

TIDA-00455 REV E2.0 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPC B1	1		TIDA-00455	Any	Printed Circuit Board	
C1, C3, C5, C7, C15, C17, C19, C21, C115, C122, C124, C126, C127, C129, C130, C131, C135, C142, C144, C146, C147, C149, C150, C151, C160, C162	26	0.1uF	C1005X7R1H104K050BB	TDK	CAP, CERM, 0.1 μ F, 50 V, +/- 10%, X7R, 0402	0402
C2, C4, C6, C8, C16, C18, C20, C22	8	4.7 μ F	GRM188R61E475KE11D	Murata Electronics North Ame	CAP CER 4.7UF 25V 10% X5R 0603	0603 (1608 Metric)
C9, C10, C23, C24, C78, C79	6	0.033uF	CGA2B3X7R1H333K050BB	TDK	CAP, CERM, 0.033 μ F, 50 V, +/- 10%, X7R, 0402	0402
C11, C12, C25, C26	4	0.015uF	CGA2B3X7R1H153K050BB	TDK	CAP, CERM, 0.015 μ F, 50 V, +/- 10%, X7R, 0402	0402
C13, C14, C27, C28	4	240pF	GRM1555C1H241JA01D	MuRata	CAP, CERM, 240 pF, 50 V, +/- 5%, C0G/NP0, 0402	0402
C30, C31	2	2.2uF	GRM32ER72A225KA35L	MuRata	Cap, Cer-X7R, 2.2uF, 100V, 10%, 1210	1210
C32	1	0.1uF	C1608X7R1H104K	TDK	CAP, CERM, 0.1uF, 50V, +10%, X7R, 0603	0603
C33, C34, C35	3	4.7uF	C3216X7R1E475M	TDK	CAP, CERM, 4.7uF, 25V, +/-20%, X7R, 1206	1206
C37, C157	2		GRM155R70J104KA01D	MuRata	Cap, Cer-X7R, 0.1uF, 6.3V, 10%, 0402	0402
C38, C40	2		GRM31CR71E106KA12L	MuRata	Cap, Cer-X7R, 10uF, 25V, 10%, 1206	1206
C41	1		GRM155R70J473KA01D	MuRata	Cap, Cer-X7R, 0.047uF, 6.3V, 10%, 0402	0402
C42	1	100pF	CC0402KRX7R9BB101	Yageo America	Cap, Cer-X7R, 100pF, 50V, 10%, 0402	0402
C43	1		GRM155R71C103KA01D	MuRata	Cap, Cer-X7R, 10000pF, 16V, 10%, 0402	0402
C44, C48, C51	3		GRM31CR71C106KAC7L	MuRata	Cap, Cer-X7R, 10uF, 16V, 10%, 1206	1206
C45, C49, C52	3	22uF	GRM31CR61C226KE15L	MuRata	CAP, CERM, 22 μ F, 16 V, +/- 10%, X5R, 1206	1206
C47	1	47uF	EEE-FK1E470P	Panasonic	CAP, AL, 47 μ F, 25 V, +/- 20%, 0.36 ohm, SMD	SMT Radial D
C54, C60, C92	3	10uF	CL21A106KAFN3NE	Samsung	CAP, CERM, 10 μ F, 25 V, +/- 10%, X5R, 0805	0805
C56, C61, C69, C75, C94, C100, C106, C111, C163, C164	10	1uF	C1005JB1V105K050BC	TDK	CAP, CERM, 1 μ F, 35 V, +/- 10%, JB, 0402	0402
C57, C62, C70, C76, C84, C90, C95, C101, C107, C112	10	0.1uF	CGA2B3X7R1H104K050BB	TDK	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0402	0402
C58, C63, C64, C65, C66, C71, C77, C85, C91, C96, C97, C102, C103, C108, C113, C114	16	0.01uF	GCM155R71H103KA55D	MuRata	CAP, CERM, 0.01uF, 50V, +/-10%, C0G/NP0, 0402	0402
C72, C86	2	0.1uF	C1005X7R1H104M	TDK	CAP, CERM, 0.1uF, 50V, +/-20%, C0G/NP0, 0402	0402

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C80, C155	2	2200pF	UMK105B7222KV-F	Taiyo Yuden	Cap, Cer-X7R, 2200pF, 50V, 10%, 0402	0402 (1005 Metric)
C116, C119, C125, C136, C139, C145	6	10uF	C2012X7R0J106M125AB	TDK	CAP, CERM, 10 µF, 6.3 V, +/- 20%, X7R, 0805	0805
C117, C137	2	2.2uF	C0603C225M8PACTU	Kemet	CAP, CERM, 2.2 µF, 10 V, +/- 20%, X5R, 0603	0603
C118, C120, C138, C140	4	0.47uF	C1005X5R1A474K050BB	TDK	CAP, CERM, 0.47 µF, 10 V, +/- 10%, X5R, 0402	0402
C121, C141	2	4.7uF	C1005X5R1A475K050BC	TDK	CAP, CERM, 4.7 µF, 10 V, +/- 10%, X5R, 0402	0402
C123, C143	2	2.2uF	C2012X5R1A225K/0.85	TDK	CAP, CERM, 2.2 µF, 10 V, +/- 10%, X5R, 0805	0805
C128, C134, C148, C154	4	18pF	GRM1885C2A180JA01D	MuRata	CAP, CERM, 18 pF, 100 V, +/- 5%, C0G/NP0, 0603	0603
C132, C133, C152, C153	4	1uF	C0603C105K4PACTU	Kemet	CAP, CERM, 1 µF, 16 V, +/- 10%, X5R, 0603	0603
C156	1	4.7uF	LMK212B7475KG-T	Taiyo Yuden	Cap, Cer-X7R, 4.7uF, 10V, 10%, 0805	0805
C158, C159, C161	3	0.1uF	0603YC104JAT2A	AVX	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	0603
D1, D2	2	15V	MMSZ5245B-7-F	Diodes Inc.	Diode, Zener, 15 V, 500 mW, SOD-123	SOD-123
D3	1		B360-13-F	Diodes Inc.	Diode, Schottky, 3A, 60V, SMC	SMC
D4, D10	2	Yellow	SML-P12YTT86	Rohm	LED, Yellow, SMD	Yellow LED
D5, D8	2	Orange	SML-P12DTT86	Rohm	LED, Orange, SMD	Orange LED
D6	1	Red	SML-P12UTT86	Rohm	LED, Red, SMD	LED, 1x.2x.6mm
D7, D11, D12	3	Green	SML-P12PTT86	Rohm	LED, Green, SMD	LED, 1x.2x.6mm
D9	1	Yellow/green	SML-P12MTT86	Rohm	LED, Yellow/green, SMD	0402 LED
H1, H2, H3, H4	4		24430	Keystone	HEX Standoff M3 Aluminum 5 MM	
J1, J2, J3, J4	4		59S20X-400L5-Y	Rosenberger	RIGHT ANGLE PLUG FOR PCB	16.6x11.6x8.5mm
J5	1	2x1	1727010	Phoenix Contact	Conn Term Block, 2POS, 3.81mm, TH	2POS Terminal Block
J6, J7, J8, J10, J11, J19, J26, J36, J39, J40	10		TSW-103-07-G-S	Samtec	Header, 100mil, 3x1, Gold, TH	3x1 Header
J9, J13, J15, J30	4		PEC02SAAN	Sullins Connector Solutions	Header, 100mil, 2x1, Tin, TH	Header, 2 PIN, 100mil, Tin
J12	1		TSW-102-07-G-S	Samtec	Header, 100mil, 2x1, Gold, TH	2x1 Header
J14, J16, J17, J18, J20, J21, J22, J24, J27	9		TSW-104-07-G-S	Samtec	Header, 100mil, 4x1, Gold, TH	4x1 Header
J23	1		851-43-006-20-001000	Mill-Max	Receptacle, 50mil, 6x1, Gold, R/A, TH	Receptacle, 6x1, 50mil pitch, R/A
J25	1		TSW-105-07-G-D	Samtec	Header, 100mil, 5x2, Gold, TH	5x2 Header
J28, J33, J37, J38	4		TSW-108-07-G-D	Samtec	Header, 100mil, 8x2, Gold, TH	8x2 Header
J29	1		QTE-060-01-F-D-A	Samtec	Header, 0.8mm, 60x2, Gold, SMT	Header, 0.8mm, 60x2, SMT
J31	1		TSW-103-07-G-D	Samtec	Header, 100mil, 3x2, Gold, TH	3x2 Header
J32	1		TSW-108-07-G-S	Samtec	Header, 100mil, 8x1, Gold, TH	8x1 Header
J34, J35	2		TSW-106-07-G-D	Samtec	Header, 100mil, 6x2, Gold, TH	6x2 Header
L1, L2, L9, L10	4		BLM18AG102SN1D	Murata Electronics North Ame	FERRITE CHIP 1000 OHM 400MA 0603	0603 (1608 Metric)
L3, L5, L11, L13	4	10uH	LQH3NPN100NGO	MuRata	Inductor, Wirewound, Ferrite, 10 µH, 0.5 A, 0.57 ohm, SMD	3.0x0.9x3.0mm
L4, L6, L12, L14	4	100uH	MSS7341T-104MLB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 100 µH, 0.7 A, 0.28 ohm, SMD	MSS7341
L7, L8, L15, L16	4	1000 ohm	BLM15HG102SN1D	MuRata	Ferrite Bead, 1000 ohm @ 100 MHz, 0.25 A, 0402	0402
L17	1		DRQ127-2R2-R	Coiltronics	Ind, Dual, 2.2uH, 20%, 6.23A, 8.05mE, Shielded, SMD	12.5x8.0x12.5mm
L18, L19, L20	3	2.2uH	VLS201610HBX-2R2M	TDK	Inductor, Shielded, Ferrite, 2.2 µH, 1.45 A, 0.170 ohm, SMD	2.0x0.95x1.6mm
L21	1	120 ohm	BLM18SG121TN1D	MuRata	Ferrite Bead, 120 ohm @ 100 MHz, 3 A, 0603	0603

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L22, L23, L27, L28, L30	5	120 ohm	BLM18SG121TN1D	MuRata	1.5A Ferrite Bead, 330 ohm @ 100MHz, SMD	0603
L31, L32, L33, L34, L35, L36	6	1000 ohm	BK2125HS102-T	Taiyo Yuden	Ferrite Bead, 1000 ohm @ 100 MHz, 0.3 A, 0805	0805
M1	1	60V	SQ2360EES-T1-GE3	Vishay-Siliconix	MOSFET, N/P-CH, 60 V, 4.4 A, SOT-23	SOT-23
Q1, Q2	2	-60V	SQJ461EP	Vishay-Siliconix	MOSFET, P-CH, -60V, 30A, PowerPAK_SO-8L	PowerPAK_SO-8L
R1, R3, R9, R11	4	2.00k	CRCW06032K00FKEA	Vishay-Dale	RES, 2.00 k, 1%, 0.1 W, 0603	0603
R2, R4, R10, R12	4	1.00k	ERJ-3EKF1001V	Panasonic	RES, 1.00 k, 1%, 0.1 W, 0603	0603
R5, R6, R13, R14	4	57.6	CRCW040257R6FKED	Vishay-Dale	RES, 57.6, 1%, 0.063 W, 0402	0402
R7, R8, R15, R16, R143, R145, R147	7	200	CRCW0402200RJNED	Vishay-Dale	RES, 200, 5%, 0.063 W, 0402	0402
R17	1	0	CRCW20100000Z0EF	Vishay-Dale	RES, 0, 5%, 0.75 W, 2010	2010
R18, R22	2	100K	ERJ-3EKF1003V	Panasonic Electronic Compon	Res, Chip, 100K, 1/10W, 1%, 0603	0603 (1608 Metric)
R19, R20	2	20K	RC0603FR-0720KL	Yageo America	Res, Chip, 20K, 1/10W, 1%, 0603	0603
R21	1	11.8K	CRCW060311K8FK	Vishay-Dale	RES, 11.8 ohm, 1%, 0.1W, 0603	0603
R23	1	1.00k	CRCW06031K00FKEA	Vishay-Dale	RES, 1.00k ohm, 1%, 0.1W, 0603	0603
R24, R136, R139	3	0	CRCW08050000Z0EA	Vishay-Dale	Res, Chip, 0E, 1/8W, JUMP, 0805	0805
R26, R102, R104, R116, R119, R120, R141, R144, R146, R148, R149, R150	12	10K	CRCW040210K0JNED	Vishay-Dale	Res, Chip, 10K, 1/16W, 5%, 0402	0402
R27	1	2.32k	CRCW04022K32FKED	Vishay-Dale	RES, 2.32k ohm, 1%, 0.063W, 0402	0402
R28	1	18.2k	CRCW040218K2FKED	Vishay-Dale	RES, 18.2k ohm, 1%, 0.063W, 0402	0402
R29	1	49.9	CRCW040249R9FKED	Vishay-Dale	RES, 49.9 ohm, 1%, 0.063W, 0402	0402
R30	1	88.7k	CRCW040288K7FKED	Vishay-Dale	RES, 88.7 k, 1%, 0.063 W, 0402	0402
R31	1	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0k ohm, 1%, 0.063W, 0402	0402
R32, R33, R34, R35, R156	5	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
R36, R38, R39, R41, R42, R44	6	100k	CRCW0603100KFKEA	Vishay-Dale	RES, 100 k, 1%, 0.1 W, 0603	0603
R37	1	316k	CRCW0603316KFKEA	Vishay-Dale	RES, 316 k, 1%, 0.1 W, 0603	0603
R40	1	124k	CRCW0603124KFKEA	Vishay-Dale	RES, 124 k, 1%, 0.1 W, 0603	0603
R43	1	37.4k	CRCW060337K4FKEA	Vishay-Dale	RES, 37.4 k, 1%, 0.1 W, 0603	0603
R45, R54	2	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10k ohm, 5%, 0.063W, 0402	0402
R47	1	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.063 W, 0402	0402
R48	1	13.3k	CRCW040213K3FKED	Vishay-Dale	RES, 13.3 k, 1%, 0.063 W, 0402	0402
R50, R64, R68, R94, R98, R125, R127	7	2.2k	CRCW04022K20JNED	Vishay-Dale	RES, 2.2 k, 5%, 0.063 W, 0402	0402
R51, R159, R162	3	100	CRCW0402100RFKED	Vishay-Dale	RES, 100 ohm, 1%, 0.063W, 0402	0402

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R52, R78, R108, R151, R152, R174, R175, R176, R177, R178, R179, R180, R181, R182, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R202, R203, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224	51	0	ERJ-2GE0R00X	Panasonic	RES, 0 ohm, 5%, 0.063W, 0402	0402
R53	1	56.2k	CRCW040256K2FKED	Vishay-Dale	RES, 56.2 k, 1%, 0.063 W, 0402	0402
R55	1	210k	CRCW0402210KFKED	Vishay-Dale	RES, 210 k, 1%, 0.063 W, 0402	0402
R56, R57, R84, R86, R87	5	4.7k	CRCW04024K70JNED	Vishay-Dale	RES, 4.7 k, 5%, 0.063 W, 0402	0402
R58, R59, R60, R61, R63, R65, R66, R67, R72, R74, R75, R76, R83, R88, R89, R90, R91, R93, R95, R96, R97, R105, R106, R112, R113, R129, R133, R134, R137, R138, R184, R185, R201, R204	34	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, 0402	0402
R62, R77, R81, R92, R107, R111	6	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R69, R70, R71, R73, R99, R100, R101, R103	8	33	CRCW040233R0JNED	Vishay-Dale	RES, 33, 5%, 0.063 W, 0402	0402
R79, R109, R157, R158, R160, R161	6	1.0Meg	CRCW04021M00JNED	Vishay-Dale	RES, 1.0 M, 5%, 0.063 W, 0402	0402
R117	1	49.9k	CRCW040249K9FKED	Vishay-Dale	RES, 49.9 k, 1%, 0.063 W, 0402	0402
R118, R132	2	220	CRCW0402220RJNED	Vishay-Dale	RES, 220, 5%, 0.063 W, 0402	0402
R121, R122, R123, R124	4	4.7K	CRCW04024K70JNED	Vishay-Dale	Res, Chip, 4.7K, 1/16W, 5%, 0402	0402

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R126, R128, R163, R164, R165, R166	6	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0 ohm, 5%, 0.063W, 0402	0402
R130	1	360	CRCW0402360RJNED	Vishay-Dale	RES, 360, 5%, 0.063 W, 0402	0402
R131	1	470	CRCW0402470RJNED	Vishay-Dale	RES, 470, 5%, 0.063 W, 0402	0402
R135, R153, R167, R171, R172	5	4.7k	CRCW06034K70JNEA	Vishay-Dale	RES, 4.7k ohm, 5%, 0.1W, 0603	0603
R140, R155	2	4.99k	CRCW04024K99FKED	Vishay-Dale	RES, 4.99 k, 1%, 0.063 W, 0402	0402
R154	1	4.12k	CRCW04024K12FKED	Vishay-Dale	RES, 4.12 k, 1%, 0.063 W, 0402	0402
R168, R173	2	487	CRCW0402487RFKED	Vishay-Dale	RES, 487 ohm, 1%, 0.063W, 0402	0402
S1, S2	2		SKRKAEE010	Alps	Switch, Tactile, 12v, 50mA, Vertical, SMD	2.9x2x3.9mm SMD
TP1, TP2, TP3, TP4, TP5, TP6, TP7, TP9, TP10, TP12, TP14	11	Red	5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP8, TP11, TP13, TP15, TP43, TP44, TP45, TP46	8	Black	5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
TP24, TP25, TP26, TP27, TP28	5	Yellow	5004	Keystone	Test Point, Miniature, Yellow, TH	Yellow Miniature Testpoint
U1	1		DS90UB964TRGCTQ1	Texas Instruments	FPD-Link III Camera Hub Deserializer, RTD0064E	RTD0064E
U2	1		TLVH431AQDBVRQ1	Texas Instruments	Automotive Catalog Low-Voltage Adjustable Precision Shunt Regulator, 80 mA, -40 to 125 degC, 5-pin SOT-23 (DBV), Green (RoHS & no Sb/Br)	DBV0005A
U3, U21, U23	3		1P1G125QDCKRQ1	Texas Instruments	Single Bus Buffer Gate With 3-State Output, DCK0005A	DCK0005A
U4	1		TPS1H100BQPWPRQ1	Texas Instruments	40V/100mO Single Channel Smart High Side Switch, Automotive Qualified, PWP0014C	PWP0014C
U5, U6, U7	3		TPS62160QDSGRQ1	Texas Instruments	3-V to 17-V 1-A Step-Down Converter with DCS-Control™, DSG0008A	DSG0008A
U8, U12	2		OV00490-B00G-1A-Z	OmniVision Technologies	Companion ISP processor, BGA100	100 pin BGA
U10, U14	2		W25Q128FVFSIG	Winbond	3V 128M-bit Serial Flash Memory With Dual SPI&QPI, SO-8	SOIC-8, 208mil wide
U16	1		MSP430F2272TRHARQ1	Texas Instruments	16 MHz Mixed Signal Microcontroller with 32 KB Flash, 1024 B SARM and 32 GPIOs, -40 to 105 degC, 38-pin SOP (DA)	DA0038A
U17	1		TS3USB221AQRSERQ1	Texas Instruments	IC, TS3USB221A-Q1, Dual USB Switch, UQFN-10	RSE0010A
U18, U19	2		TS3USB221AQRSERQ1	Texas Instruments	Automotive Catalog ESD Protected, High-Speed USB 2.0 (480-Mbps) 1:2 Multiplexer / Demultiplexer Switch, 16 ohm RON, 2.5 to 3.3V, -40 to 125 degC, 10-Pin UQFN (RSE), Green (RoHS & no Sb/Br)	RSE0010A
U20	1		TPS55340QRTERQ1	Texas Instruments	Integrated 5-A 40-V Wide Input Range Boost/SEPIC/Flyback DC-DC Regulator, RTE0016C	RTE0016C
Y1	1		7C-25.000MCB-T	TXC Corporation	XO, 25.000MHz, 2.5V, SMD	5.0x1.2x3.2mm
Y2, Y3	2		ABM10-24.576MHZ-E20-T	Abrakon Corpotation	Crystal, 24.576MHz, 10pF, SMD	2.5x0.5x2.0mm
C29	0	0.1uF	C1608X7R1H104K	TDK	CAP, CERM, 0.1uF, 50V, +10%, X7R, 0603	0603
C36	0	4.7uF	C3216X7R1E475M	TDK	CAP, CERM, 4.7uF, 25V, +/-20%, X7R, 1206	1206
C39	0		GRM31CR71E106KA12L	MuRata	Cap, Cer-X7R, 10uF, 25V, 10%, 1206	1206
C46, C50, C53	0				CAP, open, 1206	1206
FID1, FID2, FID3, FID4, FID5, FID6	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	Fiducial
R25	0	100K	CRCW1206100KJNEA	Vishay-Dale	Res, Chip, 100K, 1/4W, 5%, 1206	1206
R46	0	0	ERJ-2GE0R00X	Panasonic	RES, 0, 5%, 0.063 W, 0402	0402
R49	0	40.2k	CRCW040240K2FKED	Vishay-Dale	RES, 40.2 k, 1%, 0.063 W, 0402	0402
R80, R110	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, 0402	0402
R82	0	10k	CRCW040210K0JNED	Vishay-Dale	RES, 10 k, 5%, 0.063 W, 0402	0402
R85, R114, R115	0	4.7k	CRCW04024K70JNED	Vishay-Dale	RES, 4.7 k, 5%, 0.063 W, 0402	0402

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R142	0	0	CRCW06030000Z0EA	Vishay-Dale	RES, 0 ohm, 5%, 0.1W, 0603	0603
TP16, TP17	0	STD	STD	STD	Test Point, 0.025"	
TP18, TP19, TP20, TP21, TP22, TP23	0	SMT	5015	Keystone	Test Point, Miniature, SMT	Testpoint_Keystone_ Miniature

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