# Ka-Band Earth Station – Clewiston, FL Frequency Coordination Report 28 GHz



Prepared on Behalf of WorldVu Satellites Limited

May 22, 2018





## **Table of Contents**

1.	Summary of Results	- 1 -
2.	28 GHz Common Carrier and LTTS Coordination	- 1 -
3.	28 GHz LMDS Coordination	- 2 -
4.	Earth Station Coordination Data	- 3 -
5.	Contact Information	- 7 -



### 1. Summary of Results

On behalf of WorldVu Satellites Limited, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Clewiston, FL, which will transmit at 28 GHz<sup>1</sup>. Prior-notification letters were sent to the licensees and a copy of the notification data is provided in section four of this report. The earth station coordination was finalized on May 15, 2018.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the incumbents was performed under the assumption that the earth station would be operating on a secondary basis to LMDS Block A operations and a contact at WorldVu Satellites Limited has been provided in case any concerns may arise in the future.

#### **2.** 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Clewiston, FL was prior-coordinated by Comsearch. A notification letter and datasheets for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis or local basis.

Licensee	Authorized Geographic Area
Frontier Southwest Incorporated	Nationwide

A notification letter and datasheets for the Ka-Band earth station in Clewiston, FL were also sent to the following 28 GHz local television transmission licensee. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Information Super Station, LLC	Nationwide

No objections were received from the common carrier or local television transmission service incumbents.

<sup>&</sup>lt;sup>1</sup> The proposed earth station will operate in the 27.5 – 29.1, 29.5 – 30.0 GHz portion of the Ka-Band.



#### **3.** 28 GHz LMDS Coordination

A Notification letter was sent to the following 28 GHz LMDS licensees. The proposed earth station will operate on frequencies that overlap Block A of the LMDS service. The total frequency allocation for Block A of the LMDS spectrum appears below.

Block A: 27.500-28.350 GHz 29.100-29.250 GHz 31.075-31.225 GHz

Licensee	Market	Market Name
T-Mobile	BTA293	Miami-Ft. Lauderdale, FL
T-Mobile	BTA336	Orlando, FL
T-Mobile	BTA440	Tampa-St. Petersburg-Clearwater, FL
T-Mobile	BTA469	West Palm Beach-Boca Raton, FL
Verizon	BTA293	Miami-Ft. Lauderdale, FL
Verizon	BTA336	Orlando, FL
Verizon	BTA440	Tampa-St. Petersburg-Clearwater, FL
Verizon	BTA469	West Palm Beach-Boca Raton, FL
WDSI	BTA239	Lakeland-Winter Haven, FL

No objections were received from LMDS licensees.



## 4. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station in Clewiston, FL. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.



Date:	04/04	/2018			
Job Number:	18040	6COMSGE06			
Administrative Informatio Status Licensee Name	ENGI	NEER PROPOSAL Vu Satellites Limited			
Site Information Venue Name Latitude (NAD 83) Longitude (NAD 83) Climate Zone Rain Zone Ground Elevation (AMSL)	26° 44 81° 2' A 1	VISTON, FL 4' 51.8" N 57.2" W n / 18.0 ft			
Link Information Satellite Type Mode Modulation Minimum Elevation Angle Azimuth Range Antenna Centerline (AGL)	TR - 1 Digita 10.0° 0.0° te	arth Orbit Fransmit-Receive I o 360° n / 8.0 ft			
Antenna Information Manufacturer Model Gain / Diameter 3-dB / 15-dB Beamwidth		Receive - CPI 3.5 meter 54.6 dBi / 3.5 m 0.32° / 0.36°		Transmit - CPI 3.5 meter 58.0 dBi / 3.5 m 0.21° / 0.23°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-39.6 -15.6	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			18.4 42.4	
Interference Objectives:	Long Term Short Term	-152.4 dBW/MHz -142.4 dBW/MHz	20% 0.01%	-151.0 dBW/4 kHz -128.0 dBW/4 kHz	20% 0.0025%
Frequency Information Emission / Frequency Rang	e (MHz)		D / 17800.0 - 18600.0 D / 18800.0 - 19300.0	Transmit 28.0 GHz 230MG7D / 27500.0 - 2 230MG7D / 29500.0 - 3	
Max Great Circle Coordinat Precipitation Scatter Contou		120.0 km / 74.6 mi 100.0 km / 62.1 mi 100.0 km / 62.1 mi 100.0 km / 62.1 mi			



#### WorldVu Satellites Limited Ka-Band Earth Station – Clewiston, FL Frequency Coordination Report 28 GHz

Coordination Values  CLEWISTON, FL    Lienaee Name  Word/Vu Satellites Limited    Laftude (NAD 83)  81*2*75.2* W    Ground Elevation (AMSL)  5.49 m / 18.0 MAntenna Centerline (AGL)  2.44 m / 8.0 ft    Antenna Model  CP1 35. meter  -151.0 dBW4 kHz  20%    Short Term  -152.2 dBW/MHz  20%  -151.0 dBW4 kHz  20%    Max Available RF Power  -152.2 dBW/MHz  20%  -130.0 dBW4 kHz  20%    Azimuth (*)  Elevation (*)  Antenna  Horizon  Coordination  Horizon  Coordination    0  0.00  94.06  7.00  120.00  7.93  100.00    10  0.00  79.06  7.00  120.00  7.93  100.00    10  0.00  79.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    20  0.00  74.06  <					rs samma apressimpany		
Licensee Name Workfu's Satellikes Limited Latitude (NAD 83) 26*44 51.8* N Conguet Elevation (AMSL) 5.49 m /18.0 ft /2 57.2* W Ground Elevation (AMSL) 5.49 m /18.0 ft /2 57.2* W CPI 3.5 meter Interference Objectives: Long Term 142.4 dBW/MHz 0.01% -151.0 dBW/4 kHz 0.0025% -151.0 dBW/4 kHz 0.01% -128.0 dBW/4 kHz 0.0025% -128.0 dBW/4 kHz 0.001% -128.0 dBW/4 kHz 0.0025% -128.0 dBW/4 kHz 0.001% -128.0 dBW/4 kHz 0.0025% -151.0 dBW/4 kHz 0.001% -128.0 dBW/4 kHz 0.0025% -128.0 dBW/4 kHz 0.001% -128.0 dBW/4 kHz 0.0005 -142.4 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025% -142.4 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025% -142.4 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025% -142.4 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025% -180.0 dB 8.06 7.00 120.00 7.83 100.00 -190.0 84.06 7.00 120.00 7.83 100.00 -190.0 84.06 7.00 120.00 7.83 100.00 -15 0.00 64.06 7.00 120.00 7.83 100.00 -15 0.00 64.06 7.00 120.00 7.83 100.00 -25 0.00 64.06 7.00 120.00 7.83 100.00 -15 0.00 44.06 7.00 120.00 7.83 100.00 -16 0.00 44.06 7.00 120.00 7.83 100.00 -17 0.00 44.06 7.00 120.00 7.83 100.00 -18 0.00 44.06 7.00 120.00 7.83 100.00 -19 0.00 44.06 7.00 120.00 7.83 100.00 -10 0.00 44.06 7.00 120.00 7.83 100.00 -10 0.00 5.99 7.00 120.00 7.83 100.00 -11 0.00 15.96 7.00 120.00 7.83 100.00 -12 0.00 7.83 100.00 -13 0.00 14.07 7.00 120.00 7.83 100.00 -14 0.00 15.96 7.00 120.00 7.83 100.00 -15 0.00 14.07 7.00 120.00 7.83 100.00 -15 0.00 14.07 7.00 120.00 7.83 100.00 -15 0.00 15.95 7.00 120.00 7.83 100.00 -15 0.00 15.95 7.00 120.00 7.83 100.00 -15 0.00 7.93 100.00 -15 0.00 7.94 7.00 120.00 7.83 100.00 -15 0.00 7.93 100.00 -15 0.00 7.94 7.00 120.00 7.83 100.00 -15 0.00 7.93 100.00 -15 0.00 7.94 7.00 120.00 7.93 100.00 -15 0.00 7.94 7.00 120.00 7	Coordination V	alues	CLEWISTON, FL				
Latitude (NAD 83) 81° 25° 44° 518° N Longitude (NAD 83) 81° 25°.2° W Ground Elevation (ANSL) 5.49 m / 18.0 tf Antenna Centerline (AGL) 2.44 m / 8.0 tf Antenna Model CP135 meter Max Available RF Power Azimuth (*) Elevation (*) Discrimination (*) Gain (BH) Distance (km) 4172 20% - 38.6 (BW/4 kHz) 7.20% - 38.0 GBW/4 kHz) 7.20% - 38.0 GBW/4 kHz) 7.20% - 38.0 GBW/4 kHz) 7.20% - 38.0 GBW/4 kHz) 7.20% - 128.0 GBW/4 kHz) 7.20% - 20% - 20%							
Longitude (NAD 83)  B1* 2* 57.2* W Ground Elevation (AMSL)  5.49 m /18.0 ft/Antenna Centerline (AGL)  2.44 m /8.0 ft    CP1 35 meter  -152.2 dt/WMHz  20%  -151.0 dt/W/4 kHz  20%    Interference Objectives: Long Term Short Term  -152.2 dt/WMHz  20%  -151.0 dt/W/4 kHz  20%    Axavailable RF Power  -162.2 dt/WMHz  20%  -151.0 dt/W/4 kHz  20%    Aximuth (*)  Elevation (*)  Dierrimination (*)  Gain (dBi)  Distance (km)  Gain (dBi)  Distance (km)    0  0.00  84.06  7.00  120.00  7.83  100.00    15  0.00  78.06  7.00  120.00  7.83  100.00    15  0.00  78.06  7.00  120.00  7.83  100.00    25  0.00  59.06  7.00  120.00  7.83  100.00    35  0.00  59.06  7.00  120.00  7.83  100.00    25  0.00  44.06  7.00  120.00  7.83  100.00    36 <t< td=""><td colspan="2"></td><td></td><td></td><td></td><td></td><td></td></t<>							
Ground Elevation (ANEL) Interference Objectives: Long Term Short Term  5.49 m / 18.0 ft/Antenna Centerline (ACL P1.3. meter Short Term  24.9 m / 18.0 ft/Antenna CP3.5 meter Short Term  24.9 m / 18.0 ft/Antenna CP3.5 meter Short Term  20% -138.0 dBW/4 kHz -38.6 (BW/4 kHz)  20% -128.0 dBW/4 kHz -128.0 dBW/4 kHz    Max Available RF Power  Inframa  20% -39.6 (BW/4 kHz)  20% -39.6 (BW/4 kHz)  20% -128.0 dBW/4 kHz  20% -128.0 dBW/4 kHz    Azimuth (*)  Elevation (*) Elevation (*)  Antenna Materia (BBW/4 kHz)  Coordination Gain (BB)  Horizon Face/set 81.0 GH/4  100.00    0  0.00  84.06  7.00  120.00  7.83  100.00    15  0.00  79.06  7.00  120.00  7.83  100.00    25  0.00  79.06  7.00  120.00  7.83  100.00    25  0.00  64.06  7.00  120.00  7.83  100.00    25  0.00  64.06  7.00  120.00  7.83  100.00    26  0.00  44.06  7.00  120.00  7.83  100.00    25  0.00  34.06							
Antenna Model  CPI 3.5 meter    Interference Objectives: Long Term Short Term  -152 a dBW/MHz  20%  -151 0 dBW/4 kHz  20%    Max Available RF Power  -142.4 dBW/MHz  20%  -128.0 dBW/4 kHz  0.0025%    Azimuth (*)  Elevation (*)  Discrimination (*)  Gain (dB)  Distance (km)  Horizon  Coordination    0  0.00  94.06  7.00  120.00  7.93  100.00    11  0.00  84.06  7.00  120.00  7.93  100.00    12  0.00  74.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    30  0.00  64.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93	-			nterline (AGL)	244 m / 8	0 ft	
Interference Objectives: Long Term Short Term  152.4 dBW/MHz 142.4 dBW/MHz  20% 0.01%  151.0 dBW/4 kHz  20% 0.01%  128.0 dBW/4 kHz  20% 0.01%    Max Available RF Power  Anterna  Coordination  Transmit 26.0 GHz  Transmit 26.0 GHz    Azimuth (*)  Elevation (*)  Discrimination (*)  Gain (dBi)  Distance (km)  Gain (dBi)  Distance (km)    5  0.00  94.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    25  0.00  59.06  7.00  120.00  7.93  100.00    26  0.00  59.06  7.00  120.00  7.93  100.00    35  0.00  49.06  7.00  120.00		(((((()))))))))))))))))))))))))))))))))		(102)	2		
Short Term  -142.4 dBW/MHz  0.01%  -128.0 dBW/4 kHz  0.025%    Max Available RF Power  Antenna  Receive 18.0 GHz  Transmit 28.0 GHz    Azimuth (*)  Elevation (*)  Discrimination (*)  Gain (dBi)  Distance (km)  Gain (dBi)  Coordination    0  0.00  94.06  7.00  120.00  7.33  100.00    10  0.00  74.06  7.00  120.00  7.33  100.00    15  0.00  74.06  7.00  120.00  7.33  100.00    25  0.00  64.06  7.00  120.00  7.33  100.00    26  0.00  74.06  7.00  120.00  7.33  100.00    30  0.00  64.06  7.00  120.00  7.33  100.00    40  0.00  54.06  7.00  120.00  7.33  100.00    55  0.00  34.06  7.00  120.00  7.33  100.00    66  0.00  7.00  120.00<		iectives: Long Term		20%	-151.0 dBV	V/4 kHz 20%	
Max Available RF Power	Interference ob						
Horizon Azimuth (*)  Antenna Elevation (*)  Antenna Discrimination (*)  Receive 16.0 Gript Gain (dBi)  Transmit 2.0 GHz    0  0.00  94.06  7.00  120.00  7.33  100.00    10  0.00  84.06  7.00  120.00  7.33  100.00    10  0.00  74.06  7.00  120.00  7.33  100.00    20  0.00  74.06  7.00  120.00  7.33  100.00    25  0.00  64.06  7.00  120.00  7.33  100.00    30  0.00  54.06  7.00  120.00  7.93  100.00    35  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  44.06  7.00  120.00  7.93  100.00    66  0.00  34.06  7.00  120.00  7.93  100.00    75  0.00  24	Max Available i		-142.4 004710112			0.002070	
Horizon  Antenna  Horizon  Coordination  Horizon  Coordination    Azimuth (*)  Elevation (*)  Distance (km)  Gain (dBi)  Distance (km)  Gain (dBi)  Distance (km)    5  0.00  84.06  7.00  120.00  7.93  100.00    10  0.00  84.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    35  0.00  54.06  7.00  120.00  7.93  100.00    46  0.00  54.06  7.00  120.00  7.93  100.00    55  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  34.06  7.00  120.00  7.93  100.00    66  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00	Max Available I				· · · · · · · · · · · · · · · · · · ·	Transmi	t 28.0 GHz
Azimuth (*)  Elevation (*)  Distance (km)  Gain (dBi)  Distance (km)    0  0.00  94.06  7.00  120.00  7.93  100.00    5  0.00  89.08  7.00  120.00  7.93  100.00    10  0.00  74.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    30  0.00  64.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  34.06  7.00  120.00  7.93  100.00    66  0.00  29.06  7.00  120.00  7.93  100.00    75  0.00  24.07  7.00  120.00 <td></td> <td>Horizon</td> <td>Antenna</td> <td></td> <td></td> <td></td> <td></td>		Horizon	Antenna				
0  0.00  94.06  7.00  120.00  7.91  7.91  100.00    5  0.00  89.06  7.00  120.00  7.93  100.00    10  0.00  84.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    20  0.00  79.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  44.06  7.00  120.00  7.93  100.00    50  0.00  44.06  7.00  120.00  7.93  100.00    60  0.00  29.06  7.00  120.00  7.93  100.00    75  0.00  14.07  7.	Azimuth (°)						
5  0.00  89.06  7.00  120.00  7.93  100.00    10  0.00  84.06  7.00  120.00  7.93  100.00    15  0.00  79.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  64.06  7.00  120.00  7.93  100.00    40  0.00  59.06  7.00  120.00  7.93  100.00    50  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    66  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  1	· · · · · · · · · · · · · · · · · · ·						
10  0.00  78.06  7.00  120.00  7.93  100.00    15  0.00  74.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  64.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  49.06  7.00  120.00  7.93  100.00    50  0.00  49.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    66  0.00  29.06  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    75  0.00  1.00  7.93  1	-						
15  0.00  79.06  7.00  120.00  7.93  100.00    20  0.00  74.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  69.06  7.00  120.00  7.93  100.00    40  0.00  59.06  7.00  120.00  7.93  100.00    45  0.00  49.06  7.00  120.00  7.93  100.00    50  0.00  44.06  7.00  120.00  7.93  100.00    60  0.00  34.06  7.00  120.00  7.93  100.00    55  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    85  0.00  1.18  7.00  1							
20  0.00  74.06  7.00  120.00  7.93  100.00    25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  59.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  49.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    70  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  41.07  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  1							
25  0.00  69.06  7.00  120.00  7.93  100.00    30  0.00  64.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  49.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    85  0.00  14.07  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    95  0.00  1.18  7.00  12							
30  0.00  64.06  7.00  120.00  7.93  100.00    35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  44.06  7.00  120.00  7.93  100.00    50  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    80  0.00  14.07  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    90  0.00  10.97  7.00  1							
35  0.00  59.06  7.00  120.00  7.93  100.00    40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  49.06  7.00  120.00  7.93  100.00    50  0.00  39.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  24.06  7.00  120.00  7.93  100.00    65  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  14.07  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    95  0.00  1.18  7.00  120.00  7.93  100.00    100  0.00  15.96  7.00  1							
40  0.00  54.06  7.00  120.00  7.93  100.00    45  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  34.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  44.07  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    90  0.00  19.97  7.00  120.00  7.93  100.00    910  0.00  1.18  7.00  120.00  7.93  100.00    105  0.00  15.96  7.00  1							
45  0.00  49.06  7.00  120.00  7.93  100.00    50  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  34.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    70  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  14.07  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    100  0.00  5.99  7.00  120.00  7.93  100.00    100  0.00  15.96  7.00  120.00  7.93  100.00    101  0.00  15.96  7.00							
50  0.00  44.06  7.00  120.00  7.93  100.00    55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  34.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    70  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  14.07  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    105  0.00  1.97  7.00  120.00  7.93  100.00    105  0.00  1.97  7.00  120.00  7.93  100.00    110  0.00  2.99  7.00  12							
55  0.00  39.06  7.00  120.00  7.93  100.00    60  0.00  34.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    70  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  4.107  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    95  0.00  1.18  7.00  120.00  7.93  100.00    100  0.00  5.99  7.00  120.00  7.93  100.00    105  0.00  10.97  7.00  120.00  7.93  100.00    110  0.00  15.96  7.00  120.00  7.93  100.00    120  0.00  25.95  7.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
60  0.00  34.06  7.00  120.00  7.93  100.00    65  0.00  29.06  7.00  120.00  7.93  100.00    70  0.00  24.07  7.00  120.00  7.93  100.00    75  0.00  19.07  7.00  120.00  7.93  100.00    80  0.00  14.07  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    95  0.00  1.18  7.00  120.00  7.93  100.00    105  0.00  10.97  7.00  120.00  7.93  100.00    115  0.00  25.95  7.00  120.00  7.93  100.00    120  0.00  25.95  7.00  120.00  7.93  100.00    125  0.00  30.95  7.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
650.0029.067.00120.007.93100.00700.0024.077.00120.007.93100.00750.0019.077.00120.007.93100.00800.0014.077.00120.007.93100.00850.009.087.00120.007.93100.00900.004.127.00120.007.93100.00950.001.187.00120.007.93100.001000.005.997.00120.007.93100.001050.0010.977.00120.007.93100.001050.0010.977.00120.007.93100.001100.0020.957.00120.007.93100.001250.0020.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0045.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001450.0055.957.00120.007.93100.001450.0060.957.00120.007.93100.001550.0060.957.00120.007.93100.001650.007.947.00120.00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
700.0024.077.00120.007.93100.00750.0019.077.00120.007.93100.00800.0014.077.00120.007.93100.00850.009.087.00120.007.93100.00900.004.127.00120.007.93100.00950.001.187.00120.007.93100.001000.005.997.00120.007.93100.001050.0015.967.00120.007.93100.001150.0025.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0040.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001550.0060.957.00120.007.93100.001550.0060.957.00120.007.93100.001550.0060.957.00120.007.93100.001650.0070.947.00120.00<							
750.0019.077.00120.007.93100.00800.0014.077.00120.007.93100.00850.009.087.00120.007.93100.00900.004.127.00120.007.93100.00950.001.187.00120.007.93100.001000.005.997.00120.007.93100.001050.0019.977.00120.007.93100.001100.0015.967.00120.007.93100.001150.0020.957.00120.007.93100.001250.0030.957.00120.007.93100.001250.0035.957.00120.007.93100.001300.0049.957.00120.007.93100.001350.0049.957.00120.007.93100.001450.0059.957.00120.007.93100.001450.0059.957.00120.007.93100.001550.0069.957.00120.007.93100.001550.0069.957.00120.007.93100.001650.0070.947.00120.007.93100.001650.0070.947.00120.007.93100.001650.0070.947.00120.00							
80  0.00  14.07  7.00  120.00  7.93  100.00    85  0.00  9.08  7.00  120.00  7.93  100.00    90  0.00  4.12  7.00  120.00  7.93  100.00    95  0.00  1.18  7.00  120.00  7.93  100.00    100  0.00  5.99  7.00  120.00  7.93  100.00    105  0.00  10.97  7.00  120.00  7.93  100.00    110  0.00  20.95  7.00  120.00  7.93  100.00    120  0.00  20.95  7.00  120.00  7.93  100.00    125  0.00  30.95  7.00  120.00  7.93  100.00    130  0.00  40.95  7.00  120.00  7.93  100.00    140  0.00  45.95  7.00  120.00  7.93  100.00    145  0.00  50.95  7.00							
900.004.127.00120.007.93100.00950.001.187.00120.007.93100.001000.005.997.00120.007.93100.001050.0010.977.00120.007.93100.001100.0015.967.00120.007.93100.001150.0020.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001550.0060.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001650.0070.947.00120.007.93100.001750.0085.947.00120.007.93100.001800.0085.947.00120.007.93100.00							
95  0.00  1.18  7.00  120.00  7.93  100.00    100  0.00  5.99  7.00  120.00  7.93  100.00    105  0.00  10.97  7.00  120.00  7.93  100.00    110  0.00  15.96  7.00  120.00  7.93  100.00    115  0.00  20.95  7.00  120.00  7.93  100.00    120  0.00  25.95  7.00  120.00  7.93  100.00    125  0.00  30.95  7.00  120.00  7.93  100.00    130  0.00  35.95  7.00  120.00  7.93  100.00    140  0.00  45.95  7.00  120.00  7.93  100.00    145  0.00  50.95  7.00  120.00  7.93  100.00    145  0.00  50.95  7.00  120.00  7.93  100.00    145  0.00  60.95  7.00	85	0.00	9.08	7.00	120.00	7.93	100.00
950.001.187.00120.007.93100.001000.005.997.00120.007.93100.001050.0010.977.00120.007.93100.001100.0015.967.00120.007.93100.001150.0020.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001550.0060.957.00120.007.93100.001550.0060.957.00120.007.93100.001660.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	90	0.00	4.12	7.00	120.00	7.93	100.00
1050.0010.977.00120.007.93100.001100.0015.967.00120.007.93100.001150.0020.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.007.947.00120.007.93100.001700.0075.947.00120.007.93100.001800.0085.947.00120.007.93100.00	95	0.00	1.18	7.00	120.00	7.93	100.00
1100.0015.967.00120.007.93100.001150.0020.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001660.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	100	0.00	5.99	7.00	120.00	7.93	100.00
1150.0020.957.00120.007.93100.001200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001800.0085.947.00120.007.93100.00	105	0.00	10.97	7.00	120.00	7.93	100.00
1200.0025.957.00120.007.93100.001250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	110	0.00	15.96	7.00	120.00	7.93	100.00
1250.0030.957.00120.007.93100.001300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	115	0.00	20.95	7.00	120.00	7.93	100.00
1300.0035.957.00120.007.93100.001350.0040.957.00120.007.93100.001400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	120	0.00	25.95	7.00	120.00	7.93	100.00
135  0.00  40.95  7.00  120.00  7.93  100.00    140  0.00  45.95  7.00  120.00  7.93  100.00    145  0.00  50.95  7.00  120.00  7.93  100.00    150  0.00  55.95  7.00  120.00  7.93  100.00    155  0.00  60.95  7.00  120.00  7.93  100.00    160  0.00  65.95  7.00  120.00  7.93  100.00    165  0.00  70.94  7.00  120.00  7.93  100.00    165  0.00  75.94  7.00  120.00  7.93  100.00    175  0.00  80.94  7.00  120.00  7.93  100.00    180  0.00  85.94  7.00  120.00  7.93  100.00	125	0.00	30.95	7.00	120.00	7.93	100.00
1400.0045.957.00120.007.93100.001450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	130	0.00	35.95	7.00	120.00	7.93	100.00
1450.0050.957.00120.007.93100.001500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	135	0.00	40.95	7.00	120.00	7.93	100.00
1500.0055.957.00120.007.93100.001550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	140	0.00	45.95	7.00	120.00	7.93	100.00
1550.0060.957.00120.007.93100.001600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	145	0.00	50.95	7.00	120.00	7.93	100.00
1600.0065.957.00120.007.93100.001650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	150	0.00	55.95	7.00	120.00	7.93	100.00
1650.0070.947.00120.007.93100.001700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	155	0.00	60.95	7.00	120.00	7.93	100.00
1700.0075.947.00120.007.93100.001750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00	160	0.00	65.95	7.00	120.00		100.00
1750.0080.947.00120.007.93100.001800.0085.947.00120.007.93100.00							100.00
180 0.00 85.94 7.00 120.00 7.93 100.00		0.00			120.00		100.00
185  0.00  90.94  7.00  120.00  7.93  100.00							
	185	0.00	90.94	7.00	120.00	7.93	100.00



				Li manimisendor manihumit		
Coordination V	/alues	CLEWISTON, FL				
Licensee Name		WorldVu Satellites Limited				
Latitude (NAD 8	33)	26° 44' 51.8" N				
Longitude (NAD	83)	81° 2' 57.2" W				
Ground Elevation	on (AMSL)	5.49 m / 18.0 ft/Antenna Ce	nterline (AGL)	2.44 m / 8.	0 ft	
Antenna Model		CPI 3.5 meter	,,			
Antenna Mode		Receive 18.0 GHz		Transmit 2	8 0 GHz	
	iectives: Long Term	-152.4 dBW/MHz	20%	-151.0 dBV		
interference ob	Short Ter		0.01%	-128.0 dBV		
Max Available		-142.4 0044/1012	-39.6 (dB)		14 KHZ 0.002370	
Niax Available I	in Fower		-55.0 (00)	(1)4 K12)		
			Receive	18.0 GHz	Tranem	it 28.0 GHz
	Horizon	Antenna	Horizon	Coordination	Horizon	Coordination
Azimuth (°)	Elevation (°)	Discrimination (°)	Gain (dBi)	Distance (km)	Gain (dBi)	Distance (km)
190	0.00	95.94	7.00	120.00	7.93	100.00
195	0.00	100.94	7.00	120.00	7.93	100.00
200					7.93	
	0.00	105.94	7.00 7.00	120.00	7.93	100.00
205	0.00	110.94		120.00		100.00
210	0.00	115.94	7.00	120.00	7.93	100.00
215	0.00	120.94	7.00	120.00	7.93	100.00
220	0.00	125.94	7.00	120.00	7.93	100.00
225	0.00	130.94	7.00	120.00	7.93	100.00
230	0.00	135.94	7.00	120.00	7.93	100.00
235	0.00	140.94	7.00	120.00	7.93	100.00
240	0.00	145.94	7.00	120.00	7.93	100.00
245	0.00	150.94	7.00	120.00	7.93	100.00
250	0.00	155.93	7.00	120.00	7.93	100.00
255	0.00	160.93	7.00	120.00	7.93	100.00
260	0.00	165.93	7.00	120.00	7.93	100.00
265	0.00	170.92	7.00	120.00	7.93	100.00
270	0.00	175.88	7.00	120.00	7.93	100.00
275	0.00	178.82	7.00	120.00	7.93	100.00
280	0.00	174.01	7.00	120.00	7.93	100.00
285	0.00	169.03	7.00	120.00	7.93	100.00
290	0.00	164.04	7.00	120.00	7.93	100.00
295	0.00	159.05	7.00	120.00	7.93	100.00
300	0.00	154.05	7.00	120.00	7.93	100.00
305	0.00	149.05	7.00	120.00	7.93	100.00
310	0.00	144.05	7.00	120.00	7.93	100.00
315	0.00	139.05	7.00	120.00	7.93	100.00
320	0.00	134.05	7.00	120.00	7.93	100.00
325	0.00	129.05	7.00	120.00	7.93	100.00
330	0.00	124.05	7.00	120.00	7.93	100.00
335	0.00	119.05	7.00	120.00	7.93	100.00
340	0.00	114.05	7.00	120.00	7.93	100.00
345	0.00	109.06	7.00	120.00	7.93	100.00
350	0.00	104.06	7.00	120.00	7.93	100.00
355	0.00	99.06	7.00	120.00	7.93	100.00
	0.00					



## 5. Contact Information

For questions or information regarding the 28 GHz Frequency Coordination Report, please contact:

Contact person:	Dennis Jimeno
Title:	Engineer III, Telecommunications
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5858
Fax:	703-726-5599
Email:	DJimeno@Comsearch.com
Web site:	www.comsearch.com

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for WorldVu Satellites Limited CLEWISTON, FL Satellite Earth Station

Prepared By: COMSEARCH 19700 Janelia Farm Boulevard Ashburn, VA 20147 May 22, 2018

## TABLE OF CONTENTS

1. CONCLUSIONS	. 3
2. SUMMARY OF RESULTS	.4
3. SUPPLEMENTAL SHOWING	
4. EARTH STATION COORDINATION DATA	-
5. CERTIFICATION	

# **1. CONCLUSIONS**

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

# 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

## **3. SUPPLEMENTAL SHOWING**

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 04/06/2018.

Company Access Media Holdings, LLC Bethesda Memorial Hospital CBS Radio East, LLC. Charlotte County Board of County Comm City of Pembroke Pines Clearwire Spectrum Holdings III, LLC Entercom Miami License, LLC Global Telecom & Technology Americas H & R Production Group, Inc Sprint PCS Sprint Spectrum L.P. Sprint Spectrum LP DBA Sprint PCS T-Mobile License LLC Verizon Wireless (VAW) LLC - S Florida Verizon Wireless Personal Comm, LP(S FL) Village of Wellington WPLG, Inc

# 4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

#### COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147 (703)726-5500 http://www.comsearch.com

Date: Job Number:	05/22/2018 180406COMSGE06			
Administrative Information Status Call Sign	ENGINEER PROPOSAL			
Licensee Code Licensee Name	WORSAT WorldVu Satellites Limited			
Site Information Venue Name	CLEWISTON, FL			
Latitude (NAD 83) Longitude (NAD 83) Climate Zone	26° 44' 51.8" N 81° 2' 57.2" W A			
Rain Zone Ground Elevation (AMSL)	1 5.49 m / 18.0 ft			
<b>Link Information</b> Satellite Type Mode Modulation	Low Earth Orbit TR - Transmit-Receive Digital			
Minimum Elevation Angle Azimuth Range Antenna Centerline (AGL)	10.0° 0.0° to 360° 2.44 m / 8.0 ft			
Antenna Information Manufacturer Model Gain / Diameter 3-dB / 15-dB Beamwidth	<b>Receive - FCC32</b> CPI 3.5 meter 54.6 dBi / 3.5 m 0.32° / 0.36°	<b>Transmit - FCC32</b> CPI 3.5 meter 58.0 dBi / 3.5 m 0.21° / 0.23°		
Max Available RF Power (dBW/4 (dBW/N		-35.0 -11.0		
Maximum EIRP (dBW/4 (dBW/N	,	23.0 47.0		
Interference Objectives: Long Terr Short Terr		-151.0 dBW/4 kHz 20% -128.0 dBW/4 kHz 0.0025%		
Frequency Information Emission / Frequency Range (MHz)	<b>Receive 18.0 GHz</b> 2M16G7D - 18M0G7D / 17800.0 - 18600.0 2M16G7D - 18M0G7D / 18800.0 - 19300.0	<b>Transmit 28.0 GHz</b> 230MG7W / 27500.0 - 29100.0 230MG7W / 29500.0 - 30000.0		
Max Great Circle Coordination Distance Precipitation Scatter Contour Radius	e 120.0 km / 74.6 mi 100.0 km / 62.1 mi	100.0 km / 62.1 mi 100.0 km / 62.1 mi		

#### COMSEARCH

#### Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147 (703)726-5500 http://www.comsearch.com

Coordination Values	CLEWISTON, FL			
Licensee Name	WorldVu Satellites Limite	d		
Latitude (NAD 83)	26° 44' 51.8" N			
Longitude (NAD 83)	81° 2' 57.2" W			
Ground Elevation (AMSL)	5.49 m / 18.0 ft			
Antenna Centerline (AGL)	2.44 m / 8.0 ft			
Antenna Model	CPI 3.5 meter			
Antenna Mode	Receive 18.0 GHz	<u>.</u>	Transmit 28.0 GHz	
Interference Objectives: Long Te	erm -152.4 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
Short Te	erm -142.4 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power			-35.0 (dBW/4 kHz)	

			Receive 18.0 GHz		Transmit 28.0 GHz	
	Horizon	Antenna	Horizon	Coordination	Horizon	Coordination
Azimuth (°)	Elevation (°)	Discrimination (°)	Gain (dBi)	Distance (km)	Gain (dBi)	Distance (km)
0	0.00	94.06	7.00	120.00	7.93	100.00
5	0.00	89.06	7.00	120.00	7.93	100.00
10	0.00	84.06	7.00	120.00	7.93	100.00
15	0.00	79.06	7.00	120.00	7.93	100.00
20	0.00	74.06	7.00	120.00	7.93	100.00
25	0.00	69.06	7.00	120.00	7.93	100.00
30	0.00	64.06	7.00	120.00	7.93	100.00
35	0.00	59.06	7.00	120.00	7.93	100.00
40	0.00	54.06	7.00	120.00	7.93	100.00
45	0.00	49.06	7.00	120.00	7.93	100.00
50	0.00	44.06	7.00	120.00	7.93	100.00
55	0.00	39.06	7.00	120.00	7.93	100.00
60	0.00	34.06	7.00	120.00	7.93	100.00
65	0.00	29.06	7.00	120.00	7.93	100.00
70	0.00	24.07	7.00	120.00	7.93	100.00
75	0.00	19.07	7.00	120.00	7.93	100.00
80	0.00	14.07	7.00	120.00	7.93	100.00
85	0.00	9.08	7.00	120.00	7.93	100.00
90	0.00	4.12	7.00	120.00	7.93	100.00
95	0.00	1.18	7.00	120.00	7.93	100.00
100	0.00	5.99	7.00	120.00	7.93	100.00
105	0.00	10.97	7.00	120.00	7.93	100.00
110	0.00	15.96	7.00	120.00	7.93	100.00
115	0.00	20.95	7.00	120.00	7.93	100.00
120	0.00	25.95	7.00	120.00	7.93	100.00
125	0.00	30.95	7.00	120.00	7.93	100.00
130	0.00	35.95	7.00	120.00	7.93	100.00
135	0.00	40.95	7.00	120.00	7.93	100.00
140	0.00	45.95	7.00	120.00	7.93	100.00
145	0.00	50.95	7.00	120.00	7.93	100.00
150	0.00	55.95	7.00	120.00	7.93	100.00
155	0.00	60.95	7.00	120.00	7.93	100.00
160	0.00	65.95	7.00	120.00	7.93	100.00
165	0.00	70.94	7.00	120.00	7.93	100.00
170	0.00	75.94	7.00	120.00	7.93	100.00
175	0.00	80.94	7.00	120.00	7.93	100.00
180	0.00	85.94	7.00	120.00	7.93	100.00
185	0.00	90.94	7.00	120.00	7.93	100.00

#### COMSEARCH

#### Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147 (703)726-5500 http://www.comsearch.com

Coordination Values	CLEWISTON, FL		
Licensee Name	WorldVu Satellites Limited		
Latitude (NAD 83)	26° 44' 51.8" N		
Longitude (NAD 83)	81° 2' 57.2" W		
Ground Elevation (AMSL)	5.49 m / 18.0 ft		
Antenna Centerline (AGL)	2.44 m / 8.0 ft		
Antenna Model	CPI 3.5 meter		
Antenna Mode	Receive 18.0 GHz	Transmit 28.0 GHz	
Interference Objectives: Long Te	rm -152.4 dBW/MHz 20%	-151.0 dBW/4 kHz	20%
Short Te	erm -142.4 dBW/MHz 0.01%	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power		-35.0 (dBW/4 kHz)	

	Horizon	Antenna	Receive 18.0 GHz Horizon Coordination		Transmit 28.0 GHz Horizon Coordination	
Azimuth (°)	Elevation (°)	Discrimination (°)	Gain (dBi)	Distance (km)	Gain (dBi)	Distance (km)
190	0.00	95.94	7.00	120.00	7.93	100.00
195	0.00	100.94	7.00	120.00	7.93	100.00
200	0.00	105.94	7.00	120.00	7.93	100.00
205	0.00	110.94	7.00	120.00	7.93	100.00
210	0.00	115.94	7.00	120.00	7.93	100.00
215	0.00	120.94	7.00	120.00	7.93	100.00
220	0.00	125.94	7.00	120.00	7.93	100.00
225	0.00	130.94	7.00	120.00	7.93	100.00
230	0.00	135.94	7.00	120.00	7.93	100.00
235	0.00	140.94	7.00	120.00	7.93	100.00
240	0.00	145.94	7.00	120.00	7.93	100.00
245	0.00	150.94	7.00	120.00	7.93	100.00
250	0.00	155.93	7.00	120.00	7.93	100.00
255	0.00	160.93	7.00	120.00	7.93	100.00
260	0.00	165.93	7.00	120.00	7.93	100.00
265	0.00	170.92	7.00	120.00	7.93	100.00
270	0.00	175.88	7.00	120.00	7.93	100.00
275	0.00	178.82	7.00	120.00	7.93	100.00
280	0.00	174.01	7.00	120.00	7.93	100.00
285	0.00	169.03	7.00	120.00	7.93	100.00
290	0.00	164.04	7.00	120.00	7.93	100.00
295	0.00	159.05	7.00	120.00	7.93	100.00
300	0.00	154.05	7.00	120.00	7.93	100.00
305	0.00	149.05	7.00	120.00	7.93	100.00
310	0.00	144.05	7.00	120.00	7.93	100.00
315	0.00	139.05	7.00	120.00	7.93	100.00
320	0.00	134.05	7.00	120.00	7.93	100.00
325	0.00	129.05	7.00	120.00	7.93	100.00
330	0.00	124.05	7.00	120.00	7.93	100.00
335	0.00	119.05	7.00	120.00	7.93	100.00
340	0.00	114.05	7.00	120.00	7.93	100.00
345	0.00	109.06	7.00	120.00	7.93	100.00
350	0.00	104.06	7.00	120.00	7.93	100.00
355	0.00	99.06	7.00	120.00	7.93	100.00

# **5. CERTIFICATION**

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY:

Gary K. Edwards Senior Manager COMSEARCH 19700 Janelia Farm Boulevard Ashburn, VA 20147

DATED: May 22, 2018