

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
SES Americom, Inc.
SOUTH MTN, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
August 02, 2017

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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 06/21/2017.

Company

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
British American Communications Inc
Burbank, City of
CBS Broadcasting Inc
CBS Communications Services Inc
CBS Radio Inc. of Los Angeles
California Internet, L.P.
California Resources Corporation
California, State of
Cardiology Associates Medical Group, Inc
Castaic Lake Water Agency
City of Culver City
City of Los Angeles Dept Water & Power
City of Montebello
City of Pasadena, California
City of San Bernardino, MWD
City of San Buenaventura Police Dept
City of Santa Barbara Fire Department
City of Torrance
City of Whittier
Clearwire Spectrum Holdings III, LLC
Communication Services
Communication Services, Inc.
Community Memorial Health System
Craig Wireless
Downey, City of
El Monte Police Department
Embee Technologies
Emend Information & Management Solutions

Fireline Network Solutions Inc.
Foothill Transit
Fox Television Stations, LLC
Frontier California Inc.
Gilcomm LLC
Glaser, Mike
Glendale City California
Global Telecom & Technology Americas
Iberdrola Renewables, LLC
Inland Empire Utilities Agency
KAZN-TV Licensee LLC
KTLA, LLC
Kern Ed Telecom Consortium
Kern, County of
LT-WR, LLC
Las Virgenes Unified School District
Loma Linda University Health
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
Metropolitan Water Dist of So California
Mobile Relay Associates Inc.
Monrovia, City of
NBC Telemundo License LLC
New Cingular Wireless PCS - Los Angeles
Nextel of California Inc.
Nextlink Wireless, LLC
Nextweb Inc
Olympic Wireless, LLC
Pacific Bell Tel Com dba AT&T California
Pacific Lightwave Inc
Pomona College - KSPC
Pueblo Radiology
Redondo Beach Police Department
Regents of the University of California
San Bernardino County of California
Santa Barbara Cellular Systems, Ltd.
Santa Barbara, County of
Skyriver Communications
SmartSky Networks
South Bay Regional Public Comm Authority
Southern California Gas Company
Southern California Telephone Company
Spectrum Link, Inc.
Sprint Spectrum L.P.
Sprint Telephony PCS, L.P.
T-Mobile License LLC
THUMS Long Beach Company
Tara Broadcasting, LLC
Tejon Ranch Co
Tesoro Companies, Inc

Towerstream Corp.
Treach, James E
Turn Wireless, LLC
Ultimate Internet Access, Inc
Union Pacific Railroad Company
Vectus, Inc
Ventura County Office of Education
Ventura, County of
Verizon Wireless (VAW) LLC (Southern CA)
Verizon Wireless (VAW) LLC-N CA/NV
West End Communications Authority
Wiline Spectrum Holdings LLC
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: 08/02/2017
Job Number: 170621COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E170090
Licensee Code P3210
Licensee Name SES Americom, Inc.

Site Information SOUTH MTN, CA

Venue Name
Latitude (NAD 83) 34° 19' 31.2" N
Longitude (NAD 83) 118° 59' 43.6" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 308.0 m / 1010.5 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 47° W to 143° West Longitude
Azimuth Range 100.4° to 218.3°
Corresponding Elevation Angles 6.1° / 42.6°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

		Receive - FCC32	Transmit - FCC32
Manufacturer		GD Satcom	GD Satcom
Model		9 Meter	9 Meter
Gain / Diameter		58.5 dBi / 9.0 m	61.9 dBi / 9.0 m
3-dB / 15-dB Beamwidth		0.20° / 0.40°	0.13° / 0.32°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		-14.0 10.0
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)		47.9 71.9
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz -146.0 dBW/MHz	20% 0.01%
			-151.0 dBW/4 kHz 20% -128.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 11.0 GHz	Transmit 18.0 GHz
Emission / Frequency Range (MHz)	100KG7W - 54M0G7W / 10950.0 - 11200.0 100KG7W - 54M0G7W / 11450.0 - 12200.0	100KG7W - 54M0G7W / 17300.0 - 17800.0
Max Great Circle Coordination Distance	557.4 km / 346.3 mi	260.2 km / 161.7 mi
Precipitation Scatter Contour Radius	410.1 km / 254.8 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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Coordination Values

SOUTH MTN, CA

Licensee Name SES Americom, Inc.
Latitude (NAD 83) 34° 19' 31.2" N
Longitude (NAD 83) 118° 59' 43.6" W
Ground Elevation (AMSL) 308.0 m / 1010.5 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model GD Satcom 9 meter
Antenna Mode Receive 11.0 GHz Transmit 18.0 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 -14.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 18.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	14.91	100.26	-10.00	100.00	-10.00	100.00
5	14.62	95.33	-10.00	100.00	-10.00	100.00
10	13.23	90.38	-10.00	100.00	-10.00	100.00
15	12.34	85.41	-10.00	100.00	-10.00	100.00
20	15.11	80.51	-10.00	100.00	-10.00	100.00
25	12.11	75.47	-10.00	100.00	-10.00	100.00
30	11.19	70.47	-10.00	100.00	-10.00	100.00
35	9.52	65.43	-10.00	100.00	-10.00	100.00
40	9.56	60.45	-10.00	100.00	-10.00	100.00
45	8.86	55.43	-10.00	100.00	-10.00	100.00
50	9.45	50.47	-10.00	100.00	-10.00	100.00
55	9.69	45.50	-9.45	100.00	-9.45	100.00
60	11.54	40.69	-8.24	100.00	-8.24	100.00
65	13.22	36.00	-6.91	100.00	-6.91	100.00
70	14.33	31.37	-5.41	100.00	-5.41	100.00
75	14.05	26.51	-3.59	100.00	-3.59	100.00
80	12.96	21.45	-1.29	100.00	-1.29	100.00
85	11.95	16.42	1.61	100.00	1.61	100.00
90	11.87	11.85	5.16	100.00	5.16	100.00
95	12.11	7.88	9.58	114.07	9.58	100.00
100	11.30	3.39	18.74	557.36	18.74	260.21
105	10.04	1.39	28.43	244.66	28.43	101.41
110	8.88	6.02	12.51	153.42	12.51	100.00
115	7.23	10.95	6.02	136.28	6.02	100.00
120	6.35	15.35	2.35	130.06	2.35	100.00
125	5.78	19.48	-0.24	126.98	-0.24	100.00
130	6.22	22.84	-1.97	115.97	-1.97	100.00
135	7.45	25.48	-3.16	100.00	-3.16	100.00
140	8.40	28.07	-4.20	100.00	-4.20	100.00
145	8.14	31.29	-5.38	100.00	-5.38	100.00
150	6.77	35.12	-6.64	100.00	-6.64	100.00
155	6.75	37.60	-7.38	100.00	-7.38	100.00
160	6.57	39.81	-8.00	100.00	-8.00	100.00
165	8.27	39.86	-8.01	100.00	-8.01	100.00
170	6.49	42.70	-8.76	100.00	-8.76	100.00
175	4.73	45.13	-9.36	103.36	-9.36	100.00
180	2.03	48.08	-10.00	145.87	-10.00	100.00
185	0.84	48.97	-10.00	189.99	-10.00	100.00

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Coordination Values

SOUTH MTN, CA

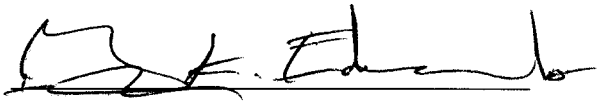
Licensee Name SES Americom, Inc.
Latitude (NAD 83) 34° 19' 31.2" N
Longitude (NAD 83) 118° 59' 43.6" W
Ground Elevation (AMSL) 308.0 m / 1010.5 ft
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Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%
Max Available RF Power -14.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 18.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	48.89	-10.00	231.37	-10.00	115.80
195	0.69	46.80	-9.76	198.43	-9.76	100.00
200	1.84	44.00	-9.09	155.64	-9.09	100.00
205	3.17	41.25	-8.39	130.36	-8.39	100.00
210	3.72	39.60	-7.94	122.32	-7.94	100.00
215	4.28	38.42	-7.61	115.16	-7.61	100.00
220	4.27	38.35	-7.59	115.45	-7.59	100.00
225	1.81	41.23	-8.38	160.25	-8.38	100.00
230	2.04	41.91	-8.56	152.26	-8.56	100.00
235	3.29	42.16	-8.62	127.27	-8.62	100.00
240	4.26	43.20	-8.89	110.86	-8.89	100.00
245	5.42	44.60	-9.23	100.00	-9.23	100.00
250	6.96	46.25	-9.63	100.00	-9.63	100.00
255	7.33	49.10	-10.00	100.00	-10.00	100.00
260	7.92	52.12	-10.00	100.00	-10.00	100.00
265	7.86	55.69	-10.00	100.00	-10.00	100.00
270	6.71	59.85	-10.00	100.00	-10.00	100.00
275	8.43	62.98	-10.00	100.00	-10.00	100.00
280	9.80	66.51	-10.00	100.00	-10.00	100.00
285	11.74	70.15	-10.00	100.00	-10.00	100.00
290	10.06	74.65	-10.00	100.00	-10.00	100.00
295	10.34	78.78	-10.00	100.00	-10.00	100.00
300	10.91	82.95	-10.00	100.00	-10.00	100.00
305	12.26	87.15	-10.00	100.00	-10.00	100.00
310	13.04	91.48	-10.00	100.00	-10.00	100.00
315	12.32	95.79	-10.00	100.00	-10.00	100.00
320	13.49	100.21	-10.00	100.00	-10.00	100.00
325	13.63	104.57	-10.00	100.00	-10.00	100.00
330	15.15	109.16	-10.00	100.00	-10.00	100.00
335	14.43	113.34	-10.00	100.00	-10.00	100.00
340	13.78	117.42	-10.00	100.00	-10.00	100.00
345	14.15	115.12	-10.00	100.00	-10.00	100.00
350	15.43	110.11	-10.00	100.00	-10.00	100.00
355	16.59	105.13	-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: August 02, 2017