

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Discovery Productions Group, Inc
STERLING, VA
Satellite Earth Station

Prepared By:
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
March 22, 2023

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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.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-only earth station.

Company

Loudoun, County of

No other carriers reported potential interference cases.

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 03/09/2023.

Company

AT&T Corp.
Adams County Department of Emergency Svc
Albemarle, County of
Anne Arundel, County of
Atlantic Broadband (Penn), LLC
Baltimore County of Maryland
Baltimore Gas and Electric Company
Bedford County of
Believe Wireless, LLC
Broadcom Corporation
Calvert, County of
Caroline County, VA
Carroll, County of
Cellco Partnership-Southern VA, North NC
Charles, County of
City of Fredericksburg
Commonwealth of Pennsylvania-Radio Proj.
Comprehensive Wireless LLC
Conterra Ultra Broadband, LLC
County of Augusta
County of Culpeper
County of Orange, VA
County of Shenandoah
County of York (PA)
Enoch Pratt Free Library
Entercom License, LLC
FELHC, Inc.
Franklin County Dept. of Emergency Servi
Frederick County, MD
Fulton County PA
Fundamental Broadcasting LLC
GWETA, Inc.
Garden State Transmissions LLC
Hanover, County of
Hardy Cellular Telephone Company
Hardy County OEM/E911
Harrisonburg-Rockingham ECC
King George County
Loudoun, County of
Maryland Public Broadcasting Commission

Maryland State Highway Administration
Maryland, State of - Dept.of Info & Tech
Montgomery, County of
New Cingular Wireless PCS LLC - VA
New Cingular Wireless PCS LLC - WV,NC,SC
Norfolk Southern Railway Company
Page, County of (VA)
Pennsylvania Turnpike Commission
Prince George's County
Prince William, County of
Radio One Inc
Rappahannock Electric Cooperative
Rural Broadband Network Services LLC
Rural Broadband, LLC
Shenandoah Cable Television, LLC
Shenandoah Valley Electric Cooperative
South Central Task Force (SCTFNET)
Southern Maryland Electric Cooperative I
Spotsylvania, County of
St. Mary's County of (MD)
Stafford, County of
State of Maryland, MIEMSS
T-Mobile License LLC
Texas Eastern Communications, LLC
Thought Transmissions, LLC
Transcontinental Gas Pipe Line Co., LLC
USCOC of Cumberland, Inc.
Uniti Fiber LLC
Virginia Department of State Police
Virginia Electric & Power Company
WV DHSEM, SIRN System
Warrenton Fauquier Joint Communications
Washington Gas Light Company
Washington Suburban Sanitary Commission
Weblin Holdings LLC
Williamson Enterprise LLC
iSignal

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: 03/22/2023
Job Number: 230309COMSGE15

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code DISPRD
Licensee Name Discovery Productions Group, Inc

Site Information

STERLING, VA

Venue Name ANT 13
Latitude (NAD 83) 38° 59' 15.8" N
Longitude (NAD 83) 77° 25' 32.9" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 92.05 m / 302.0 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 43° W to 143° West Longitude
Azimuth Range 132.6° to 254.1°
Corresponding Elevation Angles 32.6° / 10.2°
Antenna Centerline (AGL) 6.1 m / 20.0 ft

Antenna Information

Transmit - S60911

Manufacturer Viasat
Model 8009 9.1 METER
Gain / Diameter 53.8 dBi / 9.1 m
3-dB / 15-dB Beamwidth 0.36° / 0.72°

Max Available RF Power (dBW/4 kHz) -15.8
(dBW/MHz) 8.2

Maximum EIRP (dBW/4 kHz) 38.0
(dBW/MHz) 62.0

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 6.1 GHz

Emission / Frequency Range (MHz) 36M0G7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 183.6 km / 114.1 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

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Antenna Model Viasat 8009 9.1 METER
Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.20	105.70	-11.36	124.12
5	0.28	110.62	-11.95	116.41
10	0.00	115.51	-17.20	109.45
15	0.00	112.95	-14.74	115.69
20	0.00	108.86	-11.36	124.45
25	0.39	104.79	-11.39	109.29
30	0.39	100.60	-11.32	109.12
35	0.64	96.41	-11.42	100.00
40	0.35	92.16	-11.47	111.84
45	0.33	87.93	-11.39	113.58
50	0.29	83.71	-11.21	117.51
55	0.43	79.48	-11.34	106.35
60	0.52	75.28	-11.42	100.00
65	0.61	71.09	-11.47	100.00
70	0.64	66.97	-11.50	100.00
75	0.66	62.90	-11.53	100.00
80	0.67	58.92	-11.48	100.00
85	0.67	55.03	-11.36	100.00
90	0.67	51.28	-11.22	100.00
95	0.70	47.67	-11.33	100.00
100	0.70	44.28	-9.06	100.00
105	0.66	41.17	-8.43	100.87
110	0.83	38.23	-7.49	100.00
115	0.76	35.87	-6.55	101.12
120	0.73	33.97	-5.99	104.19
125	0.67	32.67	-5.73	107.34
130	0.63	32.02	-5.60	109.77
135	0.63	32.01	-5.60	109.67
140	0.48	32.84	-5.77	117.16
145	0.46	34.18	-6.04	117.84
150	0.47	36.07	-6.63	115.58
155	0.51	38.34	-7.54	109.87
160	0.49	40.43	-8.29	108.95
165	0.49	42.11	-8.62	108.56
170	0.58	43.26	-8.85	103.34
175	0.42	44.18	-9.04	112.66
180	0.00	44.86	-9.17	130.24
185	0.00	44.60	-9.12	130.38

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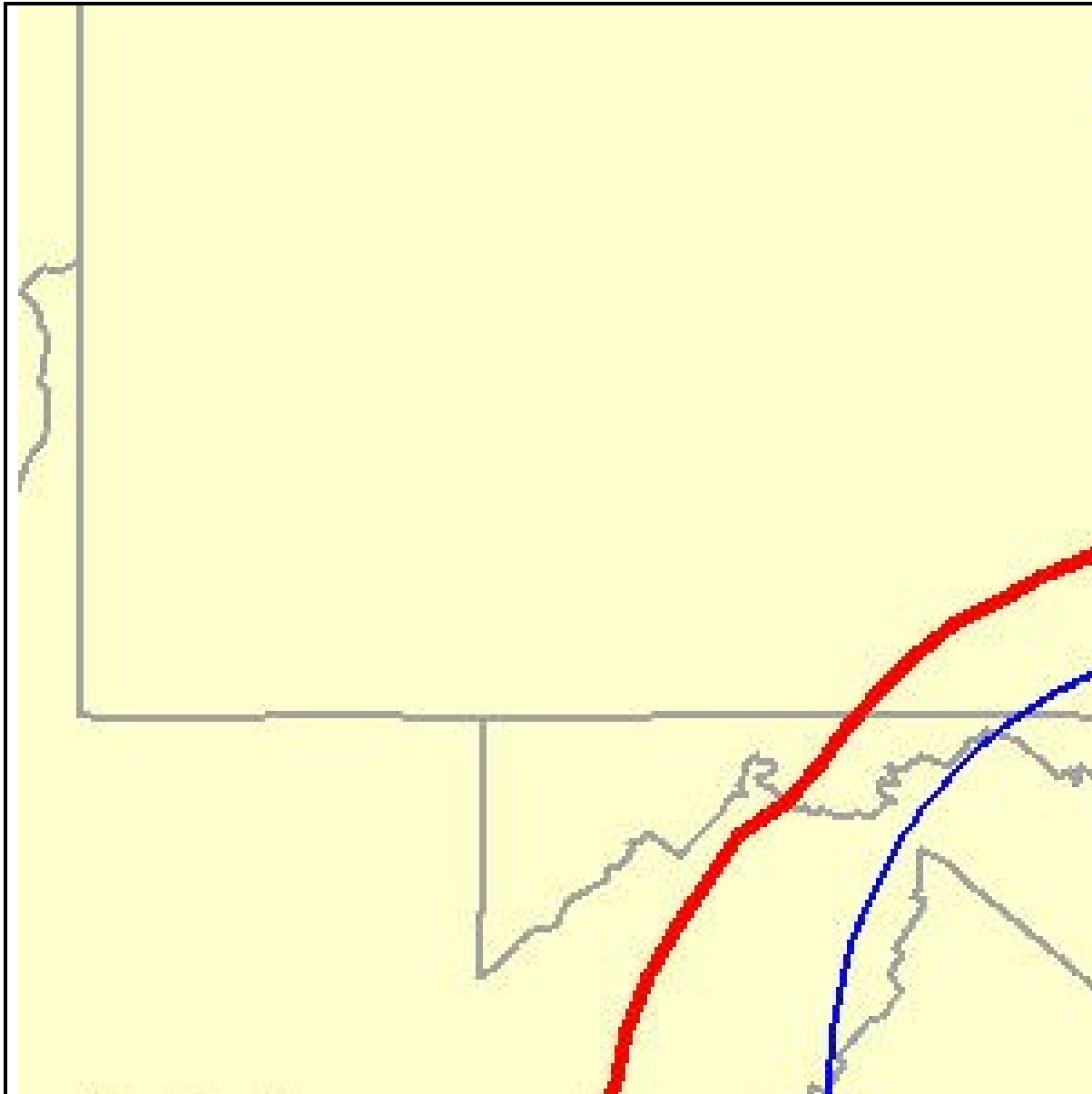
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	43.82	-8.96	130.79
195	0.00	42.56	-8.71	131.47
200	0.00	40.86	-8.37	132.38
205	0.00	38.77	-7.71	134.17
210	0.00	36.34	-6.74	135.60
215	0.00	33.62	-5.92	137.92
220	0.00	30.67	-5.33	139.66
225	0.00	27.51	-4.21	143.10
230	0.00	24.19	-3.20	146.29
235	0.00	20.74	-3.20	146.29
240	0.00	17.17	-1.50	151.96
245	0.00	13.60	0.20	158.01
250	0.00	10.96	2.84	169.66
255	0.00	10.23	3.57	183.64
260	0.00	11.78	2.02	164.82
265	0.00	14.91	-0.20	156.55
270	0.00	18.85	-2.51	148.55
275	0.00	23.19	-3.20	146.29
280	0.00	27.75	-4.30	142.81
285	0.00	32.42	-5.68	138.62
290	0.00	37.18	-7.07	134.66
295	0.00	41.98	-8.60	131.78
300	0.00	46.82	-10.65	126.31
305	0.00	51.68	-11.45	124.20
310	0.00	56.56	-11.31	124.57
315	0.00	61.45	-11.47	124.16
320	0.00	66.35	-11.21	124.84
325	0.00	71.26	-11.20	124.86
330	0.00	76.18	-11.41	124.30
335	0.00	81.09	-11.29	124.62
340	0.00	86.01	-11.40	124.33
345	0.00	90.93	-11.24	124.77
350	0.00	95.85	-11.39	124.37
355	0.00	100.77	-11.28	124.65

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Discovery Productions Group, Inc



Legend:

Scale: 1:3,000,000

Great Circle: 6.1 GHz 

Precipitation Scatter: 6.1 GHz 

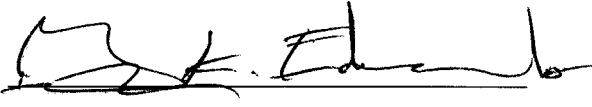
Earth Station Site: 



COMSEARCH®
21515 Ridgetop Circle, Suite
300
Sterling, VA 20166

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
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166

DATED: March 22, 2023