

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Broadcast Company of the Americas
ALPINE, CA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 10, 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 proposed transmit-receive earth station.

Company

New Cingular Wireless PCS LLC -San Diego
SAN DIEGO, CITY OF
San Diego Gas & Electric Company

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 10/07/2011.

Company

AT&T California
Cellco Partnership - California
Cox Communications - San Diego Mkt
Los Angeles SMSA Ltd. Partnership
METROPOLITAN AREA NETWORKS, INC.
Metropolitan Water Dist of So California
New Cingular Wireless PCS LLC -San Diego
QUALCOMM INC.
Regional 3Cs
Riverside, County of
SAN DIEGO COUNTY
SAN DIEGO, CITY OF
San Diego Gas & Electric Company
Southern California Edison Company
Southern California Gas Company
TV MICROWAVES CO
University of California,HPWREN
Verizon California Inc.
Verizon Wireless (VAW) LLC (CA)
WWC License L.L.C. - California

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: 10/07/2011
Job Number: 111007COMSTC01

Administrative Information

Licensee Name Broadcast Company of the Americas

Site Information

ALPINE, CA

Latitude (NAD 83) 32°50' 25.4" N
Longitude (NAD 83) 116°42' 28.6" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 702.45 m / 2304.6 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 58°W to 139°West Longitude
Azimuth Range 108.2° to 217.1°
Corresponding Elevation Angles 17.6° / 44.9°
Antenna Centerline (AGL) 2.6 m / 8.5 ft

Antenna Information

Receive

Transmit

Manufacturer	Prodelin	Prodelin			
Model	1385	1385			
Gain / Diameter	41.9 dBi / 3.8 m	45.9 dBi / 3.8 m			
3-dB / 15-dB Beamwidth	1.00° / 2.00°	0.50° / 1.00°			
Max Available RF Power (dBW/4 kHz)		-14.08			
(dBW/MHz)		9.9			
Maximum EIRP (dBW/4 kHz)		31.82			
(dBW/MHz)		55.8			
(dBW)		55.9			
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%

Frequency Information

Receive 4.0 GHz

Transmit 6.1 GHz

Emission / Frequency Range (MHz)	76K8G7W / 3700.0 - 4200.0	76K8G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	285.3 km / 177.2 mi	132.6 km / 82.4 mi
Precipitation Scatter Contour Radius	372.4 km / 231.4 mi	100.0 km / 62.1 mi

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Coordination Values

ALPINE, CA

Licensee Name Broadcast Company of the Americas
Latitude (NAD 83) 32°50' 25.4" N
Longitude (NAD 83) 116°42' 28.6" W
Ground Elevation (AMSL) 702.45 m / 2304.6 ft
Antenna Centerline (AGL) 2.6 m / 8.5 ft
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -14.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	3.04	107.64	-10.00	170.41	-10.00	100.00
5	2.58	102.79	-10.00	181.33	-10.00	100.00
10	1.97	97.94	-10.00	195.38	-10.00	100.00
15	2.12	93.13	-10.00	191.69	-10.00	100.00
20	1.94	88.31	-10.00	196.02	-10.00	100.00
25	2.87	83.47	-10.00	174.54	-10.00	100.00
30	3.29	78.61	-10.00	162.90	-10.00	100.00
35	4.37	73.70	-10.00	142.31	-10.00	100.00
40	5.66	68.74	-10.00	128.44	-10.00	100.00
45	6.06	63.83	-10.00	124.52	-10.00	100.00
50	4.83	59.12	-10.00	135.88	-10.00	100.00
55	4.15	54.41	-10.00	145.58	-10.00	100.00
60	3.94	49.67	-10.00	149.09	-10.00	100.00
65	3.90	44.95	-9.32	153.09	-9.32	100.00
70	5.00	39.96	-8.04	141.69	-8.04	100.00
75	6.34	34.89	-6.57	135.22	-6.57	100.00
80	6.22	30.27	-5.03	142.02	-5.03	100.00
85	4.95	26.29	-3.49	165.02	-3.49	100.00
90	4.40	22.38	-1.75	185.78	-1.75	100.00
95	4.10	18.82	0.14	200.70	0.14	100.00
100	4.22	15.66	2.13	207.05	2.13	100.00
105	4.34	13.63	3.64	213.67	3.64	100.00
110	4.71	12.99	4.16	210.81	4.16	100.00
115	5.56	13.76	3.53	199.00	3.53	100.00
120	5.11	17.08	1.19	191.07	1.19	100.00
125	5.74	20.38	-0.73	172.43	-0.73	100.00
130	5.89	24.02	-2.52	158.65	-2.52	100.00
135	5.98	27.57	-4.01	149.82	-4.01	100.00
140	6.37	30.72	-5.19	139.51	-5.19	100.00
145	6.52	33.81	-6.23	134.69	-6.23	100.00
150	6.48	36.74	-7.13	131.42	-7.13	100.00
155	7.14	38.76	-7.71	121.99	-7.71	100.00
160	7.19	40.84	-8.28	119.19	-8.28	100.00
165	6.85	42.81	-8.79	120.75	-8.79	100.00
170	6.95	43.91	-9.06	118.59	-9.06	100.00
175	6.47	45.09	-9.35	122.63	-9.35	100.00
180	6.09	45.71	-9.50	126.25	-9.50	100.00
185	5.21	46.34	-9.65	134.20	-9.65	100.00

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Coordination Values


ALPINE, CA

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Latitude (NAD 83)	32°50' 25.4" N				
Longitude (NAD 83)	116°42' 28.6" W				
Ground Elevation (AMSL)	702.45 m / 2304.6 ft				
Antenna Centerline (AGL)	2.6 m / 8.5 ft				
Antenna Model	FCC Reference 32-25LOG(THETA)				
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz		
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power				-14.1 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	4.65	46.12	-9.60	139.97	-9.60	100.00
195	4.55	44.92	-9.31	142.59	-9.31	100.00
200	5.15	42.67	-8.75	137.11	-8.75	100.00
205	4.02	42.30	-8.66	153.83	-8.66	100.00
210	3.64	41.73	-8.51	162.67	-8.51	100.00
215	3.21	41.71	-8.50	174.32	-8.50	100.00
220	2.74	42.22	-8.64	184.39	-8.64	100.00
225	2.10	43.36	-8.93	197.32	-8.93	100.00
230	1.53	44.85	-9.30	208.00	-9.30	100.00
235	1.13	46.58	-9.70	217.89	-9.70	100.00
240	1.12	48.29	-10.00	216.44	-10.00	100.00
245	0.78	50.60	-10.00	232.49	-10.00	100.00
250	0.00	53.49	-10.00	285.28	-10.00	132.57
255	0.00	56.01	-10.00	285.28	-10.00	132.57
260	1.28	57.97	-10.00	211.94	-10.00	100.00
265	3.10	60.01	-10.00	169.06	-10.00	100.00
270	4.75	62.54	-10.00	136.93	-10.00	100.00
275	6.34	65.45	-10.00	121.53	-10.00	100.00
280	6.77	69.00	-10.00	116.77	-10.00	100.00
285	7.38	72.64	-10.00	110.28	-10.00	100.00
290	8.17	76.38	-10.00	102.30	-10.00	100.00
295	9.22	80.20	-10.00	100.00	-10.00	100.00
300	10.10	84.18	-10.00	100.00	-10.00	100.00
305	10.51	88.28	-10.00	100.00	-10.00	100.00
310	10.83	92.41	-10.00	100.00	-10.00	100.00
315	11.20	96.58	-10.00	100.00	-10.00	100.00
320	10.90	100.68	-10.00	100.00	-10.00	100.00
325	10.81	104.76	-10.00	100.00	-10.00	100.00
330	9.65	108.55	-10.00	100.00	-10.00	100.00
335	9.08	112.32	-10.00	100.00	-10.00	100.00
340	7.94	115.74	-10.00	104.43	-10.00	100.00
345	6.17	118.65	-10.00	123.39	-10.00	100.00
350	4.41	117.44	-10.00	141.75	-10.00	100.00
355	3.84	112.54	-10.00	151.06	-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.



Timothy O. Crutcher
Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: November 10, 2011