

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
SHENANDOAH CABLE TELEVISION CO.
GRANTVILLE, WV
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 26, 2017

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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

No great circle interference cases were identified during the interference study of the proposed earth station.

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 10/17/2017.

Company

Mountain State Communications, llc

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: 10/26/2017
Job Number: 171017COMSGE03

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code ZSHETC
Licensee Name SHENANDOAH CABLE TELEVISION CO.

Site Information GRANTVILLE, WV

Venue Name
Latitude (NAD 83) 38° 54' 35.8" N
Longitude (NAD 83) 81° 5' 59.9" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 246.07 m / 807.3 ft

Link Information

Satellite Type Geostationary
Mode RO - Receive-Only
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 148.4° to 251.5°
Corresponding Elevation Angles 39.9° / 13.0°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information Receive - FCC32

Manufacturer AFC
Model 5 meter
Gain / Diameter 44.0 dBi / 5.0 m
3-dB / 15-dB Beamwidth 1.10° / 2.20°

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Frequency Information Receive 4.0 GHz

Emission / Frequency Range (MHz) 36M0G7W / 3700.0 - 4200.0

Max Great Circle Coordination Distance 341.0 km / 211.9 mi
Precipitation Scatter Contour Radius 526.3 km / 327.0 mi

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Coordination Values

GRANTVILLE, WV

Licensee Name SHENANDOAH CABLE TELEVISION CO.
Latitude (NAD 83) 38° 54' 35.8" N
Longitude (NAD 83) 81° 5' 59.9" W
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Antenna Centerline (AGL) 2.74 m / 9.0 ft
Antenna Model AFC 5 meter
Antenna Mode Receive 4.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	3.93	108.30	-10.00	149.23
5	3.44	113.19	-10.00	159.67
10	3.38	118.10	-10.00	160.96
15	2.77	122.94	-10.00	176.80
20	1.47	119.15	-10.00	206.34
25	1.75	115.68	-10.00	201.29
30	1.68	111.98	-10.00	203.11
35	1.66	108.21	-10.00	203.77
40	1.67	104.39	-10.00	203.39
45	2.07	100.58	-10.00	193.03
50	1.61	96.62	-10.00	205.05
55	2.42	92.73	-10.00	184.80
60	3.09	88.75	-10.00	169.37
65	3.65	84.71	-10.00	154.96
70	4.47	80.60	-10.00	140.87
75	3.69	76.70	-10.00	154.20
80	4.12	72.65	-10.00	146.01
85	6.26	68.14	-10.00	122.40
90	7.49	63.77	-10.00	109.18
95	8.40	59.47	-10.00	100.31
100	10.03	54.88	-10.00	100.00
105	12.26	49.96	-10.00	100.00
110	10.48	46.97	-9.80	100.00
115	9.00	44.26	-9.15	100.00
120	8.03	41.68	-8.50	109.47
125	7.49	39.22	-7.84	117.69
130	6.94	37.24	-7.28	125.90
135	6.76	35.46	-6.74	130.00
140	6.26	34.55	-6.46	135.32
145	5.78	34.26	-6.37	140.92
150	4.21	35.71	-6.82	159.88
155	4.08	36.32	-7.01	161.17
160	2.55	38.83	-7.73	192.96
165	2.59	40.24	-8.12	190.19
170	3.10	40.91	-8.30	177.85
175	3.47	41.24	-8.38	168.88
180	4.85	40.10	-8.08	143.72
185	4.82	39.91	-8.03	144.40

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Coordination Values

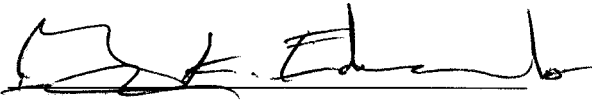
GRANTVILLE, WV

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Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	6.24	37.86	-7.45	132.76
195	7.26	35.83	-6.86	124.21
200	6.87	34.75	-6.52	129.72
205	8.24	31.70	-5.53	119.79
210	8.81	29.08	-4.59	118.73
215	9.75	25.86	-3.32	116.10
220	11.02	22.16	-1.64	114.19
225	11.95	18.54	0.30	116.64
230	12.79	14.84	2.72	122.51
235	13.35	11.20	5.77	133.82
240	14.44	7.06	10.78	152.47
245	14.38	3.66	17.90	199.91
250	13.57	0.76	34.96	340.99
255	14.06	3.69	17.82	201.80
260	14.57	8.68	8.54	139.19
265	14.06	13.58	3.68	118.90
270	13.59	18.55	0.29	105.77
275	13.03	23.54	-2.30	100.00
280	12.47	28.55	-4.39	100.00
285	10.51	33.63	-6.17	100.00
290	10.16	38.63	-7.67	100.00
295	9.19	43.68	-9.01	100.00
300	8.69	48.69	-10.00	100.00
305	6.02	53.86	-10.00	124.98
310	5.74	58.82	-10.00	127.66
315	5.28	63.80	-10.00	132.16
320	3.07	68.88	-10.00	169.84
325	3.84	73.76	-10.00	151.13
330	4.31	78.68	-10.00	143.23
335	3.62	83.63	-10.00	155.80
340	5.28	88.56	-10.00	132.12
345	5.76	93.51	-10.00	127.48
350	5.92	98.48	-10.00	126.01
355	4.12	103.38	-10.00	146.00

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: October 26, 2017