

Exhibit A

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Intelsat License LLC
NUEVO, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 13, 2019

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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.

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 10/09/2019.

Company

ABC Holding Company Inc.
AT&T Mobility Spectrum LLC - Arizona
AT&T Mobility Spectrum LLC - Southern CA
Air Sites 2000 LLC
Alltel Comm Southwest Holdings Inc.
Anaheim City, of
Arizona Public Service Company (APS)
Arizona, State Of
BNSF Railway Company
California Internet Solutions, Inc.
California Internet, L.P
California Internet, L.P.
California, State of
Calvary Chapel of Costa Mesa
Cellco Partnership - Southern California
City of Los Angeles Dept Water & Power
City of Montebello
City of West Covina
City of Yuma
Coachella Valley Water District
Coast Community College District
Commnet Four Corners, LLC
DM Ventures, Inc. dba Warp2Biz
DRS Global Enterprise Solutions, Inc.
Entravision Holdings, LLC
Fresno MSA Limited Partnership
Frontier California Inc.
Gila River Cellular General Partnership
Glendale City California
Global Telecom & Technology Americas, In
Go Creative Wireless
GovNET Licenses LLC
Imperial Irrigation District
KTLA, LLC
Kern County Superintendent of Schools
Kern Ed Telecom Consortium
Kern, County of
LDM Engineering
Lightwave Broadband LLC
Los Angeles City Info Technology Agency
Los Angeles County Dept of Public Works

Los Angeles County FCC Licensing Section
Los Angeles County Metro Transit Auth
Los Angeles Regional Interoperable Comm
Los Angeles SMSA Ltd. Partnership
Los Angeles Unified School District
MHO Networks
Maricopa County Wireless Systems
Metropolitan Water Dist of So California
Mobile Relay Associates Inc.
New Cingular Wireless PCS LLC - AZ
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS LLC -San Diego
New Cingular Wireless PCS, LLC - S/E CAL
Nextel License Holdings 4 Inc.
Nextel of California Inc.
Norris, Samuel O
Northrop Grumman Systems Corp.
Nrj TV La License Co, LLC
Olympic Wireless, LLC
Orange, County of, CA
Pacific Bell Tel Com dba AT&T California
Pacific Lightwave Inc
Qwest Corporation
Regional 3Cs
Riverside, County of
San Bernardino County of California
San Diego Broadband
San Diego Gas & Electric Company
San Diego, City of
San Diego, County of
Skyriver Communications
Southern California Edison Company
Southern California Gas Company
Southern California Regional Rail Auth.
Spectrum Link, Inc.
Sprint Spectrum L.P.
Station Venture Operations, LP
T-Mobile License LLC
TV Microwaves Company
Table Top Telephone Company
Telink Networks SW, LLC
Time Warner Cable Pacific West LLC
Tucson Electric Power Company
Turn Wireless, LLC
Ultimate Internet Access, Inc
Union Pacific Railroad Company
University of California, HPWREN
Ventura, County of
Venture Technologies Group, LLC
Verizon Wireless (VAW) LLC (Southern CA)
Verizon Wireless (VAW) LLC-N CA/NV
Verizon Wireless(VAW) LLC-AZ/CO/NM/NV/UT
Western Broadband Inc.
Wiline Spectrum Holdings LLC
Wisprenn

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: 11/13/2019
Job Number: 191009COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E040125
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information

NUEVO, CA

Venue Name
Latitude (NAD 83) 33° 47' 45.1" N
Longitude (NAD 83) 117° 5' 16.3" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 566.6 m / 1858.9 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Analog and Digital
Satellite Arc 44° W to 190° West Longitude
Azimuth Range 99.6° to 260.3°
Corresponding Elevation Angles 5.3° / 5.5°
Antenna Centerline (AGL) 7.32 m / 24.0 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	Vertex	Vertex	
Model	11 KPC	11 KPC	
Gain / Diameter	51.8 dBi / 11.0 m	55.5 dBi / 11.0 m	
3-dB / 15-dB Beamwidth	0.44° / 0.84°	0.29° / 0.54°	
Max Available RF Power (dBW/4 kHz)		6.6	
(dBW/MHz)		30.6	
Maximum EIRP (dBW/4 kHz)		62.1	
(dBW/MHz)		86.1	
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%

Frequency Information

Receive 4.0 GHz

Transmit 6.1 GHz

Emission / Frequency Range (MHz)	500KG7D - 1M50G7D / 3700.0 - 4200.0	850KF7D - 1M50F7D / 5850.0 - 5930.0 850KF7D - 1M50F7D / 6170.0 - 6180.0 850KF7D - 1M50F7D / 6415.0 - 6425.0
Max Great Circle Coordination Distance	678.7 km / 421.7 mi	511.7 km / 317.9 mi
Precipitation Scatter Contour Radius	429.4 km / 266.8 mi	267.9 km / 166.4 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

NUEVO, CA

Licensee Name: Intelsat License LLC
Latitude (NAD 83): 33° 47' 45.1" N
Longitude (NAD 83): 117° 5' 16.3" W
Ground Elevation (AMSL): 566.6 m / 1858.9 ft
Antenna Centerline (AGL): 7.32 m / 24.0 ft
Antenna Model: Vertex 11 meter
Antenna Mode: Receive 4.0 GHz
Interference Objectives: Long Term: -156.0 dBW/MHz 20%
Short Term: -146.0 dBW/MHz 0.01%
Transmit 6.1 GHz: -154.0 dBW/4 kHz 20%
-131.0 dBW/4 kHz 0.0025%
Max Available RF Power: 6.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	1.67	99.58	-10.00	203.43	-10.00	131.01
5	2.33	94.60	-10.00	187.01	-10.00	116.59
10	2.51	89.60	-10.00	182.82	-10.00	113.06
15	2.97	84.61	-10.00	172.10	-10.00	104.29
20	2.91	79.61	-10.00	173.64	-10.00	105.53
25	2.87	74.62	-10.00	174.42	-10.00	106.16
30	3.33	69.61	-10.00	162.01	-10.00	100.00
35	3.55	64.61	-10.00	157.18	-10.00	100.00
40	3.40	59.62	-10.00	160.52	-10.00	100.00
45	3.30	54.63	-10.00	162.76	-10.00	100.00
50	2.96	49.64	-10.00	172.38	-10.00	104.51
55	2.68	44.66	-9.25	182.62	-9.25	112.59
60	2.85	39.67	-7.96	185.16	-7.96	114.21
65	3.71	34.63	-6.49	173.56	-6.49	104.29
70	3.35	29.66	-4.80	190.08	-4.80	117.19
75	3.22	24.69	-2.81	202.89	-2.81	126.90
80	4.02	19.64	-0.33	199.55	-0.33	122.28
85	3.58	14.70	2.81	223.57	2.81	141.06
90	3.63	9.75	7.27	253.55	7.27	161.28
95	2.67	5.31	13.86	337.01	13.86	216.19
100	2.87	2.49	22.11	633.43	22.11	472.47
105	3.59	5.41	13.67	306.66	13.67	197.32
110	3.84	9.29	7.80	252.03	7.80	159.20
115	3.90	13.23	3.96	223.66	3.96	140.10
120	3.97	17.11	1.17	205.95	1.17	128.84
125	3.90	20.98	-1.04	197.94	-1.04	121.42
130	4.02	24.62	-2.78	186.46	-2.78	112.87
135	3.86	28.31	-4.30	181.80	-4.30	110.03
140	3.93	31.69	-5.52	173.88	-5.52	104.29
145	4.30	34.62	-6.48	160.06	-6.48	100.00
150	3.70	38.00	-7.49	166.66	-7.49	100.53
155	2.47	41.61	-8.48	191.21	-8.48	119.53
160	2.26	44.09	-9.11	192.93	-9.11	121.28
165	3.07	45.23	-9.39	172.88	-9.39	104.69
170	3.59	46.07	-9.59	158.37	-9.59	100.00
175	5.00	45.46	-9.44	135.78	-9.44	100.00
180	4.68	46.03	-9.58	139.70	-9.58	100.00
185	5.13	45.33	-9.41	134.61	-9.41	100.00

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Coordination Values

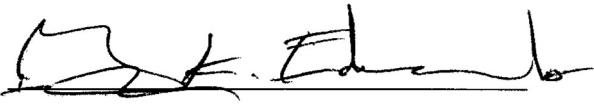
NUEVO, CA

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Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			6.6 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	5.56	44.17	-9.13	132.81	-9.13	100.00
195	5.94	42.61	-8.74	130.77	-8.74	100.00
200	5.88	40.98	-8.31	133.05	-8.31	100.00
205	4.94	39.62	-7.95	142.94	-7.95	100.00
210	5.39	36.70	-7.12	141.60	-7.12	100.00
215	5.35	33.85	-6.24	146.06	-6.24	100.00
220	5.83	30.35	-5.06	146.47	-5.06	100.00
225	5.63	27.12	-3.83	154.71	-3.83	100.00
230	5.55	23.63	-2.34	163.81	-2.34	100.00
235	5.55	19.93	-0.49	176.11	-0.49	103.00
240	5.40	16.22	1.75	190.76	1.75	113.22
245	5.30	12.39	4.67	205.97	4.67	126.06
250	4.90	8.67	8.55	236.44	8.55	145.19
255	4.17	5.06	14.39	297.29	14.39	189.77
260	4.35	1.17	30.32	678.72	30.32	511.73
265	4.03	4.92	14.70	303.10	14.70	193.66
270	3.61	9.88	7.13	252.81	7.13	160.86
275	4.02	14.78	2.76	213.80	2.76	134.23
280	3.54	19.80	-0.41	206.14	-0.41	130.23
285	2.69	24.85	-2.88	211.07	-2.88	134.96
290	0.97	30.01	-4.93	250.76	-4.93	173.94
295	0.43	35.02	-6.61	278.57	-6.61	198.19
300	0.00	40.02	-8.06	297.94	-8.06	212.43
305	0.00	44.97	-9.32	289.62	-9.32	207.40
310	0.00	49.93	-10.00	285.28	-10.00	204.80
315	0.00	54.89	-10.00	285.28	-10.00	204.80
320	0.00	59.86	-10.00	285.28	-10.00	204.80
325	0.00	64.83	-10.00	285.28	-10.00	204.80
330	0.00	69.80	-10.00	285.28	-10.00	204.80
335	0.00	74.78	-10.00	285.28	-10.00	204.80
340	0.00	79.75	-10.00	285.28	-10.00	204.80
345	0.00	84.73	-10.00	285.28	-10.00	204.80
350	0.00	89.71	-10.00	285.28	-10.00	204.80
355	0.75	94.69	-10.00	234.28	-10.00	161.02

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: November 13, 2019