

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Univision Inc. - Miami
MIAMI, FL
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 12, 2018

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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

HiQ Data Corporation

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 10/09/2018.

Company

Broward County Board of Commissioners
Broward County Telecommunications Div
CBS Radio East, LLC.
COLLIER, COUNTY OF
Computer Office Solutions, Inc.
Embarq Florida, Inc.
Entercom Miami License, LLC
Florida Power and Light Company
Florida Rural Broadband Alliance, LLC
Florida State
HiQ Data Corporation
Martin County Sheriffs Office
Miami-Dade County
New Cingular Wireless PCS LLC - N FL
New Cingular Wireless PCS LLC - S FL
Olympic Wireless, LLC
Palm Beach, County of
SES Americom, Inc.
Saint Lucie, County of
South Florida Water Management District
Sprint Spectrum L.P.
T-Mobile License LLC
Verizon Wireless (VAW) LLC - S Florida
Verizon Wireless Personal Comm, LP(S FL)

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: 10/12/2018
Job Number: 181009COMSGE23

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E900570
Licensee Code SPAN7
Licensee Name Univision Inc. - Miami

Site Information

MIAMI, FL

Venue Name
Latitude (NAD 83) 25° 48' 43.4" N
Longitude (NAD 83) 80° 21' 3.2" W
Climate Zone B
Rain Zone 1
Ground Elevation (AMSL) 1.23 m / 4.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 139.6° to 257.3°
Corresponding Elevation Angles 52.3° / 16.1°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	ASC Signal	ASC Signal	
Model	4.5 meter	4.5 meter	
Gain / Diameter	43.7 dBi / 4.5 m	46.5 dBi / 4.5 m	
3-dB / 15-dB Beamwidth	1.20° / 2.40°	0.96° / 1.90°	
Max Available RF Power (dBW/4 kHz)		-16.5	
(dBW/MHz)		7.5	
Maximum EIRP (dBW/4 kHz)		30.0	
(dBW/MHz)		54.0	
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)	36M0G7W / 3700.0 - 4200.0	36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	586.2 km / 364.2 mi	188.9 km / 117.4 mi
Precipitation Scatter Contour Radius	594.2 km / 369.1 mi	100.0 km / 62.1 mi

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Coordination Values

MIAMI, FL

Licensee Name Univision Inc. - Miami
Latitude (NAD 83) 25° 48' 43.4" N
Longitude (NAD 83) 80° 21' 3.2" W
Ground Elevation (AMSL) 1.23 m / 4.0 ft
Antenna Centerline (AGL) 2.74 m / 9.0 ft
Antenna Model ASC Signal 4.5 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 -16.5 (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	0.00	102.19	-10.00	412.20	-10.00	136.72
5	0.00	106.98	-10.00	412.20	-10.00	136.72
10	0.00	111.76	-10.00	412.20	-10.00	136.72
15	0.00	110.33	-10.00	412.20	-10.00	136.72
20	0.00	107.58	-10.00	412.20	-10.00	136.72
25	0.00	104.75	-10.00	412.20	-10.00	136.72
30	0.00	101.83	-10.00	412.20	-10.00	136.72
35	0.00	98.86	-10.00	412.20	-10.00	136.72
40	0.00	95.84	-10.00	412.20	-10.00	136.72
45	0.00	92.80	-10.00	412.20	-10.00	136.72
50	0.00	89.74	-10.00	412.20	-10.00	136.72
55	0.00	86.68	-10.00	412.20	-10.00	136.72
60	0.00	83.64	-10.00	412.20	-10.00	136.72
65	0.00	80.63	-10.00	412.20	-10.00	136.72
70	0.00	77.67	-10.00	412.20	-10.00	136.72
75	0.00	74.76	-10.00	412.20	-10.00	136.72
80	0.00	71.94	-10.00	412.20	-10.00	136.72
85	0.00	69.22	-10.00	412.20	-10.00	136.72
90	0.00	66.61	-10.00	412.20	-10.00	136.72
95	0.00	64.15	-10.00	412.20	-10.00	136.72
100	0.00	61.85	-10.00	412.20	-10.00	136.72
105	0.00	59.74	-10.00	412.20	-10.00	136.72
110	0.00	57.84	-10.00	412.20	-10.00	136.72
115	0.00	56.18	-10.00	412.20	-10.00	136.72
120	0.00	54.78	-10.00	412.20	-10.00	136.72
125	0.00	53.67	-10.00	412.20	-10.00	136.72
130	0.00	52.87	-10.00	412.20	-10.00	136.72
135	0.00	52.40	-10.00	412.20	-10.00	136.72
140	0.00	52.26	-10.00	412.20	-10.00	136.72
145	0.00	52.46	-10.00	412.20	-10.00	136.72
150	0.00	52.99	-10.00	412.20	-10.00	136.72
155	0.00	53.84	-10.00	412.20	-10.00	136.72
160	0.00	55.00	-10.00	412.20	-10.00	136.72
165	0.00	56.44	-10.00	412.20	-10.00	136.72
170	0.00	58.13	-10.00	412.20	-10.00	136.72
175	0.00	59.39	-10.00	412.20	-10.00	136.72
180	0.00	59.83	-10.00	412.20	-10.00	136.72
185	0.00	59.39	-10.00	412.20	-10.00	136.72

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Coordination Values

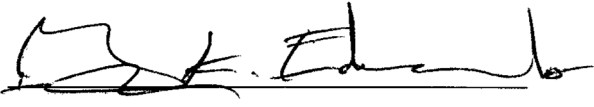
MIAMI, FL

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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			-16.5 (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	0.00	58.13	-10.00	412.20	-10.00	136.72
195	0.00	56.13	-10.00	412.20	-10.00	136.72
200	0.00	53.55	-10.00	412.20	-10.00	136.72
205	0.00	50.50	-10.00	412.20	-10.00	136.72
210	0.00	47.09	-9.82	414.39	-9.82	137.35
215	0.00	43.42	-8.94	425.53	-8.94	140.56
220	0.00	39.55	-7.93	438.75	-7.93	144.39
225	0.00	35.52	-6.76	454.46	-6.76	148.87
230	0.00	31.37	-5.41	472.68	-5.41	154.46
235	0.00	27.25	-3.89	494.99	-3.89	161.14
240	0.00	23.45	-2.25	519.98	-2.25	168.68
245	0.00	20.15	-0.60	546.47	-0.60	176.75
250	0.00	17.62	0.85	570.86	0.85	184.22
255	0.00	16.24	1.74	586.19	1.74	188.94
260	0.00	16.29	1.70	585.50	1.70	188.73
265	0.00	17.78	0.75	569.17	0.75	183.71
270	0.00	20.38	-0.73	544.41	-0.73	176.12
275	0.00	23.73	-2.38	517.95	-2.38	168.07
280	0.00	27.56	-4.01	493.15	-4.01	160.58
285	0.00	31.70	-5.53	471.06	-5.53	153.98
290	0.00	36.04	-6.92	452.31	-6.92	148.24
295	0.00	40.51	-8.19	435.33	-8.19	143.40
300	0.00	45.07	-9.35	420.38	-9.35	139.07
305	0.00	49.70	-10.00	412.20	-10.00	136.72
310	0.00	54.38	-10.00	412.20	-10.00	136.72
315	0.00	59.10	-10.00	412.20	-10.00	136.72
320	0.00	63.85	-10.00	412.20	-10.00	136.72
325	0.00	68.61	-10.00	412.20	-10.00	136.72
330	0.00	73.39	-10.00	412.20	-10.00	136.72
335	0.00	78.18	-10.00	412.20	-10.00	136.72
340	0.00	82.98	-10.00	412.20	-10.00	136.72
345	0.00	87.79	-10.00	412.20	-10.00	136.72
350	0.00	92.59	-10.00	412.20	-10.00	136.72
355	0.00	97.39	-10.00	412.20	-10.00	136.72

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 12, 2018