

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Telecentro of Puerto Rico, LLC.
SAN JUAN, PR
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 12, 2020

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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. Operation will be limited to the bandwidth shown in Section 4 of the report.

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.

Company

AT&T Mobility Puerto Rico
Aeronet Wireless Broadband LLC
Broadband Antenna Tracking Systems Inc.
Critical Hub Networks, Inc.
DMwireless Inc.
ICOMM Net
Iniciativa Tecnologica Centro Oriental
Neptunomedia, Inc.
Olympic Wireless, LLC
Osnet Wireless Corporation
PREPA Networks, LLC.
PRWireless PR, LLC
Puerto Rico Commonwealth
Puerto Rico Commonwealth of State Police
Puerto Rico Electric Power Authority
Puerto Rico Telephone Company, Inc.
Sprint PR Spectrum LLC

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.

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Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Date: 06/12/2020

Administrative Information

Call Sign E100047
Licensee Name Televiscentro of Puerto Rico, LLC.

Site Information

SAN JUAN, PR
Latitude (NAD 83) 18° 24' 14.1" N
Longitude (NAD 83) 66° 6' 30.2" W
Climate Zone B
Rain Zone 1
Ground Elevation (AMSL) 16.0 m / 52.5 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 99° W to 99° West Longitude
Azimuth Range 244.0° to 244.0°
Corresponding Elevation Angles 46.9° / 46.9°
Antenna Centerline (AGL) 2.69 m / 8.8 ft

Antenna Information

	Receive	Transmit
Manufacturer	ASC QUAD	ASC QUAD
Gain / Diameter	44.7 dBi / 4.9 m	48.3 dBi / 4.9 m
3-dB / 15-dB Beamwidth	0.68° / 1.32°	0.42° / 0.84°

		5M10G7F – 10M2G7F			
Max Available RF Power	(dBW/4 kHz)	-15.48	-15.48		
	(dBW/MHz)	8.5	8.5		
Maximum EIRP	(dBW/4 kHz)	32.82	32.82		
	(dBW/MHz)	56.80	56.80		
	(dBW)	63.35	66.35		
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)	5M10G7F – 10M2G7F / 3700.0 - 4200.0	5M10G7F – 10M2G7F / 5925.0 - 6078.35 5M10G7F – 10M2G7F / 6108.55 - 6182.14 5M10G7F – 10M2G7F / 6307.0 - 6425.0
Max Great Circle Coordination Distance	412.2 km / 256.1 mi	140.3 km / 87.2 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi

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Coordination Values

SAN JUAN, PR

Licensee Name: Telecentro of Puerto Rico, LLC.
Latitude (NAD 83): 18° 24' 14.1" N
Longitude (NAD 83): 66° 6' 30.2" W
Ground Elevation (AMSL): 16.0 m / 52.5 ft
Antenna Centerline (AGL): 2.69 m / 8.8 ft
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 -15.5 (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	2.64	108.32	-10.00	176.36	-10.00	100.00
5	1.93	111.39	-10.00	203.08	-10.00	100.00
10	0.93	114.13	-10.00	260.59	-10.00	100.00
15	1.64	117.52	-10.00	217.68	-10.00	100.00
20	0.62	119.83	-10.00	303.14	-10.00	107.55
25	0.21	122.23	-10.00	409.95	-10.00	139.59
30	0.00	124.52	-10.00	412.20	-10.00	140.34
35	0.00	126.72	-10.00	412.20	-10.00	140.34
40	0.00	128.64	-10.00	412.20	-10.00	140.34
45	0.00	130.26	-10.00	412.20	-10.00	140.34
50	0.00	131.54	-10.00	412.20	-10.00	140.34
55	0.00	132.46	-10.00	412.20	-10.00	140.34
60	1.51	134.48	-10.00	224.63	-10.00	100.00
65	1.11	134.22	-10.00	247.01	-10.00	100.00
70	0.22	133.03	-10.00	404.50	-10.00	137.78
75	0.35	132.46	-10.00	363.66	-10.00	124.57
80	0.44	131.47	-10.00	337.86	-10.00	116.25
85	0.57	130.14	-10.00	310.76	-10.00	109.97
90	0.72	128.48	-10.00	289.11	-10.00	102.89
95	0.92	126.55	-10.00	262.67	-10.00	100.00
100	0.98	124.25	-10.00	256.37	-10.00	100.00
105	1.16	121.78	-10.00	244.42	-10.00	100.00
110	1.23	119.03	-10.00	240.48	-10.00	100.00
115	1.23	116.08	-10.00	240.48	-10.00	100.00
120	1.15	112.96	-10.00	244.66	-10.00	100.00
125	0.98	109.70	-10.00	256.37	-10.00	100.00
130	0.91	106.40	-10.00	263.21	-10.00	100.00
135	0.91	103.06	-10.00	263.19	-10.00	100.00
140	0.98	99.68	-10.00	256.05	-10.00	100.00
145	1.10	96.25	-10.00	247.67	-10.00	100.00
150	1.12	92.77	-10.00	246.48	-10.00	100.00
155	1.11	89.29	-10.00	247.11	-10.00	100.00
160	1.11	85.80	-10.00	247.10	-10.00	100.00
165	1.06	82.34	-10.00	249.95	-10.00	100.00
170	1.03	78.92	-10.00	252.24	-10.00	100.00
175	1.15	75.50	-10.00	244.84	-10.00	100.00
180	1.16	72.17	-10.00	244.40	-10.00	100.00
185	1.38	68.83	-10.00	232.05	-10.00	100.00

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Coordination Values

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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			-15.5 (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	1.53	65.59	-10.00	223.63	-10.00	100.00
195	2.00	62.29	-10.00	199.61	-10.00	100.00
200	1.72	59.51	-10.00	213.48	-10.00	100.00
205	0.92	57.30	-10.00	262.62	-10.00	100.00
210	0.87	54.84	-10.00	267.99	-10.00	100.00
215	0.87	52.59	-10.00	267.99	-10.00	100.00
220	0.87	50.62	-10.00	267.99	-10.00	100.00
225	1.48	48.40	-10.00	226.20	-10.00	100.00
230	0.87	47.63	-9.95	268.42	-9.95	100.00
235	1.53	46.05	-9.58	226.52	-9.58	100.00
240	1.55	45.47	-9.44	225.98	-9.44	100.00
245	1.93	44.97	-9.32	207.01	-9.32	100.00
250	1.92	45.29	-9.40	207.21	-9.40	100.00
255	2.06	45.89	-9.54	200.10	-9.54	100.00
260	2.11	46.98	-9.80	196.61	-9.80	100.00
265	2.34	48.30	-10.00	186.86	-10.00	100.00
270	2.06	50.41	-10.00	197.34	-10.00	100.00
275	2.06	52.57	-10.00	197.32	-10.00	100.00
280	1.93	55.09	-10.00	202.79	-10.00	100.00
285	1.75	57.85	-10.00	211.81	-10.00	100.00
290	1.53	60.80	-10.00	223.71	-10.00	100.00
295	1.53	63.77	-10.00	223.70	-10.00	100.00
300	1.53	66.88	-10.00	223.70	-10.00	100.00
305	2.29	69.82	-10.00	188.48	-10.00	100.00
310	2.21	73.20	-10.00	191.48	-10.00	100.00
315	1.53	76.79	-10.00	223.47	-10.00	100.00
320	2.54	80.05	-10.00	179.85	-10.00	100.00
325	1.72	83.68	-10.00	213.64	-10.00	100.00
330	1.11	87.23	-10.00	247.54	-10.00	100.00
335	1.92	90.72	-10.00	203.64	-10.00	100.00
340	1.15	94.20	-10.00	244.73	-10.00	100.00
345	2.30	97.83	-10.00	188.44	-10.00	100.00
350	1.70	101.22	-10.00	214.81	-10.00	100.00
355	0.72	104.38	-10.00	288.92	-10.00	102.83

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.

Timothy O. Crutcher
Frequency Planner
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: June 12, 2020