VISIONECT

CC3135 consumption

Comparing FWs and WiFi APs

Mar 22, 2022

Hardware

Visionect

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Content

Document scope

This document summarizes CC3135 current consumption measurements of various setups and firmware versions.

Testing environment and setup

Two BOOSTXL-CC3135 boards:

- Latest CC3135 service pack (used on the Visionect field devices):
NWP 4.12.0.1
MAC 3.7.0.1
PHY 3.1.0.26
ChipId 823132160
ROM 8738

- Older CC3135 service pack, used as a reference:
NWP v4.1.0.27
MAC 31.3.1.0.5
PHY 3.1.0.17
ChipId 823132160
ROM 8738

Two WiFi APs:
- Anatel UniFi U6-Lite
- Linksys EA6900

Two host firmware devices::
- Host firmware version 3254 (Nov 17, 2020)
- Host firmware version 3736 (Mar 22, 2022)

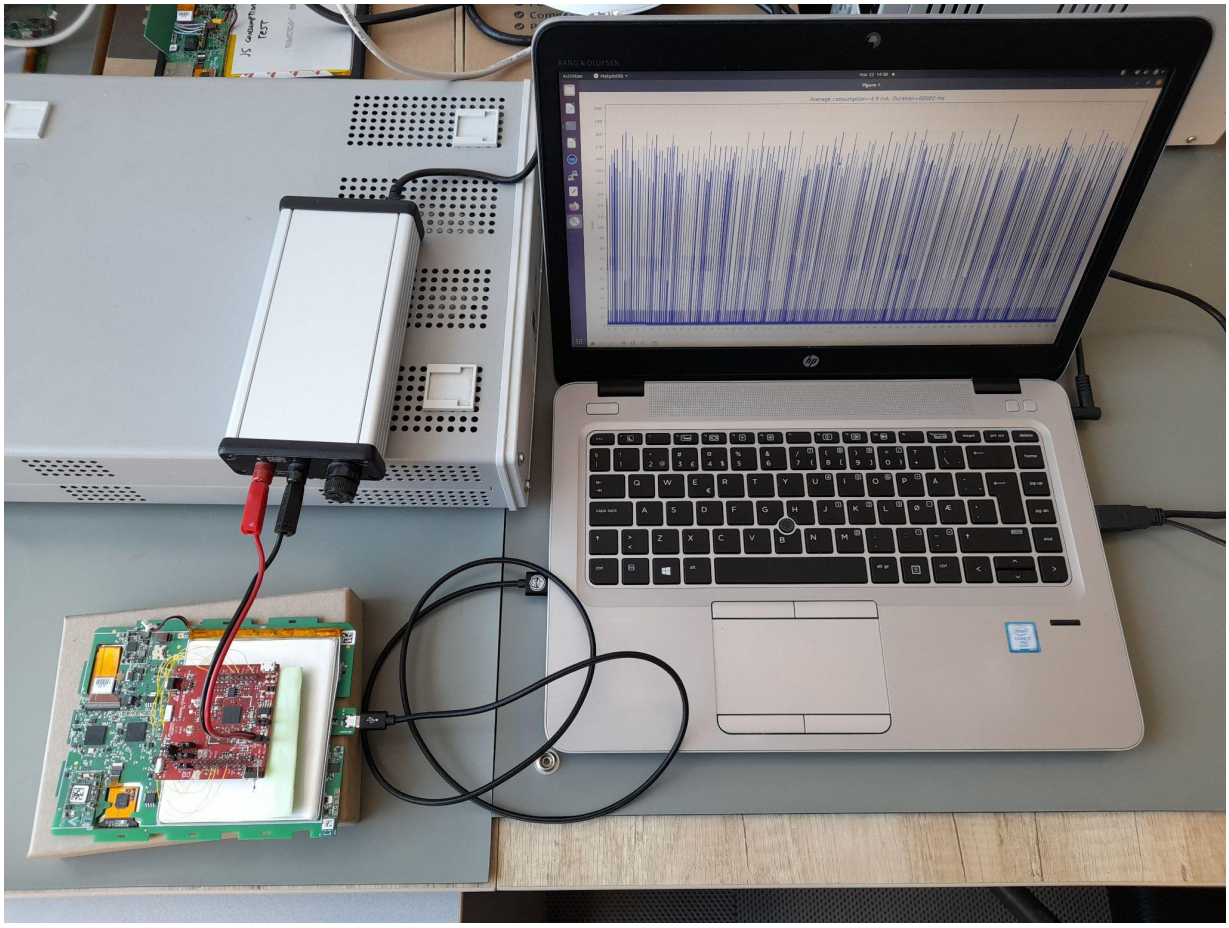
DTIM set to 300. Device is in associated mode.

Current consumption is measured via J8 jumper on the BOOSTXL-CC3135.

All measurements were taken on Mar 22, 2022.
In order to eliminate any regression issues within host device firmware, we performed additional reference measurements using also our 1.5 year old host device firmware version.

Main setup components:

Measuring setup:



Results summary

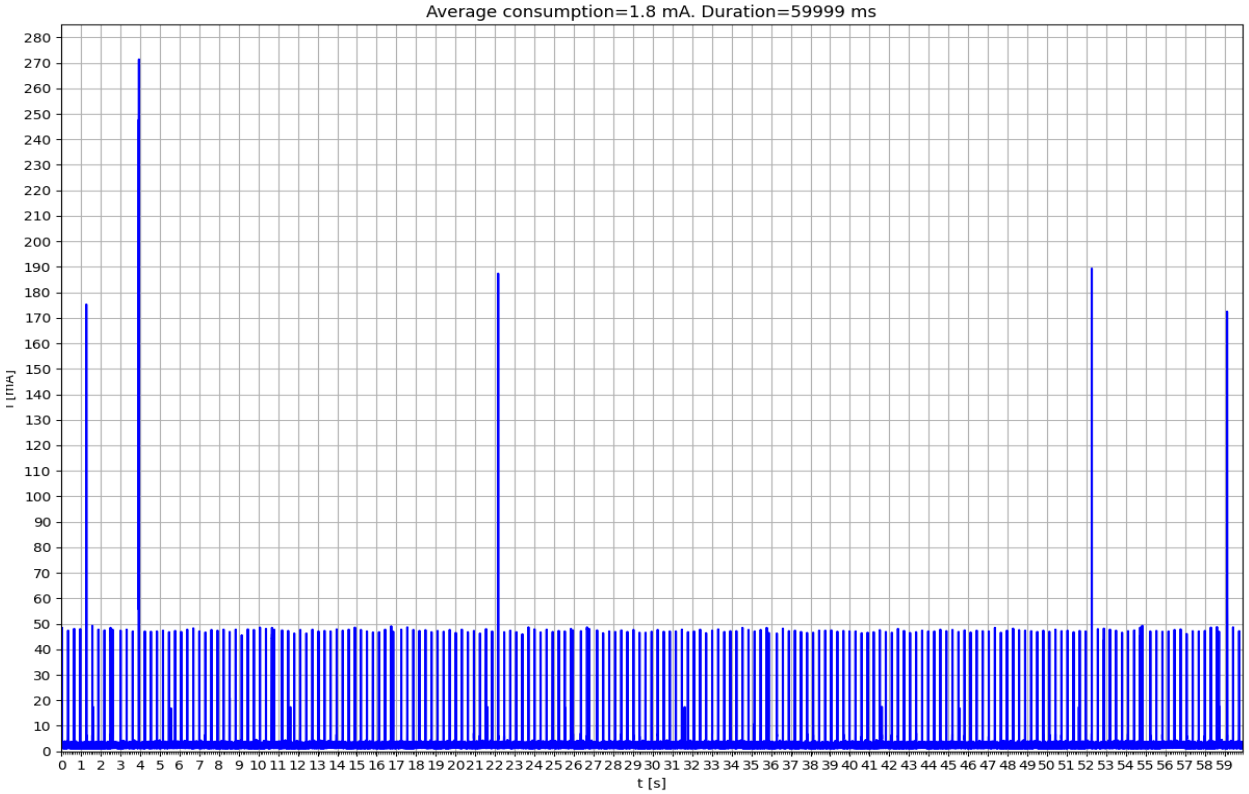
Average current consumption, associated mode:

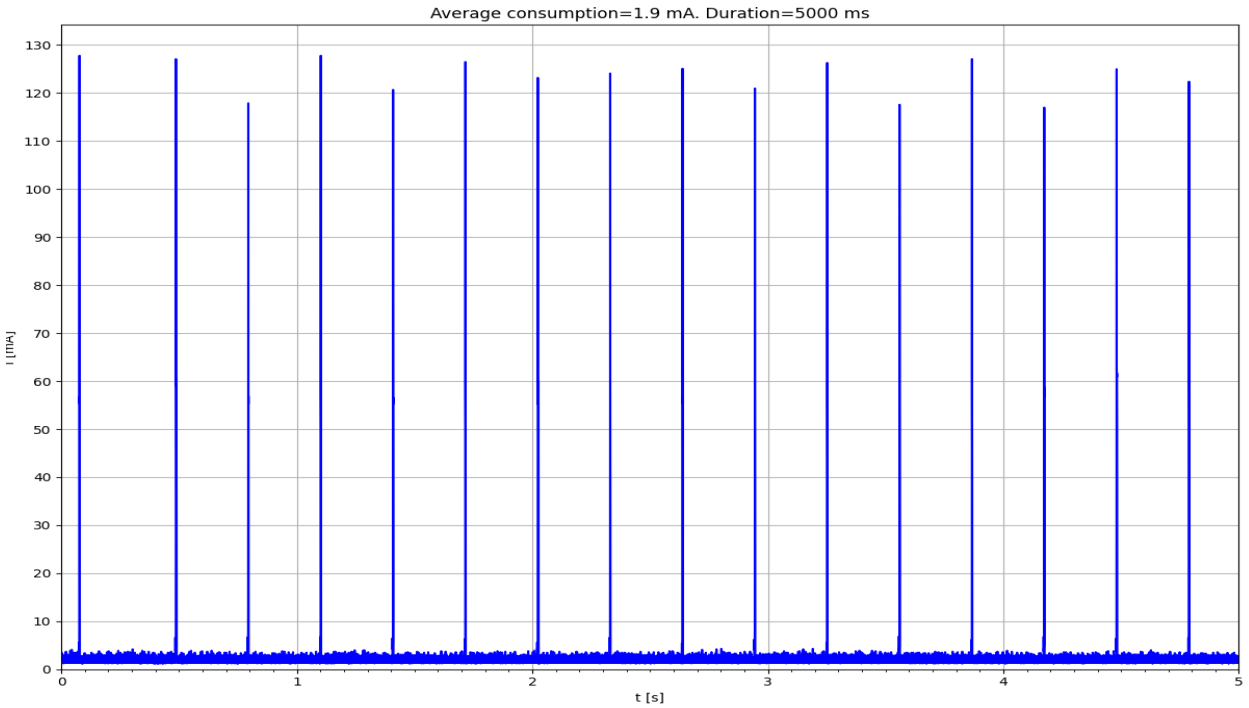
CC3135 Service pack	Host firmware version	AP		
		Linksys @2.4 GHz	UniFi @2.4 GHz	Linksys @5GHz
Latest	0.0.3254	1.8 mA	4.9 mA	1.9 mA
Latest	0.0.3736	1.9 mA	4.9 mA	1.9 mA
Older	0.0.3254	0.7 mA	3.0 mA	0.7 mA
Older	0.0.3736	0.7 mA	3.1 mA	0.8 mA

Results show that CC3135 service pack has a significant impact on the current consumption. The measurements pointed out that the latest CC3135 service pack consumes higher current (**1.9 mA** on UniFi and **1.2 mA** on Linksys AP) compared to the older service pack. Furthermore there is a significant difference in current consumption between Linksys and the Unifi access point (**3 mA** with the new service pack and **2.3 mA** with the old service pack).

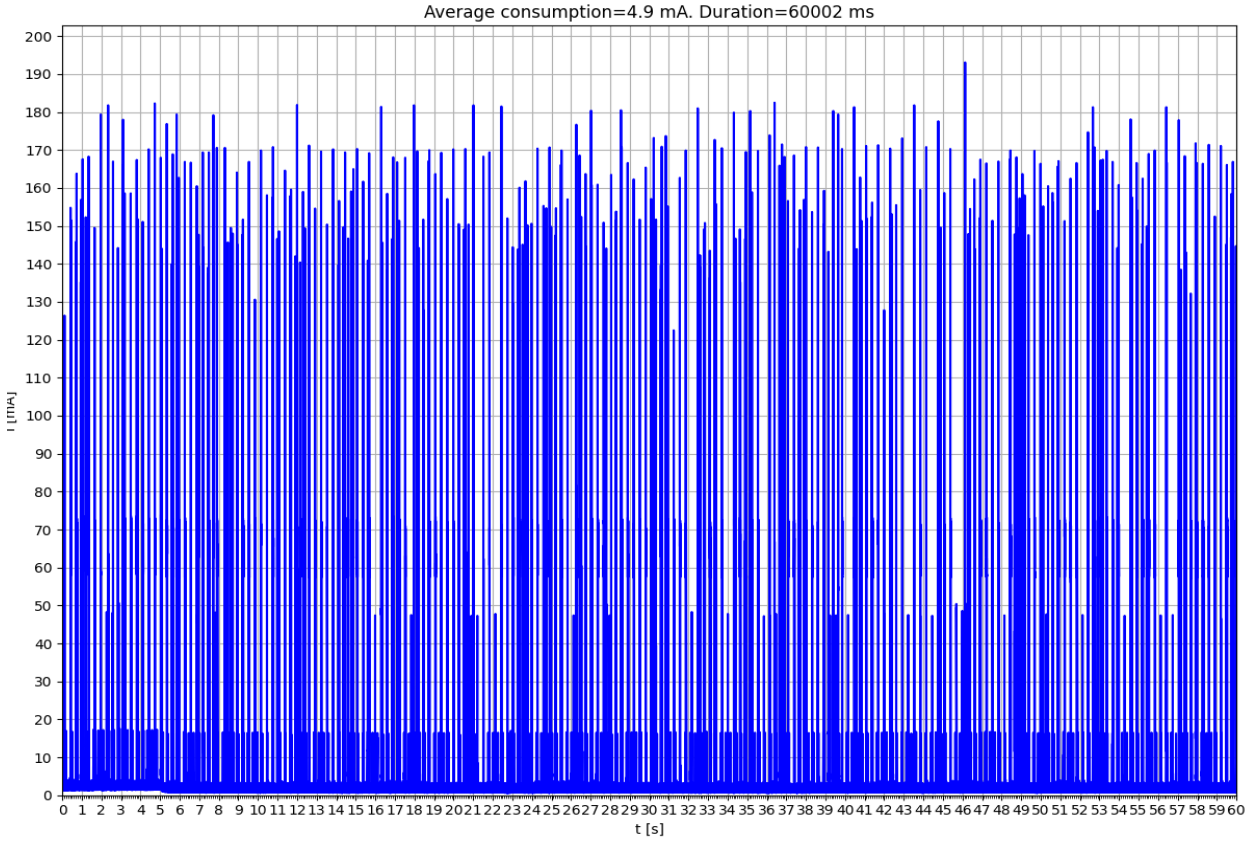
1. CC3135 with latest service pack, host device FW 0.0.3254

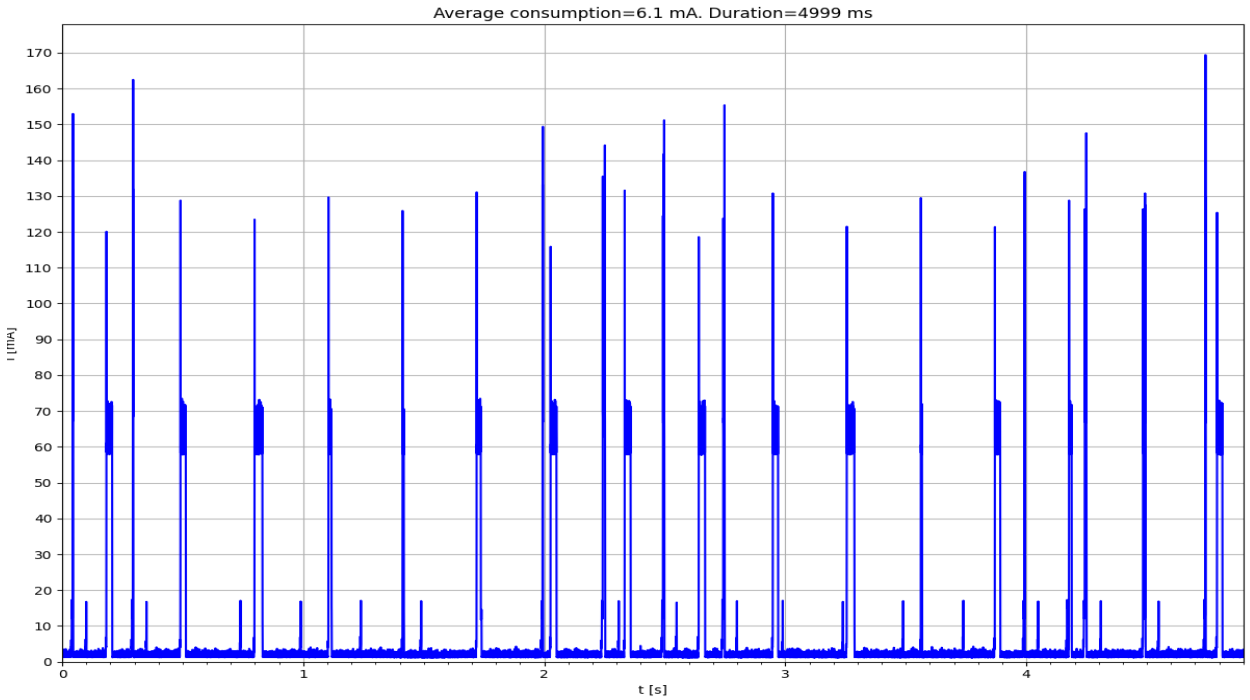
a. Linksys @2.4 GHz



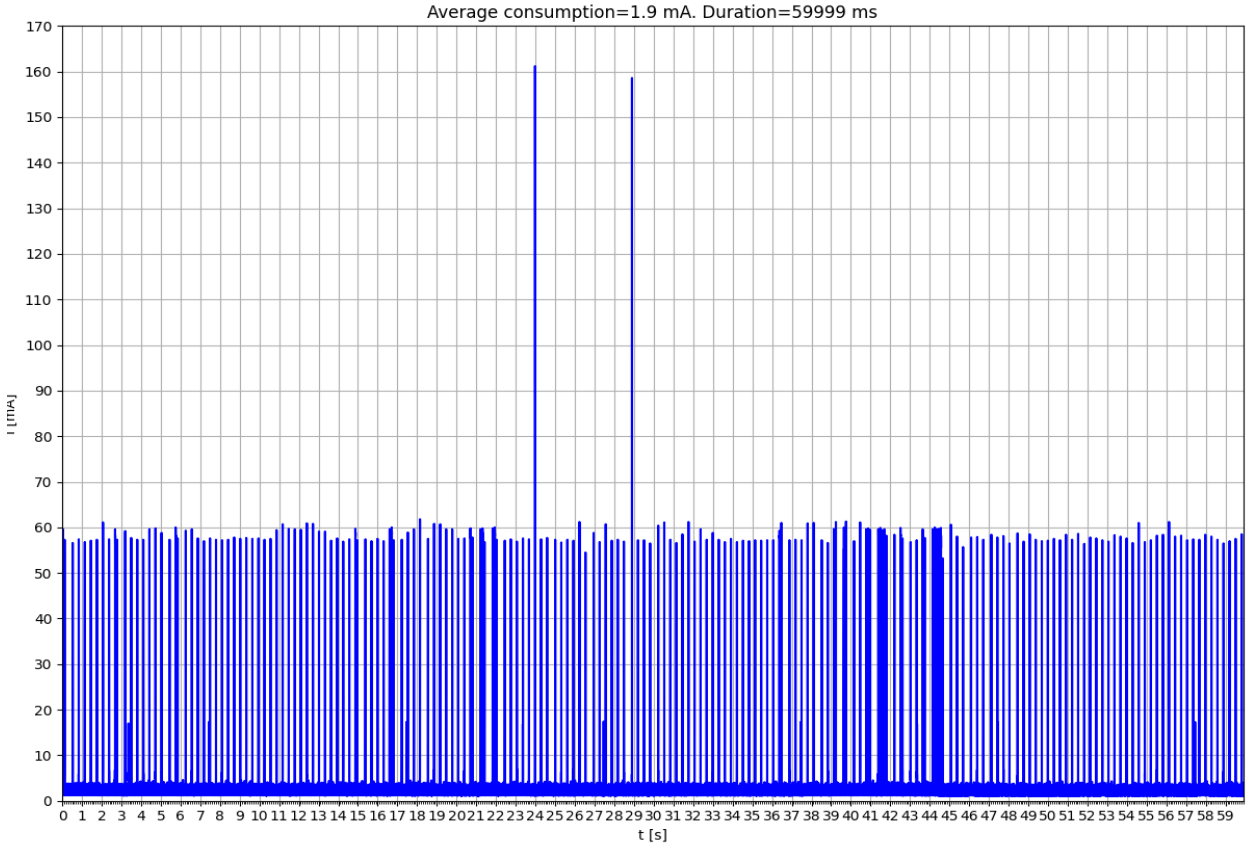


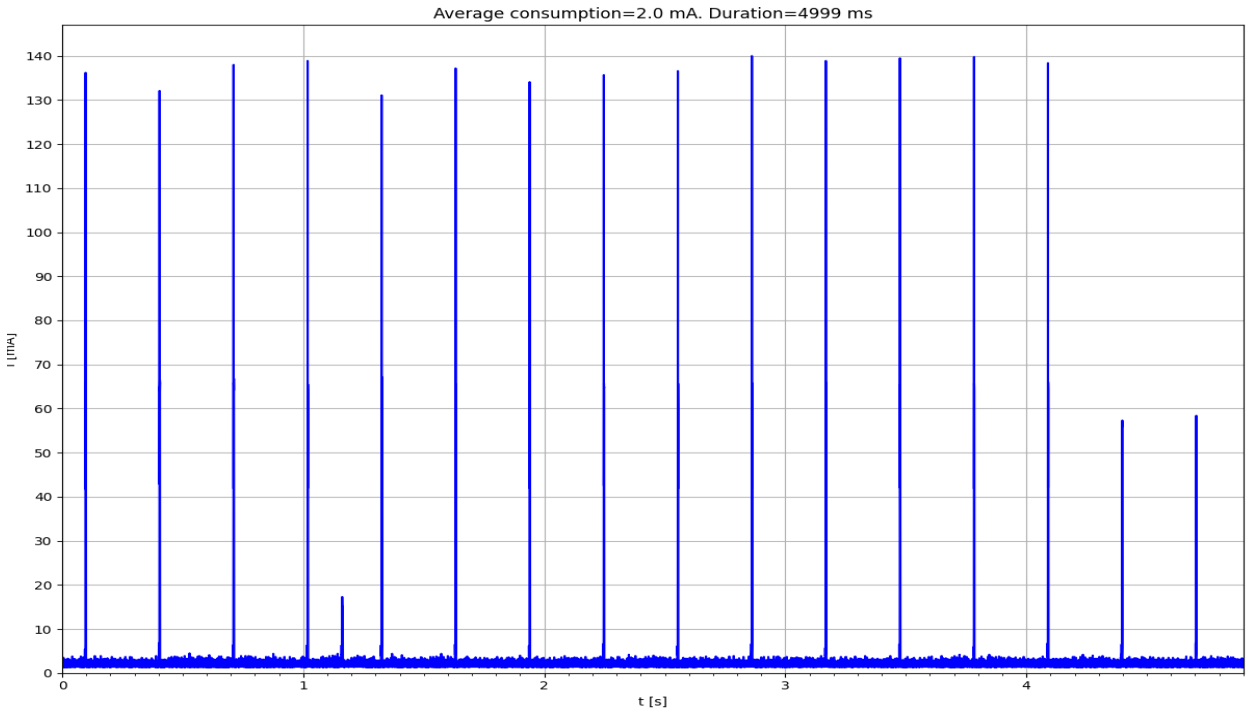
b. UniFi @2.4 GHz





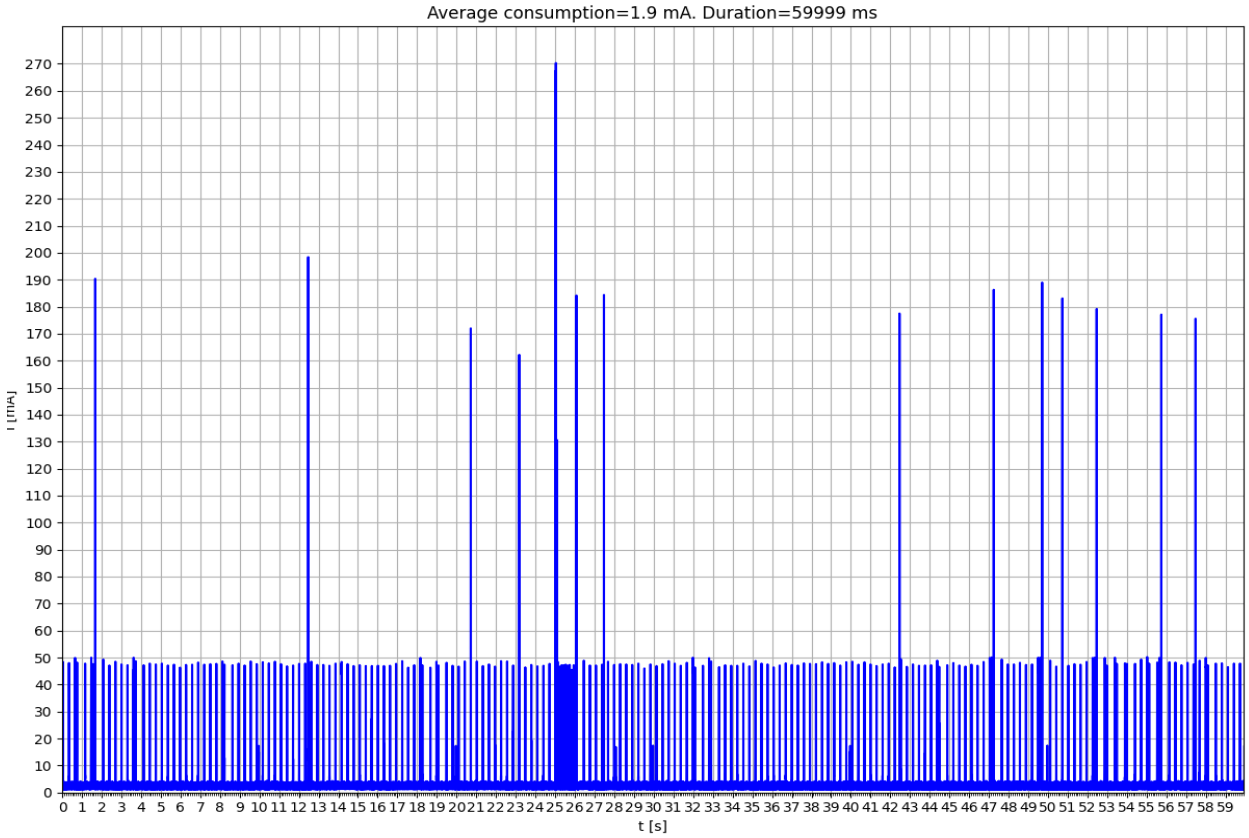
c. Linksys @5 GHz

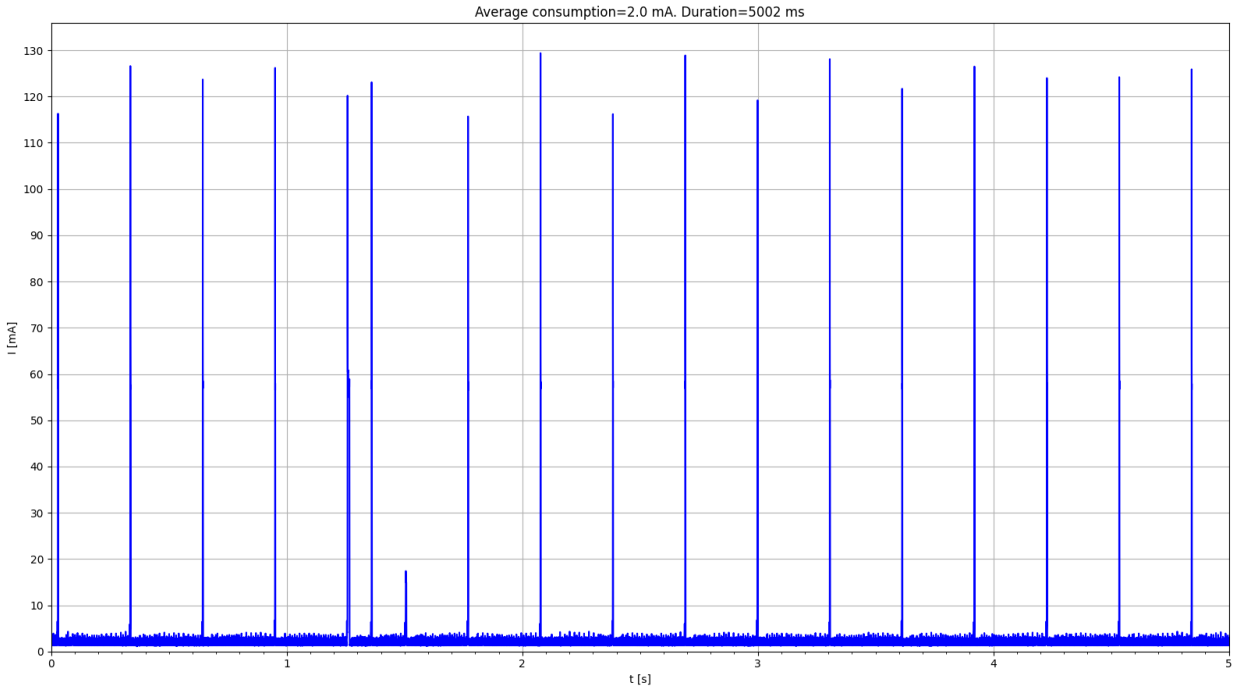




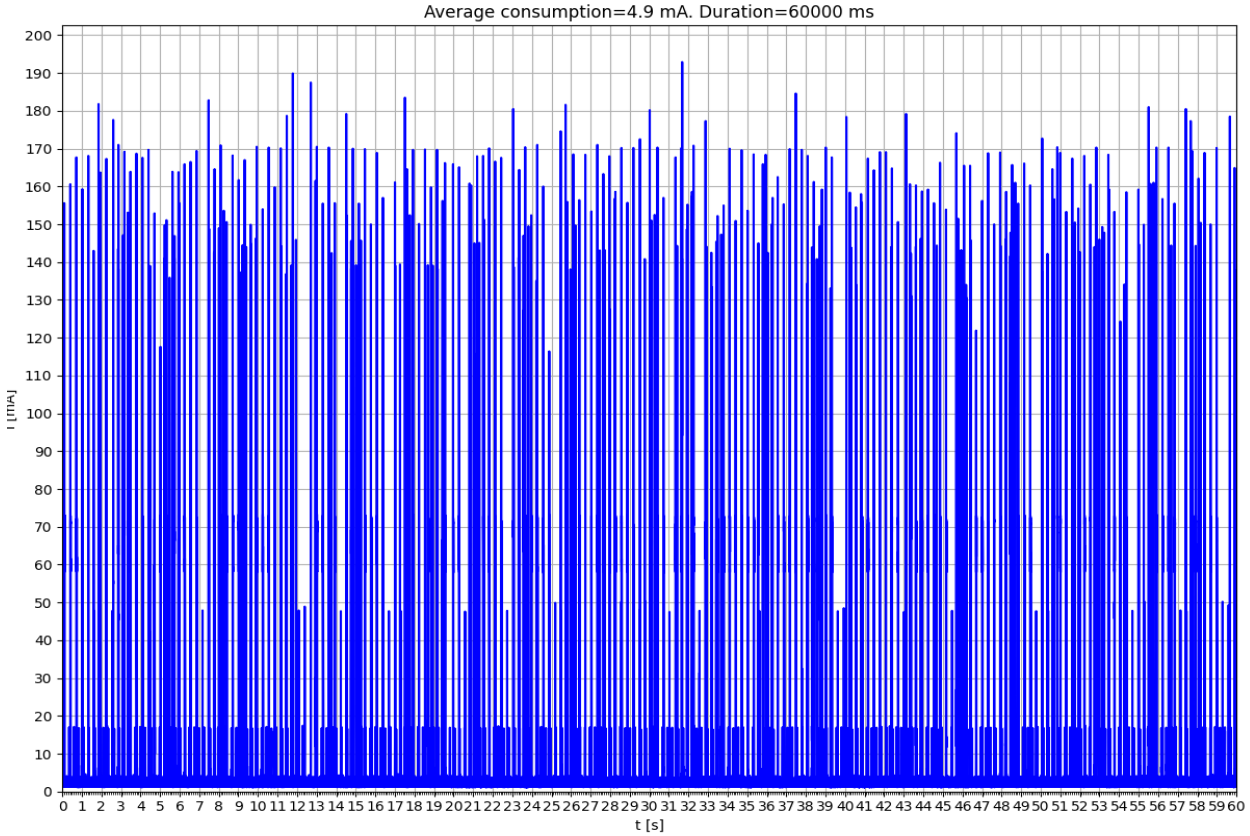
2. CC3135 with latest service pack, host device FW 0.0.3736

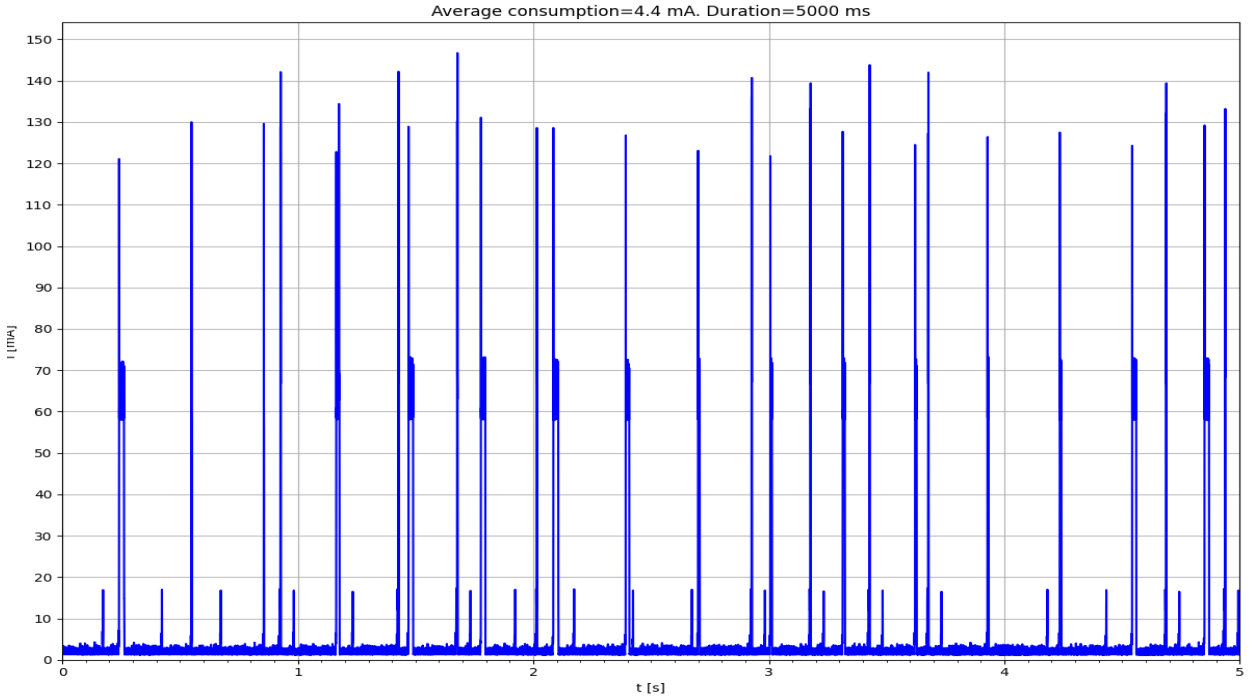
a. Linksys @2.4 GHz



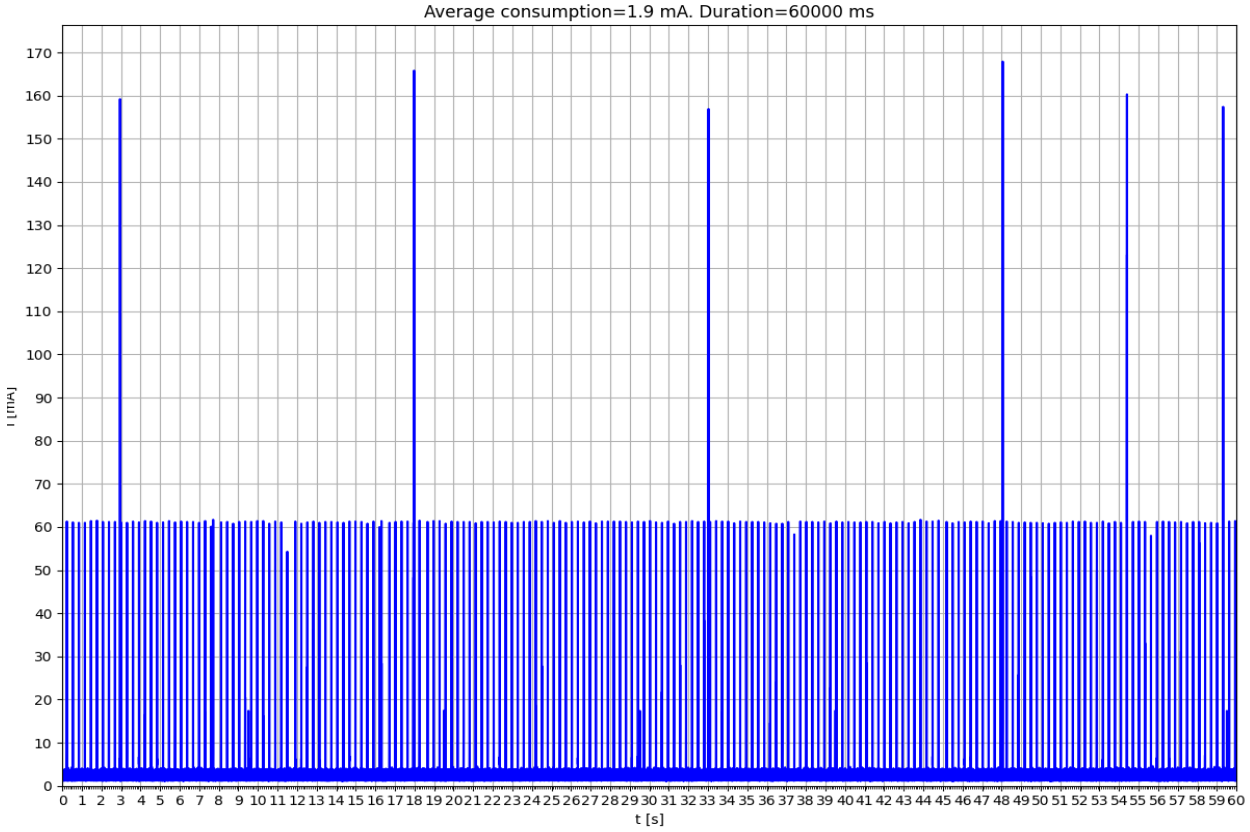


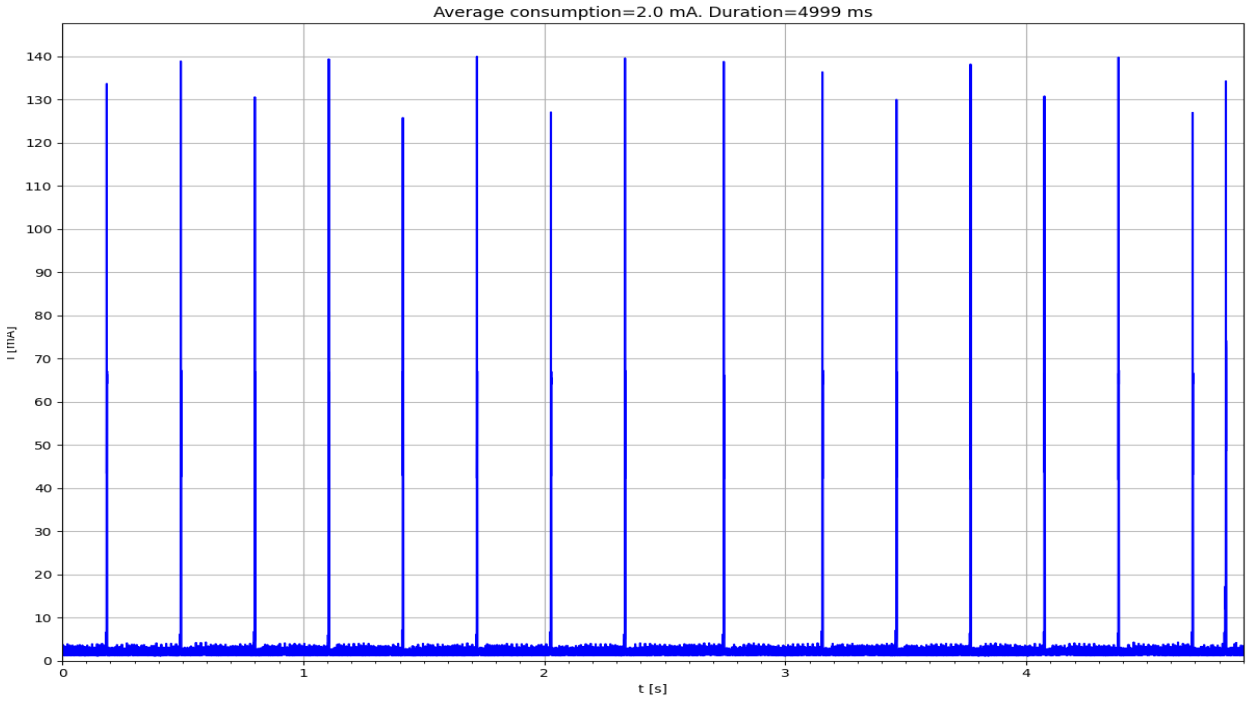
b. UniFi @2.4 GHz





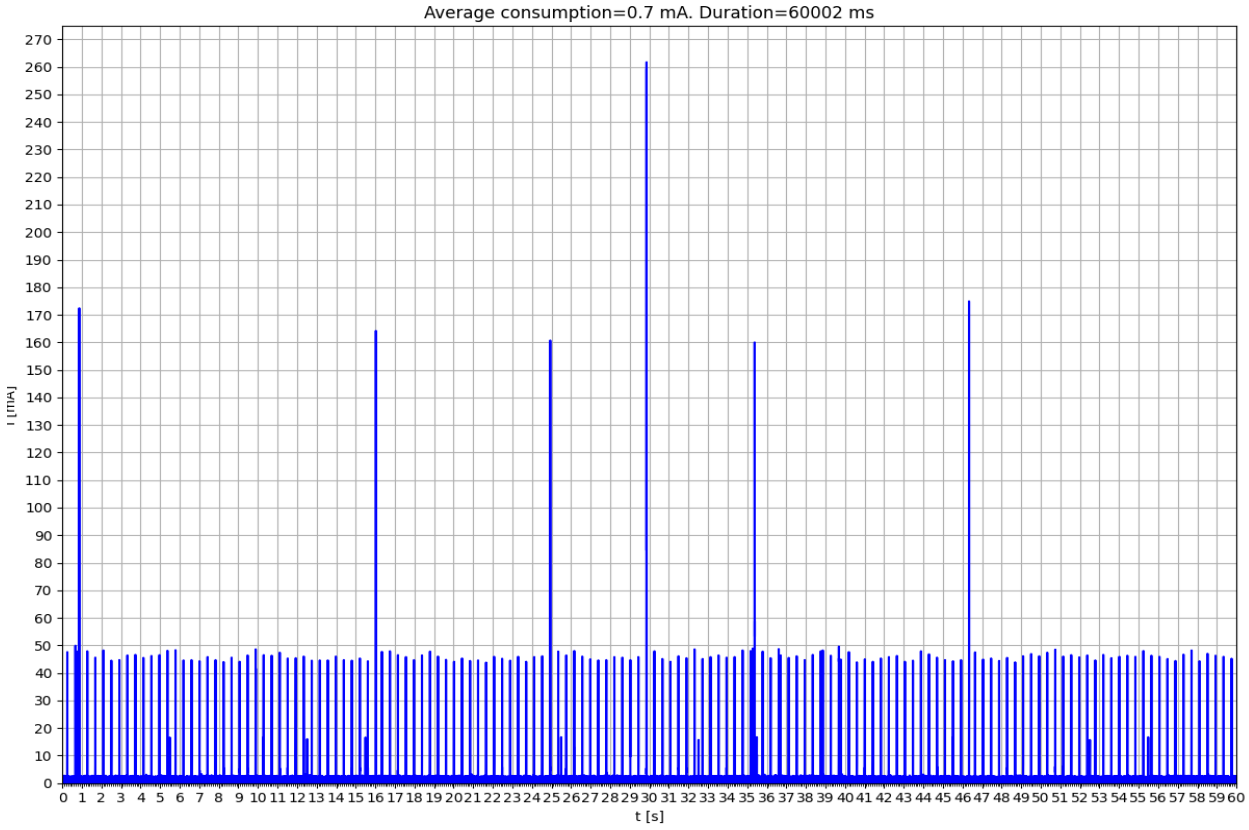
c. Linksys @5 GHz

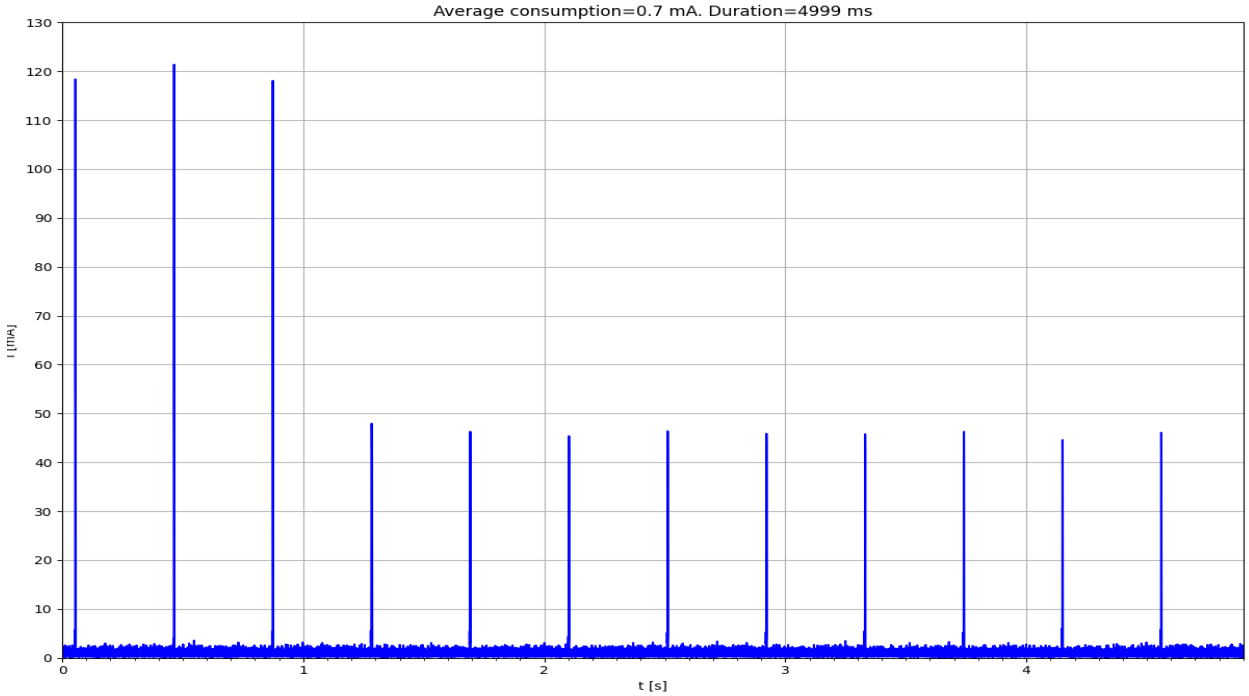




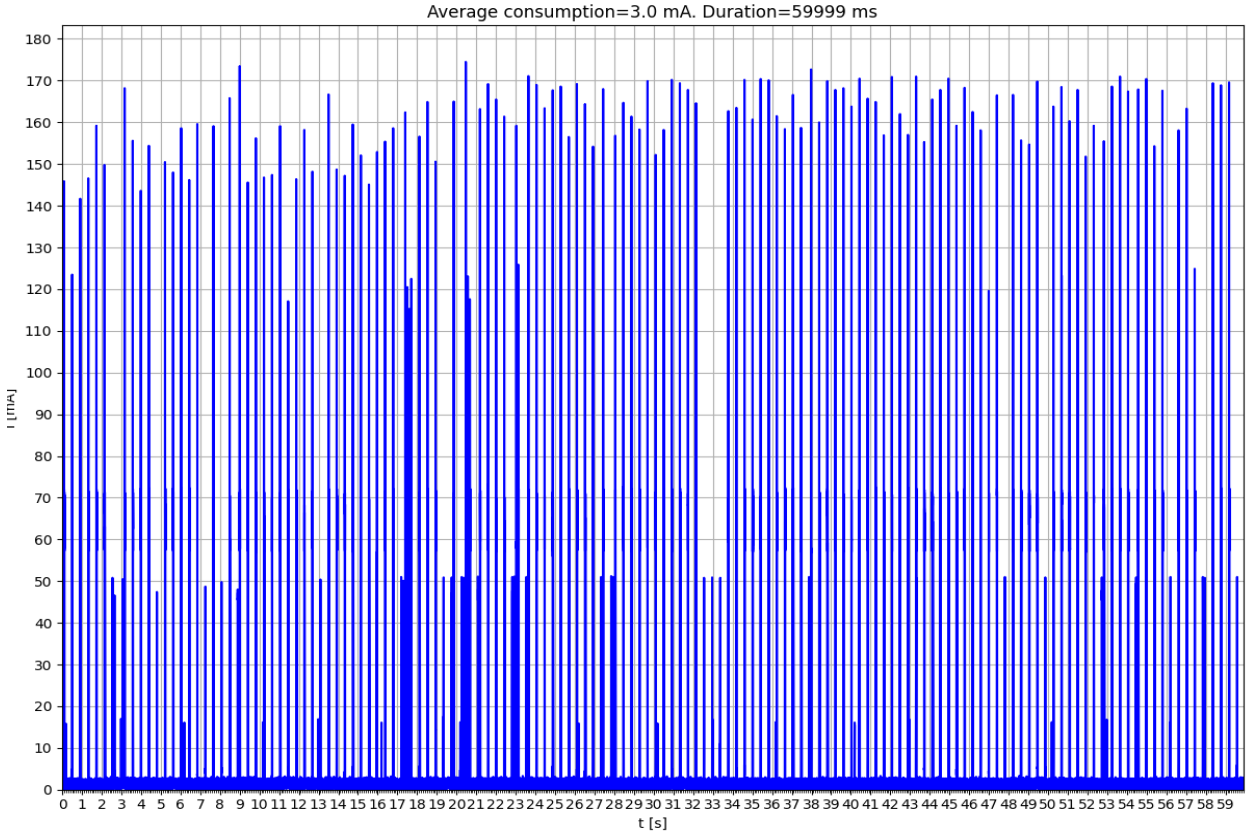
3. CC3135 with older service pack, host device FW 0.0.3254

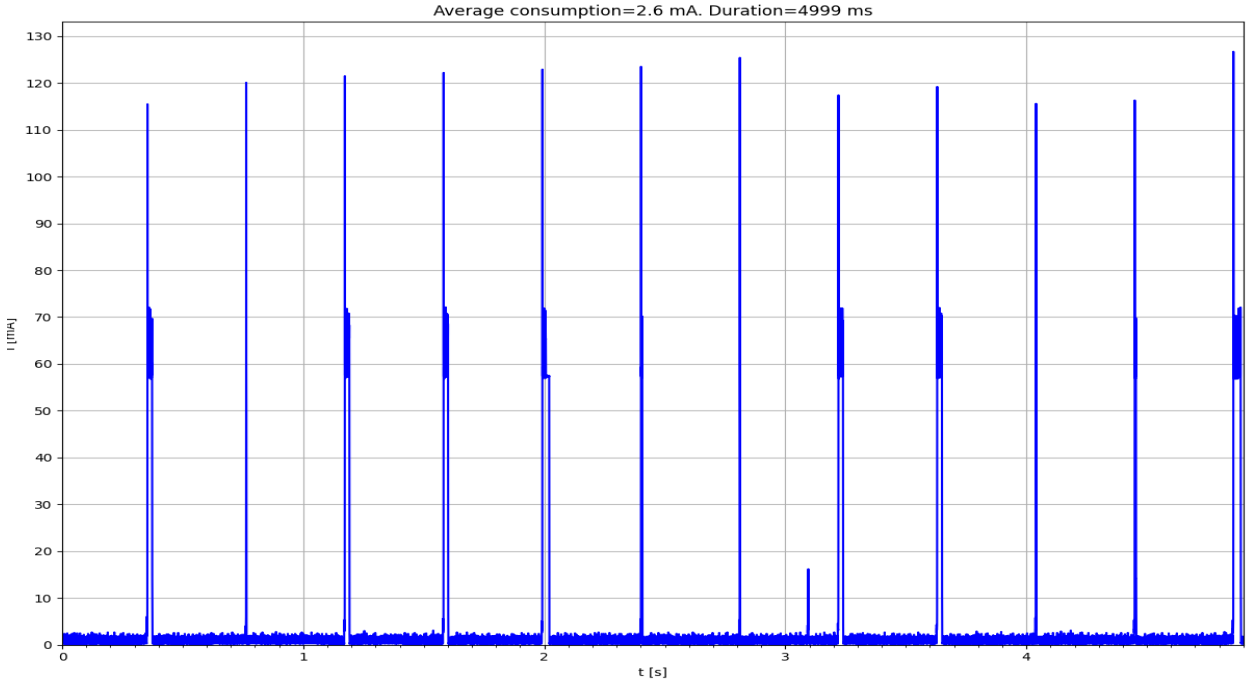
a. Linksys @2.4 GHz



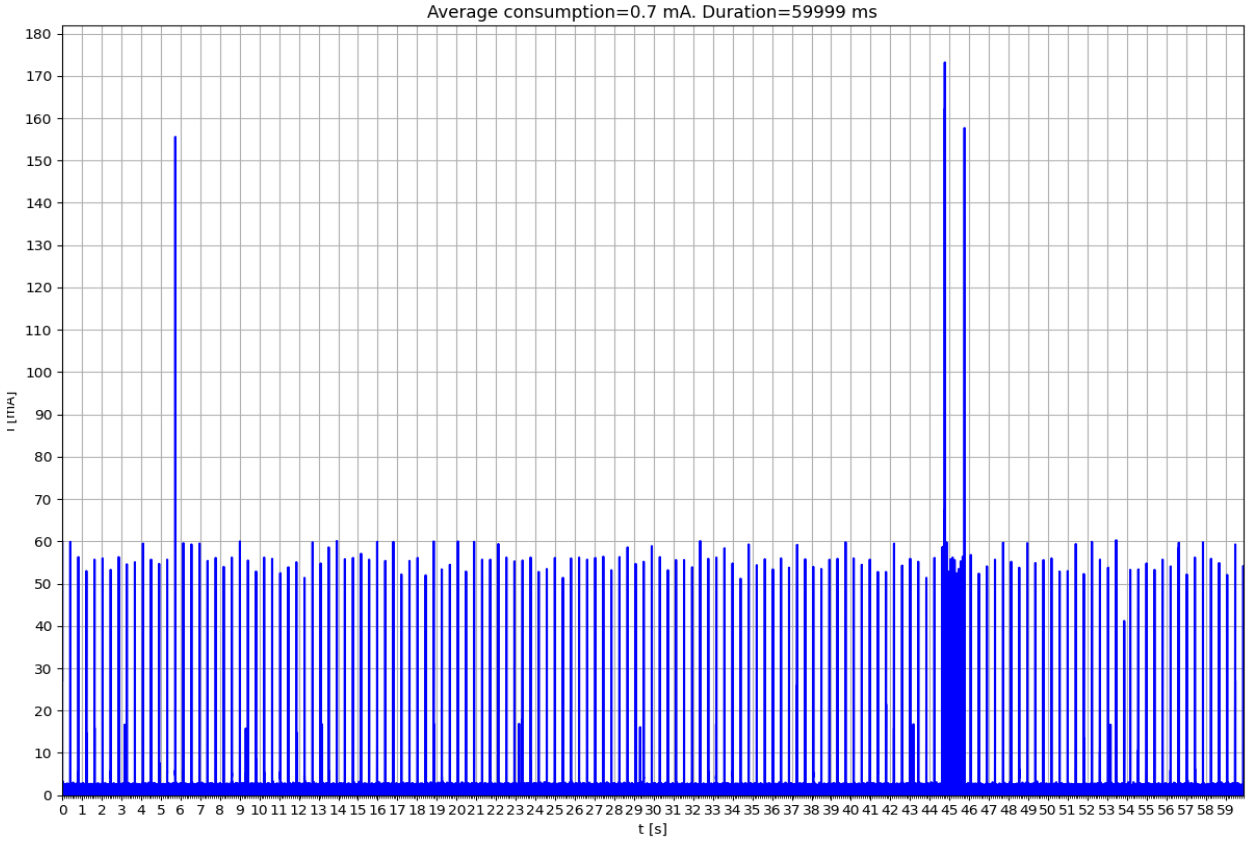


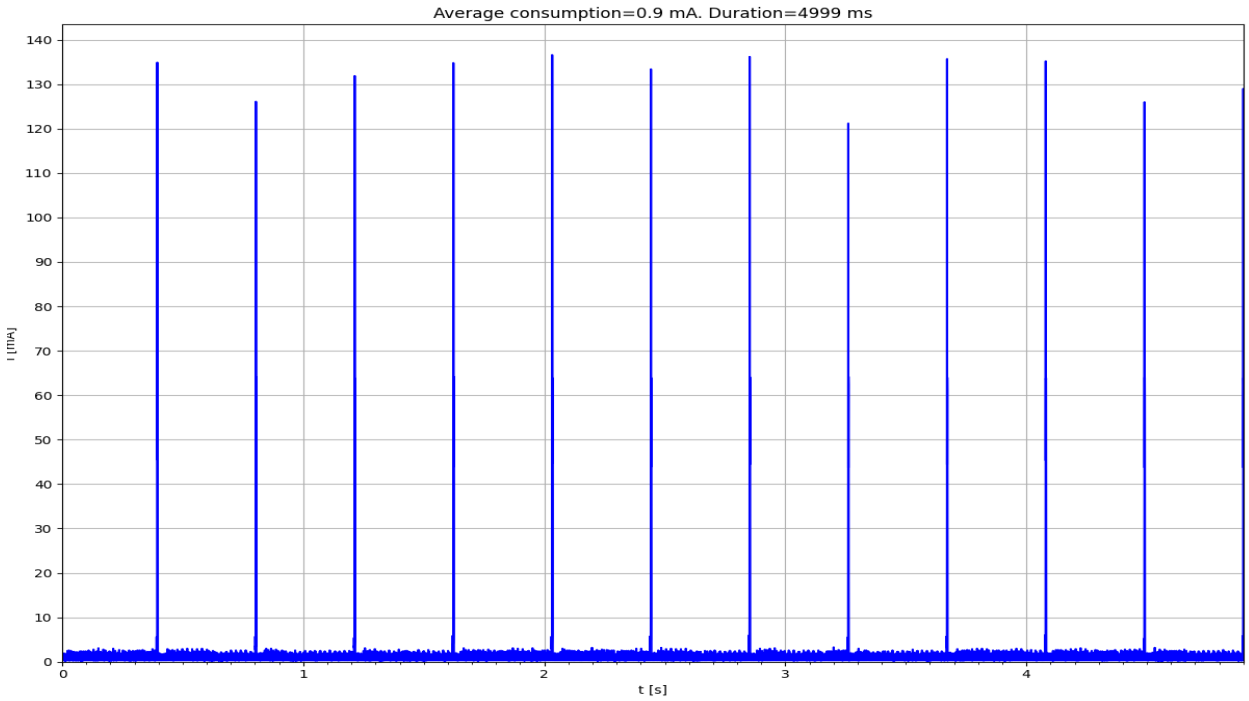
b. UniFi @2.4 GHz





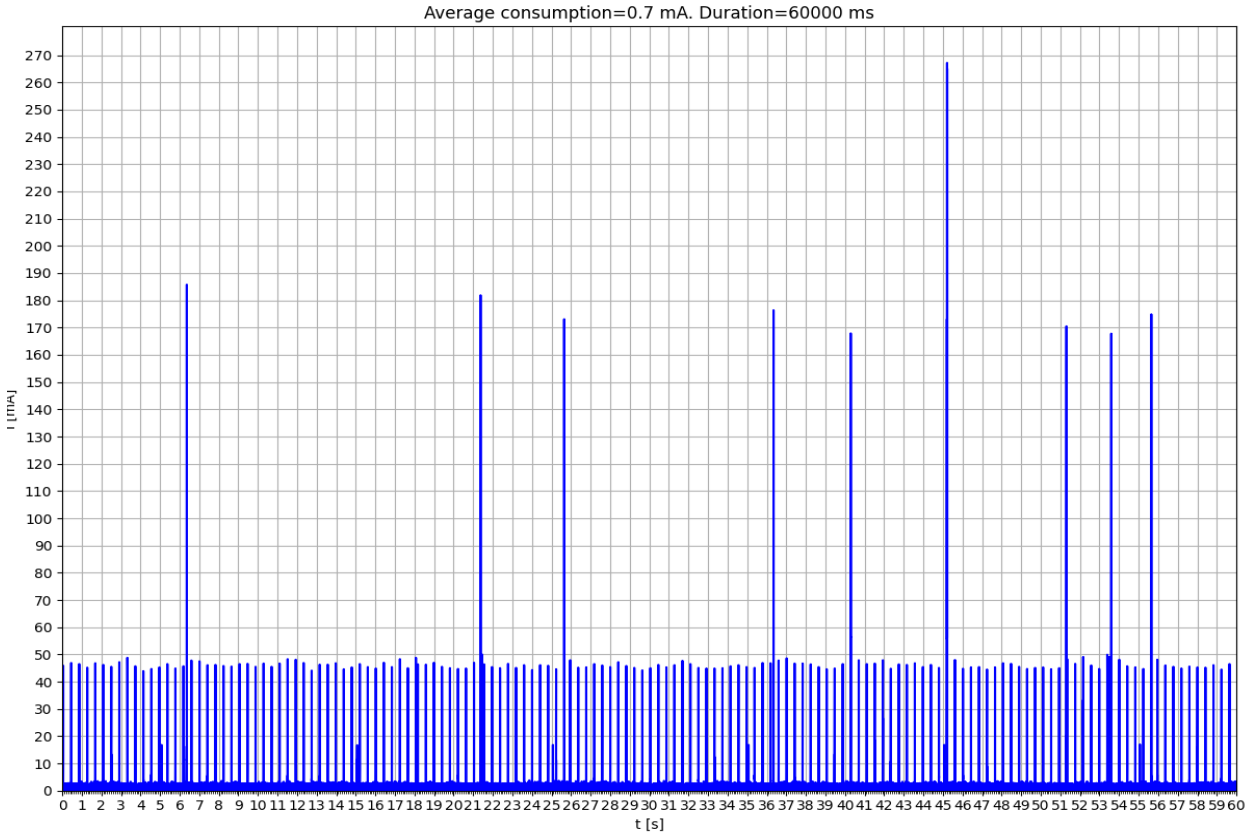
c. Linksys @5 GHz

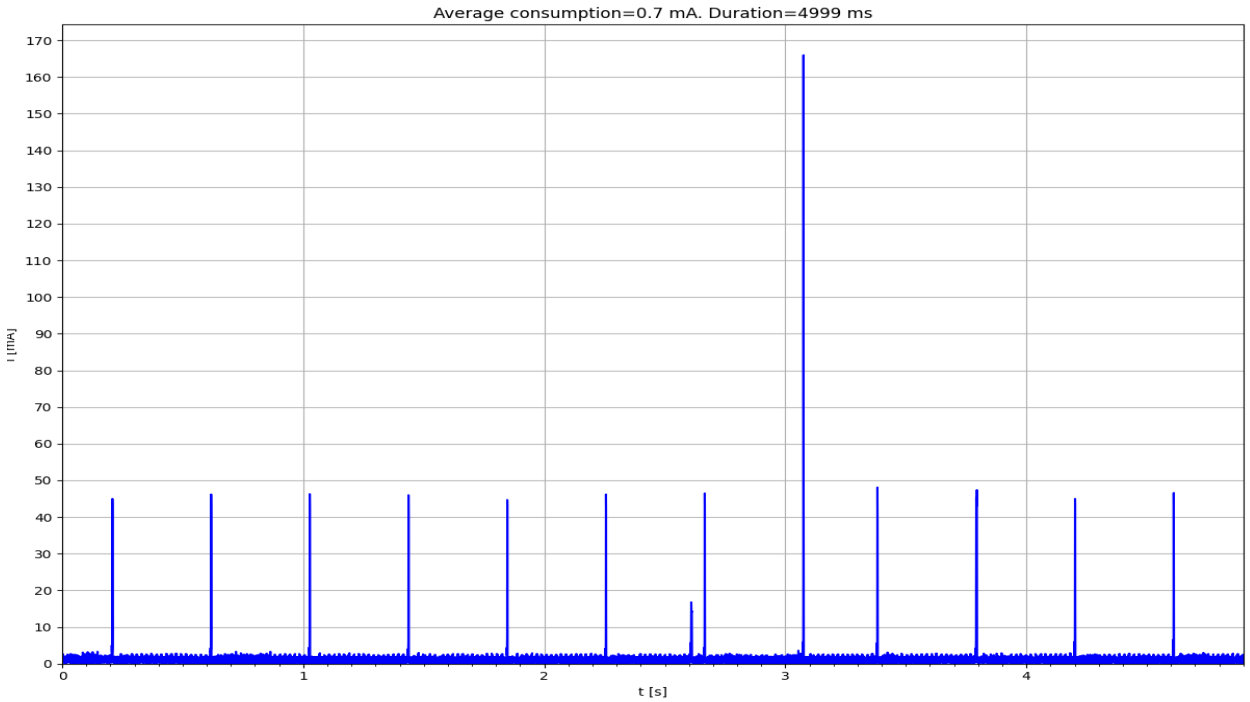




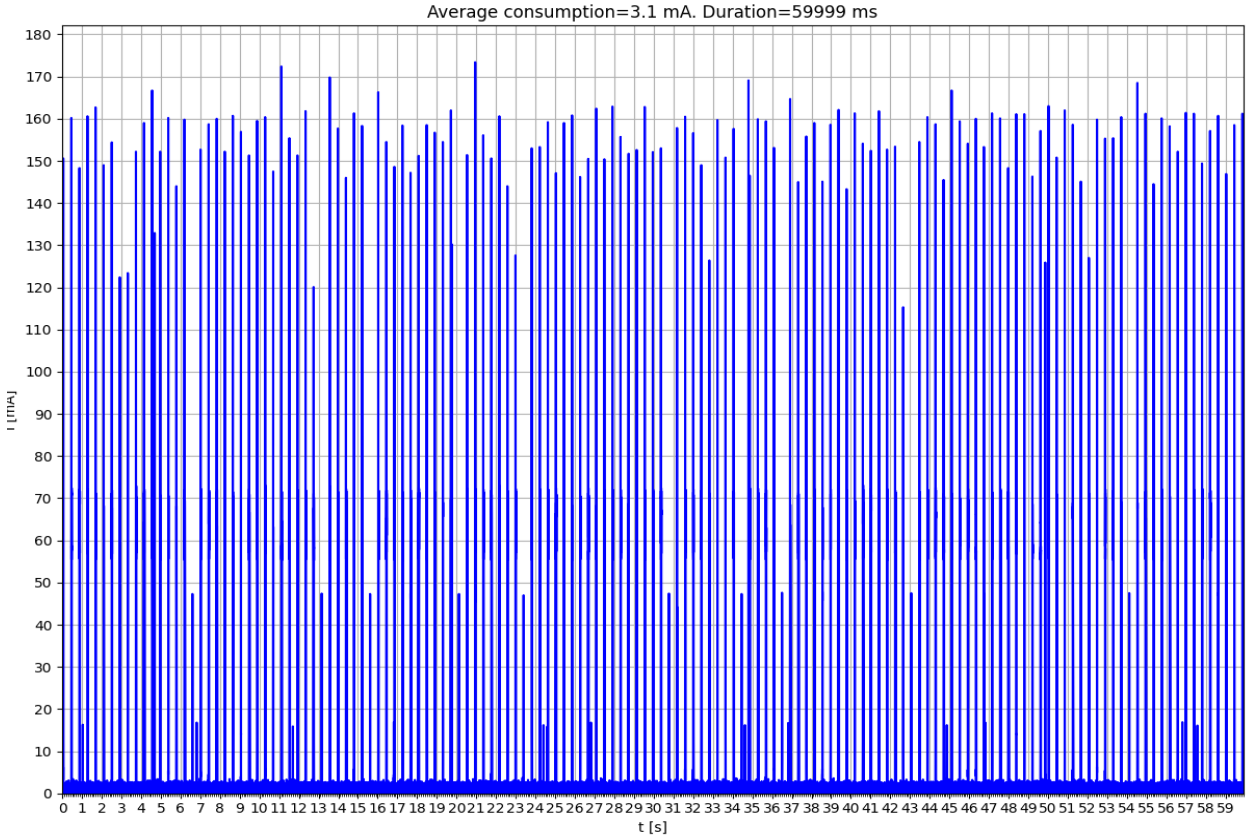
4. CC3135 with older service pack, host device FW 0.0.3736

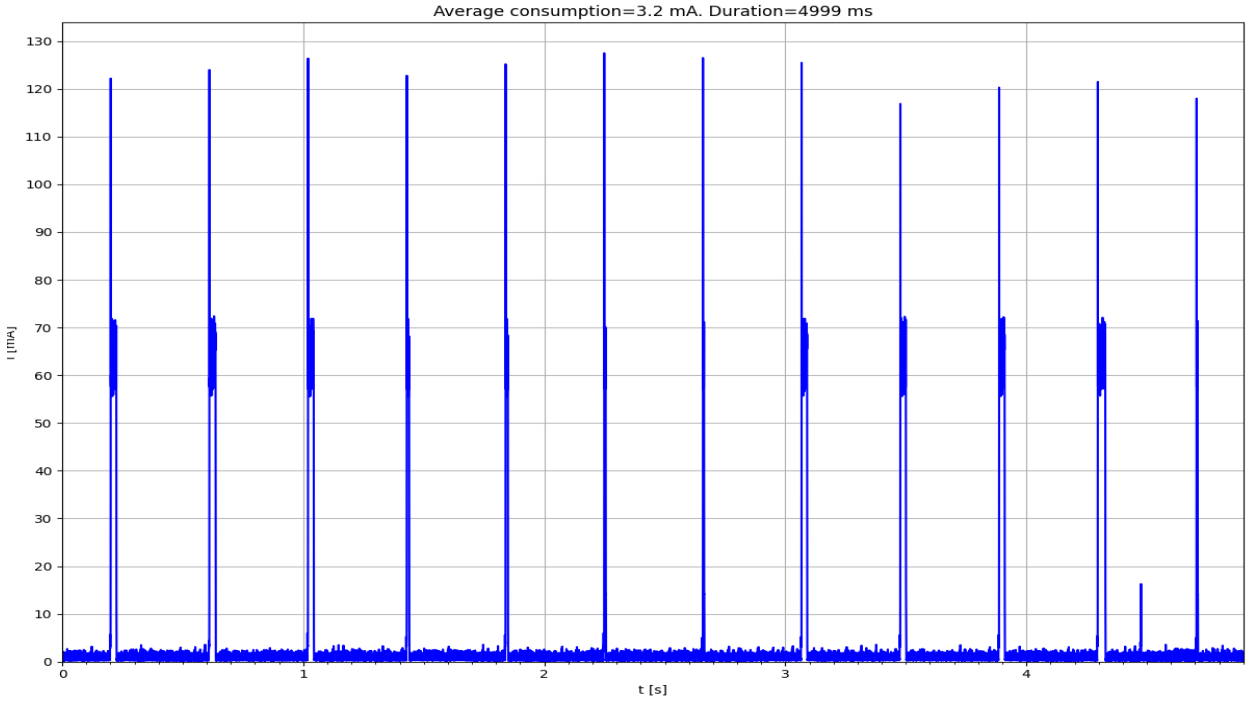
a. Linksys @2.4 GHz





b. UniFi @2.4 GHz





c. Linksys @5 GHz