ARX Board, Bill of Materials

Designator	Value	Description	Footprint
B101		Plastic battery holder	Axial
C1	15pF	Capacitor, NP0, +/- 5%, 50V	0603
C2	15pF	Capacitor, NP0, +/- 5%, 50V	0603
C3	2.2nF	Capacitor, X7R, +/- 10%, 50V	0603
C4	4.7pF	Capacitor, NP0, +/- 5%, 50V	0603
C5	1.0pF	Capacitor, NP0, +/- 0.1 pF, 50V	0603
C6	1.0pF	Capacitor, NP0, +/- 0.1 pF, 50V	0603
C7	3.3pF	Capacitor, NP0, +/- 0.1 pF, 50V	0603
C8		Not fitted	0603
C9	10nF	Capacitor, X7R, +/- 10%, 50V	0603
C10	1nF	Capacitor, X7R, +/- 10%, 50V	0603
C11	33nF	Capacitor, X7R, +/- 10%, 50V	0603
C12	0.8pF	Capacitor, NP0, +/- 0.1 pF, 50V	0603
C13	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C14	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C15	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C16	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C17	10nF	Capacitor, X7R, +/- 10%, 50V	0603
C18	4.7µF	Capacitor, Tantalum, +/- 20%, 6V	1206
C101	10µF	Capacitor, Tantalum, +/- 20%, 6V, ESR<3Ω	1206
C102	1µF	Capacitor, Tantalum, +/- 20%, 20V	1206
C103	10nF	Capacitor, X7R, +/- 10%, 50V	0603
C301	10µF	Capacitor, Tantalum, +/- 20%, 6V, ESR<3Ω	1206
C302	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C303	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C304	10µF	Capacitor, Tantalum, +/- 20%, 6V, ESR<3Ω	1206
C305	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C306	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C307	0.1µF	Capacitor, X7R, +/- 10%, 16V	0603
C308	10µF	Capacitor, Tantalum, +/- 20%, 6V, ESR<3Ω	1206
C309	220µF	Capacitor, Electrolytic, +/- 20%, 10V	SMD
C310	220µF	Capacitor, Electrolytic, +/- 20%, 10V	SMD
C311	220pF	Capacitor, NP0, +/- 5%, 50V	0603
C312	220pF	Capacitor, NP0, +/- 5%, 50V	0603
L1	3.3nH	Chip inductor, +/- 0.3nH, TOKO LL1608-FSL3N3S[1]	0603
L2	10nH	Chip Inductor, +/- 5%	0603
L3	3.3nH	Chip inductor, +/- 0.3nH, TOKO LL1608-FSL3N3S[1]	0603
D1		LED, red	1206

[1] Inductance vs. frequency may differ significantly in inductors with the same value but different part numbers and/or vendors! Inductor value is usually characterized at 100-250 MHz, but the actual value at 2.4 GHz may vary significantly even though the given inductance at 250 MHz is the same.
Inductors from other TOKO series and other vendors may well be used, but antenna matching network performance MUST be verified as the inductor value may need to be changed.

Designator	Value	Description	Footprint
D2		Philips Discrete Double Diode, BAW56	SOT-23
D3		Philips Discrete Double Diode, BAW56	SOT-23
E1		Antenna, Fractus FR05-S1-N-0-102	SMD
J301		Audio telejack, 3.5mm stereo	Axial
P501		Connector , Molex 54167-0208	SMD
R1	1MΩ	Resistor, 10%	0603
R2	22kΩ	Resistor, 1 %	0603
R3	47kΩ	Resistor, 5%	0603
R4	47kΩ	Resistor, 5%	0603
R5	47kΩ	Resistor, 5%	0603
R6	22kΩ	Resistor, 5%	0603
R7	22kΩ	Resistor, 5%	0603
R8	22kΩ	Resistor, 5%	0603
R9	22kΩ	Resistor, 5%	0603
R10	1kΩ	Resistor, 5%	0603
R101	0Ω	Resistor	0603
R102	0Ω	Resistor	0603
R103	0Ω	Resistor	0603
R104	270kΩ	Resistor, 1 %	0603
R105	220kΩ	Resistor, 1 %	0603
R301	10kΩ	Resistor, 5%	0603
R302	10kΩ	Resistor, 5%	0603
R303	47kΩ	Resistor, 5%	0603
R304	47kΩ	Resistor, 5%	0603
S101		Power supply on/off switch	Axial
S1		User interface push button, ALPS SKQMBBE010	SMD
S2		User interface push button, ALPS SKQMBBE010	SMD
S3		User interface push button, ALPS SKQMBBE010	SMD
S4		User interface push button, ALPS SKQMBBE010	SMD
S5		User interface push button, ALPS SKQMBBE010	SMD
S6		User interface push button, ALPS SKQMBBE010	SMD
U1	nRF24Z1	2.4GHz Transceiver for Audio Streaming	QFN36L/6x6
U2	EEPROM	Microchip 25AA640-I/SN, 64K 1.8V SPI Bus Serial EEPROM	SO-8
U101	Voltage regulator	Linear Technology LT1761ES5-BYP, 100mA Low Noise LDO	SOT-23
U301	DAC	Wolfson Microelectronics WM8711LGEFL, Internet Audio DAC with Integrated Headphone Amplifier	QFN5x5-28
X1	16MHz	Crystal, C_L = 9pF, C_0 < 7pF, ESR < 100Ω, Frequency tolerance + temperature stabillity < +/- 30 ppm	SMD

Table 1 ARX Bill of Materials