

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
December 19, 2019

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	8
5. CERTIFICATION.....	12

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 12/03/2019.

Company

5x5 Industries, LLC
ABC Holding Company Inc.
AT&T Corp.
AT&T Mobility Spectrum LLC - Southern CA
Aera Energy LLC
Aeriocconnect Inc
Aeriocconnect, Inc.
Aerionet, Inc.
Antelecom, Inc.
Antelope Valley College
BP West Coast Products LLC
Bel Air Internet, LLC
Beverly Hills, City of
Burbank, City of
CBS Broadcasting Inc
CBS Communications Services Inc
California Internet Solutions, Inc.
California Internet, L.P
California Internet, L.P.
California Resources Corporation
California, State of
Castaic Lake Water Agency
Citicasters Licenses, Inc.
City of Culver City
City of Los Angeles Dept Water & Power
City of Monrovia
City of Montebello
City of Pasadena, California
City of Santa Barbara Fire Department
City of West Covina
City of Whittier
Clearwire Spectrum Holdings III, LLC
Communication Services
Communication Services Inc.
El Monte Police Department
Embee Technologies
Entercom License, LLC
Fireline Network Solutions Inc.
Foothill Transit
Fox Television Stations, LLC
Franklin Technology Systems, Inc.

Frontier California Inc.
Gilcomm, LLC
Glendale City California
Global Telecom & Technology Americas
Go Creative Wireless
Iberdrola Renewables, LLC
KERN COUNTY CALIFORNIA
KTLA, LLC
Kern Ed Telecom Consortium
Kern, County of
LT-WR, LLC
Las Virgenes Unified School District
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, City of (ITA)
Metropolitan Water Dist of So California
Mobile Relay Associates Inc.
NBC Telemundo License LLC
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS, LLC - S/E CAL
Nextel of California Inc.
Nextweb Inc
Olympic Wireless, LLC
One Ring Networks, Inc.
Pacific Bell Tel Com dba AT&T California
Pasadena Area Community College Dist
Redondo Beach Police Department
Regents of the University of California
Santa Barbara Cellular Systems, Ltd.
Santa Barbara, County of
Skyriver Communications
SmartSky Microwave, LLC
South Bay Regional Public Comm Authority
Southern California Gas Company
Spectrum Link, Inc.
Sprint Spectrum L.P.
Sprint Telephony PCS, L.P.
Sprintcom, Inc
T-Mobile License LLC
THUMS Long Beach Company
Tejon Ranch Co
Tesoro Companies, Inc
Towerstream Corp.
Turn Wireless, LLC
Union Pacific Railroad Company
Ventura County Office of Education
Ventura, County of
Verizon Wireless (VAW) LLC (Southern CA)
Verizon Wireless (VAW) LLC-N CA/NV
Walnut Valley Water District
Widmo Holdings LLC

Wiline Spectrum Holdings LLC
WirelessGuys, Inc.
XO Communications, LLC

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: 12/19/2019
Job Number: 191203COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E170139
Licensee Code P3210
Licensee Name SES Americom, Inc.

Site Information

SOMIS, CA

Venue Name
Latitude (NAD 83) 34° 19' 32.3" N
Longitude (NAD 83) 118° 59' 43.2" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 311.78 m / 1022.9 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 52° W to 186° West Longitude
Azimuth Range 103.5° to 256.5°
Corresponding Elevation Angles 10.3° / 10.3°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

Transmit - FCC32

Manufacturer GD Satcom
Model 9 meter
Gain / Diameter 61.9 dBi / 9.0 m
3-dB / 15-dB Beamwidth 0.12° / 0.26°

Max Available RF Power (dBW/4 kHz) -9.8
(dBW/MHz) 14.2

Maximum EIRP (dBW/4 kHz) 52.1
(dBW/MHz) 76.1

Interference Objectives: Long Term -151.0 dBW/4 kHz 20%
Short Term -128.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 18.0 GHz

Emission / Frequency Range (MHz) 100KG7W - 54M0G7W / 17300.0 - 17800.0

Max Great Circle Coordination Distance 119.7 km / 74.4 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

SOMIS, CA

Licensee Name SES Americom, Inc.
Latitude (NAD 83) 34° 19' 32.3" N
Longitude (NAD 83) 118° 59' 43.2" W
Ground Elevation (AMSL) 311.78 m / 1022.9 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model GD Satcom 9 meter
Antenna Mode Transmit 18.0 GHz
Interference Objectives: Long Term -151.0 dBW/4 kHz 20%
Short Term -128.0 dBW/4 kHz 0.0025%
Max Available RF Power -9.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 18.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	14.09	103.43	-10.00	100.00
5	14.14	98.45	-10.00	100.00
10	14.43	93.46	-10.00	100.00
15	15.31	88.47	-10.00	100.00
20	14.21	83.48	-10.00	100.00
25	14.26	78.49	-10.00	100.00
30	12.90	73.48	-10.00	100.00
35	13.24	68.50	-10.00	100.00
40	12.28	63.48	-10.00	100.00
45	10.74	58.47	-10.00	100.00
50	9.74	53.47	-10.00	100.00
55	8.82	48.48	-10.00	100.00
60	9.16	43.48	-8.96	100.00
65	9.74	38.47	-7.63	100.00
70	9.83	33.47	-6.12	100.00
75	11.63	28.50	-4.37	100.00
80	14.82	23.88	-2.45	100.00
85	14.40	18.91	0.08	100.00
90	12.28	13.61	3.65	100.00
95	12.24	8.69	8.52	100.00
100	12.47	4.11	16.66	100.00
105	11.56	0.45	40.78	118.39
110	10.33	5.12	14.27	100.00
115	8.93	9.88	7.13	100.00
120	7.76	14.45	3.01	100.00
125	6.55	18.98	0.04	100.00
130	6.21	22.84	-1.97	100.00
135	7.11	25.72	-3.26	100.00
140	7.95	28.39	-4.33	100.00
145	9.02	30.61	-5.15	100.00
150	8.89	33.42	-6.10	100.00
155	8.05	36.49	-7.05	100.00
160	8.22	38.34	-7.59	100.00
165	7.33	40.74	-8.25	100.00
170	6.89	42.31	-8.66	100.00
175	4.43	45.43	-9.43	100.00
180	1.89	48.22	-10.00	100.00
185	0.70	49.11	-10.00	100.00

COMSEARCH

Earth Station Data Sheet

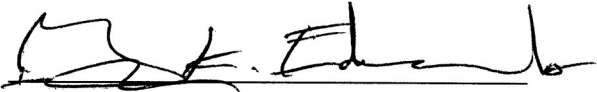
19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values		SOMIS, CA	
Licensee Name		SES Americom, Inc.	
Latitude (NAD 83)		34° 19' 32.3" N	
Longitude (NAD 83)		118° 59' 43.2" W	
Ground Elevation (AMSL)		311.78 m / 1022.9 ft	
Antenna Centerline (AGL)		5.49 m / 18.0 ft	
Antenna Model		GD Satcom 9 meter	
Antenna Mode		Transmit 18.0 GHz	
Interference Objectives:	Long Term	-151.0 dBW/4 kHz	20%
	Short Term	-128.0 dBW/4 kHz	0.0025%
Max Available RF Power		-9.8 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 18.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	48.89	-10.00	119.74
195	0.67	46.82	-9.76	100.00
200	2.07	43.72	-9.02	100.00
205	2.12	41.39	-8.42	100.00
210	2.34	38.56	-7.65	100.00
215	2.67	35.36	-6.71	100.00
220	3.01	31.92	-5.60	100.00
225	1.48	29.54	-4.76	100.00
230	1.76	25.76	-3.27	100.00
235	3.36	21.03	-1.07	100.00
240	4.70	16.38	1.64	100.00
245	5.90	11.78	5.22	100.00
250	5.79	7.92	9.54	100.00
255	6.69	3.89	17.24	101.59
260	6.80	4.90	14.75	100.00
265	7.07	9.04	8.10	100.00
270	7.48	13.74	3.55	100.00
275	9.48	18.48	0.33	100.00
280	11.42	23.49	-2.27	100.00
285	9.75	28.46	-4.36	100.00
290	9.60	33.47	-6.12	100.00
295	10.43	38.46	-7.63	100.00
300	11.86	43.48	-8.96	100.00
305	13.07	48.52	-10.00	100.00
310	12.92	53.51	-10.00	100.00
315	12.68	58.49	-10.00	100.00
320	12.99	63.49	-10.00	100.00
325	14.49	68.52	-10.00	100.00
330	14.38	73.50	-10.00	100.00
335	13.48	78.48	-10.00	100.00
340	13.88	83.47	-10.00	100.00
345	15.45	88.47	-10.00	100.00
350	16.96	93.44	-10.00	100.00
355	16.86	98.40	-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: December 19, 2019