

FCC IBFS - Electronic Filing**Submission_id :IB2017002446****Successfully filed on :Aug 30 2017 4:48:01:860PM**

The current authorization of Call Sign E090044 expires on Apr 27 2024 12:37:50:560PM. The filing of a modification application does not automatically extend the expiration date of an authorization. In addition, grant of a modification will not extend the expiration date unless that is the modification sought. In general, an application for renewal of the authorization must be filed separately in order to extend the expiration date.

[Return to Main Menu](#)

Approved by OMB
3060-0678

Date & Time Filed: Aug 30 2017 4:48:01:860PM
File Number: SES-MOD-INTR2017-02446

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

WPBF Application to Modify E090044 (New SNG Truck)

1-8. Legal Name of Applicant			
Name:	Hearst Properties Inc.	Phone Number:	919-839-0300
DBA Name:		Fax Number:	919-839-0304
Street:	P.O. Box 1800	E-Mail:	shartzell@brookspierce.com
City:	Raleigh	State:	NC
Country:	USA	Zipcode:	27602 -
Attention:	Stephen Hartzell		

9-16. Name of Contact Representative			
Name:	Hearst Properties Inc.	Phone Number:	919-839-0300
Company:		Fax Number:	919-839-0304
Street:	150 Fayetteville Street Suite 1700	E-Mail:	shartzell@brookspierce.com
City:	Raleigh	State:	NC
Country:	USA	Zipcode:	27601-
Attention:	Stephen Hartzell	Relationship:	Legal Counsel

CLASSIFICATION OF FILING

<p>17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.</p> <p><input checked="" type="radio"/> a1. Earth Station</p> <p><input type="radio"/> a2. Space Station</p>	<p>(N/A) b1. Application for License of New Station</p> <p>(N/A) b2. Application for Registration of New Domestic Receive-Only Station</p> <p><input type="radio"/> b3. Amendment to a Pending Application</p> <p><input checked="" type="radio"/> b4. Modification of License or Registration</p> <p>b5. Assignment of License or Registration</p> <p>b6. Transfer of Control of License or Registration</p> <p><input type="radio"/> b7. Notification of Minor Modification</p> <p>(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite</p> <p>(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States</p> <p>(N/A) b10. Other (Please specify)</p> <p>(N/A) b11. Application for Earth Station to Access a Non-U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States.</p>
---	---

<p>17c. Is a fee submitted with this application?</p> <p><input checked="" type="radio"/> If Yes, complete and attach FCC Form 159.</p> <p>If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).</p> <p><input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other(please explain):</p>
--

<p>17d. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station</p>

<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: E090044</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:</p> <p>(a) Date pending application was filed:</p> <p>(b) File number: SESLIC2009031900348</p>
---	--

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
 b. Mobile Satellite
 c. Radiodetermination Satellite
 d. Earth Exploration Satellite
 e. Direct to Home Fixed Satellite
 f. Digital Audio Radio Service
 g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
 Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

- Connected to a Public Switched Network Not connected to a Public Switched Network N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz) b. Ku-Band (12/14 GHz)
 c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: Frequency Upper: (Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
 b. Temporary-Fixed Earth Station
 c. 12/14 GHz VSAT Network
 d. Mobile Earth Station
 e. Geostationary Space Station
 f. Non-Geostationary Space Station
 g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive Transmit-Only Receive-Only N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a -- authorization to add new emission designator and related service
 b -- authorization to change emission designator and related service
 c -- authorization to increase EIRP and EIRP density
 d -- authorization to replace antenna
 e -- authorization to add antenna
 f -- authorization to relocate fixed station
 g -- authorization to change frequency(ies)
 h -- authorization to add frequency
 i -- authorization to add Points of Communication (satellites & countries)
 j -- authorization to change Points of Communication (satellites & countries)
 k -- authorization for facilities for which environmental assessment and radiation hazard reporting is required
 l -- authorization to change orbit location
 m -- authorization to perform fleet management
 n -- authorization to extend milestones
 o -- Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.

Yes No

WPBF RFR Statement

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	<input type="radio"/> Yes <input checked="" type="radio"/> No
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	<input type="radio"/> Yes <input checked="" type="radio"/> No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.	<input type="radio"/> Yes <input checked="" type="radio"/> No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.	
41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. <i>See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	<input type="radio"/> Yes <input checked="" type="radio"/> No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?	
43. Description. (Summarize the nature of the application and the services to be provided). The instant application seeks authority to install a new antenna. This service will continue to provide news and event coverage to the applicant's television station WPBF(TV) and other Hearst Television facilities.	
43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	<input checked="" type="radio"/> A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	<input type="radio"/> B
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite	<input type="radio"/> C

design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

-->

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing Jordan M. Wertlieb	46. Title of Person Signing President
--	--

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

**SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B:(Technical and Operational Description)**

FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1. Site Identifier:	1	E5. Call Sign:	
E2. Contact Name	Clifford Thomas	E6. Phone Number:	561-514-7687
E3. Street:		E7. City:	
E4. State		E8. County:	
E10. Area of Operation:		E9. Zip Code	Continental United States
E11. Latitude:	0 ° 0 ' 0.0 " N		
E12. Longitude:	0 ° 0 ' 0.0 " W		
E13. Lat/Lon Coordinates are:	<input type="radio"/> NAD-27	<input checked="" type="radio"/> NAD-83	<input type="radio"/> N/A
E14. Site Elevation (AMSL):	0.0 meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A
E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A
E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="radio"/> Yes <input checked="" type="radio"/> No
E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input type="radio"/> Yes <input checked="" type="radio"/> No
E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="radio"/> Yes <input checked="" type="radio"/> No
E20. FAA Notification - (See 47 CFR Part 17 and 47 CFR part 25.113(c)) Where FAA notification is required, have you attached a copy of a completed FCC Form 854 and/or the	<input type="radio"/> Yes <input checked="" type="radio"/> No

**FAA's study regarding the potential hazard of the structure to aviation?
FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN
OF THIS APPLICATION.**

POINTS OF COMMUNICATION

Satellite Name: PERMITTED LIST || If you selected OTHER, please enter the following:

E21. Common Name:	E22. ITU Name:
E23. Orbit Location:	E24. Country:

POINTS OF COMMUNICATION (Destination Points)

E25. Site Identifier:	
E26. Common Name:	E27. Country:

ANTENNA

Site ID	E28. Antenna Id	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size	E41/42. Antenna Gain Transmint and/or Recieve(____dBi at ____GHz)
1	1	1	Sat-Lite Technologies	1411 Peloris SNG	1.45	44.8 dBi at 14.25

E28. Antenna Id	E33/34. Diameter Minor/Major(meters)	E35. Above Ground Level(meters)	E36. Above Sea Level(meters)	E37. Building Height Above Ground Level(meters)	E38. Total Input Power at antenna flange(Watts)	E39. Maximum Antenna Height Above Rooftop(meters)	E40. Total EIRP for al carriers(dBW)
1	1.45/1.45	4.0	0.0	0.0	87.1	0.0	64.2

FREQUENCY

E28. Antenna Id	E43/44. Frequency Bands(MHz)	E45. T/R Mode	E46. Antenna Polarization(H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP per Carrier(dBW)	E49. Maximum ERIP Density per Carrier(dBW/4kHz)
1	14000 14500	T	Horizontal and Vertical	36M0D7W	64.2	24.66

E50. Modulation and Services QAM or APSK; Digital Video, Audio, and Data

1	14000 14500	T	Horizontal and Vertical	3M50D7W	60.21	30.8
---	-------------	---	-------------------------	---------	-------	------

E50. Modulation and Services QAM or APSK; Digital Video, Audio, and Data

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits(MHz)	E54/55. Range of Satellite Arc Eastern/Western Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon(dBW/4kHz)
1	Geostationary	14000 14500	60.0/135.0	0.0	5.0	0.0	5.0	-5.0

REMOTE CONTROL POINT LOCATION

E61. Call Sign		E66. Phone Number	
NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			
E62. Street Address			
E63. City	E68. County	E67/68. State/Country	E64. Zip Code

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT

SEND COMPLETED FORMS TO THIS ADDRESS.

Remember - You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

Engineering Statement
RADIOFREQUENCY EXPOSURE CALCULATIONS
prepared for
Hearst Properties Inc.

Hearst Properties Inc. (“*WPBF*”) is the applicant for a transportable “Ku Band” satellite uplink license. The following study was conducted to evaluate the proposed facility with respect to the potential for human exposure to radiofrequency (“RF”) electromagnetic field. Specifically, the study determined whether exposure to RF electromagnetic field would exceed FCC maximum permissible exposure limits to the general public and to occupational workers at locations in the vicinity of the uplink antenna based on data provided by the applicant and representatives of the equipment manufacturers.

Human Exposure to Radiofrequency Electromagnetic Field

The *WPBF* proposed operation was evaluated using the procedures outlined in FCC OET Bulletin No. 65 (“OET 65”). OET 65 describes a means of determining whether a proposed facility exceeds the RF exposure guidelines specified in §1.1310 of the Rules. Under present Commission policy, a facility may be presumed to comply with the limits in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the transmitting system under study will comply with the cited adopted guidelines at publicly accessible locations when procedures described herein are followed.

Public Exposure

The mechanical design of the mounting equipment is optimized to orient the antenna toward satellites that are located well above the horizon. Prevention of public exposure to predicted RF electromagnetic field in excess of the general population/uncontrolled limit¹ depends on adherence to the following operational guidelines by the *WPBF* technicians.

As shown below, RF attributable to the *WPBF* uplink antenna at locations outside of the “main beam” and 1.45 meters or more from the center of the main beam will not exceed the FCC general population and uncontrolled RF exposure limits. According to representatives of *WPBF*, at its lowest elevation, the center of the uplink antenna is 4.0 meters above the ground and thus more than one dish-diameter above head level (2 meters) on level terrain.

To assure that no publicly accessible area is within the “main beam” of the uplink antenna, sites and satellites will be selected such that the elevation angle of the antenna will exceed five degrees and the

¹ The general population/uncontrolled maximum permissible exposure (“MPE”) limit of 1 mW/cm² for 14,250 MHz is specified in §1.1310 of the Rules.

Engineering Statement

(page 2 of 4)

main beam will exceed 1.45 meters above the horizon, nearby buildings, and places accessible by the public. In unusual cases where this isolation cannot be achieved, *WPBF* will utilize crowd control stanchions, cones, and RF exposure warning signs to control access to areas that are known to exceed the FCC's general population uncontrolled MPE limit. These areas will be defined either by measurements made by qualified, on-site personnel, or by the calculations described herein.

Based on data provided by the applicant, the following parameters were used in the study:

Antenna Manufacturer	Sat-Lite Technologies
Antenna Model	1411 Peloris
Center Transmit Frequency	14,250 MHz
Wavelength at Center Frequency	0.021 meters
Max Average Antenna Input Power	87.10 Watts
Antenna Diameter	1.45 meters
Antenna Gain	44.8 dBi
Antenna Gain Ratio	30199.5
Antenna Aperture Efficiency	0.644

The area in the immediate vicinity of the antenna is known as the “near field region.” In this region (up to 25.0 meters in the case at hand), the antenna directional characteristics have not fully formed. Therefore, antenna manufacturer “off-axis” discrimination specifications cannot be utilized for the purpose of determining potential RF exposure. OET 65 provides a methodology (Equation 13) for calculating a “worst case” exposure figure within this region. Additionally, OET 65 specifies that the “worst case” power density would be reduced by 20 dB at locations at least one antenna diameter (1.45 meters) off-axis from the “main beam” of the antenna. In this instance, the predicted off-axis, near field is 0.136 mW/cm², or 13.6 percent of the general population/uncontrolled limit. Off-axis predicted fields reduce commensurately at greater distances from the antenna in the antenna transition region.

In the “far field” region of the antenna (in this case, starting at a distance of 60.0 meters from the antenna), the antenna directional characteristics have formed and the off-axis power density can be readily calculated using “off-axis” antenna discrimination specifications. At locations greater than five degrees off-axis from the “main beam,” the manufacturer of the proposed antenna specifies a minimum

Engineering Statement

(page 3 of 4)

side-lobe attenuation of 30.3 dB.² Again using the methodology detailed in OET 65, this “off-axis” attenuation is predicted to result in a power density of 0.0055 mW/cm², or 0.55 percent of the general population/uncontrolled limit.

Controlled Access Area Exposure

Access to the vicinity of the antenna will be limited and restricted to authorized, trained personnel. Using data provided by the applicant, the potential for RF exposure to occupational workers was evaluated. As described previously, the maximum predicted off-axis, “near field” power density is 0.136 mW/cm², which is 2.72 percent of the controlled limit. As the operator will generally be posted at locations at ground level or within the vehicle itself, it is anticipated that actual exposure will be substantially less than the above “worst case” prediction.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur provided that adequate physical separation is established. As mentioned previously, detailed operator policy will be employed protecting workers from excessive exposure when work must be performed where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines would otherwise be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent facilities.

Conclusion

As demonstrated, excessive levels of RF energy will not be caused at publicly accessible areas by strictly following the policy detailed herein. Consequently, neither the general public nor occupational staff will be exposed to RF levels in excess of the Commission’s guidelines. Whenever necessary to assure compliance, access to the vicinity of the uplink antenna will be restricted and controlled through the use of crowd control stanchions, cones, and conspicuous RFR warning signs as part of an overall RF safety program. The above study presumes that the subject antenna is the sole source of RF energy at the

² According to the manufacturer, the antenna meets the minimum off-axis specification detailed in FCC Rule §25.209(a)(2) or 32-25 Log(θ) dBi.

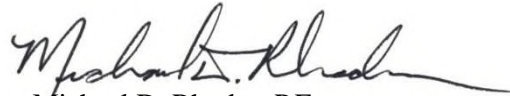
Engineering Statement

(page 4 of 4)

uplink site. In the case of multiple emitters, further analysis or measurement is necessary to assure compliance.

Certification

The undersigned hereby certifies that the foregoing statement was prepared by him or under his direction, and that it is true and correct to the best of his knowledge and belief. Mr. Rhodes is a Licensed Professional Engineer in the Commonwealth of Virginia and a Senior Engineer in the firm of Cavell, Mertz & Associates, Inc.



Michael D. Rhodes, P.E.
August 1, 2017

Cavell, Mertz & Associates, Inc.
7724 Donegan Dr.
Manassas, VA 20109-2686
(703) 392-9090