**Test #1**

Test scenario: 20SPS with FIR Anti-Aliasing [with repetition]

Average 1000 current samples [with repetition]

Average Current Consumption of Entire Board

|  | BLE Sense (M4) | ESP32C3 (RISC-V) | Rasp Pico (M0+) |
| --- | --- | --- | --- |
| FIR Filter (3-tap, 10 pts) | 14.83 mA | 39.63mA | 19.22 mA |
| FFT (8-pt) | 15.07 - 15.10 mA  (hovering on 15.07) | 41.95mA | 19.47 mA |
| LZ4 | 14.80 mA  13.26 mA | 40.51mA  32.60mA | 18.90 mA  16.60 mA |
| SHA-256 |  |  |  |
| NN |  |  |  |

*Todo*

* ~~Platform and CPU performance:~~
  + ~~Subtract baseline (put processor to sleep)~~
* ~~Enable WiFi in .cfg to make sure it is off~~
* ~~Energy/Run: Run N times (ex. 1000)~~
  + ~~Nano count time elapsed~~
  + ~~Energy/Run: x [mA] \* t [sec] / N~~
* ~~Longer FIR Filter~~
* ~~Longer FFT: 512~~
* Characteristic of platform: Clock speed, SRAM, I/D cache, Flash, Sensors/Radios
* BT transmission on first two boards

**Test #2**

Test scenario: 20SPS with FIR Anti-Aliasing

Calibrate with 100 samples

250 steady state samples

Average Current Consumption

| Test | BLE Sense (M4) | ESP32C3 (RISC-V) | Rasp Pico (M0+) |
| --- | --- | --- | --- |
| FIR Filter (10-tap, 64 pts) | 17815 uA | 41101 uA | 22375 uA |
| FFT (32-pt) | 18023 uA | 44008 uA | 22867 uA |
| LZ4 | 18034 uA | 47433 uA | 22745 uA |
| SHA-256 | 16279 uA | 43943 uA | 20915 uA |
| NN | 15889 uA | 40856 uA | 19855 uA |
| Broadcast | 16011 uA | 95254 uA | X |
| Sleep | 14371 uA | 32766 uA | 17439 uA |

**Test #3**

Average time elapsed per run (used 5x100 runs to average)

|  | BLE Sense (M4) | ESP32C3 (RISC-V) | Rasp Pico (M0+) |
| --- | --- | --- | --- |
| FIR Filter (10-tap, 64 pts) | 1106460 ns | 858480 ns | 1150067 ns |
| FFT (16-pt) | 2108084 ns | 1578894 ns | 3312493 ns |
| LZ4 | 2485781 ns | 1117948 ns | 1894388 ns |
| SHA-256 | 103822 ns | 49698 ns | 95417 ns |
| NN | 8593235 ns | 4691812 ns | 6329598 ns |