VisiWave™

Sample VisiWave Site Survey Report
Quantum software S.A. Offices
Wednesday, August 22, 2012 15:14:00

Survey Overview

Survey Description	
Survey Name	Quantum site survey
Surveyor	Marcin Walewski
Date of Survey	Wednesday, August 22, 2012 15:14:00
Survey Location	
Company	Quantum software S.A.
Address	ul. Walerego Slawka 3A, 30-633 Krakow, Poland
Building	Havre
Floor	2nd
Area Description	Office space
Company Contact	Marcin Walewski
Survey Information	
Number of Wi-Fi Data Points	205
Number of Data Points (Associated)	205
Number of Spectrum Data Points	0
Number of AP Readings Taken	2562
Ave Number of APs Seen at each Point	12.5
Channels Seen (% of AP Readings)	1 (53.8%), 4 (5.0%), 5 (0.5%), 6 (4.4%), 10 (6.4%), 11 (29.0%), 13 (0.9%)
Data Rates Seen (% of AP Readings)	11Mbps (6.4%), 54Mbps (93.6%)
Security Modes Seen (% of AP Readings)	Clear (10.4%), WEP (44.3%), WPA (7.9%), WPA2 (37.4%)
Confidence Radius	16 ft
Number of APs Discovered	30
Total Number of Points (Ignores AP Filter)	205
Survey Trail Length	243 ft
Distance Between All Data Points	596 ft
Ave Distance Between Data Points	2.91 ft
Total Survey Area	10024 sq ft
Lat/Long of Survey Area Center	
Percentage of Survey Map Covered	94.4%

AP List

SSID	AP#	Name	MAC	Ch	Security	Mode	Ave SNR	Max SNR	Min SNR	# Assoc Points	# Non-Assoc Points
_Sample_Guest	AP #1	AP002	00:1e:7a:27:8c:61	Ch 1	WEP	Infra	41	70	12	0	176
_Sample_Guest	AP #12	AP003	00:1e:7a:27:91:21	Ch 1	WEP	Infra	38	72	11	0	154
_Sample_Guest	AP #6	AP005	00:1e:4a:55:7e:71	Ch 11	WEP	Infra	28	45	13	0	127
_Sample_Guest	AP #5	AP006	00:1e:7a:27:8e:f1	Ch 1	WEP	Infra	31	46	17	0	66
_Sample_Product	AP #11	AP002	00:1e:7a:27:8c:62	Ch 1	WPA2	Infra	42	70	16	0	177
_Sample_Product	AP #13	AP003	00:1e:7a:27:91:22	Ch 1	WPA2	Infra	36	68	12	0	171
_Sample_Product	AP #9	AP005	00:1e:4a:55:7e:72	Ch 11	WPA2	Infra	28	44	14	0	119
_Sample_Product	AP #0	AP006	00:1e:7a:27:8e:f2	Ch 1	WPA2	Infra	15	47	0	205	0
_Sample_Training	AP #2	AP002	00:1e:7a:27:8c:64	Ch 1	WEP	Infra	41	70	13	0	181
_Sample_Training	AP #14	AP003	00:1e:7a:27:91:24	Ch 1	WEP	Infra	36	75	12	0	169
_Sample_Training	AP #10	AP005	00:1e:4a:55:7e:74	Ch 11	WEP	Infra	28	47	12	0	123
_Sample_Training	AP #3	AP006	00:1e:7a:27:8e:f4	Ch 1	WEP	Infra	30	44	14	0	79
A&S Studio	AP #23		00:22:6b:f2:c0:d5	Ch 11	WPA2	Infra	14	14	14	0	2
comex	AP #28		00:23:69:24:19:98	Ch 6	WPA2	Infra	14	16	12	0	2
CSWIFI	AP #18		00:23:69:0a:0b:26	Ch 13	WPA2	Infra	16	20	12	0	23
FEMAMAKOWA	AP #25		00:23:cd:de:28:d0	Ch 4	WPA2	Infra	15	19	12	0	6
GPI	AP #19		14:d6:4d:31:59:84	Ch 4	WPA2	Infra	30	47	12	0	103
Havre1	AP #20		00:23:69:25:cc:e3	Ch 11	WPA	Infra	21	31	13	0	42
Indo	AP #8		68:7f:74:0a:16:b0	Ch 6	Clear	Infra	18	29	10	0	51
Indo_guest	AP #4		6a:7f:74:0a:16:b1	Ch 6	Clear	Infra	18	30	11	0	51
LidoLang24	AP #27		c0:c1:c0:58:e4:c9	Ch 11	WPA2	Infra	20	21	18	0	2
LidoLang24	AP #26		58:6d:8f:15:7f:9d	Ch 6	WPA2	Infra	16	20	12	0	10
linksys	AP #21		00:23:69:26:b6:aa	Ch 11	WPA2	Infra	28	43	13	0	77
note1	AP #15		32:ed:63:d4:a3:63	Ch 10	Clear	Ad hoc	32	56	13	0	164
POLNETCOM	AP #22		54:e6:fc:db:b9:e3	Ch 4	WPA2	Infra	19	26	13	0	18
regis7	AP #24		f0:7d:68:ae:79:c4	Ch 11	WPA2	Infra	30	51	19	0	43
SAMSUNG	AP #7		00:24:01:e7:7e:a8	Ch 11	WPA	Infra	32	65	15	0	161
Transfer Wifi	AP #29		00:90:d0:fb:73:e9	Ch 1	WPA2	Infra	19	19	19	0	1
WarimexFACTOR	AP #16		00:1a:70:96:20:2e	Ch 11	WEP	Infra	21	31	12	0	46
WIFI_APLKR	AP #17		00:22:b0:6f:ed:b6	Ch 5	WEP	Infra	21	25	14	0	13

Survey Map

This map shows the entire survey area. The data collected is also shown using colored lines and dots. The colors indicate the signal strength of the access points at each location. In this case, the color is based on the signal strength of the associated AP. The area shaded teal represents the area where enough data was collected for VisiWave to accurately map out the coverage.
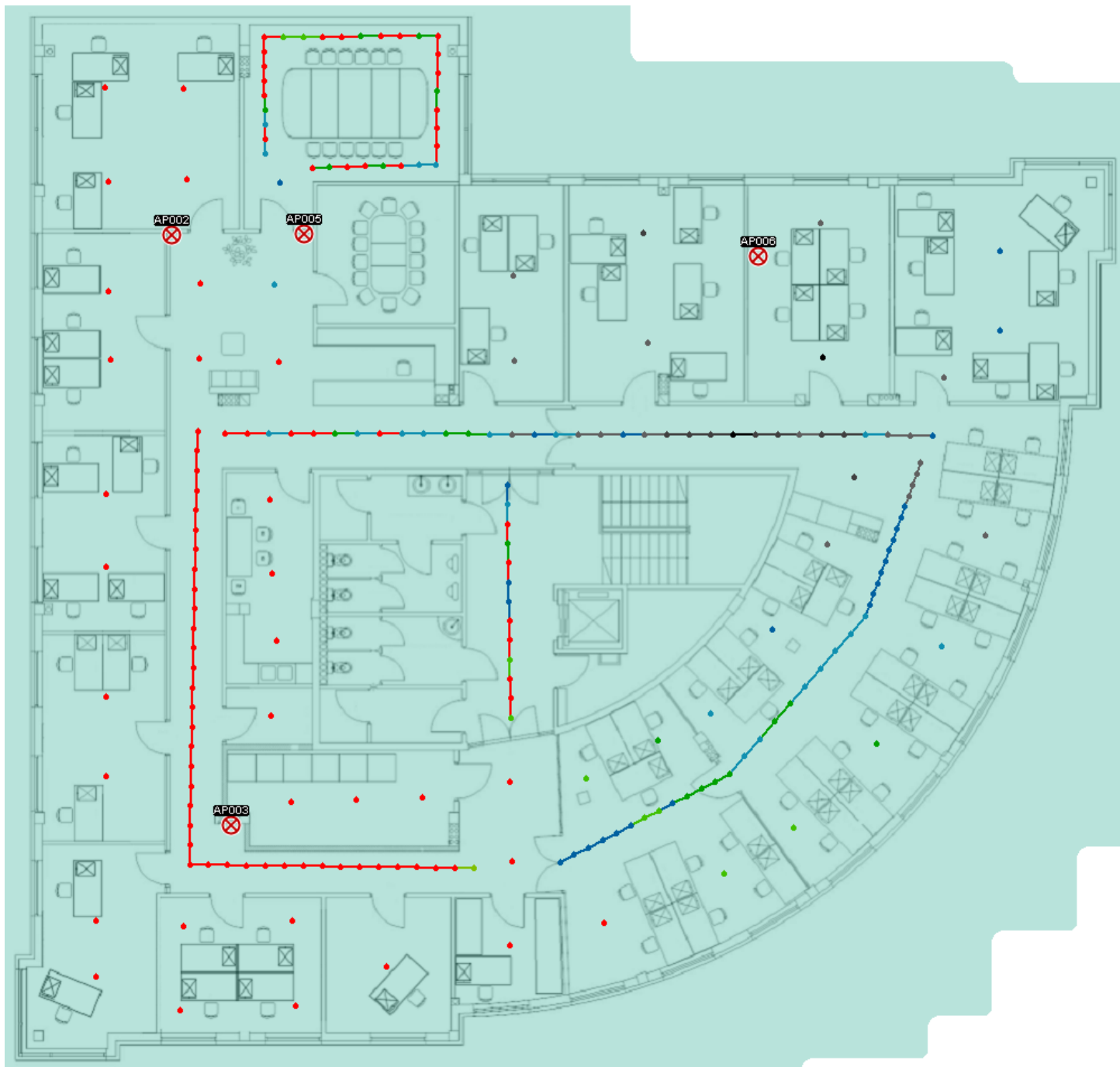

Figure 1

Heatmap: Signal

This heatmap shows the signal strength of AP003 located in the lower left corner. The blue area represents the strongest signal, followed by the green areas, with the brownish areas representing the weakest signal. Within each color, different shades of the base color show different signal levels within that color.

Areas in the top right and lower right are not colored since no data points were collected there so VisiWave has no opinion on what the coverage would be.

The legend is across the top of the map. In this case, the units are dBm since signal strengths are being mapped.

| -100.0 | -95.9 | -91.9 | -87.8 | -83.8 | -79.7 | -75.6 | -71.6 | -67.5 | -63.5 | -59.4 | -55.4 | -51.3 | -47.2 | -43.2 | -39.1 | -35.1 | -31.0 |
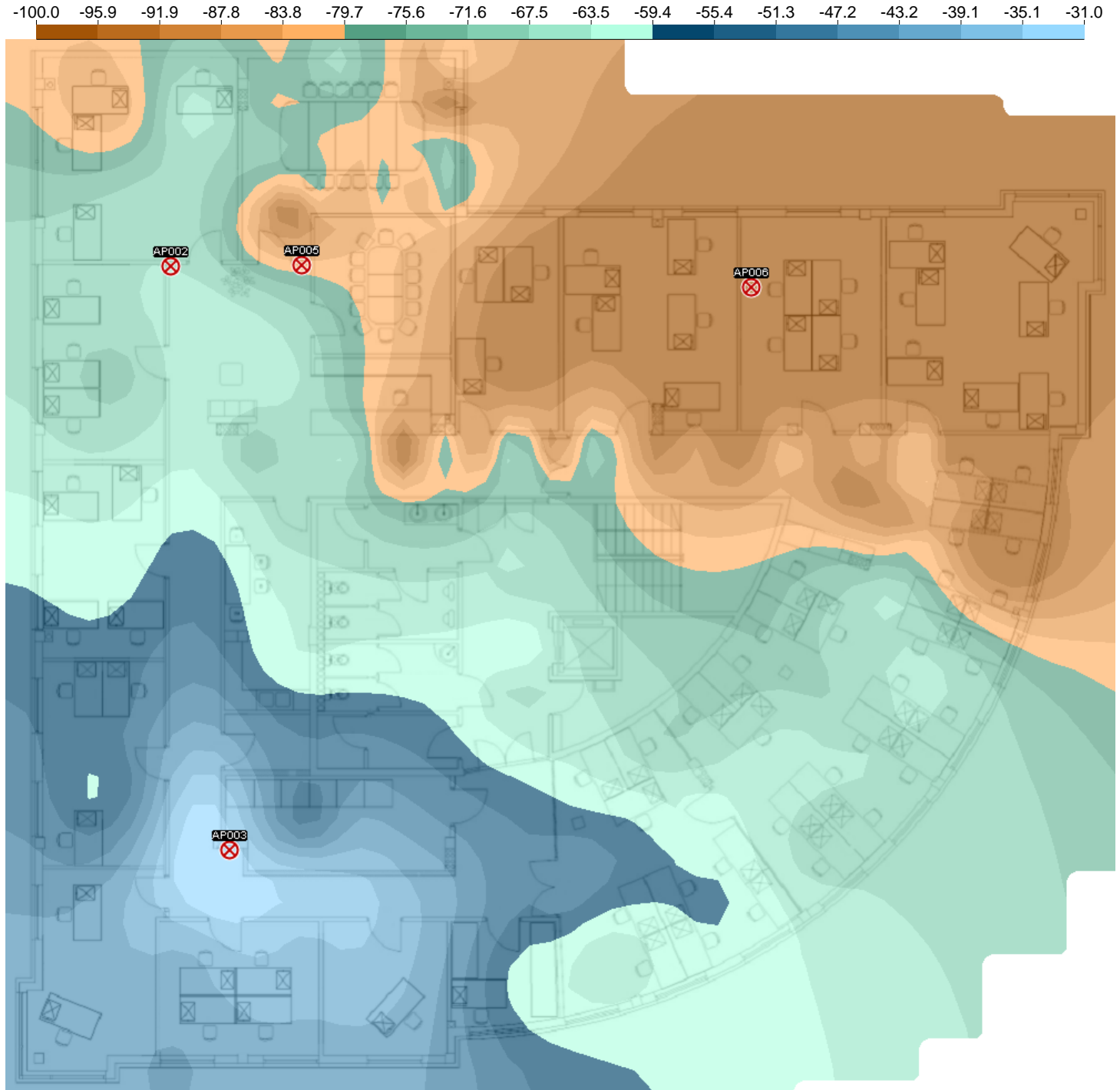
Figure 2: AP#13 AP003

Heatmap: Signal
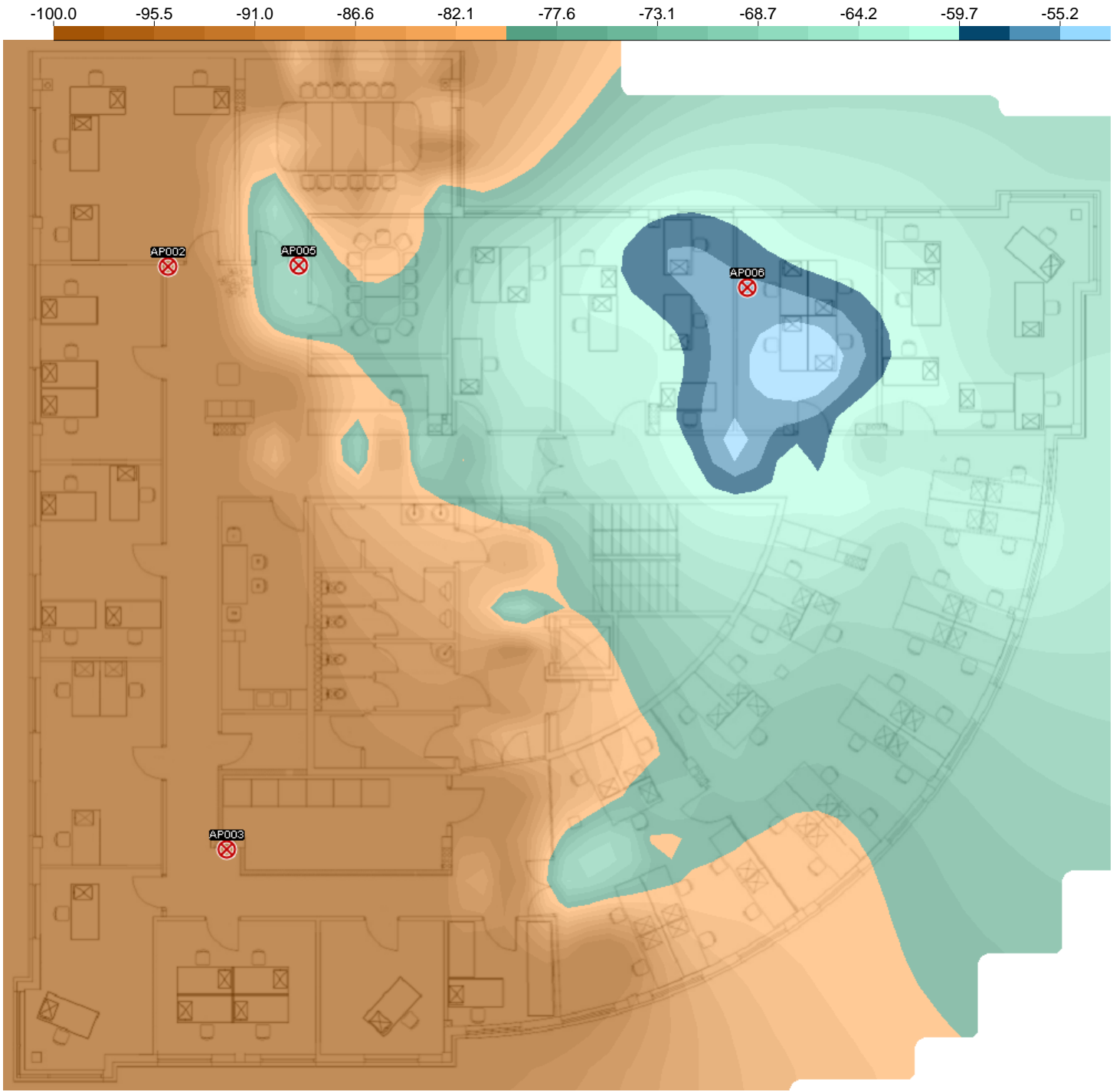
Figure 3: AP#0 AP006: This is also a heatmap but this time AP006, located in the upper right corner, is represented.

Heatmap: Signal

This heatmap shows the coverage of more than one access point (AP003 and AP006 from SSID _Sample_Product) and it zooms in on the upper left corner of the building where coverage is the weakest.
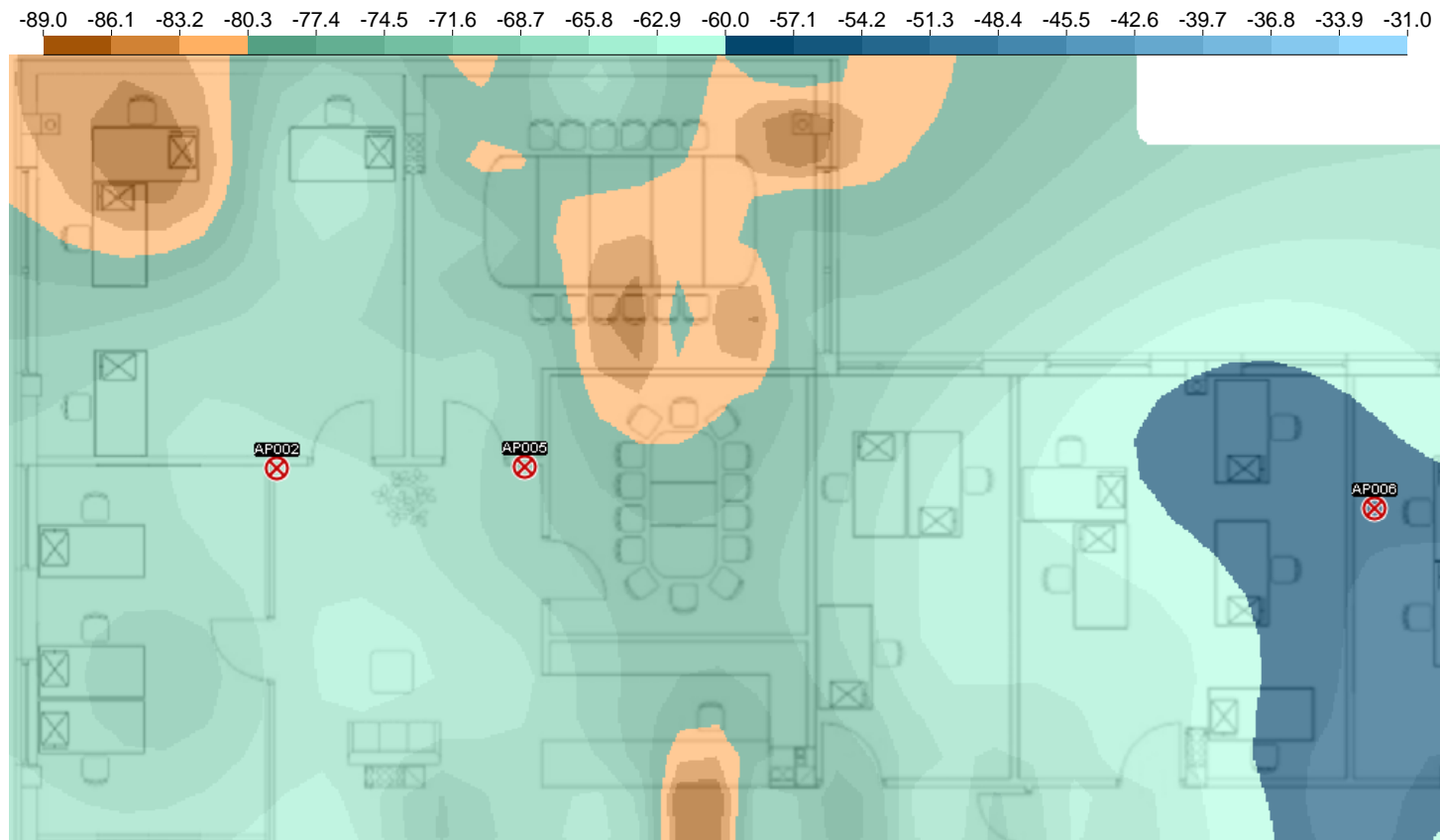
-89.0   -86.1   -83.2   -80.3   -77.4   -74.5   -71.6   -68.7   -65.8   -62.9   -60.0   -57.1   -54.2   -51.3   -48.4   -45.5   -42.6   -39.7   -36.8   -33.9   -31.0

Figure 4: AP#0 AP006, AP#13 AP003

Heatmap: Signal

-80.0 -77.5 -74.9 -72.4 -69.8 -67.3 -64.7 -62.2 -59.6 -57.1 -54.5 -52.0 -49.4 -46.9 -44.3 -41.8 -39.2 -36.7 -34.1 -31.6 -29.0
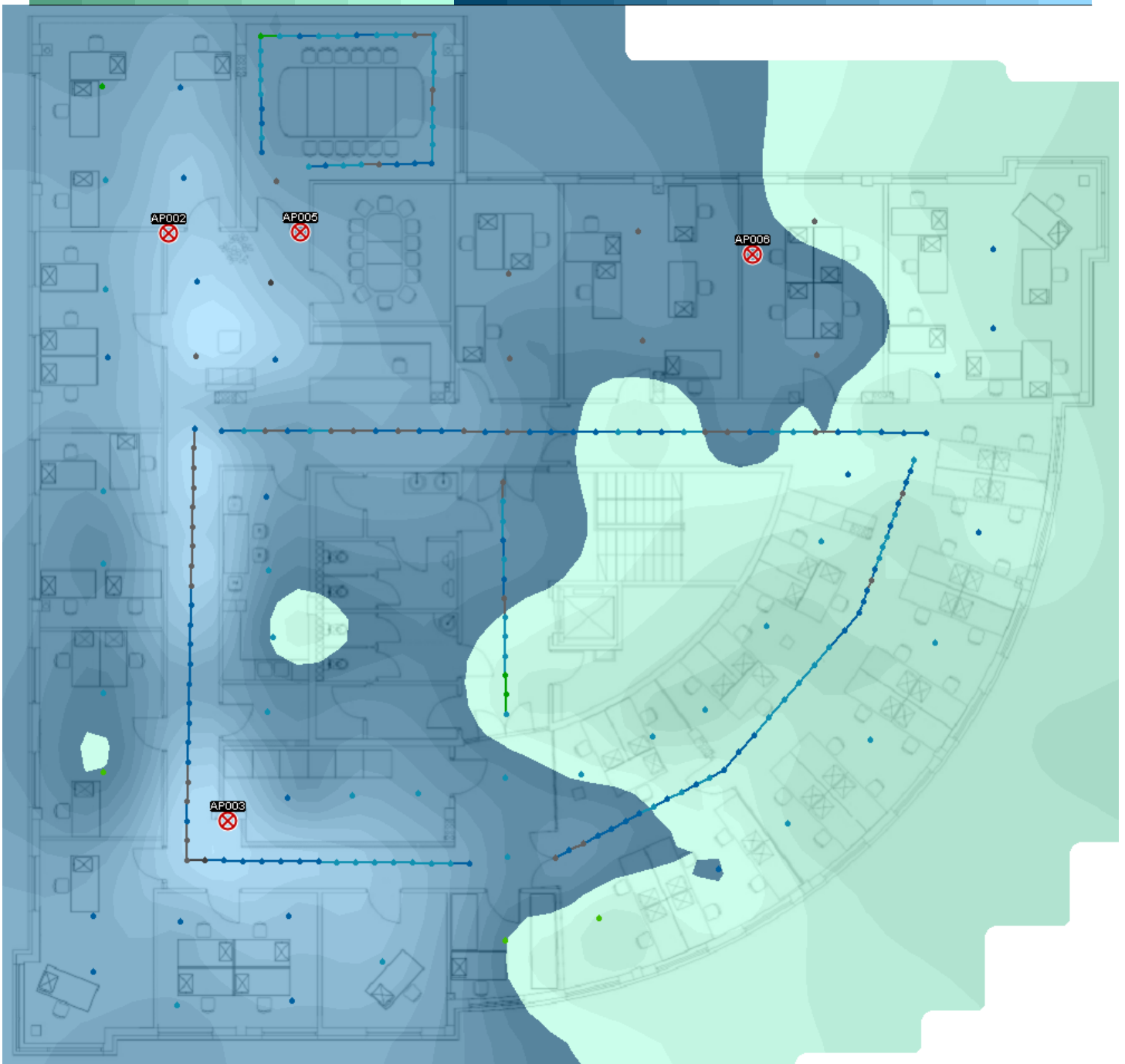
Figure 5: SSID: _Sample_Product (with an overlay of collected data points)

Heatmap: Signal
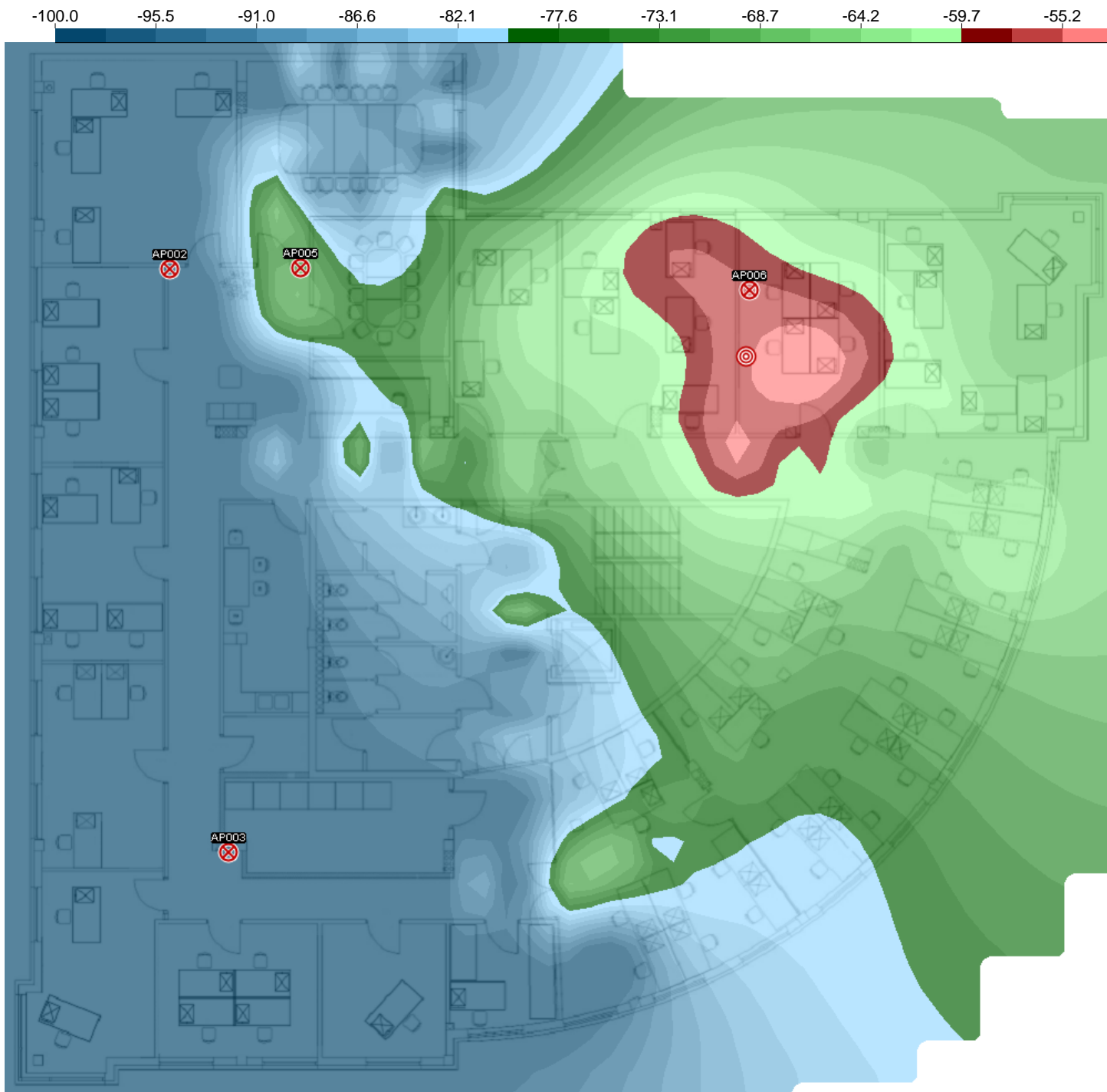
Figure 6: AP#0 AP006: Each heatmap can have its own custom set of colors. In this case, reds indicate the strongest signals and blues indicate the weakest.

Difference Heatmap

A difference heatmap creates a new heatmap by essentially substracting two existing heatmaps. For example, in this difference heatmap, the signal strength of a laptop computer running in adhoc mode is compared to the coverage from an access point located in nearly the same location. The red areas show where the laptop's signal is weaker and the blue areas show where the laptop's signal is stronger. The white/gray areas are nearly the same.

The heatmap formed using the APs selected in the AP Filter are compared against the heatmap formed using the APs selected in the "Secondary AP Filter". This list of APs can either be from the current survey file or from a survey done in the past. In this case, you could show how coverage has changed over time or after an office reconfiguration.
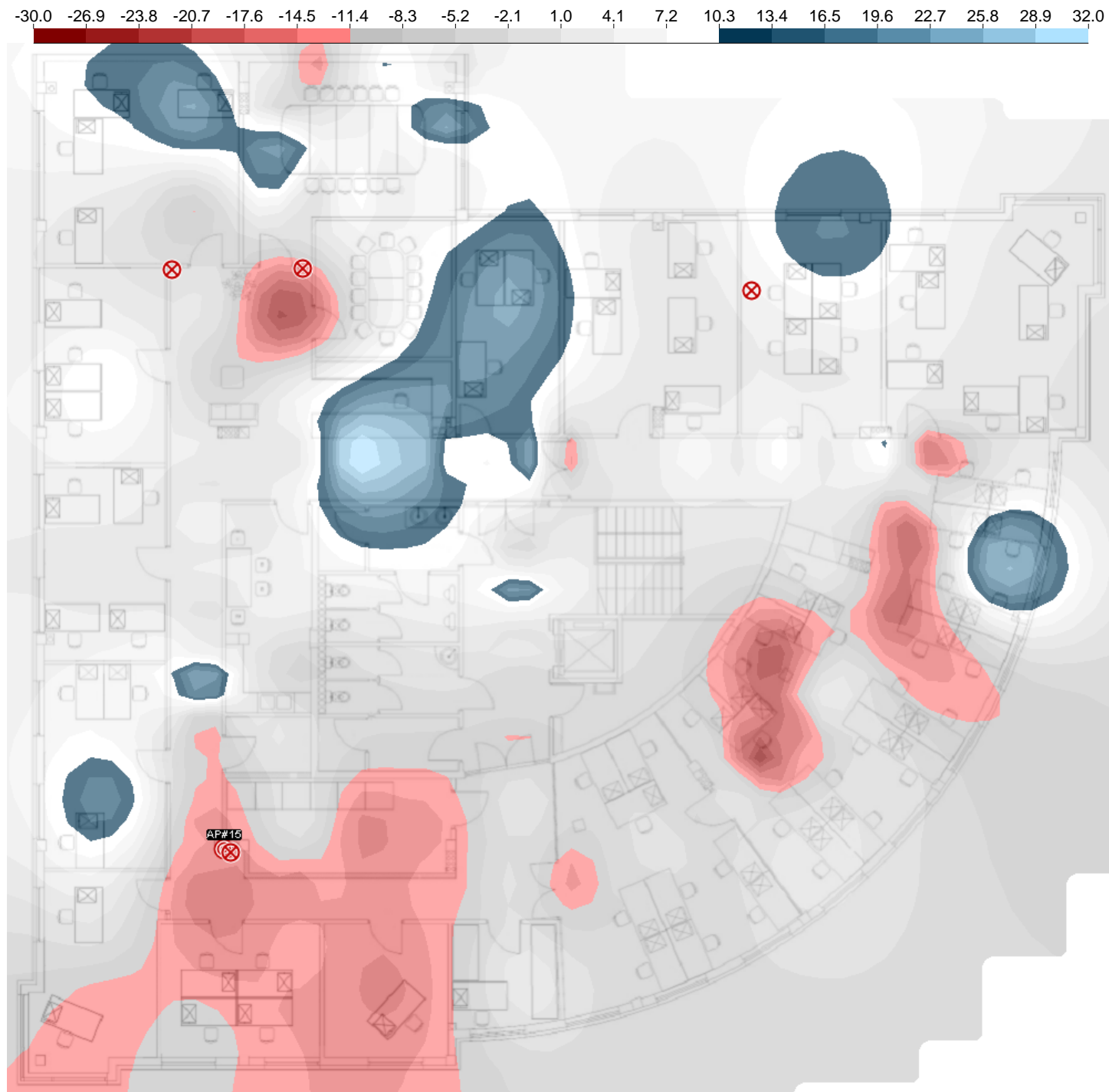
Figure 7: note1 vs AP#12 AP003

AP Coverage (Strongest)

An AP Coverage map shows the areas where each access point is dominate. Each AP has its own unique colored area that can be labeled as well. In this case, only areas with a signal strength of at least -70dBm (30dB SNR) are included.
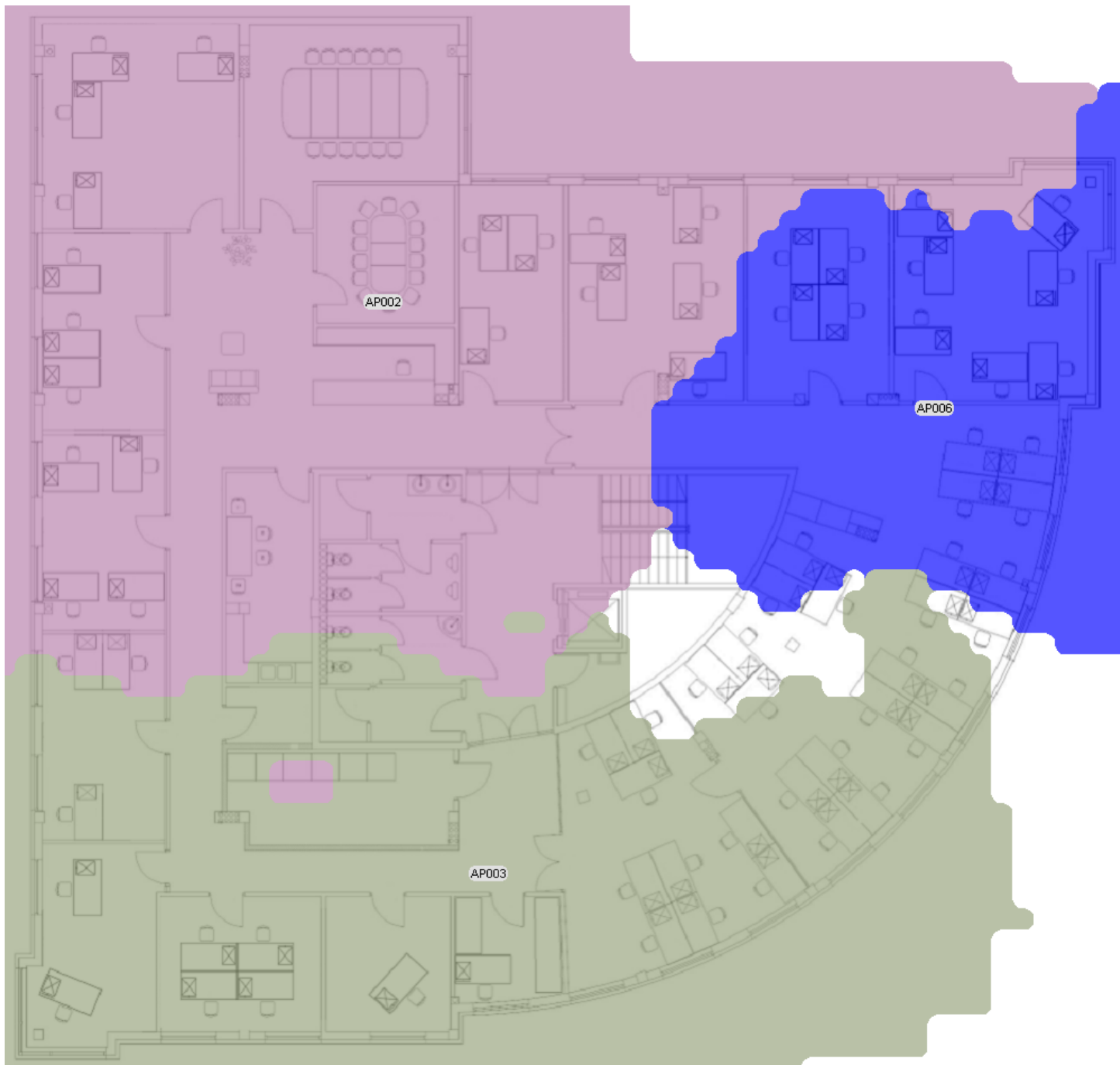

Figure 8: Minimum Signal-to-Noise Ratio: 30dB; _Sample_Product

Channel Map: All Channels

This map shows the areas covered by channels 1 and 11 with at least a signal strength of -85dBm. The green area represents the coverage area of channel 1. The brown area represents channel 11. The red area highlights where the two channels overlap. The clear area shows where the signals were too weak from either of these two access points.
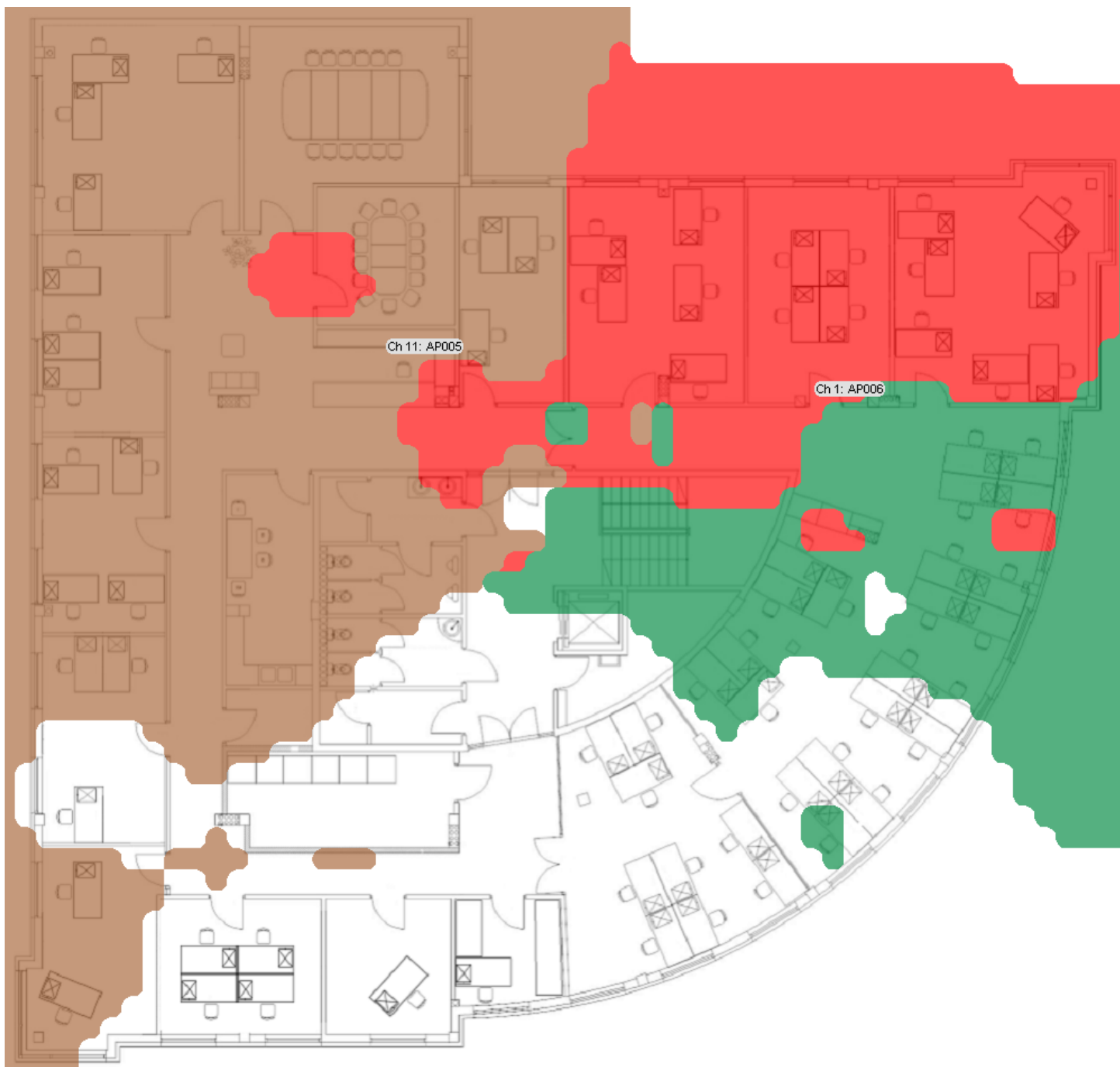

Figure 9: Overlapping Channels Highlighted; Minimum Signal-to-Noise Ratio: 15dB; AP#5 AP006, AP#6 AP005

Data Rate Map

This map shows the areas where two different data rates are used. Green represents the area where the "note1" SSID broadcasts at 11Mbps. The bluish-purple is covered by AP006 communicating at 54Mbps. The area colored teal is where both 11Mbps and 54Mbps are available.
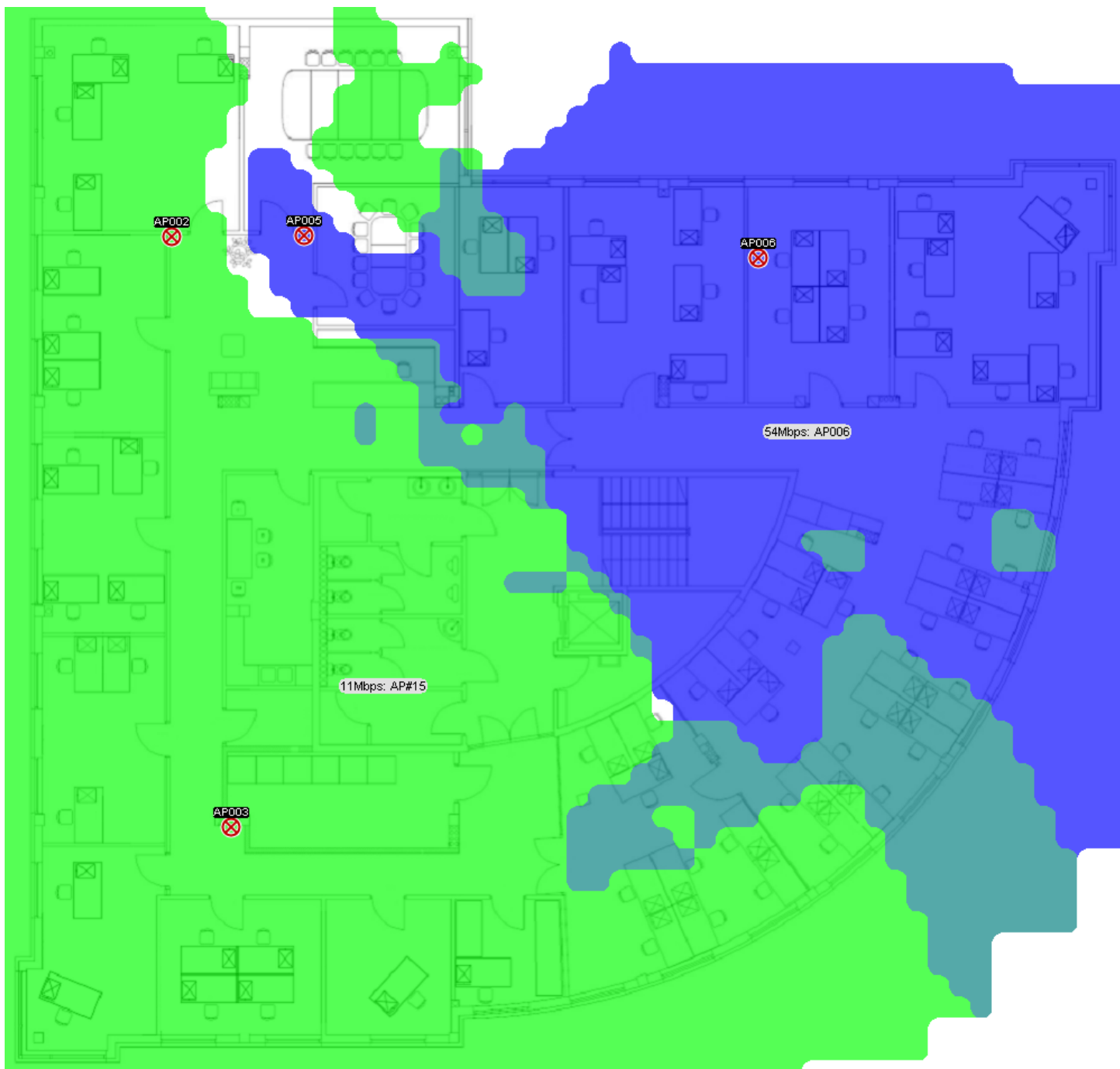

Figure 10: Minimum Signal-to-Noise Ratio: 20dB; note1, AP#0 AP006

Value Chart

With a value chart, you can see the actual data values collected and where they were located. The survey area is split into cells. Each cell shows counts and averages of data points collected within that cell. In this case, the number of data points in each cell is shown along with the average signal strength and standard deviation for all readings from AP003.
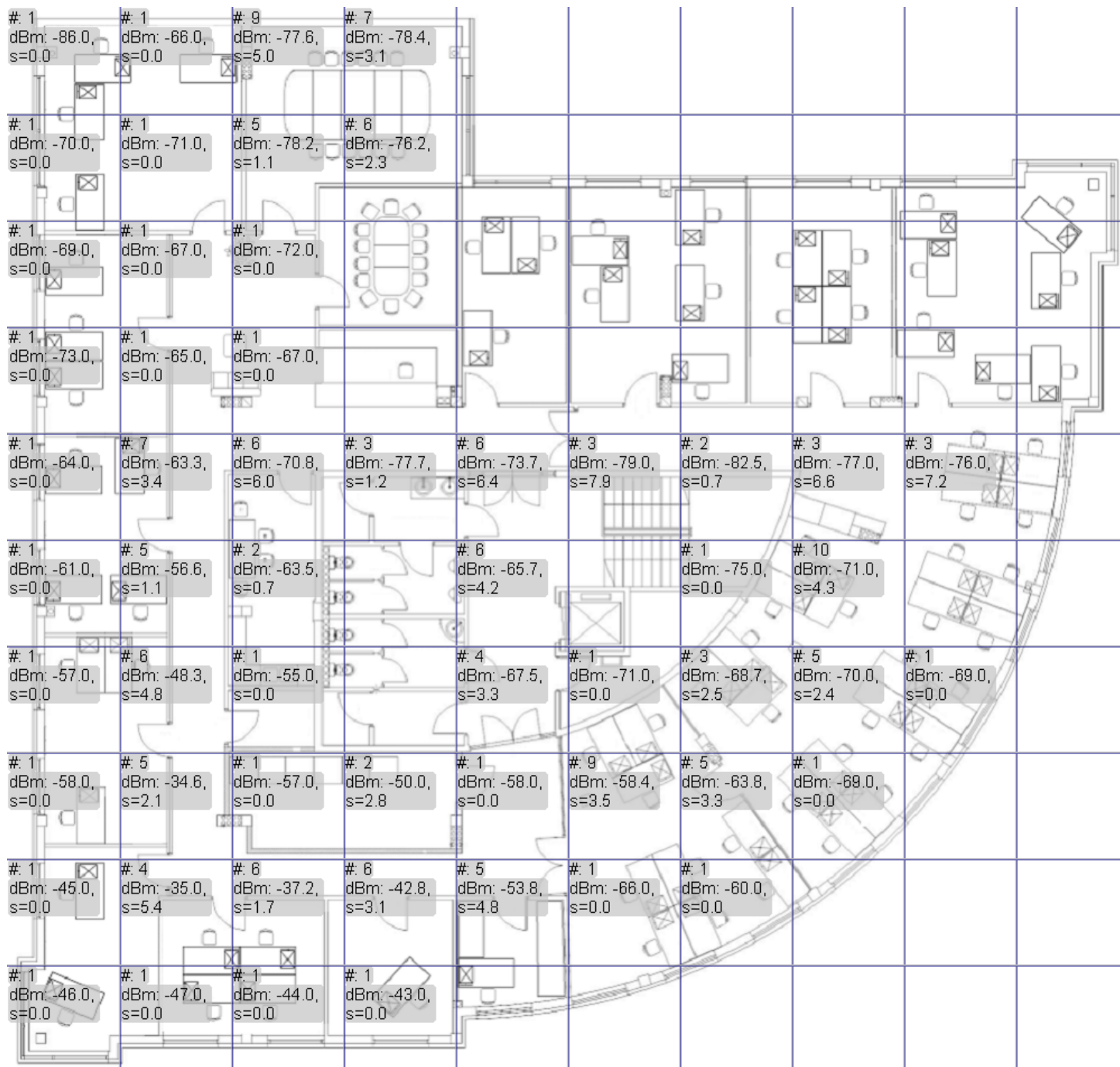

Figure 11: Datapoint Count,Ave Signal,Standard Deviations; AP#13 AP003