Essentials Core Components for Custom AudioLink Board

1. **MIMXRT1062DVJ6B (ARM Cortex-M7 chip)**

-Pins like:

- VDD_SOC_IN: Power Supply

- VDD_HIGH_IN: Power for I/O Pads

- USB1_DN/DP: USB differential data lines (Neg/Pos)

- BOOT_MODE: Boot configuration on power-up/reset

✗ Are essential!

2. **Power Management:** Voltage regulators and power rails

- TLV75733P (3.3V regulator)

- Decoupling capacitors (C6–C8)

- BAT54C diodes for VBAT

- Ferrite beads and inductors (L2 + LVB) for filtering

3. **Crystal Oscillators**

- 24 MHz Crystal – Main System Clock

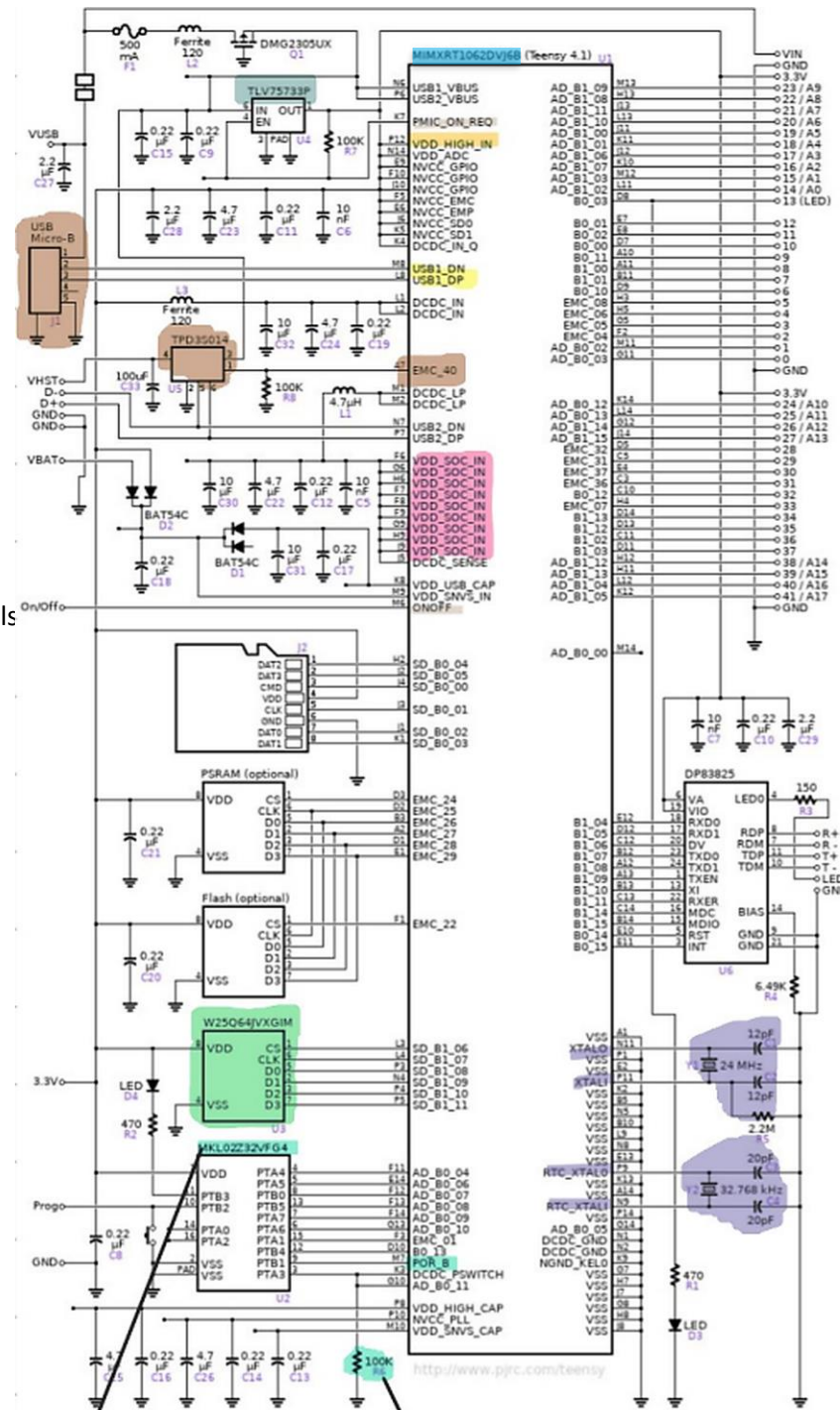- 32.768 kHz Crystal – Only if using RTC or Sleep

4. **USB Interface**

- Pins: USB1_DN / USB1_DP

- ESD Protection (TPD3S014)

- USB micro port and related passives (C24–C28)

5. **Boot Configuration**

- Boot Mode: Resistor to boot from internal flash

- PMIC_ON_REQ and ONOFF for startup (pull-ups and momentary button)

6. **Debug / Programming**

- W25Q64JVXGIM 64Mb bootloader

Bootloader microcontroller programmed by PJRC (not publicly available)

R6 (100K pull down) ensured that Boot_Mode0 is low at power up, which selects normal flash booting