

KiCAD Freakduino BOM

16/07/2013

element14

Qty	Reference(s)	Manufacturer	Part No.	Description	element14 SKU	MOQ	Price ea.	Amount
1	ANT1	Johnson/ Emerson	SMA-02-113-TGG	RP-SMA Connector	1789593	1	23.660	23.66
1	BATT1	JST	S2B-XH-A	2-pin mated, polarized connector, male	1516289	10	0.240	2.40
1	BATT2	Keystone	2462	2-AA battery case	1702630	1	2.660	2.66
1	BLN1	Johanson Technology	2450BL15B100E	100 ohm diff/50 ohm single ended, 2.4GHz, balun, 0805 (Different pin layout!)	1885503	1	0.884	0.88
10	C1,C10,C11,C13,C14,C16,C18,C20,C21,C23	TDK	C1608Y5V1H104Z	0.1uF/50V,0603	1844266	1	0.030	0.30
0	C2,R3,R9		DNI (Do Not Insert)					0.00
1	C3	Nichicon	UUR1C101MCL1GS	100uF/16V, electrolytic, SMD	1898740	1	0.355	0.36
1	C4	Johanson Technology	251R14S0R4AV4T	0.4pf, 0603 RF, Hi Q	1885354	25	0.228	5.70
2	C5,C22	TDK	C2012X5R0J226M/1.25	22uF, 6.3V, 0805, MLCC	2309030	1	0.214	0.43
2	C6,C7	Taiyo Yuden	UMK105C-G5R6DW-F	5.6pf, 50V, 0402,RF	1611949	1	0.030	0.06
2	C8,C12	Multicomp	MC0603B103M160CT	0.01uF, 0603	1709946	1	0.020	0.04
1	C9	Nichicon	F920G226MPA	22uf, 6.3V, Tant, 0805	1892302	1	1.800	1.80
1	C15	TDK	C1608X5R1A106M080AC	10uF, 10V, 0603	1962113	1	0.562	0.56
2	C17,C19	Multicomp	MC0603N120J101CT	12pF, 50V, 0603	2341488	1	0.030	0.06
1	D1	Vishay	VLMB1300-GS08	Blue LED, 0603	2251459	1	0.207	0.21
2	D2,D6	Vishay	VLMO1300-GS08	Red LED, 0603	2251473	1	0.207	0.41
2	D3,D4	Vishay	VLMTG1300-GS08	Green LED, 0603	2251490	1	0.160	0.32
0	D5	ST Micro	1N6263	Schottky Diode, thru hole	9801251	1	0.000	0.00
1	FB1	Murata	BLM18TG601TN1D	Ferrite Bead, 0603	1115050	10	0.020	0.20
1	H3	Molex	10897061	3x2 straight male header, 2.54mm (0.100")	1508365	1	0.902	0.90
1	JP1	Molex	22-28-5030	1x3 straight male header, 2.54mm (0.100")	1513726	1	0.077	0.08
2	JP2,JP7	Molex	22-28-4022	1x2 straight male header, 2.54mm (0.100")	1704910	1	0.201	0.40
2	JP4,JP6	Molex	90147-1208	1x8 straight female header, 2.54mm (0.100")	1508676	1	1.000	2.00
2	JP3,JP5	Molex	90147-1106	1x6 straight female header, 2.54mm (0.100")	1508728	1	1.780	3.56
1	J1	Multicomp	MC32598	USB Mini-AB connector	1696539	1	2.280	2.28
1	J2	Lumberg	NEB 21 R	DC Power Jack, 1.95mm center conductor	1217037	1	2.260	2.26
1	L1	Johanson Technology	L-14C3N3SV4T	3.3nH RF inductor, 0603	1865790	50	0.132	6.60
1	L2	Taiyo Yuden	BRL1608T4R7M	4.7uH inductor, 310mA, thru	1904348	1	0.858	0.86
5	R1,R2,R7,R8,R12	Multicomp	MCMR06X2200FTL	220 ohms, 0603	2073428	100	0.004	0.40
2	R4,R5	Multicomp	MCMR06X102 JTL	1 Kohm, 0603	2073354	100	0.005	0.50
4	R6,R10,R11,R13	Multicomp	MCSR06X103 JTL	10 Kohms, 0603	2074170	100	0.003	0.30
2	R14,R15	Multicomp	MCMR06X104 JTL	100 Kohms, 0603	2073357	100	0.003	0.30
1	SW1	Omron	A6TN-2104	DIP switch, SPST, 2 poles, raised slide, thru	2066443	1	2.660	2.66
1	S1	C & K Components	OS102011MA1QN1	Right angle slide switch, SPDT, ON-ON	1201431	1	1.820	1.82
1	S2	Würth Elektronik	430471031826	SMD SPST Tactile Switch/Pushbutton	1867986	1	1.360	1.36
1	U1	FTDI	FT232RL	USB-to-Serial converter	1146032	1	11.830	11.83
1	U2	Texas Instruments	LM1117MP-3.3	3.3V regulator SOT	9778195	1	1.340	1.34
1	U3	Atmel	AT86RF231-ZU QFN	2.4GHz, 802.15.4 radio. Original uses MLF. Only QFN available from element14.	1748493	1	8.970	8.97
1	U4	Fairchild	FXMA108	Voltage level converter, 8bit DQFN-20 package	NOT AVAILABLE			0.00
1	U4	NXP	GTL2003	Voltage level shifter, 8-bit, TSSOP-20 package	2212068	1	1.260	1.26
1	U5	Holtek	HT7750A	5V boost converter	NOT AVAILABLE			0.00
1	U5			NO ALTERNATIVE (YET)				
1	U6	Atmel	ATMEGA328-QFP32	AVR Microcontroller	1972086	1	4.450	4.45
1	VR1	ST Micro	L78M05CDT-TR	5.0V regulator D-PAK 500mA	1261392	1	0.890	0.89
1	Y1	Aker	C3E-16.000-12-1010-X	16MHz crystal, 10ppm, 12pf	1640978	1	6.210	6.21

Total101.28

COLOUR KEY

BLACK

ORANGE

PURPLE

RED

As originally specified for Freakduino v2.1a.

Alternative part with same footprint as original. Additional orange text shows difference in part parameters.

Alternative part with **different** footprint to original.

Part not available and no alternative so far found. Red in price column indicates price unreasonably high.

KiCAD Freakduino BOM								
DigiKey								
Qty	Reference(s)	Manufacturer	Part No.	Description	DigiKey SKU	MOQ	USD ea.	Amount
1	ANT1	ChangHong	SMA-02-113-TGG	RP-SMA Connector			0.00	
1	BATT1	JST	JST-XH2P	2-pin mated, polarized connector, male				
1	BATT2	COMF	BH321-1P	2-AA battery case				
1	BLN1	Murata	LDB-182G4510C-110	100 ohm diff/50 ohm single ended, 2.4GHz, balun				
10	C1,C10,C11,C13,C14,C16,C18,C20,C21,C23	Various		0.1uF/50V,0603				
0	C2,R3,R9		DNI					
1	C3	Various		100uF/16V				
1	C4	Johanson Technology	251R14S0R4	0.4pf,0603 RF capacitor				
2	C5,C22	Various		22uF, 6.3V,0805, MLCC				
2	C6,C7	Taiyo Yuden	UMK105C-G5R6DW-F	5.6pf,50V,0402,RF				
2	C8,C12	Various		0.01uF, 0603				
2	C9,C15	Various		100uF, 35V, thru				
2	C17,C19	Various		12pF, 50V, 0603				
1	D1	Various		Blue LED, 0603				
2	D2,D6	Various		Red LED, 0603				
2	D3,D4	Various		Green LED, 0603				
1	D5	Vishay	BAT43	Schottky Diode, thru				
1	FB1	Various		Ferrite Bead, 0805				
1	H3	Various	H3X2	3x2 straight male header, 2.54mm (0.100")				
1	JP1	Various	JP3/THRU_VERT	1x3 straight male header, 2.54mm (0.100")				
2	JP2,JP7	Various	1X2	1x2 straight male header, 2.54mm (0.100")				
2	JP4,JP6	Various		1x8 straight male header, 2.54mm (0.100")				
2	JP3,JP5	Various		1x6 straight male header, 2.54mm (0.100")				
1	J1	4UCON	9558	USB Mini-AB connector				
1	J2	4UCON	5537	DC Power Jack, 2.0mm center conductor				
1	L1	Johanson Technology	L-14C3N3SV4T	3.3nH RF inductor				
1	L2	Various		47uH inductor, 200mA, thru				
5	R1,R2,R7,R8,R12	Various		220 ohms, 0603				
4	R6,R10,R11,R13			10 Kohms, 0603				
2	R14,R15	Various		100 Kohms, 0603				
2	R4,R5	Various		1 Kohm, 0603				
1	SW1	Various		2-input DIP switch, thru				
1	S1	Various		Right angle slide switch				
1	S2	Various		SMD SPST Tactile Switch/Pushbutton				
1	U1	FTDI	FT232RL	USB-to-Serial converter				
1	U2	Microchip	TC1264-3.3	3.3V regulator				
1	U3	Atmel	AT86RF231	2.4GHz, 802.15.4 radio				
1	U4	Fairchild	FXMA108	Voltage level converter, DQFN-20 package	FXMA108BQXFSCCT-ND	1	1.52	
1	U5	Holtek	HT7750A	5V boost converter	NOT AVAILABLE			
1	U6	Atmel	ATMEGA328-QFP32	AVR Microcontroller				
1	VR1	NJRC	NJM2845-5.0	5.0V regulator				
1	Y1	NDK	NX3225SA,15ppm	16MHz crystal, 15ppm				