

# 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  
June 16, 2020

## TABLE OF CONTENTS

1. CONCLUSIONS .....	3
2. SUMMARY OF RESULTS .....	4
3. SUPPLEMENTAL SHOWING .....	5
4. EARTH STATION COORDINATION DATA.....	7
5. CERTIFICATION.....	11

## 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 Short Term  
-156.0 dBW/MHz 20%  
-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  
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### 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  
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### Coordination Values

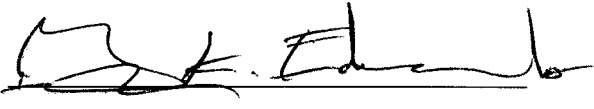
### FILMORE, CA

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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: June 16, 2020