

# KiCAD Freakduino BOM

17/08/2013 v1.2 post-r132 corrections

## element14

Qty	Reference(s)	Manufacturer	Part No.	Description	Order Code	MOQ	Price ea.	Amount
1	ANT1	Amphenol Connex	132136RP	RP-SMA Connector	<a href="#">1789593</a>	1	23.660	23.66
1	BATT1	JST	S2B-XH-A	2-pin mated, polarized connector, male	<a href="#">1516289</a>	10	0.240	2.40
1	BATT2	Keystone	2462	2-AA battery case	<a href="#">1702630</a>	1	2.660	2.66
1	BLN1	Johanson Technology	2450BL14B100T	100 ohm diff/50 ohm single ended, 2.4 GHz, balun	<a href="#">1619983</a>	5	2.110	10.55
10	C1, C10, C11, C13, C14, C16, C18, C20, C21, C23	TDK	C1608Y5V1H104Z	0.1uF/50V,0603	<a href="#">1844266</a>	1	0.030	0.30
0	C2, R3, R9		DNI (Do Not Insert)			0	0.000	0.00
1	C3	Nichicon	UWX1C101MCL1GB	100uF/16V, electrolytic, SMD 6.3mm	<a href="#">8823065</a>	5	0.120	0.60
1	C4	Johanson Technology	251R14S0R4AV4T	0.4pf, 0603 RF, Hi Q	<a href="#">1885354</a>	25	0.228	5.70
2	C5, C22	TDK	C2012X5R0J226M/1.25	22uF, 6.3V, 0805, MLCC	<a href="#">2309030</a>	1	0.214	0.43
2	C6, C7	Multicomp	MC000291	5.6pf, 50V, 0402,RF	<a href="#">2310316</a>	10	0.030	0.30
2	C8, C12	Multicomp	MC0603B103M250CT	0.01uF, 0603	<a href="#">1709947</a>	1	0.007	0.01
1	C9	Nichicon	F920G226MPA	22uf, 6.3V, Tant, 0805	<a href="#">1892302</a>	1	1.800	1.80
1	C15	AVX	06036D106MAT2A	10uF, 6.3V, 0603	<a href="#">1833804</a>	10	0.300	3.00
2	C17, C19	Multicomp	MC0603N120J101CT	12pF, 50V, 0603	<a href="#">1759054</a>	100	0.029	2.90
1	D1	Vishay	VLMB1300-GS08	Blue LED, 0603	<a href="#">2251459</a>	1	0.207	0.21
2	D2, D6	Vishay	VLMO1300-GS08	Red LED, 0603	<a href="#">2251473</a>	1	0.207	0.41
2	D3, D4	Vishay	VLMTG1300-GS08	Green LED, 0603	<a href="#">2251490</a>	1	0.160	0.32
1	FB1	Fair-Rite	2508051027Y0	Ferrite Bead, 0805	<a href="#">2112874</a>	1	0.022	0.02
1	H3	Molex	10897061 (see below)	3x2 straight male header, 2.54mm (0.100")	<a href="#">1508365</a>	1	0.902	0.90
			----->	30x2 and cut to size	<a href="#">1918095</a>	1	2.630	2.63
1	JP1	Molex	22-28-5030 (see below)	1x3 straight male header, 2.54mm (0.100")	<a href="#">1513726</a>	1	0.077	0.08
2	JP2, JP7	Molex	22-28-4022 (see below)	1x2 straight male header, 2.54mm (0.100")	<a href="#">1704910</a>	1	0.201	0.40
			----->	30x1 and cut to size	<a href="#">1819800</a>	1	4.060	4.06
2	JP4, JP6	Global Connector	BG095-08-A-N-D	1x8 straight female header, 2.54mm (0.100")	<a href="#">1799005</a>	1	1.890	3.78
2	JP3, JP5	Global Connector	BG095-06-A-N-D	1x6 straight female header, 2.54mm (0.100")	<a href="#">1799003</a>	1	1.420	2.84
1	J1	Multicomp	MC32598	USB Mini-AB connector	<a href="#">1696539</a>	1	2.280	2.28
1	J2	Lumberg	NEB 21 R	DC Power Jack, 1.95mm center conductor	<a href="#">1217037</a>	1	2.260	2.26
1	L1	Johanson Technology	L-14C3N3SV4T	3.3nH RF inductor, 0603	<a href="#">1865790</a>	50	0.132	6.60
1	L2	Taiyo Yuden	NR4018T4R7M	4.7uH inductor, 1.2A, 4x4mm	<a href="#">1284636</a>	1	0.550	0.55
7	R1, R2, R4, R5, R7, R8, R12	Multicomp	MCMR06X102 JTL	1 Kohm, 0603	<a href="#">2073354</a>	100	0.005	0.50
4	R6, R10, R11, R13	Multicomp	MCSR06X103 JTL	10 Kohms, 0603	<a href="#">2074170</a>	100	0.003	0.30
2	R14, R15	Multicomp	MCMR06X104 JTL	100 Kohms, 0603	<a href="#">2073357</a>	100	0.003	0.30
1	SW1	Omron	A6TN-2104	DIP switch, SPST, 2 poles, raised slide, thru	<a href="#">2066443</a>	1	2.660	2.66
1	S1	C & K Components	OS102011MA1QN1	Right angle slide switch, SPDT, ON-ON	<a href="#">1201431</a>	5	1.820	9.10
1	S2	Wurth Elektronik	430471031826	SMD SPST Tactile Switch/Pushbutton	<a href="#">1867986</a>	1	1.360	1.36
1	U1	FTDI	FT232RL	USB-to-Serial converter	<a href="#">1146032</a>	1	11.830	11.83
1	U2	Texas Instruments	LM3940IMP-3.3	3.3V regulator SOT-223-3 (IGO pin order)	<a href="#">9779280</a>	1	2.280	2.28
1	U3	Atmel	AT86RF231-ZU QFN	2.4GHz, 802.15.4 radio.	<a href="#">1748493</a>	1	8.970	8.97
1	U4	NXP	GTL2003	Voltage level shifter, 8-bit, TSSOP-20 package	<a href="#">2212068</a>	1	1.260	1.26
1	U5	Texas Instruments	TPS61222DCKT	5V boost converter	<a href="#">1755643</a>	1	2.930	2.93
1	U6	Atmel	ATMEGA328-AU	AVR Microcontroller QFP32	<a href="#">1972086</a>	1	4.450	4.45
1	VR1	ST Micro	L78M05CDT-TR	5.0V regulator D-PAK 500mA	<a href="#">1261392</a>	1	0.890	0.89
1	Y1	Aker	C3E-16.000-12-1010-X	16MHz crystal, 10ppm, 12pf	<a href="#">1640978</a>	1	6.210	6.21

Total134.70

### 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	<a href="#">FXMA108BQXFSCCT-ND</a>	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				