Carter Meetinghouse Predictive AP Placement Report Version 2

Created By: Taylor Mertlich, CompuNet

Reviewed By: Kevin Spencer

Completion Date: 2/4/2025

Review Date: 2/12/2025

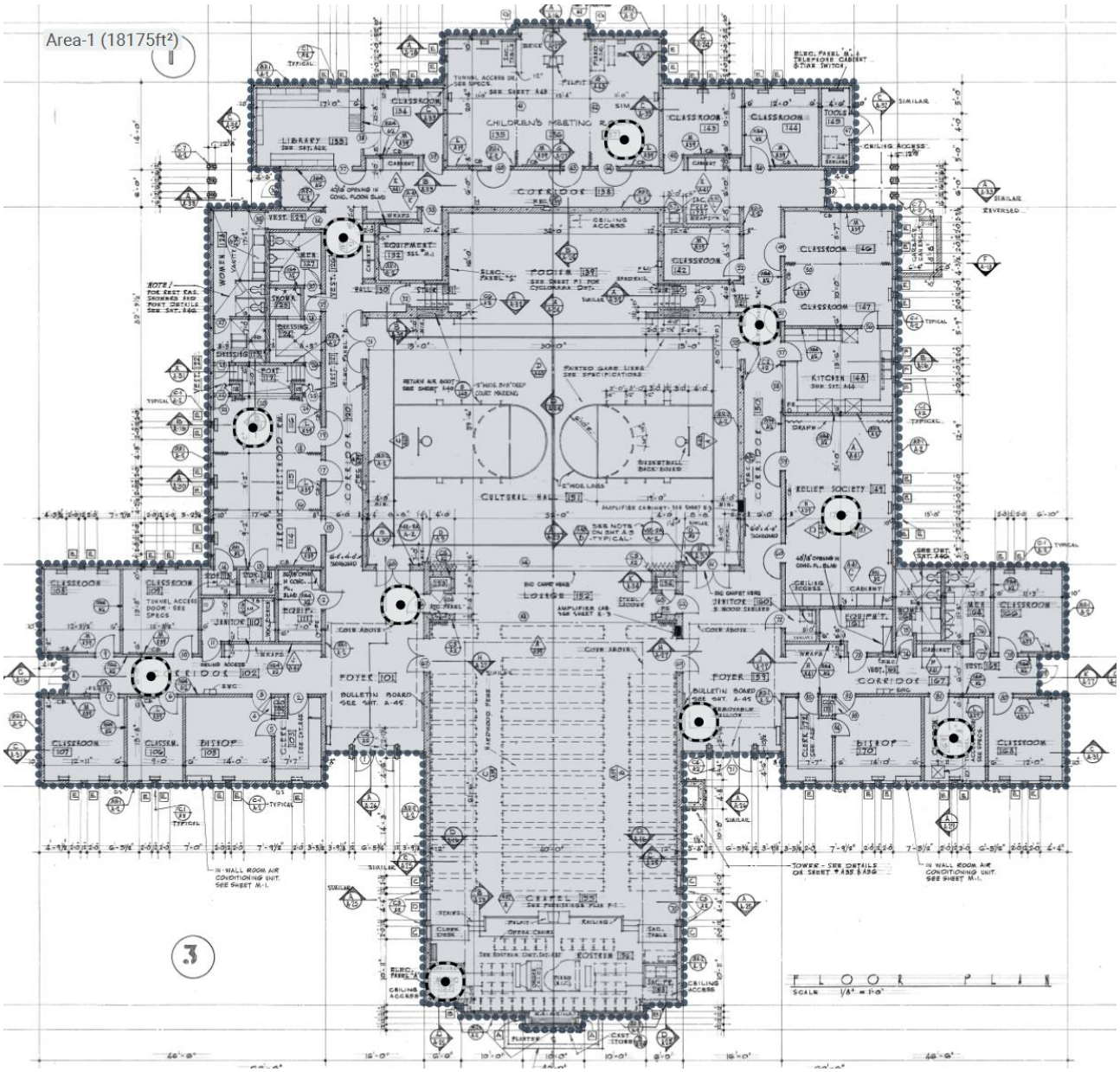
Project Description

The AP placement and signal strength predictions are based on assumptions made for signal propagation through interior wall materials.
Based on those assumptions there will be a greater margin of error between the prediction and what may be experienced.
The AP placement was made based on optimizing for 5 GHz signals for both primary and secondary signal strength.
The APs will be assigned a channel for both 2.4 GHz and 5 GHz based on what is detected and reported to the controller. The controller manages channel adjustments as information is reported by each AP.
The Meraki MR36 and MR36H access points are represented in this prediction.
Without measured attenuation and AP signal deviation measurements, the actual signal propagation will vary.

Version 2: Several APs were moved. Overall AP count remained the same.

Carter

Survey routes and Access Points for Carter



View as / Project Offset:	Generic Laptop (-3 dB/-3 dB/-)

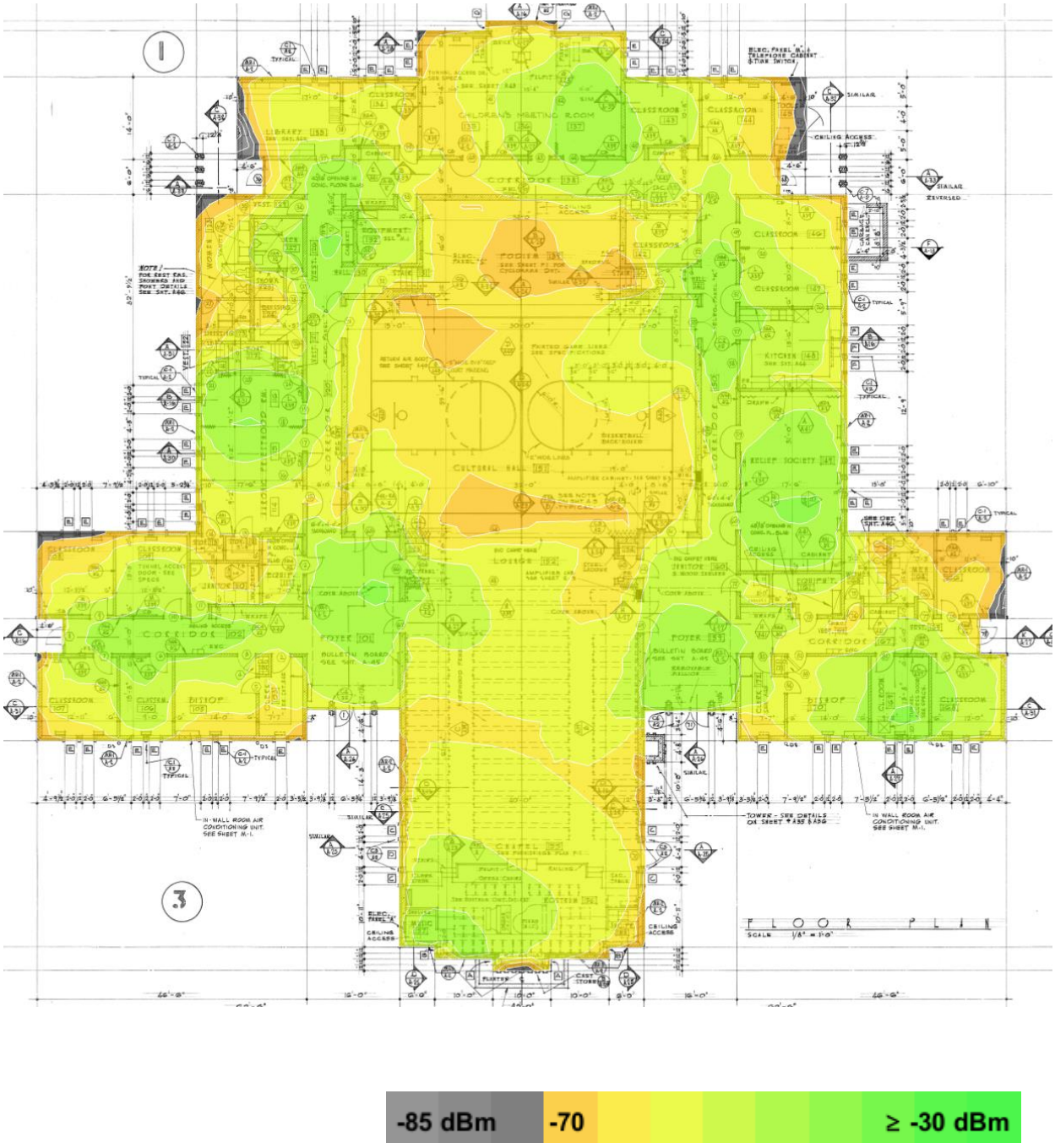
Area-1 (18,175 ft²)

Coverage Requirement: **Ekahau Best Practices**		
2.4 GHz	Signal Strength Min	**-70.0 dBm**
	Secondary Signal Strength Min	**-80.0 dBm**

	Signal-to-Noise Ratio Min	**20.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**2 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
5 GHz	Signal Strength Min	**-70.0 dBm**
	Secondary Signal Strength Min	**-80.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
6 GHz	Signal Strength Min	**-70.0 dBm**
	Secondary Signal Strength Min	**-80.0 dBm**
	Signal-to-Noise Ratio Min	**25.0 dB**
	Data Rate Min	**24 Mbps**
	Channel Interference Max	**1 at min. -85.0 dBm**
	Round Trip Time (RTT) Max	**200 ms**
	Packet Loss Max	**0.0 %**
Capacity Requirement	No capacity devices for this area	
Notes		

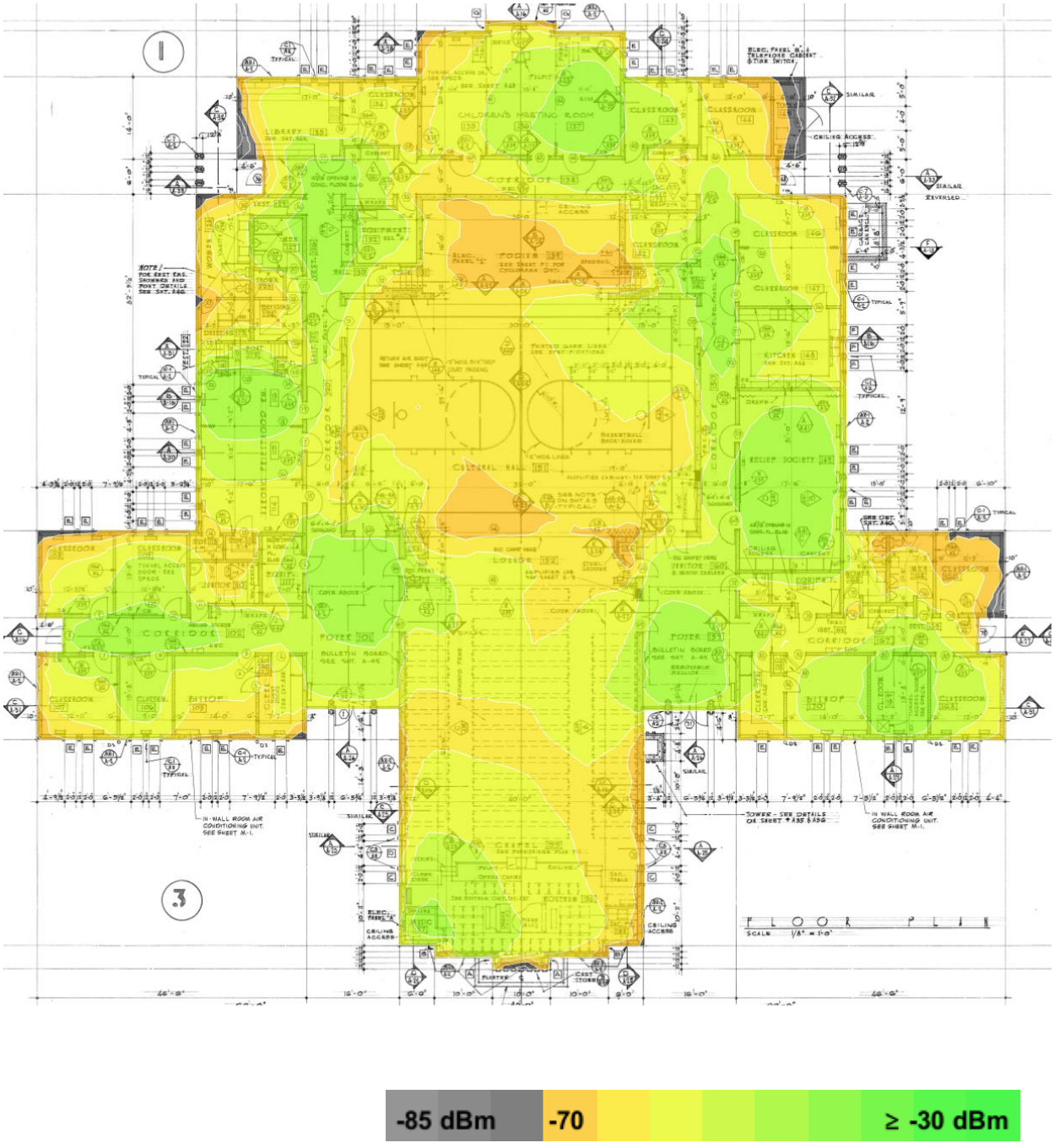
Signal Strength for Carter on 2.4 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



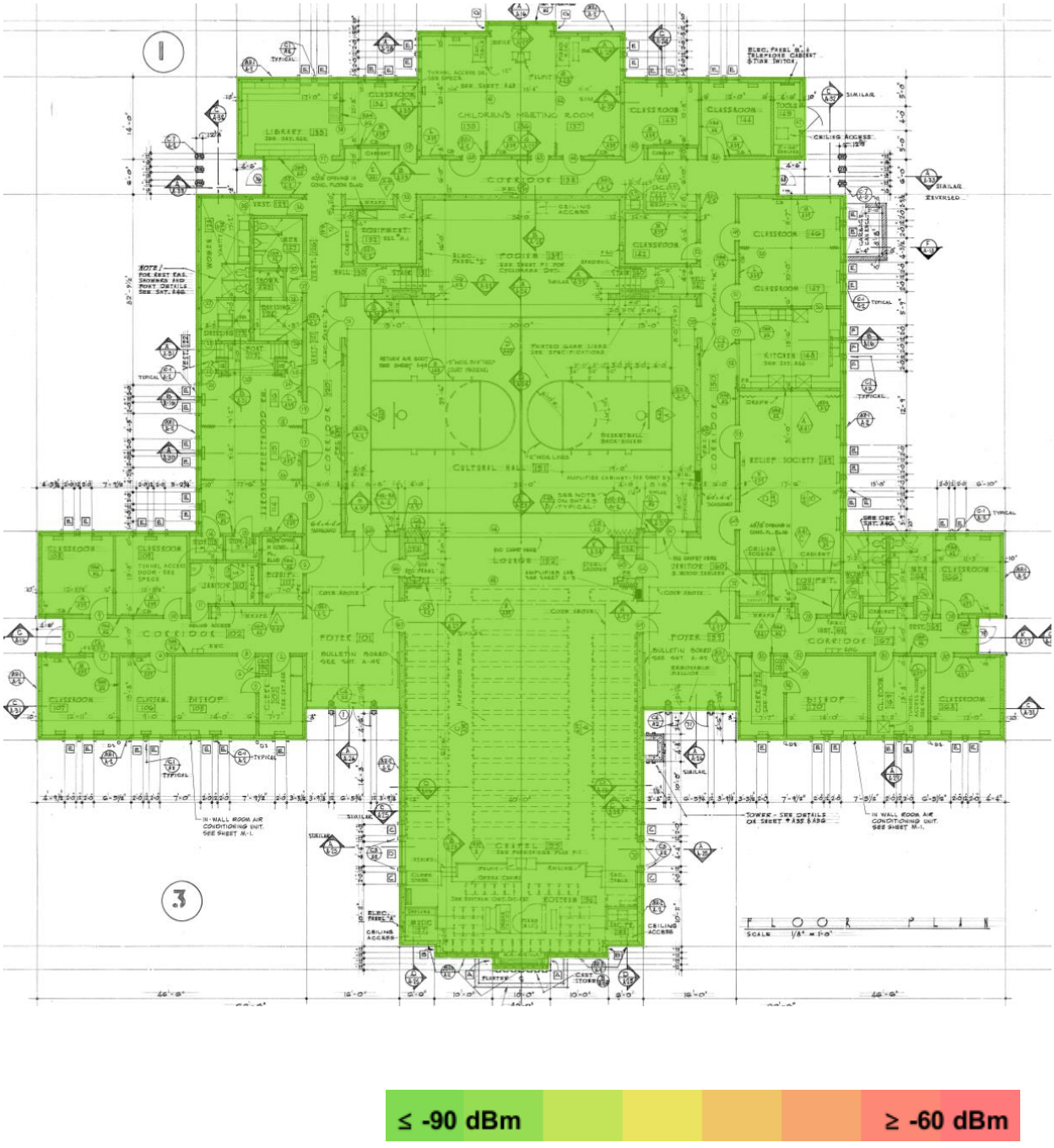
Signal Strength for Carter on 5 GHz band

Signal Strength - sometimes called coverage - is the most basic requirement for a wireless network. As a general guideline, low signal strength means unreliable connections, and low data throughput.



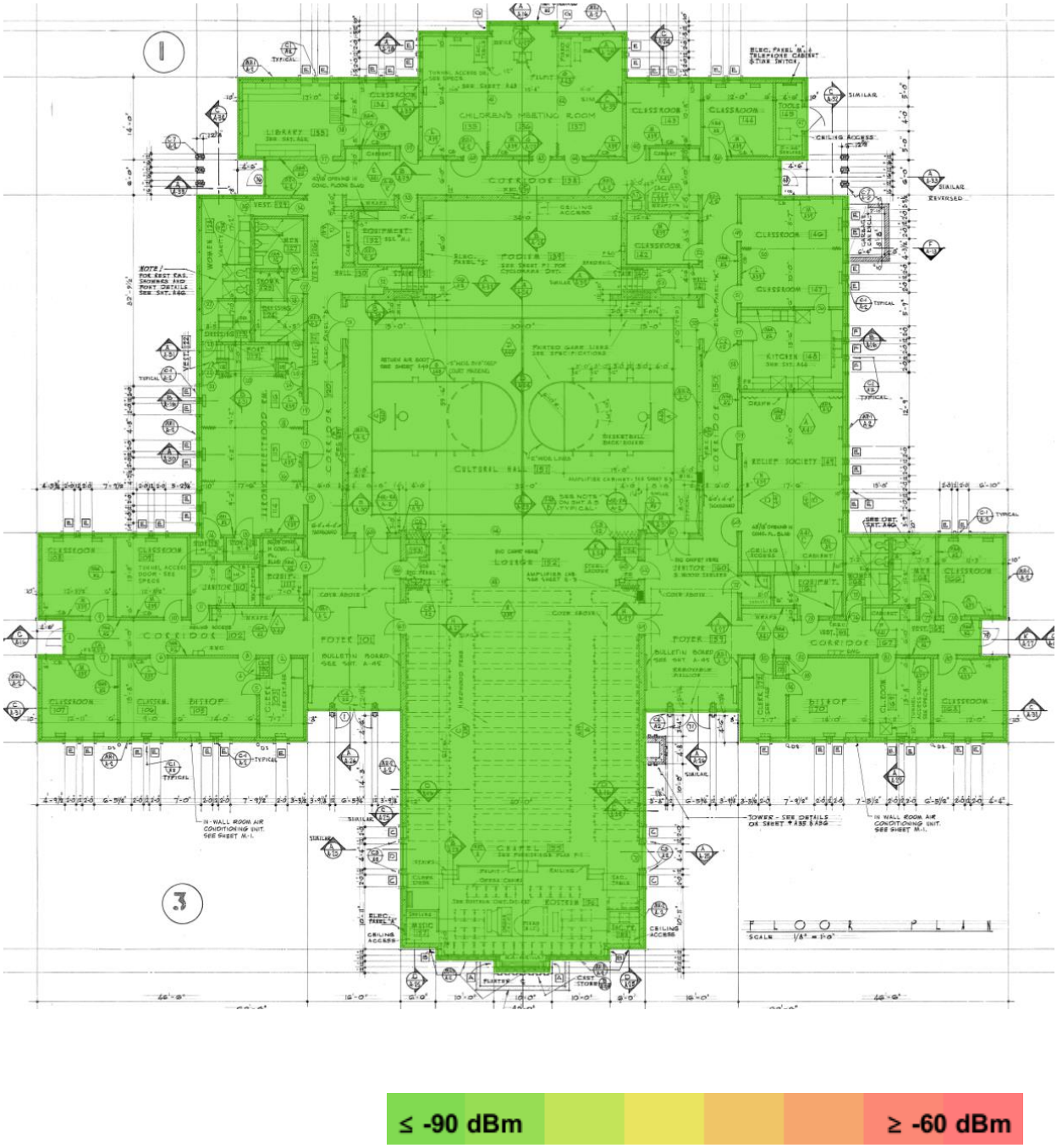
Noise for Carter on 2.4 GHz band

Displays the calculated co-channel interference level.

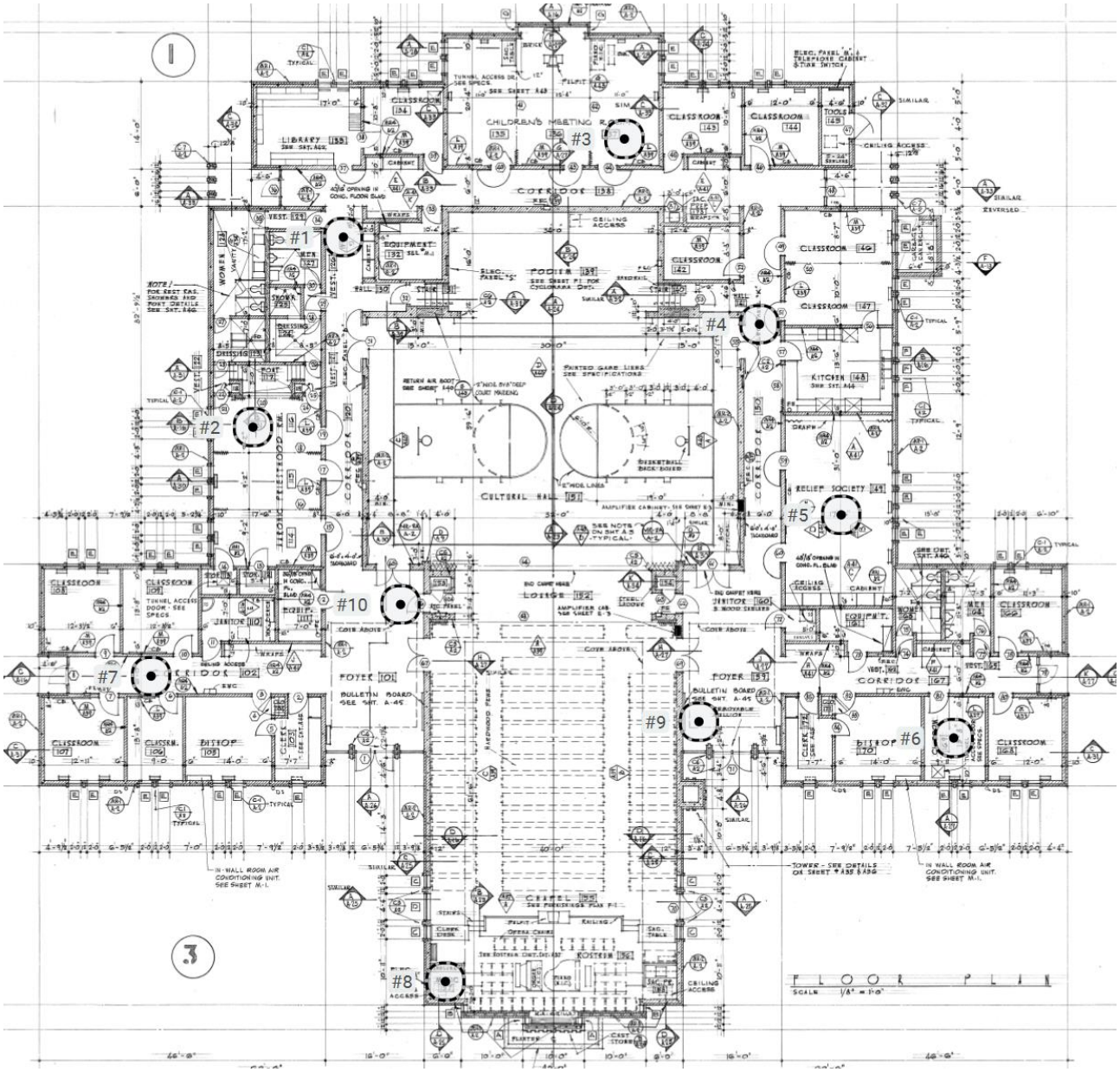


Noise for Carter on 5 GHz band

Displays the calculated co-channel interference level.



Access Points on Carter



Access Points on Carter

Simulated Access Points on Carter

AP #	Access Point			
1	Simulated AP-001		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
2	Simulated AP-002		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
3	Simulated AP-003		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
4	Simulated AP-004		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
5	Simulated AP-005		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz

	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
6	Simulated AP-006		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
7	Simulated AP-007		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
8	Simulated AP-008		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
9	Simulated AP-009		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE
10	Simulated AP-010		Cisco Meraki Catalyst 9162	
	Wi-Fi 6	1	6 mW	Cisco Meraki Catalyst 9162 2.4GHz
	Wi-Fi 6	36	25 mW	Cisco Meraki Catalyst 9162 5GHz
	Wi-Fi 6E	1@80 (6 GHz)	25 mW	Cisco Meraki Catalyst 9162 6GHz
	Bluetooth	-	1 mW	Cisco Meraki Catalyst 9162 BLE

Measured Access Points on Carter

None.

Measured Access Points not placed on any map

Access Points not placed on any map

None.

Other Access Points not placed on any map

None.

Network capacity configuration

	2.4 GHz	5 GHz	6 GHz
Minimum Data Rate	**12 Mbits/s**	**12 Mbits/s**	**12 Mbits/s**
Number of SSIDs	**2**	**2**	**2**
Max. Associated Clients	**200**	**200**	**200**
RTS / CTS	**No**	**No**	**No**