



The World's Thinnest Boombox  
 Bill-of-Materials  
 HW Rev. A, Document Version 1.1, October 6, 2022

Item	Quantity	Reference	Manufacturer	Manuf. Part #	Distributor	Distrib. Part #	Description
1	1	BT1	TE Connectivity	2173157-2	Digi-Key	A117948CT-ND	Connector, USB Micro Type B, R/A, 5 position, SMD
		C1, C3, C11, C12, C15, C26, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55					
2	31	C2	TDK	C1608X7R1H104K080AA	Digi-Key	445-1314-1-ND	Capacitor, 0.1uF, 50V, Ceramic, 10%, X7R, 0603
3	1	C2	TDK	C1608X5R1C475K080AC	Digi-Key	445-7478-1-ND	Capacitor, 4.7uF, 16V, Ceramic, 10%, X5R, 0603
4	3	C4, C18, C30	Kyocera	TPSB106K016R0800	Digi-Key	478-2398-1-ND	Capacitor, 10uF, 16V, Tantalum, 10%, Size B
5	4	C5, C6, C19, C21	TDK	C1608X7R1V105K080AC	Digi-Key	445-7414-1-ND	Capacitor, 1uF, 35V, Ceramic, 10%, X7R, 0603
6	2	C7, C22	TDK	C1608C0G1H101J080AA	Digi-Key	445-1281-1-ND	Capacitor, 100pF, 50V, Ceramic, 5%, C0G, 0603
7	4	C9, C14, C28, C29	TDK	C1608X7R1C474K080AC	Digi-Key	445-5192-1-ND	Capacitor, 0.47uF, 16V, Ceramic, 10%, X7R, 0603
8	4	C10, C13, C16, C25	TDK	C1608X5R1E106M080AC	Digi-Key	445-9015-1-ND	Capacitor, 10uF, 25V, Ceramic, 20%, X5R, 0603
9	2	C17, C20	TDK	C1608X5R1C225K080AB	Digi-Key	445-5157-1-ND	Capacitor, 2.2uF, 16V, Ceramic, 10%, X5R, 0603
10	2	C23, C24	TDK	C1608C0G1H222J080AA	Digi-Key	445-1297-1-ND	Capacitor, 2200pF, 50V, Ceramic, 5%, C0G, 0603
11	6	D1, D2, D3, D4, D5, D6	Kingbright	APTR3216ZGCK	Digi-Key	754-2131-1-ND	LED, Green, 525nm, 350mcd, 3.3Vf, Reverse Mount, 1206
12	1	D7	onsemi	NSR0530HT1G	Digi-Key	NSR0530HT1GOSCT-ND	Diode, Schottky, 30V, 500mA, SOD-323
13	2	D8, D9	onsemi	NSR0520V2T1G	Mouser	863-NSR0520V2T1G	Diode, Schottky, 20V, 500mA, SOD-523
14	2	L1, L3	Taiyo Yuden	BRL3225T4R7M	Digi-Key	587-2166-1-ND	Inductor, Ferrite, Wirewound, 4.7uH, 20%, 216mR, 1A, 3225
15	2	L2, L4	TDK	B82422H1223K000	Digi-Key	495-2644-1-ND	Inductor, Ferrite, Wirewound, 22uH, 10%, 1R, 330mA, 3225
16	1	L5	TDK	MLZ2012A3R3W	Digi-Key	445-6394-1-ND	Inductor, Ferrite, Multilayer, 3.3uH, 20%, 340mR, 450mA, 0805
17	2	LS1, LS2	Hirose	FH12-11S-1SH(55)	Digi-Key	HFB11CT-ND	Connector, FFC/FPC, 11 Position, Bottom Contact, 1mm P, SMD
18	1	Q1	Toshiba	SSM3J328R.LF	Digi-Key	SSM3J328R.LFCT-ND	Transistor, MOSFET, P-Channel, 20V, 29.8mR @ 3A, SOT23-3
19	1	Q2	onsemi	BSS138	Digi-Key	BSS138CT-ND	Transistor, MOSFET, N-Channel, 50V, 3.5R @ 220mA, SOT23-3
20	2	R1, R3	Yageo	RC0603FR-071KL	Digi-Key	311-1.00KHRCT-ND	Resistor, 1k, 1%, 1/10W, 0603
21	1	R2	Yageo	RC0603FR-0710KL	Digi-Key	311-10.0KHRCT-ND	Resistor, 10k, 1%, 1/10W, 0603
22	1	R4	Yageo	RC0603FR-07100KL	Digi-Key	311-100KHRCT-ND	Resistor, 100k, 1%, 1/10W, 0603
23	1	R5	Yageo	RC0603FR-0710ML	Digi-Key	311-10.0MHRCT-ND	Resistor, 10M, 1%, 1/10W, 0603
24	6	R6, R7, R8, R9, R10, R11	Yageo	RC0603FR-07100RL	Digi-Key	311-100HRCT-ND	Resistor, 100 ohm, 1%, 1/10W, 0603
25	1	R12	Yageo	RC0603FR-0782KL	Digi-Key	311-82.0KHRCT-ND	Resistor, 82k, 1%, 1/10W, 0603
26	2	R13, R19	TE Connectivity	355010RJT	Digi-Key	A143812CT-ND	Resistor, 10 ohm, 5%, 5W, 4320
27	3	R14, R15, R16	Yageo	RC0603FR-0756RL	Digi-Key	311-56.0HRCT-ND	Resistor, 56 ohm, 1%, 1/10W, 0603
28	3	R17, R18, R20	Yageo	RC0603FR-07470RL	Digi-Key	311-470HRCT-ND	Resistor, 470 ohm, 1%, 1/10W, 0603
29	1	SW1	NKK Switches	SS312SAH4	Digi-Key	360-3250-ND	Switch, Slide, SPDT, R/A, 0.4VA @ 24V
30	1	SW2	Comus International	RI80SMDM-0510-G1	Digi-Key	1835-1161-1-ND	Switch, SPST, Magnetic Reed, 350mA, 5-10AT, SMD
31	1	U1	Raspberry Pi Foundation	Raspberry Pi Zero 2 W	N/A	N/A	Module, Single Board Computer, PCB Mount
32	1	U2	Microchip	CAP1166-1-BP-TR	Digi-Key	CAP1166-1-BP-CT-ND	IC, Capacitive Touch Sensor + LED Driver, 6 Channel, QFN-20
33	2	U3, U7	onsemi	M74VHC1GT125DT1G	Mouser	863-M74VHC1GT125DT1G	IC, Logic, Non-Inverting Buffer, TSOP-5
34	2	U4, U6	Texas Instruments	LM48580TL/NOPB	Mouser	926-LM48580TL/NOPB	IC, Piezo Speaker Driver, DSBGA-12, 2 x 1.8mm
35	1	U5	Texas Instruments	PCM5100APWR	Digi-Key	296-36705-1-ND	IC, DAC, Audio Stereo, I2S, TSSOP-20
		U8, U9, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U20, U21, U22, U23, U24, U25, U26, U27, U28, U29, U30, U31					
36	24		Dongguan OPSCO Optoelectronics	SK6812MINI-E	Adafruit	4960	Module, NeoPixel LED, RGB, Addressable, Reverse Mount, 3.2 x 2.8mm
37	1	PCB	Royal Circuits/Advanced Assembly	BOOMBOX	N/A	N/A	PCB, Fabrication + Assembly
38	2	M1, M2	TDK	PHUA6630-076B-00-000	Digi-Key	445-181633-ND	Speaker, PiezoListen, 66 x 30mm, FPC
39	1	M3	Shenzhen LDTEK Technology	TNTOR WT-H330	Amazon	B09BTTLQK4	Battery, Li-Polymer, 5V @ 2A, 5000mAh, USB Type A, 123 x 66mm
40	1	M4	Cable Matters	200017-BLKx2	Amazon	B00S8GU03A	Cable, USB Type A to Micro Type B, Right Angle, 6" Length
41	5	M5, M6, M7, M8, M9	SmarTake	N/A	Amazon	B07D8QPG2Y	Magnet, Neodymium, 10mm x 2.6mm
42	1	M10	TDK	SA 90	N/A	N/A	Tape, Cassette
43	1	M11	Glue Dots International	Ultra-Thin Dots	Amazon	B000Q5LYF4	Tape, Adhesive Transfer, 10mm D
44	1	M12	3M	468MP	N/A	N/A	Tape, Adhesive Transfer, Acrylic, 200MP, 5mil
45	1	M13	tesa	70420	N/A	N/A	Tape, Double Sided, Bond & Detach, 200um/7.87mil, 75mm x 26.5mm