STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

June 22, 2021

Kenneth C. Baldwin, Esq.
Robinson & Cole
280 Trumbull Street
Hartford, CT 06103-3597
kbaldwin@rc.com

RE: **EM-VER-148-210511-**Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 20 Alexander Drive, Wallingford, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) is in receipt of your correspondence of June 21, 2021 submitted in response to the Council's June 1, 2021 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

s/Melanie A. Bachman

Melanie A. Bachman
Executive Director

MAB/CMW/lm

Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts
and New York

June 21, 2021

Via Electronic Mail

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-VER-148-210511 – Cellco Partnership d/b/a Verizon Wireless Notice of Intent to Modify an Existing Telecommunications Facility Located at 20 Alexander Drive, Wallingford, Connecticut**

Request for a Revised Radio Frequency Emissions Calculation

Dear Attorney Bachman:

On June 1, 2021, the Siting Council requested that we file a Radio Frequency Analysis Report for the proposed modified Wallingford facility, with a cumulative Maximum Permissible Exposure at or below 100%. Attached please find Far Field Approximation tables for the above-referenced Wallingford facility demonstrating that, in each of its licensed frequencies and cumulatively, the modified facility will comply with the FCC's MPE limits.

If you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

Kenneth C. Baldwin

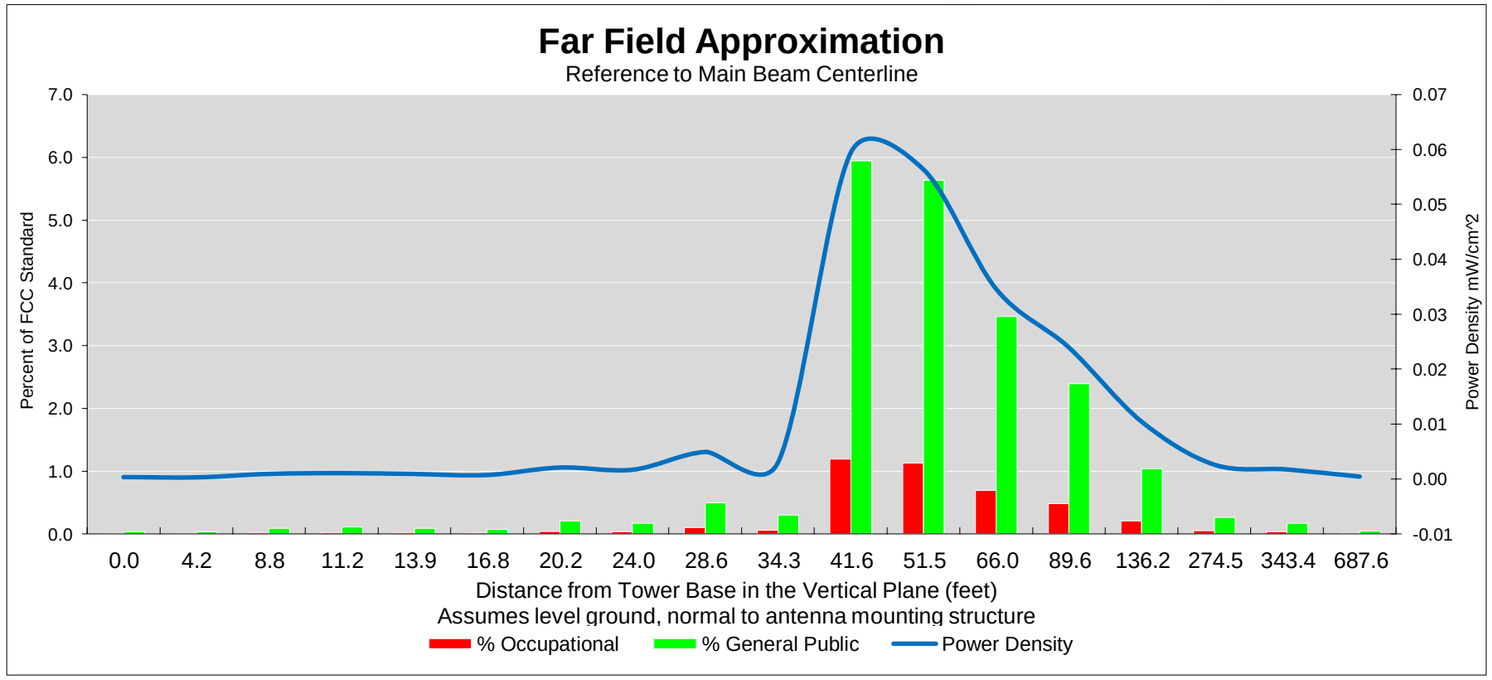
Copy to:
Aleksey Tyurin

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**28,000**
Antenna Height (ft):	**27.0**
Antenna Gain (dBi):	**28.0**
Antenna Size (in.):	**16.8**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**1.6**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	24.0	24.4	25.5	26.5	27.7	29.3	31.3	34.0	37.4	41.9	48.0	56.8	70.2	92.8	138.3	275.5	344.2	688.0
Distance from Antenna Structure Base in Horizontal plane	0.0	4.2	8.8	11.2	13.9	16.8	20.2	24.0	28.6	34.3	41.6	51.5	66.0	89.6	136.2	274.5	343.4	687.6
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	30.33	30.89	25.64	24.7	25.03	25.61	20.28	20.56	15.03	16.19	2.03	0.8	1.08	0.26	0.4	0.42	0.31	0.3
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.03	0.02	0.01	0.00	0.00	0.00
Percent of Occupational Standard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	1.2	1.1	0.7	0.5	0.2	0.1	0.0	0.0
Percent of General Population Standard	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.3	5.9	5.6	3.5	2.4	1.0	0.3	0.2	0.0

Antenna Type: **AT1K01**

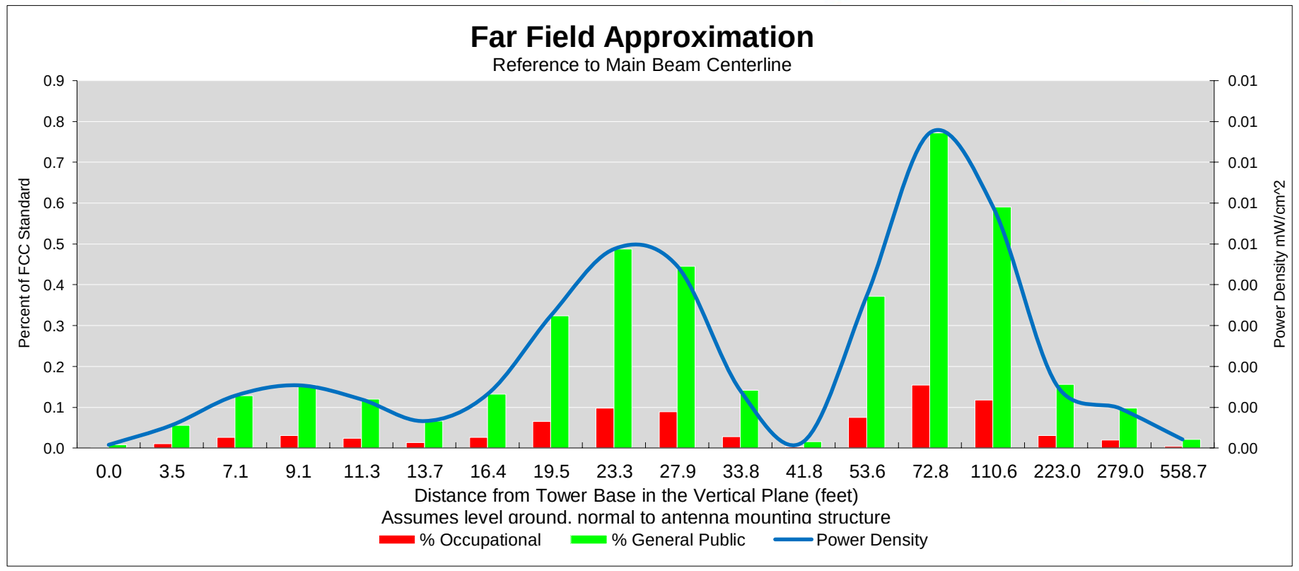
Max%: **5.94%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**3,550**
Antenna Height (ft):	**22.5**
Antenna Gain (dBi):	**12.6**
Antenna Size (in.):	**12.1**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**20.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	19.5	19.8	20.8	21.5	22.5	23.8	25.5	27.6	30.3	34.0	39.0	46.2	57.0	75.4	112.4	223.9	279.7	559.0
Distance from Antenna Structure Base in Horizontal plane	0.0	3.5	7.1	9.1	11.3	13.7	16.4	19.5	23.3	27.9	33.8	41.8	53.6	72.8	110.6	223.0	279.0	558.7
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	34.4	25.6	21.6	20.5	21.2	23.3	19.7	15.1	12.5	11.9	15.7	23.8	8.2	2.6	0.3	0.1	0.2	0.8
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Percent of Occupational Standard	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0
Percent of General Population Standard	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.5	0.4	0.1	0.0	0.4	0.8	0.6	0.2	0.1	0.0

Antenna Type: **XXDWMM-12.5-65-8T**

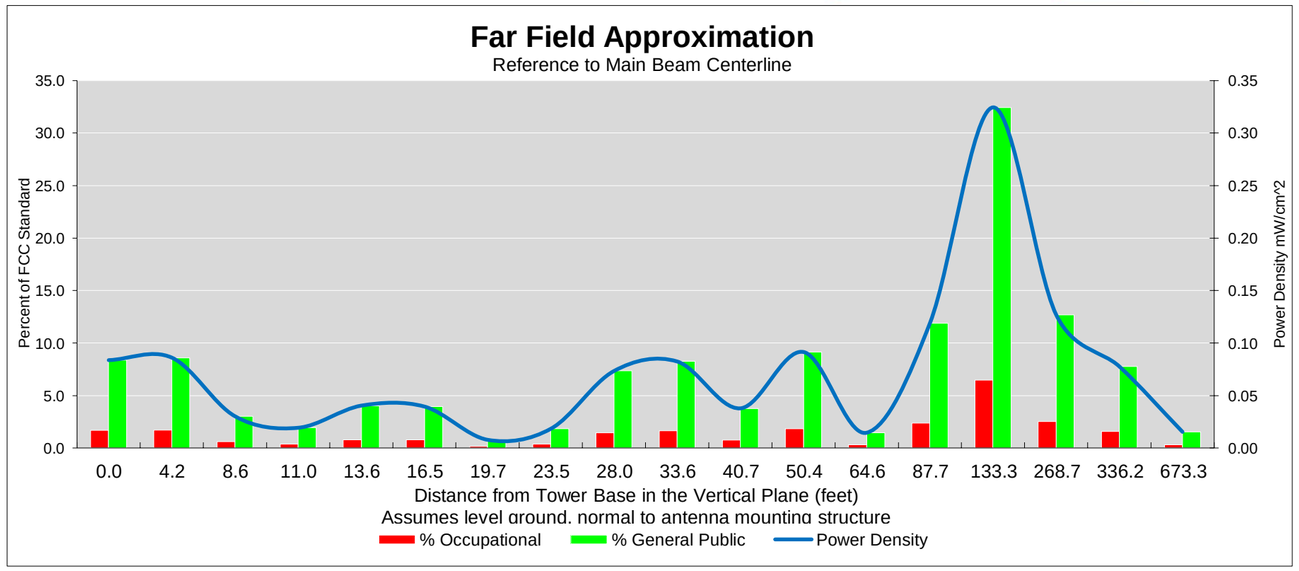
Max%: **0.77%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**3730.0**
Antenna Height (ft):	**26.5**
Antenna Gain (dBi):	**25.5**
Antenna Size (in.):	**35.1**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**120.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	23.5	23.9	25.0	25.9	27.1	28.7	30.7	33.2	36.6	41.0	47.0	55.6	68.7	90.8	135.4	269.8	337.1	673.7
Distance from Antenna Structure Base in Horizontal plane	0.0	4.2	8.6	11.0	13.6	16.5	19.7	23.5	28.0	33.6	40.7	50.4	64.6	87.7	133.3	268.7	336.2	673.3
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	23.06	22.8	26.95	28.58	24.98	24.59	31	26.65	19.78	18.29	20.49	15.18	21.32	9.78	1.96	0.05	0.25	1.29
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.08	0.09	0.03	0.02	0.04	0.04	0.01	0.02	0.07	0.08	0.04	0.09	0.01	0.12	0.32	0.13	0.08	0.02
Percent of Occupational Standard	1.7	1.7	0.6	0.4	0.8	0.8	0.2	0.4	1.5	1.6	0.8	1.8	0.3	2.4	6.5	2.5	1.6	0.3
Percent of General Population Standard	8.4	8.6	3.0	1.9	4.0	3.9	0.8	1.8	7.3	8.2	3.8	9.2	1.5	11.9	32.4	12.7	7.8	1.5

Antenna Type: **MT6407-77A**

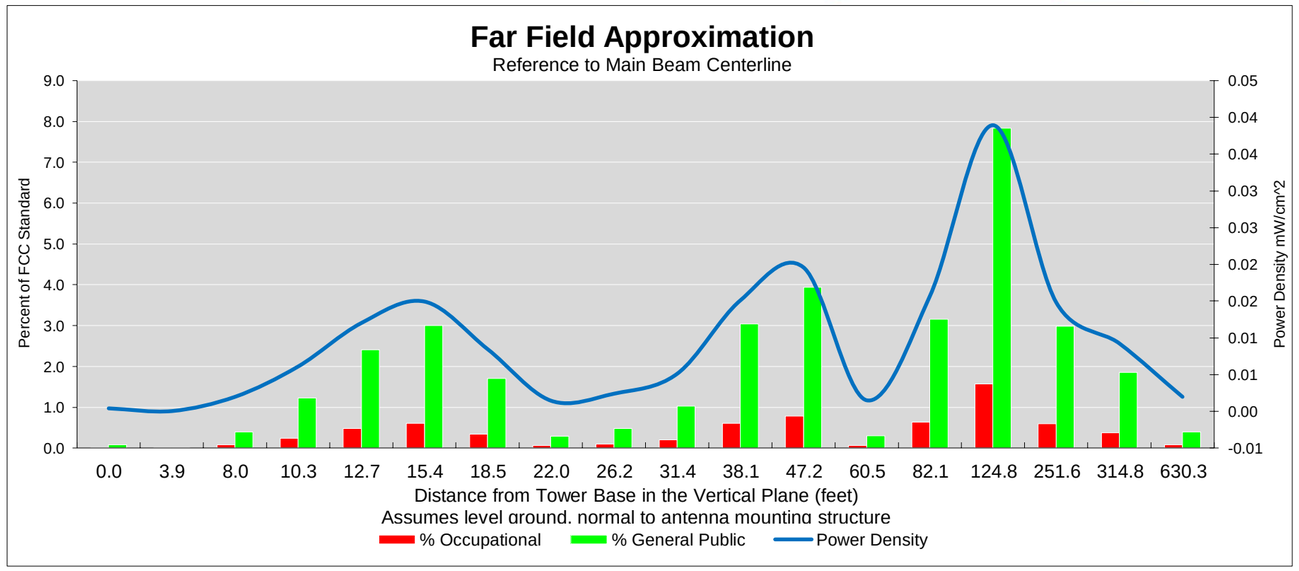
Max%: **32.45%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**746.0**
Antenna Height (ft):	**25.0**
Antenna Gain (dBi):	**14.3**
Antenna Size (in.):	**72.0**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**160.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	22.0	22.3	23.4	24.3	25.4	26.9	28.7	31.1	34.2	38.4	44.0	52.1	64.4	85.0	126.8	252.5	315.5	630.7
Distance from Antenna Structure Base in Horizontal plane	0.0	3.9	8.0	10.3	12.7	15.4	18.5	22.0	26.2	31.4	38.1	47.2	60.5	82.1	124.8	251.6	314.8	630.3
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	36.89	47.17	29.39	24.2	20.86	19.43	21.31	28.26	25.25	21	15.09	12.5	21.83	9.2	1.79	0	0.12	0.85
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.02	0.02	0.00	0.02	0.04	0.01	0.01	0.00
Percent of Occupational Standard	0.0	0.0	0.1	0.2	0.5	0.6	0.3	0.1	0.1	0.2	0.6	0.8	0.1	0.6	1.6	0.6	0.4	0.1
Percent of General Population Standard	0.1	0.0	0.4	1.2	2.4	3.0	1.7	0.3	0.5	1.0	3.0	3.9	0.3	3.2	7.8	3.0	1.9	0.4

Antenna Type: **JAHH-65B-R3B**

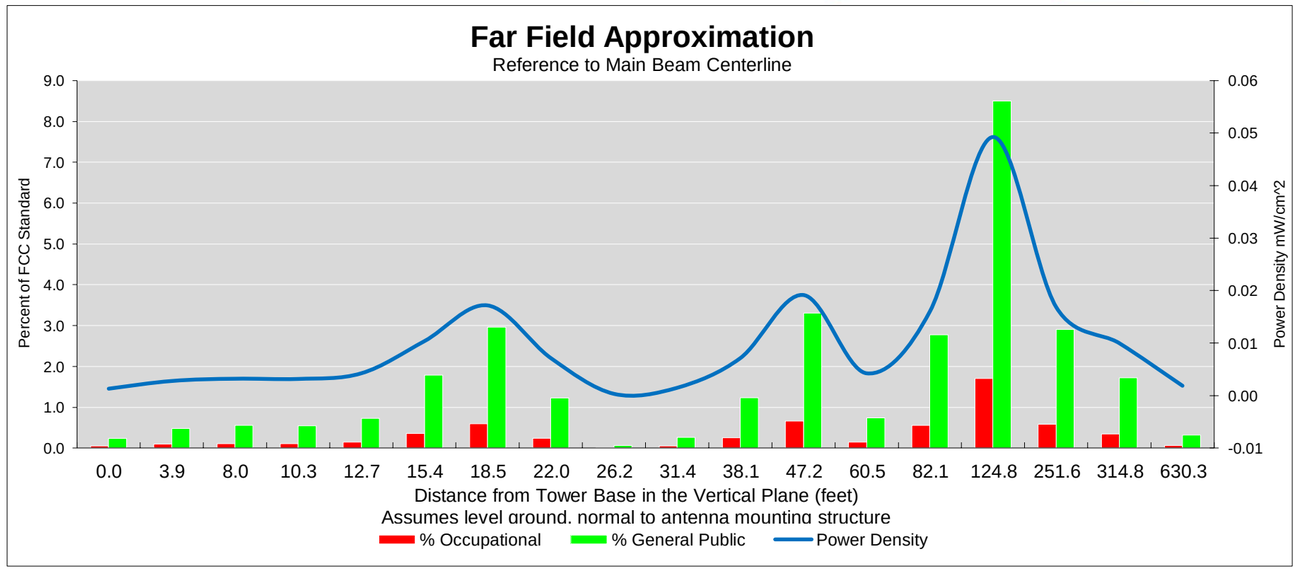
Max%: **7.83%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**869.0**
Antenna Height (ft):	**25.0**
Antenna Gain (dBi):	**15.0**
Antenna Size (in.):	**72.0**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**160.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	22.0	22.3	23.4	24.3	25.4	26.9	28.7	31.1	34.2	38.4	44.0	52.1	64.4	85.0	126.8	252.5	315.5	630.7
Distance from Antenna Structure Base in Horizontal plane	0.0	3.9	8.0	10.3	12.7	15.4	18.5	22.0	26.2	31.4	38.1	47.2	60.5	82.1	124.8	251.6	314.8	630.3
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	32.39	29.02	27.98	27.72	26.09	21.72	18.94	22.07	34.53	27.02	19.04	13.3	17.99	9.81	1.47	0.14	0.48	1.76
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.01	0.02	0.00	0.02	0.05	0.02	0.01	0.00
Percent of Occupational Standard	0.0	0.1	0.1	0.1	0.1	0.4	0.6	0.2	0.0	0.1	0.2	0.7	0.1	0.6	1.7	0.6	0.3	0.1
Percent of General Population Standard	0.2	0.5	0.6	0.5	0.7	1.8	3.0	1.2	0.1	0.3	1.2	3.3	0.7	2.8	8.5	2.9	1.7	0.3

Antenna Type: **JAHH-65B-R3B**

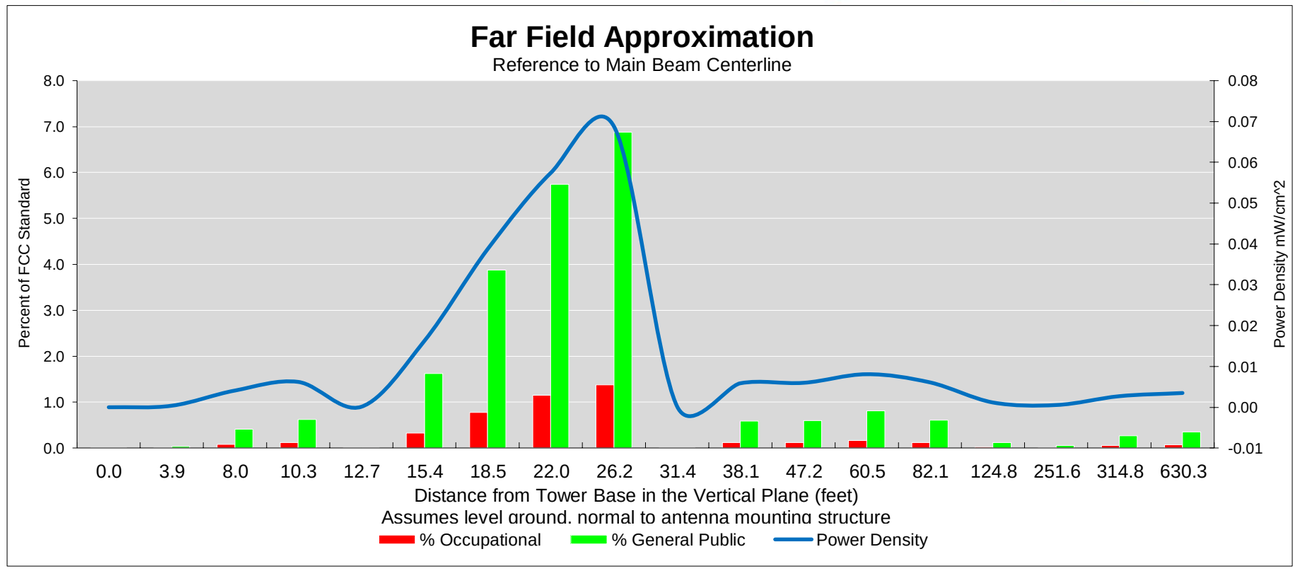
Max%: **8.50%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**1970.0**
Antenna Height (ft):	**25.0**
Antenna Gain (dBi):	**17.8**
Antenna Size (in.):	**72.0**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**160.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	22.0	22.3	23.4	24.3	25.4	26.9	28.7	31.1	34.2	38.4	44.0	52.1	64.4	85.0	126.8	252.5	315.5	630.7
Distance from Antenna Structure Base in Horizontal plane	0.0	3.9	8.0	10.3	12.7	15.4	18.5	22.0	26.2	31.4	38.1	47.2	60.5	82.1	124.8	251.6	314.8	630.3
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	57.68	40.71	29.72	27.64	44.15	22.57	18.21	15.8	14.19	40.4	22.7	21.17	17.99	16.83	20.5	18.01	8.97	1.84
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.01	0.00	0.02	0.04	0.06	0.07	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.0	0.0	0.1	0.1	0.0	0.3	0.8	1.1	1.4	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.1	0.1
Percent of General Population Standard	0.0	0.0	0.4	0.6	0.0	1.6	3.9	5.7	6.9	0.0	0.6	0.6	0.8	0.6	0.1	0.1	0.3	0.3

Antenna Type: **JAHH-65B-R3B**

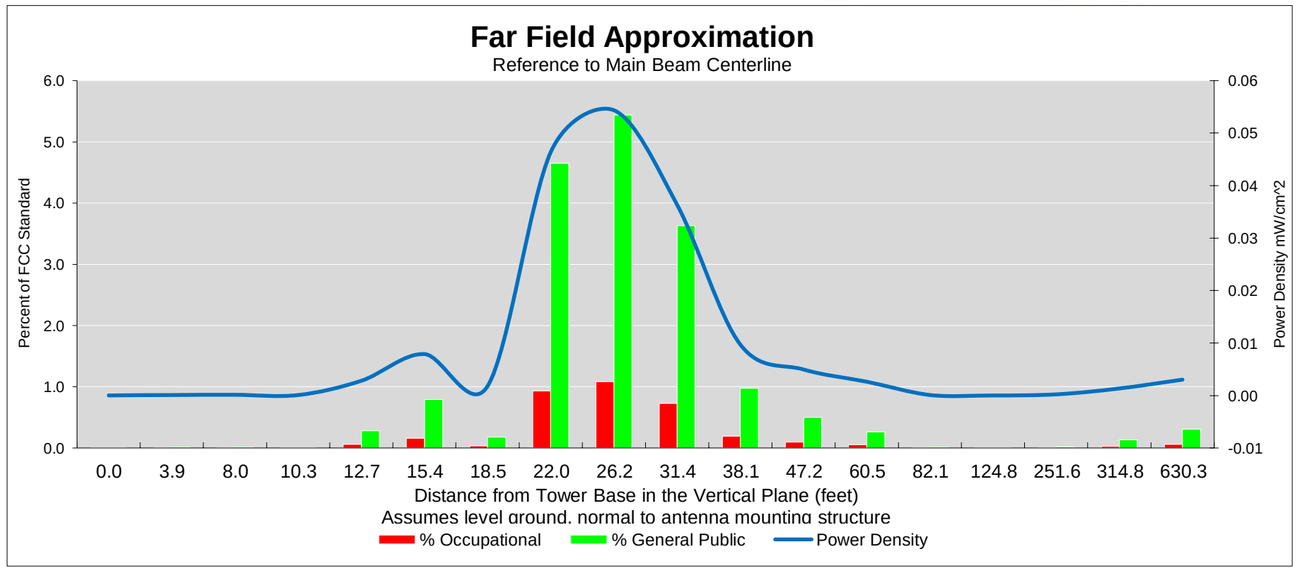
Max%: **6.87%**

Far Field Approximation
with downtilt variation

Estimated Radiated Emission
Single Emitter Far Field Model
Dipole/Wire/Yagi Antenna Types

Location:	**WALLINGFORD CT**
Site #:	2-081
Date:	06/15/21
Name:	Ziad Cheiban
File Name:	

Operating Freq. (MHz):	**2145.0**
Antenna Height (ft):	**25.0**
Antenna Gain (dBi):	**17.9**
Antenna Size (in.):	**72.0**
Downtilt (degrees):	**0.0**
Feedline Loss (dB):	**0.0**
Tx Power (W):	**160.0**
No. of Channels:	**1**



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	22.0	22.3	23.4	24.3	25.4	26.9	28.7	31.1	34.2	38.4	44.0	52.1	64.4	85.0	126.8	252.5	315.5	630.7
Distance from Antenna Structure Base in Horizontal plane	0.0	3.9	8.0	10.3	12.7	15.4	18.5	22.0	26.2	31.4	38.1	47.2	60.5	82.1	124.8	251.6	314.8	630.3
Angle from Main Beam (reference to horizontal plane)	90	80	70	65	60	55	50	45	40	35	30	25	20	15	10	5	4	2
dB down from centerline (referenced to centerline)	52.75	45.79	44.9	46.03	30.76	25.78	31.64	16.82	15.31	16.07	20.6	22.04	22.99	34.06	40.58	21.87	12.1	2.52
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm^2)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.9	1.1	0.7	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1
Percent of General Population Standard	0.0	0.0	0.0	0.0	0.3	0.8	0.2	4.6	5.4	3.6	1.0	0.5	0.3	0.0	0.0	0.0	0.1	0.3

Antenna Type: **JAHH-65B-R3B**

Max%: **5.44%**