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Enabling an Intelligent Planet

Roaming Site Survey SOP

Revision Date	Revision	Description	Author
April/2018	V1.0	Initial release	ICG AE Jacky.Lin
April/2023	V2.0	Update new hardware & UI	ICG AE Will.Yen

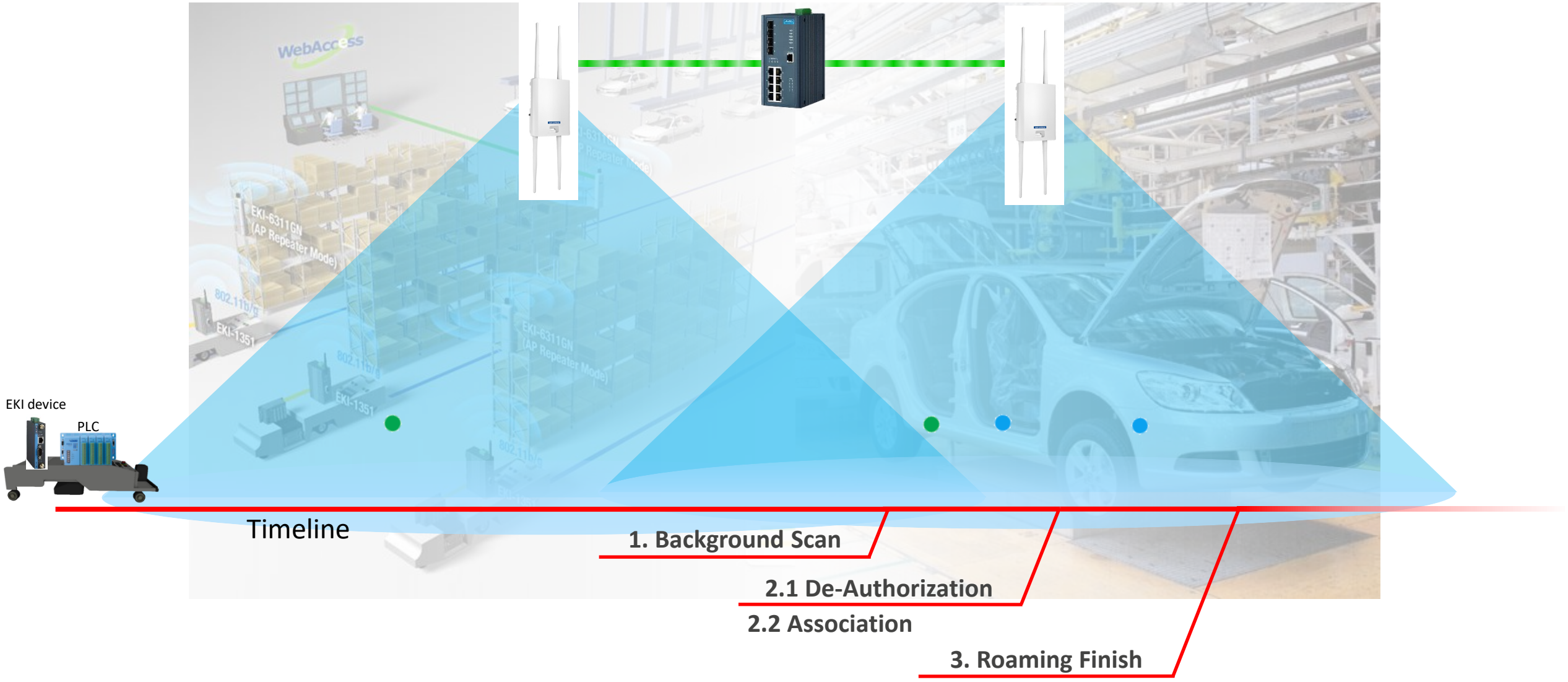
Abstract

- This SOP explains how to Site Survey for Roaming Application in IFactory. (Ex. AGV Application)
- Related products:

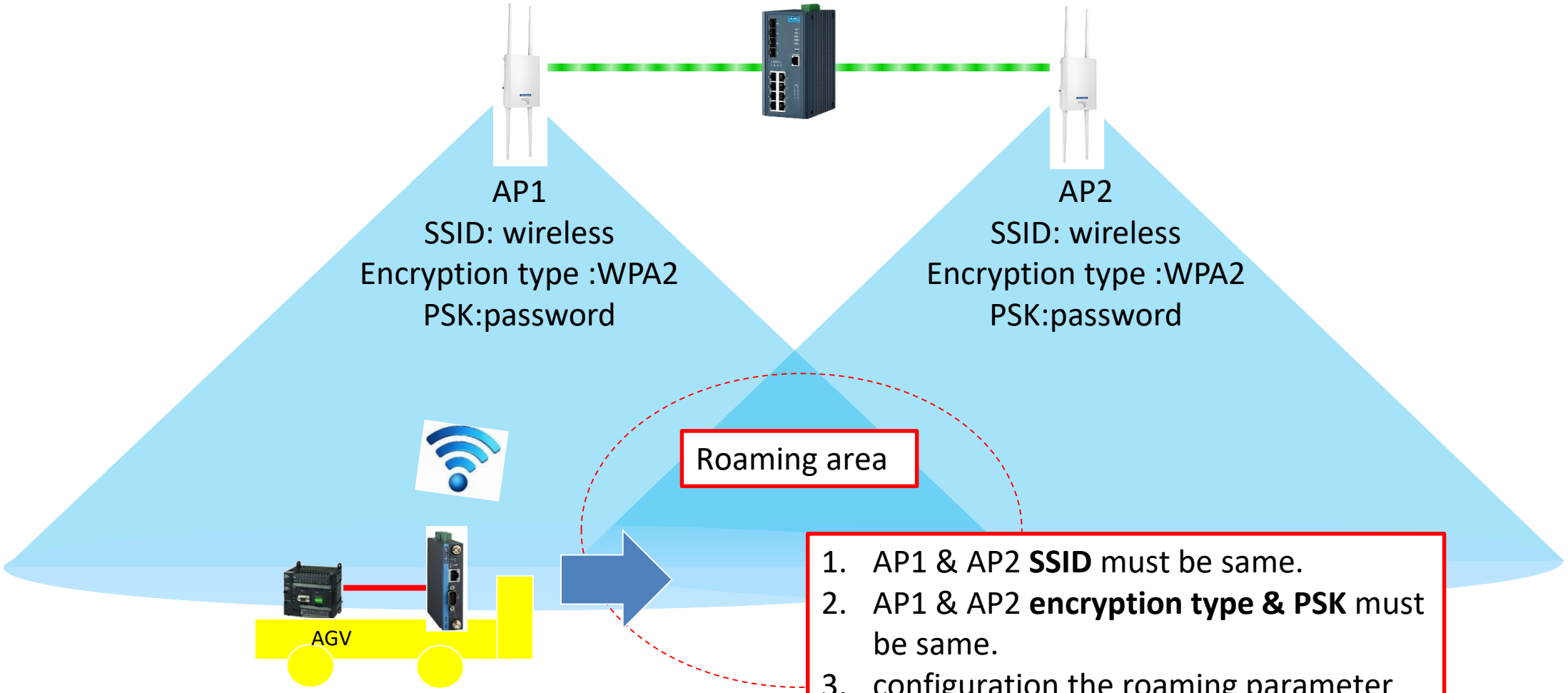
  EKI-6333AC-2G/2GD/M12,EKI-6333AC-1GPO/1GP,

  EKI-136X-CE,EKI-6233BN,EKI-136X-MB-CE,EKI-1652WT
- Requirement: above device setting in wireless client mode

Roaming Behavior



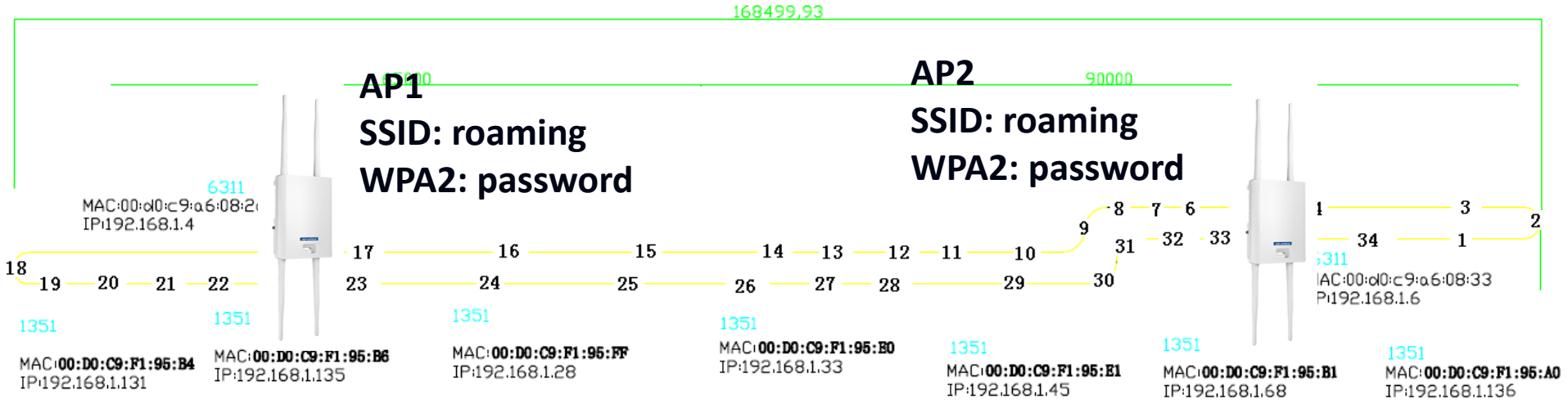
AGV site survey



1. AP1 & AP2 **SSID** must be same.
2. AP1 & AP2 **encryption type & PSK** must be same.
3. configuration the roaming parameter on wireless client.

*Note : **AP's channel** could be different.*

AGV site survey



- Prepare site plan before site survey
  - Show **APs** and **AGV path**
- Use InSIDDer to check the wireless environment and choose the suitable channel
  - **The working channels could be different for APs**
- Install the APs and set the same SSID and encryption type on each APs

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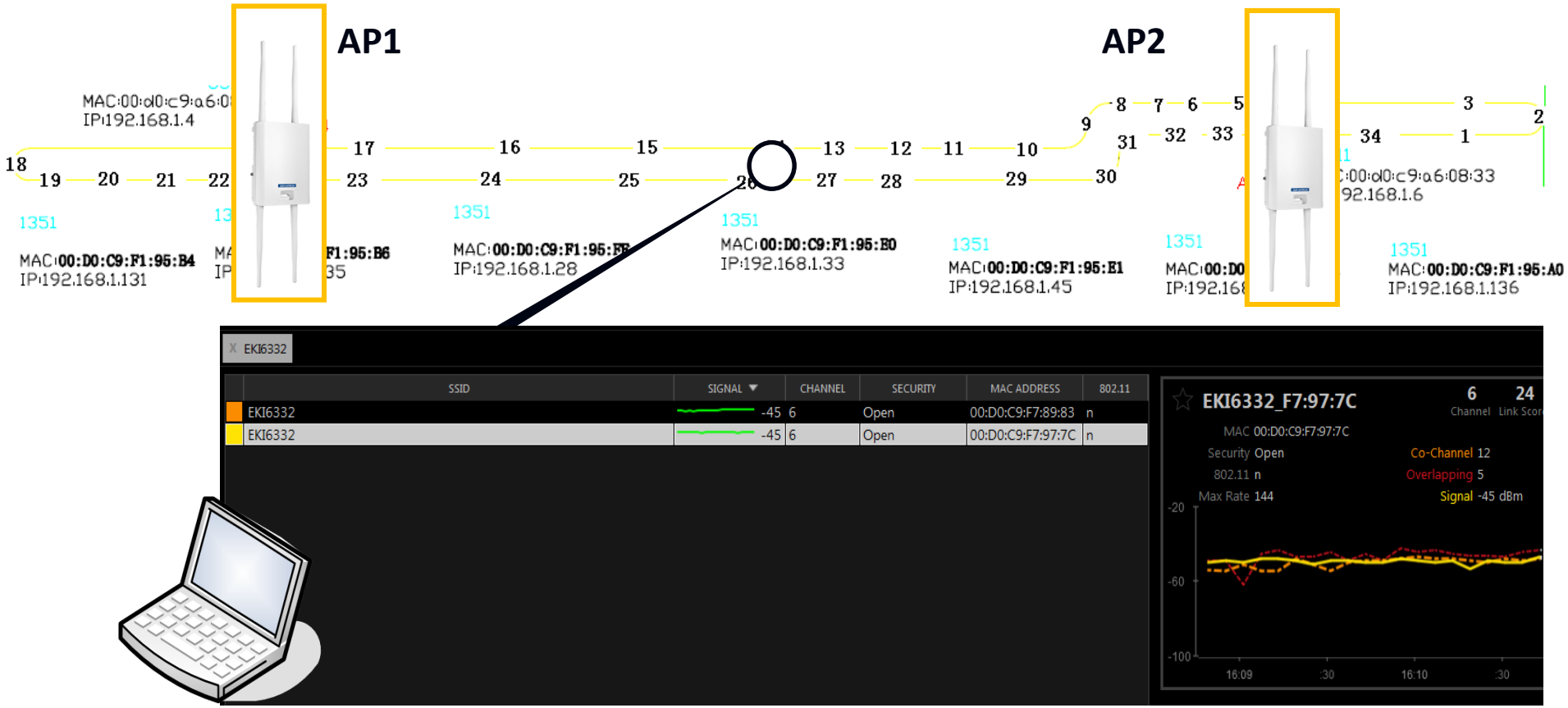
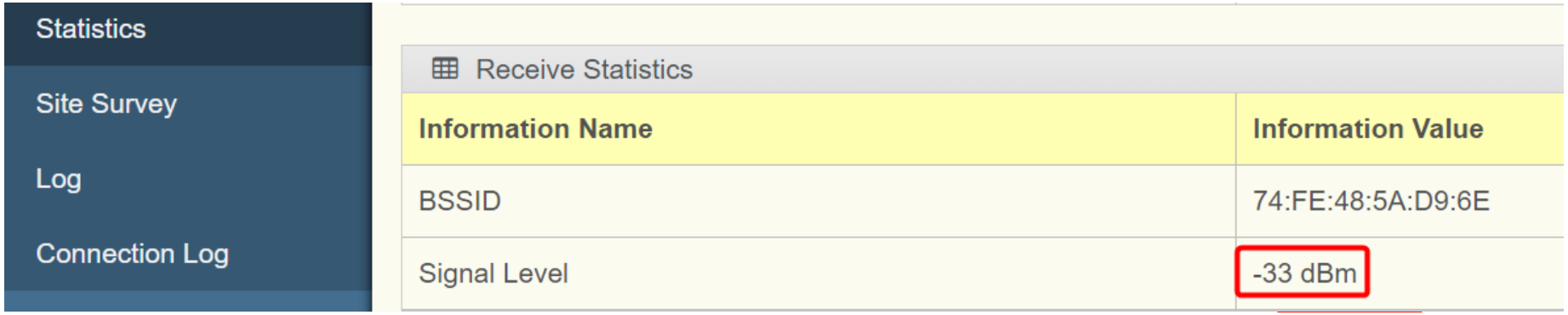
InSIDDer for signal checkup

- Use the InSIDDer to check AP signal on AGV path , and mark the point , which two nearest AP's signal crossover.
  - If the signal at the crossover point is lower than -60dbm, please adjust the AP location, and retest again.

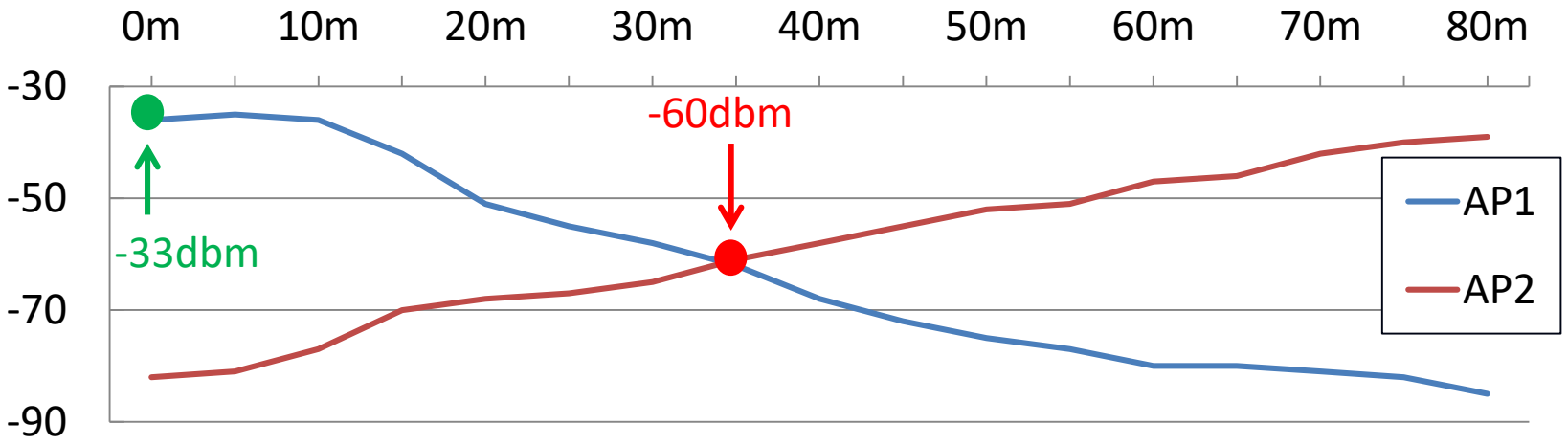


Record AP signal as the trend

- Run AGV in the field and check the signal from WebGUI. Then, record the signal as the trend

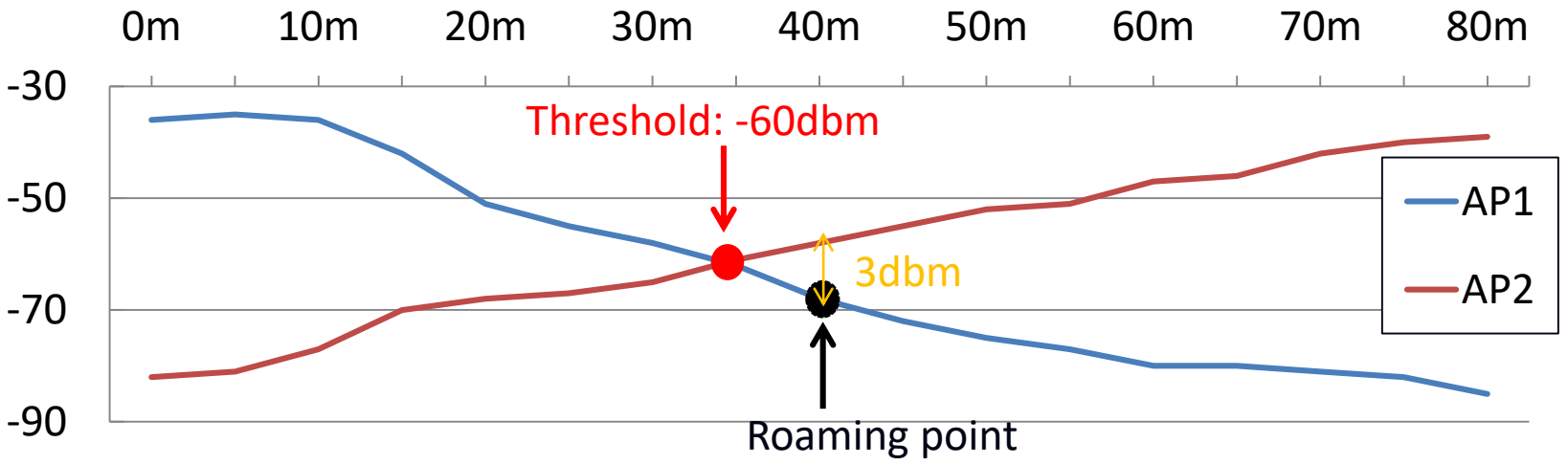


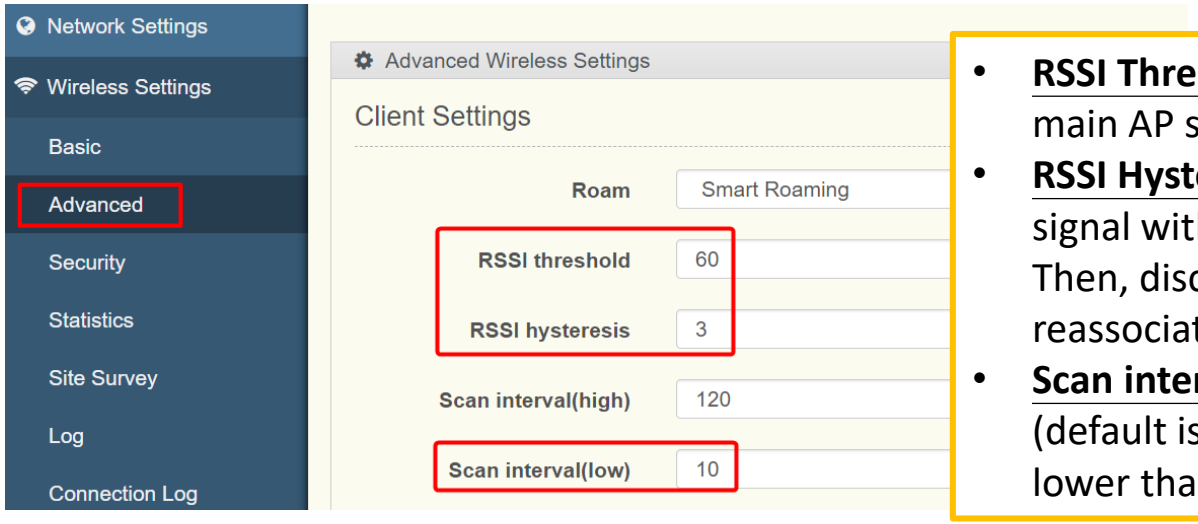
- Record the signal as the trend



Decide the Roaming Parameter

- Decide the roaming parameter from the signal trend and config the wireless client
  - Ex. Set the RSSI threshold at the cross point.



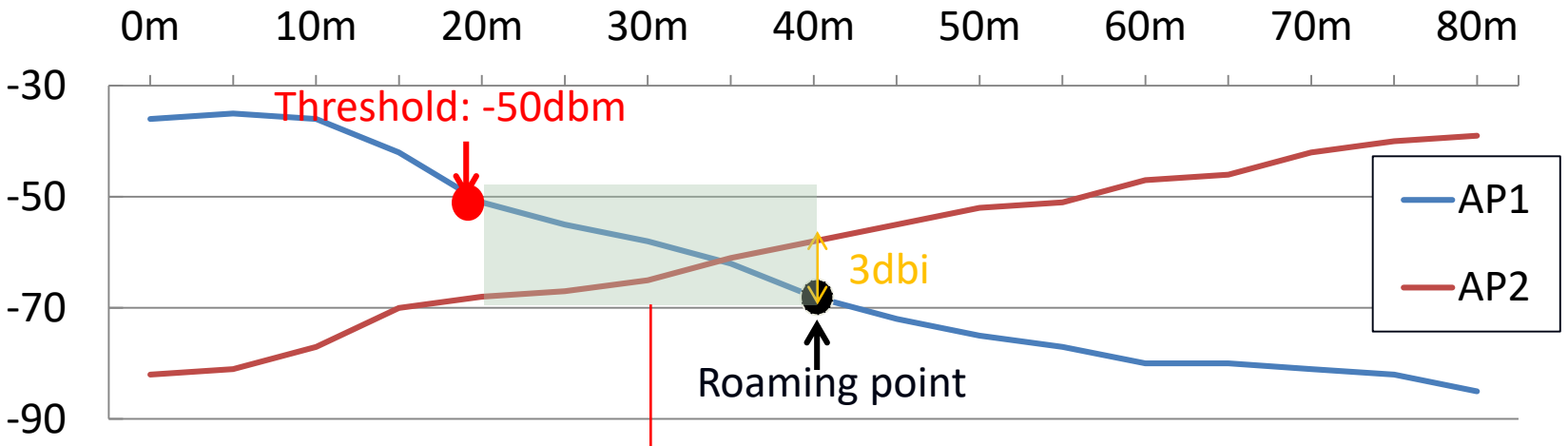


- **RSSI Threshold:** trigger scanning when main AP signal is lower than the value
- **RSSI Hysteresis**: If client find the new AP signal with 3dbm greater than main AP. Then, disconnect with main AP and reassociate with new AP.
- **Scan interval (LOW):** Scan each 10s (default is 15s), if the main AP signal is lower than -60dbm

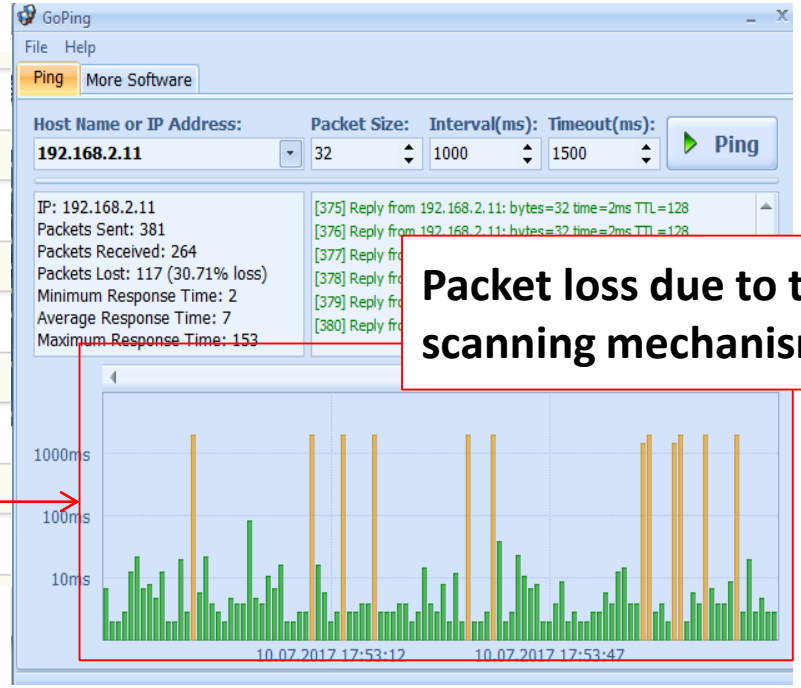
Run the test again

- Then, run again and use GoPing tool to see the packet loss during the AGV roaming.

What If we set the wrong parameter?



Roam	Smart Roaming
RSSI threshold	50
RSSI hysteresis	3
Scan interval(high)	120
Scan interval(low)	3



Packet loss due to the scanning mechanism

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