

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
DG Consents Sub, Inc.
FAIRBANKS, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 20, 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 transmit-only earth station.

Company

<Companies Responding with Cases>

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 07/23/2018.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
Alascom Inc
Alaska Public Telecommunications, Inc.
Borgeson, Tom R.
Broadcast Sports Inc.
Casper, John
Chicago Comnet Corp
Citywide News Network, Inc.
Coastal Television Broadcasting Company
Cowboys Stadium LP
CP Communications, LLC
DCI II, INC.
Denali Media Anchorage, Corp
Direct Broadcast Services, Inc.
Frontier California Inc.
Gray Televisions Licensee, LLC (KTVF)
Gray Television Licensee, LLC
HF Enterprises, Inc
Hallco Unlimited, Inc.
Heiden, William
im360 Entertainment
Information & Display Systems, Inc.
Information Super Station, LLC
International Communications Group, Inc.
International Electronic Information Services, Inc
Interlink Network Corp
Loop Inc
MERCURY COMMUNICATIONS
Microwave Video Systems, LLC
Moreen, Steven K
NEW ENGLAND DIGITAL DISTRIBUTION, INC.
NSM Surveillance
Navajo Communications Company
Onboard Images
Penn Service Microwave Co., Inc.
Plateau Telecommunications, Inc.
Plum TV, LLC
Production & Satellite Services, Inc.
REMOTE FACILITIES CONSULTING SERVICES
RF Central, LLC

RF Film, Inc
Radiofone, Inc.
Randy Hermes Production
Remote Broadcasts, Inc.
SBE Coordinator
Speedshotz, Inc
TTWN Networks, LLC
Unisat, Inc.
United Telephone - Southeast
Vision Alaska I LLC
Vitec Broadcast Services, Inc
Vyvx, LLC
Westar Satellite Services LP
Winged Vision Inc
Wolfe Air Aviation

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: 09/20/2018
Job Number: 180723COMSGE03

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E950499
Licensee Code DBCONS
Licensee Name DG Consents Sub, Inc.

Site Information FAIRBANKS, AK

Venue Name
Latitude (NAD 83) 64° 53' 26.0" N
Longitude (NAD 83) 147° 31' 44.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 215.0 m / 705.4 ft

Link Information

Satellite Type Low Earth Orbit
Mode TO - Transmit-Only
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information Transmit - FCC32

Manufacturer Viasat
Model V8
Gain / Diameter 36.6 dBi / 5.4 m
3-dB / 15-dB Beamwidth 1.69° / 3.38°

Max Available RF Power (dBW/4 kHz) 14.4
(dBW/MHz) 38.4

Maximum EIRP (dBW/4 kHz) 51.0
(dBW/MHz) 75.0

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

Frequency Information Transmit 2.0 GHz

Emission / Frequency Range (MHz)
NON / 2052.0
1M32G1D / 2051.34 - 2052.66
1M32G1D / 2085.0273 - 2086.3475
1M32G1D / 2085.6875
1M32G1D / 2091.94 - 2093.26
NON / 2092.6
NON / 2042.0

Max Great Circle Coordination Distance 534.0 km / 331.8 mi
Precipitation Scatter Contour Radius 477.5 km / 296.7 mi

COMSEARCH

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Coordination Values	FAIRBANKS, AK
Licensee Name	DG Consents Sub, Inc.
Latitude (NAD 83)	64° 53' 26.0" N
Longitude (NAD 83)	147° 31' 44.0" W
Ground Elevation (AMSL)	215.0 m / 705.4 ft
Antenna Centerline (AGL)	3.66 m / 12.0 ft
Antenna Model	Viasat 5.4 meter
Antenna Mode	Transmit 2.0 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	14.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0	0	7.00	534.00
5	0	0	7.00	534.00
10	0	0	7.00	534.00
15	0	0	7.00	534.00
20	0	0	7.00	534.00
25	0	0	7.00	534.00
30	0	0	7.00	534.00
35	0	0	7.00	534.00
40	0	0	7.00	534.00
45	0	0	7.00	534.00
50	0	0	7.00	534.00
55	0	0	7.00	534.00
60	0	0	7.00	534.00
65	0	0	7.00	534.00
70	0	0	7.00	534.00
75	0	0	7.00	534.00
80	0	0	7.00	534.00
85	0	0	7.00	534.00
90	0	0	7.00	534.00
95	0	0	7.00	534.00
100	0	0	7.00	534.00
105	0	0	7.00	534.00
110	0	0	7.00	534.00
115	0	0	7.00	534.00
120	0	0	7.00	534.00
125	0	0	7.00	534.00
130	0	0	7.00	534.00
135	0	0	7.00	534.00
140	0	0	7.00	534.00
145	0	0	7.00	534.00
150	0	0	7.00	534.00
155	0	0	7.00	534.00
160	0	0	7.00	534.00
165	0	0	7.00	534.00
170	0	0	7.00	534.00
175	0	0	7.00	534.00
180	0	0	7.00	534.00
185	0	0	7.00	534.00

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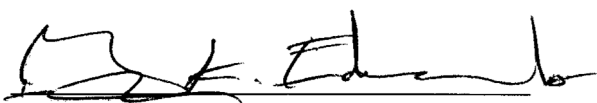
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Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	14.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0	0	7.00	534.00
195	0	0	7.00	534.00
200	0	0	7.00	534.00
205	0	0	7.00	534.00
210	0	0	7.00	534.00
215	0	0	7.00	534.00
220	0	0	7.00	534.00
225	0	0	7.00	534.00
230	0	0	7.00	534.00
235	0	0	7.00	534.00
240	0	0	7.00	534.00
245	0	0	7.00	534.00
250	0	0	7.00	534.00
255	0	0	7.00	534.00
260	0	0	7.00	534.00
265	0	0	7.00	534.00
270	0	0	7.00	534.00
275	0	0	7.00	534.00
280	0	0	7.00	534.00
285	0	0	7.00	534.00
290	0	0	7.00	534.00
295	0	0	7.00	534.00
300	0	0	7.00	534.00
305	0	0	7.00	534.00
310	0	0	7.00	534.00
315	0	0	7.00	534.00
320	0	0	7.00	534.00
325	0	0	7.00	534.00
330	0	0	7.00	534.00
335	0	0	7.00	534.00
340	0	0	7.00	534.00
345	0	0	7.00	534.00
350	0	0	7.00	534.00
355	0	0	7.00	534.00

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: September 20, 2018