

Ingenic Newton

Wearable and IoT devices platform



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JZ4775 + MEMS & ECG sensors + WIFI/BT/NFC/FM
22 x 38 x 3 mm

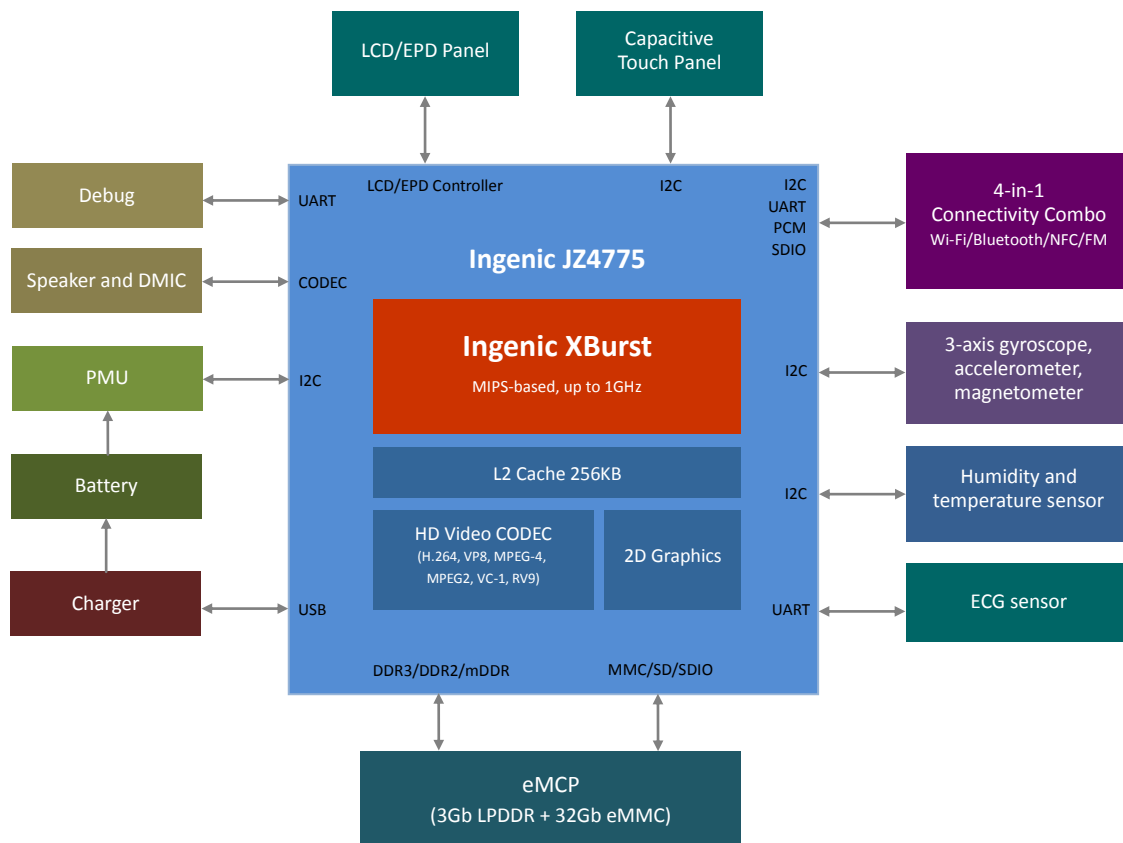


Newton Lite

JZ4775 + MEMS & HR sensors + Bluetooth
16 x 38 x 3 mm

Ingenic Newton is a tiny computer-on-module development platform that is powered by the low power, high performance 1GHz MIPS-based Ingenic JZ4775 SoC that runs Android and Linux. It offers Wi-Fi, Bluetooth, MEMS sensors, together with LCD display and touch screen. The board is designed to provide a highly optimized, best-in-class low power solution for wearable and the Internet of Things devices. In addition, another platform called Newton Lite is provided. The main differences between Newton Lite and Newton are Newton Lite supports Heart-Rate sensor and Bluetooth single connectivity module, while Newton supports ECG sensor, and Wi-Fi+Bluetooth+NFC+FM 4-in-1 combo module. Furthermore, the board dimension of Newton Lite is smaller than Newton.

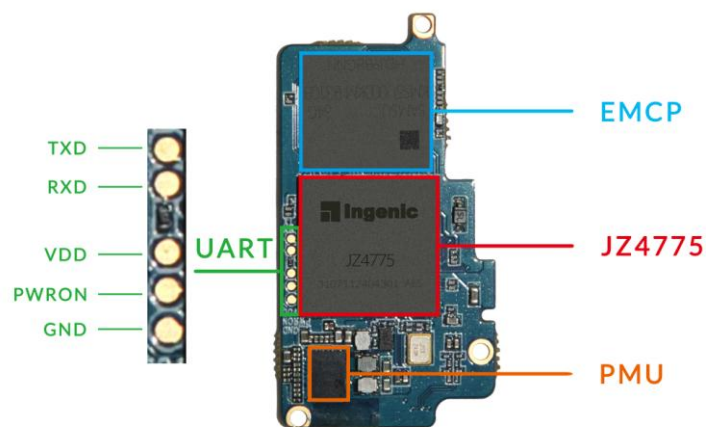
Newton Block Diagram



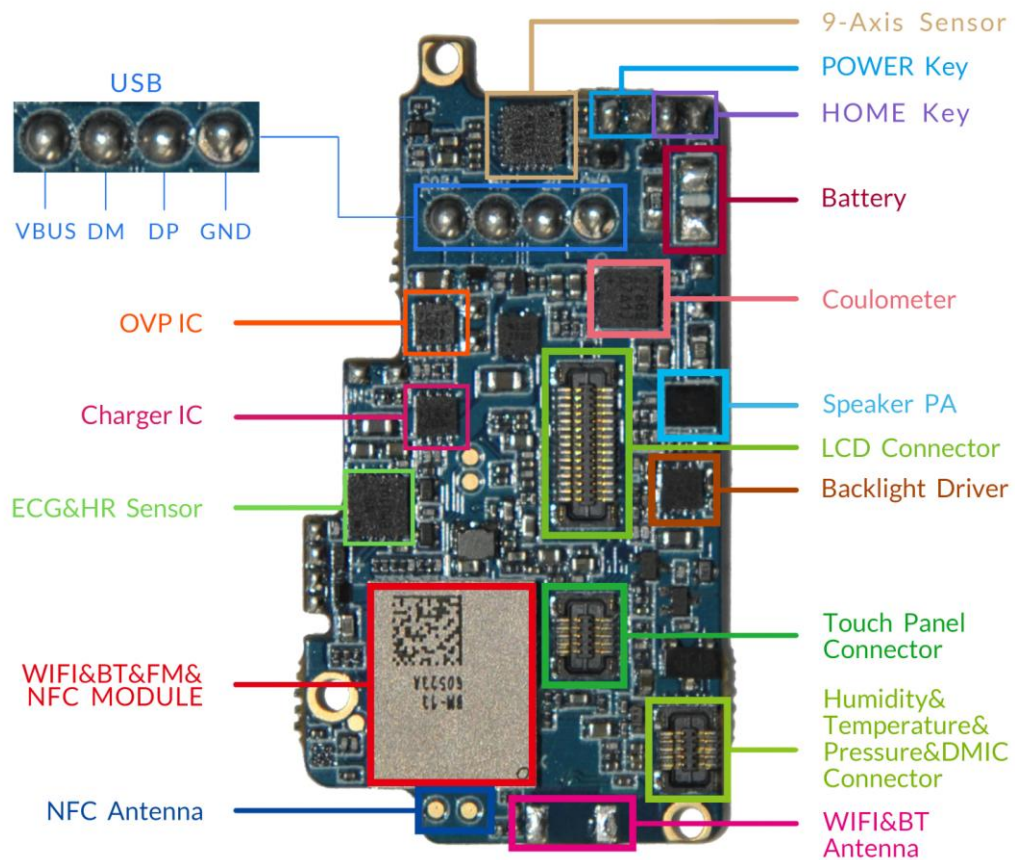
Newton Detailed Specification

- CPU: 1GHz Xburst-based Ingenic JZ4775
- Multimedia:
 - Dedicated 2D graphics engine
 - VPU (MPEG-2, MPEG-4, VC-1, H.264, VP8, RV9), 720p@30fps
- Memory:
 - 256KB L2 cache RAM
 - 3Gb LPDDR1
 - 32 Gb eMMC
- 4-in-1 combo wireless connectivity:
 - WiFi (802.11 a/b/g/n at 2.4/5 GHz)
 - Bluetooth 4.0 + EDR (BLE Compliant)
 - FM
 - NFC
- Display:
 - TFT LCD: 1.6", 240 x 240 resolution, 262K colors, LED backlight
 - E-Ink display (optional): 1.5", 192 x 288 resolution, color display
- Touchscreen: support
- Sensors:
 - 3-axis gyroscope, accelerometer, magnetometer
 - pressure, humidity and temperature
 - ECG sensor (optional)
- Audio: DMIC, speaker
- Power: USB and Battery, with PMU and charger
- Button: POWER and HOME buttons
- Other I/O: USB 2.0, I2C, UART, GPIO, Motor
- Power consumption:
 - < 4mW standby
 - < 100mW MP3 playing
 - < 80mW lowest running
 - < 260mW highest running
- Dimensions: 38 x 22 x 3 mm
- OS supported: Linux 3.0.8, Android 4.3 (Jelly Bean); RTOS

Newton Front Side



Newton Back Side



What is the difference between Newton and Newton Lite?

Newton Lite is the cost-down version of Newton. There are 3 main differences: Newton Lite uses Heart-Rate sensor, Bluetooth single connectivity module, MCP (4GB NAND Flash + 4Gb LPDDR1). While Newton uses ECG sensor, Wi-Fi/Bluetooth/NFC/FM 4-in-1 combo module, and EMCP (32Gb eMMC + 3Gb LPDDR1). Furthermore, the board dimension of Newton Lite is 16 x 38 x 3mm and is smaller than Newton.

Contact with Us

Home page: <http://www.ingenic.cn>

Email: marketing@ingenic.cn

Phone: (86-10)56345028