

Embedded Controller BoM

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Component	Description	Designator	Quantity	Package / Case	Digikey Part Number	Manufacturer Part Number	Manufacturer Part Number
BU2032 Battery		BAT1	1		BU2032-1-HD-G	MPD (Memory Protection Devices)	BU2032-1-HD-G
BLUE LED	SMD mono-color Chip LED, WL-SMCW, Red	BEAT1	1	0805	732-4982-1-ND	Würth Electronics Inc.	150080BS75000
100nF	Chip Capacitor, 100 nF, +/- 10%, 50 V, -55 to 125 degC, 0805, RoHS, Tape and Reel	C22, C23, C24, C25	4	0805	732-13195-1-ND	Würth Electronics Inc.	885382207007
100nF	Chip Capacitor, 100 nF, +/- 10%, 50 V, -55 to 125 degC, 0603 (1608 Metric), RoHS, Tape and Reel	C1, C2, C3, C4, C5, C6, C11, C14, C16, C17, C20, C21, C26, C27, C28, C32, C34, C35, C36, C38, C39, C44, C45, C46, C49, C50, C53, C56, C57, C58, C60, C63, C66, C64, C65	34	0603	732-8013-1-ND	Würth Electronics Inc.	885012206095
4.7uF	Chip Capacitor, 4.7 uF, +/- 20%, 100 V, -55 to 125 degC, 1210 (3225 Metric), RoHS, Tape and Reel	C7, C8	2	1210(3225Metric)	1276-3179-1-ND	Samsung Electro-Mechanics	CL31B475KBHNFNE
22uF	Chip Capacitor, 4.7 uF, +/- 20%, 100 V, -55 to 125 degC, 1210 (3225 Metric), RoHS, Tape and Reel	C9, C10	2	1210(3225Metric)	1276-1855-1-ND	Samsung Electro-Mechanics	CL32B226K0JNNNE
10nF		C12, C19, C37, C40, C41, C48, C51, C52, C61	9	0603	732-8007-1-ND	Würth Electronics Inc.	885012206089
4.7pF		C13	1	603	732-7772-1-ND	Würth Electronics Inc.	885012006030
1uF		C15, C33	2	0805	732-7672-1-ND	Würth Electronics Inc.	885012207078
3.3uF	Chip Capacitor, 4.7 uF, +/- 20%, 100 V, -55 to 125 degC, 1210 (3225 Metric), RoHS, Tape and Reel	C18	1	1210(3225Metric)	1276-2729-1-ND	Samsung Electro-Mechanics	CL31A335K0CLNLC
47pF		C29, C31	2	0603	399-16402-1-ND	KEMET	C0603C470K5RAC7867
47nF		C30	1	0805	732-8078-1-ND	Würth Electronics Inc.	885012207096
100uF	Aluminum Electrolytic Capacitor, UD Series, Low Impedance, 100 uF, 35 V, + / - 20%, -55 to 105 degC, Chip Type, 8 x 10 mm D x L, Pb-Free, Reel	C42, C43, C54, C55, C62	5	6.60mm x 6.60mm	1189-1620-1-ND	Rubicon	35TZV100M6.3X8
470nF		C47, C59	2	0603	587-3170-1-ND	Taiyo Yuden	UMK107B7474KA-TR
SL44HE	Schottky Power Rectifier, 2-Pin SMC, 40V, 8A	D1	1	DO-214AB (SMC)	SL44HE3_A/HGICT-ND	Vishay Semiconductor Diodes Division	SL44HE3_A/H
MMBZ20	Transient Voltage Suppressor Diode Array, Dual Common Anode Diodes for ESD Protection, 3-Pin SOT-23, Pb-Free, Tape and Reel	D2, D3	2	SOT-23-3	MMBZ20VALT1GOSCT-ND	ON Semiconductor	MMBZ20VALT1G
Headers	Headers, 2,3,4,6 -Pin, Breakaway 40-pin headers	DCM1, DCM2, JMP1, JMP2, P2, P5, P8, P9, P10, P11, P7, P12, P13, P17, P18	15		S1011EC-40-ND	Sullins Connector Solutions	PRPC040SAAN-RC
1734354-1	D-Subminiature Socket, Pitch 1.385 mm, 9 Position, Height 12.5 mm, Tail Length 3.2 mm, RoHS, Tray	J1	1		609-5192-ND	Amphenol ICC (FCI)	LD09S33E4GV00LF
74404064047	WE-LQS SMD Power Inductor, L=4.7 uH	L1	1	6.00mm x 6.00mm	732-5546-1-ND	Würth Electronics Inc.	74404064047
LCD Module	Header, 16-Pin	LCD01	1		NHD-0216K1Z-NSB-FBW-L-ND	Newhaven Display Intl	NHD-0216K1Z-NSB-FBW-L
RED LED	SMD mono-color Chip LED, WL-SMCW, Red	LEDRX1, MTR1, MTR2	3	0805	732-4984-1-ND	Würth Electronics Inc.	150080RS75000
GREEN LED	SMD mono-color Chip LED, WL-SMCW, Red	LEDTX1, PWR1	2	0805	732-4986-1-ND	Würth Electronics Inc.	150080VS75000
Nucleo	STM32F303 Nucleo Development Board	P1	1		497-15105-ND	STMicroelectronics	NUCLEO-F303RE
2PIN_SCREW_TERM_3_5MM		P3	1		ED2740-ND	On Shore Technology Inc.	OSTTE020104
Barrel Jack		P4	1		CP-202AH-ND	CUI Inc.	PJ-202AH
Header 10X2 RIGHT	Header, 10-Pin, Dual row, Right Angle	P6	1		952-3283-ND	Harwin Inc.	M20-9951045
Header 8X2 Right	Header, 8-Pin, Dual row, Right Angle	P14, P15, P16	3		S2111EC-08-ND	Sullins Connector Solutions	PRPC008DBAN-M71RC
2N7002,215	N-Channel Trench MOSFET, 60 V, 0.3 A, 3-Pin SOT23, Tape and Reel	Q1	1		785-1000-1-ND	Alpha & Omega Semiconductor Inc.	A03400A
0R		R1, R17, R18, A11, A12, B11, B12, JMP3, M1, M2	10	0603	RMCF0603ZT0R00CT-ND	Stackpole Electronics Inc	RMCF0603ZT0R00
470R		R2, R8	2	0603	311-470GRCT-ND	Yageo	RC0603JR-07470RL
3K3		R3, R4	2	0603	A129543CT-ND	TE Connectivity Passive Product	CRGH0603F3K3
56K 1%		R5	1	0603	311-56KHRCT-ND	Yageo	RC0603FR-0756KL
10k 1%		R6, R25, R26, R27, R31, R32, R34, R39, R40, R49	10	0603	RNCP0603FTD10K0CT-ND	Stackpole Electronics Inc	RNCP0603FTD10K0
0R05 1W		R7, R9	2	2512	696-1661-1-ND	Riedon	CSR25120R05F
10R		R10, R11	2	0603	RMCF0603JT10R0CT-ND	Stackpole Electronics Inc	RMCF0603JT10R0
1.2K		R12	1	0603	RMCF0603JT1K20CT-ND	Stackpole Electronics Inc	RMCF0603JT1K20
680R		R13	1	0603	RHM680DCT-ND	Rohm Semiconductor	ESR03EZPJ681
62R		R14, R15	2	1206	P62ALCT-ND	Panasonic Electronic Components	ERJ-P08J620V
10K	Square Trimpot Trimming Potentiometer, 100 KOhm, 0.25 W, -55 to 125 degC, 3-Pin THD, RoHS, Tube	R16	1	PV36	490-2926-ND	Bourns Inc.	PV36Y502C01B00
100K		R19, R38	2	0603	CR0603-JW-104ELFCT-ND	Bourns Inc.	CR0603-JW-104ELF
1K		R20, R21, R22, R33	4	0603	RHM1.0KDCT-ND	Rohm Semiconductor	ESR03EZPJ102
0R22 1W	Low Ohmic Thick Film Chip Resistor, 0.47 Ohm, -55 to 125 degC, 2-Pin SMD, RoHS, Tape	R23, R24	2	2512	CRL2512-JW-R220ELFCT-ND	Bourns Inc.	CRL2512-JW-R220ELF
1M		R28	1	0603	A130109CT-ND	TE Connectivity Passive Product	CRGCQ0603J1M0
330R		R29, R30	2	0603	CR0603-JW-331ELFCT-ND	Bourns Inc.	CR0603-JW-331ELF
47K		R35, R36	2	0603	CR0603-JW-473ELFCT-ND	Bourns Inc.	CR0603-JW-473ELF
100R		R37, R41, R42	3	0603	A121538CT-ND	TE Connectivity Passive Product	CRGH0603J100R
8RES_ISO_ARRAY	4 Resistor Array, Isolated, 1K	R43, R44, R45, R46, R47, R48	6	1206	Y4102CT-ND	Panasonic Electronic Components	EXB-V8V102JV
uSD	uSD Card Holder, SPI Interface	SD1	1		WM9315CT-ND	Molex	5040771891
NTC		THM1, THM2	2		490-12817-ND	Murata Electronics North America	NXFT15XH103FA1B025
Test point	Test point	TP_CTRST1, TP_DC_VREF1, TP_GND1, TP_GND2, TP_GND3, TP_GND4, TP_PWM1, TP_RST1, TP_SRV1, TP_VFB1	10	SMD	36-5019CT-ND	Keystone Electronics	5019
TPS562201		U1	1	SOT-23-6	296-44397-1-ND	Texas Instruments	TPS562201DDCR
CAT6219-330TDGT3	Fixed Low Drop Positive Voltage Regulator, 3.3V, 5-Pin TSOT- U2	U2	1	SOT-23-5	CAT6219-330TDGT3CT-ND	ON Semiconductor	CAT6219-330TDGT3
INA219AIDCNR	Zero-Drift, Bi-directional Current / Power Monitor, 3 to 5.5 V, -40 to 125 degC, 8-pin SOP (DCN8), Green (RoHS & no Sb/Br)	U3	1	SOT-23-8	296-23770-1-ND	Texas Instruments	INA219AIDCNR
RS232 Transceiver		U4	1	16-TSSOP	ICL3232ECV-16Z-T7ACT-ND	Renesas Electronics America Inc.	ICL3232ECV-16Z-T7A
MCP2542		U5	1	8-SOIC	MCP2542FDT-E/SMCT-ND	Microchip Technology	MCP2542FDT-E/SN
MCP23S08T-E/SS	8-Bit I/O Expander with Serial Interface, 20-Pin SSOP, Extended Temperature, Tape and Reel	U6	1	16-SSOP	MCP23S08T-E/SSCT-ND	Microchip Technology	MCP23S08T-E/SS
DRV8814		U7	1	28-HTSSOP	296-28359-1-ND	Texas Instruments	DRV8814PWPWR
74LVC2G14		U8, U10	2	SOT-363	127-2072-1-ND	Nexperia USA Inc.	74LVC2G14GW-Q100H
DRV8884		U9	1	24-HTSSOP	296-44590-1-ND	Texas Instruments	DRV8884PWPWR