

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Skybox Imaging, Inc.
FAIRBANKS, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 30, 2015

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

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 limited transmit frequencies (2081.0 - 2083.0 MHz) of the proposed earth station eliminated any cases that were not cleared after these pathloss calculations were completed.

Further, the proposed earth station will be located with an existing and licensed uplink (Call Sign E120025) operating under similar parameters.

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 05/26/2015.

Company

3G Wireless, LLC
AERIAL VIDEO SYSTEMS
America's Cup Event Authority, LLC
Borgeson, Tom R.
Broadcast Sports Inc.
CHENA BROADCASTING, LLC
Casper, John
Citywide News Network, Inc.
Cohen, Elena
Cowboys Stadium LP
DCI II, INC.
Fishman Brothers Enterprises
Interlink Network Corp.
GOODYEAR TIRE AND RUBBER COMPANY
GSN News, Inc
Heiden, William
Information & Display Systems, Inc.
Information Super Station, LLC
Interlink Network Corp
KTVF Fairbanks
Loop Inc.
Metro Networks Communications, Inc.
Microwave Video Systems, LLC
NSM Surveillance
Onboard Images
Pacific Bell Tel Com dba AT&T California
REMOTE FACILITIES CONSULTING SERVICES
RF Film, Inc
RF Technology, LLC
Randy Hermes Production
Regulus Media Services, Inc.
SBE Coordinator Alaska Region
Speedshotz, Inc
Total RF Marketing Inc
Unisat, Inc.
Village Video Productions Inc
Western Technical Services
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

Exhibit C

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

Date: 06/30/2015
Job Number: 150526COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code SKYBOX
Licensee Name Skybox Imaging, Inc.

Site Information FAIRBANKS, AK

Venue Name
Latitude (NAD 83) 64° 48' 47.4" N
Longitude (NAD 83) 147° 44' 0.2" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 133.99 m / 439.6 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) 4.88 m / 16.0 ft

Antenna Information Transmit - FCC32

Manufacturer Orbital Systems Ltd
Model 2.4TSX1
Gain / Diameter 32.0 dBi / 2.4 m
3-dB / 15-dB Beamwidth 4.20° / 8.40°

Max Available RF Power (dBW/4 kHz) -4.4
(dBW/MHz) 19.6

Maximum EIRP (dBW/4 kHz) 27.6
(dBW/MHz) 51.6

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) 124KF1D / 2081.0 - 2083.0

Max Great Circle Coordination Distance 316.1 km / 196.4 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

Exhibit C

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

Coordination Values	FAIRBANKS, AK	
Licensee Name	Skybox Imaging, Inc.	
Latitude (NAD 83)	64° 48' 47.4" N	
Longitude (NAD 83)	147° 44' 0.2" W	
Ground Elevation (AMSL)	133.99 m / 439.6 ft	
Antenna Centerline (AGL)	4.88 m / 16.0 ft	
Antenna Model	Orbital 2.4 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	-4.4 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	44.01	11.10	316.10
5	0.00	40.52	11.10	316.10
10	0.00	37.30	11.10	316.10
15	0.00	34.45	11.10	316.10
20	0.00	32.06	11.10	316.10
25	0.00	30.24	11.10	316.10
30	0.00	29.10	11.10	316.10
35	0.00	28.72	11.10	316.10
40	0.00	29.13	11.10	316.10
45	0.00	30.29	11.10	316.10
50	0.00	32.14	11.10	316.10
55	0.00	34.55	11.10	316.10
60	0.00	37.42	11.10	316.10
65	0.00	40.64	11.10	316.10
70	0.00	44.14	11.10	316.10
75	0.00	47.86	11.10	316.10
80	0.00	51.75	11.10	316.10
85	0.00	55.76	11.10	316.10
90	0.00	59.88	11.10	316.10
95	0.00	64.07	11.10	316.10
100	0.00	68.32	11.10	316.10
105	0.00	72.63	11.10	316.10
110	0.00	76.96	11.10	316.10
115	0.00	81.32	11.10	316.10
120	0.00	85.70	11.10	316.10
125	0.00	90.08	11.10	316.10
130	0.00	94.47	11.10	316.10
135	0.00	98.84	11.10	316.10
140	0.00	103.20	11.10	316.10
145	0.00	107.54	11.10	316.10
150	0.00	111.84	11.10	316.10
155	0.00	116.09	11.10	316.10
160	0.00	120.28	11.10	316.10
165	0.00	124.39	11.10	316.10
170	0.00	128.40	11.10	316.10
175	0.00	132.28	11.10	316.10
180	0.00	135.99	11.10	316.10
185	0.00	139.48	11.10	316.10

COMSEARCH

Earth Station Data Sheet

Exhibit C

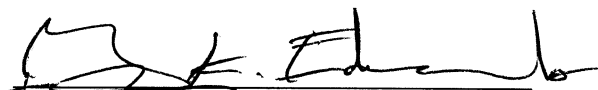
19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values	FAIRBANKS, AK
Licensee Name	Skybox Imaging, Inc.
Latitude (NAD 83)	64° 48' 47.4" N
Longitude (NAD 83)	147° 44' 0.2" W
Ground Elevation (AMSL)	133.99 m / 439.6 ft
Antenna Centerline (AGL)	4.88 m / 16.0 ft
Antenna Model	Orbital 2.4 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	-4.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	142.70	11.10	316.10
195	0.00	145.55	11.10	316.10
200	0.00	147.94	11.10	316.10
205	0.00	149.76	11.10	316.10
210	0.00	150.90	11.10	316.10
215	0.00	151.28	11.10	316.10
220	0.00	150.87	11.10	316.10
225	0.00	149.71	11.10	316.10
230	0.00	147.86	11.10	316.10
235	0.00	145.45	11.10	316.10
240	0.00	142.58	11.10	316.10
245	0.00	139.36	11.10	316.10
250	0.00	135.86	11.10	316.10
255	0.00	132.14	11.10	316.10
260	0.00	128.25	11.10	316.10
265	0.00	124.24	11.10	316.10
270	0.00	120.12	11.10	316.10
275	0.00	115.93	11.10	316.10
280	0.00	111.68	11.10	316.10
285	0.00	107.37	11.10	316.10
290	0.00	103.04	11.10	316.10
295	0.00	98.68	11.10	316.10
300	0.00	94.30	11.10	316.10
305	0.00	89.92	11.10	316.10
310	0.00	85.53	11.10	316.10
315	0.00	81.16	11.10	316.10
320	0.00	76.80	11.10	316.10
325	0.00	72.46	11.10	316.10
330	0.00	68.16	11.10	316.10
335	0.00	63.91	11.10	316.10
340	0.00	59.72	11.10	316.10
345	0.00	55.61	11.10	316.10
350	0.00	51.60	11.10	316.10
355	0.00	47.72	11.10	316.10

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: June 30, 2015