



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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E-Mail: siting.council@ct.gov

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VIA ELECTRONIC MAIL

August 25, 2022

Evan Renwick
Site Acquisition Specialist
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
erenwick@clinellc.com

RE: EM-CING-034-220725 – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 144 Old Boston Road, Danbury, Connecticut.

Dear Mr. Renwick:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on July 25, 2022. On August 18, 2022, the Council issued a letter (enclosed) stating that the request for exempt modification is incomplete because the Structural Analysis Report and RF Emissions Analysis Report contained information that did not match the Site Plan A-4 Antenna Schedule.

On August 23, 2022, the Council received an electronic mail with a revised Structural Opinion Letter and a revised Radio Frequency Analysis Report.

Council staff reviewed the response to the incomplete request and identified a deficiency. A Structural Opinion Letter dated July 29, 2022 was submitted; however, the Council requires a Structural Analysis Report for AT&T's proposed tower loading that states the percent loading of the tower's capacity.

Therefore, the exempt modification request remains incomplete at this time. The Council recommends that Centerline Communications, LLC provide a revised Structural Analysis Report that includes the percent loading of the proposed and existing equipment on the tower on or before September 21, 2022. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to September 21, 2022. **Please provide an electronic version of the requested information for the incomplete exempt modification to be rendered complete and processed. Please include the Council's exempt modification identification number referenced above with the submittal.**

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,

A handwritten signature in dark ink, appearing to read "Melanie A. Bachman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Melanie A. Bachman
Executive Director

MAB/RDM/emr

From: Evan Renwick <erenwick@clinellc.com>
Sent: Tuesday, August 23, 2022 3:09 PM
To: Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete Letter for EM-CING-034-220725 (144 Old Boston Road, Danbury)

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Good afternoon,

Attached is a revised SA and EME along with the incomplete exempt modification letter (EM-CING-034-220725) for the above referenced address.

A hard copy of these documents will be mailed to you via UPS to the Connecticut Siting Council office, and should arrive shortly. Please let me know if you have any questions or require any additional information. Thank you.

Best Regards,

Evan Renwick
Centerline Communications, LLC
Site Acquisition Specialist
Cell: (774)428-0194
750 W Center St, #301, West Bridgewater, MA 02379
erenwick@clinellc.com



APPENDIX A

Loading Summary Form

Loading Summary Form

General Info

Site Name	DANBURY- MOSES MTN. (CT2133)
Site USID Number	60417
Site FA Number	10034995
Date of Analysis	7/29/2022
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped structural opinion letter.

Structure Info	Description	Date
Tower Type (C, SST, MP)	Wireline	
Tower Height (top of steel AGL)	64.3	
Mount Manufacturer	n/a	
Mount Model	n/a	
Mount Design	n/a	
Mount Mapping	n/a	
Previous Mount Analysis	HDG Site #: CT2133	7/8/2022
Mount Modification Design	n/a	
Tower Design	n/a	
Previous Tower Analysis	GPD Project #: 2022703.65	5/20/2022

Design Parameters

Design Code Used	TIA-222-H
Location of Tower (County, State)	Fairfield, CT
Wind Speed (mph)	115 (3-second gust)
Ice Thickness (in.)	1
Risk Category (I, II, III)	II
Exposure Category (B, C, D)	B
Topographic Category (1 to 5)	5

Existing / Reserved Configuration

Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Antenna					Azimuth	Quantity	Mount	
			Quantity	Type	Manufacturer	Model	Manufacturer			Type	
Unknown	64	70	1	Yagi	Unknown	2' Yagi		2	Unknown	I-Beam Mount	
Verizon	64	69	4	Panel	Decibel	DB846F6EZAAY	0/240			on the same mounts	
Verizon	64	69	4	Panel	Andrew	HBXX-6516DS-A2M	0/240			on the same mounts	
Verizon	64	69	2	Panel	Kathrein	800 10734	0/240			on the same mounts	
Verizon	64	69	2	RRH	Alcatel Lucent	RRH4x45 AWS				on the same mounts	
Verizon	64	69	2	RRH	Alcatel Lucent	RRH 2x60 PCS				on the same mounts	
Verizon	64	69	2	Dist. Box	Raycap	RC2DC-3315-PF-48				on the same mounts	
Verizon	64	73.5	1	GPS	Unknown	GPS				on the same mounts	
Town of Ridgefield	63	63	1	Dish	Commscope	VHLP3-11W-6GR		1	Unknown	Pipe Mount	
AT&T Mobility	60	57	3*	Panel	Powerwave	7770	20/140/270	3	Unknown	10' T-Boom	
AT&T Mobility	60	57	3**	Panel	KMW	EPBQ-654L8H6-L2	20/140/270			on the same mounts	
AT&T Mobility	60	57	3*	Panel	CCI	HPA-55R-BUJ-H6	20/140/270			on the same mounts	
AT&T Mobility	60	57	3	RRU	Ericsson	4478 B14				on the same mounts	
AT&T Mobility	60	57	3*	RRU	Ericsson	4478 B5				on the same mounts	
AT&T Mobility	60	57	3	RRU	Ericsson	RRUS-32 B2				on the same mounts	
AT&T Mobility	60	57	3	RRU	Ericsson	4426 B66				on the same mounts	
AT&T Mobility	60	57	3*	RRU	Ericsson	RRUS-11 B12				on the same mounts	
AT&T Mobility	60	57	3	RRU	Ericsson	RRUS-32 B30				on the same mounts	
AT&T Mobility	60	57	6*	TMA	Powerwave	LGP 17201				on the same mounts	
AT&T Mobility	60	67	3*	Surge	Raycap	DC6-48-60-18-8F				on the same mounts	
AT&T Mobility	60	55	1	Dish	Radlowaves	SPD2-5.8NS				on the same mounts	
Dept. of Emergency Services an	60	60	1	Dish	RFS	PA6-65	164	1	Unknown	Pipe Mount	
Town of Ridgefield	60	60	1	Dish	Commscope	VHLP3-11W-6GR		1	Unknown	Pipe Mount	
Unknown	58	58	1	Dish	Radlowaves	SPD2-5.8NS	330			Leg Mounted	
Unknown	58	58	1	ODU	Unknown	12"x10"x4" ODU				Leg Mounted	
Unknown	57	63	1	Omni	Unknown	12' Omni		1	Unknown	Collar Mount	
Dept. of Emergency Services an	55	55	1	Dish	RFS	PA6-65	42.9	1	Unknown	Pipe Mount	
Unknown	53	57	1	Dipole	Unknown	8' Dipole		1	Unknown	Pipe Mount	
Dept. of Emergency Services an	50	57	1	Omni	Decibel	DB806D		1	Unknown	I-Beam Side Arm	
Dept. of Emergency Services an	50	60	1	Omni	RFI Wireless	BA80-41-DIN				on the same mount	
Unknown	50	55	1	Omni	Unknown	10' Omni		1	Unknown	6' Standoff	
Unknown	50	57	1	Omni	Unknown	6' Omni		1	Unknown	Pipe Mount	
Unknown	50	54	1	Dipole	Unknown	8' Dipole		1	Unknown	Pipe Mount	
Unknown	50	62	1	TMA	Unknown	20" x 8" x 6" TMA		1	Unknown	Pipe Mount	
Unknown	50	45	1	Omni	Unknown	10' Omni		1	Unknown	Standoff on Pipe Mount	
Dept. of Emergency Services an	50	54	1	Yagi	Telewave	UHF450 Antenna		1	Unknown	Pipe Mount	
Dept. of Emergency Services an	50	59	1	Omni	Telewave	VHF150 Antenna		1	Unknown	I-Beam Side Arm	
Dept. of Emergency Services an	50	44	1	Dipole	Decibel	DB264-A				on the same mount	
Dept. of Emergency Services an	50	50	1	Panel	Amphenol	WPA-700120-4CF-EDIN-0	195			on the existing I-Beam	
Dept. of Emergency Services an	50	50	1	TTA	Tx Rx Systems	432E-831-01T				on the existing I-Beam	
Dept. of Emergency Services an	50	45	1	Omni	Sinclair	SC479-HF1LDF				on the existing I-Beam	
Dept. of Emergency Services an	50	45	1	Omni	Sinclair	SC479-HF1LDF				on the existing standoff	
Unknown	50	44	1	Omni	Unknown	12' Omni		1	Unknown	6' Standoff	
Unknown	46	46	1	Grid Dish	Unknown	PRFTV 4875		1	Unknown	4' Standoff	

*Indicates equipment/feedline quantity to be removed

**Indicates quantity to be relocated to positions A2, B2, & C4

Proposed Configuration

Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Antenna					Azimuth	Quantity	Mount	
			Quantity	Type	Manufacturer	Model	Manufacturer			Type	
AT&T Mobility	52	49	3	Panel	Ericsson	AIR6448 B77D-AIR6419 B77G STACKED	20/140/270			on the same mounts	
AT&T Mobility	60	57	3	Panel	CCI	OP465R-BU6DA	20/140/270			on the same mounts	
AT&T Mobility	60	57	3	RRU	Ericsson	4449 B5/B12				on the same mounts	

Note: The proposed loading shall be in addition to the remaining existing equipment at the same elevation.



Radio Frequency Exposure Analysis Report

August 23, 2022

Centerline on behalf of AT&T
Centerline Communications Project Number: 566670

AT&T Site Name: Danbury- Moses MTN.
Site Number: CT2133
FA#: 10034995
USID: 60417

Site Address: Moses Mountain, Danbury, CT 06810

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	34.57426 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	3.57583%



August 23, 2022

Centerline
Attn: Jennifer Iliades, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **Danbury-Moses MTN.**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **Moses Mountain, Danbury, CT 06810** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



Maximum Calculated Cumulative Power Density @ Ground Level (Location: approximately 7' NE of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
AT&T A 1	KMW EPBQ-654L8H6	700	11.93	60.00	4.00	30.00	1871.46	0.19337	466.67	0.04144
AT&T A 1	KMW EPBQ-654L8H6	1900	15.11	60.00	2.00	30.00	1946.04	0.10425	1000.00	0.01043
AT&T A 1	KMW EPBQ-654L8H6	1900	15.18	60.00	2.00	30.00	1977.66	0.10058	1000.00	0.01006
AT&T A 1	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.08709	1000.00	0.00871
AT&T A 1	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.08709	1000.00	0.00871
AT&T A 2	CCI OPA65R-BU6D	700	11.35	60.00	2.00	30.00	818.75	4.08816	1000.00	0.40882
AT&T A 2	CCI OPA65R-BU6D	2300	15.05	60.00	4.00	18.00	2303.20	17.51574	1000.00	1.75157
AT&T A 2	CCI OPA65R-BU6D	850	11.95	60.00	2.00	30.00	940.05	7.58615	1000.00	0.75862
AT&T A 3	ERICSSON AIR6449	3700	23.55	52.00	1.00	108.40	24548.74	0.16569	466.67	0.03551
AT&T A 4	ERICSSON AIR6419 LTE	3450	22.85	52.00	1.00	54.20	10447.19	0.24231	1000.00	0.02423
AT&T A 4	ERICSSON AIR6419 NR	3450	22.85	52.00	1.00	54.00	10408.63	0.17876	566.67	0.03155
AT&T B 5	KMW EPBQ-654L8H6	700	11.93	60.00	4.00	30.00	1871.46	0.00012	466.67	0.00003
AT&T B 5	KMW EPBQ-654L8H6	1900	15.11	60.00	2.00	30.00	1946.04	0.00002	1000.00	0.00000
AT&T B 5	KMW EPBQ-654L8H6	1900	15.18	60.00	2.00	30.00	1977.66	0.00001	1000.00	0.00000
AT&T B 5	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.00000	1000.00	0.00000
AT&T B 5	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.00000	1000.00	0.00000
AT&T B 6	ERICSSON AIR6449	3700	23.55	52.00	1.00	108.40	24548.74	0.00540	1000.00	0.00054
AT&T B 7	ERICSSON AIR6419 LTE	3450	22.85	52.00	1.00	54.20	10447.19	0.03129	1000.00	0.00313
AT&T B 7	ERICSSON AIR6419 NR	3450	22.85	52.00	1.00	54.00	10408.63	0.00287	1000.00	0.00029
AT&T B 8	CCI OPA65R-BU6D	700	11.35	60.00	2.00	30.00	818.75	0.00010	466.67	0.00002
AT&T B 8	CCI OPA65R-BU6D	2300	15.05	60.00	4.00	18.00	2303.20	0.00018	1000.00	0.00002
AT&T B 8	CCI OPA65R-BU6D	850	11.95	60.00	2.00	30.00	940.05	0.00000	566.67	0.00000
AT&T C 9	CCI OPA65R-BU6D	700	11.35	60.00	2.00	30.00	818.75	0.00041	466.67	0.00009
AT&T C 9	CCI OPA65R-BU6D	2300	15.05	60.00	4.00	18.00	2303.20	0.00002	1000.00	0.00000
AT&T C 9	CCI OPA65R-BU6D	850	11.95	60.00	2.00	30.00	940.05	0.00003	1000.00	0.00000
AT&T C 10	ERICSSON AIR6449	3700	23.55	52.00	1.00	108.40	24548.74	0.00002	1000.00	0.00000
AT&T C 11	ERICSSON AIR6419 LTE	3450	22.85	52.00	1.00	54.20	10447.19	0.00002	1000.00	0.00000
AT&T C 11	ERICSSON AIR6419 NR	3450	22.85	52.00	1.00	54.00	10408.63	0.00375	1000.00	0.00038
AT&T C 12	KMW EPBQ-654L8H6	700	11.93	60.00	4.00	30.00	1871.46	0.00288	1000.00	0.00029
AT&T C 12	KMW EPBQ-654L8H6	1900	15.11	60.00	2.00	30.00	1946.04	0.00340	1000.00	0.00034
AT&T C 12	KMW EPBQ-654L8H6	1900	15.18	60.00	2.00	30.00	1977.66	0.00004	466.67	0.00001
AT&T C 12	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.00000	1000.00	0.00000
AT&T C 12	KMW EPBQ-654L8H6	2100	15.77	60.00	2.00	30.00	2265.43	0.00003	566.67	0.00001
Unknown A 13	GENERIC PANEL 6FT	1900	15.84	74.00	2.00	60.00	4604.49	0.05957	1000.00	0.00596



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
Unknown A 14	GENERIC PANEL 6FT	600	12.33	74.00	2.00	60.00	2052.02	0.20188	400.00	0.05047
Unknown A 15	GENERIC PANEL 6FT	700	12.33	74.00	2.00	60.00	2052.02	0.24511	466.67	0.05252
Unknown A 15	GENERIC PANEL 6FT	2100	15.84	74.00	2.00	60.00	4604.49	0.26072	1000.00	0.02607
Unknown A 16	GENERIC PANEL	3700	23.55	74.00	4.00	80.00	72468.62	3.36996	1000.00	0.33700
Unknown B 17	GENERIC PANEL 6FT	1900	15.84	74.00	2.00	60.00	4604.49	0.00010	1000.00	0.00001
Unknown B 18	GENERIC PANEL 6FT	600	12.33	74.00	2.00	60.00	2052.02	0.00030	400.00	0.00008
Unknown B 19	GENERIC PANEL 6FT	700	12.33	74.00	2.00	60.00	2052.02	0.00038	466.67	0.00008
Unknown B 19	GENERIC PANEL 6FT	2100	15.84	74.00	2.00	60.00	4604.49	0.00002	1000.00	0.00000
Unknown B 20	GENERIC PANEL	3700	23.55	74.00	4.00	80.00	72468.62	0.01089	1000.00	0.00109
Unknown C 21	GENERIC PANEL 6FT	1900	15.84	74.00	2.00	60.00	4604.49	0.00009	1000.00	0.00001
Unknown C 22	GENERIC PANEL 6FT	600	12.33	74.00	2.00	60.00	2052.02	0.00006	400.00	0.00002
Unknown C 23	GENERIC PANEL 6FT	700	12.33	74.00	2.00	60.00	2052.02	0.00012	466.67	0.00003
Unknown C 23	GENERIC PANEL 6FT	2100	15.84	74.00	2.00	60.00	4604.49	0.00007	1000.00	0.00001
Unknown C 24	GENERIC PANEL	3700	23.55	74.00	4.00	80.00	72468.62	0.00288	1000.00	0.00029
Unknown A 25	GENERIC OMNI	450	5.96	57.00	1.00	25.25	99.60	0.00980	300.00	0.00327
Unknown A 26	GENERIC OMNI	450	5.96	57.00	1.00	25.25	99.60	0.01255	300.00	0.00418
							Cumulative Power Density:	34.57426 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	3.57583%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations in all publicly accessible areas.

Michelle Stone

Michelle Stone

RF EME Technical Writer II

Centerline Communications, LLC