

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Intelsat License LLC
FILMORE, CA
(E4132)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
July 1, 2021

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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 05/19/2020.

Company

ABC Holding Company Inc.
AT&T Mobility Spectrum LLC - Southern CA
Air Sites 2000 LLC
American Tower, LLC
Anaheim City, of
BNS Electronics, Inc.
Broadcom Corporation
California Internet Solutions, Inc.
California Internet, L.P
California Internet, L.P.
California Resources Corporation
California, State of
Calvary Chapel of Costa Mesa
Cellco Partnership - Southern California
Cellco Partnership-AZ/CO/NM/NV/UT
City of Los Angeles Dept Water & Power
City of Montebello
City of West Covina
Coachella Valley Water District
Coast Community College District
Conterra Ultra Broadband, LLC
DM Ventures, Inc. dba Warp2Biz
Entravision Holdings, LLC
Exxon Communications Company
FCL Tech, Inc.
Fox Television Stations, LLC
Fresno MSA Limited Partnership
Frontier California Inc.
Frontier Communications of the Southwest
GTE Mobilnet of Santa Barbara LTD Ptnsh
Glendale City California
Global Telecom & Technology Americas, In
Go Creative Wireless
GovNET Licenses LLC
HPWREN University of California, San Die
Kern County Superintendent of Schools
Kern, County of
LDM Engineering
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
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 - S/E CAL
Nextel License Holdings 4 Inc.
Nextel of California Inc.
Nextweb Inc
Northrop Grumman Systems Corp.
Olympic Wireless, LLC
Orange, County of, CA
Pacific Bell Tel Com dba AT&T California
Pacific Gas and Electric Company
Pacific Lightwave Inc
RNN National, LLC
Regents of the University of California
Rincon Broadband
Riverside, County of
San Bernardino County of California
San Diego Broadband
San Diego Gas & Electric Company
Santa Barbara Cellular Systems, Ltd.
Santa Barbara, County of
Sentinel Peak Resources California LLC
Skyriver Communications
Southern California Edison Company
Southern California Gas Company
Southern California Regional Rail Auth.
Spectrum Link, Inc.
Sunburst Church of Self Realization
T-Mobile License LLC
TV Microwaves Company
Tribune Media Company
Turn Wireless, LLC
Ultimate Internet Access, Inc
Union Pacific Railroad Company
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
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: 06/16/2020
Job Number: 200519COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E4132
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information

FILMORE, CA

Venue Name
Latitude (NAD 27) 34° 24' 22.0" N (34° 24' 22.0" NAD 83)
Longitude (NAD 27) 118° 53' 34.0" W (118° 53' 37.4" NAD 83)
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 313.94 m / 1030.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Analog and Digital
Satellite Arc 45.6° W to 192.2° West Longitude
Azimuth Range 99.6° to 260.4°
Corresponding Elevation Angles 5.1° / 5.0°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

Manufacturer
Model
Gain / Diameter
3-dB / 15-dB Beamwidth

Receive - FCC32

Scientific-Atlanta
10 meter
50.5 dBi / 10.0 m
0.40° / 1.00°

Transmit - FCC32

Scientific-Atlanta
10 meter
53.8 dBi / 10.0 m
0.40° / 0.60°

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

11.4
35.4

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

65.2
89.2

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

-154.0 dBW/4 kHz 20%
-131.0 dBW/4 kHz 0.0025%

Frequency Information

Emission / Frequency Range (MHz)

Receive 4.0 GHz

500KG2D / 3700.0 - 4200.0

Transmit 6.1 GHz

850KF7D - 1M50F7D / 5925.0 - 5935.0

850KF7D - 1M50F7D / 6170.0 - 6180.0

850KF7D - 1M50F7D / 6415.0 - 6425.0

850KF7D - 1M50F7D / 5850.0 - 5925.0

Max Great Circle Coordination Distance 656.9 km / 408.1 mi
Precipitation Scatter Contour Radius 432.9 km / 268.9 mi

549.8 km / 341.6 mi
404.9 km / 251.6 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

FILMORE, CA

Licensee Name Intelsat License LLC
Latitude (NAD 83) 34° 24' 22.0" N
Longitude (NAD 83) 118° 53' 37.4" W
Ground Elevation (AMSL) 313.94 m / 1030.0 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model Scientific-Atlanta 10 meter
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 11.4 (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	9.77	99.59	-10.00	100.00	-10.00	100.00
5	9.64	94.61	-10.00	100.00	-10.00	100.00
10	10.93	89.63	-10.00	100.00	-10.00	100.00
15	11.35	84.66	-10.00	100.00	-10.00	100.00
20	12.20	79.71	-10.00	100.00	-10.00	100.00
25	12.64	74.77	-10.00	100.00	-10.00	100.00
30	12.04	69.79	-10.00	100.00	-10.00	100.00
35	11.41	64.79	-10.00	100.00	-10.00	100.00
40	11.89	59.87	-10.00	100.00	-10.00	100.00
45	12.57	54.98	-10.00	100.00	-10.00	100.00
50	12.53	50.04	-10.00	100.00	-10.00	100.00
55	12.14	45.07	-9.35	100.00	-9.35	100.00
60	11.33	40.04	-8.06	100.00	-8.06	100.00
65	10.86	35.05	-6.62	100.00	-6.62	100.00
70	10.84	30.14	-4.98	101.11	-4.98	100.00
75	10.21	25.13	-3.00	113.80	-3.00	100.00
80	9.90	20.19	-0.63	126.59	-0.63	100.00
85	9.22	15.20	2.46	146.21	2.46	100.00
90	8.36	10.17	6.81	184.18	6.81	122.83
95	6.49	4.84	14.87	259.55	14.87	187.92
100	6.62	0.77	34.79	636.43	34.79	529.15
105	6.53	3.46	18.52	290.30	18.52	207.52
110	5.12	8.28	9.04	236.63	9.04	171.37
115	3.23	13.37	3.84	238.66	3.84	178.98
120	2.28	17.85	0.71	242.27	0.71	185.09
125	2.14	21.75	-1.44	232.35	-1.44	177.66
130	2.47	25.25	-3.06	215.06	-3.06	159.76
135	2.64	28.72	-4.45	204.44	-4.45	149.43
140	2.68	32.09	-5.66	200.20	-5.66	143.32
145	2.83	35.18	-6.66	191.99	-6.66	136.21
150	2.64	38.26	-7.57	191.70	-7.57	136.34
155	3.24	40.41	-8.16	175.35	-8.16	124.45
160	2.96	42.88	-8.81	178.44	-8.81	127.17
165	3.50	44.19	-9.13	162.52	-9.13	116.17
170	3.29	45.69	-9.49	165.62	-9.49	118.75
175	3.15	46.60	-9.71	169.40	-9.71	120.41
180	2.55	47.47	-9.91	182.31	-9.91	130.73
185	2.37	47.37	-9.89	186.54	-9.89	134.18

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

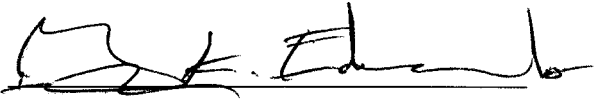
FILMORE, CA

Licensee Name Intelsat License LLC
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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power 11.4 (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	2.31	46.62	-9.71	188.87	-9.71	134.82
195	0.80	46.63	-9.72	233.03	-9.72	183.23
200	0.47	44.98	-9.33	257.60	-9.33	203.81
205	1.22	42.02	-8.59	220.56	-8.59	170.35
210	0.98	39.51	-7.92	232.44	-7.92	181.59
215	0.94	36.53	-7.07	239.36	-7.07	187.35
220	0.00	33.92	-6.26	310.18	-6.26	241.70
225	0.00	30.45	-5.09	319.04	-5.09	247.44
230	0.00	26.83	-3.72	328.90	-3.72	253.80
235	0.00	23.09	-2.08	340.88	-2.08	262.51
240	0.00	19.24	-0.11	355.78	-0.11	273.66
245	0.00	15.33	2.36	375.01	2.36	288.54
250	0.00	11.35	5.63	400.88	5.63	309.89
255	0.00	7.37	10.31	441.82	10.31	343.44
260	0.00	5.06	14.40	656.87	14.40	549.80
265	0.00	6.84	11.13	449.31	11.13	349.63
270	0.00	10.85	6.11	404.97	6.11	313.22
275	1.13	15.12	2.51	295.48	2.51	223.31
280	1.31	19.96	-0.50	266.39	-0.50	205.30
285	2.96	24.70	-2.82	205.78	-2.82	150.01
290	4.21	29.63	-4.79	172.55	-4.79	120.96
295	4.02	34.63	-6.49	164.93	-6.49	117.06
300	4.46	39.62	-7.95	150.22	-7.95	105.58
305	3.72	44.64	-9.24	157.21	-9.24	111.93
310	3.11	49.65	-10.00	168.89	-10.00	120.09
315	2.85	54.65	-10.00	175.05	-10.00	124.91
320	3.30	59.64	-10.00	162.64	-10.00	116.56
325	3.90	64.63	-10.00	149.92	-10.00	106.03
330	5.89	69.62	-10.00	126.27	-10.00	100.00
335	7.83	74.64	-10.00	105.56	-10.00	100.00
340	8.67	79.64	-10.00	100.00	-10.00	100.00
345	9.12	84.63	-10.00	100.00	-10.00	100.00
350	10.00	89.62	-10.00	100.00	-10.00	100.00
355	9.82	94.60	-10.00	100.00	-10.00	100.00

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: July 1, 2021