

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Chehalis Valley Educational Foundation
CHEHALIS, WA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
July 06, 2018

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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 receive-only earth station.

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 07/06/2018.

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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 Janella Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Date: 07/06/2018
Job Number: 180706COMSFB11

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code CHEVBD
Licensee Name Chehalis Valley Educational Foundation

Site Information **CHEHALIS, WA**

Venue Name
Latitude (NAD 83) 46° 41' 25.7" N
Longitude (NAD 83) 122° 57' 27.0" W
Climate Zone A
Rain Zone 3
Ground Elevation (AMSL) 51.37 m / 168.6 ft

Link Information

Satellite Type Geostationary
Mode RO - Receive-Only
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 110.4° to 206.6°
Corresponding Elevation Angles 9.6° / 32.8°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information **Receive – Patriot 3.8m**

Manufacturer PATRIOT
Model PRT380
Gain / Diameter 42.1 dBi / 3.8 m
3-dB / 15-dB Beamwidth 1.40° / 2.80°

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 398.0 km / 247.3 mi
Precipitation Scatter Contour Radius 391.4 km / 243.2 mi

COMSEARCH

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Latitude (NAD 83)	46° 41' 25.7" N
Longitude (NAD 83)	122° 57' 27.0" W
Ground Elevation (AMSL)	51.37 m / 168.6 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	PRT380
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	0.71	110.12	-9.90	237.00
5	0.00	105.16	-9.90	285.92
10	0.00	100.23	-9.90	285.92
15	1.32	95.32	-9.90	211.21
20	1.84	90.38	-9.90	199.37
25	2.53	85.41	-9.90	182.78
30	2.27	80.46	-9.90	188.81
35	2.10	75.51	-9.90	192.60
40	2.22	70.55	-9.90	189.98
45	3.31	65.54	-9.90	162.94
50	4.17	60.53	-9.90	145.75
55	4.48	55.54	-9.90	141.16
60	5.31	50.51	-9.90	132.26
65	6.04	45.49	-9.00	128.68
70	6.76	40.46	-7.99	124.85
75	6.62	35.49	-7.00	130.47
80	6.47	30.52	-5.11	138.76
85	6.59	25.55	-3.12	146.57
90	6.76	20.57	-1.13	154.54
95	7.27	15.55	1.77	164.51
100	7.81	10.53	6.57	188.92
105	8.29	5.54	10.03	204.33
110	8.73	0.94	29.90	398.04
115	8.86	3.47	15.22	228.01
120	8.89	6.50	8.60	189.92
125	8.40	9.84	7.26	186.54
130	8.02	12.97	4.13	170.93
135	7.49	16.07	1.46	159.67
140	6.79	19.16	-0.39	158.22
145	5.57	22.53	-1.91	165.88
150	5.04	25.08	-2.93	166.80
155	4.07	27.82	-4.03	179.09
160	3.79	29.64	-4.76	180.89
165	3.79	30.88	-5.25	178.27
170	3.72	31.86	-5.64	177.75
175	3.62	32.50	-5.90	178.52
180	2.79	33.52	-6.31	194.71
185	2.26	33.86	-6.45	205.43

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Ground Elevation (AMSL)	51.37 m / 168.6 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	PRT380
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)
190	1.85	33.70	-6.38	212.99
195	1.88	32.73	-5.99	214.15
200	2.31	31.15	-5.36	207.08
205	1.11	31.75	-5.60	240.88
210	0.37	32.61	-5.94	290.79
215	0.00	33.76	-6.40	309.20
220	0.00	35.16	-6.93	305.55
225	0.33	36.82	-7.26	286.61
230	0.53	39.11	-7.72	261.67
235	0.68	41.84	-8.27	248.27
240	0.85	44.89	-8.88	234.46
245	0.91	48.28	-9.56	227.61
250	0.96	51.88	-9.90	222.80
255	1.26	55.53	-9.90	213.01
260	1.53	59.35	-9.90	205.35
265	1.43	63.41	-9.90	207.93
270	1.43	67.51	-9.90	208.04
275	1.52	71.65	-9.90	205.58
280	1.37	75.87	-9.90	209.66
285	1.35	80.10	-9.90	210.21
290	0.96	84.38	-9.90	223.08
295	0.88	88.62	-9.90	227.53
300	0.87	92.86	-9.90	228.01
305	0.66	97.08	-9.90	239.96
310	0.44	101.27	-9.90	257.33
315	0.26	105.41	-9.90	278.65
320	0.00	109.48	-9.90	285.92
325	0.00	113.54	-9.90	285.92
330	0.00	117.54	-9.90	285.92
335	0.00	121.45	-9.90	285.92
340	0.00	125.25	-9.90	285.92
345	0.48	124.87	-9.90	252.71
350	0.84	119.99	-9.90	229.35
355	0.81	115.06	-9.90	231.47

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: _____

Franco R. Benedict
Coordinator
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: July 06, 2018

COMSEARCH
Earth Station Data Sheet
 19700 Janelia Farm Boulevard, Ashburn, VA 20147
 (571)246-3097 <http://www.comsearch.com>

Date: 07/06/2018
 Job Number: 180706COMSFB11

Administrative Information

Status ENGINEER PROPOSAL
 Call Sign
 Licensee Code CHEVBD
 Licensee Name Chehalis Valley Educational Foundation

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

Max Great Circle Coordination Distance 398.0 km / 247.3 mi
 Precipitation Scatter Contour Radius 391.4 km / 243.2 mi

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55	4.48	55.54	-9.90	141.16
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65	6.04	45.49	-9.00	128.68
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75	6.62	35.49	-7.00	130.47
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345	0.48	124.87	-9.90	252.71
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355	0.81	115.06	-9.90	231.47

July 06, 2018

Re: Chehalis Valley Educational Foundation
CHEHALIS, WA
C-Band Receive Only Earth Station
Job Number: 180706COMSFB11

Dear Frequency Coordinator:

This notice is being provided in accordance with Section 25.203(c) of the FCC Rules and Regulations. We are forwarding the attached coordination data on behalf of Chehalis Valley Educational Foundation, Unit A 2451 N.E. Kresky Chehalis, WA 98532 for a C-Band Receive Only Earth Station to be located in CHEHALIS, WA.

The coordination notice is being circulated to the owners (or their protection agents) of all existing or proposed terrestrial facilities operating in a shared frequency band within the coordination contours of the proposed station(s).

We respectfully request that you examine this data for its interference potential with your system(s). In the event that your analysis identifies potential interference cases that have not been resolved, please contact us by August 10, 2018.

If there are any questions concerning this coordination notice, please contact Comsearch.

Sincerely,

COMSEARCH

Franco R. Benedict
Coordinator
fbenedic@comsearch.com

Enclosure(s)