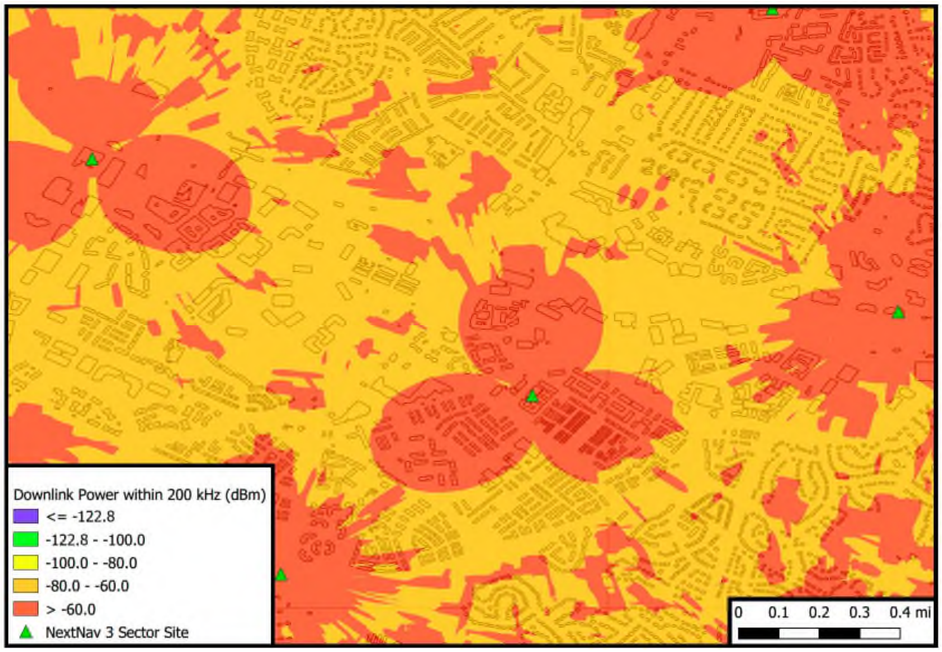
Radio Coexistence Study Between Lower 900 MHz Incumbents and Potential 5G Network



September 9, 2025

For Security Industry Association
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Executive Summary

This report provides an independent assessment, conducted by Pericle Communications Company ("Pericle")[1] for the Security Industry Association, of the feasibility of coexistence between incumbent unlicensed Part 15 radios operating within the 902-928 MHz Band (the "Lower 900 MHz Band") and the proposed 5G cellular network described in a Petition for Rulemaking submitted by NextNav Inc. ("NextNav").[2] Currently, the Lower 900 MHz Band is utilized by billions of unlicensed devices and millions of users, across a range of industries, including: public safety, home automation, wireless internet service providers ("WISPs"), security, access control, toll collections, and meter reading. Incumbent Part 15 devices that utilize the band include fire and carbon monoxide alarms, panic buttons, flood sensors, motion sensors, and a range of other life-saving devices. These devices pervade homes, businesses, and government buildings, as well as rural, suburban and urban environments.

As described in the NextNav Petition, NextNav's proposal would dramatically alter usage of the Lower 900 MHz Band by providing NextNav with a nationwide license for a 5G cellular network with "a 10-megahertz downlink paired with a 5-megahertz uplink consistent with standard 5G channel sizes."[3] As a result, nearly 60% of the band would be allocated for primary usage by NextNav. NextNav's proposal also seeks "the removal of the current requirement that [NextNav] not cause unacceptable levels of interference to Part 15 devices."[4] In addition, NextNav's proposal would require unlicensed Part 15 devices to shut down if they cause harmful interference to NextNav's system.[5]

Today, billions of Part 15 radios co-exist in the Lower 900 MHz Band without coordination by employing spread spectrum modulation (mostly frequency hopping) and other technologies, and because of the relatively low power generated by these devices. The NextNav proposal, however, would effectively take away 15 of the available 26 megahertz from these radios, forcing these devices to operate in the remaining 11 megahertz of spectrum in the band. And in addition to precluding Part 15 devices from working on the channels NextNav wants set aside for its uplink and downlink, the adjacent channel interference caused by out-of-band emissions from NextNav's proposed system would impose harmful interference on unlicensed Part 15 devices attempting to communicate on the remaining portion of the Lower 900 MHz Band.

[1] Pericle is an engineering consulting firm specializing in wireless communications. The company was a major contributor to the nationwide 800 MHz land mobile radio rebanding project between public safety licensees and Sprint/Nextel. The company also contributed significantly to the recent upper 900 MHz, 3x3 MHz broadband effort initiated by Anterix.

[2] *NextNav Petition for Rulemaking, Enabling Next-Generation Terrestrial Positioning, Navigation, and Timing and 5G: A Plan for the Lower 900 MHz Band (902-928 MHz)*, WT Docket No. 24-240 (filed Apr. 16, 2024) ("NextNav Petition").

[3] *Id*. at 28 (internal citations omitted).

[4] *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition for Rulemaking*, Public Notice at 4, DA 24-776 (rel. Aug. 6, 2024) ("Public Notice").

[5] *See* Letter from Robert Lantz, NextNav, Inc. to Marlene Dortch, Secretary, FCC, WT Docket No. 24-240 (June 7, 2024) at A-6 (removing the limitation on interference from Part 15 devices to M-LMS systems) and A-11 (adding a requirement that Part 15 devices not cause harmful interference and accept harmful interference from TPNT devices in the Lower 900 MHz Band).

As further detailed in this report, the NextNav proposal is untenable for existing unlicensed users of the Lower 900 MHz Band. Our analysis, which includes propagation modeling for unlicensed Part 15 devices operating outdoors and Monte Carlo simulations for such devices operating indoors, directly contradicts NextNav's statement that "introducing 5G operations will not cause unacceptable levels of interference to unlicensed devices in the lower 900 MHz band."[6] If NextNav's proposed network is implemented, receiver sensitivity would significantly deteriorate, and both co-channel and adjacent channel interference would be so drastic as to make the Lower 900 MHz Band unusable for most devices in large parts of the service area. Additionally, 5G networks such as the one proposed by NextNav are not designed to operate in the presence of co-channel interference, and coordination is simply not practical with the billions of Part 15 radios that, as a general rule, transmit without the prior knowledge of other users. Thus, we find that the billions of Part 15 devices currently operating in the Lower 900 MHz Band and NextNav's proposed system cannot coexist in any practical way, and that significant levels of harmful interference and degraded link quality will occur for both existing users and NextNav's users.

1.0 Notional 5G Network Modeling

In order to evaluate NextNav's proposed network and the effects on incumbent unlicensed devices in the band, Pericle built a notional 5G network in the same geographical area used by NextNav in the NextNav Technical Analysis.[7] This notional network was based on standard 5G network assumptions and shares a majority of the same parameters that were used by the NextNav Technical Analysis.[8]

It is important to note that NextNav's June 12, 2025 submission states that its positioning, navigation, and timing ("PNT") services will utilize multi-lateration techniques to derive the x,y positions of users, which NextNav asserts would allow its service to provide increased accuracy indoors.[9] However, in order for this technique to be successful, all parts of the NextNav service area would need to have coverage from at least three separate cell sites. As described in the NextNav Technical Analysis, it does not appear that the notional network that NextNav proposes actually has adequate coverage from three distinct cells to provide the described PNT services.[10] Indeed, the NextNav Technical Analysis fails to identify a single 5G site location served by three distinct cell sites, negating NextNav's claims about the interference effects of its network.

Thus, the following maps and figures represent a notional 5G network that could feasibly provide indoor PNT services, and demonstrate the amount of interference that unlicensed 900 MHz devices would experience from this network.[11] Three different bandwidths were examined

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[6] *Ex parte* letter from Renee Gregory, NextNav Inc., to Marlene Dortch, Secretary, FCC, WT Docket No. 24-240 (Feb. 27, 2025) ("NextNav Technical Analysis").
[7] *See* NextNav Technical Analysis at Sec. 1.4.
[8] A complete set of parameters and assumptions can be found in Appendix A.
[9] *Ex parte* letter from Renee Gregory, NextNav Inc., to Marlene Dortch, Secretary, FCC, WT Docket No. 24-240, WT Docket No. 25-110 (June 12, 2025).
[10] NextNav Technical Study at Sec. 2.4. 5G cell locations have been omitted from NextNav's heatmap.
[11] For this analysis, Pericle utilized **EDX Signal Pro** with current USGS digital elevation models and clutter data, using TSB-88 loss values.

in order to demonstrate the impact on different types of Part 15 devices, including the fractional power of the broadband 5G channel within the victim receiver. These bandwidths are:

- 200 kHz – Representing low-throughput devices such as panic buttons, motion sensors, and carbon monoxide alarms. These devices are critical to life safety and security across industries and environments.

- 500 kHz – Representing medium-throughput devices such as a wireless microphones, headsets, and license-free two-way radios.[12] First responders and other safety/security personnel currently utilize these devices when responding to emergencies.

- 2 MHz – Representing high-throughput devices such as wireless security cameras and doorbell cameras. Rather than being a narrowband single channel, the 2 MHz bandwidth represents the smallest bandwidth of an 802.11ah channel (also known as WiFi HaLow technology) with the largest bandwidth supported being 8 MHz. Some WISPs currently utilize 8 MHz to provide backhaul to subscribers.

[12] *See, e.g.*, Setcom LiberatorMAX Wireless Headset, https://setcomcorp.com/products/headsets/liberatormax-fire/; Motorola Solutions DTR700 digital on-site two-way radio, https://www.motorolasolutions.com/en_us/products/two-way-radios/commercial-business-two-way-radio-systems/on-site-business-radios/dtr700.html.

Modeling Results

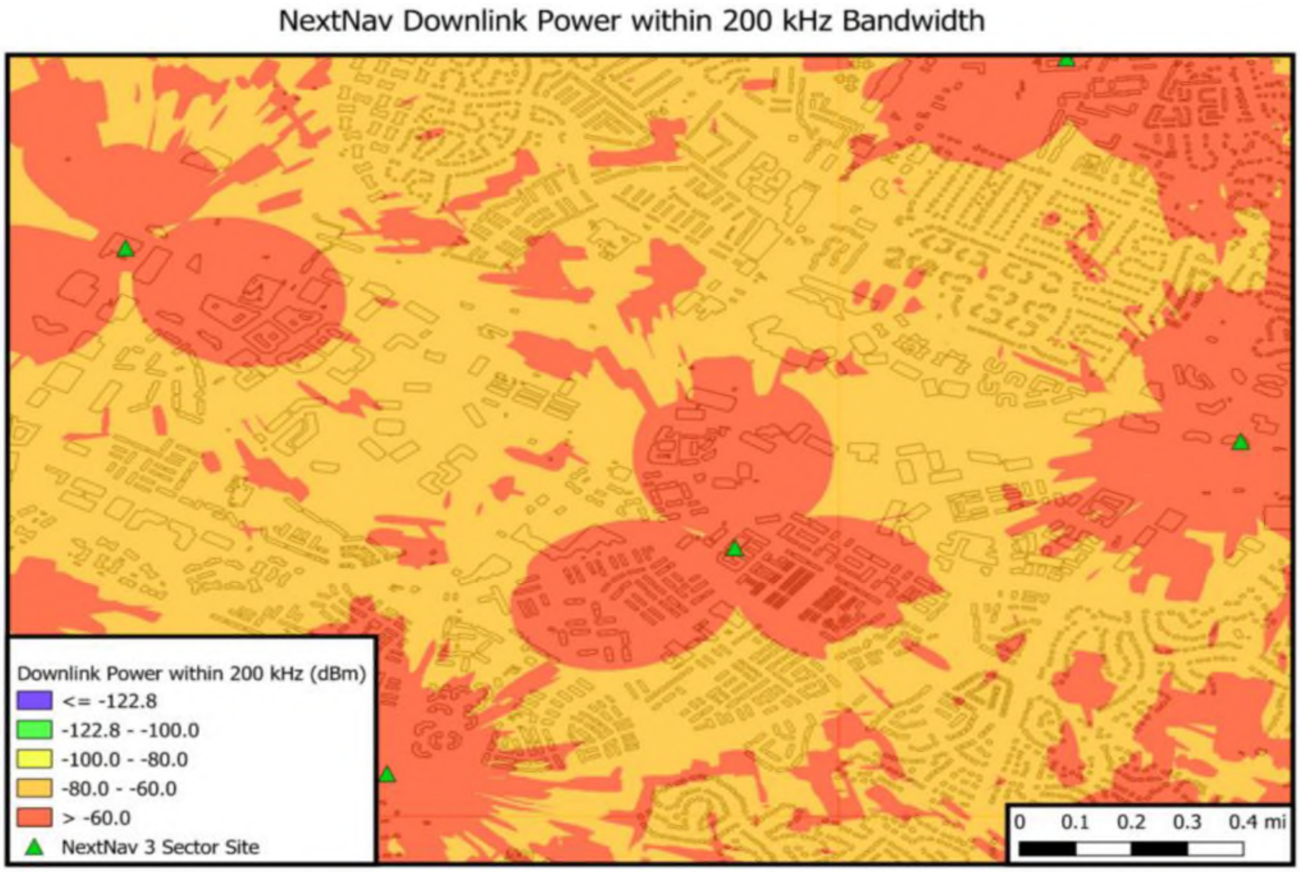

Figure 1 – NextNav Downlink Power within a 200 kHz Bandwidth

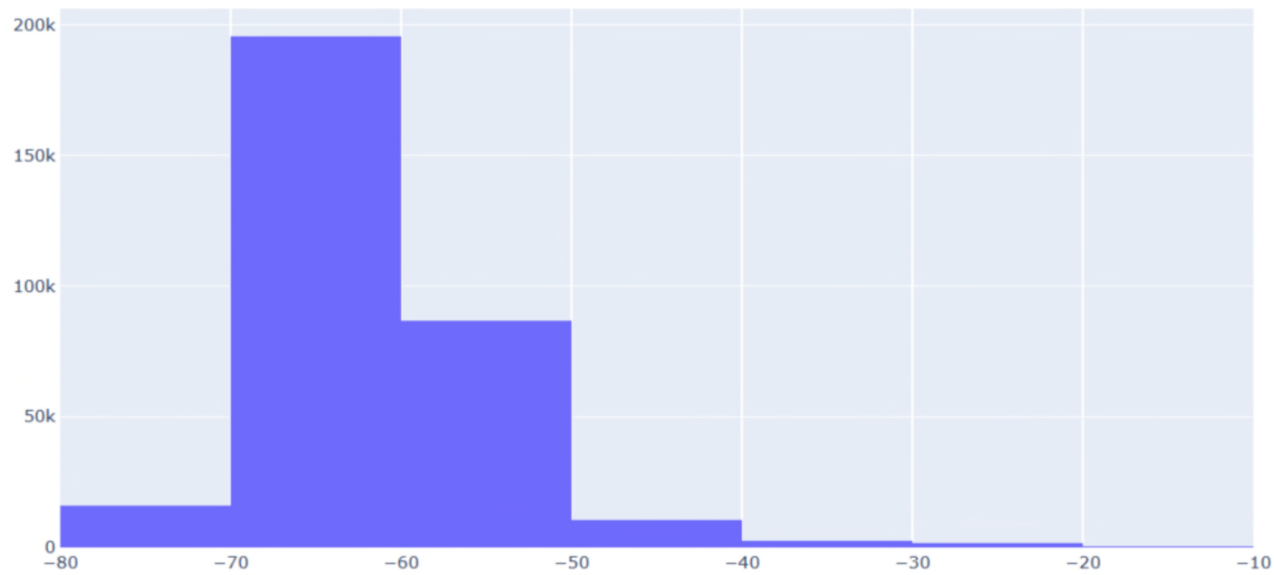

Figure 2 - Histogram of NextNav Downlink Power within a 200 kHz Bandwidth inside a 10 mi^2 Study Area

Figures 1 and 2 reflect the amount of interference created by the NextNav downlink.[13] This amount of interference will severely limit the range of devices operating within this spectrum.

Receiver sensitivity is a measure of the minimum signal power that a receiver can detect and still function. Generally speaking, a lower sensitivity allows receipt of weaker signals. Table 1 below shows the minimum, maximum, and mean values for sensitivity for each of the three victim receiver bandwidths. While the 200 kHz analysis can be considered the best-case scenario in terms of interference to existing unlicensed devices, even these results are devastating to the types of devices we analyzed.

Victim Receiver Bandwidth	**Minimum NextNav Channel Power (dBm)**	**Maximum NextNav Channel Power (dBm)**	**Mean NextNav Channel Power (dBm)**
200 kHz	-77.7	-16.3	-61.8
500 kHz	-73.7	-12.3	-57.8
2 MHz	-67.7	-6.3	-51.8

Table 1 – Modeling Histogram Statistics

[13] Similar figures for additional bandwidths are found in Appendix B.

As shown in Table 1, the 200 kHz analysis provides a minimum value of -77.7 dBm, a maximum value of -16.3 dBm, and a mean value of -61.8 dBm. The generic 900 MHz device that the 200 kHz analysis represents has a stated sensitivity of -105 dBm, meaning that the sensitivity is reduced by a minimum of 27.3 dB and a maximum of 88.7 dB. As a result, such a device's signal would need to be a minimum of 538 times greater, and a maximum of 741 million times greater, in order to overcome this interference. Of course, this is simply not possible, and these devices would effectively be rendered inoperable – and, as noted, the 200 kHz bandwidth experiences the least interference of the three selected bandwidths.

This study is focused on outdoor coverage; and it is important to note that a good number of public safety devices exist solely in an outdoor environment. Looking at the mean values for each victim receiver, it can be concluded that the downlink channel spectrum will become unusable by any unlicensed device currently operating in the Lower 900 MHz Band.

The results would be devastating to outdoor public safety devices, including gunshot detection,[14] traffic-signal preemption,[15]and vehicle status and alerting devices.[16] Many other 900 MHz Part 15 devices also operate outdoors, including security cameras, traffic control and tolling devices, garage door openers, and others. Additionally, the typical architecture of an indoor security system includes an outdoor keypad hub located near the entrance with various sensors located throughout the building, including outside the building.

A notional home security system can be seen below in Figure 3. The keypad/hub device can be seen near the front door with a series of sensors located on the perimeter of the house, including panic buttons, security cameras, motion sensors, and smoke detectors.

[14] *See, e.g.*, Shooter Detection Systems, go.shooterdetectionsystems.com/l/954823/2024-10-07/h8bcq/954823/1728318597HFvH73sh/SDS_SpecSheet_202410.pdf. Pericle understands that while Shooter Detection Systems does not provide a publicly available link to its outdoor product, the specifications of the two products are substantially similar, and the outdoor product operates in the Lower 900 MHz Band.

[15] *See, e.g.*, Imagine Industrial Controls.com, https://imagineindustrialcontrols.com/products/industrial-900-mhz-wireless-remote-control-switch-transmitter-control-receiver.

[16] *See* EMTRAC, https://www.emtracsystems.com/products/vehicle-equipment/; TAPCO, https://www.tapconet.com/product/emergency-vehicle-warning-system (900 MHz Emergency Vehicle Warning Systems).

Figure 3 – Notional Home Security Layout

Each of these devices connects to a hub and relies on the Lower 900 MHz Band for functionality. Under the NextNav proposal, each of these devices will experience the significant sensitivity and signal deterioration described above, interrupting crucial security functionality, and rendering the home security devices effectively inoperable.

2.0 Monte Carlo Simulations

Pericle performed Monte Carlo simulations using a Spectrum Engineering Advanced Monte Carlo Analysis Tool (SEAMCAT) to analyze the probability of interference between wireless networks. The goal of Pericle's simulations was to accurately reflect a NextNav downlink while building an unlicensed 900 MHz device network that is receiving well above device sensitivities, thus reflecting an unlicensed network that is functional and within device parameters. The same three device bandwidths utilized for outdoor modeling were also used in the indoor simulations. In each simulation, the actual channels of the device were used, while only downlink interference was considered. The channels of some devices spanned a majority of the Lower 900 MHz Band spectrum, while some devices were limited to certain channels, according to the data received from manufacturers. The goal of using the actual channels is not only to simulate co-channel interference, but also adjacent channel interference based on the out-of-band emissions of a 5G base station.[17]

This adjacent channel interference is vitally important to evaluate. The heart of NextNav's proposal is to effectively reduce the available bandwidth for incumbent devices in the Lower 900 MHz Band to 40% of what is currently available. And, crucially, NextNav proposes to eliminate the existing requirement that it not cause harmful interference to devices even in that remaining spectrum. Based upon our analysis, it is clear that adjacent channel interference will occur, and the information below demonstrates just how drastic the problem will be.

Simulation Results

Simulations were run using 5G base station coverage radii of 0.5 km, 1km, 1.5km, and 2km. Figure 4 below shows the general layout of a simulation.[18] Results include instances where the victim receiver was at or above its stated sensitivity.

[17] Out of band emissions are based on the sub 1 GHz 3GPP 10 MHz base station emission mask. NextNav has argued that the actual emissions are lower than the mask, but, as NextNav is seeking to deploy a 5G system, the upper limit of what is allowed by 3GPP in terms of out-of-band emissions is the appropriate point for analysis. While out of band emissions were factored in, each receiver also used a blocking mask to restrict the amount of out of band energy. The simulation examined the interference from a three sector 5G site to a single unlicensed 900 MHz device. A total of 200,000 instances were run for each case.

[18] Device and simulation parameters can be found in Appendix A.

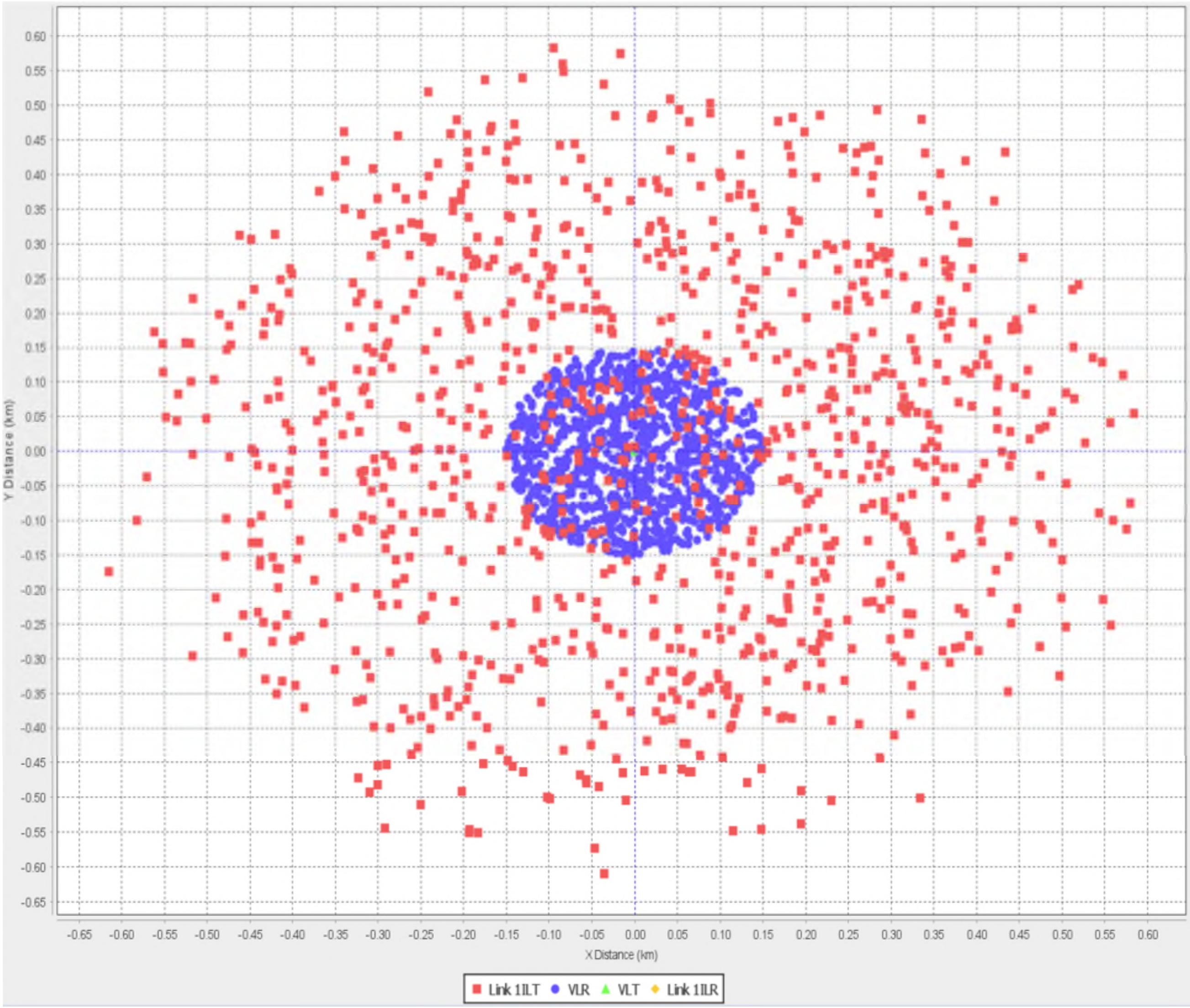

Figure 4 – 0.5km Simulation Layout

The simulation above plots the interfering 5G downlink transmitter (red), victim link receiver (blue), and the victim link transmitter (green) in the center. This simulation moves the victim receiver inside of a defined coverage radius while values such as path loss and channel frequency are varied. The interfering link transmitter (5G base station) is moved throughout the 0.5 km radius while using a transmitter with an EIRP that is within a gaussian distribution using a center of +43dBm and a standard deviation of 1. The transmitter signal is then fed into a 15 dBi gain antenna with a 65-degree bandwidth and downtilt of 4 degrees. These parameters are consistent with 5G base station power levels and antenna system design, and the simulation uses a conservative 50% loading factor. A breakdown of the statistical distribution of desired received power and interference power, both co-channel and blocking, can be seen below in Figure 5.

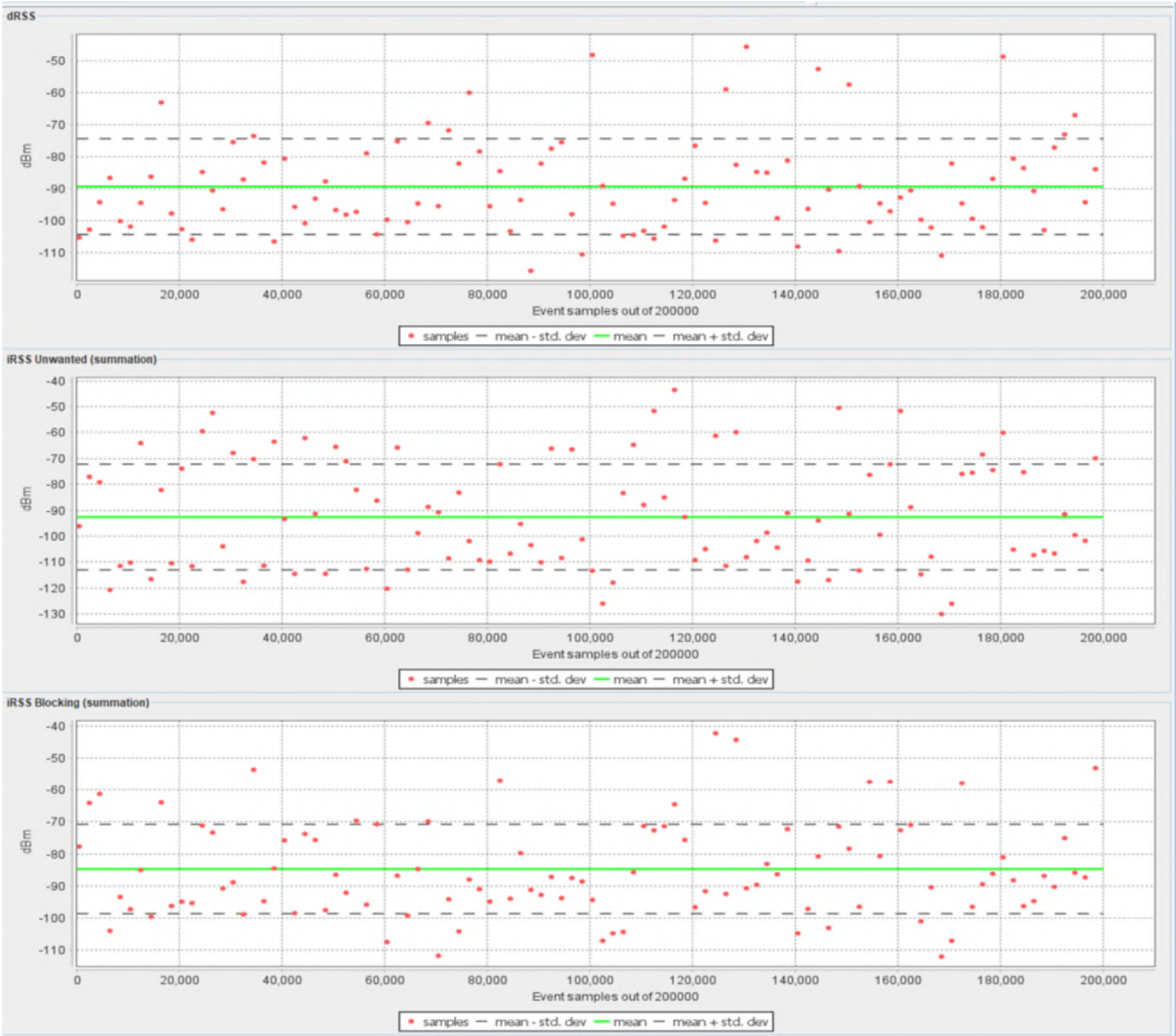

Figure 5 - Statistical Breakdown of 0.5 km Simulation

The figure above shows that the mean desired signal value is at roughly -89.3 dBm on a device with a sensitivity of -105 dBm, meaning that, while this device requires a minimum signal level of -105dBm, in the simulation it received an average signal level of -89.3 dBm. Furthermore, the mean of the co-channel interference power (iRSS Unwanted) is at -92.6 dBm, and the total blocking power (iRSS Blocking), which accounts for blocking masks, is roughly -84.7 dBm. Blocking is the receiver's ability to deal with strong signals that are not necessarily on the same frequency that the receiver is using, but instead are on a nearby frequency, such as the NextNav downlink. Not including blocking, these figures reflect a degradation in sensitivity of Part 15 narrowband devices of roughly 30dB; in terms of milliwatts, the desired signal would need to be 1,000 times stronger for the device to function and overcome NextNav interference.

This interference is not only caused by NextNav emissions immediately within NextNav's proposed uplink and downlink channels, but also the out of band emissions of NextNav radios in the remainder of the Lower 900 MHz Band. These emissions can be particularly significant when extremely strong base stations are near weaker radios, such as these unlicensed Part 15 devices. A total cumulative distribution function (CDF) for this specific case can be seen below.[19]

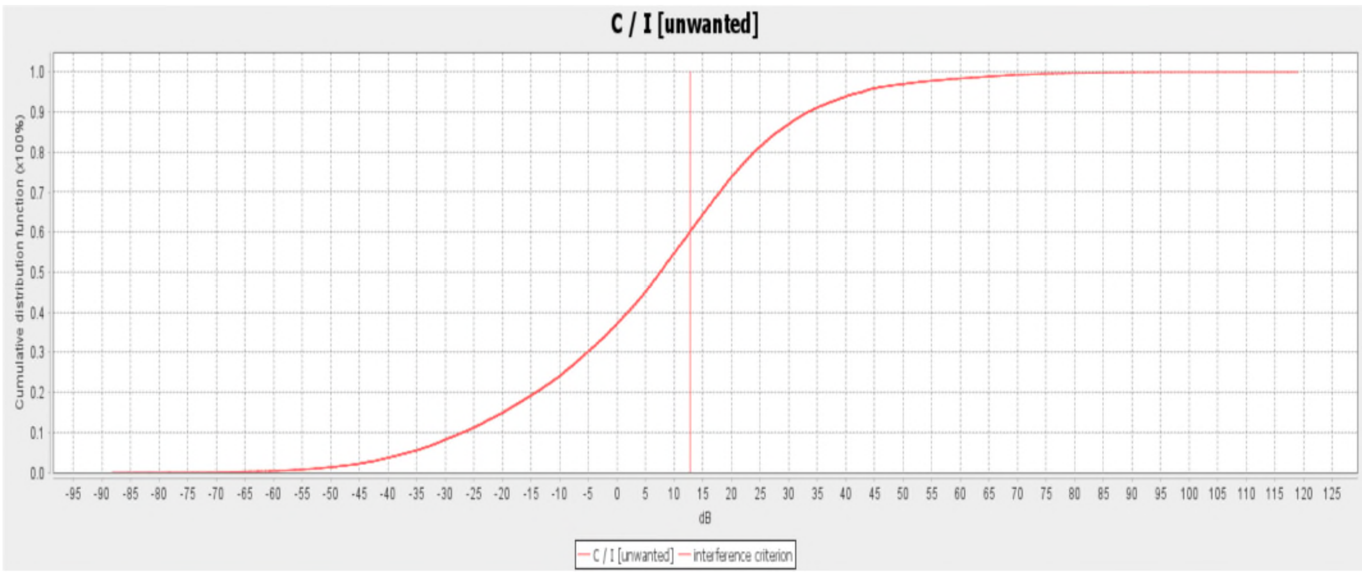

Figure 6 - 0.5km CDF

Figure 6 shows a CDF with an interference probability of 60% given the 200,000 independent instances of the simulation that were run. The CDF is a line plotted from the desired signal strength of the victim receiver for each of the simulations; any part of the line that is to the left of the "C/I" line represent an instance where the NextNav interference would be too strong to overcome. Tables 2 and 3 below show the probability of interference for three Lower 900 MHz Band devices: a "900 Narrowband," a wireless microphone, and a wireless camera - with Table 2 showing just co-channel interference and Table 3 showing co-channel and blocking interference.

[19] A distribution for all three scenarios is provided in Appendix C.

Table 2: Probability of Interference from Monte Carlo Simulations

NextNav Coverage Radius (km)	900 Narrowband	Wireless Mic	Wireless Camera (802.11ah 2 MHz channel)
2.0	22.6%	25.9%	29.4%
1.5	27.7%	29.9%	34.6%
1.0	37.0%	36.7%	41.2%
0.5	60.0%	52.4%	57.0%

Table 3: Probability of Interference and Blocking from Monte Carlo Simulations

NextNav Coverage Radius (km)	900 Narrowband	Wireless Mic	Wireless Camera (802.11ah 2 MHz channel)
2.0	41.8%	31.0%	60.3%
1.5	52.6%	37.5%	70.4%
1.0	66.7%	48.2%	82.0%
0.5	84.7%	67.4%	93.8%

As this data demonstrates, the interference and blocking from NextNav's proposed network is dramatic. Even at a 2.0 km radius, an incumbent wireless camera will experience blocking more than 60% of the time, effectively rendering it useless.[20] Of course, the problem is even more consequential as the radius shrinks.

3.0 Overall Impact

The effects of the harmful interference caused by NextNav's proposal would be felt in virtually every household in the country. According to the best estimates from current users of the band, there are billions of incumbent devices actively using the Lower 900 MHz Band,[21] with more added every day. As noted, these devices span a wide range of uses, but we focus on one category in greater detail: residential security, alarm, and monitoring devices. It is reasonable to

[20] Devices using Z-Wave technologies would also be considered to be narrowband devices, while cameras and devices using microphones require larger bandwidths.

[21] *See*, e.g., Reply Comments of Itron, Inc. at 4, WT Docket No. 24-240 (Sept. 20, 2024) (stating that there are "[b]illions of unlicensed devices in the 902-928 MHz band"); Reply Comments of the Connected Devices for America Coalition at 8, WT Docket No. 24-240, WT Docket No. 25-110 (May 13, 2025) (stating there are "billions of already installed devices" in the Lower 900 MHz Band). .

assume that, at a minimum, one-tenth of the Lower 900 MHz Band devices in use are residential security, alarm, or monitoring systems - meaning that with an estimate of five billion devices in total, there are approximately 500 million such incumbent devices using the band. This equates to an average of 3.9 devices per household (based on a 2020 U.S. Census total of 126.8 million households nationwide).[22]

An urban area is considered an area with at least 200 housing units (*i.e.*, occupied housing units) per square mile.[23] A coverage radius of two miles and 3.8 devices per household means that there will be more than 2,500 affected devices within the coverage radius of each NextNav site.

As a general rule, wireless security devices have a heartbeat/check-in time of approximately one hour, meaning each device "checks in" with its hub once per hour. With more than 2,500 devices within the radius for each site, approximately 42 devices will "check in" with their hub every minute – meaning that at least 42 times every minute, there is the possibility of interference to both the uplink and downlink of a 5G network. This amount of interference would simply be unacceptable, because the user experience would be intolerable.

4.0 Conclusion

The modeling and simulations described in this report show clearly that, not only is coexistence between incumbent Part 15 devices and NextNav's proposed system not possible, the deployment of a 5G network as proposed by NextNav would make the entire Lower 900 MHz Band unusable by both incumbent unlicensed devices and NextNav users alike. As a result, an enormous number of public safety and mission critical devices would be rendered inoperable, leaving smoke detectors, flood sensors, panic buttons, and countless other devices unmonitored and unable to report emergencies. The wildly disparate network topologies between a low-power, short range, narrowband device and a high power, wide area, OFDM network are simply not compatible in the same or adjacent spectrum.

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[22] U.S. Census Bureau, *Households and Families: 2020*, https://www.census.gov/library/publications/2024/dec/c2020br-10.html.
[23] U.S. Census Bureau, *Redefining Urban Areas Following the 2020 Census*, https://www.census.gov/newsroom/blogs/random-samplings/2022/12/redefining-urban-areas-following-2020-census.html.

Appendix A

General Wide Area Modeling Parameters	
Propagation Model	Anderson 2d
Clutter	USGS 2024
Clutter Values	TSB-88
Elevation Data	USGS 2024
5G Parameters	
Frequency	923 MHz
Transmit Antenna Height	Approximate building height
Transmit Antenna Type	65 degree (Andrew 2P-2L-C1-V2)
Sector Azimuths	0,120,240 degrees
EIRP	+66dBm
Receive Antenna Type	Omni 2.1dBi gain
Receive Antenna Height	1.5m

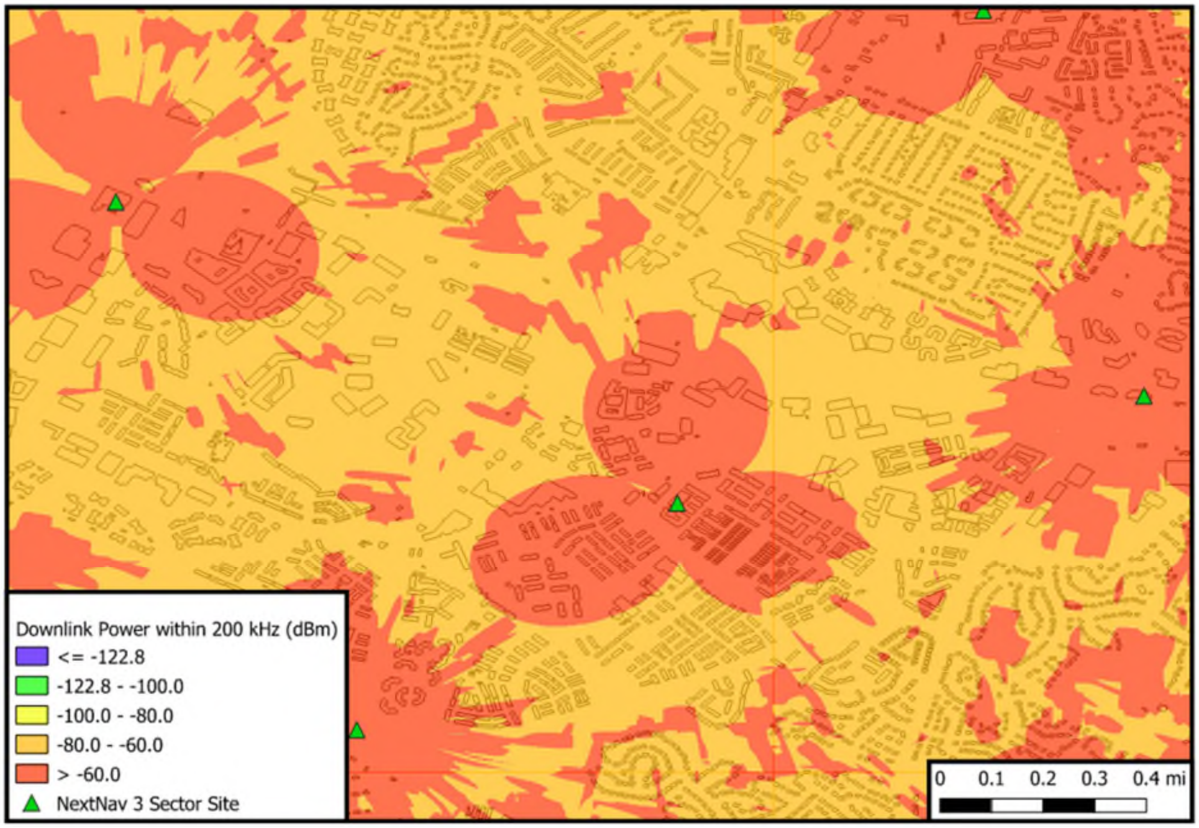
Monte Carlo Simulation Parameters		
Narrowband Victim Transceiver		
	Frequency	912.75 – 919.25MHz
	Number of Channels	50
	Channel Bandwidth	130 kHz
	Block and Selectivity	40dB at 200 kHz
	Transmit Power	+20dBm
	Sensitivity	-105dBm
	Transmit Antenna Type	Omni 2.1dBi gain
	Transmit Antenna Height	1.5m
	Receive Antenna Type	Omni 2.1dBi gain
	Receive Antenna Height	1.5m
	Propagation Model	3GPP TR38.901 (Indoor NLoS)
	Coverage Radius	150m
	Transmit Antenna Environment	100% Indoor
	Receive Antenna Environment	25% Outdoor 75% Indoor

Wireless Microphone Victim Transceiver		
	Frequency	902.5 – 927.5MHz
	Number of Channels	51
	Channel Bandwidth	500 kHz
	Block and Selectivity	40dB at 500 kHz
	Transmit Power	+21dBm
	Sensitivity	-94dBm
	Transmit Antenna Type	Omni 2.1dBi gain
	Transmit Antenna Height	1.5m
	Receive Antenna Type	Omni 2.1dBi gain
	Receive Antenna Height	1.5m
	Propagation Model	3GPP TR38.901 (Indoor NLoS)
	Coverage Radius	60m
	Transmit Antenna Environment	100% Indoor
	Receive Antenna Environment	50% Outdoor 50% Indoor
802.11ah Victim Transceiver		
	Frequency	906 – 926 MHz
	Number of Channels	4
	Channel Bandwidth	2 MHz
	Block and Selectivity	12dB at 2 MHz
	Transmit Power	+13dBm
	Sensitivity	-93dBm
	Transmit Antenna Type	Omni 2.1dBi gain
	Transmit Antenna Height	1.5m
	Receive Antenna Type	Omni 2.1dBi gain
	Receive Antenna Height	1.5m
	Propagation Model	3GPP TR38.901 (Indoor NLoS)
	Coverage Radius	50m

	Transmit Antenna Environment	100% Outdoor
	Receive Antenna Environment	100% Indoor
Interfering 5G Transmitter		
	Frequency	923 MHz
	Channel Bandwidth	10 MHz (3GPP Sub 1 GHz Emission Mask)
	Transmit Azimuth	3 Sector Site (0,120,240)
	Transmit Power	Gaussian Distribution +43 dBm with 1dB Std Dev.
	Transmit Antenna Type	ITU-R f.1336-4 rec 3 (65 degree, 15dBi gain, 4-degree downtilt)
	Transmit Antenna Height	30m
	Propagation Model	3GPP TR38.901 (urban)
	Coverage Radius	Varies (0.5,1,1.5,2 km)
	Transmit Antenna Environment	100% Outdoor
	System Layout	Single Site Hexagonal

Appendix B

NextNav Downlink Power within 200 kHz Bandwidth



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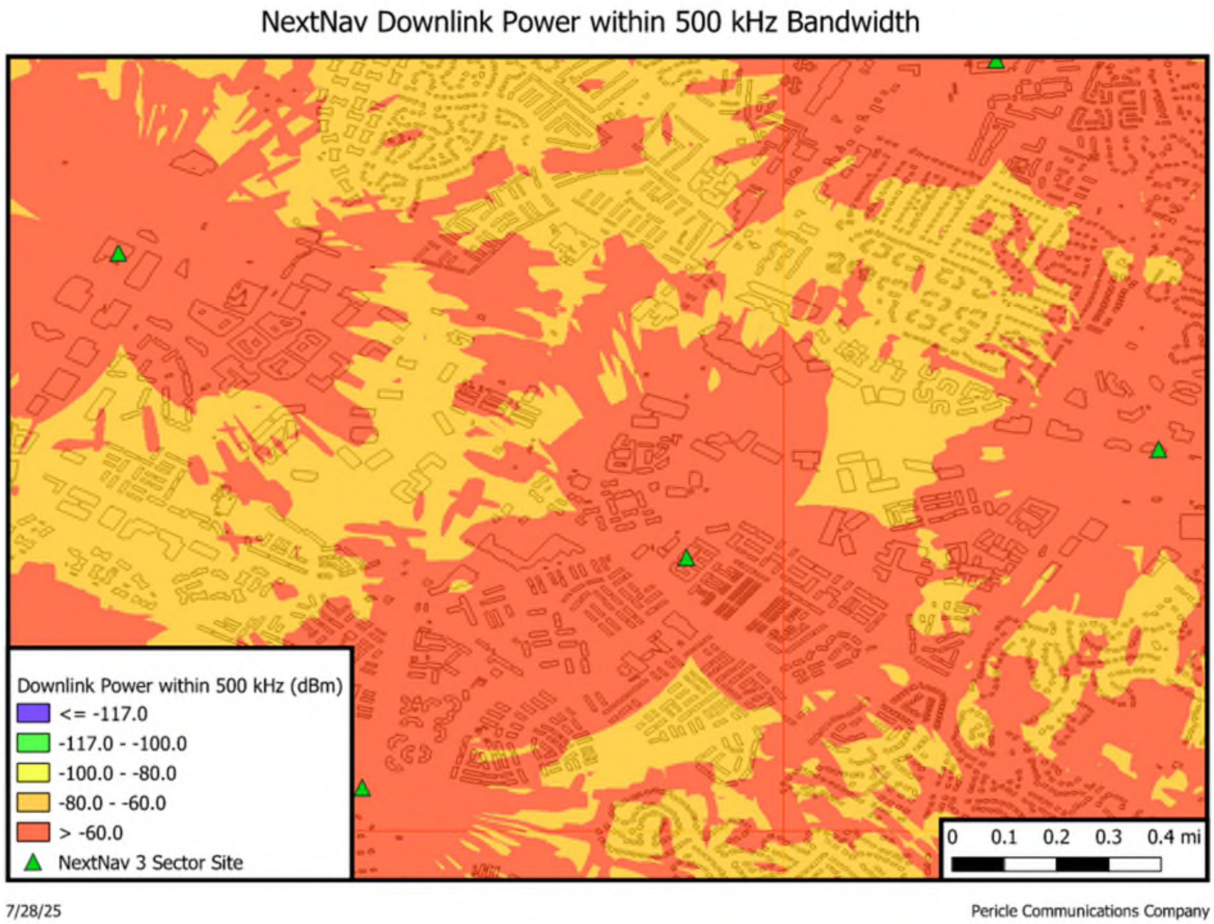
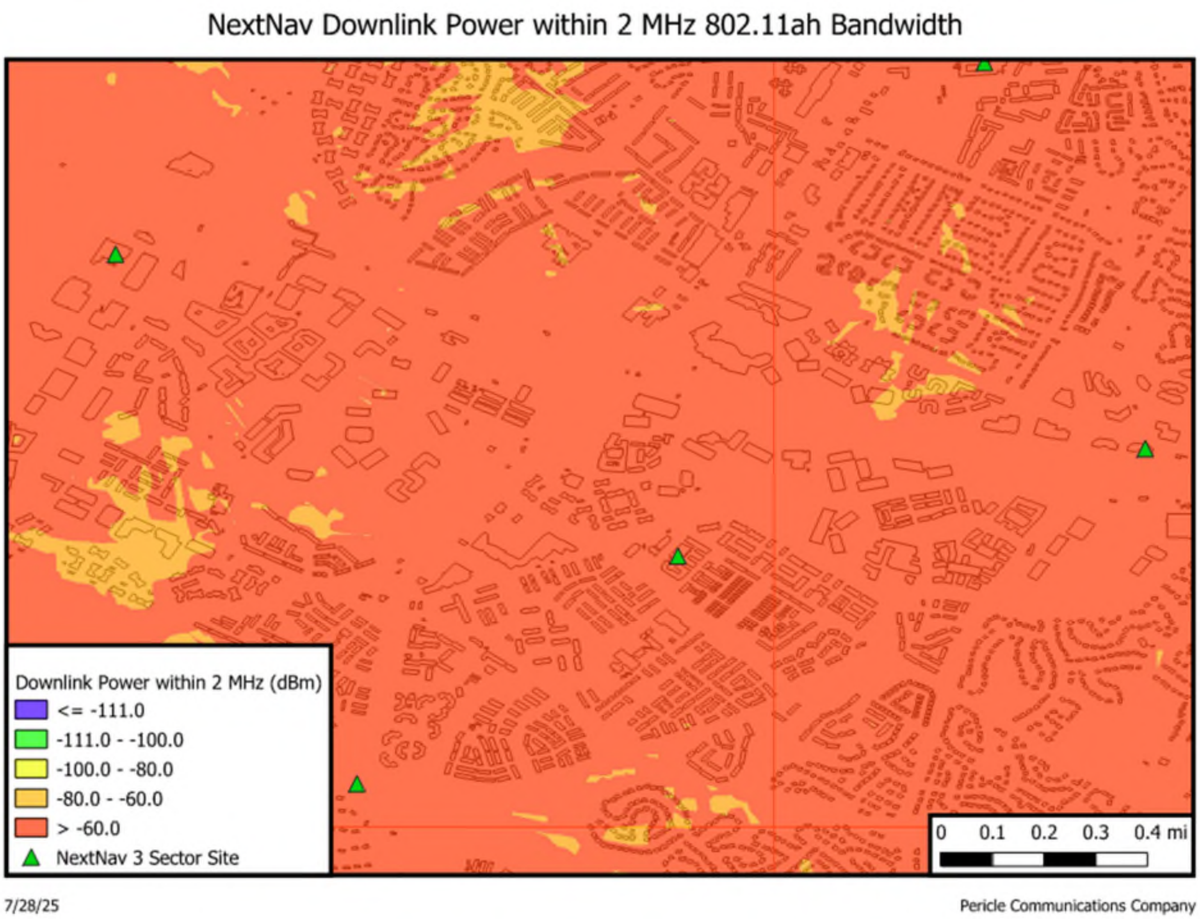
Pericle Communications Company


NextNav Downlink Power within 500 kHz Bandwidth
Downlink Power within 500 kHz (dBm)
<= -117.0
-117.0 - -100.0
-100.0 - -80.0
-80.0 - -60.0
> -60.0
NextNav 3 Sector Site
0 0.1 0.2 0.3 0.4 mi
7/28/25
Pericle Communications Company


NextNav Downlink Power within 2 MHz 802.11ah Bandwidth
Downlink Power within 2 MHz (dBm)
<= -111.0
-111.0 - -100.0
-100.0 - -80.0
-80.0 - -60.0
> -60.0
NextNav 3 Sector Site
0 0.1 0.2 0.3 0.4 mi
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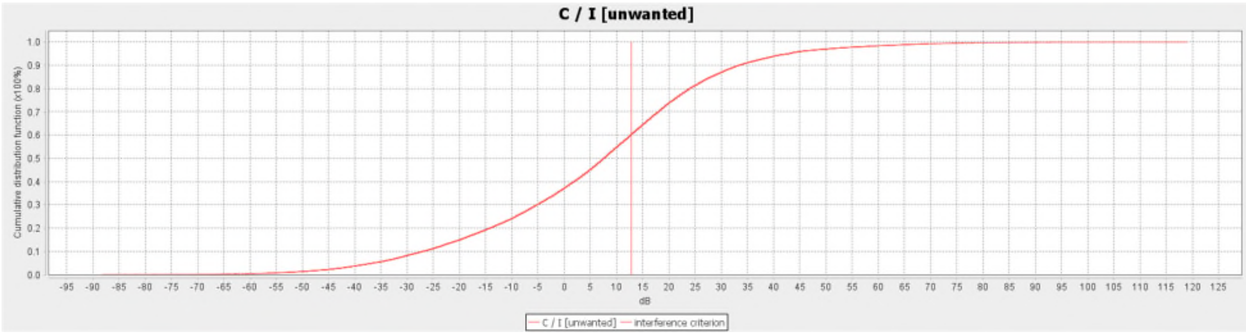
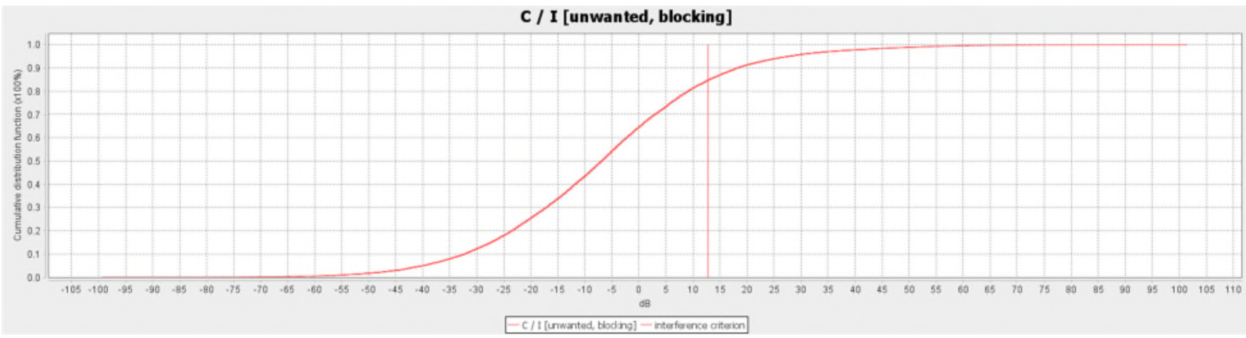
Pericle Communications Company

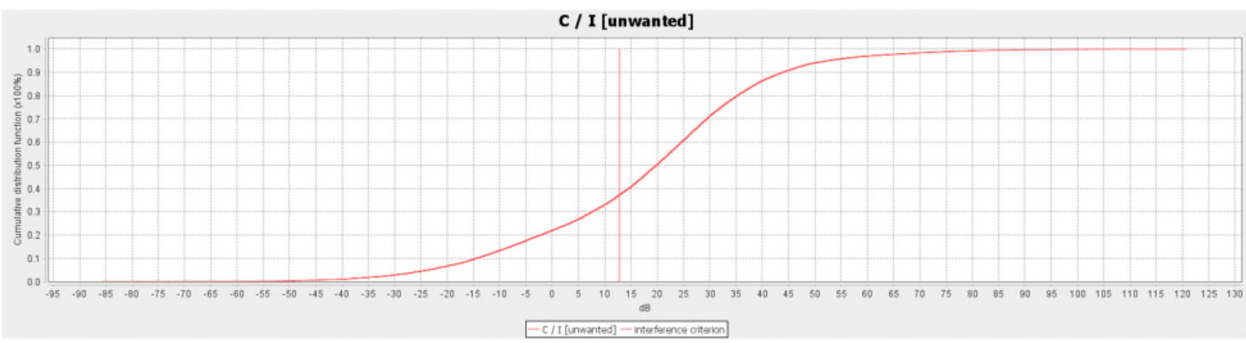
Appendix C



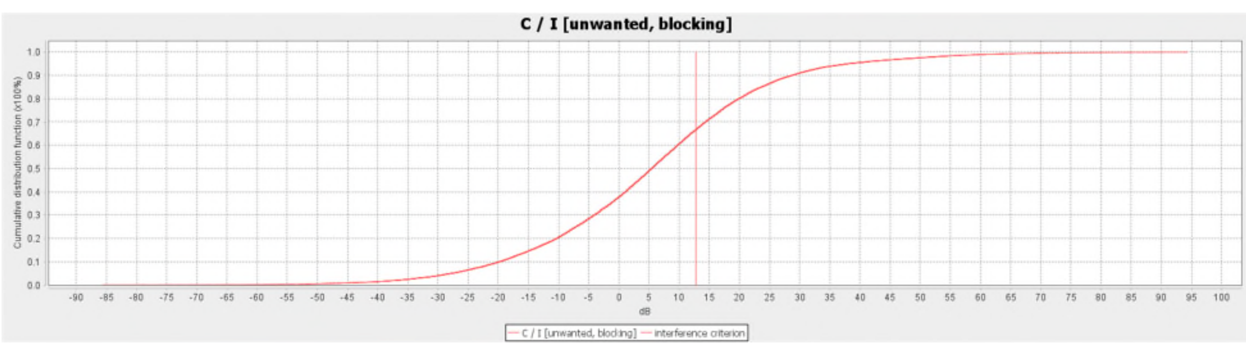
0.5 km Narrowband Interference CDF



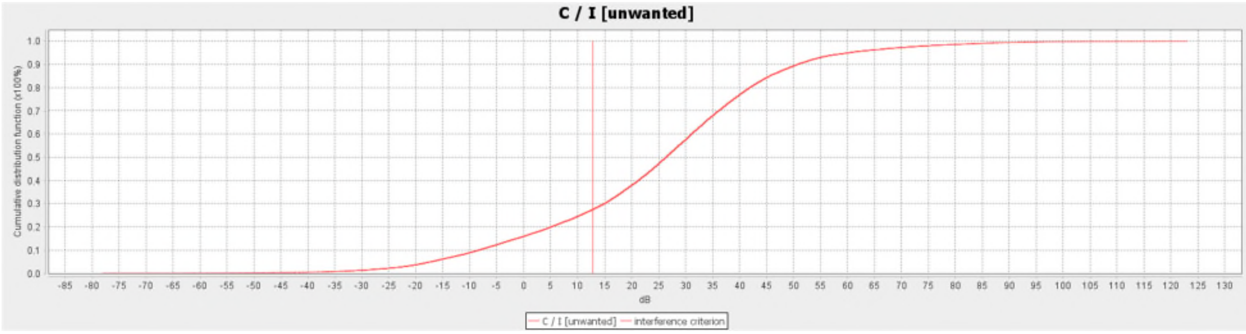
0.5 km Narrowband Interference and Blocking CDF



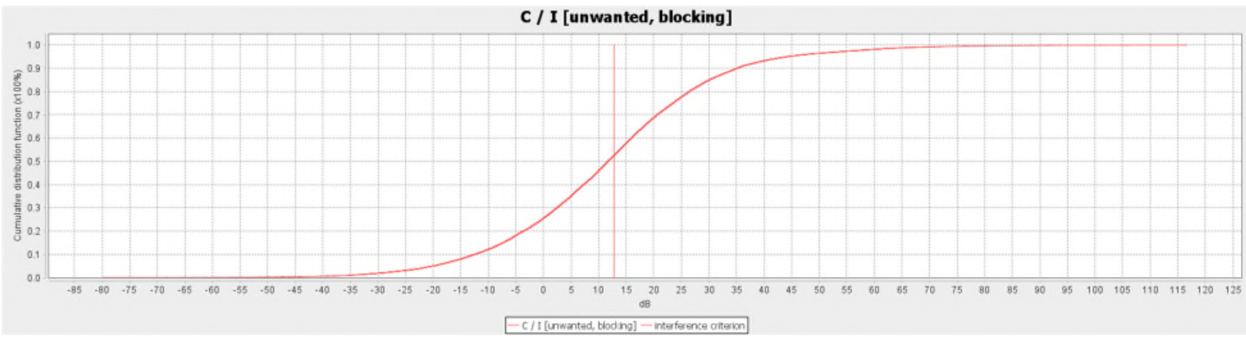
1 km Narrowband Interference CDF



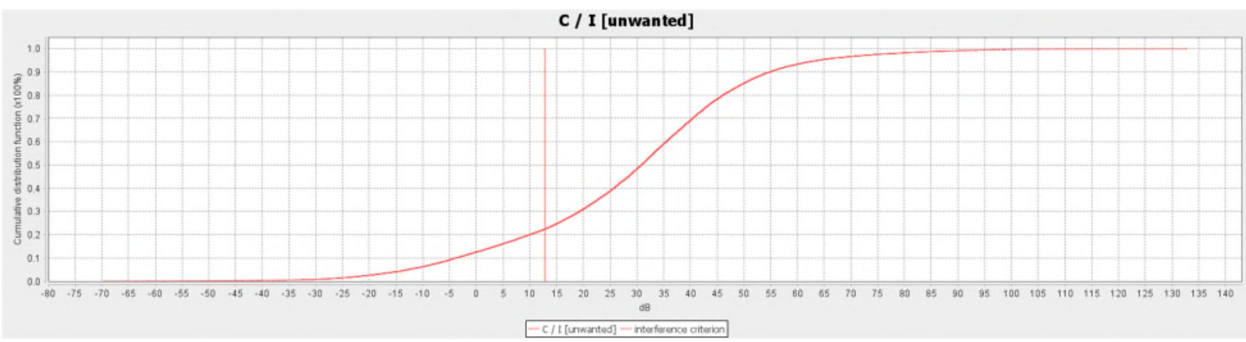
1 km Narrowband Interference and Blocking CDF



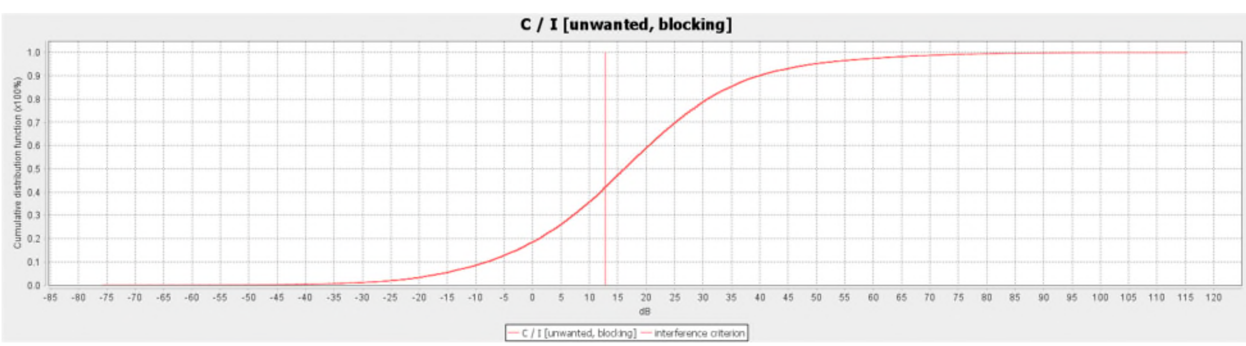
1.5 km Narrowband Interference CDF



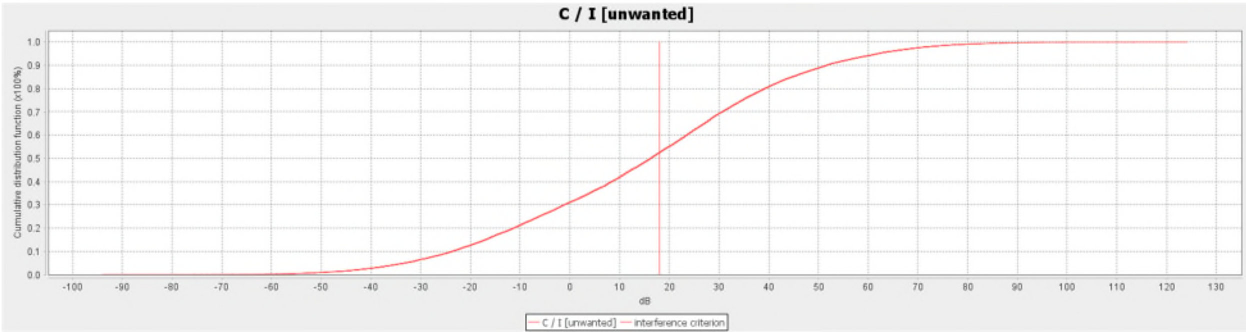
1.5 km Narrowband Interference and Blocking CDF



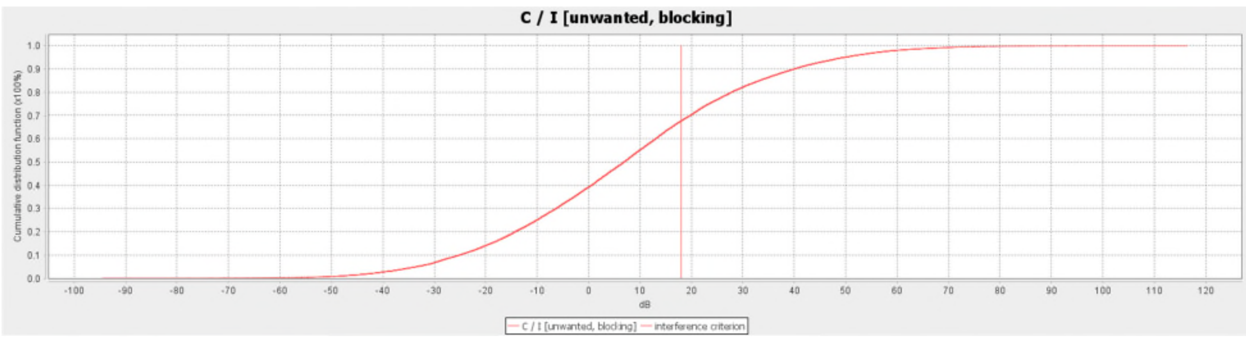
2 km Narrowband Interference CDF



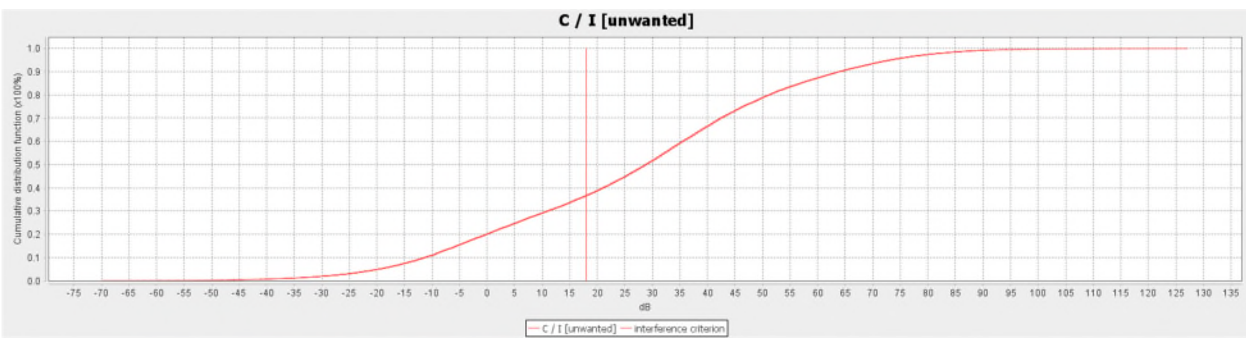
2 km Narrowband Interference and Blocking CDF



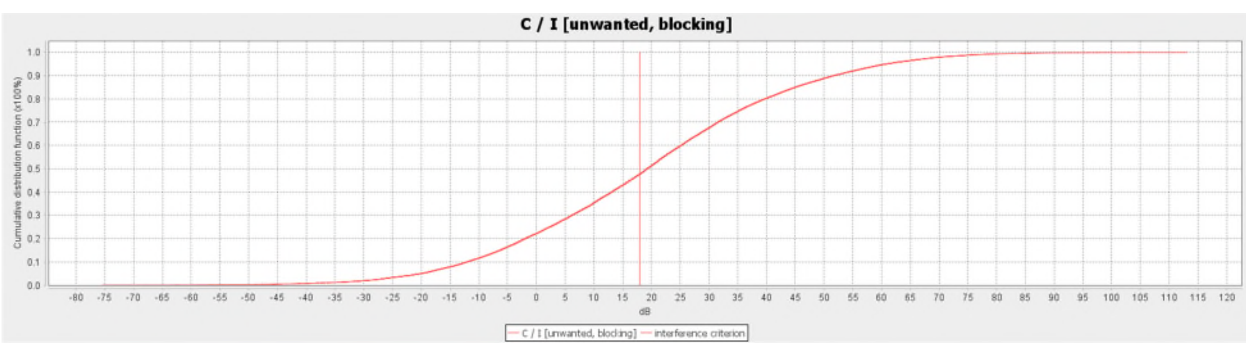
0.5 km Wireless Microphone Interference CDF



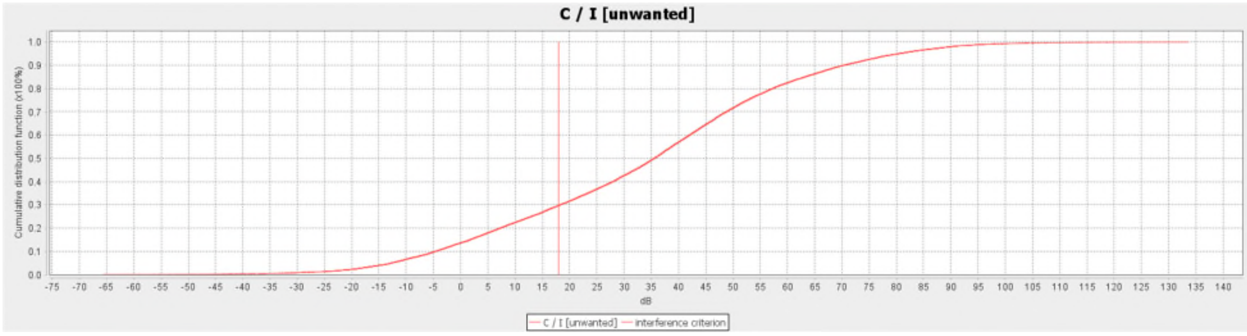
0.5 km Wireless Microphone Interference and Blocking CDF



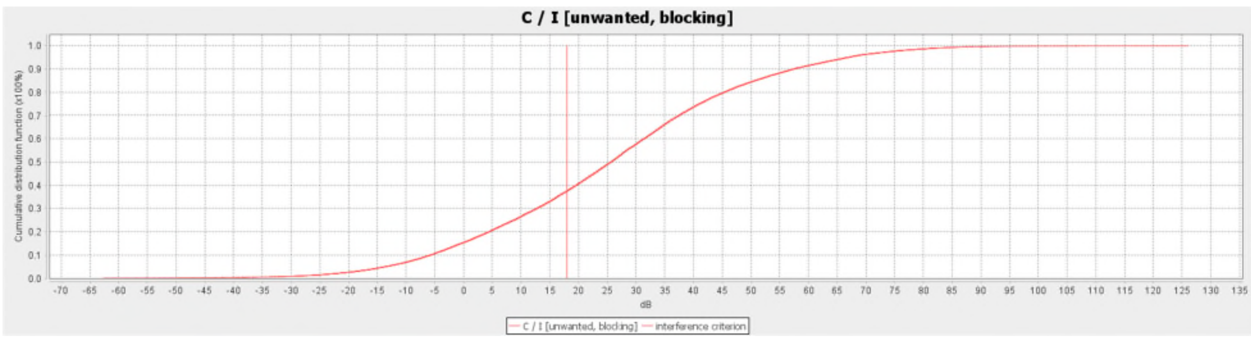
1 km Wireless Microphone Interference CDF



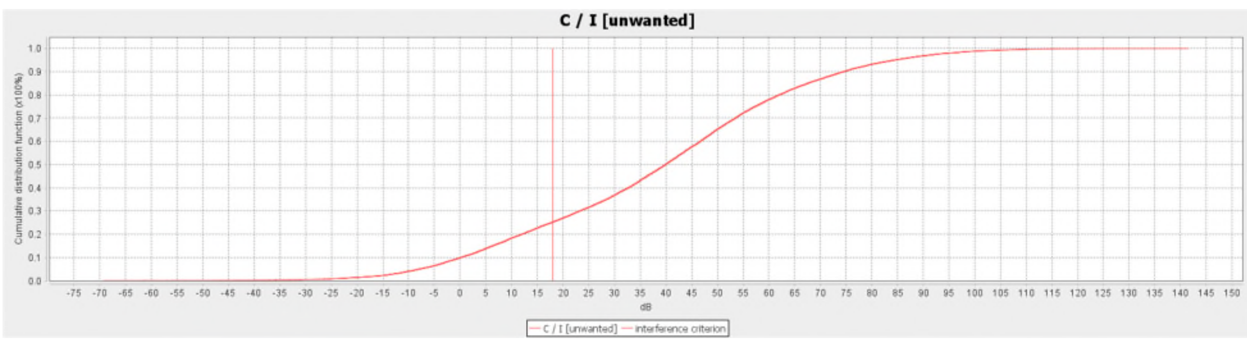
1 km Wireless Microphone Interference and Blocking CDF



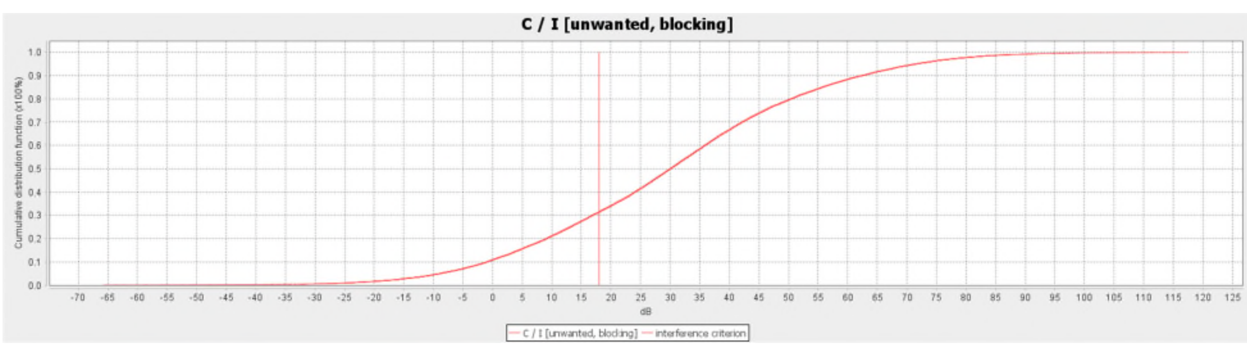
1.5 km Wireless Microphone Interference CDF



1.5 km Wireless Microphone Interference and Blocking CDF

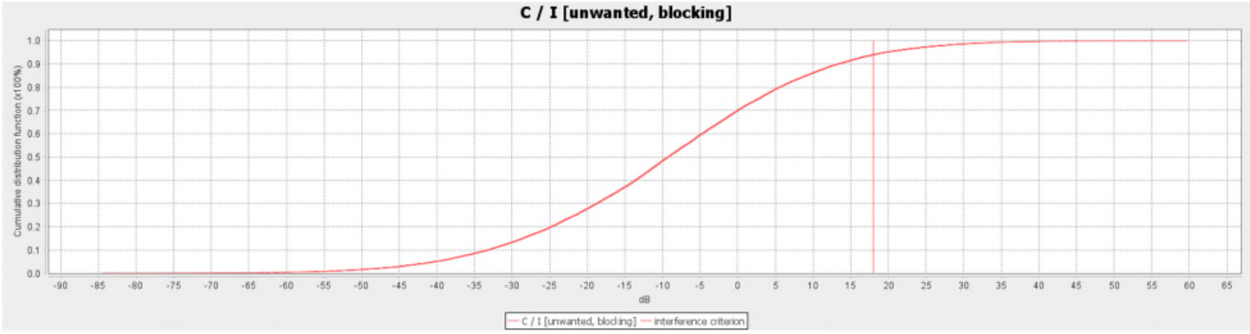


2 km Wireless Microphone Interference CDF

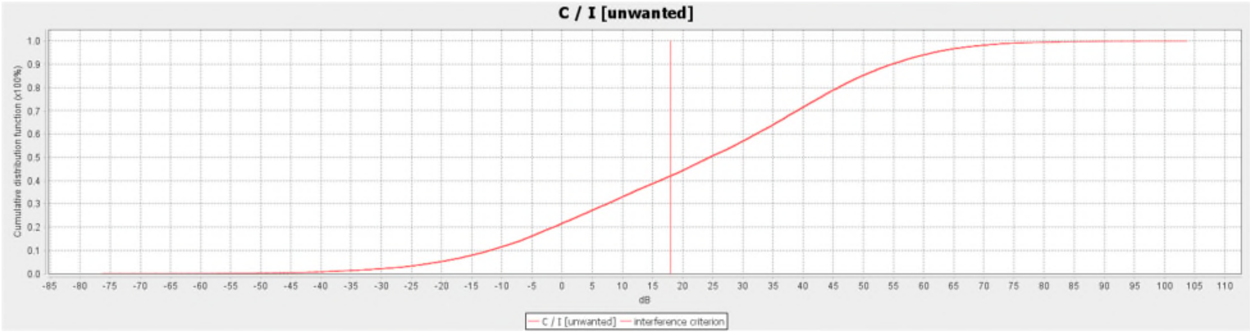


2 km Wireless Microphone Interference and Blocking CDF

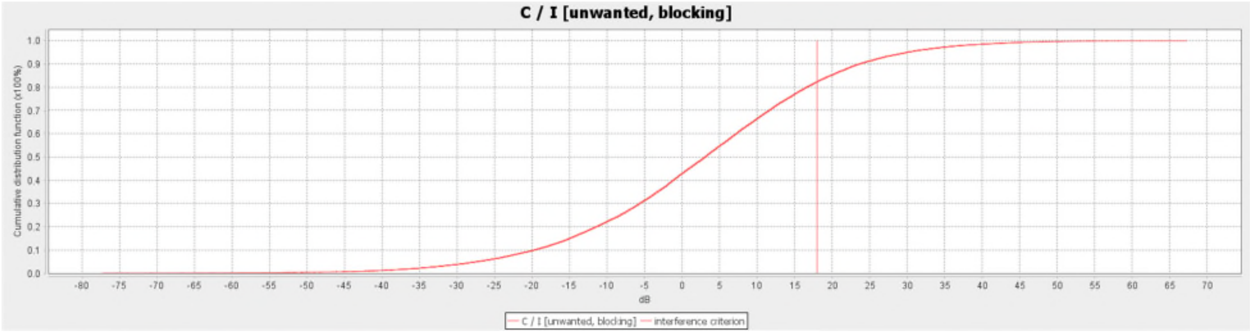
0.5 km 802.11ah 2 MHz Interference CDF



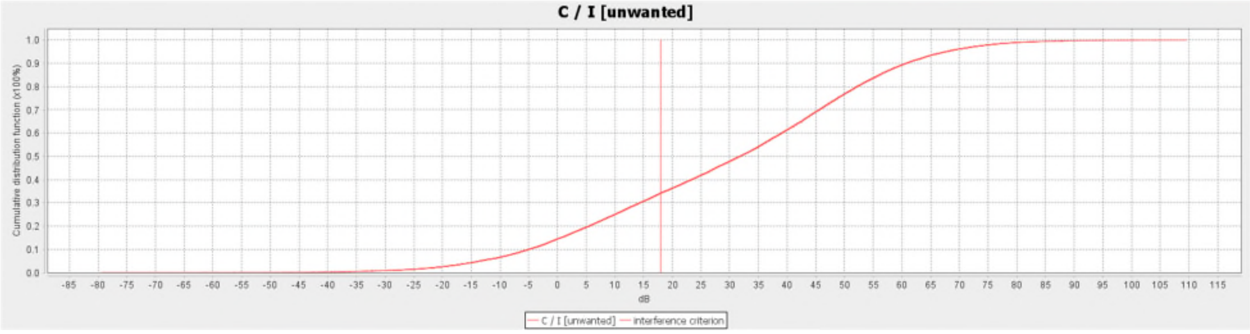
0.5 km 802.11ah 2 MHz Interference and Blocking CDF



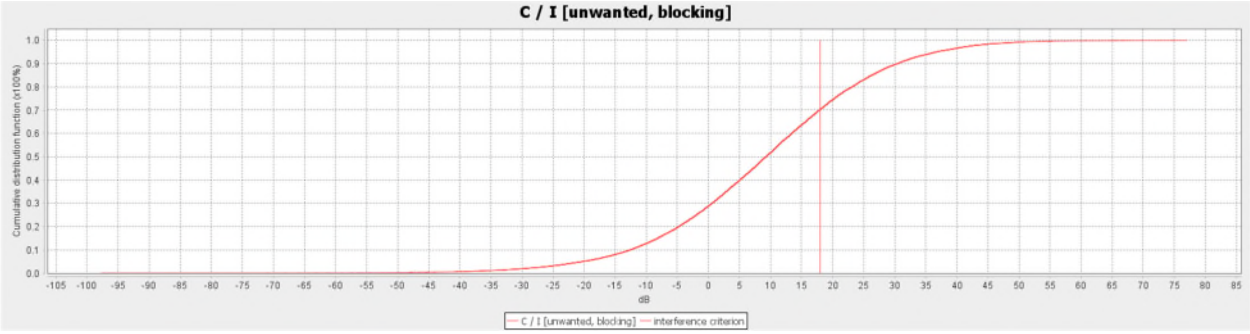
1 km 802.11ah 2 MHz Interference CDF



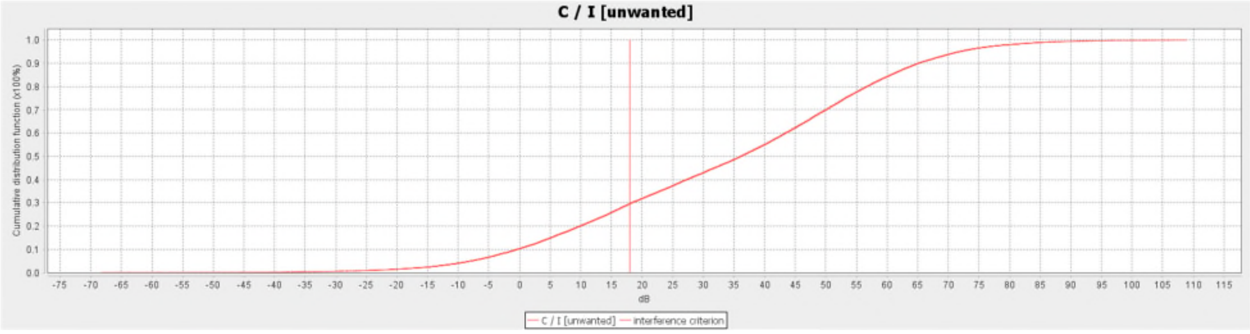
1 km 802.11ah 2 MHz Interference and Blocking CDF



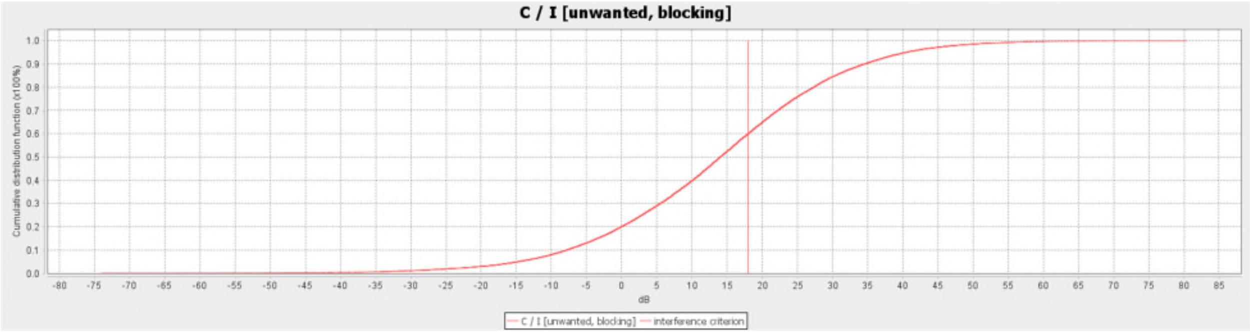
1.5 km 802.11ah 2 MHz Interference



1.5 km 802.11ah 2 MHz Interference and Blocking CDF



2 km 802.11ah 2 MHz Interference CDF



2 km 802.11ah 2 MHz Interference and Blocking CDF