



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

November 17, 2022

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

RE: **EM-AT&T-054-221011** – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 2108 Main Street, Glastonbury, Connecticut.

Dear Evan Renwick:

The Connecticut Siting Council (Council) is in receipt of your correspondence of November 15, 2022 submitted in response to the Council's November 7, 2022 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,

Melanie A. Bachman
Executive Director

MAB/RDM/emr

From: Evan Renwick <erenwick@clinellc.com>
Sent: Tuesday, November 15, 2022 11:39 AM
To: Fontaine, Lisa <Lisa.Fontaine@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: EM-AT&T-054-221011 Council Incomplete Letter

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 morning,

Attached is a revised Radio Frequency Analysis Report which was requested in the attached incomplete exempt modification letter (EM-AT&T-054-221011) dated November 7, 2022, 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



November 15, 2022

VIA UPS DELIVERY (1Z9Y45030337942936)

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

Regarding: Council Incomplete Letter for EM-AT&T-054-221011
Site Address: 2108 Main Street, Glastonbury, CT 06033
AT&T Site ID CT1083 /FA # 10035111
Tenant: New Cingular Wireless, PCS, LLC (“AT&T”)

Dear Mrs. Bachman:

This letter is in response to the Council’s Letter for EM-AT&T-054-221011 2108 Main Street, Glastonbury, CT 06033) dated November 7, 2022.

The Council reviewed the exempt modification request for completeness and identified a deficiency in the Radio Frequency Analysis Report provided with the filing. Per the Council’s recommendations, along with this letter is a revised Radio Frequency Analysis Report.

Provided to the Council is an electronic version of the revised Radio Frequency Analysis Report, and one hard copy of these documents will be mailed to the Council’s address listed above via UPS and should arrive shortly.

Please do not hesitate to contact me should you have any questions or concerns. Thank you for your attention to this matter.

Sincerely,

Evan Renwick

Evan Renwick
Site Acquisition Specialist
Direct Line: (774) 428-0194
Email: erenwick@clinellc.com

Radio Frequency Exposure Analysis Report

November 11, 2022

Centerline on behalf of AT&T

AT&T Site Name: GLASTONBURY PD

AT&T Site Number: CTL01083

FA#: 10035111

USID: 59372

Site Address: Glastonbury Police Department, Glastonbury, CT 06033



Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2023

Signed 11 November 2022

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	2.88482 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.83511%



November 11, 2022

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

RF Exposure Analysis for Site: **GLASTONBURY PD**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed AT&T facility at **Glastonbury Police Department, Glastonbury, CT 06033** 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 5' southwest 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 (μW/cm ²)	General Population MPE Limit (μW/cm ²)	General Population % MPE
AT&T A 1	QUINTEL QD6616-7 V1	700	11.51	168.50	4.00	30.00	1699.81	0.00024	466.67	0.00005
AT&T A 1	QUINTEL QD6616-7 V1	700	11.75	168.50	2.00	18.00	538.97	0.00007	466.67	0.00002
AT&T A 1	QUINTEL QD6616-7 V1	1900	15.11	168.50	4.00	30.00	3888.22	0.00000	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7 V1	2100	15.33	168.50	4.00	30.00	4093.28	0.00000	1000.00	0.00000
AT&T A 2	Ericsson AIR6419	3450	23.45	168.50	1.00	54.22	11999.40	0.00221	1000.00	0.00022
AT&T A 3	Ericsson AIR6449	3700	23.45	162.80	1.00	86.75	19198.60	0.00313	1000.00	0.00031
AT&T A 4	KATHREIN 80010965	700	11.85	168.50	4.00	30.00	1837.30	0.00018	466.67	0.00004
AT&T A 4	KATHREIN 80010965	850	13.25	168.50	4.00	30.00	2536.19	0.00021	566.67	0.00004
AT&T A 4	KATHREIN 80010965 2	2300	15.85	168.50	4.00	18.00	2769.06	0.00007	1000.00	0.00001
AT&T B 5	QUINTEL QD6616-7 V1	700	11.97	168.50	4.00	30.00	1889.26	0.00010	466.67	0.00002
AT&T B 5	QUINTEL QD6616-7 V1	700	11.97	168.50	2.00	18.00	566.78	0.00003	466.67	0.00001
AT&T B 5	QUINTEL QD6616-7 V1	1900	15.18	168.50	4.00	30.00	3951.86	0.00007	1000.00	0.00001
AT&T B 5	QUINTEL QD6616-7 V1	2100	15.33	168.50	4.00	30.00	4093.28	0.00031	1000.00	0.00003
AT&T B 6	Ericsson AIR6419	3450	23.45	168.50	1.00	54.22	11999.40	0.00347	1000.00	0.00035
AT&T B 7	Ericsson AIR6449	3700	23.45	162.80	1.00	86.75	19198.60	0.00525	1000.00	0.00053
AT&T B 8	KATHREIN 80010965	700	12.15	168.50	4.00	30.00	1968.71	0.00027	466.67	0.00006
AT&T B 8	KATHREIN 80010965	850	13.45	168.50	4.00	30.00	2655.71	0.00010	566.67	0.00002
AT&T B 8	KATHREIN 80010965	2300	15.75	168.50	4.00	18.00	2706.03	0.00001	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7 V1	700	11.99	168.50	4.00	30.00	1899.16	0.04324	466.67	0.00927
AT&T C 9	QUINTEL QD6616-7 V1	700	11.99	168.50	2.00	18.00	569.75	0.01350	466.67	0.00289
AT&T C 9	QUINTEL QD6616-7 V1	1900	14.97	168.50	4.00	30.00	3766.53	0.04397	1000.00	0.00440
AT&T C 9	QUINTEL QD6616-7 V1	2100	15.62	168.50	4.00	30.00	4376.85	0.04727	1000.00	0.00473
AT&T C 10	Ericsson AIR6419	3450	23.45	168.50	1.00	54.22	11999.40	0.20266	1000.00	0.02027
AT&T C 11	Ericsson AIR6449	3700	23.45	162.80	1.00	86.75	19198.60	0.38705	1000.00	0.03871
AT&T C 12	KATHREIN 80010965	700	11.95	168.50	4.00	30.00	1880.10	0.03957	466.67	0.00848
AT&T C 12	KATHREIN 80010965	850	13.45	168.50	4.00	30.00	2655.71	0.04217	566.67	0.00744
AT&T C 12	KATHREIN 80010965	2300	15.65	168.50	4.00	18.00	2644.43	0.02686	1000.00	0.00269
AT&T Totals:								0.86201		0.10056
Municipal A 13	GENERIC OMNI 9.5FT	450	5.96	174.20	1.00	75.00	295.84	0.00300	300.00	0.00100
Municipal A 14	GENERIC OMNI 6FT	850	5.96	174.20	1.00	100.00	394.46	0.00619	566.67	0.00109
Municipal A 15	GENERIC OMNI 6FT	850	5.96	174.20	1.00	100.00	394.46	0.00619	566.67	0.00109
Municipal A 16	GENERIC GRID DISH 3FT	2400	22.35	151.40	1.00	5.00	858.95	0.00007	1000.00	0.00001
Municipal A 17	GENERIC OMNI 5FT	850	5.96	139.90	1.00	100.00	394.46	0.01162	566.67	0.00205
Municipal A 18	GENERIC OMNI 12FT	850	8.96	128.50	1.00	100.00	787.05	0.00613	566.67	0.00108



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
Municipal A 19	GENERIC OMNI 12FT	850	8.96	125.70	1.00	100.00	787.05	0.00644	566.67	0.00114
Municipal A 20	GENERIC OMNI 12FT	850	8.96	125.70	1.00	100.00	787.05	0.00644	566.67	0.00114
Municipal A 21	GENERIC MICROWAVE 6FT	6000	38.65	125.70	1.00	0.10	732.82	0.00000	1000.00	0.00000
Municipal A 22	GENERIC MICROWAVE 6FT	6000	38.65	117.10	1.00	0.10	732.82	0.00000	1000.00	0.00000
Municipal A 23	GENERIC OMNI 12FT	850	8.96	108.50	1.00	100.00	787.05	0.00884	566.67	0.00156
Municipal A 24	GENERIC OMNI 12FT	850	8.96	97.10	1.00	100.00	787.05	0.01129	566.67	0.00199
Municipal A 25	GENERIC OMNI 12FT	850	8.96	97.10	1.00	100.00	787.05	0.01129	566.67	0.00199
Municipal A 26	GENERIC OMNI 12FT	850	8.96	97.10	1.00	100.00	787.05	0.01129	566.67	0.00199
Municipal A 27	GENERIC OMNI 12FT	850	8.96	85.70	1.00	100.00	787.05	0.01490	566.67	0.00263
Municipal A 28	GENERIC OMNI 12FT	850	8.96	68.50	1.00	100.00	787.05	0.02471	566.67	0.00436
Municipal A 29	GENERIC OMNI 12FT	850	8.96	65.70	1.00	100.00	787.05	0.02726	566.67	0.00481
Municipal A 30	GENERIC OMNI 12FT	850	8.96	48.60	1.00	100.00	787.05	0.05601	566.67	0.00988
Municipal A 31	GENERIC OMNI 12FT	850	8.96	48.60	1.00	100.00	787.05	0.05601	566.67	0.00988
Municipal A 32	GENERIC OMNI 12FT	850	8.96	28.60	1.00	100.00	787.05	0.22900	566.67	0.04041
Municipal A 33	GENERIC OMNI 12FT	850	8.96	28.60	1.00	100.00	787.05	0.22900	566.67	0.04041
Municipal A 34	GENERIC OMNI 9.5FT	450	5.96	28.60	1.00	100.00	394.46	0.25527	300.00	0.08509
Municipal A 35	GENERIC OMNI 3FT	45	2.60	22.80	1.00	100.00	181.97	1.04187	200.00	0.52094
Municipal Totals:								2.02281		0.73455
							Cumulative Power Density:	2.88482 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	0.83511%



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.

Samuel Cosgrove
RF EME Technical Writer
Centerline Communications, LLC