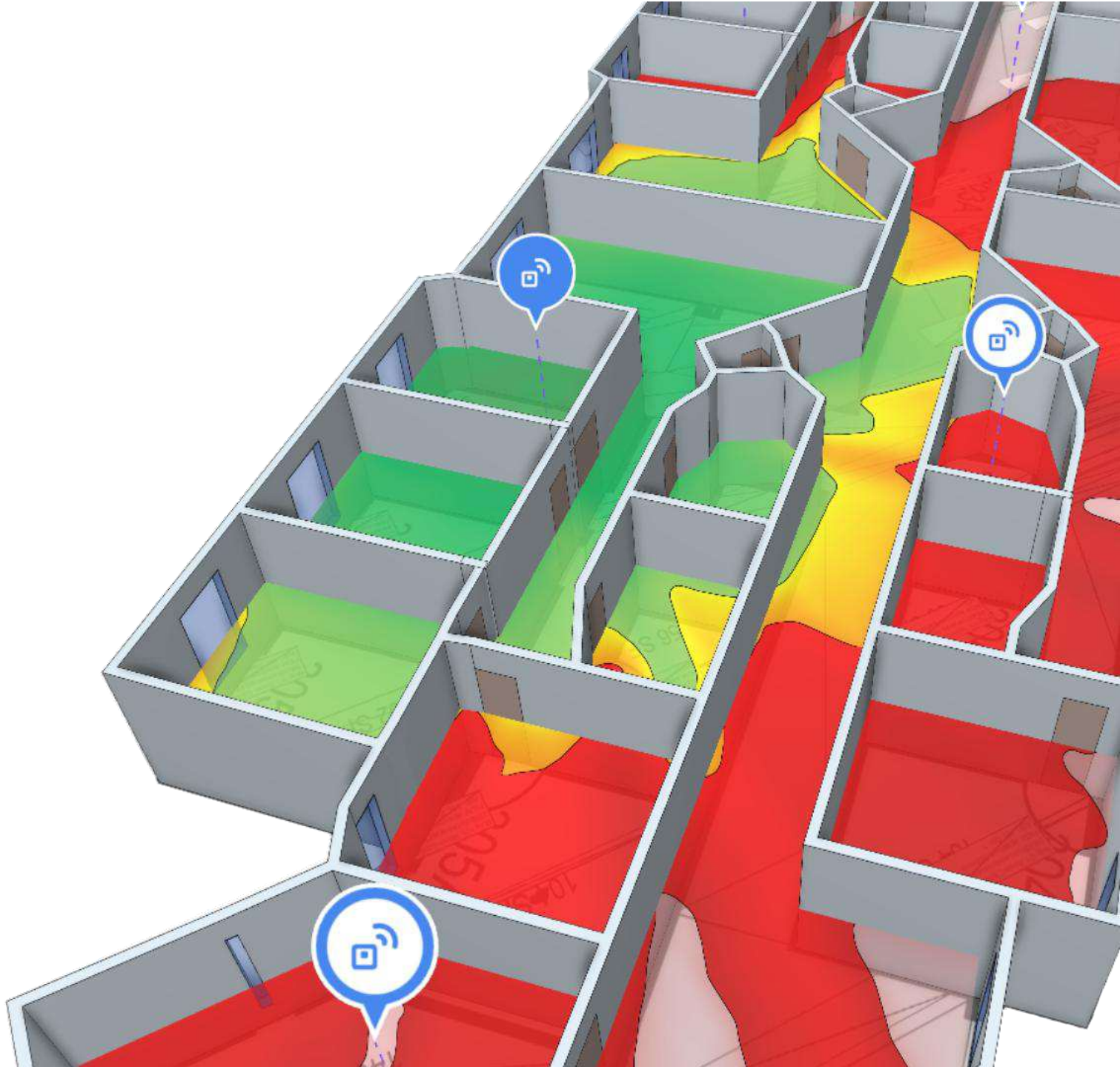
Hamina

bdc Official Hamina Partner

Mikrotik Live

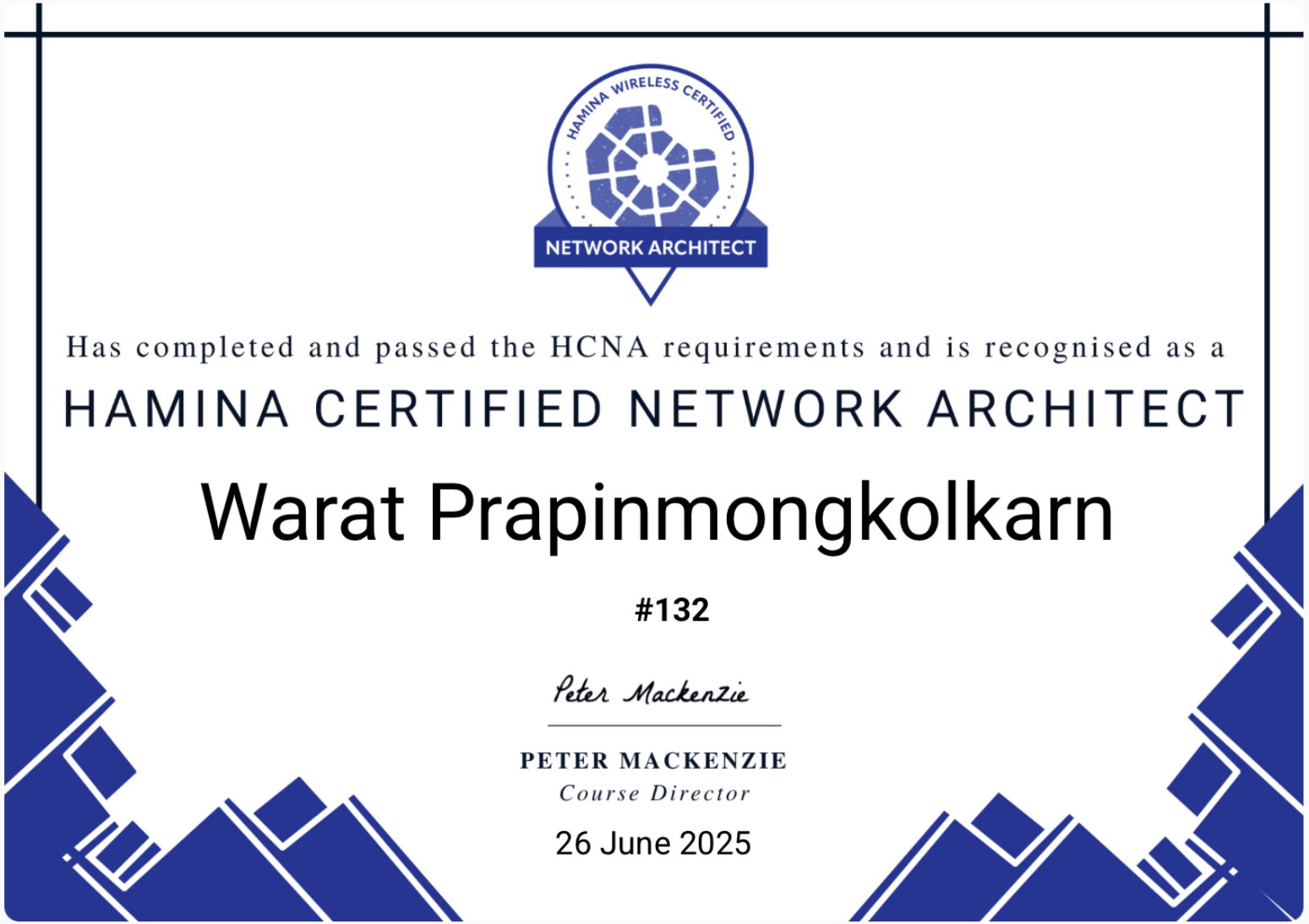
22 July 2025



Warat Prapinmongkolkarn

- 18 years in Telecommunication Industry
- Fluke Network CCTT (Copper & Fiber Test) in 2022
- CWNP : CWISA, CWNA, CWDP, CWSP, CWAP in 2025
- Hamina Certified Network Architect in 2025

Hamina Certified Network Architect



Bad WiFi Design

- Insufficient coverage
- Insufficient capacity
- Lack of scalability
- Lack of required functionality
- Using the wrong equipment

“Cookie-Cutter” Design

It worked for the last location, so it will be fine here

- Missed interferers
- Increase in labor and hardware costs
- Poor performance

Design with No Design

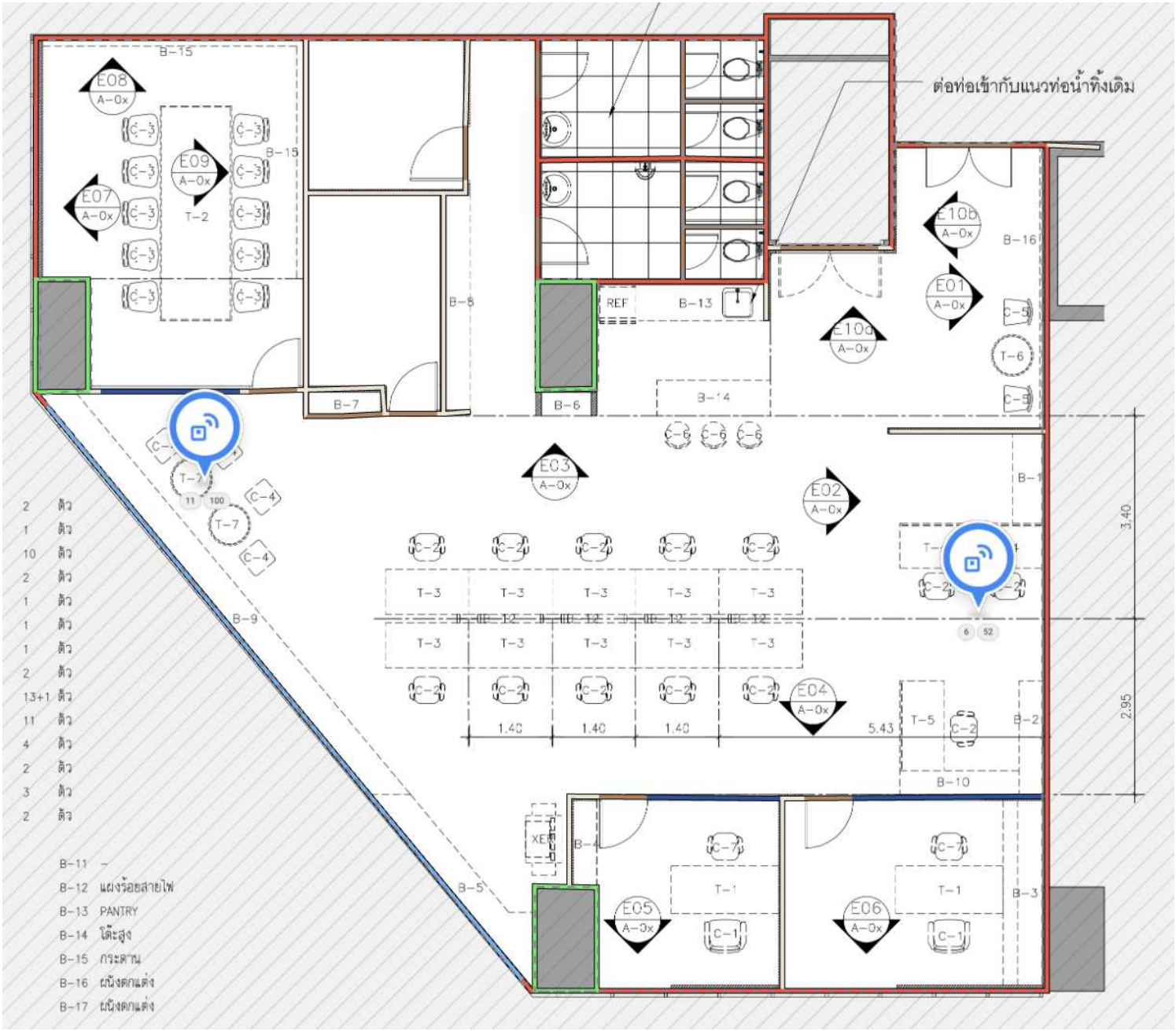
ออกแบบที่ไม่ออกแบบ

"best-guess effort"
place APs where you think people will need

- Too many APs or few APs
- Poor roaming support

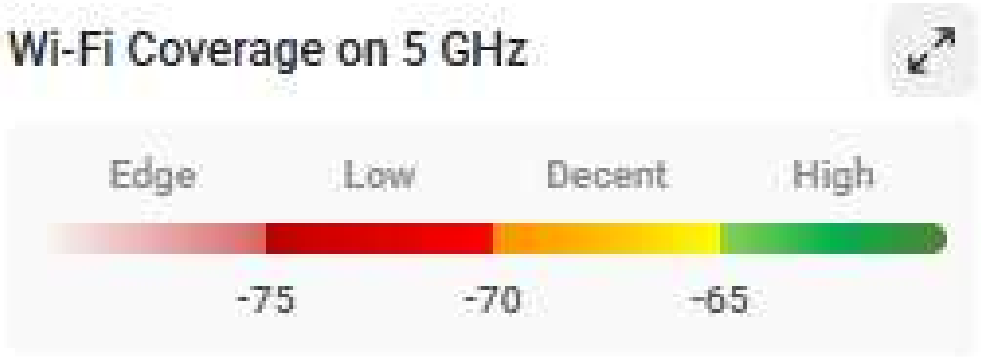
ออกแบบที่ไม่ออกแบบ

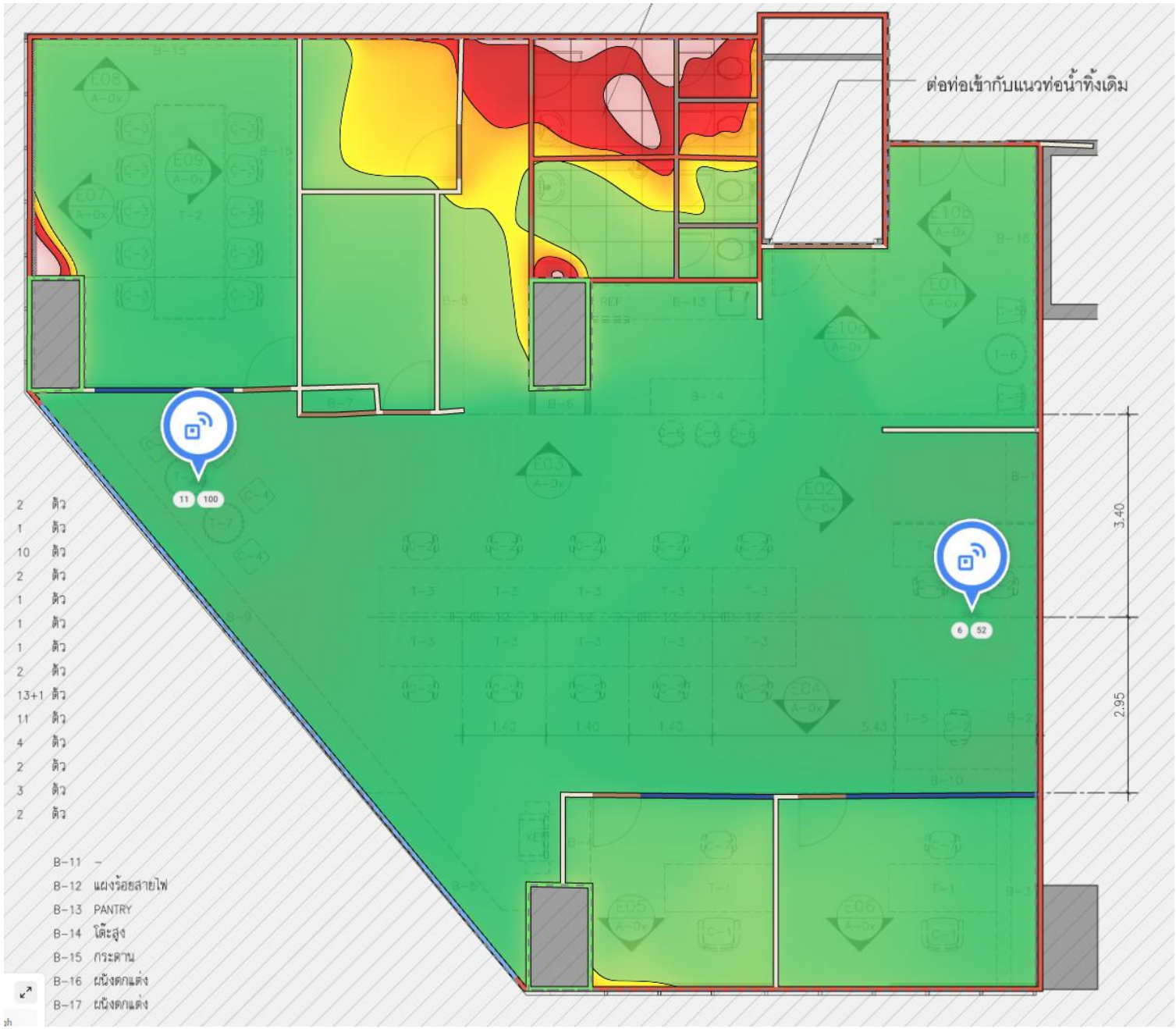
วางตำแหน่ง AP ตามโต๊ะทำงาน



ออกแบบที่ไม่ออกแบบ

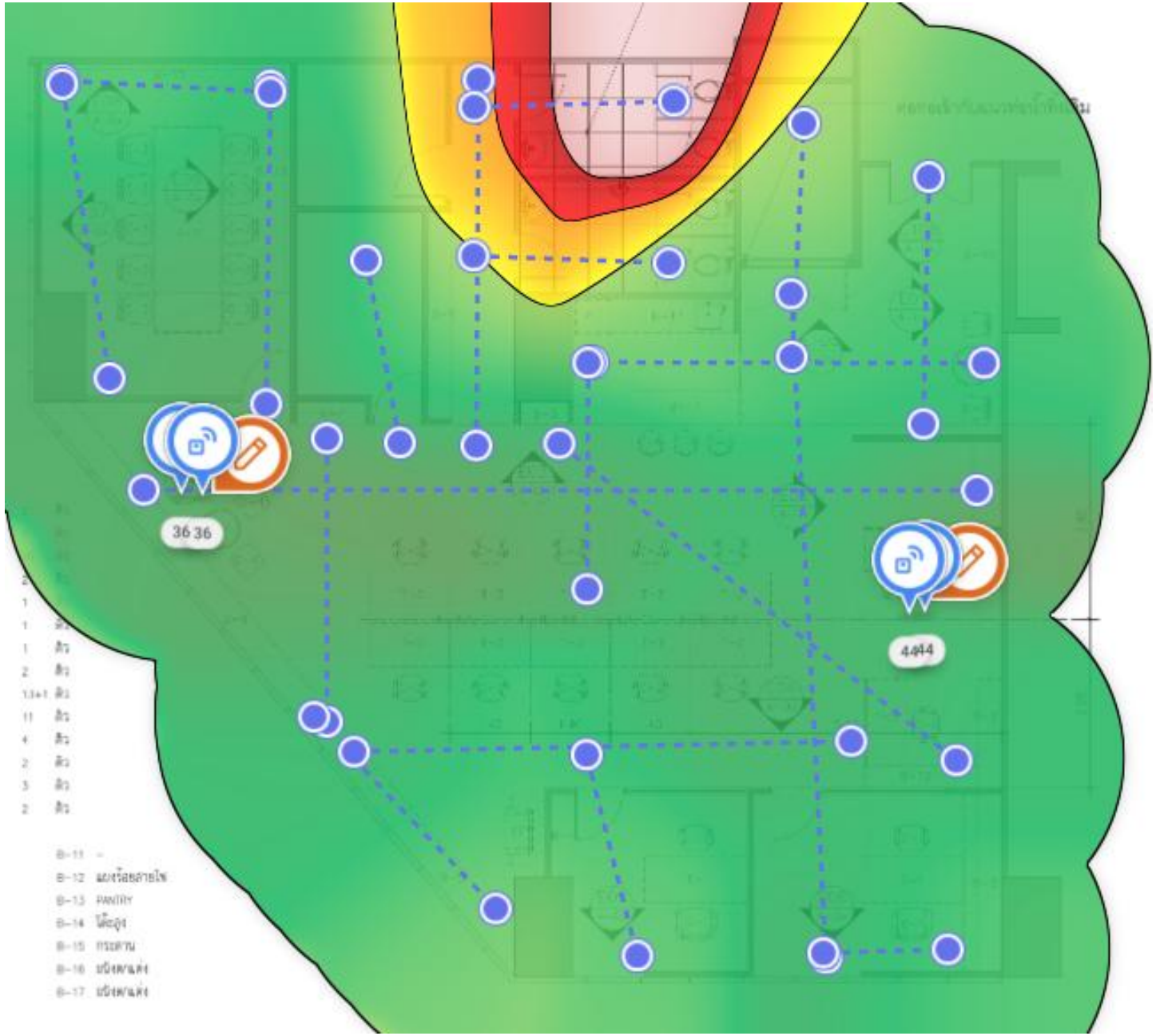
ลอง Simulate ด้วย Hamina Planner





ออกแบบที่ไม่ออกแบบ

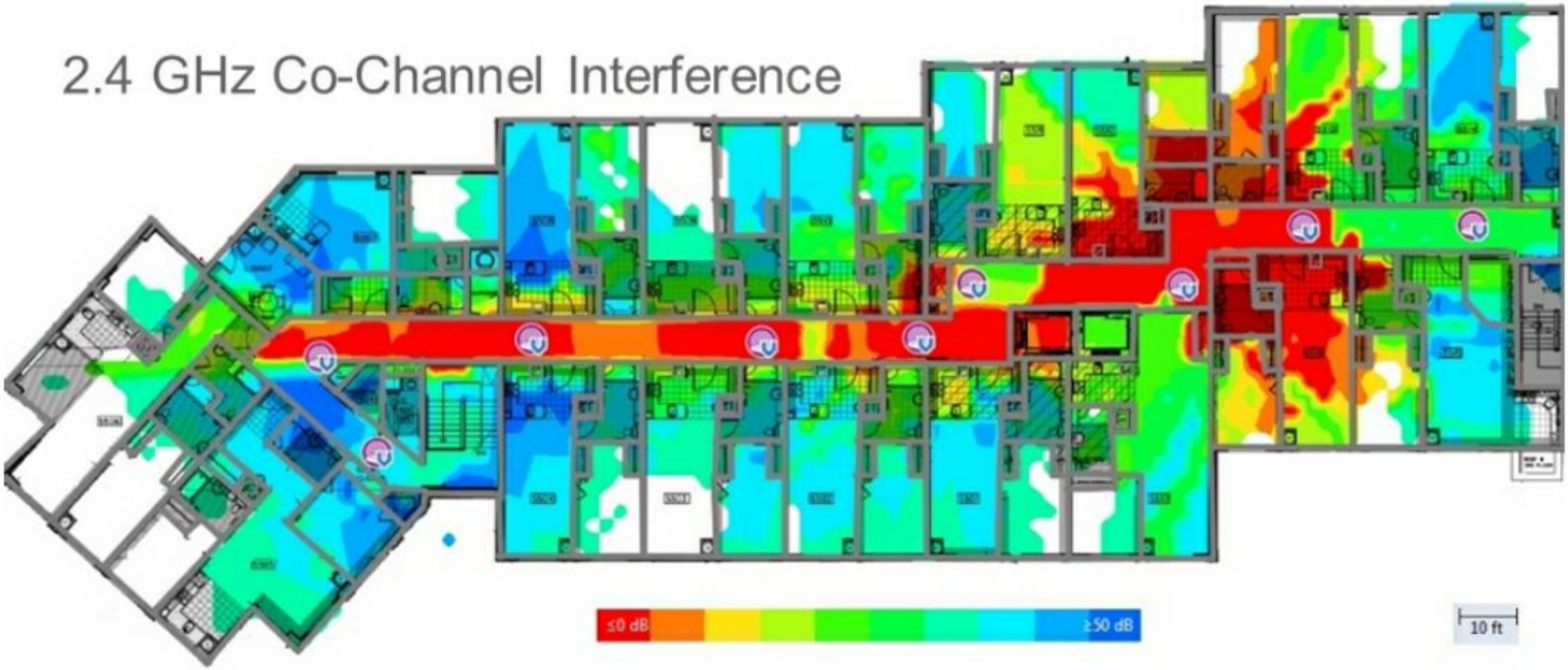
ผลจาก Site Survey หน้างานจริง



APs in hallways

Source : CWISA-102

APs in hallways

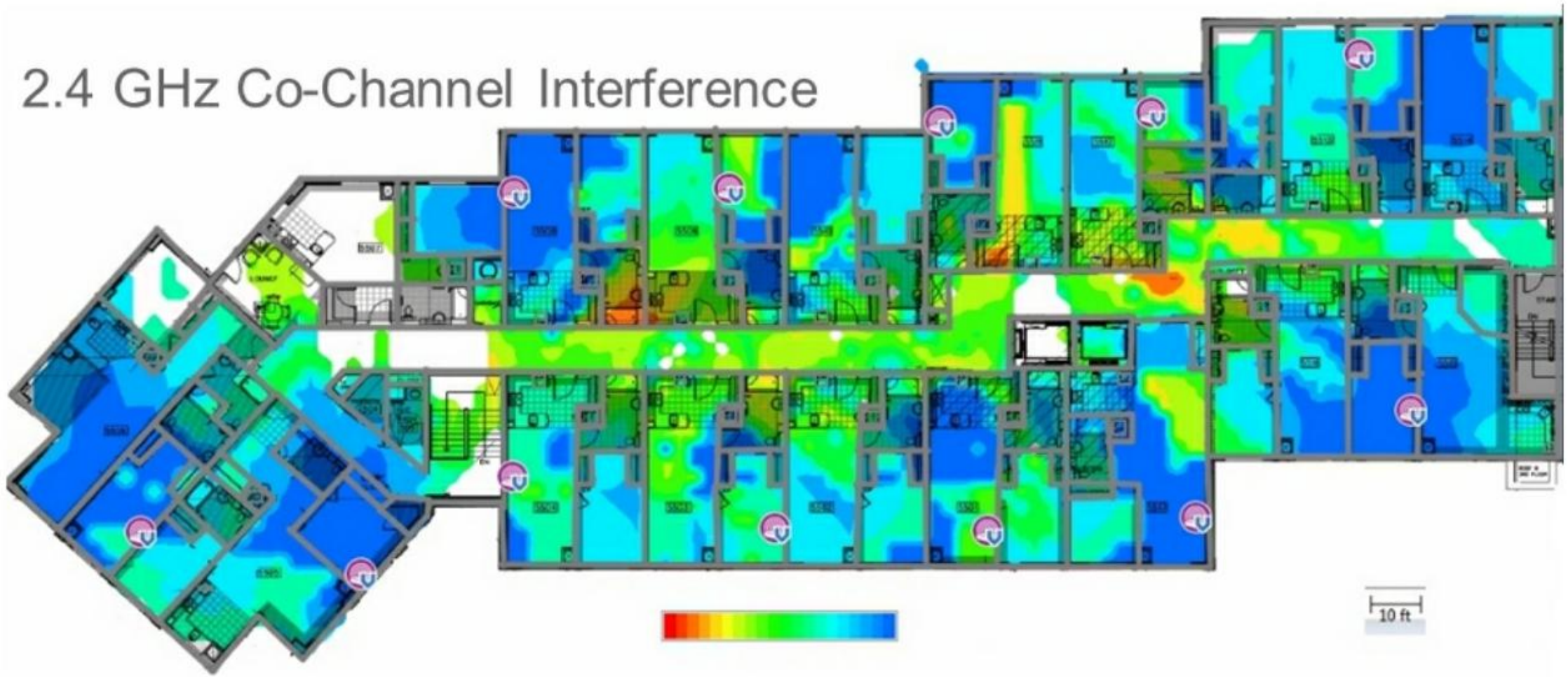


Source : CWISA-102

APs in rooms

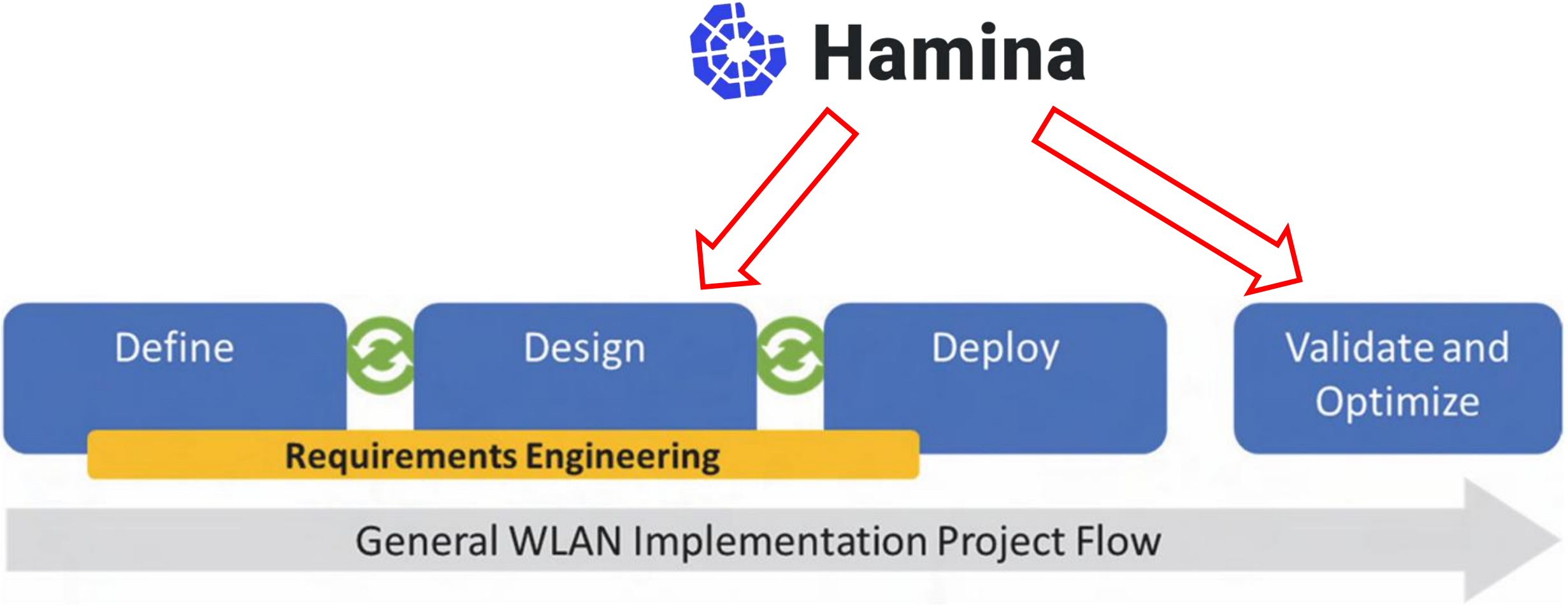
Source : CWISA-102

APs in rooms

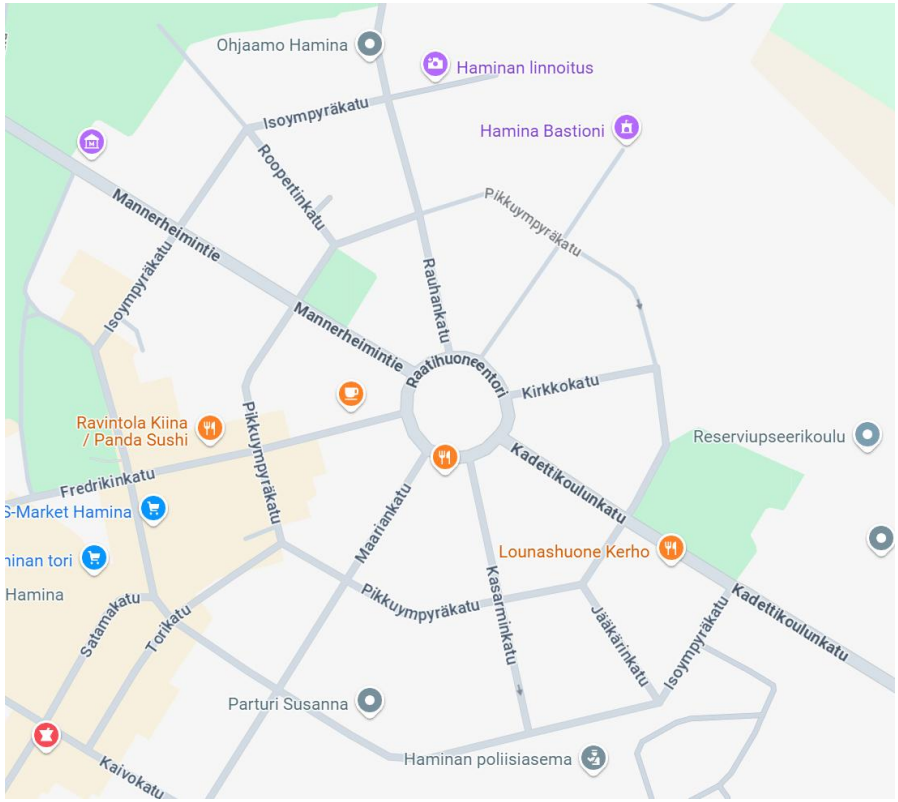


Source : CWISA-102

Design Process



Who is Hamina?



Who is Hamina?

2024 Company Leadership of the Year Winner

The Wi-Fi AWARDS
Company Leadership of the Year

Hamina Wireless

At Hamina Wireless, their company culture focuses on a couple of things in mind: Strive to change the lives of people dealing with networks - for the better. Create a workplace where everyone feels energized in the morning. Never mistreat colleagues, customers, partners, or anyone else. Never be afraid to question the old way, to disrupt. Take pride in the quality of your work. This is evident in how they have built their product. It features: dynamic coverage planning in real time, client behavior modeling, CBRS planning, and so much more.

Who is Hamina?

2024 Product of the Year Winner

The Wi-Fi AWARDS
Product of the Year

Hamina Wireless: Onsite

Hamina Onsite is a high-performance mobile and desktop app solution designed for conducting wireless site surveys. Hamina Onsite enables you to perform precise Wi-Fi site surveys with ease. Their brand-new site survey solution enables users to perform site survey measurements on-site accurately, comprehensively and without hassle. The solution includes a software component (app) and a hardware component (RF measurement device that connects to the phone / tablet / laptop running the app). Hamina Onsite is a separate, complementary product to Hamina Network Planner. You don't have to purchase both; just equip the right people with the tools that they need!

Who is Hamina?

2025 Product of the Year Recipient

The Wi-Fi AWARDS
Product of the Year

Hamina Live

Hamina Live Wi-Fi analysis and troubleshooting, now in 3D, gives you a live view of your network like never before. With real-time information at your fingertips, detailed client troubleshooting and heat maps make understanding the environment painless. In addition, Hamina has implemented the most extensive vendor neutral APIs in the wireless industry and the power of the cloud to bring this vision to life.

All of this is born from the Wireless Planner Plus that is included in the package. Simplifying your workflow and reducing the complexity to operate your wireless networks.

Hamina Product

Hamina Network
- Planner
- Planner Plus

Who need Planner Plus?
- Private Cellular Planning
- Sloped and raised floors
- Import surveys from NetAlly
- Live View

  Meraki, Mist, Aruba

  Extreme, Ruckus, Arista

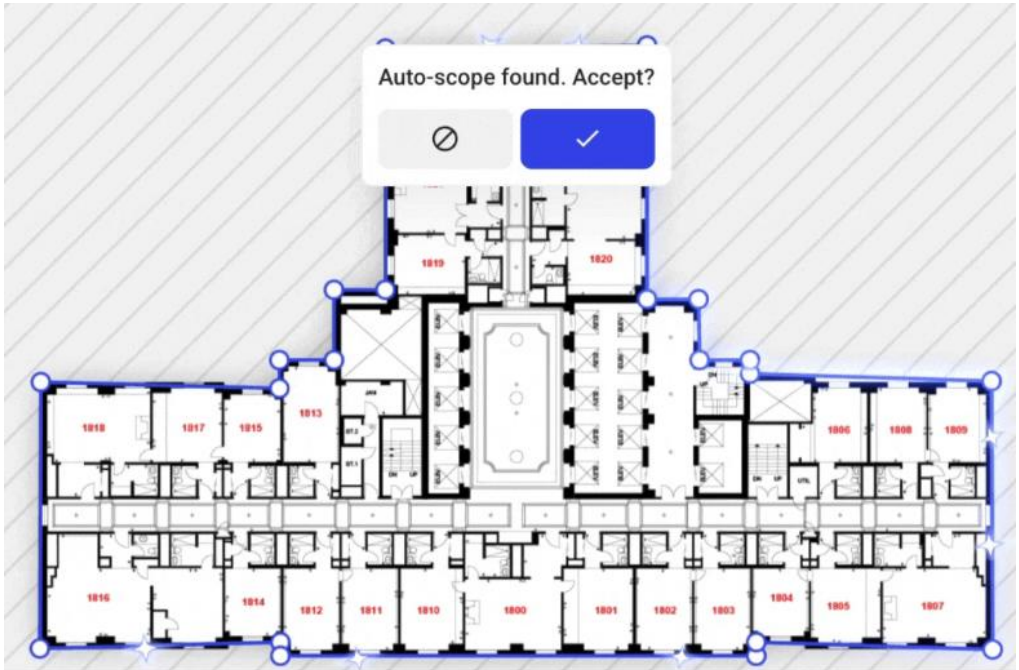
Hamina Product

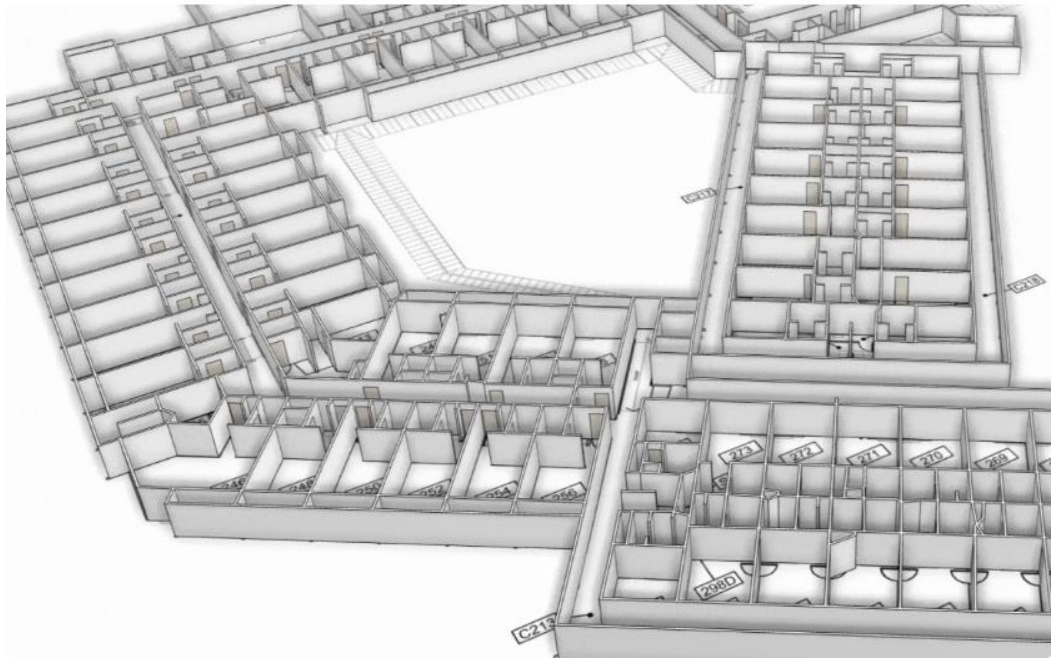
Hamina Live

Does Hamina have any AI/ ML Tricks?

Hamina Use Cases (Today)

- Floor plan scale
- Floor plan scope
- Floor plan wall tracing





Does Hamina have any AI/ ML Tricks?

Coming Soon

- Floor plan shelf for retail & warehouse

Does Hamina have any AI/ ML Tricks?

Coming Soon

- Entire building 3D

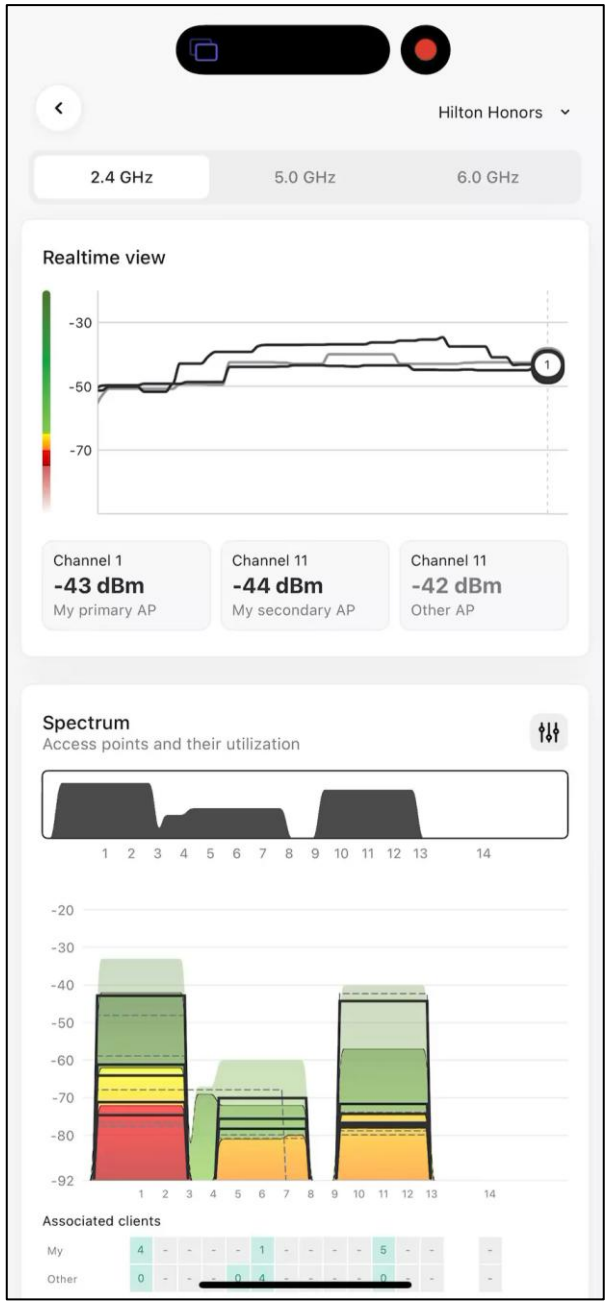
Hamina Product

Hamina Onsite + Nomad

Why Should I Survey?

- Confirm prediction vs real world

  ”Does my simulation match my deployment?”
  - Validation survey
- Understand the RF environment
  - Pre-site survey
- Difficult, challenging, historic environments
  - AP on a stick survey
- Reposition/ add/ subtract infrastructure
  - Remediation survey
- What’s changed, what’s different?
  - Troubleshooting current Wi-Fi
- Security purposes – rogue APs, open SSIDs



Wi-Fi 7 Site Survey w/ Hamina Onsite


DEMO TIME
LIVE

Channel Reuse Patterns (2.4GHz)

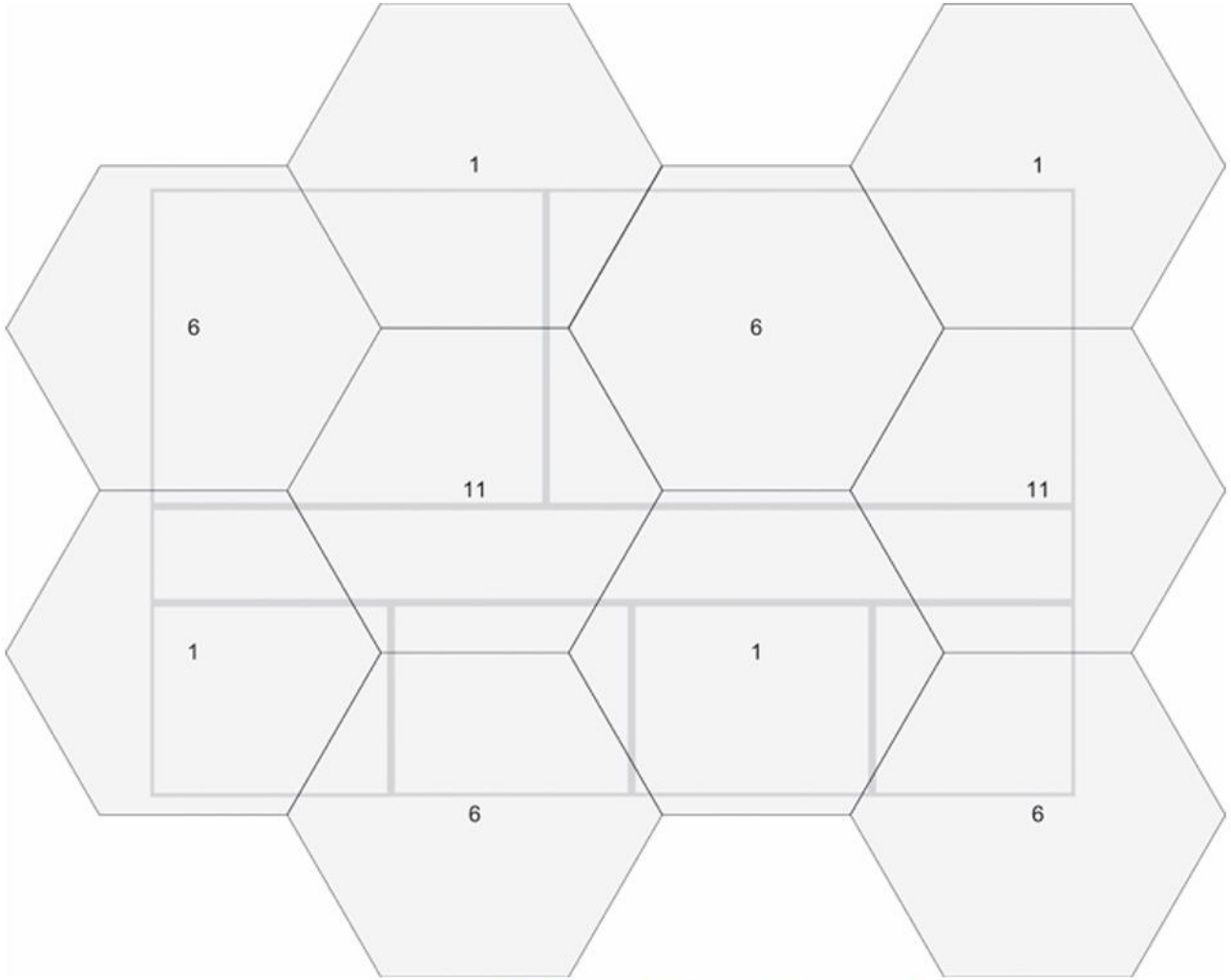


Figure 5.8: Channel Reuse Patterns

Source : CWDP-305

Channel Reuse Patterns (5GHz , 20MHz)

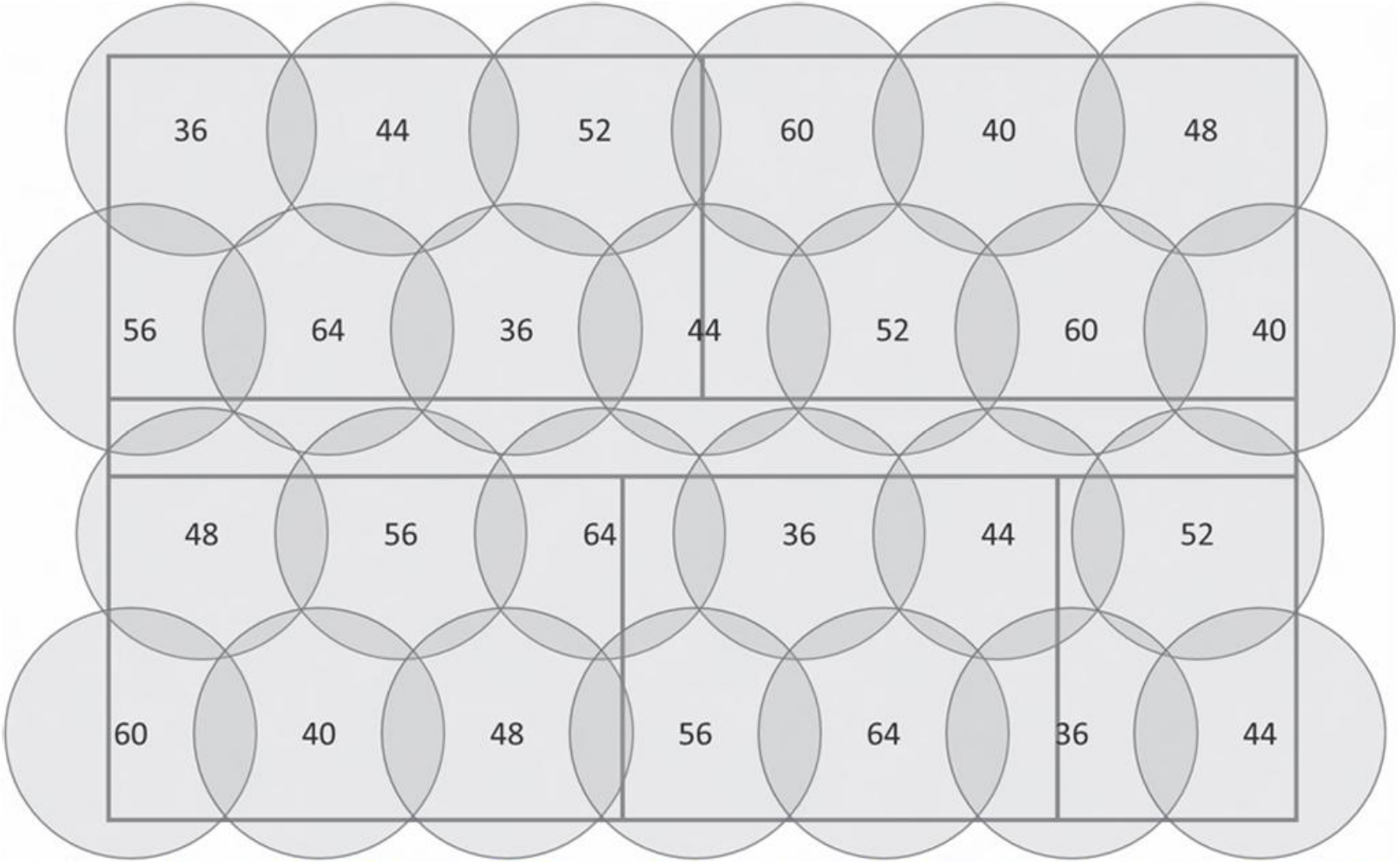
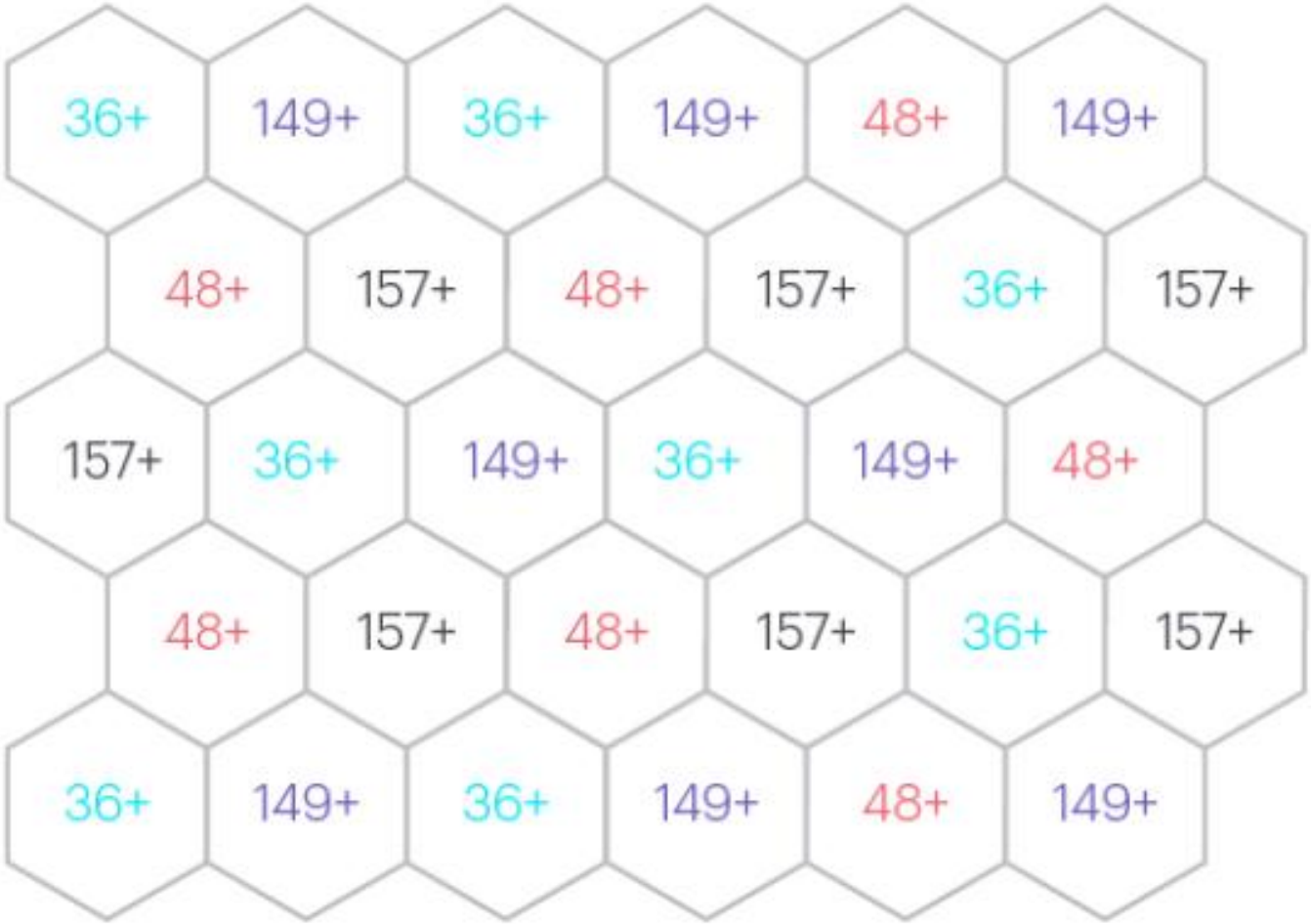


Figure 5.9a: 20 MHz Skipped Channel Plan in 5 GHz to Minimize ACI and CCI

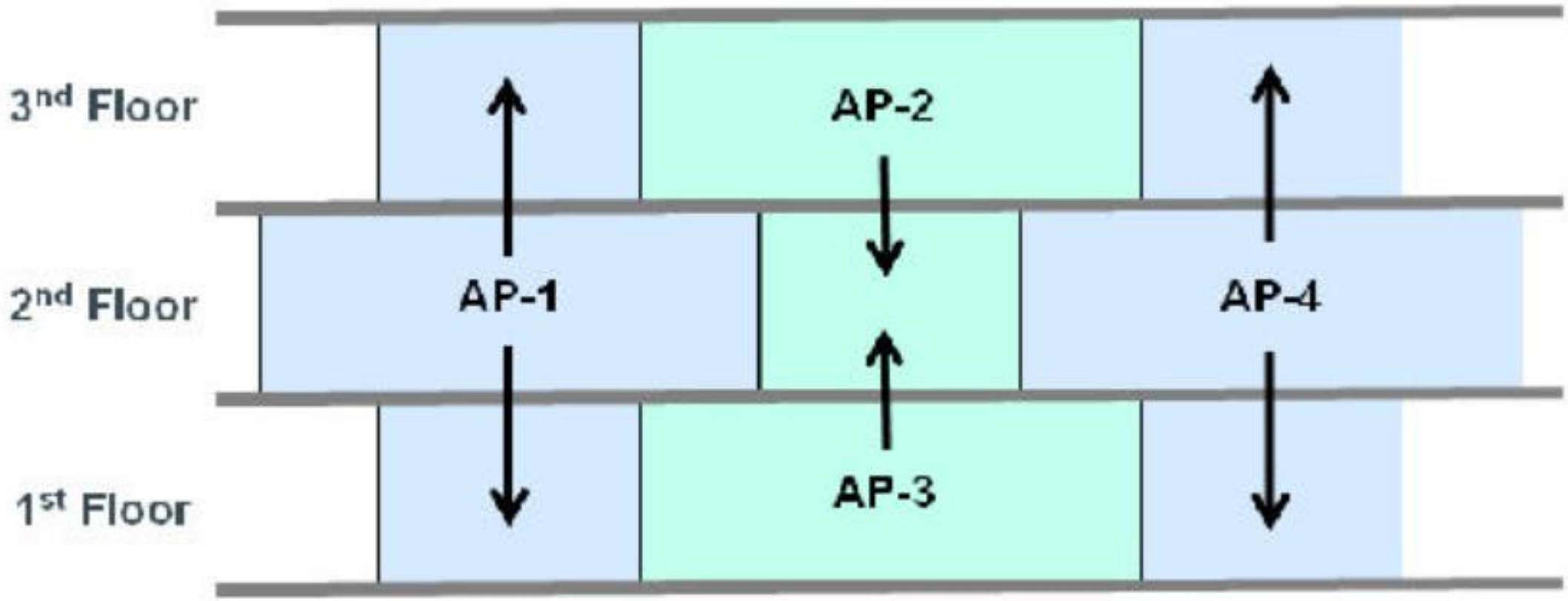
Source : CWDP-305

Channel Reuse Patterns (5GHz , 40MHz)



https://www.watchguard.com/help/docs/help-center/en-US/Content/en-US/Wi-Fi-Cloud/deploy/deployment_best-practices_device-channel.html

AP Placement Multi-Floor



https://wi-fiplanet.com/how-to-optimize-wi-fi-coverage-in-multi-floor-facilities/

Android BSS Selection

Candidate scorers

Candidate scorers evaluate and provide a score for each candidate. The score for `ThroughputScorer` (the default scorer) is based on the following:

- A base score is computed based on RSSI where RSSI is capped at -73 dBm for the 2.4 GHz band or -70 dBm for the 5 GHz and 6 GHz bands (configured with the `config_wifi_framework_wifi_score_low_rssi_threshold_24GHz`, `config_wifi_framework_wifi_score_low_rssi_threshold_5GHz`, and `config_wifiFrameworkScoreLowRssiThreshold6ghz` overlays).
- A score boost is computed based on a throughput estimate derived from the technology, channel frequency, bandwidth, RSSI, channel conditions, the maximum number of spatial streams, and other parameters. The score boost is configurable using the `config_wifiFrameworkThroughputBonusNumerator` and `config_wifiFrameworkThroughputBonusDenominator` overlays, and is limited to a max value specified using the `config_wifiFrameworkThroughputBonusLimit` overlay.

https://source.android.com/docs/core/connect/wifi-network-selection

Apple BSS Selection

Technology	Roam trigger threshold	Gaining BSS relative signal strength when transmitting data	Gaining BSS relative signal strength when idle
Mac with Apple silicon	–75 dBm	12 dB stronger	12 dB stronger
Intel-based Mac	–75 dBm	12 dB stronger	12 dB stronger
iPhone 5s or later	–70 dBm	8 dB stronger	12 dB stronger
iPad Pro 13-inch (M4)	–70 dBm	8 dB stronger	12 dB stronger
iPad Pro 9.7-inch or later	–70 dBm	8 dB stronger	12 dB stronger

https://support.apple.com/guide/deployment/wi-fi-roaming-support-dep98f116c0f/web

Apple BSS Selection

Selection criteria for band, network, and roam candidates

Beyond reaching the roam trigger threshold, the candidate basic service set (BSS) (or access point) needs to have a signal that's better than the current one. For macOS, the candidate BSS needs to have an RSSI that's 12 dB stronger than the current BSS, whether the Mac is idle or transmitting data. For iOS, iPadOS, and visionOS, the candidate BSS needs to have an RSSI that's 8 dB stronger if the iPhone, iPad, or Apple Vision Pro is transmitting data, or an RSSI that's 12 dB stronger if the device is idle.

For example, an iPhone connected to an SSID where the RSSI of the current connection might drop to –75 dBm during a voice over WLAN (VoWLAN) call. When this happens, the device later searches for roam candidate BSSIDs that have an RSSI of at least –67 dBm. If a Mac is connected to the same network and the RSSI of the current connection drops to –75 dBm, the device searches for a roam candidate BSSID that has an RSSI of at least –63 dBm.

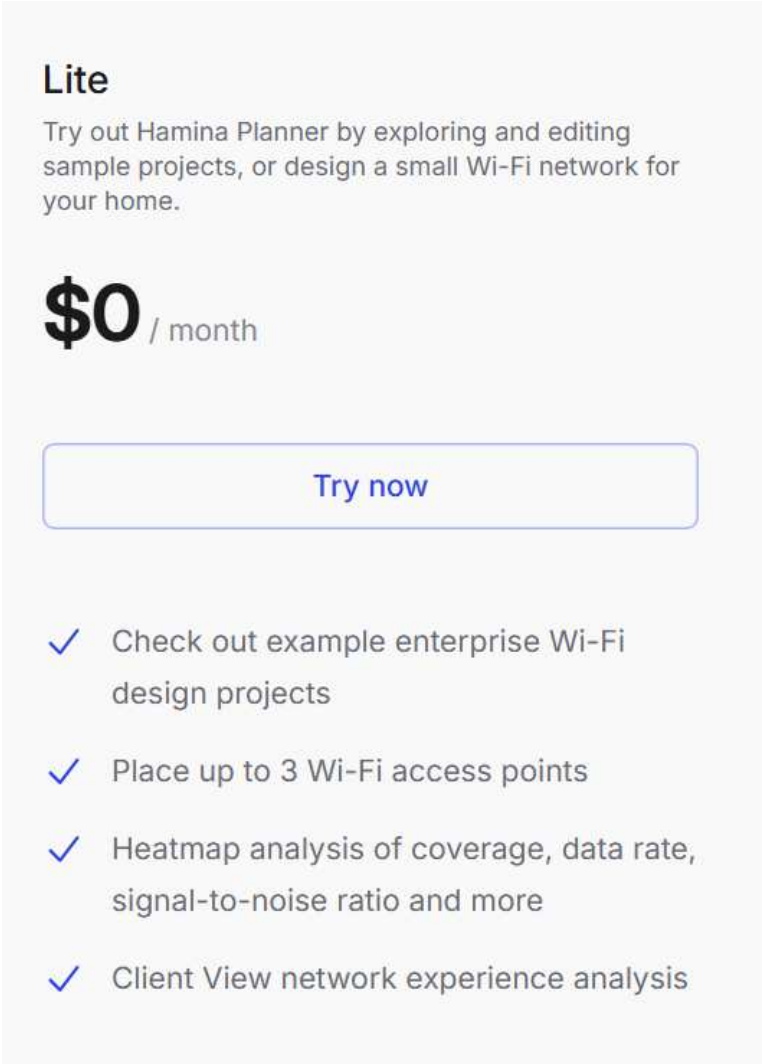
Consider a deployment where an iPhone or iPad is using a network designed for 6 GHz or 5 GHz radio frequency cells that have a –67 dBm overlap. In this case, the device keeps its connection to the BSSID longer than expected. This is because the iPhone or iPad uses a –70 dBm roam trigger threshold.

Apple BSS Selection

iOS, iPadOS, macOS, and visionOS use information shared by networks about channel utilization and quantity of associated clients—along with received signal strength measurements to score candidate networks. Higher scoring networks offer a better Wi-Fi experience. Those operating systems also choose a network based on these criteria:

- Wi-Fi 7 (802.11be) is preferred over Wi-Fi 6 (802.11ax)
- Wi-Fi 6 (802.11ax) is preferred over Wi-Fi 5 (802.11ac)
- Wi-Fi 5 (802.11ac) is preferred over Wi-Fi 4 (802.11n) or 802.11a
- Wi-Fi 4 (802.11n) is preferred over 802.11a
- 160 MHz channel width is preferred over 80 MHz, 40 MHz, or 20 MHz
- 80 MHz channel width is preferred over 40 MHz or 20 MHz
- 40 MHz channel width is preferred over 20 MHz

Hamina Network Lite



Hamina Network Planner

Planner

Web-based network design, analysis, and reporting for Wi-Fi, BLE, Zigbee, and EnOcean.

39,800 baht / year /user

23,900 baht / 6 months /user

- ✓ Design Wi-Fi (including Wi-Fi 7), Bluetooth, Zigbee, and EnOcean wireless networks
- ✓ Wired design including switches, IDFs, MDFs, and cabling
- ✓ Unlimited access point placement
- ✓ Unlimited building modeling (walls, objects, and multi-floor buildings)
- ✓ Customizable, interactive, 2D and 3D web reporting (and PDF report generation)
- ✓ Wi-Fi capacity planning
- ✓ Workflow integration with leading cloud-based Wi-Fi systems

Hamina Network Planner Plus

Planner Plus

Advanced web-based design, analysis and reporting with Private Cellular and advanced 3D modeling.

63,300 baht / year /user

39,800 baht / 6 months /user

- ✓ View live network heatmaps for Juniper Mist, Cisco Meraki, HPE Aruba, Extreme Networks, Ruckus Networks, and Arista (Beta)
- ✓ Create advanced 3D models with raised and sloped floors
- ✓ Simulate the effects of diffraction and refraction with Fast Ray Tracing
- ✓ Simulate single-hop mesh links, including link RSSI and SNR
- ✓ Plan 4G/LTE and 5G private cellular, from 450 MHz to 6 GHz
- ✓ Import survey results from NetAlly Link-Live
- ✓ Place cable trays and risers

Hamina Survey

Nomad device + Onsite app

Site surveying and troubleshooting with an iOS, iPadOS, and macOS app subscription.

31,600 baht / year /user

Nomad = 73,000 baht

Hamina Free Planner Plus Trial Sign Up

Hamina Free Planner Plus Trial Sign Up

Hamina Offer for Thai-Fi Meeting Attendees

We hope you learned a thing or two about how to make better Wi-Fi with Hamina tools.

We would like to offer you a full Hamina Planner Plus trial for the next 30-days, **valid until August 12, 2025** 🔥

How to get it:
👉 Fill in the form and we'll email you the instructions and the trial license key.

The trial starts as soon as you activate your license key. The trial license will automatically **expire on August 12th**.

"Naah... I've never used a planning tool before, I'd like to see a demo before the trial."

No problem - Schedule a demo

Sign up for the trial

First name

Last name

Email *

Company name *

What do you do in relation to wireless networks? *

Please Select

What is your wireless expertise level? *

Please Select

Select your region *

APAC - Asia Pacific

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