

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Intelsat License LLC
NUEVO, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
March 08, 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 02/01/2017.

Company

ABC Holding Company Inc.
AC BidCO LLC
AT&T Corp.
AT&T Mobility Spectrum LLC - Arizona
AT&T Mobility Spectrum LLC - Southern CA
AirSites2000, LLC
Alltel Comm Southwest Holdings Inc.
Anaheim City, of
Arizona Public Service Company (APS)
Arizona, State Of
BNSF Railway Company
CCO SoCal I, LLC
California Internet Solutions, Inc.
California, State of
Calvary Chapel of Costa Mesa
Cellco Partnership - Southern California
City of Casa Grande
City of Los Angeles Dept Water & Power
City of Montebello
City of Yuma
Coachella Valley Water District
Coast Community College District
Commnet Four Corners, LLC
DM Ventures, Inc. dba Warp2Biz
DRS Global Enterprise Solutions, Inc.
Entravision Holdings, LLC
Federal Communication Commission
Fisher Wireless Services, Inc.
Fresno MSA Limited Partnership
Gila River Cellular General Partnership
Glendale, City of
Global Telecom & Technology Americas, In
GovNET Licenses LLC
ION Media Los Angeles License, Inc.
KTLA, LLC
Kern Ed Telecom Consortium
Kern, County of
LDM Engineering
LOS ANGELES UNIFIED SCHOOL DISTRICT
Lightwave Broadband LLC

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
MHO Networks
MOBILE RELAY ASSOCIATES INC
Maricopa County Wireless Systems
Metropolitan Water Dist of So California
NRJ TV LA License Co, LLC
New Cingular Wireless PCS LLC - AZ
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS LLC - N CAL
New Cingular Wireless PCS LLC -San Diego
Nextel License Holdings 4 Inc.
Nextel of California Inc.
Norris, Samuel O
Northrop Grumman Systems Corp.
Olympic Wireless, LLC
Orange, County of, CA
Pacific Bell Tel Com dba AT&T California
Pacific Lightwave Inc
Phoenix, City of
Pinal, County of
QUALCOMM INC.
Qwest Corporation
Regional 3Cs
Riverside, County of
San Bernardino County of California
San Diego Broadband
San Diego County Water Authority
San Diego Gas & Electric Company
San Diego, City of
San Diego, County of
Skyriver Communications
Southern California Edison Company
Southern California Gas Company
Southern California Regional Rail Auth.
SpectrumLink
Sprint Spectrum L.P.
Sprint Telephony PCS, L.P.
Station Venture Operations, LP
T-Mobile License LLC
TV Microwaves Company
Table Top Telephone Company
Telink Networks SW, LLC
Time Warner Cable Pacific West LLC
Tucson Electric Power Company
Turn Wireless, LLC
Ultimate Internet Access, Inc
Union Pacific Railroad Company
University of California, HPWREN
Vectus, Inc
Verizon California Inc.
Verizon Wireless (VAW) LLC (Southern CA)

Verizon Wireless (VAW) LLC-N CA/NV
Verizon Wireless(VAW) LLC-AZ/CO/NM/NV/UT
Western Broadband Inc.
Western Technical Services

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: 02/01/2017
Job Number: 170201COMSGE07

Administrative Information

Status ENGINEER PROPOSAL
Call Sign TEMP04
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information

NUEVO, CA

Venue Name
Latitude (NAD 83) 33° 47' 43.6" N
Longitude (NAD 83) 117° 5' 20.4" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 566.62 m / 1859.0 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Analog and Digital
Satellite Arc 45° W to 170° West Longitude
Azimuth Range 100.2° to 247.2°
Corresponding Elevation Angles 6.2° / 22.0°
Antenna Centerline (AGL) 7.32 m / 24.0 ft

Antenna Information

Transmit - FCC32

Manufacturer TIW
Model 11 Meter
Gain / Diameter 55.5 dBi / 11.0 m
3-dB / 15-dB Beamwidth 0.29° / 0.54°

Max Available RF Power (dBW/4 kHz) 10.7
(dBW/MHz) 34.7

Maximum EIRP (dBW/4 kHz) 66.2
(dBW/MHz) 90.2

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 6.1 GHz

Emission / Frequency Range (MHz) 850KFXD - 1M20FXD / 5853.0 and 6424.5

Max Great Circle Coordination Distance 515.7 km / 320.4 mi
Precipitation Scatter Contour Radius 381.6 km / 237.1 mi

COMSEARCH

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Coordination Values

NUEVO, CA

Licensee Name Intelsat License LLC
Latitude (NAD 83) 33° 47' 43.6" N
Longitude (NAD 83) 117° 5' 20.4" W
Ground Elevation (AMSL) 566.62 m / 1859.0 ft
Antenna Centerline (AGL) 7.32 m / 24.0 ft
Antenna Model TIW 11 meter
Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power 10.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.91	100.15	-10.00	172.39
5	2.23	95.18	-10.00	133.74
10	1.88	90.19	-10.00	140.02
15	2.42	85.20	-10.00	130.20
20	2.49	80.21	-10.00	128.82
25	2.56	75.22	-10.00	127.47
30	3.50	70.22	-10.00	110.23
35	3.34	65.23	-10.00	113.16
40	3.36	60.23	-10.00	112.81
45	3.28	55.24	-10.00	114.21
50	2.88	50.27	-10.00	121.63
55	2.50	45.31	-9.40	130.89
60	2.77	40.31	-8.14	130.54
65	3.44	35.29	-6.69	123.71
70	3.10	30.33	-5.05	134.68
75	3.19	25.36	-3.10	140.91
80	3.76	20.33	-0.70	140.20
85	3.33	15.45	2.28	163.29
90	3.39	10.56	6.41	185.04
95	2.51	6.34	11.94	232.12
100	2.99	3.18	19.45	515.71
105	3.63	5.38	13.72	217.20
110	3.84	9.29	7.80	182.70
115	3.70	13.36	3.86	163.23
120	3.87	17.17	1.13	146.35
125	3.84	21.02	-1.07	137.23
130	4.49	24.32	-2.65	122.77
135	3.88	28.30	-4.29	125.06
140	4.24	31.47	-5.45	115.37
145	4.11	34.76	-6.53	113.04
150	4.48	37.41	-7.32	105.07
155	4.67	39.84	-8.01	100.00
160	4.09	42.53	-8.72	105.16
165	4.55	43.90	-9.06	100.00
170	4.85	44.86	-9.30	100.00
175	5.79	44.68	-9.25	100.00
180	6.19	44.52	-9.21	100.00
185	6.91	43.57	-8.98	100.00

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

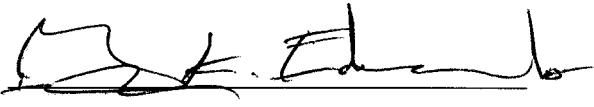
NUEVO, CA

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Latitude (NAD 83) 33° 47' 43.6" N
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Max Available RF Power 10.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	7.27	42.53	-8.72	100.00
195	6.99	41.64	-8.49	100.00
200	6.27	40.64	-8.22	100.00
205	5.71	38.99	-7.77	100.00
210	5.71	36.45	-7.04	100.00
215	6.70	32.84	-5.91	100.00
220	7.49	29.16	-4.62	100.00
225	7.03	26.16	-3.44	100.00
230	5.65	23.57	-2.31	111.03
235	6.10	19.95	-0.50	113.79
240	5.73	17.76	0.76	122.64
245	5.59	16.57	1.52	126.97
250	5.18	17.07	1.20	129.68
255	4.95	18.72	0.19	128.04
260	4.51	21.57	-1.35	127.60
265	4.74	24.62	-2.78	118.93
270	4.38	28.54	-4.39	117.44
275	4.51	32.48	-5.79	110.32
280	4.14	36.88	-7.17	110.23
285	3.19	41.60	-8.48	121.57
290	2.77	46.16	-9.61	125.13
295	1.04	51.16	-10.00	164.59
300	0.82	55.70	-10.00	177.36
305	0.00	60.40	-10.00	221.42
310	0.00	64.94	-10.00	221.42
315	0.00	69.50	-10.00	221.42
320	0.00	74.10	-10.00	221.42
325	0.00	78.71	-10.00	221.42
330	0.00	83.34	-10.00	221.42
335	0.00	87.97	-10.00	221.42
340	0.00	92.60	-10.00	221.42
345	0.00	97.24	-10.00	221.42
350	0.00	101.86	-10.00	221.42
355	0.00	105.10	-10.00	221.42

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: March 08, 2017