

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

Vizada, Inc.
Santa Paula, California

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 13, 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

Los Angeles City Info. Technology Agency
Los Angeles County Dept. of Public Works
Los Angeles County FCC Licensing Section
Los Angeles SMSA Ltd. Partnership
Southern California Regional Rail Authority

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 May 16, 2012.

Company

AT&T California
AirSites2000, LLC
American Tower, LLC
California, State of
Chevron USA Inc.
Exxon Communications Company
Fresno MSA Limited Partnership
GTE Mobilnet of California LTD Partnersh
GTE Mobilnet of Santa Barbara LTD Ptnsh
Goff, Wayne C.
KERN ED TELECOM CONSORTIUM
KTLA INC
Kern, County of
LOS ANGELES CITY WATER & POWER
LOS ANGELES UNIFIED SCHOOL DISTRICT
Los Angeles City Info Technology Agency
Los Angeles County Dept of Public Works
Los Angeles County FCC Licensing Section
Los Angeles SMSA Ltd. Partnership
MONTEBELLO CITY CALIFORNIA
Metropolitan Water Dist of So California
New Cingular Wireless PCS - Los Angeles
New Cingular Wireless PCS LLC - N CAL
Nextel of California Inc.
Nextweb Inc
OCCIDENTAL OF ELK HILLS INC
Plains Exploration & Production Company
Regents of the University of California
Santa Barbara Cellular Systems, Ltd.
Skyriver Communications
Southern California Edison Company
Southern California Gas Company
Southern California Regional Rail Auth.
TV MICROWAVES CO
Ventura, County of
Verizon California Inc.
Vintage Production California LLC
Western Pacific Mobile Microwave
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: 06/13/2012
Job Number: 120516COMSJC05

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code VIZSAT
Licensee Name Vizada, Inc.

Site Information SANTA PAULA, CALIFORNIA

Venue Name
Latitude (NAD 83) 34° 24' 8.1" N
Longitude (NAD 83) 119° 4' 22.0" W
Climate Zone A
Rain Zone 4
Ground Elevation (AMSL) 236.83 m / 777.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 108.7° to 218.1°
Corresponding Elevation Angles 16.8° / 42.6°
Antenna Centerline (AGL) 3.05 m / 10.0 ft

Antenna Information

Manufacturer GD Satcom Technologies
Model 4.8 Meter
Gain / Diameter 44.2 dBi / 4.8 m
3-dB / 15-dB Beamwidth 1.04° / 2.00°

Receive

Transmit

GD Satcom Technologies
4.8 Meter
48.1 dBi / 4.8 m
0.67° / 1.27°

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

SEE ATTACHMENT 1
SEE ATTACHMENT 1

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

SEE ATTACHMENT 1
SEE ATTACHMENT 1
SEE ATTACHMENT 1

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

-154.0 dBW/4 kHz 20%
-131.0 dBW/4 kHz 0.0025%

Frequency Information

Emission / Frequency Range (MHz)

Receive 4.0 GHz

SEE ATTACHMENT 1
SEE ATTACHMENT 1

Transmit 6.1 GHz

SEE ATTACHMENT 1
SEE ATTACHMENT 1

Max Great Circle Coordination Distance 292.8 km / 181.9 mi
Precipitation Scatter Contour Radius 373.8 km / 232.2 mi

123.5 km / 76.7 mi
100.0 km / 62.1 mi

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ATTACHMENT 1

Page 1 of 1

GD Satcom Technologies:
Model: 4.8 Meter

4 GHz Gain: 44.2 dBi
6 GHz Gain: 48.1 dBi

Satellite Arc: 60.0 to 143.0 West Longitude

Receive Band: 3700.0 to 4200.0 MHz

Emissions

36K6G1W
73K1G1W
146KG1W
2M05G1W
36K6G7W
2M05G7W

Satellite Arc: 60.0 to 143.0 West Longitude

Transmit Band: 5925.0 to 6425.0 MHz

<u>Emission</u>	<u>RF Power Density</u> <u>(dBW/4 kHz)</u>	<u>EIRP/Carrier</u> <u>(dBW)</u>	<u>EIRP Density</u> <u>(dBW/ 4 kHz)</u>
36K6G1W	-18.7	39.0	29.4
73K1G1W	-18.7	42.0	29.4
146KG1W	-18.7	45.0	29.4
10M2G1W	-27.1	55.1	21.0
36K6G7W	-18.7	39.0	29.4
10M2G7W	-27.1	55.1	21.0

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Coordination Values

SANTA PAULA, CA

Licensee Name Vizada, Inc.
Latitude (NAD 83) 34° 24' 8.1" N
Longitude (NAD 83) 119° 4' 22.0" W
Ground Elevation (AMSL) 236.83 m / 777.0 ft
Antenna Centerline (AGL) 3.05 m / 10.0 ft
Antenna Model GD Satcom Technologies 4.8 Meter
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 -18.7 (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	12.60	108.65	-10.00	100.00	-10.00	100.00
5	12.60	103.67	-10.00	100.00	-10.00	100.00
10	12.98	98.68	-10.00	100.00	-10.00	100.00
15	14.90	93.70	-10.00	100.00	-10.00	100.00
20	15.82	88.70	-10.00	100.00	-10.00	100.00
25	15.36	83.71	-10.00	100.00	-10.00	100.00
30	15.18	78.71	-10.00	100.00	-10.00	100.00
35	14.98	73.71	-10.00	100.00	-10.00	100.00
40	14.13	68.73	-10.00	100.00	-10.00	100.00
45	13.71	63.74	-10.00	100.00	-10.00	100.00
50	12.22	58.81	-10.00	100.00	-10.00	100.00
55	11.46	53.88	-10.00	100.00	-10.00	100.00
60	11.21	48.94	-10.00	100.00	-10.00	100.00
65	9.13	44.23	-9.14	100.00	-9.14	100.00
70	8.18	39.50	-7.91	110.55	-7.91	100.00
75	8.10	34.67	-6.50	117.02	-6.50	100.00
80	8.63	29.74	-4.83	119.22	-4.83	100.00
85	8.48	25.03	-2.96	128.47	-2.96	100.00
90	8.37	20.44	-0.76	137.89	-0.76	100.00
95	7.35	16.58	1.51	161.95	1.51	100.00
100	7.10	12.98	4.17	183.33	4.17	100.00
105	6.70	10.72	6.24	200.93	6.24	100.00
110	5.75	11.09	5.88	207.85	5.88	100.00
115	5.93	12.52	4.56	200.83	4.56	100.00
120	6.74	15.06	2.55	178.48	2.55	100.00
125	7.21	18.51	0.32	156.83	0.32	100.00
130	5.44	23.31	-2.19	165.98	-2.19	100.00
135	3.65	28.04	-4.19	186.89	-4.19	100.00
140	2.02	32.55	-5.81	211.30	-5.81	100.00
145	0.99	36.50	-7.06	236.86	-7.06	100.00
150	0.27	40.03	-8.06	288.58	-8.06	119.54
155	0.00	42.98	-8.83	292.82	-8.83	123.47
160	0.00	45.37	-9.42	289.00	-9.42	121.94
165	0.00	47.33	-9.88	286.05	-9.88	120.74
170	0.00	48.80	-10.00	285.28	-10.00	120.42
175	0.00	49.72	-10.00	285.28	-10.00	120.42
180	0.00	50.02	-10.00	285.28	-10.00	120.42
185	0.49	49.23	-10.00	250.56	-10.00	100.00

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	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-18.7 (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	1.15	47.72	-9.97	215.88	-9.97	100.00
195	2.69	44.93	-9.31	182.12	-9.31	100.00
200	3.13	42.77	-8.78	174.60	-8.78	100.00
205	3.94	40.46	-8.17	157.74	-8.17	100.00
210	3.12	40.13	-8.09	178.37	-8.09	100.00
215	2.71	39.95	-8.04	187.85	-8.04	100.00
220	3.02	39.58	-7.94	181.58	-7.94	100.00
225	4.50	38.58	-7.66	150.98	-7.66	100.00
230	2.88	41.13	-8.36	182.62	-8.36	100.00
235	5.35	40.34	-8.14	137.62	-8.14	100.00
240	5.33	42.35	-8.67	135.62	-8.67	100.00
245	5.31	44.75	-9.27	134.70	-9.27	100.00
250	5.55	47.29	-9.87	130.00	-9.87	100.00
255	5.27	50.46	-10.00	132.23	-10.00	100.00
260	5.82	53.36	-10.00	126.94	-10.00	100.00
265	5.55	56.91	-10.00	129.54	-10.00	100.00
270	5.10	60.65	-10.00	133.91	-10.00	100.00
275	3.98	64.70	-10.00	148.37	-10.00	100.00
280	5.08	68.02	-10.00	134.08	-10.00	100.00
285	5.41	71.75	-10.00	130.89	-10.00	100.00
290	6.18	75.48	-10.00	123.20	-10.00	100.00
295	6.09	79.47	-10.00	124.26	-10.00	100.00
300	5.73	83.49	-10.00	127.75	-10.00	100.00
305	5.73	87.49	-10.00	127.83	-10.00	100.00
310	5.67	91.49	-10.00	128.36	-10.00	100.00
315	5.56	95.47	-10.00	129.45	-10.00	100.00
320	5.11	99.39	-10.00	133.76	-10.00	100.00
325	5.69	103.42	-10.00	128.15	-10.00	100.00
330	7.29	107.70	-10.00	111.25	-10.00	100.00
335	10.00	112.38	-10.00	100.00	-10.00	100.00
340	11.67	116.93	-10.00	100.00	-10.00	100.00
345	13.01	121.45	-10.00	100.00	-10.00	100.00
350	14.88	118.69	-10.00	100.00	-10.00	100.00
355	14.18	113.68	-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: June 13, 2012