

NESI BoM						
Bill of Materials		Revision 1.2		Dakotah Karrer		9/16/2013
Minimum Specs.	Description	Footprint	Eagle Reference	Distributor Part Number	Distributor	QPB
6V Output	LM2621 DC/DC Converter	MSOP	IC6	926-LM2621MMX/NOPB	Mouser	1
Microchip PIC24	Microchip PIC24	TQFP-64	IC7	579-PIC24256GB106IPT	Mouser	1
Op Amp	CO2 Sensor Conditioning OpAmp	SOIC-8	IC5	579-MCP602T-I/SN	Mouser	1
Lowside switching Dual Mosfet	Dual MOSFET (LEDs, Heater, Sollenoid)	SOIC-8	IC1, IC2, IC4	512-FDS9926A	Mouser	3
Used as unity gain buffer	Moisture Detection OpAmp	TSSOP-14	IC3	595-OPA4344EA/250	Mouser	1
Low Drop Out Regulator	3.3 Volt Regulator	TO-252-3	VR1	863-NCP1117DT33T5G	Mouser	1
32.7 KHz/20 PPM/12.5 pF	32.768 KHz RTCC Crystal	7.9x3.7mm	Y1	695-CM200C-327KF-U	Mouser	1
3 Pin Slide Switch	Power Switch (On/Off)	T. Hole	S1	612-EG1218	Mouser	1
10 kΩ Tolerance (1 %)	10 kΩ Tolerance (1 %) Resistor	0805	R2, R15, R16, R23, R24, R30, R31, R32, R33	71-CRCW0805-10K-E3	Mouser	9
Tactile Switch	Tactile Switches	4-pads	S2	611-PTSS25SM10-LFS	Mouser	1
Vetical Female USB	Vertical USB Connector	T. Hole	X1	587-690-004-660-023	Mouser	1
51 Ω <=0.1% Tolerance	CO2 Sensor Conditioning Potentiometer	0.3 in	RV1	652-3362U-1-101LF	Mouser	1
N/A	Blue LED (470 nm, 6000 mcd)	5mm	LED1, LED2, LED3, LED4	604-WP7113VBC/D	Mouser	4
N/A	Red LED (625 nm, 4200 mcd)	5mm	LED5, LED6, LED7, LED8	630-HLMP-EG15-RU000	Mouser	4
330 Ω	USB Filter Bead	0805	L1	81-BLM21P331SG	Mouser	1
100 kΩ <=10% Tolerance	100 kΩ Tolerance (1%) Resistor	0805	R1	71-CRCW0805-100K-E3	Mouser	1
10 uF 16V Tantalum Capacitor	10 uF 16V Tantalum Capacitor	1206	C7, C14, C17, C18	80-T491A106K016	Mouser	4
0 Ω Resistor	0 Ω Resistor	0805	R3, R4	71-CRCW0805-0-E3	Mouser	2
1 kΩ Tolerance (1 %) Resistor	1 kΩ Tolerance (1 %) Resistor	0805	R9, R21	660-RK73H2ATTD1001F	Mouser	2
49 kΩ Tolerance (1 %) Resistor	49.9kΩ Tolerance (1 %) Resistor	0805	R22	660-RK73H2ATTD4992F	Mouser	1
MBRS140T3	Schottky Diode	DO-214AC	D11	844-MBRA140TRPBF	Mouser	1
0.1 uF Capacitor 20V	0.1uF Capacitor	0805	C1, C8, C9, C10, C11, C12, C19,C21	80-C0805C104K5R	Mouser	8
150 kΩ High Tolerance .5 %	150 kΩ High Tolerance (.5 %) Resistor	0805	R26	71-CRCW08051503DT	Mouser	1
39 kΩ High Tolerance 1 %	39 kΩ High Tolerance (1 %) Resistor	0805	R25	667-ERJ-P06F3902V	Mouser	1
DT1608C-682	6.8 uH Shielded Inductor	0805	L2	810-VLS2012ET-6R8M	Mouser	1
330Ω Resistor	330Ω Resistor	0805	R14	71-CRCW0805-330-E3	Mouser	1
500 Ω Resistor	499 Ω (1 %) Resistor	0805	R28	660-RK73H2ATTD4990F	Mouser	1
Resistive Sensor Voltage Divider	2 kΩ (1 %) Resistor	0805	R18	71-CRCW0805-2.0K-E3	Mouser	1
Resistive Sensor Voltage Divider	4.7 kΩ (1 %) Resistor	0805	R19, R20	71-CRCW0805-4.7K-E3	Mouser	2
Resistive Sensor Voltage Divider	10 kΩ (1 %) Resistor	0805	R17	71-CRCW0805-10K-E3	Mouser	1
595D226X06R3B2T	22 uF 10V Tantalum Capacitor	1206	C23	80-T491A226M010	Mouser	1
68 uF Tantalum Capacitor	68 uF 10V Tantalum Capacitor	1206	C22	581-TLJA686M010R1500	Mouser	1
39pF 200V	39 pF Capacitor	0805	C20	581-08052U390FAT2A	Mouser	1
150k Ω Resistor	150 kΩ Tolerance (0.5%) Resistor	0805	R27	71-CRCW0805-150K-E3	Mouser	1
$V_{in}[R_6/(R_6+R_5)]=V_5$	22 kΩ Tolerance (1%) Resistor	0805	R5	660-RK73H2ATTD2202F	Mouser	1
$V_{in}[R_6/(R_6+R_5)]=V_5$	26.1 kΩ Tolerance (1%) Resistor	0805	R6	667-ERJ-6ENF2612V	Mouser	1
715 Ω Resistor	715 Ω Tolerance 1% Resistor	0805	R13, R29	667-ERJ-6ENF7150V	Mouser	2
12.5 pF/ 50 V/ 2% Tol.	12.5 pF Loading Capacitors (Y1)	0805	C3, C4	77-VJ0805A120GXACBC	Mouser	2
$V_{in}[R_8/(R_8+R_7)]=V_5$	33 kΩ Resistor	0805	R7	71-CRCW0805-33K-E3	Mouser	1
$V_{in}[R_8/(R_8+R_7)]=V_5$	56 kΩ Resistor	0805	R8	667-ERJ-6ENF5602v	Mouser	1
Green Water Clr LED	Green Water Clr LED	0805	D10	645-598-8170-107F	Mouser	1
Red Water Clr LED	Red Water Clr LED	0805	D9	598-8110-107F	Mouser	1
Yellow Water Clr LED	Yellow Water Clr LED	0805	D12	645-598-8150-107F	Mouser	1
46 Ω Resistor 10% 250mW	47 Ω Resistor Tolerance 5%	1206	R12	667-ERJ-8GEYJ470V	Mouser	1
25 Ω Resistor 10% 250mW	27 Ω Resistor Tolerance 5%	1206	R11	667-ERJT08J270V	Mouser	1
47 kΩ	47 kΩ Tolerance Resistor 1%	0805	R34, R35, R37, R10, R36	71-CRCW0805-47K-E3	Mouser	5
2mm, 1x4, socket	Camera interface header	2mm, 1x4	JP7	855-M22-7130442	Mouser	1
2.54mm Pitch	1x8 Pin header	2.54mm	Through Hole Ports	517-929834-04-01	Mouser	4
Has card detect	New microsd connector	10 positions	X2, X3	101-00660-68-6 -1-ND	DigiKey	2