

010009 REV E2 Bill of Materials

Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
IPC81	1		010009	Any	Printed Circuit Board	
C1, C2, C7, C16	4	0.1uF	GCJ188R72A104KA01D	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C3, C47	2	1uF	885012206052	Wurth Elektronik	CAP, CERM, 1 uF, 16 V, +/- 10%, X7R, 0603	0603
C4, C40	2	10uF	C3216X7R1V106K160AC	TDK	CAP, CERM, 10 uF, 35 V, +/- 10%, X7R, 1206	1206
C5, C6, C12, C13, C14, C15	6	4.7uF	C3225X7S2A475K200AE	TDK	CAP, CERM, 4.7 uF, 100 V, +/- 10%, X7S, 1210	1210
C8	1	1uF	C2012X7S2A105K125AB	TDK	CAP, CERM, 1 uF, 100 V, +/- 10%, X7S, 0805	0805
C9	1	680pF	C0603C681K5RACTU	Kemet	CAP, CERM, 680 pF, 50 V, +/- 10%, X7R, 0603	0603
C17	1	2.2uF	C3216X7R1H225K160AB	TDK	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, 1206	1206
C18, C101	2	470uF	ECA-1HM471	Panasonic	CAP, AL, 470 uF, 50 V, +/- 20%, TH	10x20
C19	1	0.22uF	GRM188R61A224KA01D	MuRata	CAP, CERM, 0.22 uF, 10 V, +/- 10%, X5R, 0603	0603
C20, C22, C26, C30, C32	5	4.7uF	C3216X7R1H475K160AC	TDK	CAP, CERM, 4.7 uF, 50 V, +/- 10%, X7R, 1206	1206
C21	1	330pF	C0805C331K5RACTU	Kemet	CAP, CERM, 330 pF, 50 V, +/- 10%, X7R, 0805	0805
C23	1	4700pF	GCM188R72A472KA37D	MuRata	CAP, CERM, 4700 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
C24	1	4.7uF	EEE-FC1H4R7R	Panasonic	CAP, AL, 4.7 uF, 50 V, +/- 20%, 3 ohm, SMD	SMT Radial C
C25	1	3900pF	GRM188R71H392KA01D	MuRata	CAP, CERM, 3900 pF, 50 V, +/- 10%, X7R, 0603	0603
C27, C28, C29, C57	4	10uF	CL31B106KBHNNNE	Samsung	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, 1206	1206
C31, C58	2	1uF	C0805C105K5RACTU	Kemet	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0805	0805
C33	1	10uF	GRM21BR71A106KE51L	MuRata	CAP, CERM, 10 uF, 10 V, +/- 10%, X7R, 0805	0805
C34, C50	2	4.7uF	C2012X7R1V475K125AC	TDK	CAP, CERM, 4.7 uF, 35 V, +/- 10%, X7R, 0805	0805
C35, C39, C42, C43, C44, C45, C49	7	22uF	EMK316BB7226ML-T	Taiyo Yuden	CAP, CERM, 22 uF, 16 V, +/- 20%, X7R, 1206_190	1206_190
C36	1	0.1uF	C1608X7R1H104K080AA	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603
C37, C48	2	120pF	GRM033R71E121KA01D	MuRata	CAP, CERM, 120 pF, 25 V, +/- 10%, X7R, 0201	0201
C38	1	4.7uF	CGA5L1X7R1V475K160AE	TDK	CAP, CERM, 4.7 uF, 35 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
C46	1	0.1uF	EMK107B7104KA-T	Taiyo Yuden	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0603	0603
C51	1	4.7uF	UMK316AB7475KL-T	Taiyo Yuden	CAP, CERM, 4.7 uF, 50 V, +/- 10%, X7R, 1206_190	1206_190
C55, C56	2	0.22uF	CGA3E3X7R1H224K080AB	TDK	CAP, CERM, 0.22 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
D2	1	100V	B2100A-13-F	Diodes Inc.	Diode, Schottky, 100 V, 2 A, SMA	SMA
D3, D4, D5, D6	4	100V	PMEG10030ELPX	Nexperia	Diode, Schottky, 100 V, 3 A, AEC-Q101, SOD-128	SOD-128
D7	1	40V	MBR0540T1G	ON Semiconductor	Diode, Schottky, 40 V, 0.5 A, SOD-123	SOD-123
FID4, FID5, FID6	3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A
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
H9, H10, H11, H12	4		SJ-5303 (CLEAR)	3M	Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon
J1, J2, J3, J4, J5, J7, J8, J9, J10, J11, J12, J14	12		282834-2	TE Connectivity	Terminal Block, 2x1, 2.54mm, TH	Terminal Block, 2x1, 2.54mm, TH
J6, J13	2		61300411121	Wurth Elektronik	Header, 2.54 mm, 4x1, Gold, TH	Header, 2.54mm, 4x1, TH
L5	1	22uH	LPS4018-223MRB	Coilcraft	Inductor, Shielded Drum Core, Ferrite, 22 uH, 0.83 A, 0.36 ohm, SMD	LPS4018
L6	1	2.2uH	LQH5BPN2R2NT0L	MuRata	Inductor, Wirewound, Ferrite, 2.2 uH, 2.6 A, 0.036 ohm, SMD	4.9x4.9x2.2mm
L7, L9	2	470nH	XFL4015-471MEC	Coilcraft	Inductor, Shielded, Composite, 470 nH, 3.5 A, 0.0076 ohm, SMD	SMD, 4x4x1.5mm
L8	1	11uH	7447798111	Wurth Elektronik	Inductor, Shielded, Metal Composite, 11 uH, 5.3 A, 0.014 ohm, SMD	10.2 x 6.4 x 10.2mm
L10	1	10uH	FDSD0420-H-100M	MuRata Toko	Inductor, Shielded, Powdered Iron, 10 uH, 2 A, 0.2 ohm, SMD	4.2x4.2mm

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LCF1	1	11uH	744273102	Würth Elektronik	Coupled inductor, 11 µH, 2.5 A, 0.03 ohm, SMD	SMD, 4-Leads, Body 9.5x8.3mm
LD1, LD2	2	Green	LG L29K-G2J1-24-Z	OSRAM	LED, Green, SMD	1.7x0.65x0.8mm
LF1	1	4.7uH	SRR1260-4R7Y	Bourns	Inductor, Drum Core, Ferrite, 4.7 uH, 6.8 A, 0.0155 ohm, SMD	12.5 x 12.5mm
Q1	1	100V	CSD19533Q5A	Texas Instruments	MOSFET, N-CH, 100 V, 13 A, DQJ0008A (VSONP-8)	DQJ0008A
Q2	1	25V	CSD16301Q2	Texas Instruments	MOSFET, N-CH, 25 V, 5 A, DQK0006C (WSON-6)	DQK0006C
R1	1	0	MCR25JZHJ000	Rohm	RES, 0, 5%, 0.25 W, 1210	1210
R2, R18, R20, R25, R104	5	10.0k	RG1608P-103-B-T5	Susumu Co Ltd	RES, 10.0 k, 0.1%, 0.1 W, 0603	0603
R19	1	499k	RT0603DRE07499KL	Yageo America	RES, 499 k, 0.5%, 0.1 W, 0603	0603
R21	1	665k	RC0603FR-07665KL	Yageo	RES, 665 k, 1%, 0.1 W, 0603	0603
R22	1	14.0k	RC0603FR-0714KL	Yageo	RES, 14.0 k, 1%, 0.1 W, 0603	0603
R23	1	31.6k	RT0603BRD0731K6L	Yageo America	RES, 31.6 k, 0.1%, 0.1 W, 0603	0603
R24	1	30.0k	RG1608P-303-B-T5	Susumu Co Ltd	RES, 30.0 k, 0.1%, 0.1 W, 0603	0603
R26	1	3.00k	RG1608P-302-B-T5	Susumu Co Ltd	RES, 3.00 k, 0.1%, 0.1 W, 0603	0603
R27, R66, R67, R71, R72, R73, R74, R77, R78, R79, R80, R81	12	0	RMCF0603ZT0R00	Stackpole Electronics Inc	RES, 0, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R28	1	365k	CRCW0805365KFKEA	Vishay-Dale	RES, 365 k, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R29	1	6.2k	CRCW25126K20JNEG	Vishay-Dale	RES, 6.2 k, 5%, 1 W, AEC-Q200 Grade 0, 2512	2512
R30	1	2.05Meg	RC1206FR-072M05L	Yageo America	RES, 2.05 M, 1%, 0.25 W, 1206	1206
R31, R44	2	18k	RC0603JR-0718KL	Yageo	RES, 18 k, 5%, 0.1 W, 0603	0603
R32	1	562k	RT0603DRE07562KL	Yageo America	RES, 562 k, 0.5%, 0.1 W, 0603	0603
R33	1	330k	RC0603FR-07330KL	Yageo	RES, 330 k, 1%, 0.1 W, 0603	0603
R34	1	105k	RC0603FR-07105KL	Yageo	RES, 105 k, 1%, 0.1 W, 0603	0603
R35	1	12.1k	RT0603DRE0712K1L	Yageo America	RES, 12.1 k, 0.5%, 0.1 W, 0603	0603
R36	1	1.05Meg	CRCW06031M05FKEA	Vishay-Dale	RES, 1.05 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R37	1	2.32Meg	CRCW06032M32FKEA	Vishay-Dale	RES, 2.32 M, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R38	1	1.00k	RT0603BRB071KL	Yageo America	RES, 1.00 k, 0.1%, 0.1 W, 0603	0603
R39	1	1.8Meg	CRCW06031M80JNEA	Vishay-Dale	RES, 1.8 M, 5%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R40	1	12.1	CRCW080512R1FKEA	Vishay-Dale	RES, 12.1, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R41	1	1.50k	RG2012P-152-B-T5	Susumu Co Ltd	RES, 1.50 k, 0.1%, 0.125 W, 0805	0805
R42	1	200k	RG2012P-204-B-T5	Susumu Co Ltd	RES, 200 k, 0.1%, 0.125 W, 0805	0805
R43	1	91	ERJ-6GEYJ910V	Panasonic	RES, 91, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R45, R51, R61, R65	4	0	ERJ-6GEY0R00V	Panasonic	RES, 0, 5%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
R46	1	475k	RR1220P-4753-D-M	Susumu Co Ltd	RES, 475 k, 0.5%, 0.1 W, 0805	0805
R47	1	453k	RT0603DRE07453KL	Yageo America	RES, 453 k, 0.5%, 0.1 W, 0603	0603
R48, R52, R53, R54, R55, R56, R57, R58, R59, R62, R68, R69, R70, R82	14	100k	ERA-3AEB104V	Panasonic	RES, 100 k, 0.1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R49, R100	2	300k	RG1608P-304-B-T5	Susumu Co Ltd	RES, 300 k, 0.1%, 0.1 W, 0603	0603
R50	1	316k	RC0603FR-07316KL	Yageo	RES, 316 k, 1%, 0.1 W, 0603	0603
R60	1	24.9k	RT0603BRD0724K9L	Yageo America	RES, 24.9 k, 0.1%, 0.1 W, 0603	0603
R63	1	475k	RT0603DRE07475KL	Yageo America	RES, 475 k, 0.5%, 0.1 W, 0603	0603
R64	1	150k	RT0603BRD07150KL	Yageo America	RES, 150 k, 0.1%, 0.1 W, 0603	0603
R101	1	187k	CRCW0603187KFKEA	Vishay-Dale	RES, 187 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R102	1	71.5k	CRCW060371K5FKEA	Vishay-Dale	RES, 71.5 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
R103	1	54.9k	CRCW060354K9FKEA	Vishay-Dale	RES, 54.9 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	0603
T1	1	75uH	750344009	Würth Elektronik	Transformer, 75uH, SMT	22.35x17.78mm

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TP8, TP12, TP13, TP14, TP16, TP17, TP19, TP20, TP21, TP23, TP24, TP26, TP27, TP28, TP29	15		5000	Keystone	Test Point, Miniature, Red, TH	Red Miniature Testpoint
TP9, TP10, TP11, TP15, TP18, TP22, TP25	7		5001	Keystone	Test Point, Miniature, Black, TH	Black Miniature Testpoint
U3	1		TPS26630RGER	Texas Instruments	4.5V - 60V, 6A 29mΩ eFuse with Reverse Polarity Protection, RGE0024H (VQFN-24)	RGE0024H
U4	1		LM5180QNGURQ1	Texas Instruments	70-V PSR Flyback Converter With 100-V, 1.2-A Power Switch and Ultra-Low IQ, NGU0008C (WSON-8)	NGU0008C
U5	1		LP2951CMM/NOPB	Texas Instruments	Series of Adjustable Micropower Voltage Regulators, DGK0008A (VSSOP-8)	DGK0008A
U6	1		TPS62125DSGR	Texas Instruments	3V-17V, 300mA Buck Converter With Adjustable Enable Threshold And Hysteresis, DSG0008A (WSON-8)	DSG0008A
U7	1		TLV62569PDDC	Texas Instruments	2-A High Efficiency Step-Down Converter in SOT Package, DDC0006A (SOT-6)	DDC0006A
U8	1		TPS25200DRVR	Texas Instruments	6.5 V/2.8 A eFuse with Overvoltage Clamp, DRV0006A (WSON-6)	DRV0006A
U9	1		LMR33630ADDAR	Texas Instruments	SIMPLE SWITCHER 3.8V to 36V 3A/2A Synchronous Step-Down Voltage Regulator, DDA0008J (SOIC-8)	DDA0008J
U10, U12	2		TPS62821DLCR	Texas Instruments	1A Step-Down Converter With 1% Accuracy, DLC0008A (VSON-HR-8)	DLC0008A
U11	1		LM3880MF-1AA	Texas Instruments	Power Sequencer, 6-pin SOT-23, 1000 Reel	DBV0006A
U13	1		TPS61170DRVR	Texas Instruments	1.2A Switch, High Voltage Boost Converter in 2x2mm QFN Package, DRV0006A (WSON-6)	DRV0006A
D1	0	36V	SMCJ36CA	Littelfuse	Diode, TVS, Bi, 36 V, 58.1 Vc, SMC	SMC
FID1, FID2, FID3	0		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A

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