

Table 5-1. Bill of Materials

Qty	Part Reference	Description	Value	Voltage	Tolerance	Manufacturer	Manufacturer Part Number
1	ANT1	F_Antenna	PCB F Antenna			Not A Part	NOT A PART
1	BUZ1	SMD Speaker	NDT-03C			Star Micronics	NDT-03C
1	C54	Ceramic Capacitor C0G	10pF	50V	5%	Murata	GRM1555C1H100JZ01
0	C1,C55,C58	Ceramic Capacitor C0G	10pF	50V	5%	Murata	GRM1555C1H100JZ01
3	C24,C25,C44	Ceramic Capacitor X5R	1uF	6.3V	10%	Murata	GRM155R60J105KE19B
0	C10	Ceramic Capacitor X5R	1uF	6.3V	10%	Murata	GRM155R60J105KE19B
1	C11	Ceramic Capacitor X7R	1nF	50V	10%	Murata	GRM155R71H102KA01D
2	C14,C15	CAP CER 10UF 6.3V 20% X5R 0603	10uF	6.3V	20%	Panasonic	ECJ1VB0J106M
1	C19	Ceramic Capacitor for smoothing X5R	10uF	10V	10%	Murata	GRM21BR61J106KE19L
15	C2,C6,C13,C21,C22,C27,C35,C38,C40,C41,C50,C59,C61,C71,C72	Ceramic Capacitor X5R	100nF	10V	10%	Murata	GRM155R61A104KA01D
1	C20	Ceramic Capacitor C0G	47pF	50V	5%	Kemet	C0402C470J5GAC
1	C28	Ceramic Capacitor X5R	47nF	10V	10%	Panasonic-ecg	ECJ-0EB1A473K
1	C29	Ceramic Capacitor X7R	4.7nF	25V	10%	Murata	GRM155R71E472KA01
1	C30	Ceramic Capacitor X7R	22nF	25V	10%	Murata	GRM155R71E223KA61D
0	C3	Ceramic Capacitor C0G	1pF	50V	0.25pF	Murata	GRM1555C1H1R0CZ01D
2	C34,C49	Ceramic Multilayer Capacitor X7R NoPb	1uF	16V	15%	Murata	GRM21BR71C105
3	C36,C37,C48	Ceramic Multilayer Capacitor X5R	4.7uF	16V	15%	Phycomp	2222 781 13672
0	C4	Ceramic Multilayer Capacitor X7R	27nF	10V	5%	Vishay	VJ0402Y273JXQCW1BC
2	C42,C43	Ceramic Capacitor C0G	15pF	50V	5%	Murata	GRM1555C1H150JZ01J
1	C45	Ceramic Capacitor X7R	220nF	10V	10%	Murata	GRM188R71A224KA01
1	C46	Ceramic Capacitor C0G	270pF	50V	5%	Murata	GRM1555C1H271JA01
1	C47	Ceramic Capacitor C0G	3.3nF	50V	15%	Murata	GRM155R71H332KA01
0	C5	Ceramic Multilayer Capacitor X7R	180nF	16V	5%	Vishay	VJ0603Y184JXJCW1BC
1	C57	Ceramic Multilayer Capacitor X5R	4.7uF	10V	10%	Murata	GRM219R61A475KE34D

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2	C60,C73	Low ESR Tantal Capacitor	47uF	16V	+/-10%	Avx	TPSD476K016R150
3	C63,C64,C65	Aluminum Electrolytic Capacitor low ESR CV-GX	4.7uF	35V	20%	Sanyo	35CV4.7GX
5	C66,C67,C68,C69,C70	Aluminum Electrolytic Capacitor	1uF	50V	20%	Nic Components	NACE 1R0 M 50V 4x5,5 TR13
0	C7,C12	Ceramic Capacitor C0G	22pF	50V	5%	Murata	GRM1555C1H220JZ01J
1	C75	CAP CER 4.7UF 6.3V 10% X5R 0603	4.7uF	6.3V	10%	Venkel Company	C0603X5R6R3-475KNE
2	C8,16	Ceramic Capacitor C0G	100pF	50V	5%	Murata	GRM1555C1H101JZ01
3	C56,C62,C74	Ceramic Capacitor X7R	10nF	25V	10%	Murata	GRM155R71E103KA01D
0	C9	Ceramic Capacitor X7R	10nF	25V	10%	Murata	GRM155R71E103KA01D
4	D1,D2,D3,D4	SMD Red top led	LHR974			Osram	Q62702P5182
1	D5	SMD Green top led	LGR971			Osram	Q65110P5179
6	D6,D7,D8,D9,D10,D12	SMD Power Schottky Rectifier	MBR0520 LT1	20V		On Semiconductor	MBR0520LT1G
1	J10	Single Row Straight Pin Header SMD	TSM-103-01-L-SV			Samtec	TSM-103-01-L-SV
1	J11	Mictor, Centerline Matched Impedance Connector	767054-1			Amp	767054-1
1	J12	2.5mm Audio stereo jack with switch	STX-2550-5NTR			Kycon	STX-2550-5NTR
1	J13	FFC Right Angle Dip Zif 30 pin Connector	6210_30_smd			Avx	08 6210 030 340 800
4	J14,J18,J19,J20	Single Row Straight Pin Header SMD	TSM-102-01-L-SV			Samtec	TSM-102-01-L-SV
0	J18,J19,J20	HDR 1X2 SMT 78.7MIL SP 235H AU	HDR_1X2			Samtec	TMM-102-01-S-S-SM
0	L1	HF Chip coil	3.9nH		5%	Murata	LQG15HS3N9S02D
1	L2	Chip Ferrite Bead	500mA			Murata	BLM11P600Sxx
1	L3	SMD power inductor	22uH		20%	Coilcraft	DO1608C-223LC
1	Q1	P-channel MOSFET	ZXM61P0 2F	20V		Zetex	ZXM61P02F
1	Q2	N-Chanel Enhancement MOSFET	ZVN3320 F	200V		Zetex	ZVN3320FTA

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15	R3,R33,R43,R50,R51,R64,R65,R68,R69,R80,R84,R105,R109,R110,R111	Fixed resistor RC31	0R	50V	2%	Philips	2322 705 91002
0	R4,R32,R34,R66,R70,R91	Fixed resistor RC31	0R	50V	2%	Philips	2322 705 91002
2	R11,R30	Fixed resistor RC31	220R	50V	2%	Philips	2322 705 50221
10	R12,R23,R24,R26,R42,R97,R98,R99,R100,R101	Fixed resistor RC31	100K	50V	2%	Philips	2322 705 50104
3	R13,R14,R25	Fixed resistor RC31	1K	50V	2%	Philips	2322 705 50102
0	R81,R82	Fixed resistor RC31	1K	50V	2%	Philips	2322 705 50102
4	R56,R57,R106,R107	Fixed resistor RC31	4.7K	50V	2%	Philips	2322 705 50472
9	R1,R15,R40,R44,R87,R89,R102,R103,R104	Fixed resistor RC31	10K	50V	2%	Philips	2322 705 50103
1	R44	Fixed resistor RC31	7R15		1%	Koa Speer	RK73H1ETTP7R15F
0	R83	Fixed resistor RC31	10K	50V	2%	Philips	2322 705 50103
1	R20	Fixed resistor RC31	200K	50V	2%	Yageo America	RC0402JR-07200KL
1	R29	Fixed resistor RC31	47K	50V	2%	Philips	2322 705 50473
0	R5	Fixed resistor RC31	240R	50V	2%	Philips	2322 705 50241
3	R58,R59,R67	Fixed resistor RC31	27K	50V	2%	Philips	2322 705 50273
4	R6,R7,R8,R9	Fixed resistor RC31	390R	50V	2%	Philips	2322 705 50391
1	R60	Fixed resistor RC31	8.2K	50V	2%	Philips	2322 705 50822
1	R61	Fixed resistor RC31	13K	50V	2%	Philips	2322 705 50133
1	R85	Fixed resistor RC32	11K	50V		Koa Speer	RK73H1ETTP1102F
1	R86	Fixed resistor RC33	1.8K	50V		Koa Speer	RK73H1ETTP1801F
1	R88	Fixed resistor RC34	51K	200V		Koa Speer	RK73H1ETTP5102F
1	R96	RESISTOR	200 OHM			Vishay/daile	CRCW0402200RJNED
1	R90	RES MF 47 OHM 1/4W 5% 1206	47 OHM		5%	Bourns	CR1206-JW-470ELF
1	R120	RES MF 120K 1/16W 1% 0402	120K		1%	Koa Speer	RK73H1ETTP1203F

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1	R121	RES MF 24.9K 1/16W 1% 0402	24.9K		1%	Koa Speer	RK73H1ETTP2492F
4	R122,R123,R124,R125	RES MF 1.0K 1/16W 5% 0402	1K		5%	Vishay Intertechnology	CRCW04021K00JNED
2	RT1,RT2	Polyswitch Overcurrent Protection Device	500mA	13.2V		Tyco Electronics	microSMD050F
5	SW1,SW2,SW3,SW4,SW5	SMD Tact Switch 2.6N (7.0mm)	DTSM63N			Diptronic	DTSM-63N-V-B
1	SW6	4-directional TACT switch with center push SMD	SKRHA			Alps	SKRHAAE010
1	SW7	Miniature Slide Switch 4 pole	MFP461N-RA			Knitter-switch	MFP461N-RA
1	U1	ZigBee Wireless Transceiver and ARM7 processor	MC13225			Freescale	MC13225
1	U10	USB UART, PB-free	FT232R			Ftdi	FT232RQ
1	U13	Digitally Controlled Potentiometer, 50Kohm	MAX5434			Maxim	MAX5434LEZT+T
1	U14	Hex inverter	74HCT04A			On Semiconductor	MC74HCT04ADTR2G
1	U15	Low supply current Step-up DC-DC Converter with shutdown	MAX1676			Maxim	MAX1676EUB+-ND
1	U16	Low Voltage CMOS Octal Bidirectional Transceiver	74LCX245			On Semiconductor	MC74LVXC3245DTG
1	U2	Dual Low voltage Op-Amp	MC33202			On Semiconductor	MC33204DTBG
1	U4	10-bit Low Power DAC with rail to rail output	DAC101S101			National Semiconductor	DAC101S101CIMK-NoPB
1	U6	Audio class AB amplifier, 1,0W	NCP4896			On Semiconductor	NCP4896FCT1G
2	U9,U12	LDO voltage regulator 3V3	LT1129CS T-3.3			Linear Technology	LT1129CST-3.3
1	U17	IC VREG ADJ 1.24-5.3V 20MA SOIC8	LM285M			National Semiconductor	LM285M/NOPB
1	X1	Crystal SMD	24.00MHz		+10ppm	Ndk	NX3225SA-24MHz (for OA/AV and Bluetooth) / S1-3085-1510-9

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Qty	Part Reference	Description	Value	Voltage	Tolerance	Manufacturer	Manufacturer Part Number
0	X2	Crystal SMD	32.768kHz		+/-20ppm	Abracon	ABS25-32.768-12.5-2-T
1	D11	128x64 pixel monochrome display w. LED backlight	F-51553G NBJ-LW-A B			Optrex	F-51553GNBJ-LW-AEN
1	BC1	PCB Battery Holder 2xAA	2462			Keystone	2462
1	J1	Dual Row Right Angle pin header 0.38um gold	90122-20			Molex	90122-0770
1	J2	Dual Row Right Angle pin header 0.38um gold	90122-26			Molex	90122-0773
1	J5	DC Power Jack PCB, 2mm	DJ-005			Taitek	2DC-0005-D100
1	J6	USB-series "B" receptacle	USB-B			Amp	292304-1
1	J7	Straight SMA Receptacle for PCB edge mounting (0.79mm PCB)	SMA			Johnson Components	142-0701-881

