

## **Exhibit 1**

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Microsoft Infrastructure Group, LLC**  
**QUINCY, WA**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
June 30, 2020

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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, with the exception of cases identified with shared band Broadcast receive sites at the KNDU "Jump Off Joe" receivers. Multiple attempts were made to contact the SBE coordinator for this location during the coordination period, but no response was received. Although this case missed the objective by 16 dB after terrain pathloss, it is expected that above ground clutter would account for this remaining shortfall to margin.

### 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 05/22/2020.

Company

3G Wireless, LLC  
Aerial Video Systems  
Apple Valley Broadcasting Inc.  
Borgeson, Tom R.  
Broadcast Sports Inc.  
Casper, John  
CenturyTel of the Southwest, Inc.  
Chicago Comnet Corp  
Cincinnati Bell Wireless LLC  
Citywide News Network, Inc.  
Cowboys Stadium LP  
DCI II, INC.  
Direct Broadcast Services, Inc.  
Frontier California Inc.  
Global Telecom & Technology Americas, In  
HF Enterprises, Inc  
Hallco Unlimited, Inc.  
Hawaiian Telcom, Inc.  
Heiden, William  
Illinois Bell Telephone Company  
Indiana Bell Telephone Company  
Information & Display Systems, Inc.  
Information Super Station, LLC  
KHQ, Incorporated  
KIRO-TV, Inc  
Kentucky RSA #3 Cellular General Partner  
Kentucky RSA #4 Cellular General Partner  
King Broadcasting Company  
King Broadcasting Company - KREM TV  
MERCURY COMMUNICATIONS  
Mountain Licenses, L.P.  
NEW ENGLAND DIGITAL DISTRIBUTION, INC.  
NSM Surveillance  
Onboard Images  
Pacific Bell Tel Com dba AT&T California  
Production & Satellite Services, Inc.  
REMOTE FACILITIES CONSULTING SERVICES  
RF Film, Inc  
Radiofone, Inc.  
Randy Hermes Production

SBE Coordinator  
Sinclair Seattle Licensee, LLC  
Sinclair Yakima Licensee, LLC ( WA)  
Speedshotz, Inc  
Spokane Television Inc.  
TTWN Networks, LLC  
The CW Television Stations Inc.  
Unisat, Inc.  
Vyvx, LLC  
Winged Vision Inc  
Wisconsin Bell Telephone Company  
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: 06/25/2020  
Job Number: 200522COMSGE03

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code MICIG  
Licensee Name Microsoft Infrastructure Group, LLC

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### Site Information

**QUINCY, WA**  
Venue Name  
Latitude (NAD 83) 47° 14' 22.0" N  
Longitude (NAD 83) 119° 53' 5.5" W  
Climate Zone A  
Rain Zone 5  
Ground Elevation (AMSL) 406.05 m / 1332.2 ft

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### 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) 2.74 m / 9.0 ft

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### Antenna Information

**Transmit - FCC32**  
Manufacturer Comtech  
Model T361SXUHF  
Gain / Diameter 37.5 dBi / 6.1 m  
3-dB / 15-dB Beamwidth 0.50° / 1.00°

Max Available RF Power (dBW/4 kHz) 11.1  
(dBW/MHz) 35.1

Maximum EIRP (dBW/4 kHz) 48.6  
(dBW/MHz) 72.6

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

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### Frequency Information

**Transmit 2.0 GHz**  
Emission / Frequency Range (MHz) 10K0G7D - 5M00G7D / 2025.0 - 2110.0

Max Great Circle Coordination Distance 334.9 km / 208.1 mi  
Precipitation Scatter Contour Radius 187.5 km / 116.5 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### QUINCY, WA

Licensee Name Microsoft Infrastructure Group, LLC  
Latitude (NAD 83) 47° 14' 22.0" N  
Longitude (NAD 83) 119° 53' 5.5" W  
Ground Elevation (AMSL) 406.05 m / 1332.2 ft  
Antenna Centerline (AGL) 2.74 m / 9.0 ft  
Antenna Model Comtech 6.1 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 11.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	69.83	-1.00	334.90
5	0.00	65.50	-1.00	334.90
10	0.00	61.22	-1.00	334.90
15	0.00	57.00	-1.00	334.90
20	0.00	52.87	-1.00	334.90
25	0.00	48.86	-1.00	334.90
30	0.00	44.98	-1.00	334.90
35	0.00	41.30	-1.00	334.90
40	0.00	37.86	-1.00	334.90
45	0.00	34.73	-1.00	334.90
50	0.00	32.03	-1.00	334.90
55	0.00	29.85	-1.00	334.90
60	0.00	28.32	-1.00	334.90
65	0.00	27.56	-1.00	334.90
70	0.00	27.62	-1.00	334.90
75	0.00	28.50	-1.00	334.90
80	0.00	30.14	-1.00	334.90
85	0.00	32.40	-1.00	334.90
90	0.00	35.18	-1.00	334.90
95	0.00	38.35	-1.00	334.90
100	0.00	41.83	-1.00	334.90
105	0.00	45.55	-1.00	334.90
110	0.00	49.45	-1.00	334.90
115	0.00	53.48	-1.00	334.90
120	0.00	57.62	-1.00	334.90
125	0.00	61.85	-1.00	334.90
130	0.00	66.14	-1.00	334.90
135	0.00	70.48	-1.00	334.90
140	0.00	74.86	-1.00	334.90
145	0.00	79.26	-1.00	334.90
150	0.00	83.68	-1.00	334.90
155	0.00	88.11	-1.00	334.90
160	0.00	92.55	-1.00	334.90
165	0.00	96.98	-1.00	334.90
170	0.00	101.40	-1.00	334.90
175	0.00	105.80	-1.00	334.90
180	0.00	110.17	-1.00	334.90
185	0.00	114.50	-1.00	334.90

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

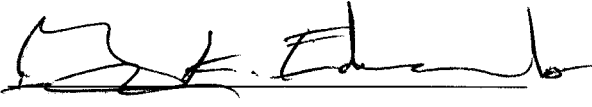
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Max Available RF Power 11.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	118.78	-1.00	334.90
195	0.00	123.00	-1.00	334.90
200	0.00	127.13	-1.00	334.90
205	0.00	131.14	-1.00	334.90
210	0.00	135.02	-1.00	334.90
215	0.00	138.70	-1.00	334.90
220	0.00	142.14	-1.00	334.90
225	0.00	145.27	-1.00	334.90
230	0.00	147.97	-1.00	334.90
235	0.00	150.15	-1.00	334.90
240	0.00	151.68	-1.00	334.90
245	0.00	152.44	-1.00	334.90
250	0.00	152.38	-1.00	334.90
255	0.00	151.50	-1.00	334.90
260	0.00	149.86	-1.00	334.90
265	0.00	147.60	-1.00	334.90
270	0.00	144.82	-1.00	334.90
275	0.00	141.65	-1.00	334.90
280	0.00	138.17	-1.00	334.90
285	0.00	134.45	-1.00	334.90
290	0.00	130.55	-1.00	334.90
295	0.00	126.52	-1.00	334.90
300	0.00	122.38	-1.00	334.90
305	0.00	118.15	-1.00	334.90
310	0.00	113.86	-1.00	334.90
315	0.00	109.52	-1.00	334.90
320	0.00	105.14	-1.00	334.90
325	0.00	100.74	-1.00	334.90
330	0.00	96.32	-1.00	334.90
335	0.00	91.89	-1.00	334.90
340	0.00	87.45	-1.00	334.90
345	0.00	83.02	-1.00	334.90
350	0.00	78.60	-1.00	334.90
355	0.00	74.20	-1.00	334.90

## 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 25, 2020