

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
L-3 Communications - Datron Advanced Technologies Division
SIMI VALLEY, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
May 31, 2012

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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 proposed transmit-receive earth station.

Company

Clearwire Spectrum Holdings III, LLC
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 03/19/2012.

Company

ABC Holding Company Inc.
AMERIQUEST MORTGAGE COMPANY
ANAHEIM CITY PUBLIC UTILITY DEPARTMENT
AT&T CORP
AT&T California
Aerionet, Inc.
AirSites2000, LLC
Airband Communications Inc
BEVERLY HILLS, CITY OF
BP West Coast Products LLC
BURBANK CITY , OF
Bakersfield, City of
Bel Air Internet, LLC
British American Communications Inc
CARDIOLOGY ASSOCIATES MEDICAL GROUP, INC
CASTAIC LAKE WATER AGENCY
CBS Broadcasting Inc
CNG Communications, Inc.
COMMUNICATIONS SERVICES
CULVER CITY, CITY OF
California, State of
Chevron USA Inc.
Children's Hospital Orange County (CHOC)
City of Corona
City of Irvine Public Safety
City of Newport Beach
City of Pasadena, California
City of Torrance
Clearwire Spectrum Holdings III, LLC
Color BroadBand Inc.
Community Memorial Health System
Conterra Ultra Broadband, LLC
Cox Communications California LLC
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
IBERDROLA Renewables

INDYMAC BANK
 INLAND EMPIRE UTILITIES AGENCY
 Intelcom Intelligent Telecommunications
 KERN COUNTY SUPERINTENDENT OF SCHOOLS
 KERN SCHOOLS FEDERAL CREDIT UNION
 KTLA INC
 Kern, County of
 LOS ANGELES CITY WATER & POWER
 LOS ANGELES UNIFIED SCHOOL DISTRICT
 LT-WR, LLC
 Las Virgenes Unified School District
 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
 MetroConnect Inc
 MetroPCS California, LLC
 MetroPCS Networks California, LLC
 Metropolitan Water Dist of So California
 Mike Glaser
 Moulton Niguel Water District
 NBC Telemundo License Co - News Burbank
 New Cingular Wireless PCS - Los Angeles
 New Cingular Wireless PCS LLC - N CAL
 Nextel of California Inc.
 Nextlink Wireless, LLC
 Nextweb Inc
 Pomona College - KSPC
 Quest Diagnostics Incorporated
 RIVERSIDE CITY CALIFORNIA
 RIVERSIDE CITY CALIFORNIA
 Regents of the University of California
 Regents of the University of California
 SKYLINK COMMUNICATIONS, L.P.
 ST. JOSEPH HEALTH SYSTEM
 San Bernardino County of California
 Santa Barbara Cellular Systems, Ltd.
 Santa Barbara, County of
 Skyriver Communications
 Southern California Edison Company
 Southern California Gas Company
 Sprint Spectrum LP DBA Sprint PCS
 Sprint Telephony PCS, L.P.
 T-MOBILE LIC LLC - VOICESTREAM PCS BTA I
 T-Mobile License LLC
 THUMS Long Beach Company
 Time Warner NY Cable LLC
 Towerstream Corp
 Turn Wireless, LLC
 UNIVERSITY OF SOUTHERN CALIFORNIA

Union Pacific Railroad Company
Vectus, Inc
Ventura County Office of Education
Verizon California Inc.
Verizon Wireless (VAW) LLC (CA)
WEST COVINA, CITY OF
WEST END COMMUNICATIONS AUTHORITY

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: 04/02/2012
Job Number: 120319COMSGE01

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: L3CDAT
Licensee Name: L-3 Communications - Datron Advanced Tec

Site Information

SIMI VALLEY, CA

Venue Name:
Latitude (NAD 83): 34° 16' 55.0" N
Longitude (NAD 83): 118° 48' 18.0" W
Climate Zone: A
Rain Zone: 4
Ground Elevation (AMSL): 214.88 m / 705.0 ft

Link Information

Satellite Type: Low Earth Orbit
Mode: TR - Transmit-Receive
Modulation: Digital
Minimum Elevation Angle: 5.0°
Azimuth Range: 0.0° to 360°
Antenna Centerline (AGL): 2.35 m / 7.7 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer: L-3 Comm. Datron
Model: 1001-00135-101
Gain / Diameter: 52.9 dBi / 3.0 m
3-dB / 15-dB Beamwidth: 0.30° / 0.60°

L-3 Comm. Datron
1001-00135-101
55.7 dBi / 3.0 m
0.23° / 0.45°

Max Available RF Power (dBW/4 kHz)
(dBW/MHz)

10.4
34.4

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

66.1
90.1

Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%

-151.0 dBW/4 kHz 20%
-128.0 dBW/4 kHz 0.0025%

Frequency Information

Receive 19.0 GHz

Transmit 29.0 GHz

Emission / Frequency Range (MHz): 20K0G2D - 7M50G7A / 19400.0 - 19600.0

20K0G2D - 7M50G7A / 29100.0 - 29249.0

Max Great Circle Coordination Distance: 142.1 km / 88.3 mi
Precipitation Scatter Contour Radius: 100.0 km / 62.1 mi

100.0 km / 62.1 mi
225.8 km / 140.3 mi

COMSEARCH

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Coordination Values

SIMI VALLEY, CA

Licensee Name L-3 Communications - Datron Advanced Tec
Latitude (NAD 83) 34° 16' 55.0" N
Longitude (NAD 83) 118° 48' 18.0" W
Ground Elevation (AMSL) 214.88 m / 705.0 ft
Antenna Centerline (AGL) 2.35 m / 7.7 ft
Antenna Model L-3 Comm. Datron 3.0 Meter
Antenna Mode Receive 18.0 GHz Transmit 28.0 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 10.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 19.0 GHz		Transmit 29.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	75.30	2.60	142.10	11.50	100.00
5	0.00	71.08	2.60	142.10	11.50	100.00
10	0.00	66.91	2.60	142.10	11.50	100.00
15	0.00	62.79	2.60	142.10	11.50	100.00
20	0.00	58.75	2.60	142.10	11.50	100.00
25	0.00	54.81	2.60	142.10	11.50	100.00
30	0.00	50.98	2.60	142.10	11.50	100.00
35	0.00	47.32	2.60	142.10	11.50	100.00
40	0.00	43.85	2.60	142.10	11.50	100.00
45	0.00	40.63	2.60	142.10	11.50	100.00
50	0.00	37.73	2.60	142.10	11.50	100.00
55	0.00	35.23	2.60	142.10	11.50	100.00
60	0.00	33.22	2.60	142.10	11.50	100.00
65	0.00	31.79	2.60	142.10	11.50	100.00
70	0.00	31.03	2.60	142.10	11.50	100.00
75	0.00	30.99	2.60	142.10	11.50	100.00
80	0.00	31.66	2.60	142.10	11.50	100.00
85	0.00	33.02	2.60	142.10	11.50	100.00
90	0.00	34.96	2.60	142.10	11.50	100.00
95	0.00	37.41	2.60	142.10	11.50	100.00
100	0.00	40.27	2.60	142.10	11.50	100.00
105	0.00	43.46	2.60	142.10	11.50	100.00
110	0.00	46.90	2.60	142.10	11.50	100.00
115	0.00	50.54	2.60	142.10	11.50	100.00
120	0.00	54.35	2.60	142.10	11.50	100.00
125	0.00	58.28	2.60	142.10	11.50	100.00
130	0.00	62.31	2.60	142.10	11.50	100.00
135	0.00	66.42	2.60	142.10	11.50	100.00
140	0.00	70.59	2.60	142.10	11.50	100.00
145	0.00	74.80	2.60	142.10	11.50	100.00
150	0.00	79.05	2.60	142.10	11.50	100.00
155	0.00	83.32	2.60	142.10	11.50	100.00
160	0.00	87.60	2.60	142.10	11.50	100.00
165	0.00	91.89	2.60	142.10	11.50	100.00
170	0.00	96.18	2.60	142.10	11.50	100.00
175	0.00	100.45	2.60	142.10	11.50	100.00
180	0.00	104.70	2.60	142.10	11.50	100.00
185	0.00	108.92	2.60	142.10	11.50	100.00

COMSEARCH

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Coordination Values

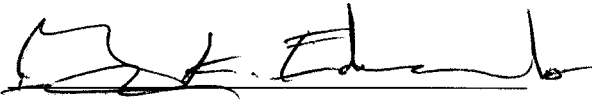
SIMI VALLEY, CA

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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 10.4 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 19.0 GHz		Transmit 29.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	113.09	2.60	142.10	11.50	100.00
195	0.00	117.21	2.60	142.10	11.50	100.00
200	0.00	121.25	2.60	142.10	11.50	100.00
205	0.00	125.19	2.60	142.10	11.50	100.00
210	0.00	129.02	2.60	142.10	11.50	100.00
215	0.00	132.68	2.60	142.10	11.50	100.00
220	0.00	136.15	2.60	142.10	11.50	100.00
225	0.00	139.37	2.60	142.10	11.50	100.00
230	0.00	142.27	2.60	142.10	11.50	100.00
235	0.00	144.77	2.60	142.10	11.50	100.00
240	0.00	146.78	2.60	142.10	11.50	100.00
245	0.00	148.21	2.60	142.10	11.50	100.00
250	0.00	148.97	2.60	142.10	11.50	100.00
255	0.00	149.01	2.60	142.10	11.50	100.00
260	0.00	148.34	2.60	142.10	11.50	100.00
265	0.00	146.98	2.60	142.10	11.50	100.00
270	0.00	145.04	2.60	142.10	11.50	100.00
275	0.00	142.59	2.60	142.10	11.50	100.00
280	0.00	139.73	2.60	142.10	11.50	100.00
285	0.00	136.54	2.60	142.10	11.50	100.00
290	0.00	133.10	2.60	142.10	11.50	100.00
295	0.00	129.46	2.60	142.10	11.50	100.00
300	0.00	125.65	2.60	142.10	11.50	100.00
305	0.00	121.72	2.60	142.10	11.50	100.00
310	0.00	117.69	2.60	142.10	11.50	100.00
315	0.00	113.58	2.60	142.10	11.50	100.00
320	0.00	109.41	2.60	142.10	11.50	100.00
325	0.00	105.20	2.60	142.10	11.50	100.00
330	0.00	100.95	2.60	142.10	11.50	100.00
335	0.00	96.68	2.60	142.10	11.50	100.00
340	0.00	92.40	2.60	142.10	11.50	100.00
345	0.00	88.11	2.60	142.10	11.50	100.00
350	0.00	83.82	2.60	142.10	11.50	100.00
355	0.00	79.55	2.60	142.10	11.50	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 31, 2012