

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

**SES Americom, Inc.
Moorpark, California
(Call Sign: E970336)**

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
May 22, 2011

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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.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the transmit/receive earth station.

Company

Clearwire Spectrum Holdings III, LLC
Los Angeles City Info Technology Agency
Los Angeles SMSA Ltd. Partnership
T-Mobile License LLC

No other carriers reported potential interference cases.

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 April 7, 2011.

Company

ABC Holding Company Inc.
ABC Radio Los Angeles Assets, LLC
AT&T CORP
AT&T California
Aerionet, Inc.
BEVERLY HILLS, CITY OF
BP West Coast Products LLC
BURBANK CITY , OF
Bel Air Internet
British American Communications Inc
CARDIOLOGY ASSOCIATES MEDICAL GROUP, INC
CASTAIC LAKE WATER AGENCY
CBS Broadcasting Inc
COMMUNICATIONS SERVICES
CULVER CITY, CITY OF
California, State of
City of Pasadena, California
City of Torrance
Clearwire Spectrum Holdings III, LLC
Color BroadBand Inc.
Community Memorial Health System
Cox Communications - Bakersfield/Goleta
El Monte Police Department
Emend Information & Management Solutions
FIRST FOURSQUARE CHURCH OF VAN NUYS
FOX TELEVISION STATIONS, INC.
Fireline Network Solutions Inc.
Glendale, City of
INDYMAC BANK
Intelecom Intelligent Telecommunications
KTLA INC
Kern, County of
LOS ANGELES CITY WATER & POWER
LOS ANGELES UNIFIED SCHOOL DISTRICT
LT-WR, LLC
Las Virgenes Unified School District

Company (Continued)

Long Beach City California
Long Beach City Electronics Div.
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 SMSA Ltd. Partnership
Los Angeles, City of
MOBILE RELAY ASSOCIATES INC
MONTEBELLO CITY CALIFORNIA
MetroPCS California, LLC
MetroPCS Networks California, LLC
Mike Glaser
NBC Telemundo License Co - News Burbank
NEXTEL OF CALIFORNIA INC
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS LLC - N CAL
Nextlink Wireless, Inc
Nextweb Inc
Regents of the University of California
SKYRIVER COMMUNICATIONS INC
Santa Barbara Cellular Systems, Ltd.
Southern California Gas Company
Sprint Spectrum LP DBA Sprint PCS
Sprint Telephony PCS, L.P.
T-Mobile License LLC
T-Mobile License LLC
TEJON RANCH COMPANY
THUMS Long Beach Company
Towerstream Corp
Turn Wireless, LLC
UNIVERSITY OF SOUTHERN CALIFORNIA
Union Pacific Railroad Company
Ventura County Office of Education
Verizon California Inc.
WEST COVINA, CITY OF

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: 05/22/2011
Job Number: 110407COMSJC02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E970336
Licensee Code P3210
Licensee Name SES Americom, Inc.

Site Information MOORPARK, CALIFORNIA

Venue Name
Latitude (NAD 83) 34° 19' 31.0" N
Longitude (NAD 83) 118° 59' 44.0" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 310.99 m / 1020.3 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 54° W to 145° West Longitude
Azimuth Range 104.7° to 220.9°
Corresponding Elevation Angles 11.9° / 41.4°
Antenna Centerline (AGL) 6.1 m / 20.0 ft

Antenna Information

Manufacturer Toronto Iron Works
Model 9.0 Meter
Gain / Diameter 57.1 dBi / 9.0 m
3-dB / 15-dB Beamwidth 0.12° / 0.26°

Receive

Transmit

| | | | | | |
|--------------------------|-------------|----------------|-------|------------------|---------|
| Max Available RF Power | (dBW/4 kHz) | -3.6 | | | |
| | (dBW/MHz) | 19.9 | | | |
| Maximum EIRP | (dBW/4 kHz) | 56.5 | | | |
| | (dBW/MHz) | 80.0 | | | |
| | (dBW) | 80.0 | | | |
| 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% |

Frequency Information

Emission / Frequency Range (MHz)

Receive 12.0 GHz

900KF2D / 12200.0 - 12700.0

Transmit 18.0 GHz

900KF2D / 17300.0 - 17800.0

Max Great Circle Coordination Distance 246.1 km / 152.9 mi 134.6 km / 83.6 mi
Precipitation Scatter Contour Radius 379.2 km / 235.6 mi 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

MOORPARK, CA

| | | | | | |
|--------------------------|------------------------------|----------------|-------------------|------------------|------------------|
| Licensee Name | SES Americom, Inc. | | | | |
| Latitude (NAD 83) | 34° 19' 31.0" N | | | | |
| Longitude (NAD 83) | 118° 59' 44.0" W | | | | |
| Ground Elevation (AMSL) | 310.99 m / 1020.3 ft | | | | |
| Antenna Centerline (AGL) | 6.1 m / 20.0 ft | | | | |
| Antenna Model | Toronto Iron Works 9.0 Meter | | | | |
| Antenna Mode | Receive 12.0 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 | | | | | -3.6 (dBW/4 kHz) |

| Azimuth (°) | Horizon Elevation (°) | Antenna Discrimination (°) | Receive 12.0 GHz | | Transmit 18.0 GHz | |
|-------------|-----------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|
| | | | Horizon Gain (dBi) | Coordination Distance (km) | Horizon Gain (dBi) | Coordination Distance (km) |
| 0 | 14.70 | 104.72 | -10.00 | 100.00 | -10.00 | 100.00 |
| 5 | 14.61 | 99.73 | -10.00 | 100.00 | -10.00 | 100.00 |
| 10 | 14.04 | 94.73 | -10.00 | 100.00 | -10.00 | 100.00 |
| 15 | 11.15 | 89.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 20 | 13.12 | 84.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 25 | 13.31 | 79.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 30 | 12.52 | 74.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 35 | 12.52 | 69.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 40 | 10.00 | 64.75 | -10.00 | 100.00 | -10.00 | 100.00 |
| 45 | 9.94 | 59.76 | -10.00 | 100.00 | -10.00 | 100.00 |
| 50 | 10.71 | 54.75 | -10.00 | 100.00 | -10.00 | 100.00 |
| 55 | 10.71 | 49.75 | -10.00 | 100.00 | -10.00 | 100.00 |
| 60 | 11.78 | 44.74 | -9.27 | 100.00 | -9.27 | 100.00 |
| 65 | 13.46 | 39.76 | -7.99 | 100.00 | -7.99 | 100.00 |
| 70 | 13.46 | 34.77 | -6.53 | 100.00 | -6.53 | 100.00 |
| 75 | 13.23 | 29.76 | -4.84 | 100.00 | -4.84 | 100.00 |
| 80 | 11.76 | 24.74 | -2.83 | 100.00 | -2.83 | 100.00 |
| 85 | 9.98 | 19.83 | -0.43 | 100.20 | -0.43 | 100.00 |
| 90 | 8.80 | 15.06 | 2.56 | 121.50 | 2.56 | 100.00 |
| 95 | 9.17 | 10.11 | 6.88 | 136.60 | 6.88 | 100.00 |
| 100 | 9.42 | 5.35 | 13.78 | 179.90 | 13.78 | 100.00 |
| 105 | 9.19 | 2.74 | 21.05 | 225.70 | 21.05 | 101.80 |
| 110 | 7.51 | 6.87 | 11.08 | 184.50 | 11.08 | 100.00 |
| 115 | 7.50 | 10.77 | 6.19 | 151.00 | 6.19 | 100.00 |
| 120 | 6.20 | 15.44 | 2.29 | 146.80 | 2.29 | 100.00 |
| 125 | 7.03 | 18.67 | 0.22 | 128.70 | 0.22 | 100.00 |
| 130 | 7.03 | 22.29 | -1.70 | 120.90 | -1.70 | 100.00 |
| 135 | 8.38 | 24.82 | -2.87 | 103.70 | -2.87 | 100.00 |
| 140 | 7.41 | 28.80 | -4.48 | 106.60 | -4.48 | 100.00 |
| 145 | 7.96 | 31.42 | -5.43 | 100.00 | -5.43 | 100.00 |
| 150 | 7.96 | 34.17 | -6.34 | 100.00 | -6.34 | 100.00 |
| 155 | 6.63 | 37.70 | -7.41 | 103.40 | -7.41 | 100.00 |
| 160 | 7.78 | 38.74 | -7.70 | 100.00 | -7.70 | 100.00 |
| 165 | 6.77 | 41.27 | -8.39 | 100.00 | -8.39 | 100.00 |
| 170 | 4.44 | 44.67 | -9.25 | 119.20 | -9.25 | 100.00 |
| 175 | 1.75 | 48.08 | -10.00 | 172.80 | -10.00 | 100.00 |
| 180 | 0.00 | 50.11 | -10.00 | 246.10 | -10.00 | 134.60 |
| 185 | 0.43 | 49.38 | -10.00 | 223.10 | -10.00 | 117.90 |

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

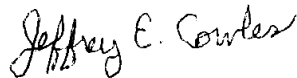
MOORPARK, CA

| | | | | |
|------------------------------------|------------------------------|-------|-------------------|---------|
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| Antenna Model | Toronto Iron Works 9.0 Meter | | | |
| Antenna Mode | Receive 12.0 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 | | | -3.6 (dBW/4 kHz) | |

| Azimuth (°) | Horizon Elevation (°) | Antenna Discrimination (°) | Receive 12.0 GHz | | Transmit 18.0 GHz | |
|-------------|-----------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|
| | | | Horizon Gain (dBi) | Coordination Distance (km) | Horizon Gain (dBi) | Coordination Distance (km) |
| 190 | 0.00 | 48.89 | -10.00 | 246.10 | -10.00 | 134.60 |
| 195 | 0.91 | 46.61 | -9.71 | 200.50 | -9.71 | 100.00 |
| 200 | 2.16 | 43.64 | -9.00 | 163.30 | -9.00 | 100.00 |
| 205 | 3.10 | 40.99 | -8.32 | 144.30 | -8.32 | 100.00 |
| 210 | 3.29 | 39.41 | -7.89 | 142.20 | -7.89 | 100.00 |
| 215 | 4.17 | 37.63 | -7.39 | 129.90 | -7.39 | 100.00 |
| 220 | 3.64 | 37.78 | -7.43 | 137.40 | -7.43 | 100.00 |
| 225 | 1.07 | 40.51 | -8.19 | 200.80 | -8.19 | 100.00 |
| 230 | 1.78 | 40.51 | -8.19 | 180.90 | -8.19 | 100.00 |
| 235 | 2.25 | 41.25 | -8.39 | 166.90 | -8.39 | 100.00 |
| 240 | 3.71 | 41.63 | -8.48 | 131.60 | -8.48 | 100.00 |
| 245 | 5.23 | 42.56 | -8.73 | 111.90 | -8.73 | 100.00 |
| 250 | 6.58 | 44.19 | -9.13 | 100.00 | -9.13 | 100.00 |
| 255 | 7.32 | 46.73 | -9.74 | 100.00 | -9.74 | 100.00 |
| 260 | 8.60 | 49.32 | -10.00 | 100.00 | -10.00 | 100.00 |
| 265 | 7.08 | 53.66 | -10.00 | 100.00 | -10.00 | 100.00 |
| 270 | 5.54 | 57.98 | -10.00 | 104.40 | -10.00 | 100.00 |
| 275 | 7.96 | 60.74 | -10.00 | 100.00 | -10.00 | 100.00 |
| 280 | 10.48 | 63.90 | -10.00 | 100.00 | -10.00 | 100.00 |
| 285 | 11.50 | 67.78 | -10.00 | 100.00 | -10.00 | 100.00 |
| 290 | 9.78 | 72.35 | -10.00 | 100.00 | -10.00 | 100.00 |
| 295 | 10.11 | 76.50 | -10.00 | 100.00 | -10.00 | 100.00 |
| 300 | 10.92 | 80.66 | -10.00 | 100.00 | -10.00 | 100.00 |
| 305 | 10.86 | 84.95 | -10.00 | 100.00 | -10.00 | 100.00 |
| 310 | 12.66 | 89.25 | -10.00 | 100.00 | -10.00 | 100.00 |
| 315 | 12.81 | 93.63 | -10.00 | 100.00 | -10.00 | 100.00 |
| 320 | 13.52 | 98.07 | -10.00 | 100.00 | -10.00 | 100.00 |
| 325 | 13.24 | 102.44 | -10.00 | 100.00 | -10.00 | 100.00 |
| 330 | 14.39 | 106.98 | -10.00 | 100.00 | -10.00 | 100.00 |
| 335 | 14.43 | 111.37 | -10.00 | 100.00 | -10.00 | 100.00 |
| 340 | 14.07 | 115.63 | -10.00 | 100.00 | -10.00 | 100.00 |
| 345 | 14.14 | 119.71 | -10.00 | 100.00 | -10.00 | 100.00 |
| 350 | 15.02 | 114.70 | -10.00 | 100.00 | -10.00 | 100.00 |
| 355 | 16.10 | 109.68 | -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.



Jeffrey E. Cowles
Engineer III, Telecommunications
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Va. 20147

DATED: May 22, 2011