

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**TerreStar License Inc.**  
**N LAS VEGAS, NV**  
**(9.3 Meter)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
May 14, 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 temporary proposed earth station uplink 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 temporary earth station uplink. 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. Sufficient losses were identified to reduce the signal levels to acceptable magnitudes in every case, thru terrain loss, frequency offset, or short term interference receive power level.

### 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 02/19/2009.

Company

Baja Broadband Operating Company, LLC  
CRANSTON ACQUISITION LLC  
Clark County School Dist., KLVX TV  
ENTRAVISION HOLDINGS, LLC  
JOURNAL BROADCASTING CORPORATION  
KUPN Licensee, LLC  
KVVU BROADCASTING CORPORATION  
LAS VEGAS TV PARTNERS LLC  
MOHAVE COUNTY BOARD OF SUPERVISORS  
NEVADA CHANNEL 3, INC  
NPG Cable, Inc dba Cablvsn Bullhead City  
Rio Virgin Telephone Company Inc  
SOUTHWEST MEDIA, LLC  
TELEMUNDO LAS VEGAS LICENSE LLC  
TRI-STATE BROADCASTING, LLC  
UNA VEZ MAS ARIZONA, LLC  
UNIVERSITY OF UTAH  
UTAH STATE BOARD OF REGENTS  
VALLEY BROADCASTING COMPANY

3G Wireless, LLC  
Broadcast Sports Corp  
Casper, John  
FISHMAN BROTHERS ENTERPRISES  
GOODYEAR TIRE AND RUBBER COMPANY  
Information Super Station LLC  
NSM Surveillance  
Production & Satellite Services, Inc.  
Regulus Media Services, Inc.  
REMOTE FACILITIES CONSULTING SERVICES  
RF Film, Inc  
RF Technology, LLC  
Total RF Marketing Inc  
Universal Satellite Communications Inc.  
WOLFE AIR AVIATION  
Wexler Video, Inc.  
Winged Vision Inc

## **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: 03/09/2009  
Job Number: 090219COMSGE01

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E070098  
Licensee Code TERNET  
Licensee Name TerreStar License Inc..

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### Site Information

**N LAS VEGAS, NV**  
Venue Name  
Latitude (NAD 83) 36° 14' 9.9" N  
Longitude (NAD 83) 115° 7' 1.3" W  
Climate Zone A  
Rain Zone 5  
Ground Elevation (AMSL) 585.22 m / 1920.0 ft

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### Link Information

Satellite Type Inclined Geo Orbit  
Mode TR - Transmit-Only  
Modulation Digital  
Minimum Elevation Angle 41.7°  
Azimuth Range 111.0 degrees West Longitude (Azimuth 173.2 degrees)  
Antenna Centerline (AGL) 5.49 m / 18.0 ft

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### Antenna Information

**Transmit - FCC32**  
Manufacturer Vertex/RSI  
Model 9.3 Meter  
Gain / Diameter 60.2 dBi / 9.3 m  
3-dB / 15-dB Beamwidth 0.30° / 0.64°

Max Available RF Power (dBW/4 kHz) (1) 19.8 (2) 1.8  
(dBW/MHz) 43.8 25.8

Maximum EIRP (dBW/4 kHz) 80.0 62.0  
(dBW/MHz) 104.0 86.0

Interference Objectives: Long Term -151.0 dBW/4 kHz 20%  
Short Term -128.0 dBW/4 kHz 0.0025%

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### Frequency Information

**Transmit 13.0 GHz**  
Emission / Frequency Range (MHz) (1) N0N / 12750.0 - 13250.0  
(2) 5M00G7D / 12750.0 - 13000.0

Max Great Circle Coordination Distance 183.2 km / 113.8 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

# COMSEARCH

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### Coordination Values

### N LAS VEGAS, NV

Licensee Name TerreStar License Inc..  
Latitude (NAD 83) 36° 14' 9.9" N  
Longitude (NAD 83) 115° 7' 1.3" W  
Ground Elevation (AMSL) 585.22 m / 1920.0 ft  
Antenna Centerline (AGL) 5.49 m / 18.0 ft  
Antenna Model Vertex/RSI 9.3 meter  
Antenna Mode Transmit 13.0 GHz  
Interference Objectives: Long Term -151.0 dBW/4 kHz 20%  
Short Term -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power 19.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 13.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.63	76.41	-10.00	177.80
5	0.65	72.06	-10.00	177.80
10	0.69	67.76	-10.00	177.80
15	0.70	63.50	-10.00	177.80
20	0.68	59.29	-10.00	177.80
25	0.63	55.15	-10.00	177.80
30	0.56	51.10	-10.00	177.80
35	0.47	47.16	-10.00	177.80
40	0.39	43.38	-10.00	177.80
45	0.30	39.80	-10.00	177.80
50	0.23	36.51	-10.00	177.80
55	0.00	33.45	-10.00	177.80
60	0.00	31.02	-10.00	177.80
65	0.00	29.18	-10.00	177.80
70	0.00	28.05	-10.00	177.80
75	0.00	27.72	-10.00	177.80
80	0.00	28.21	-10.00	177.80
85	0.00	29.49	-10.00	177.80
90	0.00	31.45	-10.00	177.80
95	0.00	33.98	-10.00	177.80
100	0.00	36.95	-10.00	177.80
105	0.00	40.28	-10.00	177.80
110	0.00	43.88	-10.00	177.80
115	0.00	47.68	-10.00	177.80
120	0.00	51.64	-9.98	177.80
125	0.00	55.72	-9.52	179.60
130	0.00	59.89	-9.13	181.10
135	0.00	64.14	-8.82	183.20
140	0.00	68.45	-8.63	183.00
145	0.00	72.80	-8.55	183.20
150	0.00	77.18	-8.60	183.10
155	0.00	81.59	-8.78	182.40
160	0.00	86.00	-9.06	181.30
165	0.00	90.43	-9.43	179.90
170	0.00	94.85	-9.76	178.70
175	0.00	99.27	-9.95	177.80
180	0.00	103.67	-10.00	177.80
185	0.00	108.05	-10.00	177.80



# COMSEARCH

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### Coordination Values

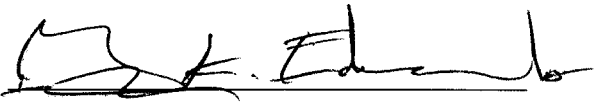
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Max Available RF Power 19.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 13.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	112.39	-10.00	177.80
195	0.00	116.69	-10.00	177.80
200	0.00	120.92	-10.00	177.80
205	0.23	125.00	-10.00	177.80
210	0.26	129.03	-10.00	177.80
215	0.33	132.91	-10.00	177.80
220	0.50	136.56	-10.00	177.80
225	0.52	140.06	-10.00	177.80
230	0.55	143.26	-10.00	177.80
235	0.74	145.97	-10.00	177.80
240	0.78	148.30	-10.00	177.80
245	0.84	150.03	-10.00	177.80
250	0.85	151.11	-10.00	177.80
255	0.82	151.46	-10.00	177.80
260	0.83	150.97	-10.00	177.80
265	0.78	149.79	-10.00	177.80
270	0.72	147.93	-10.00	177.80
275	0.68	145.49	-10.00	177.80
280	0.65	142.59	-10.00	177.80
285	0.66	139.31	-10.00	177.80
290	0.69	135.74	-10.00	177.80
295	0.69	131.99	-10.00	177.80
300	0.69	128.07	-10.00	177.80
305	0.69	124.03	-10.00	177.80
310	0.71	119.89	-10.00	177.80
315	0.70	115.68	-10.00	177.80
320	0.67	111.41	-10.00	177.80
325	0.66	107.09	-10.00	177.80
330	0.65	102.74	-10.00	177.80
335	0.61	98.37	-10.00	177.80
340	0.52	93.98	-10.00	177.80
345	0.51	89.57	-10.00	177.80
350	0.57	85.17	-10.00	177.80
355	0.61	80.78	-10.00	177.80

## 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 14, 2009