Site report - WLAN planning

Office building with atrium

+ High bay

warehouse





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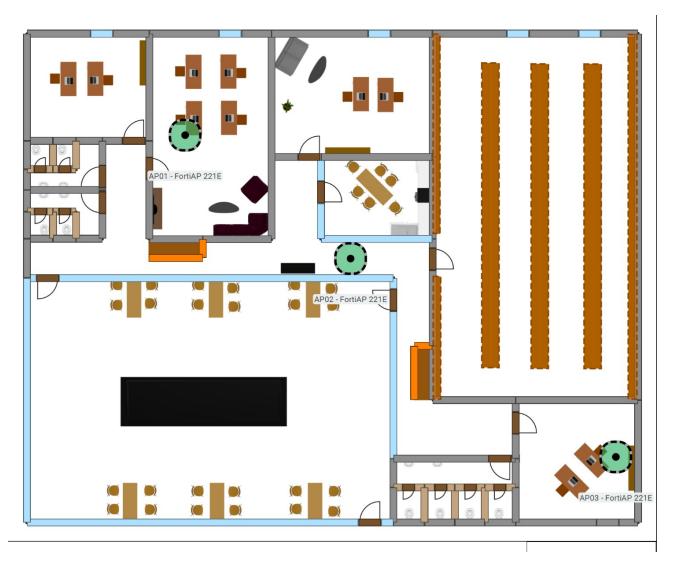
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Office building ground floor (3 APs)



Ground floor (427 m²)

Coverage requirement: Voice + Data	Signal strength Min	-70.0 dBm
	Secondary signal strength Min	-100.0 dBm
	Signal-to-noise ratio Min	20.0 dB
	Data rate Min	20 Mbit/s
	Channel interference Max	3 with min85.0 dBm

AP01 - FortiAP 221E: ceiling mounting

AP02 - FortiAP 221E: ceiling mounting

AP03 - FortiAP 221E: ceiling mounting



Signal strength for office building EG at 2.4 GHz band

Signal strength - sometimes referred to as coverage - is the most basic requirement of a wireless network. The general rule is that low signal strength indicates unreliable connections and therefore low data throughput.



≤ -90 dBm	-70	≥ -30 dBm



Signal strength for office building EG at 5 GHz band

Signal strength - sometimes referred to as coverage - is the most basic requirement of a wireless network. The general rule is that low signal strength indicates unreliable connections and therefore low data throughput.

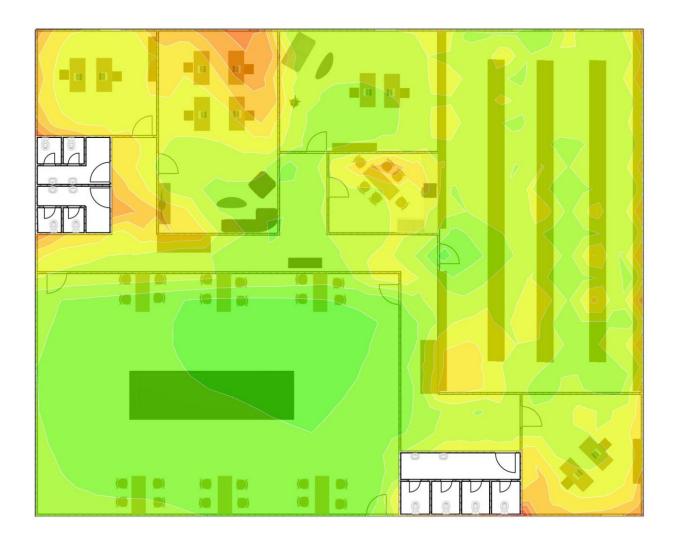


≤ -90 dBm	-70	≥ -30 dBm



Secondary signal strength for office building EG at 2.4 GHz band

Secondary signal strength shows the second strongest RSSI at any location on the map. This heat map helps ensure smooth roaming for customers and quality of service for certain latency-sensitive applications such as VoIP calls.

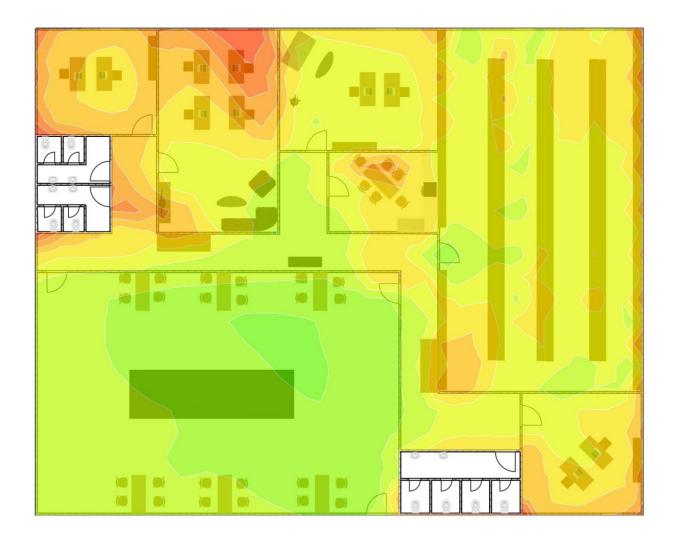


≤ -100 dBm	100		≥ -30 dBm
> -100 abiii	-100		2 -30 abiii



Secondary signal strength for office building EG at 5 GHz band

Secondary signal strength shows the second strongest RSSI at any location on the map. This heat map helps ensure smooth roaming for customers and quality of service for certain latency-sensitive applications such as VoIP calls.

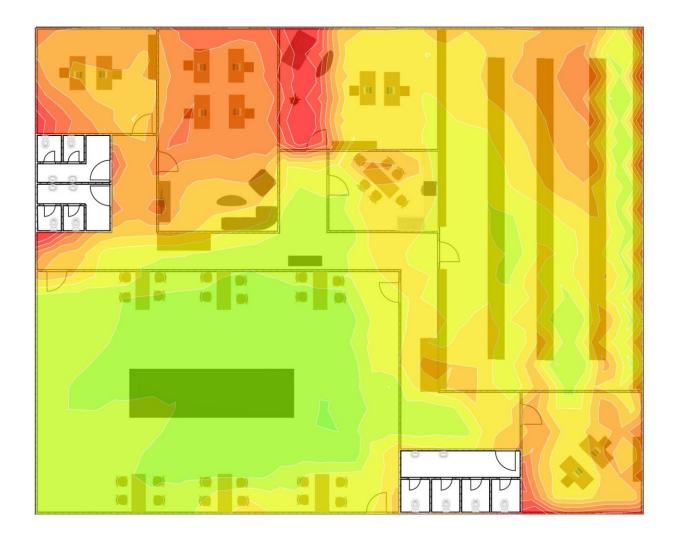


≤ -100 dBm	100		≥ -30 dBm
> -100 abiii	-100		2 -30 abiii



Tertiary signal strength for office building EG at 2.4 GHz band

Tertiary signal strength is used to indicate the third strongest RSSI at any point on the map. The tertiary signal is predominantly used to ensure that sufficient quality of service is provided for certain specialised services such as real time location services (RTLS).

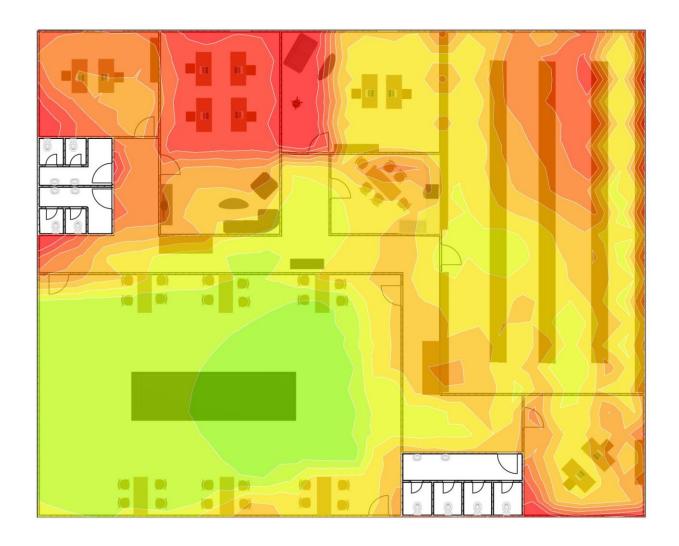






Tertiary signal strength for office building EG at 5 GHz band

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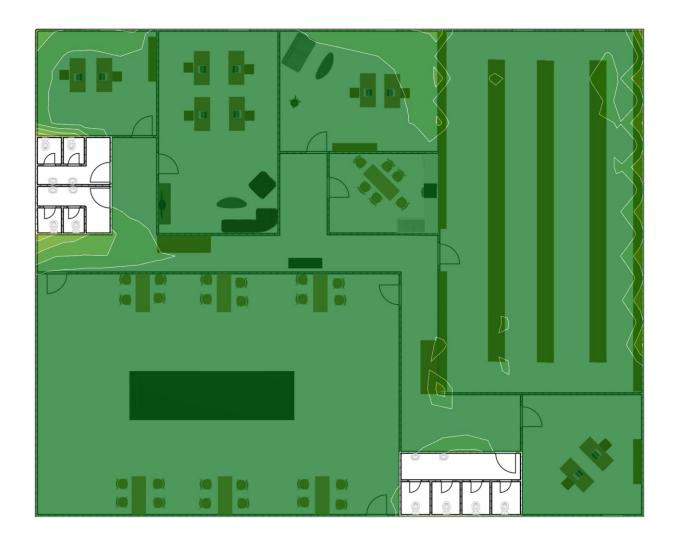


≤ -90 dBm ≥ -30 dBm



Signal-to-noise ratio for office building EG at 2.4 GHz band

The signal-to-noise ratio indicates the signal strength in relation to the noise (two-channel interference). For data transmission to take place, the signal strength must override the noise (SNR higher than 0). If the signal is only slightly stronger than the noise, occasional connection failures may occur.

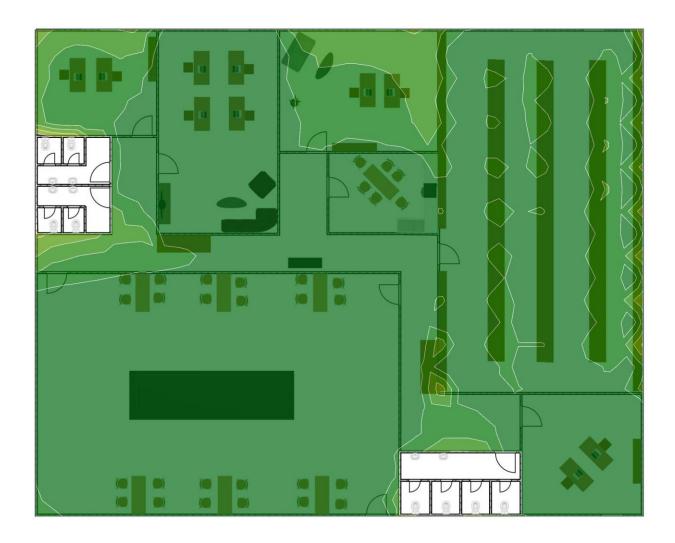


5 dB	20	≥ 40 dB
15-436-4-1		



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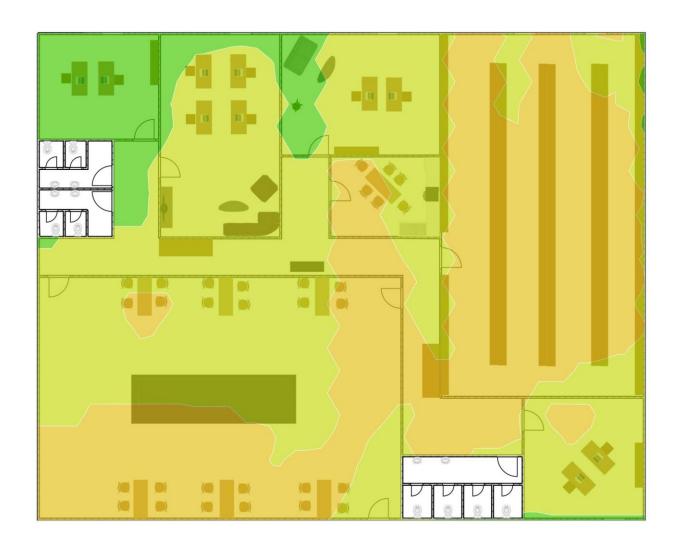






Channel interference for office building EG at 2.4 GHz band

Channel interference indicates the number of access points that overlap per site in a single channel.

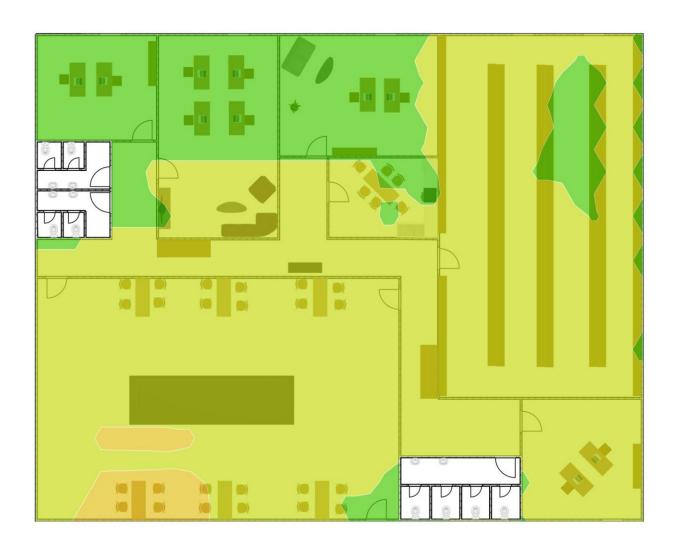






Channel interference for office building EG at 5 GHz band

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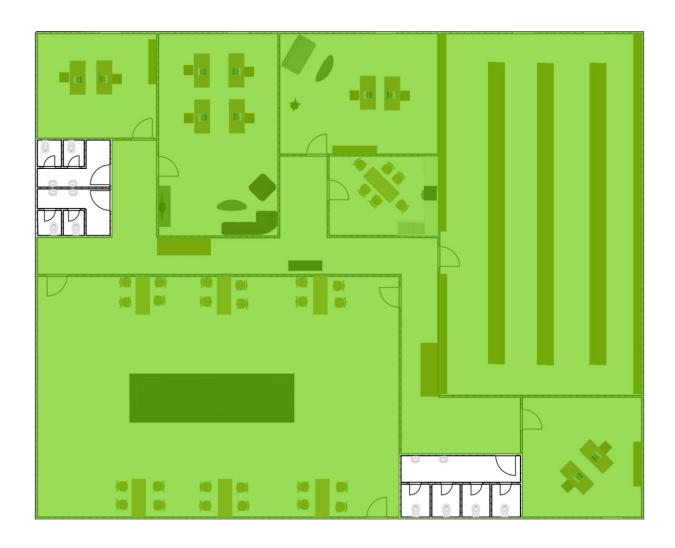






Noise for office building EG at 2.4 GHz band

Displays the calculated strength of the two-channel interference.

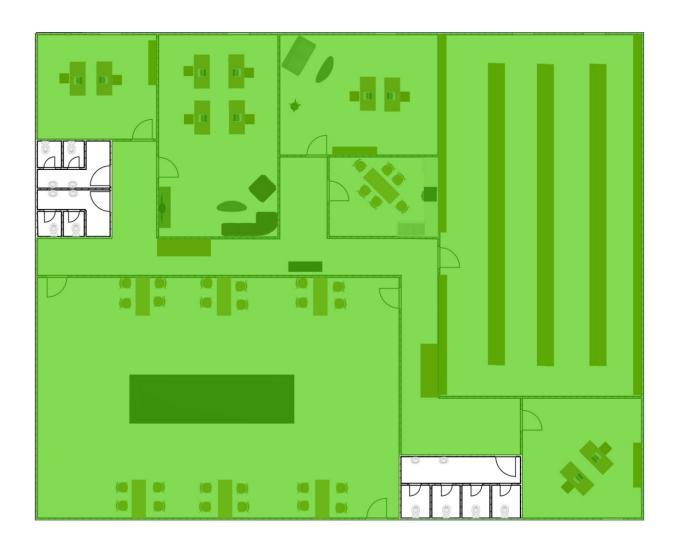






Noise for office building EG at 5 GHz band

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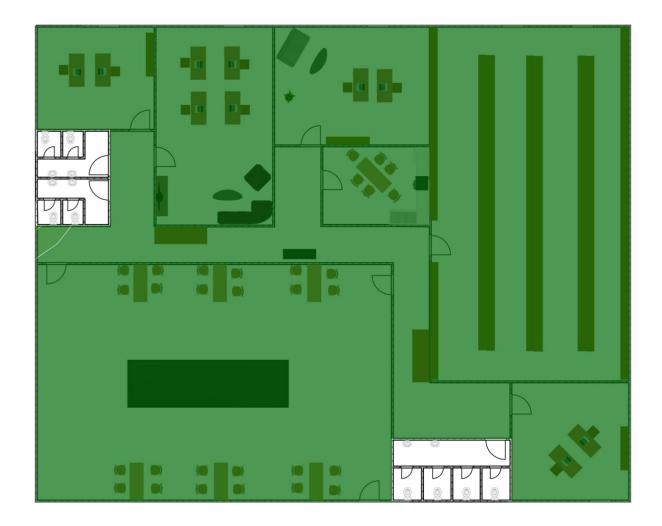






Data rate for office building EG at 2.4 GHz band

The data rate indicates the highest possible transmission speed (in megabits per second) at which a WLAN device transmits data. Normally, the actual data throughput is half the data rate or less.

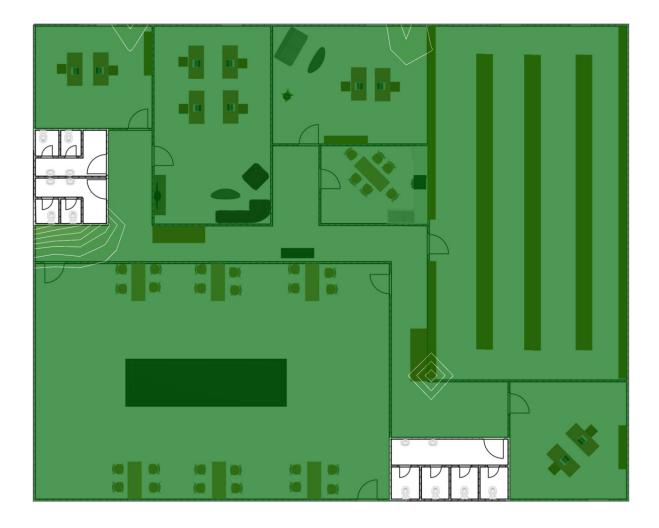


1 Mbit/s 150 Mbit/s



Data rate for office building EG at 5 GHz band

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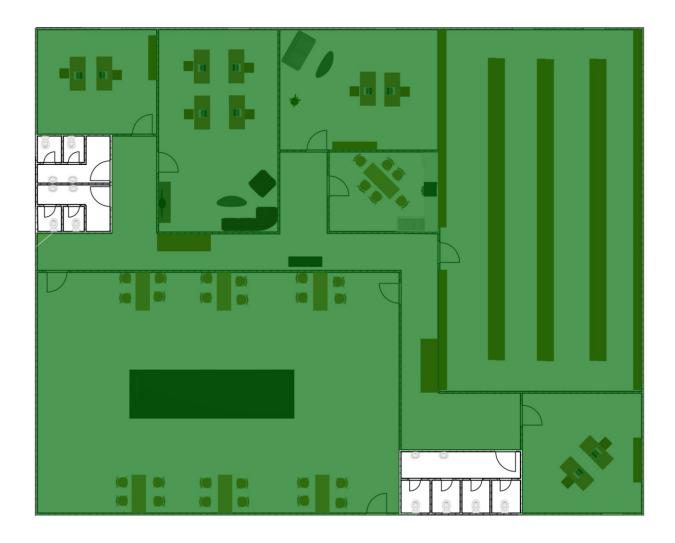


1 Mbit/s 150 Mbit/s



Throughput for office building EG at 2.4 GHz band

Displays the measured throughput. In case of non-existent measurements, the estimated maximum effective throughput is displayed.

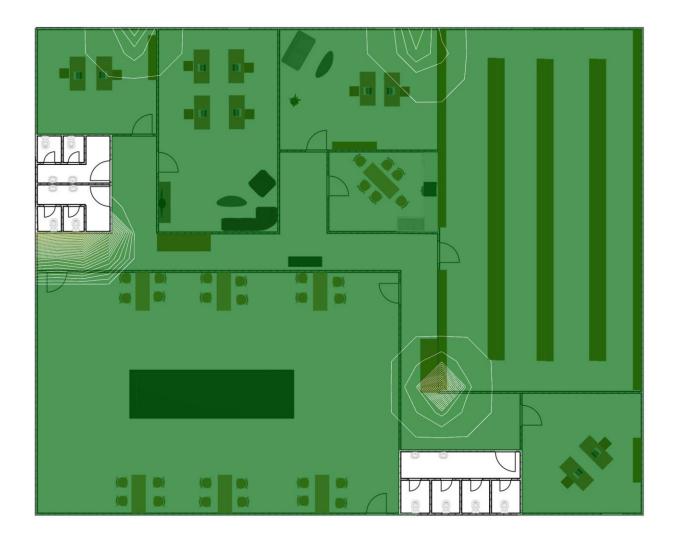


0 Mbit/s 110 Mbit/s



Throughput for office building EG at 5 GHz band

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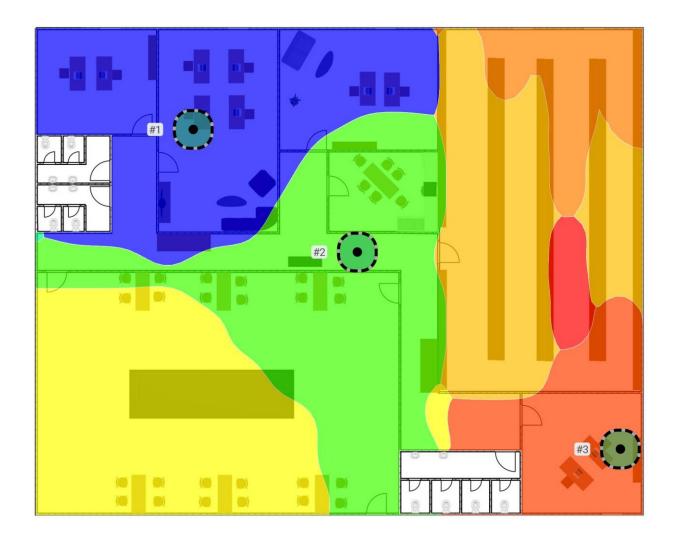


0 Mbit/s 110 Mbit/s



Assigned access point for office building ground floor

Shows the access point to which the client was assigned at the time of the ping measurement. The image shows prediction for assignment - signal strength



0 Mbit/s 110 Mbit/s

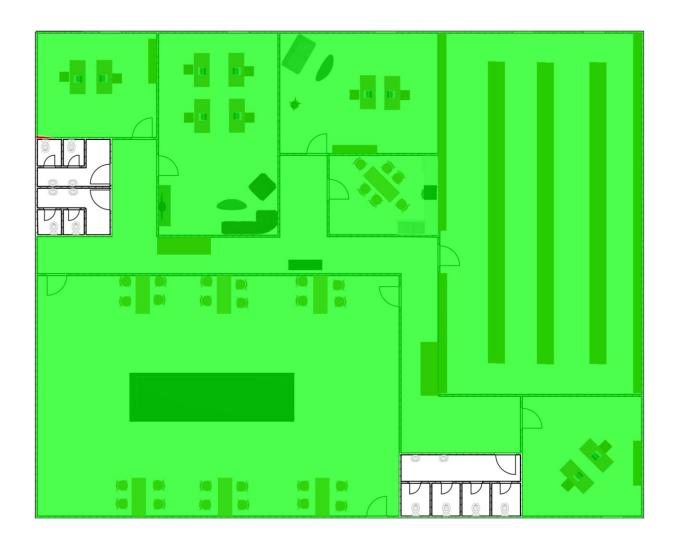


AP ∖#	Access Point				
1	AP01 - FortiAP 221E		Fortinet FortiAP-221E		
	•802.11n	11	100 mW	Fortinet FortiAP-221E 2.4GHz	
	802.11ac	36@40	100 mW	Fortinet FortiAP-221E 5GHz	
2	AP02 - FortiA	P 221E	Fortinet FortiAP-221E		
	•802.11n	1	100 mW	Fortinet FortiAP-221E 2.4GHz	
	802.11ac	60@40	100 mW	Fortinet FortiAP-221E 5GHz	
3	AP03 - FortiAP 221E		Fortinet FortiAP-221E		
	•802.11n	6	100 mW Fortinet FortiAP-221E 2.4GH		
	802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz	



Network status for office building EG at 2.4 GHz band

A WLAN is usually set up for one or more specific tasks, such as VoIP, web browsing or positioning. The Network Status feature allows you to see if the network is meeting your needs with a single visualisation.

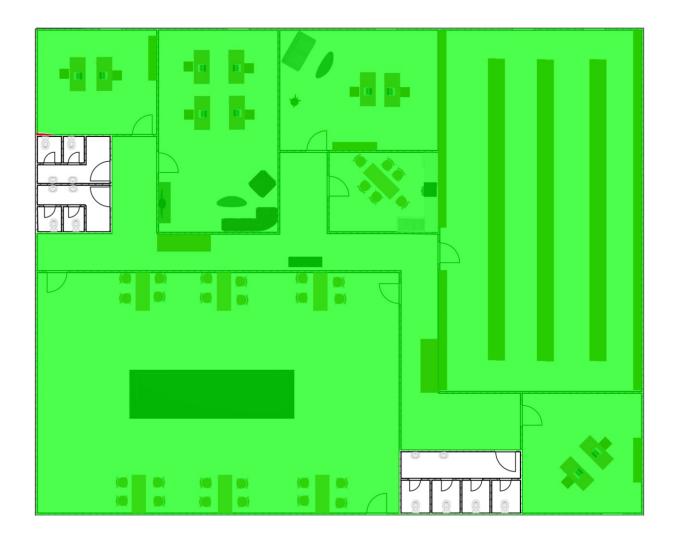


nicht ok ok



Network status for office building EG at 5 GHz band

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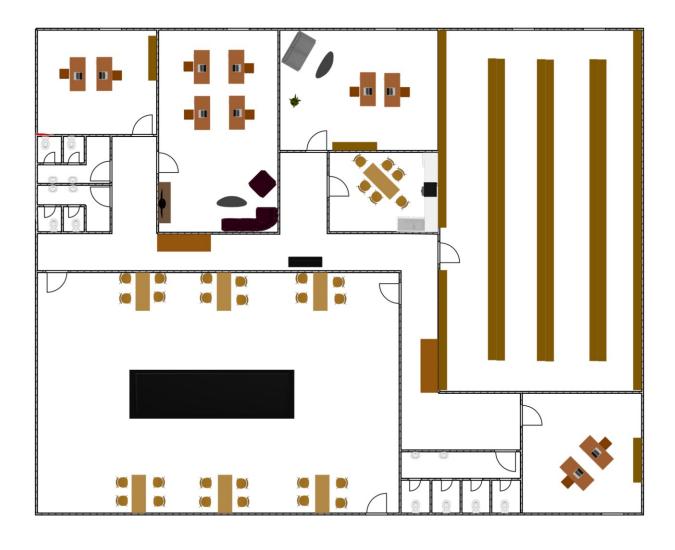


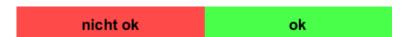
nicht ok ok



Network problems for office building EG at 2.4 GHz band

"Network Problems" complements "Network Status" by displaying the demand that is below the limit allowed for each item. So while "Network Status" gives an answer to the question "Is it working?", "Network Problems" answers the question "Why is it not working?".

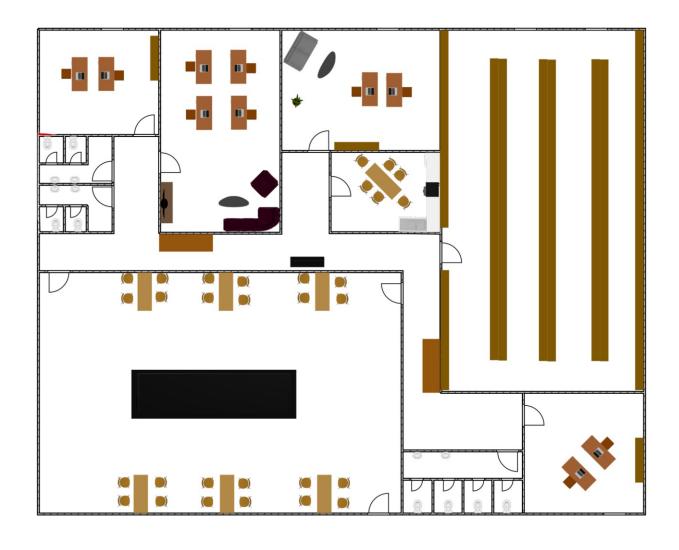


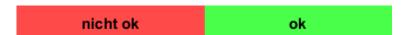




Network problems for office building EC at 5 GHz band

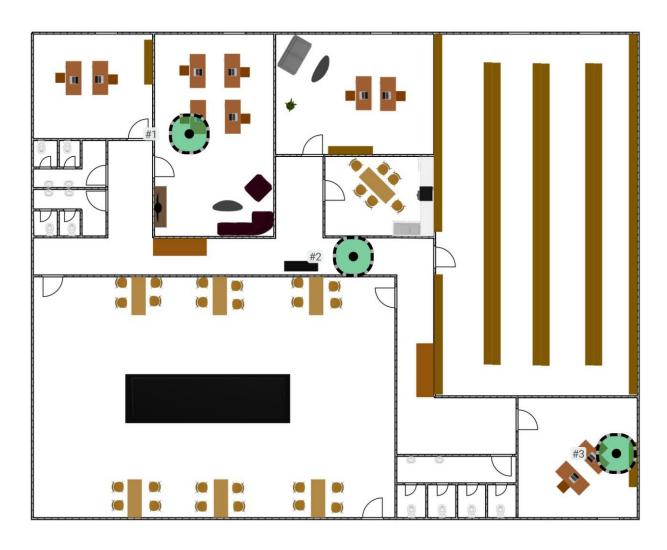
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Simulated access points in office building EG

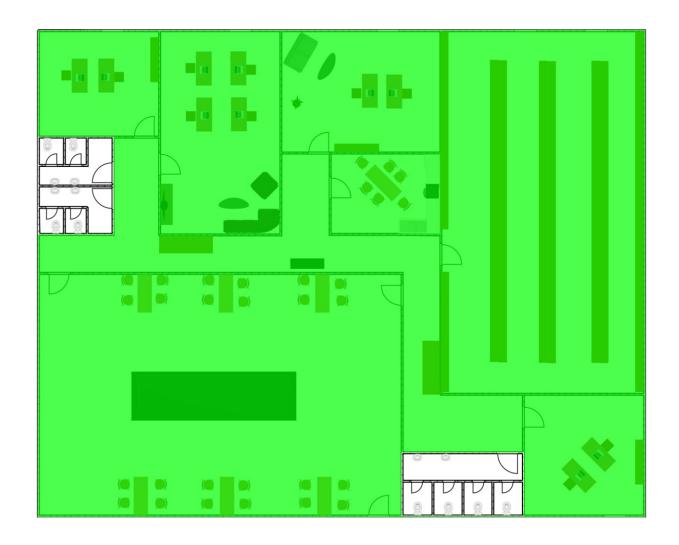


AP\#	Access Point				
1	AP01 - FortiAl	P 221E	Fortinet FortiAP-221E		
	802.11n	11	100 mW	Fortinet FortiAP-221E 2.4GHz	
	802.11ac	36@40	100 mW	Fortinet FortiAP-221E 5GHz	
2	AP02 - FortiAP 221E		Fortinet FortiAP-221E		
	802.11n	1	100 mW	Fortinet FortiAP-221E 2.4GHz	
	802.11ac	60@40	100 mW	Fortinet FortiAP-221E 5GHz	
3	AP03 - FortiAl	P 221E	Fortinet FortiAP-221E		
	802.11n	6	100 mW	Fortinet FortiAP-221E 2.4GHz	
	802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz	



Channel width for office building EG at 2.4 GHz band

Displays the maximum channel width in each area.

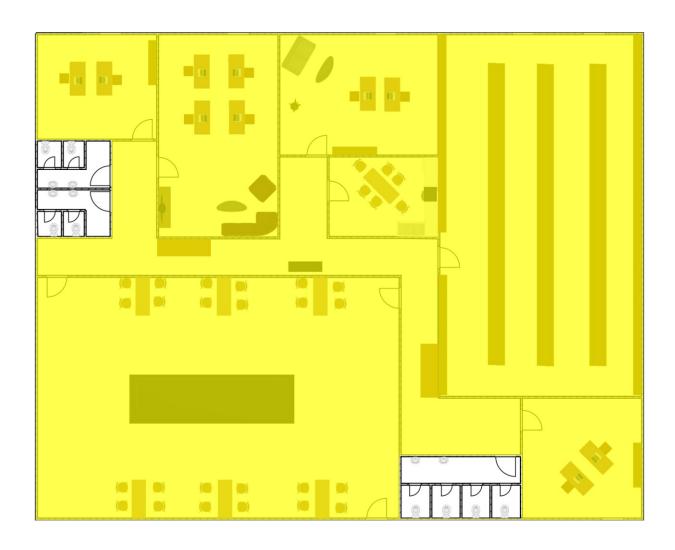


20MHz	40MHz	80MHz	160MHz
20141112	40101112	OUIVINZ	TOUIVITIZ



Channel width for office building EG at 5 GHz band

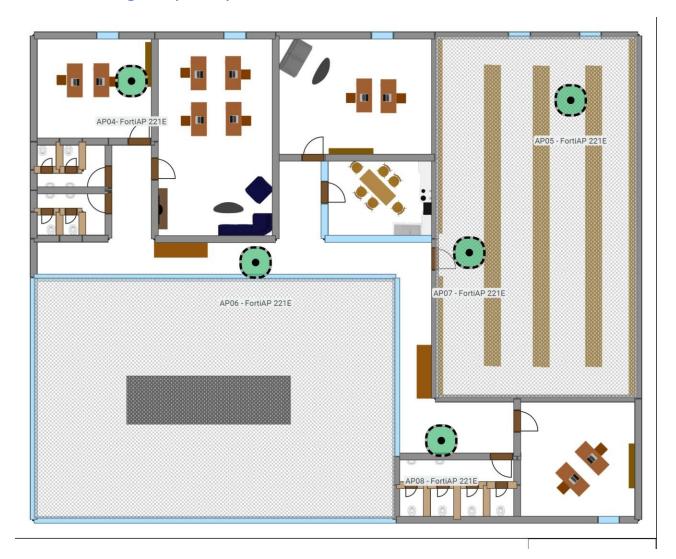
Displays the maximum channel width in each area.



20MHz	40MHz	80MHz	160MHz



Office building OG (5 APs)



First floor (183 m²)

Coverage requirement: Voice + Data	Signal strength Min	-70.0 dBm	
	Secondary signal strength Min -100.0 dBm		
	Signal-to-noise ratio Min	20.0 dB	
	Data rate Min	20 Mbit/s	
	Channel interference Max	3 with min85.0 dBm	

AP04 - FortiAP 221E: ceiling mounting

AP05 - FortiAP 221E: ceiling mounting

AP06 - FortiAP 221E: ceiling mounting

AP07 - FortiAP 221E: Mounting on ceiling



AP08 - FortiAP 221E: Mounting on ceiling



Signal strength for office building OG at 2.4 GHz band

Signal strength - sometimes referred to as coverage - is the most basic requirement of a wireless network. The general rule is that low signal strength indicates unreliable connections and therefore low data throughput.



≤ -90 dBm	-70	≥ -30 dBm



Signal strength for office building OG at 5 GHz band

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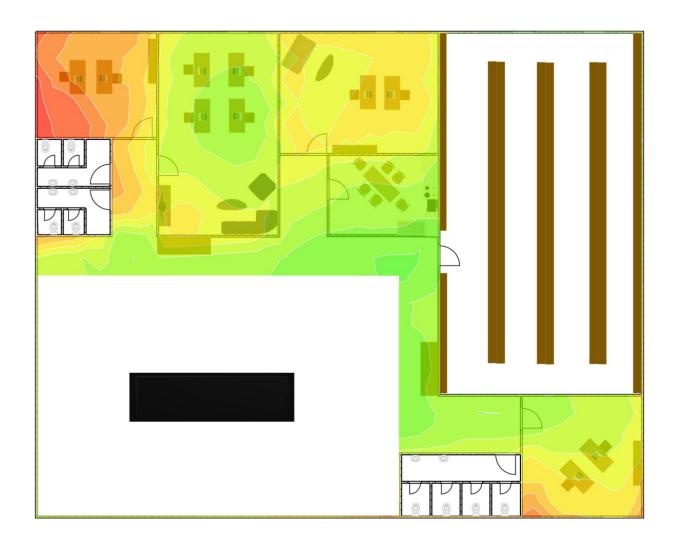


≤ -90 dBm	-70	≥ -30 dBm



Secondary signal strength for office building OG at 2.4 GHz band

Secondary signal strength shows the second strongest RSSI at any location on the map. This heat map helps ensure smooth roaming for customers and quality of service for certain latency-sensitive applications such as VoIP calls.



≤ -100 dBm	100		≥ -30 dBm
> -100 abiii	-100		≥ -30 abiii



Secondary signal strength for office building OG at 5 GHz band

Secondary signal strength shows the second strongest RSSI at any location on the map. This heat map helps ensure smooth roaming for customers and quality of service for certain latency-sensitive applications such as VoIP calls.

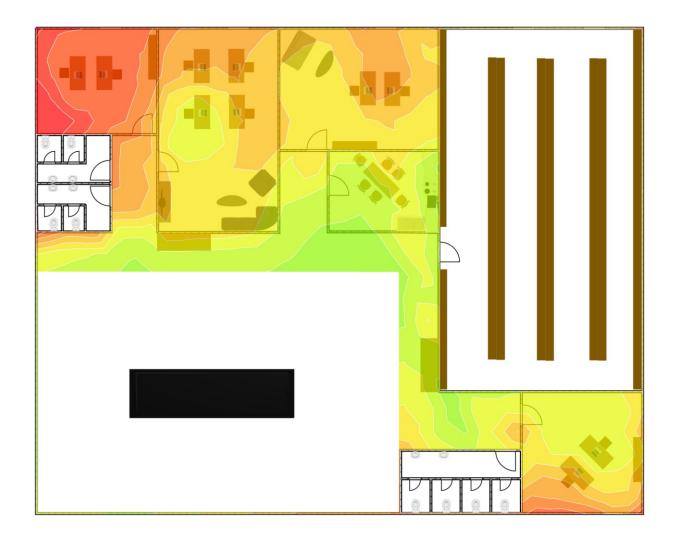


≤ -100 dBm	100		≥ -30 dBm
> -100 abiii	-100		≥ -30 abiii



Tertiary signal strength for office building OG at 2.4 GHz band

Tertiary signal strength is used to indicate the third strongest RSSI at any point on the map. The tertiary signal is predominantly used to ensure that sufficient quality of service is provided for certain specialised services such as real time location services (RTLS).

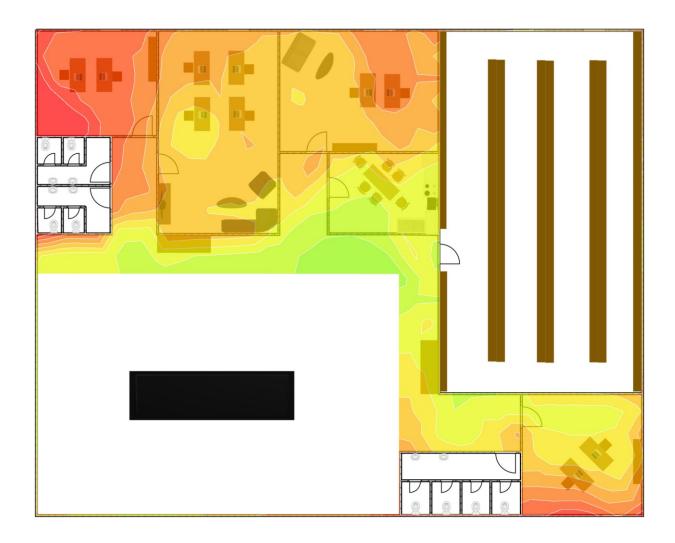






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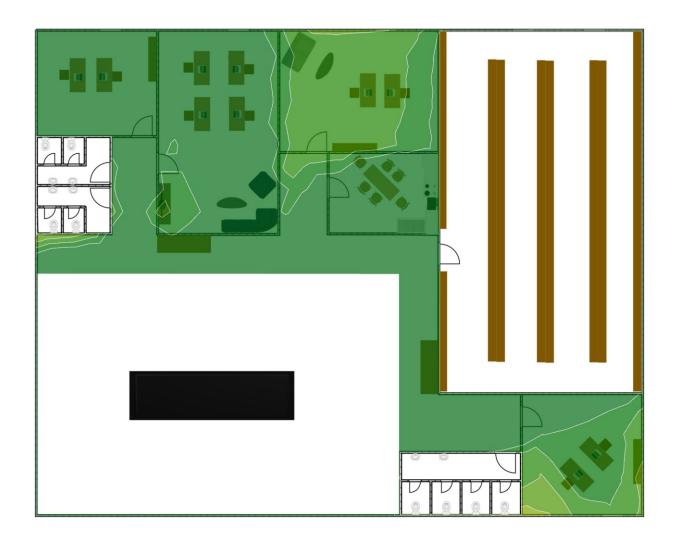


≤ -90 dBm		≥ -30 dBm



Signal-to-noise ratio for office building OG at 2.4 GHz band

The signal-to-noise ratio indicates the signal strength in relation to the noise (two-channel interference). For data transmission to take place, the signal strength must override the noise (SNR higher than 0). If the signal is only slightly stronger than the noise, occasional connection failures may occur.

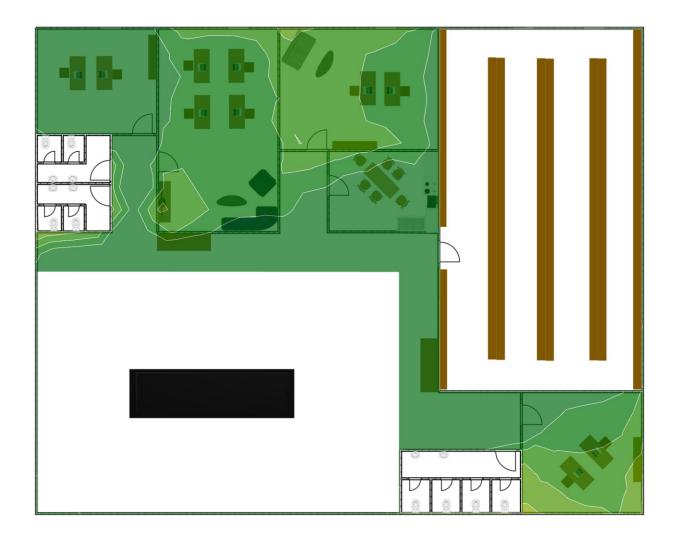


5 dB	20	≥ 40 dB
15-25-1-1		



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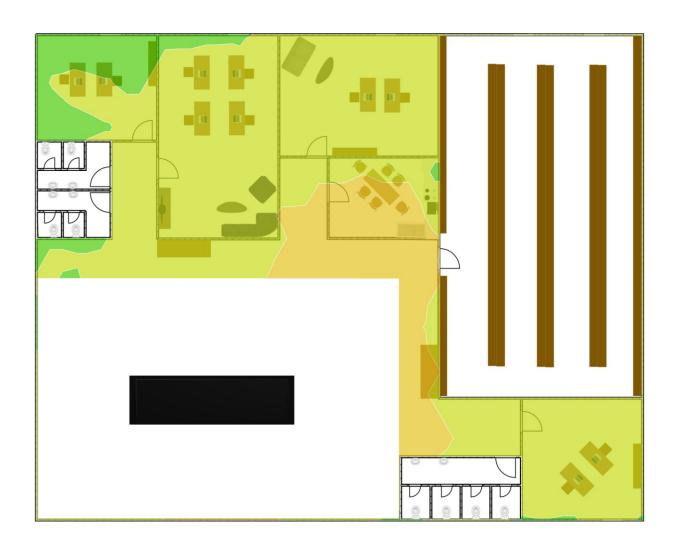


5 dB	20	≥ 40 dB



Channel interference for office building OG at 2.4 GHz band

Channel interference indicates the number of access points that overlap per site in a single channel.

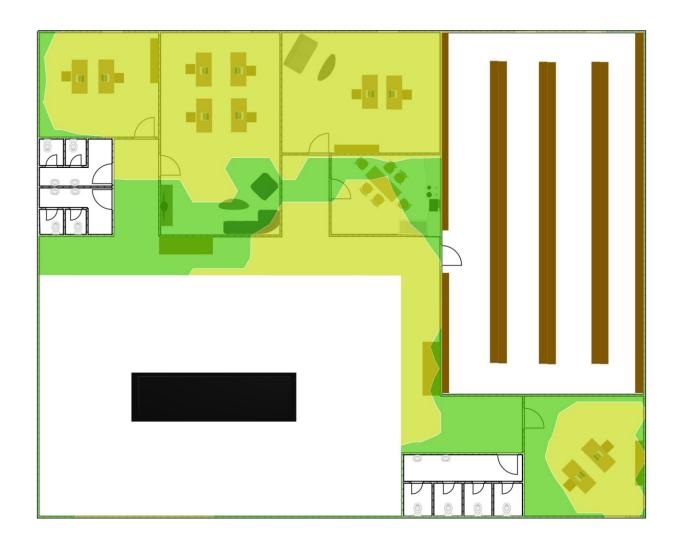






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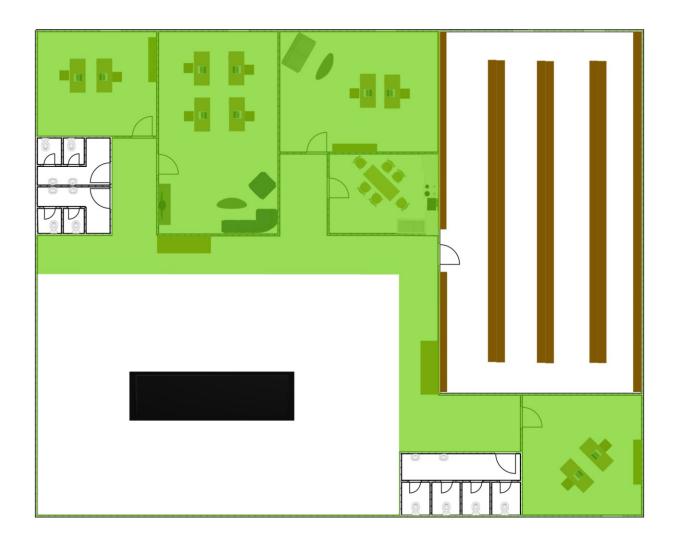






Noise for office building OG at 2.4 GHz band

Displays the calculated strength of the two-channel interference.

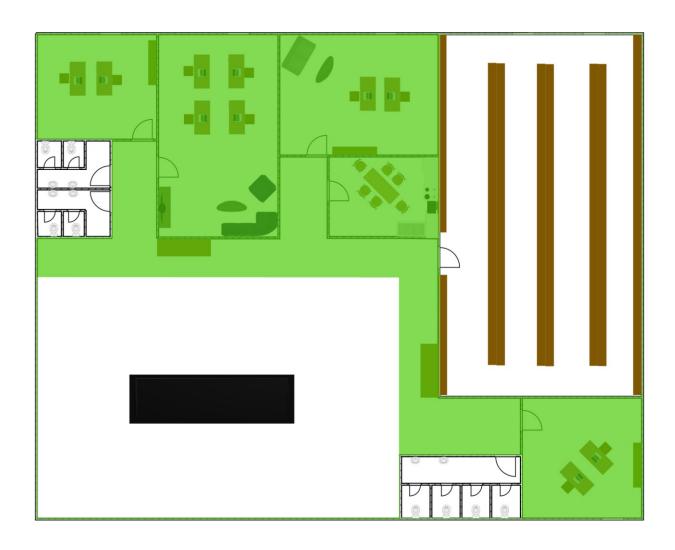






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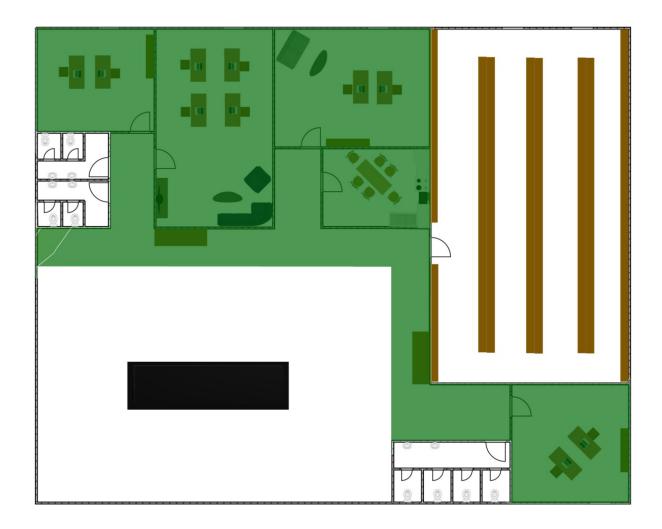


≤ -90 dBm	≥ -60 dBm



Data rate for office building OG at 2.4 GHz band

The data rate indicates the highest possible transmission speed (in megabits per second) at which a WLAN device transmits data. Normally, the actual data throughput is half the data rate or less.

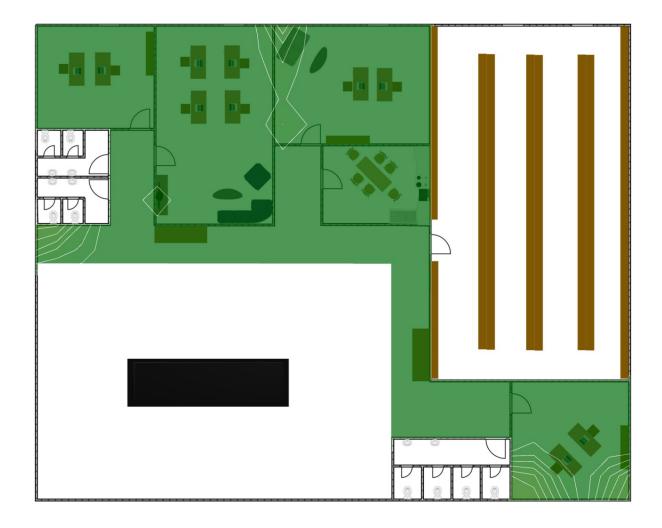


1 Mbit/s 150 Mbit/s



Data rate for office building OG at 5 GHz band

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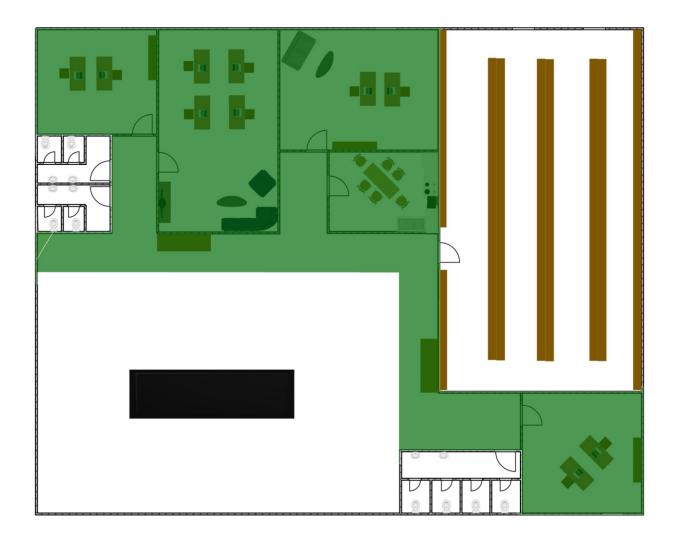


1 Mbit/s 150 Mbit/s



Throughput for office building OG at 2.4 GHz band

Displays the measured throughput. In case of non-existent measurements, the estimated maximum effective throughput is displayed.

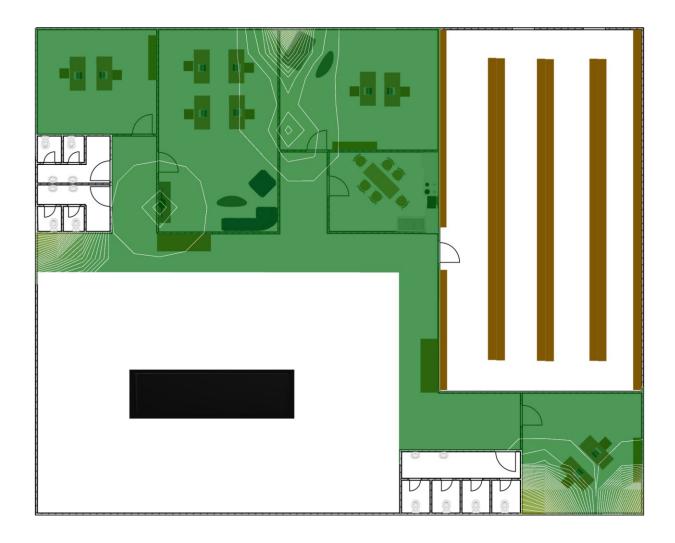


0 Mbit/s		110 Mbit/s
O MIDIUS		I I U WIDIUS



Throughput for office building OG at 5 GHz band

Displays the measured throughput. In case of non-existing measurements, the estimated maximum effective throughput is displayed.

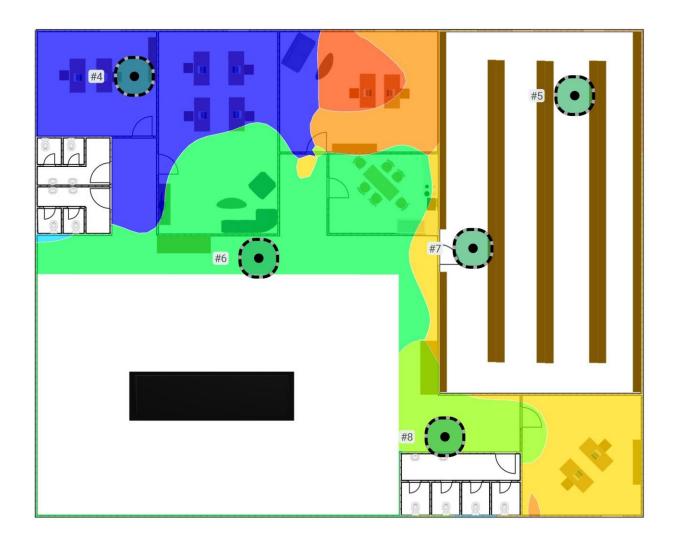


0 Mbit/s 110 Mbit/s



Assigned access point for office building OG

Shows the access point to which the client was assigned at the time of the ping measurement. The image shows prediction for assignment - signal strength



0 Mbit/s 110 Mbit/s

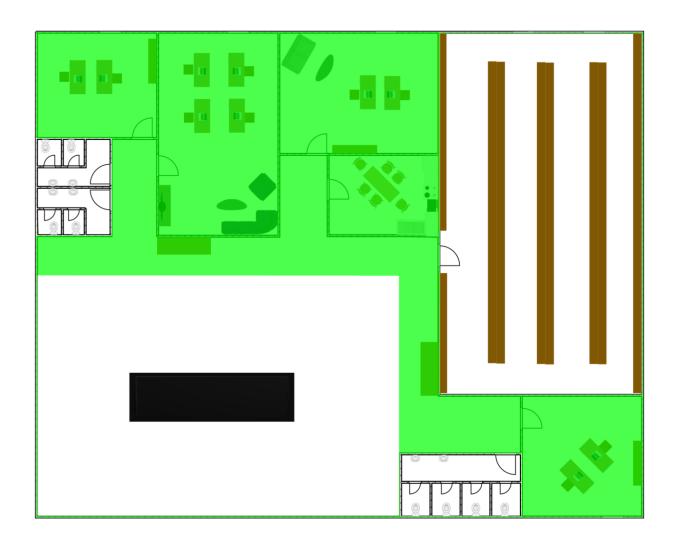


AP\#	Access Point					
4	AP04- FortiAP 221E		Fortinet FortiAP-221E	Fortinet FortiAP-221E		
	•802.11n	6	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz		
5	AP05 - FortiAP 221E		Fortinet FortiAP-221E	Fortinet FortiAP-221E		
	•802.11n	1	25 mW	Fortinet FortiAP-221E 2.4GHz		
	•802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz		
6	AP06 - FortiAP 221E		Fortinet FortiAP-221E			
	•802.11n	11	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	52@40	100 mW	Fortinet FortiAP-221E 5GHz		
7	AP07 - FortiAP 221E		Fortinet FortiAP-221E			
	•802.11n	6	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	36@40	100 mW	Fortinet FortiAP-221E 5GHz		
8	AP08 - FortiAP 221E		Fortinet FortiAP-221E			
	•802.11n	1	25 mW	Fortinet FortiAP-221E 2.4GHz		
	•802.11ac	60@40	100 mW	Fortinet FortiAP-221E 5GHz		



Network status for office building OG at 2.4 GHz band

A WLAN is usually set up for one or more specific tasks, such as VoIP, web browsing or positioning. The Network Status feature allows you to see if the network is meeting your needs with a single visualisation.

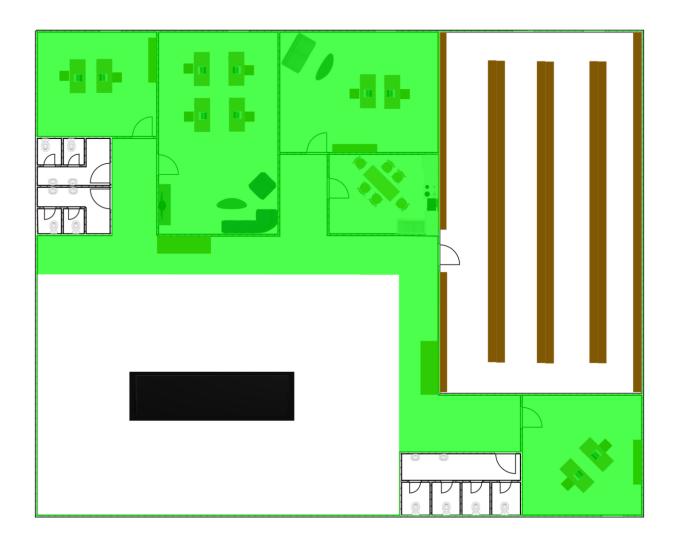






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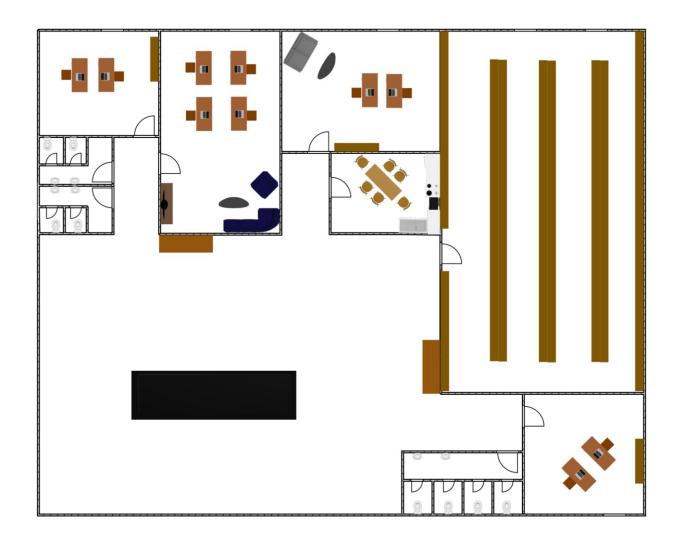


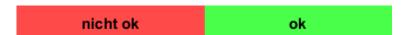
nicht ok ok



Network problems for office building OG at 2.4 GHz band

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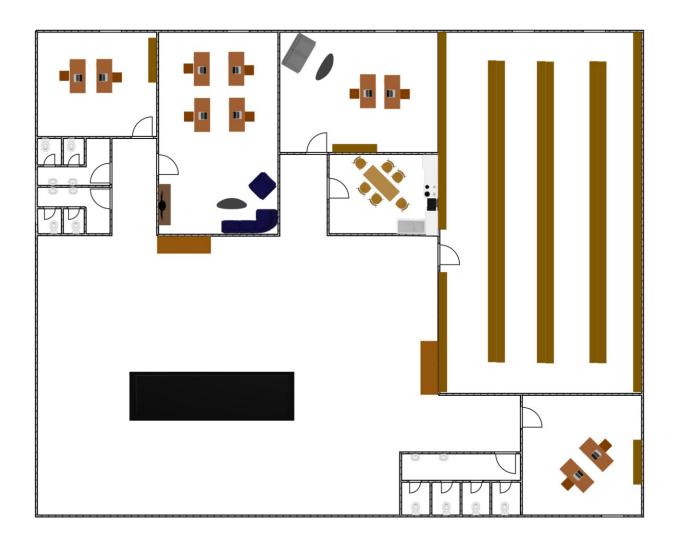


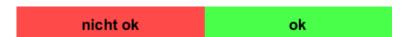




Network problems for office building OG at 5 GHz band

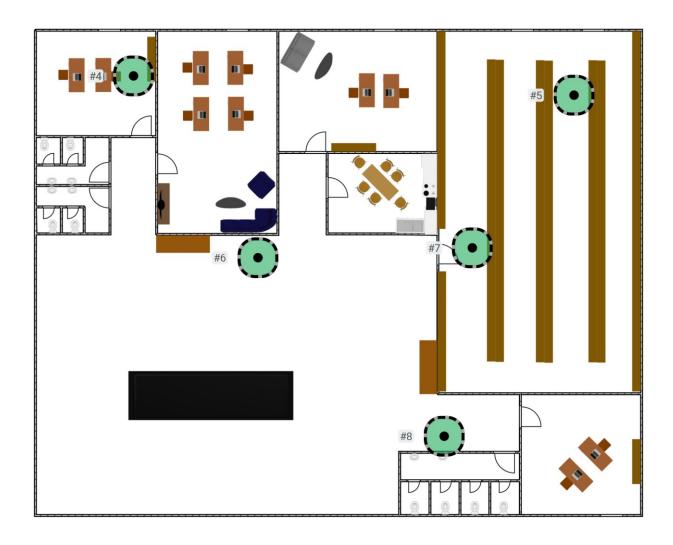
"Network Problems" complements "Network Status" by displaying the demand that is below the limit allowed for each item. So while "Network Status" gives an answer to the question "Is it working?", "Network Problems" answers the question "Why is it not working?".







Simulated access points in office building OG



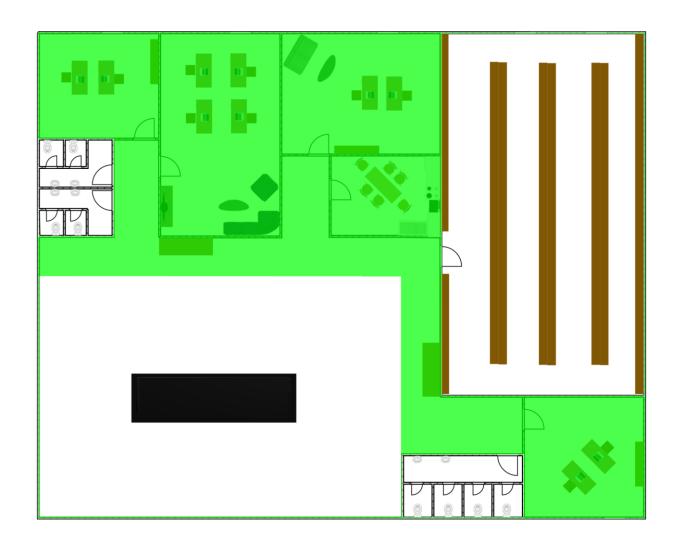


AP \#	Access Point					
4	AP04- FortiAP 221E		Fortinet FortiAP-221E	Fortinet FortiAP-221E		
	802.11n	6	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz		
5 AP05 - For		AP 221E	Fortinet FortiAP-221E	1		
	802.11n	1	25 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	44@40	100 mW	Fortinet FortiAP-221E 5GHz		
6	6 AP06 - FortiAP 221E		Fortinet FortiAP-221E	Fortinet FortiAP-221E		
	802.11n	11	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	52@40	100 mW	Fortinet FortiAP-221E 5GHz		
7	AP07 - FortiAP 221E		Fortinet FortiAP-221E			
	802.11n	6	100 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	36@40	100 mW	Fortinet FortiAP-221E 5GHz		
8	AP08 - FortiAP 221E		Fortinet FortiAP-221E			
	802.11n	1	25 mW	Fortinet FortiAP-221E 2.4GHz		
	802.11ac	60@40	100 mW	Fortinet FortiAP-221E 5GHz		



Channel width for office building OG at 2.4 GHz band

Displays the maximum channel width in each area.





Channel width for office building OG at 5 GHz band

Displays the maximum channel width in each area.

