

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

**Vizada Satellite, Inc.**  
**Santa Paula, California**  
**Call Sign: KA249**

**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, Virginia 20147  
December 16, 2009

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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 SMSA Ltd. Partnership  
Santa Barbara Cellular Systems Ltd.  
Southern California Edison Company  
Verizon California

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.

Expedited coordination data for this earth station was emailed and sent to the below listed carriers with a letter dated December 2, 2009.

#### 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 Santa Barbara LTD Ptsh  
KERN ED TELECOM CONSORTIUM  
KTLA INC  
Kern, County of  
LB Tower Company LLC  
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  
M.U.T. Licensing, LLC  
METROPOLITAN AREA NETWORKS, INC.  
METROPOLITAN WATER DIST OF SO CALIFORNIA  
MONTEBELLO CITY CALIFORNIA  
Microwave Service Company  
NEXTEL OF CALIFORNIA INC  
New Cingular Wireless PCS - Los Angeles  
New Cingular Wireless PCS LLC - N CAL  
Nextweb Inc  
Northrop Grumman Information Technology  
OCCIDENTAL OF ELK HILLS INC  
Plains Exploration & Production Company  
Santa Barbara Cellular Systems, Ltd.  
Southern California Edison Company  
Southern California Gas Company

Company (Continued)

TV MICROWAVES CO  
Ventura, County of  
Verizon California Inc.  
Vintage Production California LLC  
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: 12/16/2009  
Job Number: 091202COMSJC02

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign KA249  
Licensee Code VIZSAT  
Licensee Name Vizada Satellite, Inc.

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### Site Information SANTA PAULA, CALIFORNIA

Venue Name  
Latitude (NAD 83) 34° 24' 5.0" N  
Longitude (NAD 83) 119° 4' 29.4" W  
Climate Zone A  
Rain Zone 4  
Ground Elevation (AMSL) 228.6 m / 750.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 176° W to 178° West Longitude  
Azimuth Range 249.8° to 251.2°  
Corresponding Elevation Angles 18.5° / 16.9°  
Antenna Centerline (AGL) 4.27 m / 14.0 ft

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### Antenna Information

**Receive**  
Manufacturer Vertex RSI  
Model 6.3 Meter  
Gain / Diameter 46.5 dBi / 6.3 m  
3-dB / 15-dB Beamwidth 0.81° / 1.70°

**Transmit**  
Vertex RSI  
6.3 Meter  
50.7 dBi / 6.3 m  
0.50° / 1.05°

108KG7W and 203KG7W

Max Available RF Power	(dBW/4 kHz)	-10.5	-18.4		
	(dBW/MHz)	3.8	-1.3		
Maximum EIRP	(dBW/4 kHz)	40.2	32.3		
	(dBW/MHz)	54.5	49.4		
	(dBW)	54.5	49.4		
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%

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### Frequency Information

	<b>Receive 4.0 GHz</b>	<b>Transmit 6.1 GHz</b>
Emission / Frequency Range (MHz)	108KG7W / 3700.0 - 4200.0 203KG7W / 3700.0 - 4200.0	108KG7W / 5850.0 - 6425.0 203KG7W / 5850.0 - 6425.0

Max Great Circle Coordination Distance	285.3 km / 177.2 mi	141.6 km / 88.0 mi
Precipitation Scatter Contour Radius	373.6 km / 232.1 mi	100.0 km / 62.1 mi



# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### SANTA PAULA, CA

Licensee Name	Vizada Satellite, Inc.				
Latitude (NAD 83)	34° 24' 5.0" N				
Longitude (NAD 83)	119° 4' 29.4" W				
Ground Elevation (AMSL)	228.6 m / 750.0 ft				
Antenna Centerline (AGL)	4.27 m / 14.0 ft				
Antenna Model	Vertex RSI 6.3 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			-10.5 (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	7.86	108.56	-10.00	105.25	-10.00	100.00
5	8.50	113.54	-10.00	100.00	-10.00	100.00
10	9.86	118.57	-10.00	100.00	-10.00	100.00
15	10.29	123.55	-10.00	100.00	-10.00	100.00
20	11.18	128.58	-10.00	100.00	-10.00	100.00
25	11.56	133.57	-10.00	100.00	-10.00	100.00
30	12.14	138.58	-10.00	100.00	-10.00	100.00
35	12.68	143.59	-10.00	100.00	-10.00	100.00
40	13.12	148.60	-10.00	100.00	-10.00	100.00
45	12.43	153.45	-10.00	100.00	-10.00	100.00
50	11.70	158.21	-10.00	100.00	-10.00	100.00
55	9.65	162.30	-10.00	100.00	-10.00	100.00
60	8.57	166.07	-10.00	100.00	-10.00	100.00
65	8.50	168.90	-10.00	100.00	-10.00	100.00
70	7.72	169.20	-10.00	106.67	-10.00	100.00
75	7.94	168.23	-10.00	104.39	-10.00	100.00
80	7.91	165.32	-10.00	104.70	-10.00	100.00
85	7.65	161.39	-10.00	107.46	-10.00	100.00
90	7.07	156.90	-10.00	113.57	-10.00	100.00
95	6.63	152.30	-10.00	118.36	-10.00	100.00
100	6.36	147.66	-10.00	121.31	-10.00	100.00
105	5.43	142.74	-10.00	130.66	-10.00	100.00
110	6.33	138.29	-10.00	121.57	-10.00	100.00
115	5.19	133.28	-10.00	132.96	-10.00	100.00
120	3.56	128.20	-10.00	156.89	-10.00	100.00
125	2.46	123.26	-10.00	183.93	-10.00	100.00
130	2.32	118.50	-10.00	187.12	-10.00	100.00
135	2.02	113.71	-10.00	194.15	-10.00	100.00
140	1.32	108.88	-10.00	210.59	-10.00	100.00
145	0.35	104.04	-10.00	266.28	-10.00	129.64
150	0.00	99.28	-10.00	285.28	-10.00	141.57
155	0.00	94.55	-10.00	285.28	-10.00	141.57
160	0.00	89.81	-10.00	285.28	-10.00	141.57
165	0.00	85.07	-10.00	285.28	-10.00	141.57
170	0.00	80.33	-10.00	285.28	-10.00	141.57
175	0.32	75.57	-10.00	270.74	-10.00	132.68
180	1.34	70.73	-10.00	209.96	-10.00	100.00
185	2.37	65.86	-10.00	185.99	-10.00	100.00

# COMSEARCH

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### Coordination Values

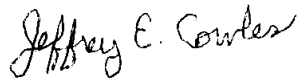
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Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz 20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power			-10.5 (dBW/4 kHz)

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	3.46	60.94	-10.00	159.20	-10.00	100.00
195	4.74	55.95	-10.00	137.00	-10.00	100.00
200	3.58	51.41	-10.00	156.64	-10.00	100.00
205	4.40	46.51	-9.69	143.15	-9.69	100.00
210	2.81	42.30	-8.66	182.57	-8.66	100.00
215	5.66	36.81	-7.15	138.73	-7.15	100.00
220	7.09	31.72	-5.53	131.41	-5.53	100.00
225	5.84	27.66	-4.05	151.22	-4.05	100.00
230	5.27	23.67	-2.35	168.91	-2.35	100.00
235	6.20	19.17	-0.06	170.29	-0.06	100.00
240	5.78	15.72	2.09	188.28	2.09	100.00
245	6.87	11.76	5.24	192.79	5.24	100.00
250	5.87	11.08	5.89	206.55	5.89	100.00
255	6.00	11.52	5.46	205.09	5.46	100.00
260	6.36	13.69	3.59	189.74	3.59	100.00
265	7.71	16.53	1.54	157.36	1.54	100.00
270	7.09	21.12	-1.12	150.40	-1.12	100.00
275	5.74	26.15	-3.44	155.54	-3.44	100.00
280	5.06	30.94	-5.26	154.12	-5.26	100.00
285	5.31	35.51	-6.76	144.15	-6.76	100.00
290	5.52	40.18	-8.10	136.12	-8.10	100.00
295	6.19	44.83	-9.29	125.89	-9.29	100.00
300	6.17	49.67	-10.00	123.38	-10.00	100.00
305	5.64	54.61	-10.00	128.68	-10.00	100.00
310	6.23	59.40	-10.00	122.64	-10.00	100.00
315	6.01	64.31	-10.00	125.10	-10.00	100.00
320	5.99	69.20	-10.00	125.30	-10.00	100.00
325	5.35	74.14	-10.00	131.43	-10.00	100.00
330	5.35	79.03	-10.00	131.43	-10.00	100.00
335	6.28	83.91	-10.00	122.19	-10.00	100.00
340	7.72	88.82	-10.00	106.74	-10.00	100.00
345	8.03	93.76	-10.00	103.51	-10.00	100.00
350	8.10	98.70	-10.00	102.88	-10.00	100.00
355	8.32	103.65	-10.00	100.99	-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  
Principal Frequency Planner  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, Va. 20147

DATED: December 16, 2009