

ds	Name	Designator	Description	Manufacturer	Model #	Vendor	Part #	Footprint	Units/rc	Cost/uni	Subtotal	Here, correct qty, in box?
1	Antenna	ANT1	SMA	TE Connectivity	5-1814832-1	Digikey	A97594-ND	AntennaConn	1	\$1.84	\$1.84	yes
2	Heartbeat, MSP	D1,	white	Lite-On Inc	LTW-C193TS5	Digikey	160-1721-1-ND	603	1	\$0.64	\$0.64	yes
3	IRBeacon	D10, D11, D12, D13		OSRAM	SFH 4283-Z	Digikey	475-2869-1-ND	IRBeacon	4	\$1.02	\$4.08	yes
4	LED	D14, D15, D16, D17, D18, D5(rxLED)	blue	OSRAM	LB Q39G-L2N2-35-1	Digikey	475-2816-1-ND	603	5	\$0.49	\$2.45	yes
5	LEDs, TXLED	D19, D20, D21, D22, D23, D3(txLED), D29(msp430)	green	Panasonic	LNJ612W8WRA	Digikey	P11481CT-ND	603	5	\$0.96	\$4.80	yes
6	LED	D24, D25, D26, D27, D28, D9(pilot), D8(power)	red	OSRAM	LS Q976-NR-1	Digikey	475-2512-1-ND	603	6	\$0.13	\$0.78	yes
1	Charge LED	D6	amber	Lite-On Inc	LTST-C190AKT	Digikey	160-1180-1-ND	INDC2012L	1	\$0.68	\$0.68	yes
2	Schottkey Diode	D7, D30, D31		Bourns	CD0603-B00340	Mouser	CD0603-B00340	603	2	\$0.10	\$0.20	yes
3	IR receiver	IR1, IR2, IR3, IR4, IR5, IR6, IR7, IR8		Sharp	GP1UX311QS	Digikey	425-2528-ND	GP1UX311QS	8	\$0.64	\$5.12	yes, small box
4	JTAG header	J1		FSI		Digikey	609-3175-ND	JTAG-10	1	\$0.83	\$0.83	yes
5	Mini-USB b-Conn	J3		Molex	51387-0578	Digikey	WM5462CT-ND	USB Minib (thru-hole)	1	\$2.01	\$2.01	yes
6	Micro SD Card s	J7		Amphenol	101-00303-68	Digikey	101-00303-68-1-ND	MICRO_SD	1	\$0.70	\$0.70	yes
7	Expansion header	J5		Samtec	T232RL-REEL	Samtec	SHF-108-01-L-D-SM-LC	HEADERSM 8X2	1	\$1.79	\$1.79	no-pending sudden smaples
8	Header for motorboard conn	J6	Header, 2X13, 50mil, IDC	Samtec	SHF-113-01-L-D-SM-LC	Samtec	SHF-113-01-L-D-SM-LC	HeaderSM 13x2	1	\$2.33	\$2.33	no-pending sudden smaples
9	MOSFET	Q1, Q2		Diodes Inc	DMG3420U-7	Digikey	DMG3420U-7DICT-ND	SOT-23	2	\$0.48	\$0.96	yes
10	Infrared Emitter	T1, T2, T3, T4, T5, T6, T7, T8		Osram	IRL 80A	Digikey	475-1364-ND	LN54	8	\$0.34	\$2.72	yes
11	CPU	U1		TI	LM3S8962	Digikey	726-1126-ND	LQFP-100	1	\$10.97	\$10.97	yes, plastic case
12	Demux	U2		TI	SN74HC138PWR	Digikey	296-8228-1-ND	TSSOP-16	1	\$0.29	\$0.29	yes
13	USB Serial	U3	FTDI USB	FTDL	FT232RL-REEL	Digikey	768-1007-1-ND	SSOP-28	1	\$3.65	\$3.65	yes
14	Shift Register	U4		TI	SN74AHCT595PWR	Digikey	296-9758-1-ND	TSSOP-16	1	\$0.39	\$0.39	yes
15	LED Driver	U5		TI	TLC59116FIRHBR	Digikey	296-27584-1-ND	32-QFN	1	\$3.19	\$3.19	yes
16	Radio Transceiver	U6	2.4GHz	Nordic	NRF24L01P	SemiStore	NRF24L01P	QFN20	1	\$1.80	\$1.80	yes
17	LDO (Low Dropout)	U7	3.3V to 1.8V	TI	TLV70018DSET	Digikey	296-25213-1-ND	WDFDN-6	1	\$0.61	\$0.61	yes
18	Sound chip	U8		VLSI	VS1053B-L	VLSI	VS1053B-L	LQFP-48	1	\$11.20	\$11.20	yes, plastic case
19	Audio Amp	U9		TI	TPA741DGNR	Digikey	296-7028-1-ND	8-MOSP	1	\$1.35	\$1.35	yes
20	Crystal	XTAL1	8MHz	Abracon	ABM3B-8.000MHZ-10-1-U-T	Digikey	535-9721-1-ND	CRYSTAL	1	\$0.90	\$0.90	yes
21	Crystal	XTAL2	16MHz	Abracon	ABM3B-16.000MHZ-10-1-U-T	Digikey	300-8206-1-ND	CRYSTAL	1	\$0.90	\$0.90	yes
22	Crystal	XTAL3	12.288MHz	Abracon	ABM3B-12.288MHZ-10-1-U-T	Digikey	300-8198-1-ND	CRYSTAL	1	\$0.90	\$0.90	yes
23	Inductor	L1, L5	Ferrite chip	TDK	MMZ2012R102A	Digikey	445-1555-1-ND	805	2	\$0.13	\$0.26	yes
24	Inductor	L2	3.9nH	Johanson	L-07C3N9SV6T	Digikey	712-1459-1-ND	402	1	\$0.04	\$0.04	yes
25	Inductor	L3	8.2nH	Johanson	L-07C8N2JV6T	Digikey	712-1420-1-ND	402	1	\$0.04	\$0.04	yes
26	Inductor	L4	2.7nH	Johanson	L-07C2N7SV6T	Digikey	712-1415-1-ND	402	1	\$0.04	\$0.04	yes
27	Fuse - Resettable	R13	2A	Bourns	MF-NSMF200-2	Digikey	MF-NSMF200-2CT-ND	1206	1	\$0.77	\$0.77	yes
28	Resistor	R58, R62, R63	0	KOA	RK73Z1JTTDD	Mouser	660-RK73Z1JTTDD	603	3	\$0.01	\$0.03	yes
29	Resistor	R47	10	Stackpole	RMCF0603JT10R0	Digikey	RMCF1/1610JRCT-ND	603	1	\$0.02	\$0.02	yes
30	Resistor	R45, R46	20	Stackpole	RMCF0603FT20R0	Digikey	RMCF1/1620FRCT-ND	603	2	\$0.04	\$0.08	yes
31	Resistor	R20, R21, R22, R23	47	Panasonic	ERJ-3GEYJ470V	Digikey	ERJ-3GEYJ470V	603	4	\$0.02	\$0.08	yes
32	Resistor	R49, R51	100	Panasonic	ERJ-3GEYJ101V	Digikey	P100GCT-ND	603	2	\$0.02	\$0.04	yes
1	Resistor	R24, R25, R26, R27, R28, R29, R30, R31	680	Stackpole	RMCF0603JT680R	Digikey	RMCF0603JT680RCT-ND	603	10	\$0.02	\$0.20	yes, reel
2	Resistor	R19	1K	Vishay/Dale	CRCW06031K00JNEA	Mouser	71-CRCW0603	603	3	\$0.01	\$0.03	yes, reel
3	Resistor	R8, R14, R15, R17, R18	2.2K	Panasonic	ERJ-3GEYJ222V	Mouser	667-ERJ-3GEYJ222V	603	5	\$0.01	\$0.05	yes, reel
4	Resistor	R39, R40, R41	3K	Yageo	RC0603FR-073KL	Digikey	311-3.00KHRCT-ND	603	3	\$0.01	\$0.04	yes, reel
5	Resistor	R11, R61	4.7K	Bourns	652-CR0603-JW-104GLF	Mouser	652-CR0603-JW-472GLF	603	2	\$0.01	\$0.02	yes, reel
6	Resistor	R1, R2, R3, R4, R5, R6, R7, R9, R10, R16, R32, R34,	10K	Vishay	CRCW060310K0FKEA	Mouser	71-CRCW0603-10K-E3	603	19	\$0.01	\$0.19	yes, reel
7	Resistor	R43, R53, R58	22K	Panasonic	ERJ-3GEYJ223V	Digikey	P22KGCT-ND	603	3	\$0.02	\$0.06	yes
8	Resistor	R33	33K	Panasonic	ERJ-3GEYJ332V	Digikey	P3.3KGCT-ND	603	1	\$0.02	\$0.02	yes
9	Resistor	R54, R55	47K	Panasonic	ERJ-3GEYJ473V	Digikey	P47KGCT-ND	603	3	\$0.01	\$0.03	yes
10	Resistor	R56, R57	100K	Panasonic	ERJ-3GEYJ104V	Digikey	P100KGCT-ND	603	2	\$0.01	\$0.02	yes, reel
11	Resistor	R44, R48	1M	Panasonic	ERJ-3GEYJ105V	Digikey	P1.0MGCT-ND	603	2	\$0.01	\$0.02	yes, reel
12	Photoresistor	R35, R36, R37		Advanced Photonix Inc	PDV-P9103	Digikey	PDV-P9103-ND	photoresistor	3	\$1.15	\$3.44	yes
13	Capacitor	C23	1pF	TDK	C1005C0G1H010C	Digikey	445-4855-1-ND	402	1	\$0.06	\$0.06	yes
14	Capacitor	C22	1.5pF	Murata	GRM1555C1H1R5CZ01D	Digikey	490-1266-1-ND	402	1	\$0.03	\$0.03	yes
15	Capacitor	C25	4.7pF	Yageo	CC0402CRNPO9B4N4R7	Digikey	311-1367-1-ND	402	1	\$0.01	\$0.01	yes
16	Capacitor	C5, C6	20pF	Murata	GRM1555C1H180JZ01D	Digikey	490-1281-1-ND	402	2	\$0.02	\$0.04	yes
17	Capacitor	C26, C27	22pF	Murata	GRM1555C1H220JZ01D	Digikey	490-1283-1-ND	402	2	\$0.02	\$0.04	yes
18	Capacitor	C41, C43	33pF	Murata	GRM1555C1H330JZ01D	Digikey	490-3220-1-ND	402	2	\$0.03	\$0.06	yes
19	Capacitor	C29	0.001µF	Yageo	CC0402KRX7R7BB102	Digikey	311-1352-1-ND	402	1	\$0.01	\$0.01	yes

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20	Capacitor	C24, C46	2.2nF	Yageo	CC0402KRX7R9BB222	Digikey	311-1037-1-ND	402	1	\$0.01	\$0.01	yes
	Capacitor	C40	47nF		EMK105B7473KV-F		587-1225-6-ND		1	\$0.01	\$0.01	small quantity
21	Capacitor	C28, C38, C39	0.01µF	TDK	810-C1005X7R1E103K	Mouser	C1005X7R1E103KT	402	4	\$0.01	\$0.04	yes, reel
22	Capacitor	C1, C2, C8, C9, C10, C11, C12, C13, C14, C15, C16,	0.1 µF	TDK	C1005X7R1C104KT	Mouser	810-C1005X7R1C104K	402	20	\$0.01	\$0.20	yes, reel
23	Capacitor	C3, C4, C19, C30	1µF	TDK	C1608Y5V1C105Z	Mouser	810-C1608Y5V1C105Z	603	4	\$0.01	\$0.04	yes, reel
24	Capacitor	C7, C44, C45	10µF	TDK Corporation	C1608X5R0J106M	Digikey	445-4112-2-ND	603	3	\$0.11	\$0.33	yes, reel
25	Momentary switch	SW1, SW2, SW3, SW4		Panasonic	EVQ-P0N02B	Mouser	EVQ-P0N02B	330	4	\$0.27	\$1.08	yes
										TOTAL:	\$75.56	