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REPLY TO:

Tarrytown Office

June 1, 2022

HAND DELIVERY

Honorable Mayor Brian Pugh
and Members of the Board of Trustees
Village of Croton-on-Hudson
1 Van Wyck Street
Croton-on-Hudson, NY 10520

RE: **Special Permit Renewal Application**
T-Mobile Northeast LLC
1 Van Wyck Street, Croton-on-Hudson, New York

Honorable Mayor Pugh
and Members of the Board of Trustees:

We are the attorneys for T-Mobile Northeast LLC ("T-Mobile"), in connection with the approved wireless communications facility ("Existing Facility") at Village Hall. The Existing Facility last received a renewal of its special permit from this Honorable Board on September 17, 2018. A copy of the Village Board's 2018 Renewal Resolution ("Renewal Resolution") is enclosed herewith for your convenience. On behalf of T-Mobile and in accordance with Section 206-5(N) of the Village Code we hereby respectfully request re-certification of the Special Permit for the Existing Facility located at the above referenced property.

In furtherance of the foregoing enclosed please find a check in the amount of \$2,500.00 representing the Special Permit Renewal Fee together with the following:

1. FCC RF Compliance Report; and
2. Structural Re-Certification Letter.

Please also note that T-Mobile has provided a radiofrequency emissions meter to the Village Engineer as conditioned by the 2018 renewal and a copy of the spec sheet has been attached hereto for the Board's convenience. We also have provided the Village Engineer with a radio frequency safety course. More information on the radiofrequency training certificate course can be found at, <https://www.oshaeducationcenter.com/compliance-training/radiofrequency-training/>.

If you have any questions or require additional documentation, please do not hesitate to call me at (914) 333-0700.

Respectfully submitted,
SNYDER & SNYDER LLP,


David J. Kenny, Esq.

Enclosures

cc: T-Mobile

Z:\SSDATA\WPDATA\SS3\RDG\T-Mobile\Croton-on-Hudson\09-077\2021\NY09-077 Renewal 6.1.22.docx

Transcend Wireless LLC
10 Industrial Ave. Suite 3
Mahwah, NJ 07430

BANK OF AMERICA, NA
Richmond, VA
1-822710

29174

PAY TO THE
ORDER OF Village of Croton-on-Hudson

5/5/2022

Two Thousand Five Hundred and 00/100*****
\$**2,500.00

Village of Croton-on-Hudson
1 Van Wyck St.
Croton-on-Hudson, NY 10520

TRANSCEND WIRELESS LLC
DOLLARS

W J K

MEMO
NY09077A Special Permit Renewal Fee (TMO ESD)

⑆029174⑆ ⑆021000322⑆ 009419492244⑆

Village of



Croton-on-Hudson New York

Stanley H. Kellerhouse Municipal Building
One Van Wyck Street
Croton-on-Hudson, NY 10520-2501

Mayor
Brian Pugh

Trustees
Amy M. Attias
Ann Gallelli
Sherry Horowitz
Ian W. Murtaugh

Village Manager
Janine M. King
Treasurer
Sandra Bullock

Clerk
Pauline DiSanto

Engineer
Daniel F. O'Connor, P.E.

October 3, 2018

Snyder & Snyder, LLP
94 White Plains Road
Tarrytown, NY 10591

Re: Special Permit Renewal T-Mobile Northeast, LLC
1 Van Wyck Street, Croton-on-Hudson, NY

At the September 17, 2018 Regular Village Board Meeting, the Village Board of Trustees approved your request for a renewal of the Telecommunications Special Permit to T-Mobile Northeast, LLC for the collocation of a Personal Wireless Facility at 1 Van Wyck Street, Croton-on-Hudson, NY 10520.

This letter and the attached resolutions dated September 17, 2018 will serve as your special permit which is valid until October 15, 2022. It is your responsibility to apply for a renewal of the special permit. It is recommended that you start the renewal process 3 months in advance.

Sincerely,

Pauline DiSanto
Village Clerk

On motion of TRUSTEE GALLELLI, seconded by TRUSTEE ATTIAS, the following resolution was adopted unanimously by the Board of Trustees of the Village of Croton-on-Hudson, New York; with a 5-0 vote.

WHEREAS, at a Village Board Meeting on October 15, 2007, T-Mobile Northeast LLC, (f/k/a Omnipoint Communications, Inc.), was issued a Telecommunications special permit to collocate a personal wireless facility at One Van Wyck Street; and

WHEREAS, the special permit was renewed by the Village Board on November 25, 2013; and

WHEREAS, this Telecommunications special permit expired on October 15, 2017; and

WHEREAS, the Village has received a special permit renewal application from T-Mobile Northeast LLC, (f/k/a Omnipoint Communications), Inc. for a renewal of a special permit for a Personal Wireless Facility at 1 Van Wyck Street; and

WHEREAS, an Antenna Site FCC RF Compliance Assessment and Report dated July 19, 2018 has been submitted and indicates that the calculated maximum RF level at the site is 44.75 percent of the FCC maximum permissible exposure; and

WHEREAS, a Public Hearing on the permit renewal was opened on September 4, 2018 and closed on September 17, 2018;

NOW THEREFORE BE IT RESOLVED: that the Village Board of Trustees does hereby issues a renewal of the Telecommunications Special Permit to T-Mobile Northeast LLC, (f/k/a Omnipoint Communications, Inc.) for the collocation of a personal wireless facility at 1 Van Wyck Street with the following conditions:

1. This permit expires on October 15, 2022; and must be renewed in accordance with the Telecommunications Chapter of the Village Code.

2. That, the T-Mobile facility shall at all times during the life of the facility comply with the applicable FCC regulations pertaining to radio frequency emissions, including such regulations as applicable to cumulative radio frequency emissions. Any necessary mitigation measures to ensure compliance shall follow FCC requirements, procedures and protocols.
3. That, in accordance with section 206-5(B) of the Village Code antennas shall be subject to state and federal regulations pertaining to nonionizing radiation and other health hazards related to such facilities. The owner of the antenna shall submit to the Board of Trustees evidence of compliance with the FCC standards on a yearly basis. If new, more restrictive standards are adopted, the antennas shall be made to comply, or continued operations may be restricted or prohibited by the Board of Trustees. The cost of verification of compliance shall be borne by the owner and operator of the personal wireless facility.
4. That, T-Mobile is advised that the Village may switch to a different Emergency Services communication system in the future and that the T-Mobile system must be operated to prohibit interference, including implementation of any FCC rebanding plan, to current and future Village wireless systems.
5. That, any additional monthly cost charged by the Village's fire alarm company for the fire/smoke detector and strobe/horn in the T-Mobile facility shall be paid by T-Mobile. The lease agreement with T-Mobile shall be amended to reflect the payment of this additional cost if required by the Village via written notification to T-Mobile Northwest, LLC.
6. As required in the Telecommunications Chapter of the Village Code the applicant must post a bond in an amount to be determined by the Village Engineer to cover the costs of removing and disposing of the tower, antenna and associated facilities. In the event that a tower is not removed within 90 days of the cessation of operations at a site, the tower and associated facilities may be removed by the Village and the costs of removal assessed against the property, the bond or both.

7. That, proper radio frequency and antenna location warning signs be posted and maintained in the attic near the access to the roof and on the roof.
8. That, T-Mobile shall provide a basic radio frequency safety course appropriate for Village (DPW) employees, if requested by the Village.
9. That, T-Mobile shall provide the Village with a Radio Frequency Meter suitable to detect whether the antennas are on or off. The make and model of the RF meter shall be approved by the Village Engineer. The meter shall be provided to the Village within 90 days of the date of issuance of the renewal of the special permit.

Date: September 17, 2018

State of New York)

ss:

County of Westchester)

I, Pauline DiSanto, Clerk of the Village of Croton-on-Hudson, in the County of Westchester, State of New York, do hereby certify that the annexed resolution is a copy of an original on file in my office and has been duly adopted at a regular meeting of the Board of Trustees of said Village held on September 17, 2018.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the said Village this 3rd day of October 2018.


Village Clerk

(Seal)



PINNACLE TELECOM GROUP

Professional and Technical Services

**ANTENNA SITE FCC RF COMPLIANCE
ON-SITE MEASUREMENT ASSESSMENT
AND REPORT**

T-Mobile NORTHEAST LLC

**SITE NY09077A
1 VAN Wyck STREET
CORTLANDT, NY**

FEBRUARY 1, 2022

14 RIDGEDALE AVENUE • SUITE 260 • CEDAR KNOLLS, NJ 07927 • 973-451-1630

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INTRODUCTION AND SUMMARY

At the request of T-Mobile Northeast LLC ("T-Mobile"), Pinnacle Telecom Group (PTG) has prepared an independent assessment of potential RF exposure and related RF safety compliance for a proposed modification, utilizing T-Mobile's licensed frequency bands of 600 MHz, 700 MHz and 2100 MHz.

T-Mobile Site ID: **NY09077A**
Site Address: **1 Van Wyck Street, Cortlandt, NY**
Site Type: **Rooftop**
Collocated Operators: **Verizon / Unidentified**

This assessment has been prepared for T-Mobile's use in determining any need for mitigation related to compliance with T-Mobile's corporate policy regarding RF safety. The assessment is based on information provided by T-Mobile regarding the operation at the site, and independent expert on-site measurements performed by PTG at the street-level on January 31, 2021, where it was found that the site access is controlled.

Our analysis is based on the FCC general population MPE limits. The result of the on-site measurements and our analysis are as follows:

- **On the roof:** Calculated RF levels on the roof indicate a maximum RF level in the vicinity of the T-Mobile antennas of 921.58 percent of the FCC general population MPE limit. The calculated RF levels exceed the FCC general population and occupational MPE limits.
- **At street level:** RF measurements throughout accessible areas at street level around the site indicate a maximum RF level of 2.30 percent of the FCC general population MPE limit. In other words, the maximum RF level is 43 times below the limit identified as safe for continuous human exposure to RF emissions.
- **Compliance conclusion:** Calculated RF levels on the rooftop indicate that the FCC general population and occupational MPE limits are potentially exceeded. Per T-Mobile corporate policy, Notice, Guidelines, and

Emergency signs are to be posted at the roof access, Implement an RF Safety Plan for the sloped rooftop; ensure all workers accessing the sloped rooftop are provided with the exposure diagram in Appendix A and understand which areas exceed FCC MPE limits. Once implemented, the RF Safety Plan satisfies compliance requirements.

- **Recommendation:** Implement an RF Safety Plan for the sloped rooftop; ensure all workers accessing the sloped rooftop are provided with the exposure diagram in Appendix A and understand which areas exceed FCC MPE limits. Once implemented, the RF Safety Plan satisfies compliance requirements.

SITE INFORMATION

The subject site is a building rooftop populated with panel and dipole antennas operated by T-Mobile, Verizon, and Unidentified carriers.

The table below provides antenna detail for the site on the date the measurements were performed.

Ant #	Mount Height	Ant. Type	Ant. Dim.	Ant. Mfr	Model	Licensee
①	7"	Panel	4'8"	Ericsson	AIR 21	T-Mobile
②	7"	Panel	4'8"	Ericsson	AIR 32	T-Mobile
③	5"	Panel	8	RFS	APXVAARR24_43	T-Mobile
④	7"	Panel	4'8"	Ericsson	AIR 21	T-Mobile
⑤	7"	Panel	4'8"	Ericsson	AIR 32	T-Mobile
⑥	5"	Panel	8	RFS	APXVAARR24_43	T-Mobile
⑦	7"	Panel	4'8"	Ericsson	AIR 21	T-Mobile
⑧	7"	Panel	4'8"	Ericsson	AIR 32	T-Mobile
⑨	5"	Panel	8	RFS	APXVAARR24_43	T-Mobile
⑩	4"	Dipole Array	9"	N/A	N/A	Unidentified
⑪	4"	Dipole	6"	N/A	N/A	Unidentified
⑫	4"	Panel	4'8"	N/A	N/A	Verizon
⑬	4"	Panel	4'8"	N/A	N/A	Verizon

Ant #	Mount Height	Ant. Type	Ant. Dim.	Ant. Mfr	Model	Licensee
16	4"	Panel	4'8"	N/A	N/A	Verizon
17	4"	Panel	4'8"	N/A	N/A	Verizon
18	5"	Panel	4'8"	N/A	N/A	Verizon
17	5"	Panel	4'8"	N/A	N/A	Verizon
18	5"	Dipole Array	9"	N/A	N/A	Unidentified
19	5"	Dipole Array	9"	N/A	N/A	Unidentified
20	2"	Dipole Array	9"	N/A	N/A	Unidentified
21	2"	Dipole	6"	N/A	N/A	Unidentified
22	2"	Dipole	6"	N/A	N/A	Unidentified
22	2"	Dipole	6"	N/A	N/A	Unidentified
23	2"	Dipole	6"	N/A	N/A	Unidentified

*c. signifies "approximately"

The table below summarizes the relevant data for the T-Mobile antenna operations.

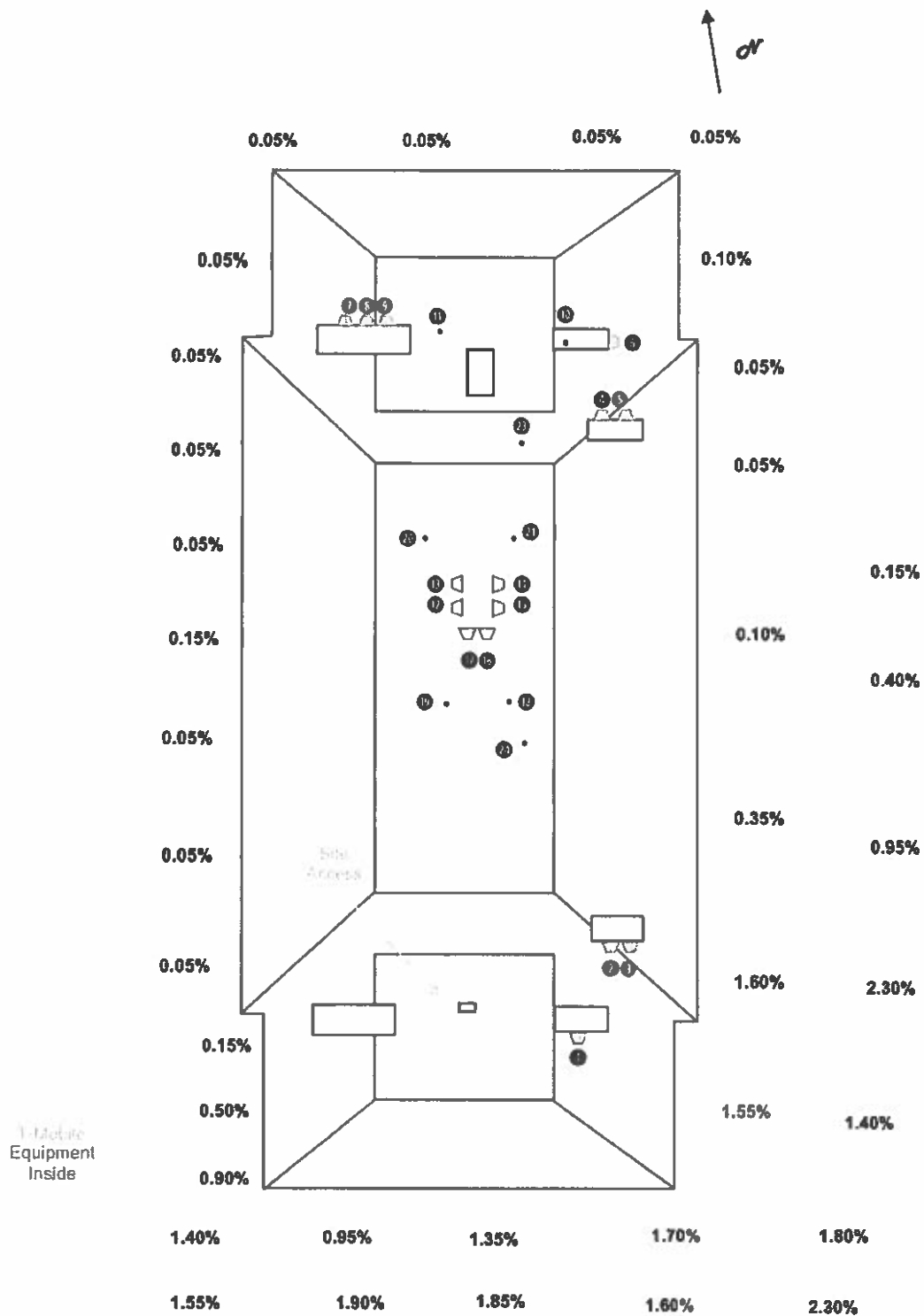
General Data	
Frequency Bands	600 MHz, 700 MHz, 2100 MHz
Service Coverage Type	Sectorized
Antenna Type	Directional Panel
Antenna Height AGL	56 ft. (to Centerline)
Antenna Line Loss	Conservatively ignored (assumed 0 dB)
600 MHz Antenna Data	
Antenna Model (Max. Gain)	RFS APXVAALL24 43-U-NA20 (12.8 dBi)
RF Channels per Sector	Four 40-watt channels
700 MHz Antenna Data	
Antenna Model (Max. Gain)	RFS APXVAALL24 43-U-NA20 (13.4 dBi)
RF Channels per Sector	One 40-watt channel
2100 MHz Antenna Data	
Antenna Model (Max. Gain)	Ericsson AIR 21 (17.6 dBi)
RF Channels per Sector	Two 60-watt channels; One 40-watt channel

For the collocated antennas which are unidentified, worst-case effective radiated power values have been assumed based on antenna type and carrier. Also, generic antenna patterns have been used from a library of panel, omnidirectional, microwave and broadcast patterns that are representative of the actual antenna.

RESULTS of ON-SITE MEASUREMENTS

The RF measurements were performed using a Narda model EA-5091 RF probe and Narda model NBM 520 Broadband meter. Both the probe and meter are capable of broadband RF measurements, covering a range of 300 kHz to 50 GHz. The measuring equipment is designed to automatically register all RF levels within the frequency range and report them as percentages of the FCC's overall occupational MPE limit. The equipment was calibrated by the manufacturer within the past 24 months.

The results of the on-site measurements, each expressed as a percentage of the FCC general population MPE limit, are overlaid on the plan view that follows.



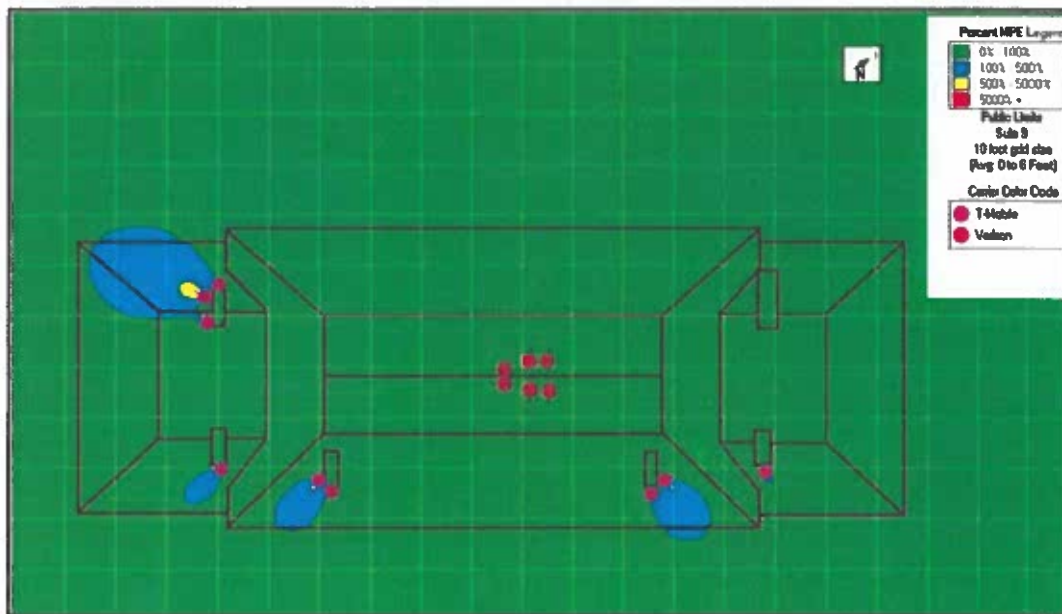
Note: The plan view is not to scale.

Analysis of ANTENNA OPERATION

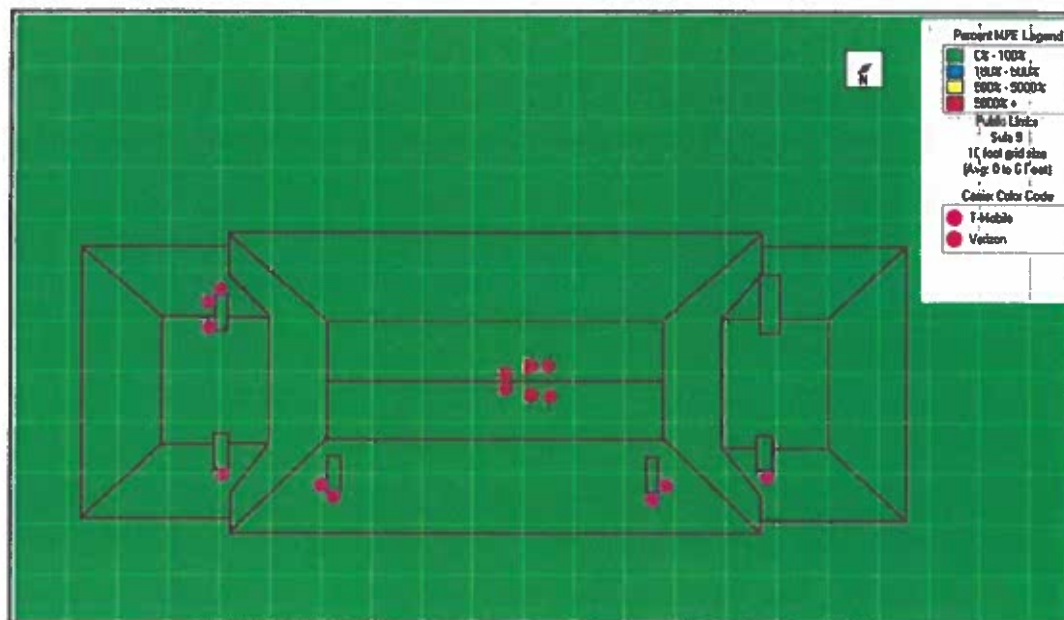
The compliance analysis for the rooftop is performed using the RoofMaster program by Waterford Consultants.

RF levels in the near field of an antenna depend on the power input to the antenna, the antenna's length and horizontal beamwidth, the mounting height of the antenna above a nearby roof, and one's position and distance from the antenna. RF levels in front of a directional antenna are higher than they are to the sides or rear, and in any given horizontal direction are inversely proportional to the straight-line distance to the antenna.

The RoofMaster graphic output for the main roof is reproduced below.



Top of Slope



Bottom of Slope

As indicated by the color coding of the rooftop, the calculated RF levels exceed the FCC general population and occupational MPE limits at the Alpha, Beta and Gamma T-Mobile antenna sectors.

Implement an RF Safety Plan for the sloped rooftop; ensure all workers accessing the sloped rooftop are provided with the exposure diagram in Appendix A and understand which areas exceed FCC MPE limits. Once implemented, the RF Safety Plan satisfies compliance requirements.

Conclusion and Recommendation

On the rooftop, calculated RF levels indicate a maximum RF level in the vicinity of the T-Mobile antennas of 921.58 percent of the FCC general population MPE limit. The calculated RF levels exceed the FCC general population and occupational MPE limits.

The maximum RF level measured at ground level around the site was 2.30 percent of the FCC MPE limit for publicly accessible areas. In other words, the worst-case at ground level is 43 times below the threshold considered by the federal government to be completely safe for continuous exposure.

Calculated RF levels on the rooftop indicate that the FCC general population and occupational MPE limits are potentially exceeded. Per T-Mobile corporate policy, Implement an RF Safety Plan for the sloped rooftop; ensure all workers accessing the sloped rooftop are provided with the exposure diagram in Appendix A and understand which areas exceed FCC MPE limits. Once implemented, the RF Safety Plan satisfies compliance requirements.

CERTIFICATION

It is the policy of Pinnacle Telecom Group that all FCC RF compliance assessments are reviewed, approved, and signed by the firm's Chief Technical Officer who certifies as follows:

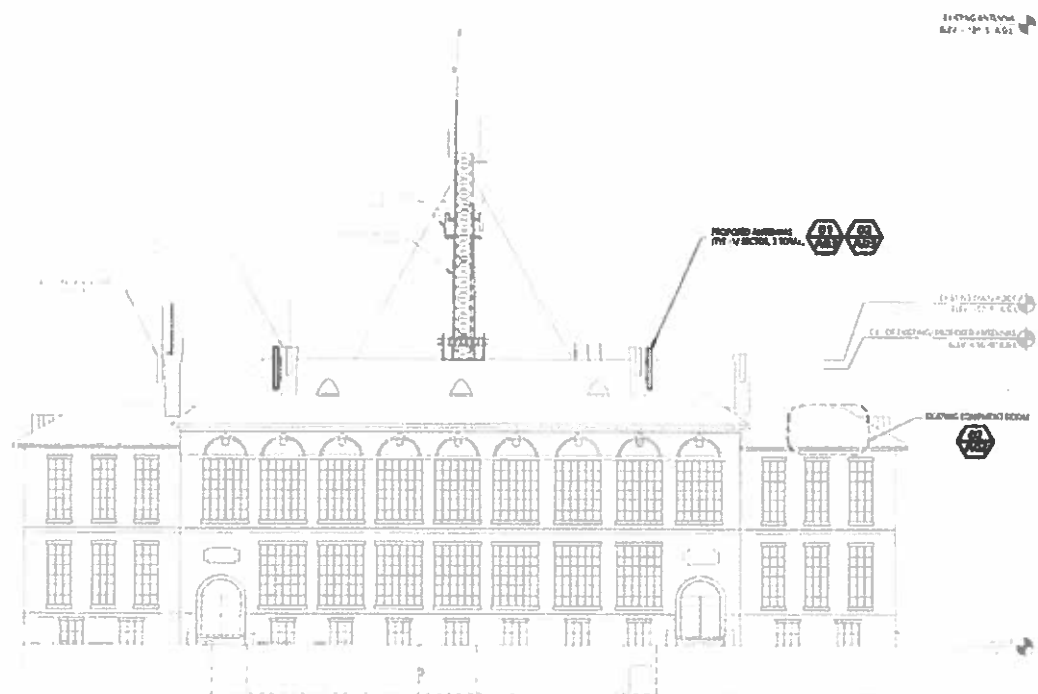
1. I have read and fully understand the FCC regulations concerning RF safety and the control of human exposure to RF fields (47 CFR 1.1301 *et seq*).
2. The equipment used to perform the RF measurements described herein is appropriate to the task, and calibration of its accuracy has been performed, as recommended by the manufacturer.
3. The on-site RF measurements described herein were performed in a manner consistent with industry standards.
4. To the best of my knowledge, the statements and information disclosed in this report are true, complete and accurate.
5. The analysis of site RF compliance provided herein is consistent with the applicable FCC regulations, additional guidelines issued by the FCC, and industry practice.



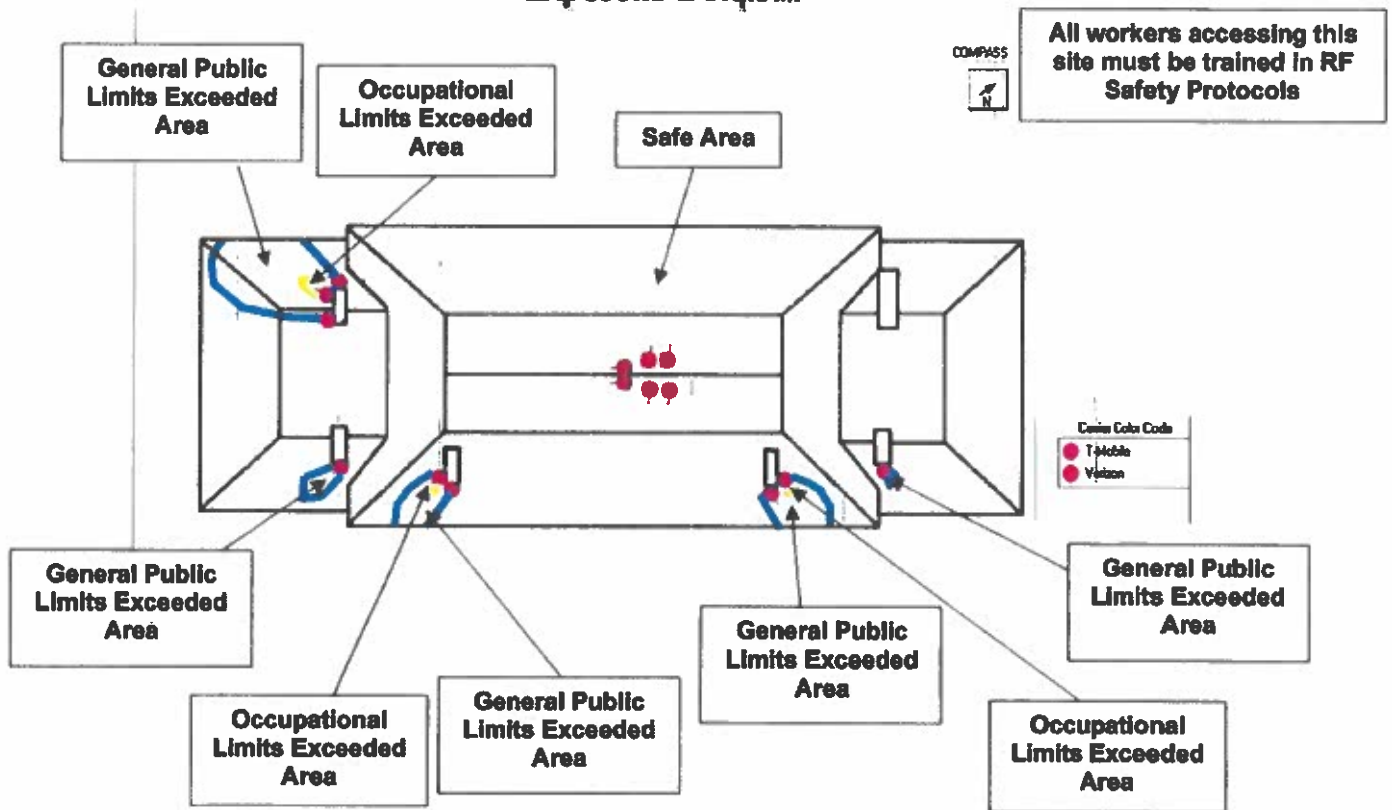
Daniel J. Collins
Chief Technical Officer
Pinnacle Telecom Group, LLC

02/01/22

Date



EXPOSURE DIAGRAM



Legend:	General Public Limit Boundary	Occupational Limit Boundary	10x Occupational
Boundary Marking			
Sign Type:	Notice	Caution	Warning

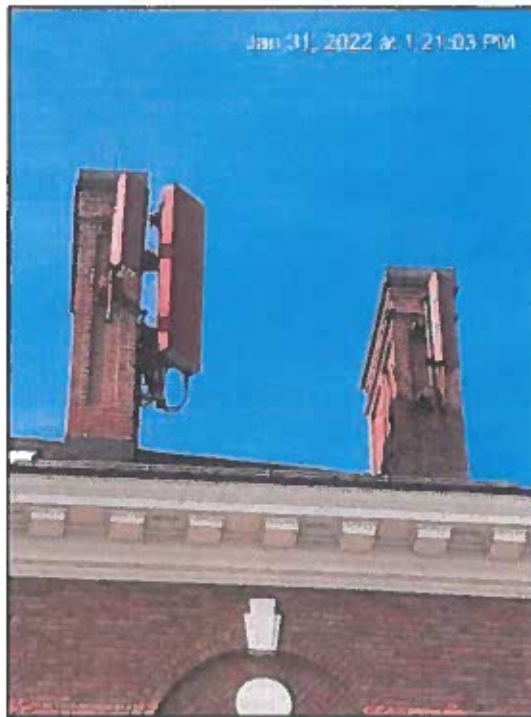
This RF safety plan was created for T-Mobile antennas.

Appendix B. Site Photographs

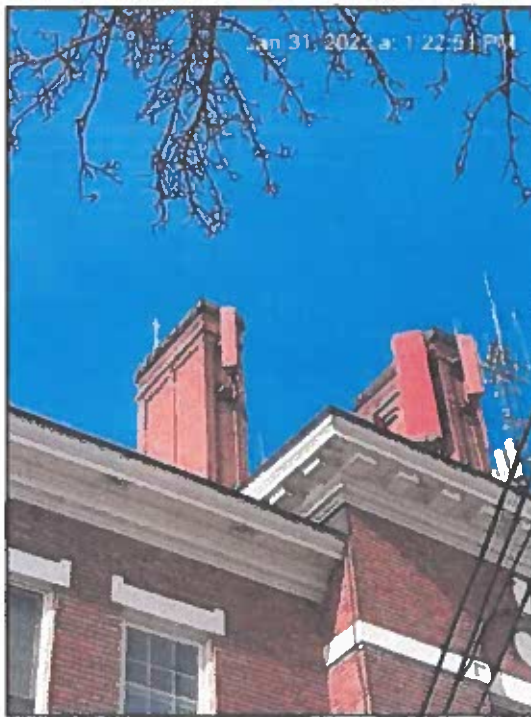
The site is located at 1 Van Wyck Street in Cortlandt, NY, as illustrated in the photo below.



The following pages provide copies of photographs taken of the site.



Antennas ①②③
Alpha – RF Safety Plan Recommended



Antennas ④⑤⑥
Beta – RF Safety Plan Recommended



Antennas 7 8 9
Gamma – RF Safety Plan Recommended



Antenna 10



Antenna ⑪



Antennas ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓



Antenna 12



Verizon Equipment



Access to T-Mobile Equipment



T-Mobile Equipment



T-Mobile Equipment



**Site Access – Existing Notice, Guidelines and
Emergency signs**



Site Access – Existing Guidelines sign; New Notice and Emergency signs posted

Appendix C. Background on the FCC MPE Limits

As directed by the Telecommunications Act of 1996, the FCC has established limits for maximum continuous human exposure to RF fields.

The FCC maximum permissible exposure (MPE) limits represent the consensus of federal agencies and independent experts responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.301 *et seq* of its Rules and Regulations (47 CFR 1.1301-1.1310). Those guidelines specify MPE limits for both occupational and general population exposure.

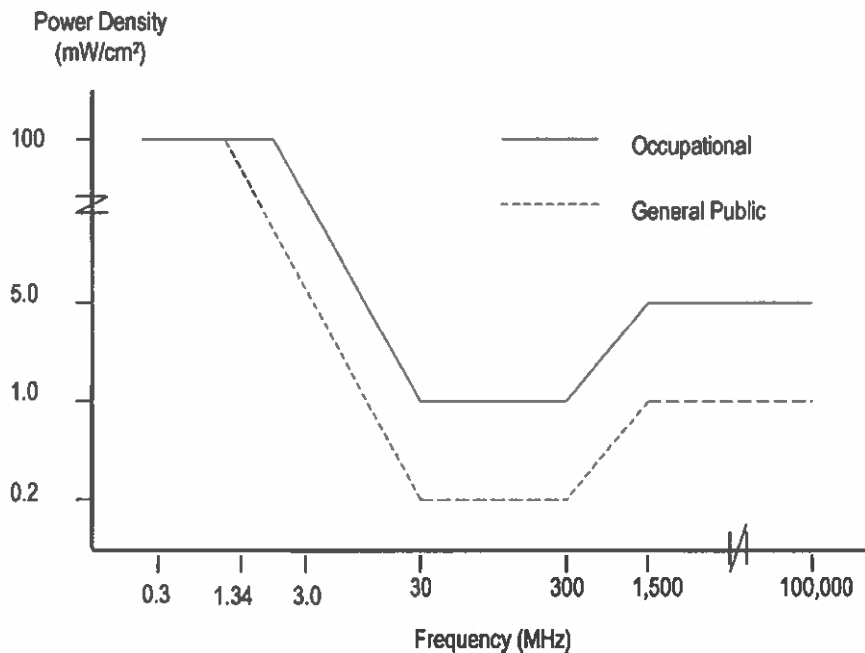
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus, the general population MPE limit has a built-in safety factor of more than 50. Continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects on humans.

The reason for two tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm²). The table on the next page lists the FCC limits for both occupational and general population exposures, using the mW/cm² reference, for the different radio frequency ranges.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm ²)	General Public Exposure (mW/cm ²)
0.3 - 1.34	100	100
1.34 - 3.0	100	$180 / F^2$
3.0 - 30	$900 / F^2$	$180 / F^2$
30 - 300	1.0	0.2
300 - 1,500	$F / 300$	$F / 1500$
1,500 - 100,000	5.0	1.0

The diagram below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



Because the FCC's RF exposure limits are frequency-shaped, the exact MPE limits applicable to the instant situation depend on the frequency range used by the systems of interest.

The most appropriate method of determining RF compliance is to calculate the RF power density attributable to a particular system and compare that to the MPE limit

applicable to the operating frequency in question. The result is usually expressed as a percentage of the MPE limit.

For potential exposure from multiple systems, the respective percentages of the MPE limits are added, and the total percentage compared to 100 (percent of the limit). If the result is less than 100, the total exposure is in compliance; if it is more than 100, exposure mitigation measures are necessary to achieve compliance.

References on FCC Compliance

47 CFR, FCC Rules and Regulations, Part 1 (Practice and Procedure), Section 1.1310 (Radiofrequency radiation exposure limits).

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), *In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities*, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

FCC Report and Order, Notice of Proposed Rulemaking, Memorandum Opinion and Order (FCC 19-126), *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies*, released December 4, 2019.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

FCC Office of Engineering and Technology (OET) Bulletin 56, "Questions and Answers About Biological Effects and Potential Hazards of RF Radiation", edition 4, August 1999.

"RF Field Measurements for Antenna Sites", (video), Richard Tell Associates Inc., 1997.

"EME Awareness for Antenna Site Safety", (video), Motorola (produced in association with Richard Tell Associates Inc.), 1997.

Appendix D. SUMMARY of EXPERT QUALIFICATIONS

Daniel J. Collins, Chief Technical Officer, Pinnacle Telecom Group, LLC

Synopsis:	• 40+ years of experience in all aspects of wireless system engineering, related regulation, and RF exposure • Has performed or led RF exposure compliance assessments on more than 17,000 antenna sites since the new FCC rules went into effect in 1997 • Has provided testimony as an RF compliance expert more than 1,400 times since 1997 • Have been accepted as an expert in New York, New Jersey, Connecticut, Pennsylvania and more than 40 other states, as well as by the FCC
Education:	• B.E.E., City College of New York (Sch. Of Eng.), 1971 • M.B.A., 1982, Fairleigh Dickinson University, 1982 • Bronx High School of Science, 1966
Current Responsibilities:	• Leads all PTG staff work involving RF safety and FCC compliance, microwave and satellite system engineering, and consulting on wireless technology and regulation
Prior Experience:	• Edwards & Kelcey, VP – RF Engineering and Chief Information Technology Officer, 1996-99 • Bellcore (a Bell Labs offshoot after AT&T's 1984 divestiture), Executive Director – Regulation and Public Policy, 1983-96 • AT&T (Corp. HQ), Division Manager – RF Engineering, and Director – Radio Spectrum Management, 1977-83 • AT&T Long Lines, Group Supervisor – Microwave Radio System Design, 1972-77
Specific RF Safety / Compliance Experience:	• Involved in RF exposure matters since 1972 • Have had lead corporate responsibility for RF safety and compliance at AT&T, Bellcore, Edwards & Kelcey, and PTG • While at AT&T, helped develop the mathematical models later adopted by the FCC for predicting RF exposure • Have been relied on for compliance by all major wireless carriers, the federal government as well as several state and local governments, system integrators, and other consulting and engineering firms
Other Background:	• Author, <i>Microwave System Engineering</i> (AT&T, 1974) • Co-author and executive editor, <i>A Guide to New Technologies and Services</i> (Bellcore, 1993) • National Spectrum Managers Association (NSMA) – former three-term President and Chairman of the Board of Directors; was founding member, twice-elected Vice President, long-time member of the Board, and was named an NSMA Fellow in 1991 • Published more than 35 articles in industry magazines



Corporate Office
1800 Route 34, Suite 101, Wall, New Jersey 07719

Regional Offices
King of Prussia, Pennsylvania
Bethlehem, Pennsylvania
Hackettstown, New Jersey
Camden, New Jersey
Newark, New Jersey
New York, New York
Atlanta, Georgia

November 24, 2021

Mr. Bret Norton
T-MOBILE NORTHEAST LLC
4 Sylvan Way
Parsippany, NJ 07054

RE: Structural Re-Certification
T-Mobile Site NY09077A
1 Van Wyck Street
Croton-On-Hudson, NY 10520
FPA No. 1316.017.008

Dear Mr. Norton:

As per your request, French & Parrello Associates (FPA) has performed a limited visual inspection of the existing wireless telecommunication facility at the above referenced location. The purpose of this inspection was to identify and inventory the existing T-Mobile antennas and related appurtenances and to verify the structural integrity of the supporting elements.

FPA visited the site on 10/27/2021 to conduct the visual inspection. The field information obtained was compared to the construction drawings prepared by GT Wireless Engineering last revised 04/20/2021. Based on the previous construction drawings, the T-Mobile installation was to consist of:

- (9) panel antennas (9 per sector) mounted to existing chimneys on the rooftop at 56' AGL
- (12) 7/8" coax cables, (3) 3x6 fiber cables, and (3) 6x24 fiber cables routed along rooftop in cables trays and conduits on sleepers
- (1) 3206 equipment cabinet, (1) battery cabinet, and equipment racks located within an interior equipment room in the attic

Based on our limited visual inspection, the current T-Mobile antenna and equipment configuration, mounting attachments, cable routing, and other related appurtenances generally conforms to the installation indicated in the referenced drawings listed above. The existing equipment cabinets were installed within an existing equipment room/shelter within the attic space. The shelter is supported by steel beams mounted to the masonry bearing walls and the connections appeared to be in fair condition.

In general, the overall condition of the T-Mobile telecommunication installation appears to be satisfactory and conforms to the latest construction drawings. It is our opinion that the facility is in compliance with the special use permit. It has been designed and constructed in accordance with and continues to meet all local, federal, state, and county structural requirements for loads, including wind and ice loads.



Photos were taken during our recent inspection and are attached for reference. The inspection as mentioned above was visual and was limited to T-Mobile's installation and the structural elements that were clearly visible and unobstructed to view on the day of the inspection.

Should you have any questions or comments, please do not hesitate to contact us.

Very truly yours,

FRENCH & PARRELLO ASSOCIATES


Peter J. Tardy, P.E., Senior Vice President
NY Professional Engineer License No. 079612



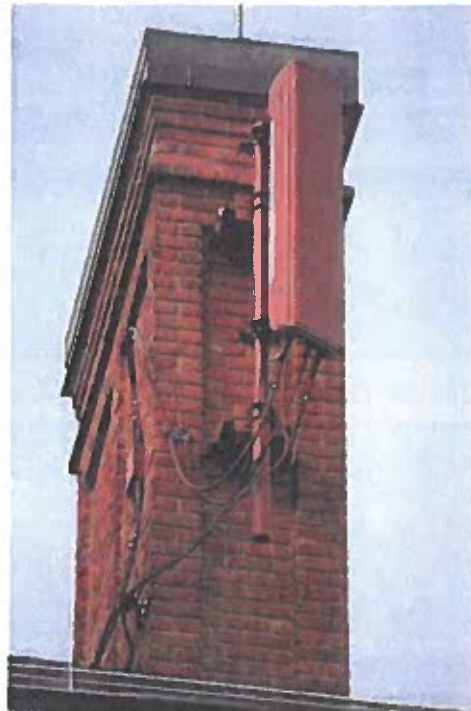


Photo 1: T-Mobile Alpha Sector



Photo 2: T-Mobile Beta Sector



Photo 3: T-Mobile Gamma Sector



Photo 4: T-Mobile Typical Cable Routing



Photo 5: T-Mobile Typical Cable Routing



Photo 6: T-Mobile Equipment Shelter in Attic



Photo 7: T-Mobile Steel Equipment Platform In Attic

WaveMon RF-60



Personal RF Monitor 100 kHz – 60 GHz



OCCUPATIONAL & PUBLIC RF SAFETY STANDARDS
ICNIRP, FCC, Directive 2013/35/EU, SC6, NATO



OVEREXPOSURE WARNING
From instant and average values



ELECTRIC AND MAGNETIC FIELD
Isotropic, RMS, shaped response



DATALOGGER
Including GPS and altimeter data



Compliance
with ITU-T K.145



Ready for 5G
measurements



Data
geolocation

Harness, Belt, or Arm Holder

RF Absorber Integrated in Holder

Datalogger for exposure studies
Instant and average values

Rechargeable and Replaceable
Batteries for 200 h Autonomy

GPS and Altimeter
(Optional)

E & H-Field Isotropic Sensors
with RMS Response

Exposure % of the Standard

ON/OFF Status Button

High Intensity Audible
and Vibratory Warnings

USB and Tripod Connectors

WAVECONTROL
Safety. Training. Service.

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WaveMon Applications



Worker's safety



Telecommunications



Railway



Medical



Labs



Aeronautical



Industry



Defense



Optional accredited
calibration

Technical Specifications

Sensor type	Isotropic, RMS diode technology
Frequency	E-Field: 100 kHz – 60 GHz (see version selection table in next page) H-Field: 3 MHz – 1 GHz (see version selection table in next page)
Response	Shaped to specific standards (see version selection table in next page)
Isotropic deviation	E-Field: ± 1 dB (<4 GHz) H-Field: ± 1 dB
Dynamic Range	Up to 1000% (see version selection table in next page)
Linearity	E-Field: 0.5 dB (2% – 200%) H-Field: 0.5 dB (5% – 200%)
Interface	1 button ON/OFF, status and low battery LED
Indicators	6 LEDs + Audio + Vibration
Alarm threshold	2 alarm thresholds adjustable by user
Connectivity	Waterproof USB (for downloading data and recharging)
Falling detection	Yes
Autonomy	>1 month (at 8 h/day, 5 days/week)
Data logger	>1 000 000 events
Positioning	GPS and Altimeter (Optional)
Logging Interval	1 second to 60 minutes (adjustable by user)
Averaging Interval	1 second to 60 minutes (adjustable by user)
Battery Type	2 x AA NiMH battery rechargeable by USB
Protection	IP 54
LF immunity (50 / 60 Hz)	> 30 kV/m
Temperature range	-20 / +50 °C (-4 / +122 °F) – Charging: 0 / +40 °C (+32 / +104 °F)
Humidity	5% to 95%, non-condensing
Size	174 x 42.5 x 33 mm (6.8 x 1.7 x 1.3")
Weight	190 g (6.7 oz)

Product specifications and descriptions in this document subject to change without notice.

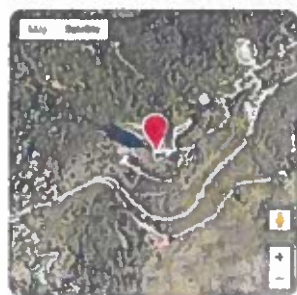
WaveMon RF-60

WaveMon Version Selection Table

Versions	Response shaped to	E Field		H Field	
		Frequency response	Dynamic range	Frequency response	Dynamic range
RF-60 ICN	ICNIRP 1998/2020 * Occupational	±3.5 dB (100 kHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±3 dB (25 MHz – 1 GHz)	1 – 1000%
	ICNIRP 1998/2020 * General public	±3.5 dB (5 MHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±3 dB (25 MHz – 1 GHz)	3 – 1000%
RF-60 FCC	FCC 96-326 Occupational	±3.5 dB (100 kHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±2 dB (3 MHz – 1 GHz)	1 – 1000%
	FCC 96-326 General public	±5 dB (100 kHz – 2 MHz) ±3.5 dB (2 MHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±2 dB (3 MHz – 1 GHz)	3 – 1000%
RF-60 EUD	EU Directive 2013/35	±3.5 dB (100 kHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±3 dB (25 MHz – 1 GHz)	1 – 1000%
	Recommendation 1999/519/EC	±3.5 dB (5 MHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +10 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±3 dB (25 MHz – 1 GHz)	3 – 1000%
RF-60 SC6	Safety Code 6 Controlled	±3.5 dB (5 MHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +11 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±2 dB (25 MHz – 1 GHz)	1 – 1000%
	Safety Code 6 Uncontrolled	±3.5 dB (5 MHz – 10 GHz) ±4 dB (10 GHz – 35 GHz) +11 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±2 dB (25 MHz – 1 GHz)	3 – 1000%
RF-60 NATO	NATO standards Zone 1	±3.5 dB (100 kHz – 10 GHz) ±5 dB (10 GHz – 35 GHz) +12 / -6 dB (35 GHz – 60 GHz)	0.5 – 1000%	±2 dB (100 MHz – 1 GHz)	1 – 1000%

* compliant with ICNIRP 2020 from 27 MHz

WaveMon accessories



GPS
Part # W-WAVEMON-GPS

WaveMon Internal GPS



WaveStick
Part # WWMA0002

Adjustable extension stick
(73 cm / 28.74 ")



Safety cable
Part # WWMA0001

WaveMon safety attachment
cable



WaveMon Lanyard
Part # WWMA0003

Breakaway neck security lanyard

WaveMon_RF-60_CN2103_V2.1



Radiofrequency (RF) Training Certificate Course

Radiofrequency (RF) energy has a wide range industrial and consumer uses. It powers our cellphone service and broadcasts television and radio programming into our homes. But RF energy can also pose significant health risks, especially to workers at antenna and tower sites. This course will teach you the potential risks of RF exposure and how you can avoid them.

Complete Your OSHA Radiofrequency Training Course Online

Our online RF Training course has numerous benefits, including:

- ✓ 24/7 course access
- ✓ Log on and off as needed
- ✓ Work on your course anywhere with internet access
- ✓ Email our course trainer with any questions
- ✓ Allows up to 180 days to complete the course

\$24⁹⁵

REGISTER NOW

Once you finish the course and pass a brief test on the core topics, you can instantly download your Certificate of Completion. The RF Training course takes about one hour to complete.

Learning Objectives for Radiofrequency Training

The primary goal of this course is to teach you how to limit workplace exposure to radiofrequency energy. You will learn how RF exposure occurs and ways you can avoid harmful exposures in the workplace.

Key topics covered in the course include:

- ✓ How radiofrequency energy is used
- ✓ Sources and health effects of RF exposure
- ✓ Safe exposure limits
- ✓ Antenna and tower site safety

The Radiofrequency Training course is ideal for any worker.

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Select Your State

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