

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**SES Americom, Inc.**  
**SOMIS, CA**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
May 04, 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 03/23/2021.

#### Company

ABC Holding Company Inc.  
AT&T Mobility Spectrum LLC - N CA  
AT&T Mobility Spectrum LLC - Southern CA  
Advanced Career College, Inc  
Aerioconnect Inc  
Aerionet, Inc.  
Air Sites 2000 LLC  
Airlink Internet Inc.  
Airwave Broadband Wireless, Inc.  
American Gothic Productions, Inc  
Anacapa Micro Products, Inc.  
Antelecom, Inc.  
Arizona, State Of  
BNSF Railway Company  
Beacon West Energy Group, LLC  
Bel Air Internet, LLC  
Bell Gardens, City of  
Berry Petroleum Company, LLC  
Beta Operating Company LLC  
Burbank, City of  
CBS Broadcasting Inc  
California Internet Solutions, Inc.  
California Internet, L.P  
California Lutheran University  
California Resources Corporation  
California Water Service Company  
California, State of  
Cellco Partnership - N CA/NV  
Cellco Partnership - Southern California  
Cellco Partnership-AZ/CO/NM/NV/UT  
CenturyTel of Eagle, Inc.  
Chevron USA Inc.  
City Of Huntington Beach  
City of Hemet  
City of Huntington Park Police Dept  
City of Los Angeles Dept Water & Power  
City of Monrovia  
City of Montebello  
City of Pasadena, California  
City of Santa Barbara

City of Santa Barbara Fire Department  
City of Santa Barbara Water Resources De  
City of West Covina  
City of Whittier  
Clearwire Spectrum Holdings III, LLC  
Coachella Valley Water District  
Communication Services Inc.  
Confire, JPA  
Conterra Ultra Broadband, LLC  
Corona, City of, Dept of Water & Power  
Cosmo Network Solutions  
County of Los Angeles (ISD)  
DM Ventures, Inc. dba Warp2Biz  
EDF Renewable Services, Inc.  
Eastern Municipal Water District  
Eastern Riverside County Interoperable C  
Educational Media Foundation  
Entercom License, LLC  
Exxon Communications Company  
Financial Partners Credit Union  
Fireline Network Solutions Inc.  
Focused Internet  
Franklin Technology Systems, Inc.  
Frazier Mountain Internet Service, Inc.  
Fresno MSA Limited Partnership  
Frontier California Inc.  
Gilcomm, LLC  
Gilmond, Daniel  
Glendale City California  
Global Telecom & Technology Americas  
Global Telecom & Technology Americas, In  
Go Creative Wireless  
GovNET Licenses LLC  
HPWREN University of California, San Die  
Harquahala Holdco, LLC  
Iberdrola Renewables, LLC  
Imperial Irrigation District  
Impulse Advanced Communications  
Irvine Ranch Water District  
J G BOSWELL COMPANY  
JetWire, Inc.  
Kern Ed Telecom Consortium  
Kern, County of  
Kimtron, Inc.  
Kiza, Inc  
LT-WR, LLC  
Lockheed Martin Corp - California  
Long Beach, City of (WCD)  
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  
Los Angeles, City of (ITA)

MHO Networks  
Metropolitan Water Dist of So California  
MiTec Solutions  
NRJ TV III CA License Co, LLC  
New Cingular Wireless PCS LLC - AZ  
New Cingular Wireless PCS - Los Angeles  
New Cingular Wireless PCS, LLC - S/E CAL  
Nextweb Inc  
Olympic Wireless, LLC  
One Ring Networks, Inc.  
Orange County Public Works  
Orange County Transportation Authority  
Orange, County of, CA  
Pacific Bell Tel Com dba AT&T California  
Pacific Gas and Electric Company  
Pacific Lightwave Inc  
Palo Verde Irrigation District  
Port of Los Angeles  
Public Media Group of Southern Californi  
RPM Wireless Internet, LLC  
Rancho Serenidad  
Regents of the University of California  
Rincon Broadband  
Riverside, City of  
Riverside, County of  
Rowland Water District  
San Antonio Regional Hospital  
San Bernardino Community Col Dis KVCR-TV  
San Bernardino Community College KVCR-FM  
San Bernardino County of California  
San Diego Gas & Electric Company  
Santa Barbara Cellular Systems, Ltd.  
Santa Barbara, County of  
Santa Monica Malibu Unified School Dist  
Santa Monica, City of  
Sentinel Peak Resources California LLC  
Siteserver, Inc.  
Skyriver Communications  
South Bay Regional Public Comm Authority  
South Gate, City of - Police Dept  
Southern California Edison Company  
Southern California Gas Company  
Southern California Regional Rail Auth.  
Southern California Telephone Company  
Sprint Spectrum L.P.  
Sprint Telephony PCS, L.P.  
Sprintcom, Inc  
T-Mobile License LLC  
Te Conectamos LLC dba Tekwerks  
Tehachapi Cummings County Water System  
Tejon Ranch Co  
Temecula Valley Real Estate, Inc  
The Nature Conservancy  
Towerstream Corp.  
Turn Wireless, LLC  
Ultimate Internet Access, Inc

Union Pacific Railroad Company  
United Water Conservation District  
Ventura County Office of Education  
Ventura Regional Sanitation District  
Ventura, County of  
Venture Technologies Group, LLC  
Vernon City of  
W Cody  
WT Consulting Group, LLC  
Wander, Inc  
WiLogic, Inc  
Wiline Spectrum Holdings LLC  
WirelessGuys, Inc.  
enXco Services Corporation  
iHM Licenses, LLC  
unWired Broadband, Inc



## **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: 05/04/2021  
Job Number: 210323COMSGE03

### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign KA288  
Licensee Code P3210  
Licensee Name SES Americom, Inc.

### Site Information SOMIS, CA

Venue Name  
Latitude (NAD 83) 34° 19' 31.0" N  
Longitude (NAD 83) 118° 59' 44.4" W  
Climate Zone A  
Rain Zone 4  
Ground Elevation (AMSL) 311.0 m / 1020.3 ft

### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Analog and Digital  
Satellite Arc 45° W to 188° West Longitude  
Azimuth Range 99.2° to 257.8°  
Corresponding Elevation Angles 4.5° / 8.6°  
Antenna Centerline (AGL) 7.01 m / 23.0 ft

### Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	Vertex	Vertex
Model	6.1 meter	6.1 meter
Gain / Diameter	55.7 dBi / 6.1 m	57.1 dBi / 6.1 m
3-dB / 15-dB Beamwidth	0.28° / 0.56°	0.24° / 0.48°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)	0.5 24.5
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)	57.6 81.6
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz 20% -146.0 dBW/MHz 0.01%
		-151.0 dBW/4 kHz 20% -128.0 dBW/4 kHz 0.0025%

### Frequency Information

	Receive 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	N0N - 72M0G7W / 10950.0 - 12200.0	N0N - 72M0G7W / 13750.0 - 14500.0

Max Great Circle Coordination Distance	589.0 km / 365.9 mi	383.0 km / 238.0 mi
Precipitation Scatter Contour Radius	433.0 km / 269.0 mi	166.4 km / 103.4 mi

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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### Coordination Values

### SOMIS, CA

Licensee Name SES Americom, Inc.  
Latitude (NAD 83) 34° 19' 31.0" N  
Longitude (NAD 83) 118° 59' 44.4" W  
Ground Elevation (AMSL) 311.0 m / 1020.3 ft  
Antenna Centerline (AGL) 7.01 m / 23.0 ft  
Antenna Model Vertex 6.1 meter  
Antenna Mode Receive 11.0 GHz Transmit 14.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power 0.5 (dBW/4 kHz)

Azimuth (°)	Receive 11.0 GHz		Transmit 14.0 GHz			
	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	14.81	99.04	-10.00	100.00	-10.00	100.00
5	14.57	94.12	-10.00	100.00	-10.00	100.00
10	13.36	89.20	-10.00	100.00	-10.00	100.00
15	10.19	84.22	-10.00	100.00	-10.00	100.00
20	13.15	79.31	-10.00	100.00	-10.00	100.00
25	14.50	74.44	-10.00	100.00	-10.00	100.00
30	13.25	69.44	-10.00	100.00	-10.00	100.00
35	12.27	64.44	-10.00	100.00	-10.00	100.00
40	10.61	59.38	-10.00	100.00	-10.00	100.00
45	10.65	54.43	-10.00	100.00	-10.00	100.00
50	10.94	49.50	-10.00	100.00	-10.00	100.00
55	12.03	44.70	-9.26	100.00	-9.26	100.00
60	12.95	39.95	-8.04	100.00	-8.04	100.00
65	13.30	35.17	-6.66	100.00	-6.66	100.00
70	12.98	30.30	-5.03	100.00	-5.03	100.00
75	12.17	25.31	-3.08	100.00	-3.08	100.00
80	11.07	20.25	-0.66	100.00	-0.66	100.00
85	9.79	15.13	2.50	100.52	2.50	100.00
90	8.58	10.05	6.94	128.25	6.94	100.00
95	9.31	6.23	12.14	146.46	12.14	100.00
100	9.32	2.21	23.37	588.98	23.37	383.04
105	8.55	2.30	22.94	224.29	22.94	119.56
110	7.49	6.88	11.07	161.62	11.07	100.00
115	6.35	11.49	5.49	144.64	5.49	100.00
120	6.06	15.53	2.22	132.76	2.22	100.00
125	6.96	18.71	0.20	116.43	0.20	100.00
130	7.09	22.25	-1.68	108.08	-1.68	100.00
135	8.16	24.98	-2.94	100.00	-2.94	100.00
140	7.50	28.73	-4.46	100.00	-4.46	100.00
145	6.94	32.20	-5.70	100.00	-5.70	100.00
150	7.08	34.88	-6.56	100.00	-6.56	100.00
155	7.01	37.38	-7.32	100.00	-7.32	100.00
160	7.21	39.25	-7.85	100.00	-7.85	100.00
165	6.96	41.08	-8.34	100.00	-8.34	100.00
170	4.11	44.98	-9.33	111.21	-9.33	100.00
175	1.52	48.30	-10.00	161.43	-10.00	100.00
180	0.00	50.11	-10.00	231.37	-10.00	156.37
185	0.65	49.16	-10.00	199.37	-10.00	123.60

# COMSEARCH

## Earth Station Data Sheet

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(703)726-5500 <http://www.comsearch.com>

### Coordination Values

### SOMIS, CA

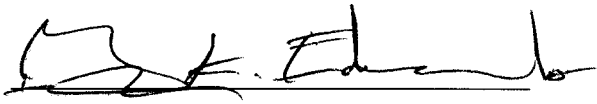
Licensee Name SES Americom, Inc.  
Latitude (NAD 83) 34° 19' 31.0" N  
Longitude (NAD 83) 118° 59' 44.4" W  
Ground Elevation (AMSL) 311.0 m / 1020.3 ft  
Antenna Centerline (AGL) 7.01 m / 23.0 ft  
Antenna Model Vertex 6.1 meter  
Antenna Mode Receive 11.0 GHz Transmit 14.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power 0.5 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	48.89	-10.00	231.37	-10.00	156.37
195	0.65	46.84	-9.77	200.68	-9.77	124.58
200	1.76	43.98	-9.08	158.21	-9.08	100.00
205	3.55	40.24	-8.12	124.63	-8.12	100.00
210	4.27	37.09	-7.23	116.73	-7.23	100.00
215	5.03	33.64	-6.17	111.12	-6.17	100.00
220	3.98	31.24	-5.37	127.65	-5.37	100.00
225	1.48	29.54	-4.76	191.36	-4.76	111.80
230	1.59	25.87	-3.32	195.00	-3.32	113.56
235	2.33	21.68	-1.40	185.06	-1.40	103.87
240	3.47	17.15	1.14	171.32	1.14	100.00
245	5.06	12.29	4.76	157.28	4.76	100.00
250	6.77	7.32	10.39	170.70	10.39	100.00
255	7.47	2.93	20.33	221.32	20.33	119.37
260	8.44	2.22	23.34	376.31	23.34	222.67
265	8.25	7.22	10.53	148.33	10.53	100.00
270	5.82	12.52	4.56	146.58	4.56	100.00
275	7.68	17.24	1.09	112.58	1.09	100.00
280	9.77	22.24	-1.68	100.00	-1.68	100.00
285	11.79	27.38	-3.94	100.00	-3.94	100.00
290	10.89	32.28	-5.72	100.00	-5.72	100.00
295	10.10	37.24	-7.27	100.00	-7.27	100.00
300	10.86	42.26	-8.65	100.00	-8.65	100.00
305	11.24	47.27	-9.86	100.00	-9.86	100.00
310	12.99	52.34	-10.00	100.00	-10.00	100.00
315	12.97	57.32	-10.00	100.00	-10.00	100.00
320	13.40	62.32	-10.00	100.00	-10.00	100.00
325	13.83	67.31	-10.00	100.00	-10.00	100.00
330	14.75	72.32	-10.00	100.00	-10.00	100.00
335	14.52	77.28	-10.00	100.00	-10.00	100.00
340	13.62	82.24	-10.00	100.00	-10.00	100.00
345	13.75	87.22	-10.00	100.00	-10.00	100.00
350	14.48	92.20	-10.00	100.00	-10.00	100.00
355	16.16	97.15	-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: May 04, 2021