF	C1608X7R1C105K	TDK	CAP, CERM, 1 μ F, 16 V, +/- 10%, X7R, 0603	0603
C11_ADC1, C11_ADC2	2	4700pF	C1608C0G1E472J	TDK	CAP, CERM, 4700 pF, 25 V, +/- 5%, C0G/NP0, 0603	0603
C12_ADC1, C12_ADC2, C13_ADC1, C13_ADC2	4	33pF	GRM1555C1E330JA01D	MuRata	CAP, CERM, 33 pF, 25 V, +/- 5%, C0G/NP0, 0402	0402

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C17_AFE1, C17_AFE2, C19_AFE1, C19_AFE2, C22_AFE1, C22_AFE2, C25_AFE1, C25_AFE2, C28_AFE1, C28_AFE2, C30_AFE1, C30_AFE2	12	8200pF	GRM2195C1H822JA01D	MuRata	CAP, CERM, 8200 pF, 50 V, +/- 5%, COG/NP0, 0805	0805
C18_AFE1, C18_AFE2, C24_AFE1, C24_AFE2, C29_AFE1, C29_AFE2	6	0.1uF	C3216NP01H104J160AA	TDK	CAP, CERM, 0.1 μF, 50 V, +/- 5%, C0G/NP0, 1206_190	1206_190
C20_AFE1, C20_AFE2, C23_AFE1, C23_AFE2, C27_AFE1, C27_AFE2	6	0.01uF	08051C103KAT2A	AVX	CAP, CERM, 0.01 μF, 100 V, +/- 10%, X7R, 0805	0805
C21_AFE1, C21_AFE2	2	5600pF	GRM2195C1H562JA01D	MuRata	CAP, CERM, 5600 pF, 50 V, +/- 5%, COG/NP0, 0805	0805
C35, C40_PWR1, C40_PWR2	3	4.7uF	C3216X7R1H475M160AC	TDK	CAP, CERM, 4.7 μF, 50 V, +/- 20%, X7R, 1206_190	1206_190
C39, C41_PWR1, C41_PWR2, C53_PWR1, C53_PWR2, C55_PWR1, C55_PWR2	7	2.2uF	UMK316B7225KL-T	Taiyo Yuden	CAP, CERM, 2.2 μF, 50 V, +/- 10%, X7R, 1206	1206
C42_PWR1, C42_PWR2	2	270pF	GRM155R71H271KA01D	MuRata	CAP, CERM, 270 pF, 50 V, +/- 10%, X7R, 0402	0402
C44_PWR1, C44_PWR2, C46_PWR1, C46_PWR2, C47_PWR1, C47_PWR2, C52_PWR1, C52_PWR2, C58_PWR1, C58_PWR2	10	10uF	C3216X7R1C106M	TDK	CAP, CERM, 10 μF, 16 V, +/- 20%, X7R, 1206	1206

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C45_PWR1, C45_PWR2, C48_PWR1, C48_PWR2, C49_PWR1, C49_PWR2, C51_PWR1, C51_PWR2, C59_PWR1, C59_PWR2	10	0.01uF	GRM155R71E103KA01D	MuRata	CAP, CERM, 0.01 µF, 25 V, +/- 10%, X7R, 0402	0402
C50_PWR1, C50_PWR2	2	3300pF	GRM155R71H332KA01D	MuRata	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0402	0402
C57_PWR1, C57_PWR2	2	10uF	GRM31CR71E106KA12L	MuRata	CAP, CERM, 10 µF, 25 V, +/- 10%, X7R, 1206	1206
C60_PWR1, C60_PWR2	2	1uF	GRM188R71E105KA12D	MuRata	CAP, CERM, 1 µF, 25 V, +/- 10%, X7R, 0603	0603
C61_PWR1, C61_PWR2	2	1000pF	202R18W102KV4E	Johanson Technology	CAP, CERM, 1000 pF, 2000 V, +/- 10%, X7R, 1206_190	1206_190
D1_ADC1, D1_ADC2, D3_AFE1, D3_AFE2, D6_AFE1, D6_AFE2, D8_AFE1, D8_AFE2	8	Blue	LB Q39G-L2N2-35-1	OSRAM	LED, Blue, SMD	BLUE 0603 LED
D2_ADC1, D2_ADC2	2	Red	150120RS75000	Würth Elektronik	LED, Red, SMD	3.2x1.6mm
D4_AFE1, D4_AFE2, D13_PWR1, D13_PWR2, D16_PWR1, D16_PWR2	6	70V	BAS70JW-7-F	Diodes Inc.	Diode, Schottky, 70 V, 0.07 A, SOT-363	SOT-363
D5_AFE1, D5_AFE2, D7_AFE1, D7_AFE2, D9_AFE1, D9_AFE2	6	36V	SM6T36CA	STMicroelectronics	Diode, TVS, Bi, 36 V, 600 W, SMB	SMB
D10, D19_PWR1, D19_PWR2, D20	4	35V	CD0603-B0230	Bourns	Diode, Schottky, 35 V, 0.2 A, 0603 Diode	0603 Diode
D11, D12_PWR1, D12_PWR2, D14_PWR1, D14_PWR2	5	Green	150120VS75000	Würth Elektronik	LED, Green, SMD	3.2x1.6mm

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D15_PWR1, D15_PWR2, D17_PWR1, D17_PWR2	4	3.6V	MMSZ4685-V	Vishay-Semiconductor	Diode, Zener, 3.6 V, 500 mW, SOD-123	SOD-123
D18_PWR1, D18_PWR2	2	2.7V	MMSZ4682-V	Vishay-Semiconductor	Diode, Zener, 2.7 V, 500 mW, SOD-123	SOD-123
H1, H3	2		1840382	Phoenix Contact	Terminal Block Plug, 3.5mm, 4x1, Green	
H2	1		1841161	Phoenix Contact	Fiber optics - MC 1,5/10-LWL 1,5-3,5 for Phoenix connectors	
H4	1		1803578	Phoenix Contact	Terminal Block Plug, 3.81mm, 2x1, Green	
J1_AFE1, J1_AFE2	2		1844236	Phoenix Contact	Terminal Block, 4x1, 3.5mm, Green, R/A, TH	Terminal Block, 4x1, 3.5mm, R/A, TH
J2	1		1803277	Phoenix Contact	Terminal Block, 2x1, 3.81mm, R/A, TH	Connector, 2 pos. 3.8mm RA
J3_HART1, J3_HART2, J4_HART1, J4_HART2	4		TFM-106-02-S-D-A	Samtec	Header(Shrouded), 1.27mm, 6x2, Tin, SMT	Header(Shrouded), 1.27mm, 6x2, SMT
J8, J9	2		SSHQ-123-D-08-F-LF	Major League Electronics	Female Connector, 2.54mm, 23x2, TH	Female Connector, 2.54mm, 23x2, TH
K1_AFE1, K1_AFE2, K2_AFE1, K2_AFE2, K3_AFE1, K3_AFE2	6		CPC1017N	IXYS	Relay, SPST-NO (1 Form A), 0.1 A, 1.2 VDC, SMD	4.089x3.81mm
L1	1	10uH	74404042100	Würth Elektronik	Inductor, Wirewound, Ferrite, 10 µH, 1.2 A, 0.15 ohm, SMD	4x4mm
L2_PWR1, L2_PWR2	2	2.2uH	LQM18PN2R2MFH	MuRata	Inductor, Ferrite, 2.2 µH, 0.35 A, 0.38 ohm, SMD	0603
Q1, Q3_PWR1, Q3_PWR2, Q4_PWR1, Q4_PWR2, Q5_PWR1, Q5_PWR2	7	60V	2N7002KW	Fairchild Semiconductor	MOSFET, N-CH, 60 V, 0.31 A, SOT-323	SOT-323
Q2_PWR1, Q2_PWR2	2	65 V	BC856A-7-F	Diodes Inc.	Transistor, PNP, 65 V, 0.01 A, SOT-23	SOT-23
R1_ADC1, R1_ADC2, R37, R38	4	6.65k	CRCW04026K65FKED	Vishay-Dale	RES, 6.65 k, 1%, 0.063 W, 0402	0402
R2_ADC1, R2_ADC2, R41	3	261k	CRCW0402261KFKED	Vishay-Dale	RES, 261 k, 1%, 0.063 W, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R3_ADC1, R3_ADC2, R5_ADC1, R5_ADC2, R9_ADC1, R9_ADC2, R10_ADC1, R10_ADC2, R11_ADC1, R11_ADC2, R28, R29, R32, R33, R34, R35, R36, R39, R42, R47_PWR1, R47_PWR2, R51_PWR1, R51_PWR2, R53_PWR1, R53_PWR2, R58_PWR1, R58_PWR2, R61_PWR1, R61_PWR2	29	47k	CRCW040247K0JNED	Vishay-Dale	RES, 47 k, 5%, 0.063 W, 0402	0402
R4_ADC1, R4_ADC2	2	576k	CRCW0402576KFKED	Vishay-Dale	RES, 576 k, 1%, 0.063 W, 0402	0402
R6_ADC1, R6_ADC2	2	340k	CRCW0402340KFKED	Vishay-Dale	RES, 340 k, 1%, 0.063 W, 0402	0402
R7_ADC1, R7_ADC2, R12_ADC1, R12_ADC2	4	1.65k	CRCW04021K65FKED	Vishay-Dale	RES, 1.65 k, 1%, 0.063 W, 0402	0402
R8_ADC1, R8_ADC2, R45, R50_PWR1, R50_PWR2	5	8.25k	CRCW04028K25FKED	Vishay-Dale	RES, 8.25 k, 1%, 0.063 W, 0402	0402
R13_ADC1, R13_ADC2	2	475	CRCW0402475RFKED	Vishay-Dale	RES, 475, 1%, 0.063 W, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R14_AFE1, R14_AFE2, R17_AFE1, R17_AFE2, R21_AFE1, R21_AFE2, R22_AFE1, R22_AFE2, R24_AFE1, R24_AFE2, R26_AFE1, R26_AFE2, R27_AFE1, R27_AFE2, R49_PWR1, R49_PWR2	16	5.11k	CRCW04025K11FKED	Vishay-Dale	RES, 5.11 k, 1%, 0.063 W, 0402	0402
R15_AFE1, R15_AFE2, R20_AFE1, R20_AFE2, R23_AFE1, R23_AFE2	6	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9, 1%, 0.063 W, 0402	0402
R16_AFE1, R16_AFE2	2	4.99k	RNCF0603TKY4K99	Stackpole Electronics Inc	RES, 4.99 k, 0.01%, 0.1 W, 0603	0603
R18_AFE1, R18_AFE2	2	82.5k	RN73C2A82K5BTDF	TE Connectivity	RES, 82.5 k, 0.1%, 0.1 W, 0805	0805
R19_AFE1, R19_AFE2	2	17.8k	RN73C2A17K8BTDF	TE Connectivity	RES, 17.8 k, 0.1%, 0.1 W, 0805	0805
R25_AFE1, R25_AFE2	2	27.4	RN73C2A27R4BTDF	TE Connectivity	RES, 27.4, 0.1%, 0.1 W, 0805	0805
R30	1	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603
R40, R56_PWR1, R56_PWR2, R64_PWR1, R64_PWR2, R69_PWR1, R69_PWR2	7	100k	CRCW0402100KFKED	Vishay-Dale	RES, 100 k, 1%, 0.063 W, 0402	0402
R43	1	200k	CRCW0402200KFKED	Vishay-Dale	RES, 200 k, 1%, 0.063 W, 0402	0402
R44	1	8.06k	CRCW04028K06FKED	Vishay-Dale	RES, 8.06 k, 1%, 0.063 W, 0402	0402
R46_PWR1, R46_PWR2	2	20.5	CRCW120620R5FKEA	Vishay-Dale	RES, 20.5, 1%, 0.25 W, 1206	1206
R48_PWR1, R48_PWR2, R52_PWR1, R52_PWR2	4	953k	CRCW0402953KFKED	Vishay-Dale	RES, 953 k, 1%, 0.063 W, 0402	0402
R54_PWR1, R54_PWR2	2	931	CRCW0402931RFKED	Vishay-Dale	RES, 931, 1%, 0.063 W, 0402	0402

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
R55_PWR1, R55_PWR2, R60_PWR1, R60_PWR2	4	113k	CRCW0402113KFKED	Vishay-Dale	RES, 113 k, 1%, 0.063 W, 0402	0402
R57_PWR1, R57_PWR2, R59_PWR1, R59_PWR2	4	169k	CRCW0402169KFKED	Vishay-Dale	RES, 169 k, 1%, 0.063 W, 0402	0402
R62_PWR1, R62_PWR2	2	1.0	CRCW04021R00JNED	Vishay-Dale	RES, 1.0, 5%, 0.063 W, 0402	0402
R63_PWR1, R63_PWR2	2	422k	CRCW0402422KFKED	Vishay-Dale	RES, 422 k, 1%, 0.063 W, 0402	0402
R65_PWR1, R65_PWR2	2	54.9k	CRCW040254K9FKED	Vishay-Dale	RES, 54.9 k, 1%, 0.063 W, 0402	0402
R66_PWR1, R66_PWR2	2	73.2k	CRCW040273K2FKED	Vishay-Dale	RES, 73.2 k, 1%, 0.063 W, 0402	0402
R67_PWR1, R67_PWR2	2	8.66k	CRCW04028K66FKED	Vishay-Dale	RES, 8.66 k, 1%, 0.063 W, 0402	0402
R68_PWR1, R68_PWR2	2	7.68k	CRCW04027K68FKED	Vishay-Dale	RES, 7.68 k, 1%, 0.063 W, 0402	0402
S1	1		416131160802	Würth Elektronik	Switch, SPST, Off-On, 2 Pos, SMD	5.6x3.58mm
T1_PWR1, T1_PWR2	2	120uH	750315856	Würth Elektronik	Transformer, 120 uH, SMT	12.85x12.95mm
U1_ADC1, U1_ADC2	2		ISO7141CCDBQR	Texas Instruments	4242-VPK Small-Footprint and Low-Power Quad Channels Digital Isolators, DBQ0016A	DBQ0016A
U2_ADC1, U2_ADC2	2		LM2903PW	Texas Instruments	Dual Comparator, PW0008A	PW0008A
U3_ADC1, U3_ADC2	2		LMT01LPG	Texas Instruments	0.5°C Accurate 2-Pin Digital NTC or PTC Thermistor Replacement, LPG0002A	LPG0002A
U4_ADC1, U4_ADC2	2		SN74LVC1G125DCKR	Texas Instruments	Single Bus Buffer Gate With 3-State Output, DCK0005A	DCK0005A
U5_ADC1, U5_ADC2	2		SN74AHC594PWR	Texas Instruments	8-Bit Shift Register With Output Registers, PW0016A	PW0016A
U6_ADC1, U6_ADC2	2		ADS1262IPWR	Texas Instruments	32-Bit, Precision, 38-kSPS, Analog-to-Digital Converter (ADC) with Programmable Gain Amplifier (PGA) and Voltage Reference, PW0028A	PW0028A
U7	1		SN74LVC2G86DCTR	Texas Instruments	Dual 2-Input Exclusive-OR Gate, DCT0008A	DCT0008A
U8, U9	2		SN74LVC1G332DCKR	Texas Instruments	Single 3-Input Positive-OR Gate, DCK0006A	DCK0006A
U10	1		TPS61093DSKR	Texas Instruments	LOW INPUT BOOST CONVERTER WITH INTEGRATED POWER DIODE AND INPUT/OUTPUT ISOLATION, DSK0010A	DSK0010A
U11	1		24LC256-I/ST	Microchip	256K I2C CMOS Serial EEPROM, TSSOP-8	TSSOP-8
U12_PWR1, U12_PWR2	2		TPS7A4101DGNR	Texas Instruments	Single Output LDO, 50 mA, Adjustable 1.175 to 48 V Output, 7 to 50 V Input, 8-pin MSOP (DGN), -40 to 125 degC, Green (RoHS & no Sb/Br)	DGN0008B
U13_PWR1, U13_PWR2	2		TLV70433DBVT	Texas Instruments	Single Output LDO, 150 mA, Fixed 3.3 V Output, 2.5 to 24 V Input, with Ultra-Low IQ, 5-pin SOT-23 (DBV), -40 to 125 degC, Green (RoHS & no Sb/Br)	DBV0005A
U14_PWR1, U14_PWR2	2		TPS7A4901DRBR	Texas Instruments	+36V, +150mA, Ultralow-Noise, Positive LINEAR REGULATOR, DRB0008A	DRB0008A

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U15_PWR1, U15_PWR2	2		LM5017SDX/NOPB	Texas Instruments	100V, 600mA Constant On-Time Synchronous Buck Regulator, NGU0008B	NGU0008B
U16_PWR1, U16_PWR2	2		TPS7A3001DRBR	Texas Instruments	-35-V, -200-mA, Ultralow-Noise, Negative Linear Regulator, DRB0008A	DRB0008A
Y1_ADC1, Y1_ADC2	2		ECS-73-18-10X	ECS Inc.	Crystal, 7.3728MHz, 18pF, SMD	D3.2xL10.5mm
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R31	0	0	ERJ-3GEY0R00V	Panasonic	RES, 0, 5%, 0.1 W, 0603	0603

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