BoM, for kit building assembly

value	Position X	Position Y	Orientation	Layer	Vendor	Vendor P/N	NOTE 2	QTY
BATT_RTC	2.6625	1.5350	180	Back	DigiKey	BHX1-1632-SM-ND	SMD Battery socket for CR1632	1
CR1632					DigiKey	P036-ND	Battery, CR1632	1
100n	1.7825	1.6525	270	Front	DigiKey	490-1734-1-ND	Decoupling Capacitor	1
1u	2.5050	1.4000	270	Front	DigiKey	445-1589-1-ND	Non-electrolytic (Ceramic)	1
2u2	3.0675	1.0975	0	Front	DigiKey	493-2331-1-ND	Tantalum, Polarized, 10V	1
100n	2.9025	1.0975	180	Front	DigiKey	490-1734-1-ND	Decoupling Capacitor	1
1u	2.6450	1.3700	180	Front	DigiKey	445-1589-1-ND	Non-electrolytic (Ceramic)	1
47u	2.8925	1.5400	90	Front	DigiKey	PCE3875CT-ND	Electrolytic, SMD	1
100n	2.6400	1.6750	0	Front	DigiKey	490-1734-1-ND	Decoupling Capacitor	1
100n	2.9100	1.3675	0	Front	DigiKey	490-1734-1-ND	Decoupling Capacitor	1
100n	1.5575	1.3200	0	Back	DigiKey	490-1734-1-ND	Decoupling Capacitor	1
22p	2.3775	1.1350	270	Front	DigiKey	709-1172-1-ND		1
22p	2.2725	1.1350	90	Front	DigiKey	709-1172-1-ND		1
LED	2.5375	1.0975	0	Front	DigiKey	475-2730-1-ND	LED, Green, 2mA current	1
LED	2.7000	1.0975	0	Front	DigiKey	475-2730-1-ND	LED, Green, 2mA current	1
RB886GT2R	3.3020	1.3500	270	Front	DigiKey	RB886GT2RCT-ND	Schottky Diode, Vf=0.35V	1
RB886GT2R	3.2360	1.3500	270	Front	DigiKey	RB886GT2RCT-ND	Schottky Diode, Vf=0.35V	1
ATMEGA8-AI	2.2525	1.6350	270	Front	DigiKey	ATMEGA328-AU-ND	Micro-controller	1
BootDrive	3.3900	1.9000	90	Front	DigiKey	475-2555-1-ND	Header for BootDrive	1
CONN_6	2.2825	2.1100	0	Front	DigiKey	475-2555-1-ND	Buckler Interface	1
CONN_6	2.9825	2.1100	0	Front	DigiKey	475-2555-1-ND	Buckler Interface	1
CONN_2	3.1125	1.2600	270	Front	DigiKey	475-2555-1-ND	Ext. 9V Battery	1
GPS_UP501	3.3900	1.3000	270	Front	DigiKey	475-2555-1-ND	GPS Header	1
FTDI	3.2325	1.7100	90	Front	DigiKey	475-2555-1-ND	FTDI <>USB Interface	1
ISP	1.8675	1.1800	0	Front	DigiKey	609-3456-ND	ISP Programming Interface	1
CD2	1.5950	1.1500	0	Back	DigiKey	S5635-ND	ChronoDot/rtcBoB connections	1
CD2	1.1450	1.6000	90	Back	DigiKey	S5635-ND	either P10+P12 or P11+P13	1
CD1	1.5950	2.0500	0	Back	DigiKey	S5635-ND		1
	BATT_RTC CR1632 100n 1u 2u2 100n 1u 47u 100n 100n 100n 22p 22p LED LED LED RB886GT2R RB886GT2R RB886GT2R ATMEGA8-AI BootDrive CONN_6 CONN_6 CONN_2 GPS_UP501 FTDI ISP CD2 CD2	BATT_RTC 2.6625 CR1632 100n 1.7825 1u 2.5050 2u2 3.0675 100n 2.9025 1u 2.6450 47u 2.8925 100n 2.6400 100n 2.9100 100n 1.5575 22p 2.3775 22p 2.2725 LED 2.5375 LED 2.7000 RB886GT2R 3.3020 RB886GT2R 3.2360 ATMEGA8-AI 2.2525 BootDrive 3.3900 CONN_6 2.2825 CONN_6 2.9825 CONN_2 3.1125 GPS_UP501 3.3900 FTDI 3.2325 ISP 1.8675 CD2 1.5950 CD2 1.1450	BATT_RTC 2.6625 1.5350 CR1632 100n 1.7825 1.6525 1u 2.5050 1.4000 2u2 3.0675 1.0975 100n 2.9025 1.0975 1u 2.6450 1.3700 47u 2.8925 1.5400 100n 2.6400 1.6750 100n 2.9100 1.3675 100n 1.5575 1.3200 22p 2.3775 1.1350 22p 2.2725 1.1350 LED 2.7000 1.0975 LED 2.7000 1.0975 RB886GT2R 3.3020 1.3500 RB886GT2R 3.2360 1.3500 ATMEGA8-AI 2.2525 1.6350 BootDrive 3.3900 1.9000 CONN_6 2.2825 2.1100 CONN_6 2.9825 2.1100 CONN_2 3.1125 1.2600 GPS_UP501 3.3900 <td< td=""><td>BATT_RTC 2.6625 1.5350 180 CR1632 100n 1.7825 1.6525 270 1u 2.5050 1.4000 270 2u2 3.0675 1.0975 0 100n 2.9025 1.0975 180 1u 2.6450 1.3700 180 47u 2.8925 1.5400 90 100n 2.6400 1.6750 0 100n 2.9100 1.3675 0 100n 1.5575 1.3200 0 22p 2.3775 1.1350 270 22p 2.2725 1.1350 90 LED 2.5375 1.0975 0 RB886GT2R 3.3020 1.3500 270 RB886GT2R 3.2360 1.3500 270 ATMEGA8-AI 2.2525 1.6350 270 BootDrive 3.3900 1.9000 90 CONN_6 2.9825 <td< td=""><td>BATT_RTC 2.6625 1.5350 180 Back CR1632 100n 1.7825 1.6525 270 Front 1u 2.5050 1.4000 270 Front 2u2 3.0675 1.0975 0 Front 100n 2.9025 1.0975 180 Front 1u 2.6450 1.3700 180 Front 47u 2.8925 1.5400 90 Front 100n 2.6400 1.6750 0 Front 100n 2.9100 1.3675 0 Front 100n 1.5575 1.3200 0 Back 22p 2.3775 1.1350 270 Front LED 2.5375 1.0975 0 Front LED 2.7000 1.0975 0 Front RB886GT2R 3.3020 1.3500 270 Front RB886GT2R 3.2360 1.</td><td>BATT_RTC 2.6625 1.5350 180 Back Digikey CR1632 Digikey 100n 1.7825 1.6525 270 Front Digikey 1u 2.5050 1.4000 270 Front Digikey 2u2 3.0675 1.0975 0 Front Digikey 100n 2.9025 1.0975 180 Front Digikey 47u 2.8925 1.5400 90 Front Digikey 100n 2.6400 1.6750 0 Front Digikey 100n 2.9100 1.3675 0 Front Digikey 100n 1.5575 1.3200 0 Back Digikey 22p 2.3775 1.1350 270 Front Digikey 22p 2.2725 1.1350 90 Front Digikey LED 2.5375 1.0975 0 Front Digikey</td><td>BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND CR1632 - - - - Digikey P036-ND 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND 2u2 3.0675 1.0975 0 Front Digikey 493-2331-1-ND 100n 2.9025 1.0975 180 Front Digikey 490-1734-1-ND 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND 100n 2.9100 1.3675 0 Front Digikey 490-1734-1-ND 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND <!--</td--><td>BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND SMD Battery socket for CR1632 CR1632 Digikey P036-ND Battery, CR1632 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 1u 2.6075 1.0975 180 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND Decoupling Capacitor 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND Decoupling Capacitor 22</td></td></td<></td></td<>	BATT_RTC 2.6625 1.5350 180 CR1632 100n 1.7825 1.6525 270 1u 2.5050 1.4000 270 2u2 3.0675 1.0975 0 100n 2.9025 1.0975 180 1u 2.6450 1.3700 180 47u 2.8925 1.5400 90 100n 2.6400 1.6750 0 100n 2.9100 1.3675 0 100n 1.5575 1.3200 0 22p 2.3775 1.1350 270 22p 2.2725 1.1350 90 LED 2.5375 1.0975 0 RB886GT2R 3.3020 1.3500 270 RB886GT2R 3.2360 1.3500 270 ATMEGA8-AI 2.2525 1.6350 270 BootDrive 3.3900 1.9000 90 CONN_6 2.9825 <td< td=""><td>BATT_RTC 2.6625 1.5350 180 Back CR1632 100n 1.7825 1.6525 270 Front 1u 2.5050 1.4000 270 Front 2u2 3.0675 1.0975 0 Front 100n 2.9025 1.0975 180 Front 1u 2.6450 1.3700 180 Front 47u 2.8925 1.5400 90 Front 100n 2.6400 1.6750 0 Front 100n 2.9100 1.3675 0 Front 100n 1.5575 1.3200 0 Back 22p 2.3775 1.1350 270 Front LED 2.5375 1.0975 0 Front LED 2.7000 1.0975 0 Front RB886GT2R 3.3020 1.3500 270 Front RB886GT2R 3.2360 1.</td><td>BATT_RTC 2.6625 1.5350 180 Back Digikey CR1632 Digikey 100n 1.7825 1.6525 270 Front Digikey 1u 2.5050 1.4000 270 Front Digikey 2u2 3.0675 1.0975 0 Front Digikey 100n 2.9025 1.0975 180 Front Digikey 47u 2.8925 1.5400 90 Front Digikey 100n 2.6400 1.6750 0 Front Digikey 100n 2.9100 1.3675 0 Front Digikey 100n 1.5575 1.3200 0 Back Digikey 22p 2.3775 1.1350 270 Front Digikey 22p 2.2725 1.1350 90 Front Digikey LED 2.5375 1.0975 0 Front Digikey</td><td>BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND CR1632 - - - - Digikey P036-ND 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND 2u2 3.0675 1.0975 0 Front Digikey 493-2331-1-ND 100n 2.9025 1.0975 180 Front Digikey 490-1734-1-ND 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND 100n 2.9100 1.3675 0 Front Digikey 490-1734-1-ND 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND <!--</td--><td>BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND SMD Battery socket for CR1632 CR1632 Digikey P036-ND Battery, CR1632 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 1u 2.6075 1.0975 180 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND Decoupling Capacitor 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND Decoupling Capacitor 22</td></td></td<>	BATT_RTC 2.6625 1.5350 180 Back CR1632 100n 1.7825 1.6525 270 Front 1u 2.5050 1.4000 270 Front 2u2 3.0675 1.0975 0 Front 100n 2.9025 1.0975 180 Front 1u 2.6450 1.3700 180 Front 47u 2.8925 1.5400 90 Front 100n 2.6400 1.6750 0 Front 100n 2.9100 1.3675 0 Front 100n 1.5575 1.3200 0 Back 22p 2.3775 1.1350 270 Front LED 2.5375 1.0975 0 Front LED 2.7000 1.0975 0 Front RB886GT2R 3.3020 1.3500 270 Front RB886GT2R 3.2360 1.	BATT_RTC 2.6625 1.5350 180 Back Digikey CR1632 Digikey 100n 1.7825 1.6525 270 Front Digikey 1u 2.5050 1.4000 270 Front Digikey 2u2 3.0675 1.0975 0 Front Digikey 100n 2.9025 1.0975 180 Front Digikey 47u 2.8925 1.5400 90 Front Digikey 100n 2.6400 1.6750 0 Front Digikey 100n 2.9100 1.3675 0 Front Digikey 100n 1.5575 1.3200 0 Back Digikey 22p 2.3775 1.1350 270 Front Digikey 22p 2.2725 1.1350 90 Front Digikey LED 2.5375 1.0975 0 Front Digikey	BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND CR1632 - - - - Digikey P036-ND 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND 2u2 3.0675 1.0975 0 Front Digikey 493-2331-1-ND 100n 2.9025 1.0975 180 Front Digikey 490-1734-1-ND 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND 100n 2.9100 1.3675 0 Front Digikey 490-1734-1-ND 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND </td <td>BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND SMD Battery socket for CR1632 CR1632 Digikey P036-ND Battery, CR1632 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 1u 2.6075 1.0975 180 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND Decoupling Capacitor 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND Decoupling Capacitor 22</td>	BATT_RTC 2.6625 1.5350 180 Back Digikey BHX1-1632-SM-ND SMD Battery socket for CR1632 CR1632 Digikey P036-ND Battery, CR1632 100n 1.7825 1.6525 270 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.5050 1.4000 270 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 1u 2.6075 1.0975 180 Front Digikey 490-1734-1-ND Decoupling Capacitor 1u 2.6450 1.3700 180 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 47u 2.8925 1.5400 90 Front Digikey 445-1589-1-ND Non-electrolytic (Ceramic) 100n 2.6400 1.6750 0 Front Digikey 490-1734-1-ND Decoupling Capacitor 100n 1.5575 1.3200 0 Back Digikey 490-1734-1-ND Decoupling Capacitor 22

P13	CD1	2.0450	1.6000	90	Back	DigiKey	S5635-ND		1
PCB1	РСВ					seeed	PCB, 2.5" x 1.2"	PCB	1
R1	10k	3.1325	1.9350	90	Front	DigiKey	RR12P10.0KDCT-ND		1
R2	10k	3.0275	1.9350	90	Front	DigiKey	RR12P10.0KDCT-ND		1
R3	10k	1.5325	1.1950	270	Front	DigiKey	RR12P10.0KDCT-ND		1
R4	10k	1.5325	1.3525	90	Front	DigiKey	RR12P10.0KDCT-ND		1
R5	470E	2.5375	1.1925	180	Front	DigiKey	RR12P1.5KDCT-ND	Use 1.5k instead of 470 Ohm	1
R6	10k	1.6325	1.3525	90	Front	DigiKey	RR12P10.0KDCT-ND		1
R7	10k	2.6400	1.7750	0	Front	DigiKey	RR12P10.0KDCT-ND		1
R8	470E	2.7000	1.1925	180	Front	DigiKey	RR12P1.5KDCT-ND	Use 1.5k instead of 470 Ohm	1
R9	10k	1.8400	1.8325	90	Back	DigiKey	RR12P10.0KDCT-ND		1
SD1	SD_CARD_MICRO	1.2625	1.5350	270	Front	DigiKey	101-00434-68-1-ND	CONN SIM+MICRO-SD 14PIN PCB GOLD	1
SW1	SW_PUSH	1.8400	1.9725	180	Front	DigiKey	P12301SCT-ND	Reset Switch	1
U1	MCP1700T-3302E/TT	2.6450	1.5300	180	Front	DigiKey	MCP1700T3302ETTCT-ND	3.3V Regulator	1
U2	74HC125	1.2825	1.2500	0	Front	DigiKey	MC74HC125ADGOS-ND	Alternative P/N – 296-1192-1-ND	1
U3	MIC5219-5.0BM5	2.9050	1.2350	90	Front	DigiKey	576-2770-1-ND	5.0V Regulator	1
U4	DS3231N	1.5725	1.6075	180	Back	DigiKey	DS3231S#-ND	RTC	1
X1	CRYSTAL_2	2.2025	1.2825	180	Front	DigiKey	478-6622-1-ND	16MHz Crystal, SMD	1
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NOT USED COMPONENTS

B1	I/O	break out pads	1
B2	1/0	break out pads	1
B3	1/0	break out pads	1
B4	1/0	break out pads	1
B5	1/0	break out pads	1
B6	1/0	break out pads	1
B7	1/0	break out pads	1
B8	1/0	break out pads	1
B9	1/0	break out pads	1
B10	1/0	break out pads	1
B11	1/0	break out pads	1
B12	1/0	break out pads	1
B13	1/0	break out pads	1

B14	1/0	break out pads	1
B15	1/0	break out pads	1
B16	I/O	break out pads	1
B17	1/0	break out pads	1
B18	1/0	break out pads	1
B19	1/0	break out pads	1
P1	1/0	break out pads	1
SC1	SCREW	Mounting Hole	1
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MISC. COMPONENTS

SD_CARD	2041021-3	Tyco-TE Connectivity	http://www.te.com/catalog/bin/TE.Connect?C=1&M=BYPN&TCPN=2041021-3&
35R2925	Newark element 14 online		http://www.newark.com/te-connectivity/2041021-3/memory-card-connector-s
A101492CT-ND	Digikey		http://search.digikey.com/scripts/DkSearch/dksus.dll?Detail&name=A101492C