

**FCC IBFS - Electronic Filing****Submission\_id :IB2017002593****Successfully filed on :Sep 15 2017 3:09:02:963PM**

The current authorization of Call Sign E060141 expires on May 30 2021 8:16:00:000AM. 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.

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Approved by OMB  
3060-0678

Date & Time Filed: Sep 15 2017 3:09:02:963PM  
File Number: SES-MOD-INTR2017-02593

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

**APPLICANT INFORMATION**

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

WMUR-TV - Modification of E060141

<b>1-8. Legal Name of Applicant</b>			
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		

<b>9-16. Name of Contact Representative</b>			
Name:	Stephen Hartzell	Phone Number:	9198390300
Company:	Brooks, Pierce et al.	Fax Number:	9198390304
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><b>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.</b></p> <p><input checked="" type="radio"/> a1. Earth Station <input type="radio"/> a2. Space Station</p>	<p>(N/A) b1. Application for License of New Station (N/A) b2. Application for Registration of New Domestic Receive-Only Station <input type="radio"/> b3. Amendment to a Pending Application <input checked="" type="radio"/> b4. Modification of License or Registration b5. Assignment of License or Registration b6. Transfer of Control of License or Registration <input type="radio"/> b7. Notification of Minor Modification (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States (N/A) b10. Other (Please specify) (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>
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<p><b>17c. Is a fee submitted with this application?</b> <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). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other(please explain):</p>
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<p><b>17d. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station</b></p>
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<p><b>18. If this filing is in reference to an existing station, enter:</b> (a) Call sign of station: E060141</p>	<p><b>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:</b> (a) Date pending application was filed:  (b) File number: SESMOD2012091000806</p>
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## 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

**Rad. Haz. Study**

**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). **This facility will be utilized for news and event coverage for WMUR-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 design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.	<input type="radio"/> C

**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	Michael Saffell	E6. Phone Number:	6036699999
E3. Street:		E7. City:	
E4. State		E8. County:	
E10. Area of Operation:		E9. Zip Code	
E11. Latitude:	0 ° 0 ' 0.0 " N	E10. Area of Operation:	Various
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
<b>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 FAA's study regarding the potential hazard of the structure to aviation?</b>	<input type="radio"/> Yes <input checked="" type="radio"/> No

**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	AVL	1810K	1.8	46.5 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	1.8/1.8	4.8	0.0	0.0	44.16	0.0	62.95

**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 EIRP Density per Carrier(dBW/4kHz)
1	11700 12200	R	Horizontal and Vertical	36M0D7W	0.0	0.0

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

1	11700 12200	R	Horizontal and Vertical	3M50D7W	0.0	0.0
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E50. Modulation and Services QAM and APSK; Digital Voice, Audio, and Data

1	14000 14500	T	Horizontal and Vertical	36M0D7W	62.15	22.6
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E50. Modulation and Services QAM and APSK; Digital Voice, Audio, and Data

1	14000 14500	T	Horizontal and Vertical	3M50D7W	62.15	22.6
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E50. Modulation and Services QAM and APSK; Digital Voice, 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	-7.95

**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
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**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](mailto: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.

## RF RADIATION HAZARD ANALYSIS

### Exhibit #B

Antenna Diameter, (D) =	1.8 meters /	5.9058 Feet
Antenna Surface Area (Sa) =	2.5447 sq meters	
Subreflector Diameter (Ds) =	0.0000 centimeters	
Ku Wavelength at 14.250 GHz (LAMBDA) =	0.21038067 meters	
Power output of VPC Flange=	18.451 dB	
Path Loss to OMT (IL) =	2 dB	
Power at OMT, (P) =	44.17 Watts	
Antenna Gain at 14.250GHz (G) =	46.50 dBi (2 port antenna gain)	
Antenna Gain given in Power Ration, (Ges) =	4.47E+04	
Antenna Aperture Efficiency (N) =	0.650	

<u>Region</u>			<u>Radition Level</u>		<u>Hazard Assessment</u>
Far Field, (Rf) =	9.240 meters /	30.32 Feet	183.868	mW/cm sq	Potential Hazard
Near Field, (Wf) =	3.850 meters /	12.632 Feet	4.513	mW/cm sq	Potential Hazard
Transition Region (Rt) Ru<Rt<Rf			equal to or less than 4.513	mW/cm sq	Potential Hazard
Between Main Reflector and Subreflector (Ws)			N/A (no subreflector)		
Main Reflector Region (Wm)			3.471	mW/cm sq	Potential Hazard
Power Density Between Reflector and Ground			1.736	mW/cm sq	Potential Hazard
Far Field Off Axis (WF)			1.839	mW/cm sq	Potential Hazard
Near Field Off Axis (WN)			0.045	mW/cm sq	Meets ANSI Requirements

**Conclusion:** Based on the above analysis, harmful areas of Radiation do exist in the areas around the antenna and in the path of the antenna toward the satellite that it is pointed at. The Area occupied by the general public will not exceed the ANSI limit of 1mW cm sq. because the antenna is mounted on top of the truck, which is at least 8 feet above the ground, and safety increases with look angles used by the Satellites in the United States on Dom. Sat. arch. The areas on the ground and behind the antenna are 100 times less power (20dB) when at a min. of the dia. of the reflector. This is reflected in the Off Axis figures as seen above (WF) & (WN). The SNG will be marked with the standard radiation hazard warnings, and on the antenna itself. The warning signs will warn personnel to avoid the area around and in front of the reflector when the transmitter is operating. To ensure compliance with safety limits, the earth station transmitter will be turned off and marked to remain off whenever maintenance and repair personnel are required to work in the areas of potential hazard as defined in the above study. Additionally, the earth station personnel will be trained to ensure that the antenna path is clear at all times while the transmitter is in operation. The only access to the roof of the truck is a ladder that is not accessible by the general public.

Note: See Exhibit #Ba for how the above calculations were made.



**Exhibit Ba Analysis on Non-Ionizing Radiation**

Antenna Diameter, (D) =	D:=	1.8 meters	D*3.281 =	5.906	Feet
Antenna Surface Area, (Sa) =	Sa:=	$\pi * \frac{D^2}{4}$	Sa =	2.545	sq meters
Subreflector Diameter, (Ds) =	Ds:=	0 cm	Ds*.3937	0.000	Inches
Area of Subreflector, (As) =	As:=	$\pi * \frac{Ds^2}{4}$	As=	0.000	sq meters
Center Frequency, (Cf) =	Cf:=	14.250 GHz			
Wavelength at (Cf), (Lambda) =	Lambda =	0.2103806709 meters			
Transmit Power at HPA or VPC Flange, (P1) =	P1=	70.00 watts			
	P2:=log(p1)*10		P2=	18.451	dB
Path Loss from HPA or VPC to OMT, (IL) =	Loss:=	2			
	P3:= P2-Loss		P3=	16.451	OMT Pwr in dB
	P:= 10 $\frac{P3}{10}$		P=	44.167	OMT Pwr in watts
Antenna Gain at (Cf), (Gain) =	Gain:=	46.50 dBi			
Antenna Gain Converted to Power Ratio (Ges)=	Ges:= 10 $\frac{Gain}{10}$		Ges =	4.47E+04	Ratio
Antenna Aperture Efficiency, (n) =	n:=	0.6500			
<hr/>					
Far Field (Rf) =	Rf=	$\frac{.60 * (D^2)}{Lambda}$	Rf =	9.240	meters
			Rf*3.281=	30.318	feet
Far Field Power Density (Wf) =	Wf=	$\frac{Ges * P}{4 * \pi * (Rf * Rf)}$	* .1	Wf =	183.868
					mw sq cm
Near Field (Rn) =	Rn=	$\frac{(D^2)}{4 * Lambda}$	Rn=	3.850	meters
			Rf*3.281=	12.632	feet
Near Field Power Density (Wn) =	Wn=	$\frac{16 * n * P}{\pi * (D^2)}$	* .1	Wn =	4.513
					mw sq cm
Transition Region (Rt) =	Rt =	Wn*1	Rt=	4.513	mw sq cm (Equal to or less than)
Pwr Density at Sub Reflector (Ws) =	Ws=	$\frac{2 * P}{As}$	*1000	Ws =	N/A
Main Reflector Region Pwr Density (Wm) =	Wm=	$\frac{2 * P}{Sa}$	*.1	Wm =	3.471
					mw sq cm
Pwr Density between main reflector and ground (Wg) =	Wg=	$\frac{P}{Sa}$	*.1	Wg =	1.736
					mw sq cm
Far Field Off Axis (WF) =	WF:=	Wf*.01	WF =	1.839	mw sq cm
Near Field Off Axis (WN) =	WN:=	Wn*.01	WN =	0.045	mw sq cm



## Form 312 Blocks Information

Project number:	4975
Customer:	WMUR
Customer Contact:	Mike Saffell
Date:	9/14/2017

Enter this information in the following FCC Form 312 Blocks			
Nomenclature	Value	Unit of Measure	Form 312 Block
Antenna Model		<i>AvL Model 1810K</i>	
Amplifier Model		<i>HPAK2070ACXXXXX</i>	
Power at OMT	44.167	watts	B5(g)
Total EIRP	62.95	dBw	B5(h)
Maximum EIRP Density toward the Horizon	-7.95	dBw/4KHz	B6(i)
Maximum EIRP per Carrier	62.15	dBw	B7(f)
Maximum EIRP Density per Carrier	22.60	dBw/4KHz	B7(g)



## Variable Data

Project number:	4975
Customer:	WMUR
Customer Contact:	Mike Saffell
Date:	9/14/2017

Required Data			
<b>Antenna Model</b>		<b>AvL Model 1810K</b>	
<b>Amplifier Model</b>		<b>HPAK2070ACXXXXX</b>	
Antenna Diameter (D)	1.80	meters	
Subreflector Diameter (Ds)	0.00	cm	
Center Frequency (Cf)	14.25	GHz (14.250 GHz for Ku-Band)	
Transmit Power at HPA or VPC Flange (P1)	70.00	watts	
Path Loss from HPA or VPC to OMT (IL)	2.00	dB (0.6 for Hub Mount, 2.0 for Rack Mount and Hub Mounded 4 Port)	
Antenna Gain at (Cf) (Gain)	46.50	dBi	
Antenna Aperture Efficiency (n)	0.65		
Bandwidth of Transmission	9.00	MHz	