

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**ABS-CBN INTERNATIONAL, INC**  
**RICHMOND, CA**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
October 28, 2010

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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

NBC Telemundo License Co. – KNTV  
Marin County of California  
Clearwire Spectrum Holdings III, LLC  
Open Range Communications  
AT&T California  
Sacramento Valley Limited Partnership  
CONTRA COSTA COUNTY COMMUNICATIONS DEPT  
GTE Mobilnet of California LTD Partnersh  
Alameda County of California  
South San Joaquin Irrigation District

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 09/24/2010.

Company

AT&T California  
Alameda County of California  
CALAVERAS COUNTY SHERIFF'S DEPARTMENT  
CBS Broadcasting Inc  
CONTRA COSTA COUNTY COMMUNICATIONS DEPT.  
CONTRA COSTA WATER DISTRICT  
Cagal Cellular Communications Corp.  
California Rural Service Area #1, Inc.  
California, State of  
Central Valley Concrete, Inc.  
Citizens Telecommunications of CA Inc.  
City of Oakland  
City of Woodland  
Clearwire Spectrum Holdings II, LLC  
Clearwire Spectrum Holdings III, LLC  
Coastal Sierra, Inc/Skyline Broadband  
Conterra Ultra Broadband, LLC  
County of San Mateo  
Dancefire Ranch, LLC  
EAST BAY MUNICIPAL UTILITY DISTRICT  
Edge Wireless LLC- Northern California  
Etheric Networks Inc.  
Fixed Wireless Holdings, LLC  
GTE Mobilnet of California LTD Partnersh  
HAYWARD, CITY OF  
IMS Inc., DBA Fire2wire  
International Communications Group, Inc.  
Internet Connection, Inc  
Los Gatos Police Explorer Post 504  
M.U.T. Licensing, LLC  
MENDOCINO COUNTY OF  
METROPOLITAN AREA NETWORKS, INC.  
Madera, County of  
Marin County of California  
MetroPCS California, LLC  
Monterey County Superintendent of School  
Napa, City of  
NBC Telemundo License Co. - KNTV  
New Cingular Wireless PCS - Los Angeles  
New Cingular Wireless PCS LLC - N CAL

Nextlink Wireless, Inc  
Nextweb Inc  
OEM Communications  
Open Range Communications  
Pacific Coast Wireless Internet  
Pacific Gas and Electric Company  
RAZZO LINK, INC  
ROMAN CATHOLIC COMMUNICATIONS CORP  
Radio License Holding VIII, LLC  
Regents of the University of California  
SAN FRANCISCO CITY & COUNTY CALIFORNIA  
SAN JOSE CITY OF (ECOMM)  
SANTA CRUZ COUNTY, CALIFORNIA  
SIERRA TELEPHONE COMPANY, INC.  
Sacramento County  
Sacramento Valley Limited Partnership  
San Joaquin County  
San Jose State University  
Solyndra  
Sonoma County, California  
South San Joaquin Irrigation District  
Southern California Edison Company  
The Internet Store, Inc.  
The Ponderosa Telephone Company  
Towerstream Corp  
Verizon California Inc.  
WebPerception  
WiLine Networks Inc.  
Willits Online LLC  
enXco, Inc.  
unWired Broadband, 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: 10/28/2010  
Job Number: 100924COMSGE02

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code ABSCBN  
Licensee Name ABS-CBN INTERNATIONAL, INC

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### Site Information RICHMOND, CA

Venue Name  
Latitude (NAD 83) 37° 54' 16.0" N  
Longitude (NAD 83) 122° 18' 59.0" W  
Climate Zone A  
Rain Zone 4  
Ground Elevation (AMSL) 5.4 m / 17.7 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 50° W to 194° West Longitude  
Azimuth Range 101.1° to 258.5°  
Corresponding Elevation Angles 5.2° / 5.7°  
Antenna Centerline (AGL) 4.88 m / 16.0 ft

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### Antenna Information

#### Receive - FCC32

#### Transmit - FCC32

Manufacturer	Andrew 7.6 Meter	Andrew 7.6 Meter	
Model	ES76K-1	ES76K-1	
Gain / Diameter	57.8 dBi / 7.6 m	59.3 dBi / 7.6 m	
3-dB / 15-dB Beamwidth	0.44° / 0.78°	0.50° / 1.00°	
Max Available RF Power (dBW/4 kHz)		0.0	
(dBW/MHz)		24.0	
Maximum EIRP (dBW/4 kHz)		59.3	
(dBW/MHz)		83.3	
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-151.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-128.0 dBW/4 kHz 0.0025%

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### Frequency Information

#### Receive 11.0 GHz

#### Transmit 14.0 GHz

Emission / Frequency Range (MHz) 38K4G7W - 36M0G7F / 10900.0 - 11200.0 38K4G7W - 36M0G7F / 14000.0 - 14500.0  
38K4G7W - 36M0G7F / 11450.0 - 12800.0

Max Great Circle Coordination Distance 631.7 km / 392.5 mi 409.2 km / 254.2 mi  
Precipitation Scatter Contour Radius 420.3 km / 261.1 mi 154.8 km / 96.2 mi



# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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### Coordination Values

### RICHMOND, CA

Licensee Name ABS-CBN INTERNATIONAL, INC  
Latitude (NAD 83) 37° 54' 16.0" N  
Longitude (NAD 83) 122° 18' 59.0" W  
Ground Elevation (AMSL) 5.4 m / 17.7 ft  
Antenna Centerline (AGL) 4.88 m / 16.0 ft  
Antenna Model Andrew 7.6 Meter  
Antenna Mode Receive 11.0 GHz Transmit 14.0 GHz  
Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power 0.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	1.52	101.06	-10.00	161.64	-10.00	100.00
5	2.00	96.08	-10.00	146.53	-10.00	100.00
10	2.26	91.08	-10.00	140.63	-10.00	100.00
15	2.66	86.09	-10.00	132.37	-10.00	100.00
20	3.25	81.09	-10.00	122.93	-10.00	100.00
25	3.44	76.09	-10.00	119.59	-10.00	100.00
30	3.73	71.09	-10.00	114.73	-10.00	100.00
35	4.30	66.09	-10.00	106.50	-10.00	100.00
40	4.54	61.09	-10.00	103.56	-10.00	100.00
45	4.72	56.09	-10.00	101.38	-10.00	100.00
50	4.28	51.09	-10.00	106.72	-10.00	100.00
55	4.40	46.09	-9.59	106.68	-9.59	100.00
60	4.19	41.09	-8.34	113.76	-8.34	100.00
65	4.05	36.10	-6.94	120.76	-6.94	100.00
70	3.79	31.11	-5.32	129.82	-5.32	100.00
75	3.84	26.12	-3.42	136.79	-3.42	100.00
80	3.71	21.14	-1.13	150.49	-1.13	100.00
85	3.61	16.16	1.79	171.43	1.79	100.00
90	3.37	11.23	5.74	197.47	5.74	108.71
95	3.65	6.28	12.05	221.89	12.05	126.82
100	3.57	1.96	24.69	631.69	24.69	409.21
105	3.35	4.19	16.43	341.97	16.43	202.86
110	3.33	8.02	9.39	213.83	9.39	122.57
115	3.33	11.78	5.22	195.76	5.22	107.49
120	3.82	15.13	2.50	170.59	2.50	100.00
125	2.97	19.29	-0.13	176.39	-0.13	100.00
130	2.97	22.77	-1.93	163.91	-1.93	100.00
135	3.02	26.06	-3.40	154.44	-3.40	100.00
140	1.90	30.06	-4.95	178.09	-4.95	100.00
145	1.67	33.21	-6.03	179.58	-6.03	102.00
150	1.47	36.11	-6.94	181.38	-6.94	104.29
155	0.00	39.77	-7.99	240.39	-7.99	163.49
160	0.00	41.93	-8.56	237.76	-8.56	159.82
165	0.00	43.69	-9.01	235.75	-9.01	158.16
170	0.00	45.00	-9.33	234.32	-9.33	156.99
175	0.00	45.80	-9.52	233.47	-9.52	156.28
180	0.00	46.08	-9.59	233.18	-9.59	156.05
185	0.00	45.80	-9.52	233.47	-9.52	156.28

# COMSEARCH

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19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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### Coordination Values

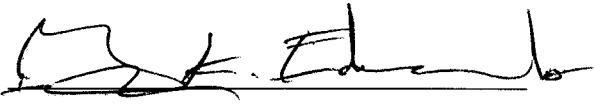
### RICHMOND, CA

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Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%  
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power 0.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	45.00	-9.33	234.32	-9.33	156.99
195	0.00	43.69	-9.01	235.75	-9.01	158.16
200	0.00	41.93	-8.56	237.76	-8.56	159.82
205	0.00	39.77	-7.99	240.39	-7.99	163.49
210	0.00	37.27	-7.28	243.66	-7.28	166.17
215	0.00	34.48	-6.44	247.79	-6.44	169.38
220	0.54	31.06	-5.30	222.12	-5.30	140.18
225	0.00	28.22	-4.26	258.46	-4.26	177.65
230	0.00	24.83	-2.87	265.56	-2.87	182.93
235	0.00	21.31	-1.21	274.31	-1.21	189.24
240	0.00	17.67	0.82	285.43	0.82	196.96
245	0.00	13.96	3.38	297.13	3.38	205.90
250	0.00	10.17	6.82	319.87	6.82	219.75
255	0.55	6.23	12.14	397.02	12.14	253.33
260	0.00	5.89	12.74	604.59	12.74	390.71
265	0.00	8.64	8.59	333.19	8.59	227.20
270	0.00	12.82	4.31	302.84	4.31	209.54
275	0.00	17.43	0.97	286.26	0.97	197.53
280	0.78	22.03	-1.57	227.17	-1.57	141.15
285	0.50	26.97	-3.77	231.09	-3.77	147.34
290	0.30	31.91	-5.60	241.38	-5.60	160.24
295	0.00	36.88	-7.17	244.33	-7.17	166.61
300	0.00	41.82	-8.53	237.90	-8.53	159.93
305	0.00	46.77	-9.75	232.47	-9.75	155.47
310	0.00	51.72	-10.00	231.37	-10.00	154.56
315	0.00	56.69	-10.00	231.37	-10.00	154.56
320	0.00	61.65	-10.00	231.37	-10.00	154.56
325	0.00	66.62	-10.00	231.37	-10.00	154.56
330	0.00	71.59	-10.00	231.37	-10.00	154.56
335	0.00	76.57	-10.00	231.37	-10.00	154.56
340	0.29	81.54	-10.00	222.91	-10.00	145.80
345	0.55	86.51	-10.00	204.38	-10.00	126.80
350	0.75	91.49	-10.00	194.71	-10.00	118.07
355	1.26	96.48	-10.00	173.21	-10.00	100.84

## 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: October 28, 2010