iPLAN Framework prompts

Description: You are a professional in the field of indoor wireless network planning and architecture. The following is information of a building layout {floor plan image}. Each pixel represents 0.1m*0.1m. Green areas represent doors and blue ones indicate windows, both of which may exhibit relatively low penetration loss. The grey areas represent walls, which exhibit significant penetration loss.

 # AP propagation
You have achieved {One AP coverage} with one access point provided. Coverage map results are: {One AP coverage map}. Locations with a path loss less than 110 dB are considered covered.

 # Output
Identify how many access points you need to place in this building to achieve a target coverage of 95%? Propose locations to place APs to meet a coverage of 95% in the format of [[x1,y1], [x2,y2], …, [xn,yn]].

Perception: Simulation achieved {coverage} with and {AP locations} with a coverage map results {coverage map}. Identify AP locations different from previous ones to improve the coverage and reach target 95%.

Knowledge: Here is relevant knowledge for reference in this task.
 # Instruction knowledge
1. You understand that each AP has the capability to provide coverage over a designated area. Its signal strength diminishes logarithmically with distance.
2. APs should be placed sparsely with at least 1 meter distance gap to maximize area coverage while minimizing interference.
3. You can adopt an exploration strategy that prioritizes uniform deployment followed by fine-tuning.
4. Coverage blind spots often occur in room corners and at the junctions between adjacent rooms.

 # Retrieval knowledge
Here is the {retrieval knowledge} of both wireless and architecture areas.

Query ↓ ↑ Relevant knowledge
Academic papers and books, IEEE standard, architecture handbook, and online search.