ATTACHMENT 5B

East Haven Site
Environmental Assessment Statement

I. PHYSICAL IMPACT

A. WATER FLOW AND QUALITY

No water flow and/or water quality changes are anticipated as a result of the construction or operation of the proposed facility at the East Haven Site. No wetlands were delineated within 100' of the proposed facility compound and the existing gravel access drive will be utilized for access. Best Management Practices to control storm water and soil erosion during construction will be implemented. The equipment associated with the facility will discharge no pollutants to area surface or groundwater systems.

B. AIR QUALITY

Under ordinary operating conditions, the equipment that would be used at the proposed facility would emit no air pollutants of any kind.

C. LAND

Some minor clearing and moderate grading will be necessary in the compound area. The remaining land of the lessor would remain unchanged by the construction and operation of the facility.

D. NOISE

The equipment to be in operation at the facility would not emit noise other than that provided by the operation of the installed heating, air-conditioning and ventilation system. Some construction related noise would be anticipated during facility construction, which is expected to take approximately four to six weeks. Temporary power outages could involve sound from an emergency generator.

E. POWER DENSITY

The worst-case calculation of power density from AT&T's operation at the facility would be 1.76% of the MPE standard. Attached is a copy of the Calculated Radio Frequency Report prepared by C^2 Systems dated April 2, 2012.

F. VISIBILITY

The potential visual impact of the proposed facility was determined by preparation of the attached Visual Resource Evaluation Report prepared by VHB. The potential visibility of the proposed facility at the East Haven Site was assessed within an approximate two-mile radius using a computer-based, predictive viewshed model. As shown in the attached

analysis, the majority of year-round visibility would occur over open water on portions of Long Island Sound. Areas of potential land-based visibility will occur over undeveloped tidal marches and portions of Route 142, Fairview Avenue, Hilda Street, Vera Street, Hilton Avenue, Jefferson Place, River Street, Highland Avenue and Brown Road. The analysis also predicts limited year-round views to select portions of the Shoreline Greenway Trail that follows Fairview Avenue and portions of the Farm River State Park.

II. SCENIC, NATURAL, HISTORIC & RECREATIONAL VALUES

The parcel on which the facility is located exhibits no unique scenic, natural, historic or recreational characteristics. North Atlantic Towers retained the services of Infinigy Engineering & Surveying ("Infinigy") to evaluate the proposed Facility in accordance with the FCC's regulations implementing the National Environmental Policy Act ("NEPA"). Based on Infinigy's preliminary screening, it is anticipated that the proposed Facility will have no significant impact on any of the FCC NEPA regulatory criteria.

The Connecticut State Historic Preservation Officer (SHPO) issued a "no effect" determination for the proposed facility at the Branford Site. A copy of the SHPO determination is attached.

The Connecticut Department of Energy & Environmental Protection (DEEP) determined that the proposed facility at the East Haven Site will not impact any extant populations of Federal or State Endangered, Threatened or Special Concern Species. A copy of the DEEP determination is attached.

infinigy
engineering

New York Office
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Fax: (518) 690-0793
www.infinigy.com

June 7, 2011

Mr. Roger Laperna
North Atlantic Towers
1001 3rd Avenue West, Suite 420
Bradenton, FL 34205

Subject: Wetland Evaluation – East Haven/Riverside VFD Site (CT1109D)
82 Short Beach Road, East Haven, CT
Infinigy # 226-101

Dear Mr. Laperna:

As requested, Infinigy Engineering PLLC (***Infinigy***) performed a wetland evaluation at the property identified as 82 Short Beach Road, in the Town of East Haven, Connecticut, in connection with North Atlantic Towers' proposed telecommunications facility. The property is currently owned and occupied by the East Haven/Riverside Volunteer Fire Department. Based on our evaluation, the soils along the proposed access route and within the area of the proposed tower and equipment compound are not considered hydric soils. Hydric soils are generally defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizon. The Connecticut Inland Wetland and Watercourse Regulations utilize soil type to determine if an area is considered a wetland. The soils at the property have a soil survey map unit name of Cheshire-Holyoke complex. Cheshire-Holyoke complex soils are classified as well-drained, and as such, are not considered hydric soils.

Wetland features were not observed along the proposed access route or within the area of the proposed tower and equipment compound during our site visit (6/1/11); these areas are currently paved. The nearest U.S. Fish and Wildlife Service, National Wetland Inventory wetland is located approximately 600 feet to the north of the proposed tower location, with an additional wetland located approximately 800 feet south of the proposed tower location. The surface topography at the property conveys sheetwater drainage toward the south.

Based on field observations and review of available soils information for the local area, it is ***Infinigy's*** opinion that the proposed access route and tower compound area do not contain, nor will they impact, wetlands as defined by the Town of East Haven "Inland Wetlands and Watercourses Regulations". Please feel free to contact me at (518) 690-0790 with any questions or concerns.

Respectfully Submitted,

Infinigy Engineering PLLC

Mark Kiburz, CPESC
Wetland Biologist

infinigy engineering

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April 12, 2012

Mr. Dan Shriver
North Atlantic Towers, LLC
1001 3rd Avenue West, Suite 420
Bradenton, FL 34205

RE: East Haven/Riverside VFD (CT1109D)
82 Short Beach Road, East Haven, CT
Coastal Consistency Analysis – Site Plan Review

Dear Mr. Shriver:

Infinigy Engineering PLLC (***Infinigy***) has conducted a review of the Connecticut Coastal Management Act (CCMA) as outlined in the Connecticut General Statutes (CGS) sections 22a-90 through 22a-112. The CCMA requires "coastal site plan reviews" for the application listed below if the proposed activity or use is located landward of the mean high water mark:

- Site plans submitted to a zoning commission in accordance with CGS section 22a-109;
- Plans submitted to a planning commission for subdivision or resubdivision;
- Application for special exceptions or special permits submitted to a planning commission, zoning commission or zoning board of appeals;
- Application for variances submitted to a local zoning board of appeals; and
- Referrals of proposed municipal projects to a planning commission pursuant to CGS section 8-24 [CGS section 22a-105(b)]

As stated within the CCMA, the authority for coastal site plan review lies with the municipal board or commission responsible for the decision on the underlying application. Although the Connecticut Department of Energy and Environmental Protection (CT DEEP) exercises an oversight role in municipal coastal management activities (CGS section 22a-110), the proposed project application does not include a shoreline flood and erosion control structure or a change in the zoning map or regulations. As such, referral to the CT DEEP is not required and the Coastal Site Plan Review process is completed by the governing municipality, in this case, the Connecticut Siting Council.

Project Information

The Subject Property for the proposed telecommunications facility, located at 82 Short Beach Road, East Haven, Connecticut, is situated within a paved parking lot on a ±0.91-acre parent parcel of land developed as a fire station, utilized by the East Haven/Riverside Volunteer Fire Department. The current zoning classification of the parent parcel is "Residential". Specifically, the Subject Property consists of an approximately 2,500 square foot lease area on the southern portion of the parent parcel.

North Atlantic Towers, LLC (NAT) proposes to install a 103-foot tall, monopole-style telecommunications tower and associated ground-level equipment within an approximately 2,500 square foot fenced equipment compound on the southern portion of the parent parcel. Access to the telecommunications facility will be from Short Beach Road via the existing paved driveway and parking area.

The proposed project is located within the coastal boundary zone as defined in CGS Section 22a-94(b). As stated within the CCMA, and verified by Connecticut Department of Energy and Environmental Protection (DEEP), Coastal Site Plan Review section, coastal site plan review is required for projects located within the coastal boundary. Therefore, a coastal site plan review shall be completed by the Connecticut Siting Council during the project review and approval process.

Coastal Consistency Review Summary of Findings

As proposed, the NAT project will not result in adverse impacts to coastal resources as defined within the CCMA. The CCMA identifies eight (8) potential adverse impacts to coastal resources. Potential adverse impacts on each resource area, as identified within the CCMA are defined below as they are applicable to each project.

1. **Water Quality**

   Degrading water quality of coastal waters by introducing significant amounts of suspended solids, nutrients, toxics, heavy metals or pathogens, or through the significant alteration of temperature, pH, dissolved oxygen or salinity.

   The proposed project will not affect water quality within the nearby Farm River or associated wetlands, located greater than 150 feet to the east of the project site, which are connected with coastal waters. Since the proposed wireless telecommunications compound creates minimal impervious surface and is underlain by a gravel surface, no significant stormwater runoff will be generated by the proposed project.

2. **Coastal Waters Circulation Patterns**

   Degrading existing circulation patterns of coastal waters by impacting tidal exchange or flushing rates, freshwater input, or existing basin characteristics and channel contours.

   The proposed project is located on a parcel that is currently developed and is located outside of tidally-influenced coastal water areas and as such, will not impact current drainage or circulation patterns.

3. **Natural Erosion Patterns**

   Degrading natural erosion patterns by significantly altering littoral transport of sediments in terms of deposition or source reduction.

   The proposed project will not affect littoral transport of sediments since the proposed facility location is not on a shoreline.

4. **Natural or Existing Drainage Patterns**

   Degrading natural or existing drainage patterns by significantly altering groundwater flow and recharge and volume runoff.

   Existing drainage patterns, groundwater flow, and recharge and stormwater runoff will not be significantly altered by the proposed facility based on its limited size and the existing improvements on the Subject Property.

5. **Coastal Flooding**

Increasing the hazard of coastal flooding by significantly altering shoreline configurations or bathymetry, particularly within high velocity flood zones.

The proposed project will not increase the hazard of coastal flooding as it will not alter the shoreline configuration and it is not located within the 100-year floodplain.

6. **Visual Quality**

Degrading visual quality by significantly altering the natural features of vistas and viewpoints.

The proposed 103-foot monopole style telecommunication installation will not significantly alter vistas and viewpoints within coastal resource areas and will not result in significant visibility from coastal resource areas. Refer to Vanasse Hangen Brustlin, Inc. Visual Resource Evaluation Report dated April 2012, provided under separate cover.

7. **Essential wildlife, finfish or shellfish habitat**

Degrading or destroying essential wildlife, finfish or shellfish habitat by significantly altering the composition, migration patterns, distribution, breeding or other population characteristics of the natural species or significantly altering the natural components of the habitat.

No essential wildlife, finfish or shellfish habitat exist on the Subject Property. The proposed facility location is located within an existing parking lot adjacent to an active volunteer fire station.

8. **Tidal Wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments**

Degrading tidal wetlands, beaches and dunes, rocky shorefronts, and bluffs and escarpments by significantly altering their natural characteristics or function.

The proposed project will not alter the natural characteristics of any coastal resource areas, as none exist on the Subject Property.

Therefore, it is the opinion of ***Infinigy*** that the proposed project is consistent with applicable coastal policies and standards as stated within the CCMA, and that there are no potential adverse impacts associated with the proposed project on coastal resources.

Sincerely,

Infinigy Engineering, PLLC

John L. Favreau

John Favreau, CHMM
Director of Environmental Services

Attachments:

Appendix A – Site Location Map
Appendix B – Coastal Boundary Map
Appendix C – Coastal Consistency Review Form

(Note: Site plans are provided under a separate attachment to the CSC Application.)

APPENDIX A

SITE LOCATION MAP

infinigy engineering

11 Herbert Drive
Latham, New York 12110

SITE VICINITY MAP

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
North Atlantic Towers	82 Short Beach Road East Haven, Connecticut	East Haven/Riverside VFD	226-101

APPENDIX B

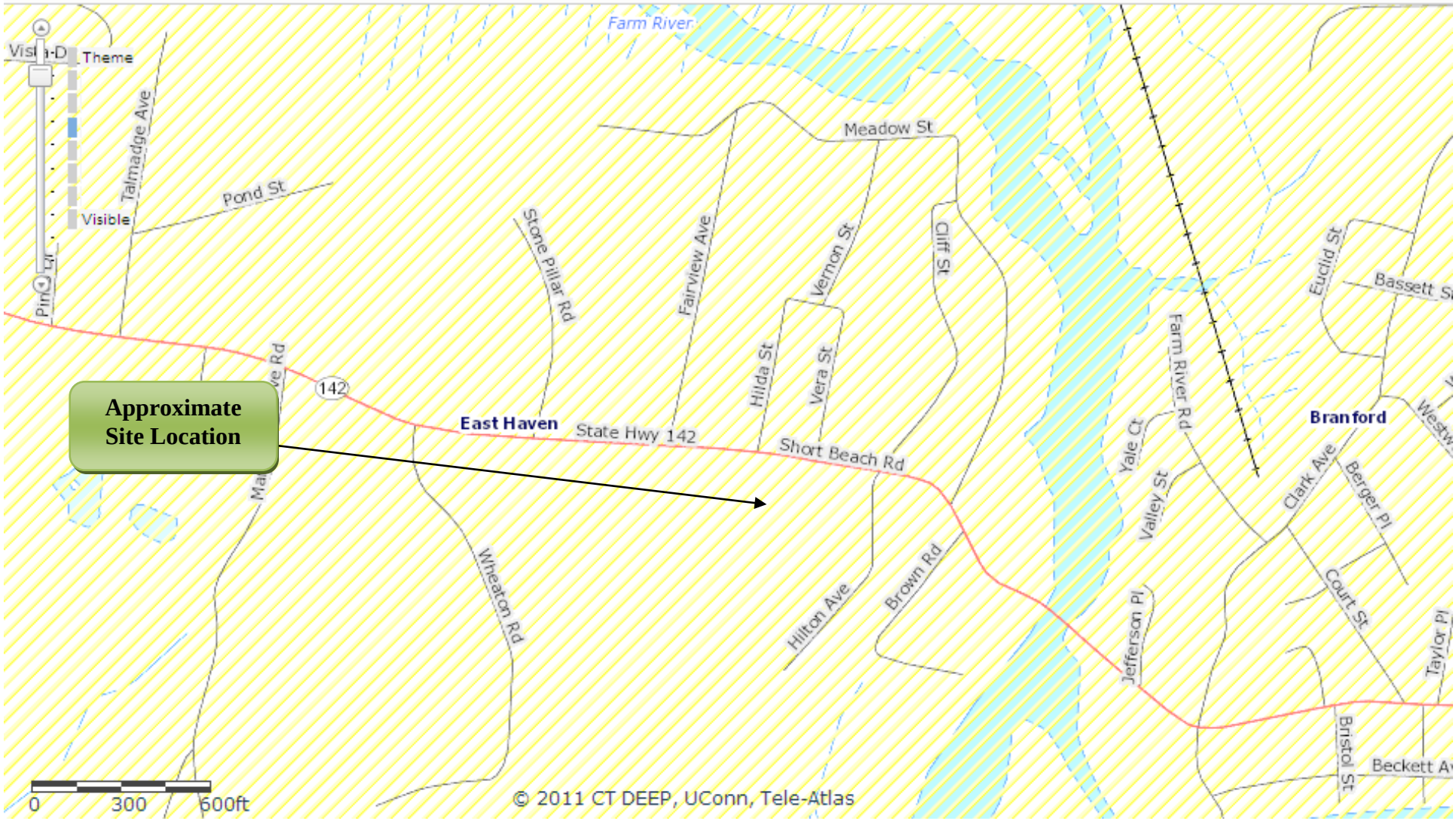
COASTAL BOUNDARY MAP

infinigy engineering

11 Herbert Drive
Latham, New York 12110

Coastal Boundary Map
(Map Source: CT Dept. of Energy and Environmental Protection)

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
North Atlantic Towers	82 Short Beach Road East Haven CT 06512	East Haven/Riverside VFD	226-101



APPENDIX C

COASTAL CONSISTENCY REVIEW FORM

Connecticut Department of
Energy & Environmental Protection
Bureau of Water Protection & Land Reuse
Office of Long Island Sound Programs

Coastal Consistency Review Form

DEEP USE ONLY
Application No.:
Analyst Assigned:
Date Received (OLISP):

Please complete this form in accordance with the instructions (DEP-INST-004). Print or type unless otherwise noted.

Part I: Project Information

1. Applicant Name: North Atlantic Towers, LLC

Mailing Address: **1001 3rd Avenue West, Suite 420**

City/Town: **Bradenton** State: **FL** Zip Code: **34205**

Business Phone: **(941) 757-5010** ext.: Fax:

Contact Person: **Dan Shriver** Phone: ext.

E-mail:

2. Preparer Name: Infinigy Engineering, LLC

Mailing Address: **11 Herbert Drive**

City/Town: **Latham** State: **NY** Zip Code: **12110**

Business Phone: **(518) 690-0790** ext.: **39** Fax: **(518) 690-0793**

Contact Person: **John Favreau** Phone: **(518) 858-7068** ext.

E-mail: **jfavreau@infinigy.com**

3. Street Address or Description of Location of the Project Site:

82 Short Beach Road,

City or Town: **East Haven CT**

4. Brief Project Description:

North Atlantic Towers, LLC proposes to install a 103-foot monopole telecommunications tower and a 2,500 sq. ft. fenced equipment compound within an existing parking lot.

5. Is the project located within the coastal boundary as defined in CGS Section 22a-94(b)?

☒ Yes ☐ No

If you answered **Yes** to this question, complete the entire form.

If you answered **No** to this question, and your project is located in a coastal area, skip Parts II through V and complete Parts VI, VII and VIII.

Part II: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all statutory goals and policies in or referenced by Section 22a-92 of the Coastal Management Act applicable to the proposed activities by checking the applicable boxes in the following table.

- ☒ General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), 22a-92(a)(9), 22a-92(a)(9)
- ☐ Water-Dependent Uses - CGS Sections 22a-92(a)(3), 22a-92(b)(1)(A)
- ☐ Ports and Harbors - CGS Section 22a-92(b)(1)(C)
- ☐ Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
- ☐ Dredging and Navigation - CGS Sections 22a-92(c)(1)(C), 22a-92(c)(1)(D)
- ☐ Boating - CGS Section 22a-92(b)(1)(G)
- ☐ Fisheries - CGS Section 22a-92(c)(1)(I)
- ☐ Coastal Recreation And Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j), 22a-92(c)(1)(K)
- ☐ Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
- ☐ Fuel, Chemicals And Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E), 22a-92(c)(1)(A)
- ☐ Transportation - CGS Sections 22a-92(b)(10)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), 22a-92(c)(1)(H)
- ☐ Solid Waste - CGS Section 22a-92(a)(2)
- ☐ Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
- ☐ Cultural Resources - CGS Section 22a-92(b)(1)(J)
- ☐ Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* applicable to all proposed activities

Part III: Consistency With Applicable Statutory Coastal Use and Activity Goals and Policies

Explain how the proposed activity is consistent with the applicable coastal activities goals and policies identified in Part II and describe any mitigation necessary to offset adverse impacts.

The proposed project does not pose adverse impacts with respect to the items referenced in Part II.

Part IV: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated statutory policies that apply to your project by checking the applicable boxes in the following table.

Coastal Resources	on-site	adjacent to work site	off-site but potentially affected by the project
General Resources* - CGS Sections 22a-93(7), 22a-92(a)(2)	X	X	X
Beaches & Dunes - CGS Sections 22a-93(7)(C), 22a-92-(b)(2)(C), 22a-92(c)(1)(K)	☐	☐	☐
Bluffs & Escarpments - CGS Sections 22a-93(7)(A), 22a-92(b)(2)(A)	☐	☐	☐
Coastal Hazard Area - CGS Sections 22a-93(7)(H), 22a-92(a)(2), 22a-92(b)(2)(F), 22a-92(b)(2)(J), 22a-92(c)(2)(B), 22a-92(a)(5)	☐	☐	☐
Coastal Waters & Estuarine Embayments - CGS Sections 22a-93(5), 22a-93(7)(K), 22a-93(7)(L), 22a-93(7)(G), 22a-92(a)(2), 22a-92(c)(2)(A)	☐	☐	☐
Developed Shorefront - CGS Sections 22a-93(7)(I), 22a-92(b)(2)(G)	☐	☐	☐
Freshwater Wetlands and Watercourses - CGS Sections 22a-93(7)(F), 22a-92(a)(2)	☐	☐	☐
Intertidal Flats - CGS Sections 22a-93(7)(D), 22a-92(b)(2)(D), 22a-92(c)(1)(K)	☐	☐	☐
Islands - CGS Sections 22a-93(7)(J), 22a-92(b)(2)(H)	☐	☐	☐
Rocky Shorefront - CGS Sections 22a-93(7)(B), 22a-92(b)(2)(B)	☐	☐	☐
Shellfish Concentration Areas - CGS Sections 22a-93(7)(N), 22a-92(c)(1)(I)	☐	☐	☐
Shorelands - CGS Sections 22a-93(7)(M), 22a-92(b)(2)(I)	☐	☐	☐
Tidal Wetlands - CGS Sections 22a-93(7)(E), 22a-92(a)(2), 22a-92(b)(2)(E), 22a-92(c)(1)(B)	☐	☐	☐

* applicable to all proposed activities

Part V: Consistency with Applicable Statutory Coastal Resource Goals and Policies

Explain how the proposed activity is consistent with the applicable statutory coastal resource goals and policies identified in Part IV and describe any mitigation necessary to offset adverse impacts.

The proposed wireless communication facility falls within the Coastal Boundary Mapping. The proposed project area is currently a paved parking lot; therefore no impacts to coastal resources are anticipated.

Part VI: Identification of Potential Adverse Impacts

Identify the adverse impact categories that apply to the proposed activity. Check the applicable box if the proposed activity has the potential to generate any adverse impacts defined in the Coastal Management Act and referred to in the following table. If the category is applicable to the proposed activity, you may describe in Part VII project design features which may eliminate or minimize the potential for identified adverse impacts.

Potential Resource Impacts	Applicable	Not Applicable
Characteristics & Functions of Resources - CGS Section 22a-93(15)(H)	☐	☒
Coastal Flooding - CGS Section 22a-93(15)(E)	☐	☒
Coastal Waters Circulation Patterns - CGS Section 22a-93(15)(B)	☐	☒
Drainage Patterns - CGS Section 22a-93(15)(D)	☐	☒
Patterns of Shoreline Erosion and Accretion - CGS Section 22a-93(15)(C)	☐	☒
Visual Quality - CGS Section 22a-93(15)(F)	☒	☐
Water Quality - CGS Section 22a-93(15)(A)	☐	☒
Wildlife, Finfish, Shellfish Habitat - CGS Section 22a-93(15)(G)	☐	☒

Potential Impacts on Water Dependent Uses	Applicable	Not Applicable
Locating a non-water-dependent use on a site suited to or planned for a water-dependent use - CGS Section 22a-93(17)	☐	☒
Replacing an existing water-dependent use with a non-water-dependent use - CGS Section 22a-93(17)	☐	☒
Siting a non-water-dependent use which reduces or eliminates public access to marine or tidal waters - CGS Section 22a-93(17)	☐	☒

Part VII: Consistency with Statutory Adverse Impact Policies

Explain how all potential adverse impacts identified, as applicable, in Part VI have been avoided, eliminated or minimized.

According to Vanasse Hangen Brustlin, Inc., Visual Resource Evaluation, dated April 2012, areas from where the proposed 103-foot tall telecommunications tower would be visible above the tree canopy comprise approximately 1,446 acres. The majority of year-round visibility would occur over open water on portions of Long Island Sound. Potential views over open water account for roughly 1,362 acres of the total (approximately 94%). Areas of year-round visibility over undeveloped tidal marshes total an additional +/- 54 acres within the Study Area. Other areas of potential year-round visibility that are land-based account for approximately 30 acres, and consist of areas along roads within the general vicinity of the the proposed project area, developed primarily with residential properties. The project is not anticipated to degrade visual quality through significant alteration of natural features or known important vistas and viewpoints.

Part VIII: Remaining Adverse Impacts

Identify any adverse impacts which remain after incorporating all measures to eliminate or minimize such adverse impacts, and explain why no feasible and prudent alternatives exist that would further avoid or reduce such impacts.

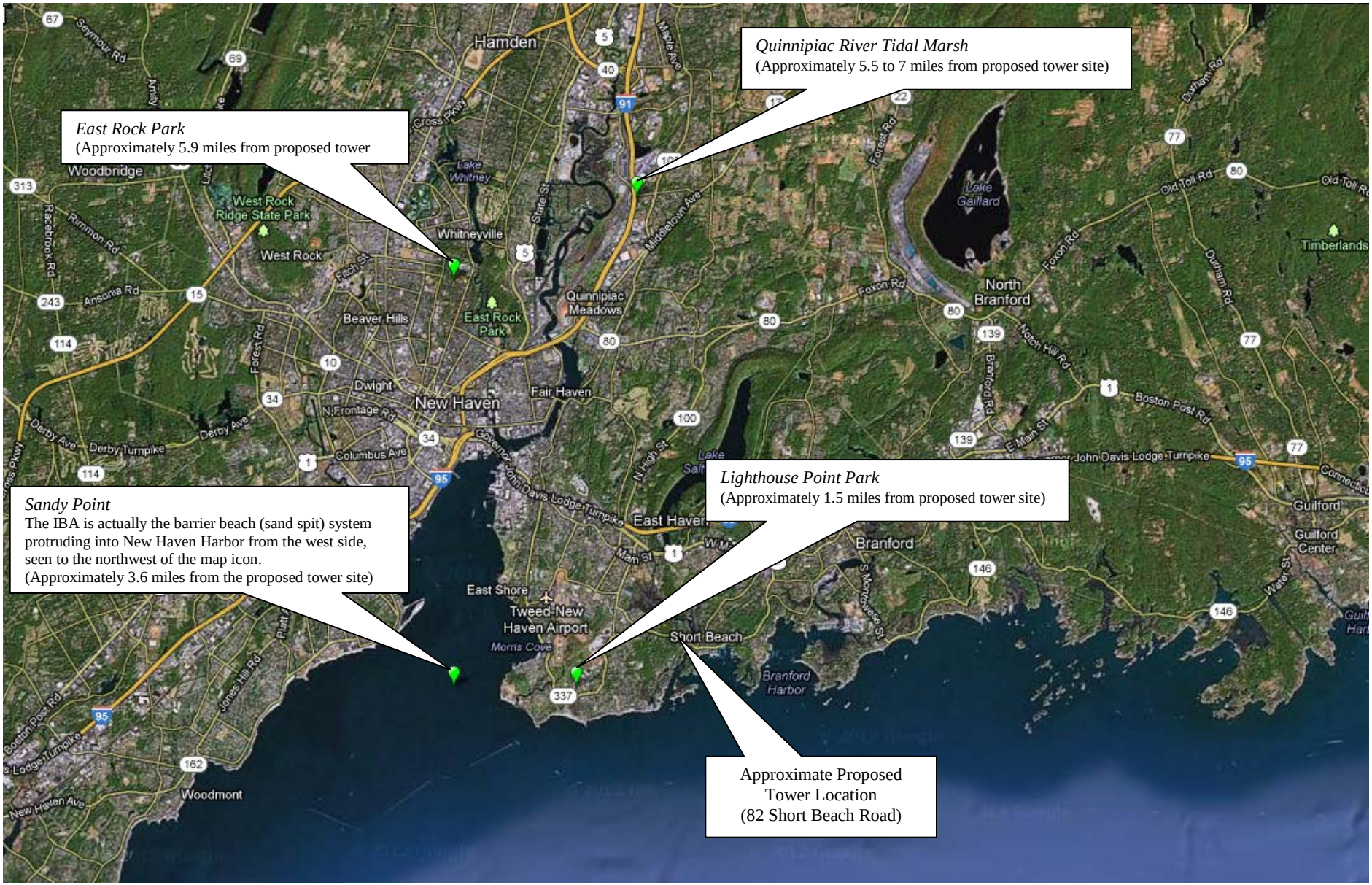
infinigy engineering

11 Herbert Drive
Latham, New York 12110

MAP OF IMPORTANT BIRD AREAS

Map Source: National Audubon Society – Important Bird Ares in the US (http://www.audubon.org/bird/iba)

CLIENT NAME:	SITE LOCATION:	PROJECT NAME:	PROJECT NO.:
North Atlantic Towers	82 Short Beach Road, East Haven, Connecticut	NAT – East Haven/Riverside VFD	226-101



C Squared Systems, LLC
65 Dartmouth Drive, A3
Auburn, NH 03032
Phone: (603) 644 2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions

East Haven Riverside VFD

82 Short Beach Road, East Haven, CT 06512

April 2, 2012

Table of Contents

List of Tables

List of Figures

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed North Atlantic Towers facility located at the East Haven Riverside Volunteer Fire Department, 82 Short Beach Road, East Haven, CT. AT&T is proposing to locate a wireless communications facility at the proposed site. The coordinates of the site are 41-15-36.43 N, 72-51-20.86 W.

AT&T is proposing the following:

1) Install 12 quad-band panel antennas (4 per sector) at 100' AGL;
2) Install an equipment shelter on the ground to house the base-station equipment;

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \text{x Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{\left(H^2 + V^2\right)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished installations.

4. Calculation Results

Table 1 below outlines the power density information for the proposed tower. Because the antennas used by AT&T are directional in nature, the majority of the RF power is focused towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the proposed monopole. Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The % MPE values in Table 1 are calculated at 6' above ground (to approximate the height of a human standing at base of the tower) and include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the directional antennas.

Carrier	Antenna Model	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm^2)	Limit	%MPE
AT&T UMTS	P65-15-XLH-RR	100	1900	1	500	0.0020	1.0000	0.20%
AT&T LTE	P65-15-XLH-RR	100	734	1	500	0.0020	0.4893	0.42%
AT&T UMTS	P65-15-XLH-RR	100	880	1	500	0.0020	0.5867	0.35%
AT&T GSM	P65-15-XLH-RR	100	1900	1	427	0.0017	1.0000	0.17%
AT&T GSM	P65-15-XLH-RR	100	880	3	296	0.0036	0.5867	0.62%
							Total	**1.76%**

Table 1: Carrier % MPE Information at Base of Proposed Tower[1]

[1] Calculated values include a -10 dB off-beam loss factor (see Attachment C) due to relevant antenna patterns.

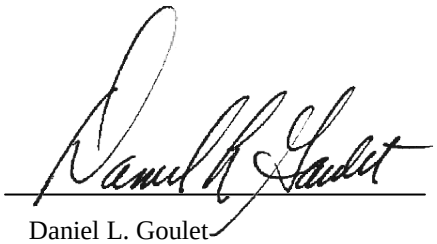
5. Conclusion

The above analysis verifies that emissions from the proposed installation will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the transmit antennas at the facility is below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at the base of the proposed tower is 1.76% of the FCC limit.

As noted in the Section 3, conservative assumptions are taken into account when calculating the predicted power density. As a result, the predicted %MPE levels are more conservative (higher) than the actual %MPE levels will be from the proposed installation.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

April 2, 2012
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[2]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure[3]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

[2] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

[3] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

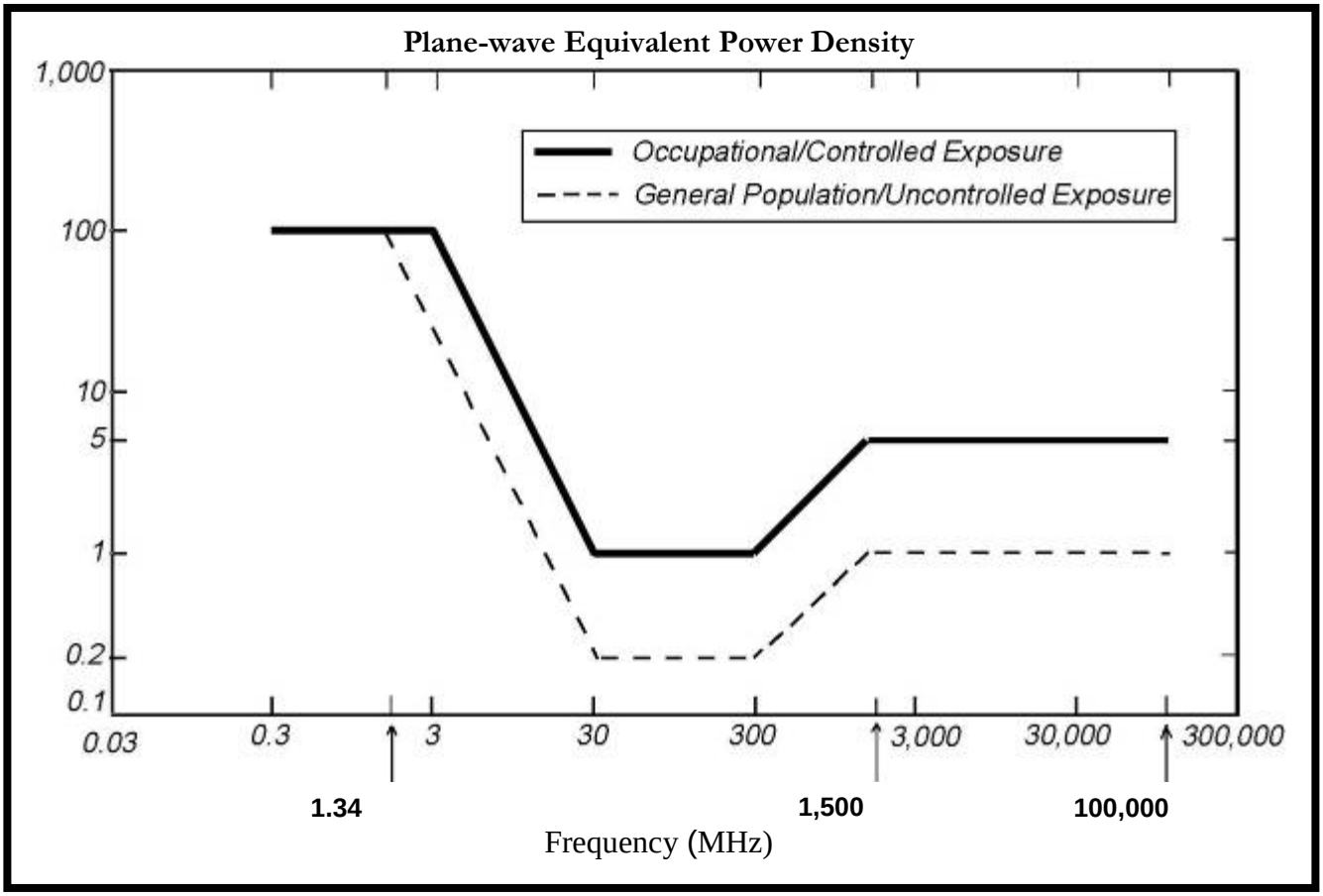
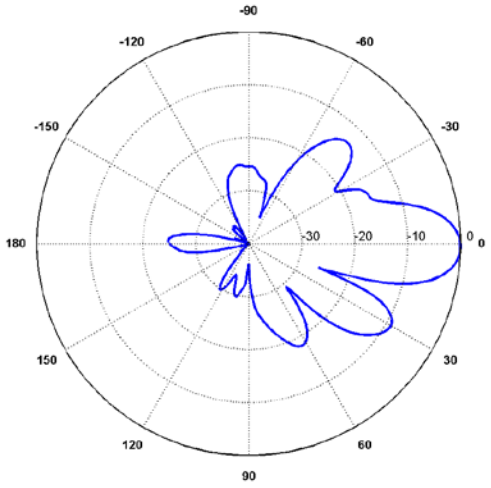


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T's Antenna Model Data Sheets and Electrical Patterns

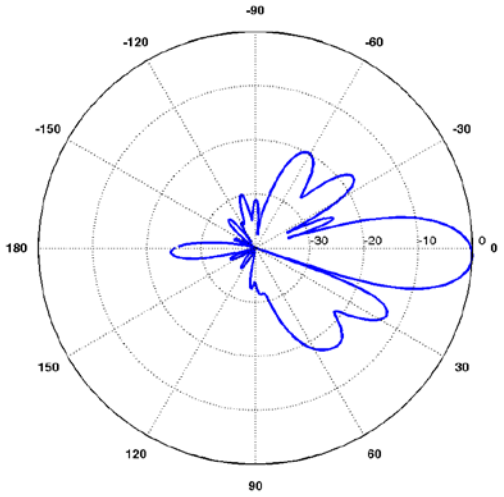
716 MHz

Manufacturer:	Powerwave
Model #:	P65-15-XLH-RR
Frequency Band:	698-806
Gain:	11.9 dBd
Vertical Beamwidth:	17 deg
Horizontal Beamwidth:	73 deg
Polarization:	±45 deg
Size L x W x D:	51" x 12" x 6"



880 MHz

Manufacturer:	Powerwave
Model #:	P65-15-XLH-RR
Frequency Band:	806-894
Gain:	12.6 dBd
Vertical Beamwidth:	17 deg
Horizontal Beamwidth:	63 deg
Polarization:	±45 deg
Size L x W x D:	51" x 12" x 6"



1950 MHz

Manufacturer:	Powerwave
Model #:	P65-15-XLH-RR
Frequency Band:	1710-2170
Gain:	14.6 dBd
Vertical Beamwidth:	7.5 deg
Horizontal Beamwidth:	61 deg
Polarization:	±45 deg
Size L x W x D:	51" x 12" x 6"