

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
WML Services, LLC
ATLANTA, GA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
March 26, 2019

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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.

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 03/12/2019.

Company

Alabama Great Southern Railroad Company
Athens Cellular, Inc.
Athens-Clark County Unified Government
Barrow County Emergency Services
Bartow, County of
Cellco Partnership - Georgia Mkt
Central of Georgia Railway Company
Clayton, County of
Cobb, County of
Conterra Ultra Broadband, LLC
Conyers, City of
Coweta County
DeKalb County Police Department
Diverse Power Inc
Floyd County
Forsyth, County of
Fulton, County of
Georgia System Operations Corporation
Greene County E911
Gwinnett County Government
Hall County 9-1-1
Henry County Emergency Communications
Jackson Electric Membership Corporation
Monroe, County of (GA)
Norfolk Southern Railway
Oconee County Sheriffs Office
Olympic Wireless, LLC
One Ring Networks, Inc.
Public Service Towers, Inc.
Southern Company Services, Inc.
Southwestco Wireless LP (Georgia 5)
T-Mobile License LLC
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless (VAW) LLC - Alabama
Verizon Wireless of The East LP - (GA)
Walton County Georgia

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: 03/25/2019
Job Number: 190312COMSGE06

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code WMLSER
Licensee Name WML Services, LLC

Site Information ATLANTA, GA

Venue Name
Latitude (NAD 83) 33° 47' 2.8" N
Longitude (NAD 83) 84° 23' 41.6" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 268.09 m / 879.6 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 20° W to 140° West Longitude
Azimuth Range 104.9° to 249.2°
Corresponding Elevation Angles 12.6° / 19.8°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information Transmit - FCC32

Manufacturer RSI
Model UAD 15.5
Gain / Diameter 58.0 dBi / 15.5 m
3-dB / 15-dB Beamwidth 0.18° / 0.38°

Max Available RF Power (dBW/4 kHz) -19.6
(dBW/MHz) 4.4

Maximum EIRP (dBW/4 kHz) 38.4
(dBW/MHz) 62.4

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information Transmit 6.1 GHz

Emission / Frequency Range (MHz) 36M0G7F / 5925.0 - 6425.0

Max Great Circle Coordination Distance 102.6 km / 63.8 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

ATLANTA, GA

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Antenna Model RSI 15.5 meter
Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -19.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.87	104.61	-10.00	100.00
5	0.46	99.70	-10.00	100.00
10	0.73	94.82	-10.00	100.00
15	0.72	89.93	-10.00	100.00
20	0.46	85.04	-10.00	100.00
25	0.42	80.15	-10.00	100.44
30	0.63	75.26	-10.00	100.00
35	0.51	70.38	-10.00	100.00
40	0.39	65.52	-10.00	102.64
45	0.87	60.61	-10.00	100.00
50	0.92	55.75	-10.00	100.00
55	2.20	50.71	-10.00	100.00
60	2.37	45.82	-9.53	100.00
65	4.10	40.66	-8.23	100.00
70	3.97	35.84	-6.86	100.00
75	4.05	31.00	-5.28	100.00
80	3.18	26.53	-3.59	100.00
85	2.25	22.34	-1.73	100.00
90	2.52	17.92	0.66	100.00
95	2.40	14.16	3.22	100.00
100	2.45	11.24	5.73	100.00
105	3.12	9.44	7.63	100.00
110	2.56	11.21	5.76	100.00
115	2.47	14.22	3.17	100.00
120	1.84	18.41	0.37	100.00
125	1.87	22.25	-1.68	100.00
130	2.49	25.61	-3.21	100.00
135	2.68	29.11	-4.60	100.00
140	1.65	33.25	-6.04	100.00
145	1.39	36.70	-7.12	100.00
150	1.33	39.78	-7.99	100.00
155	1.14	42.66	-8.75	100.00
160	1.08	45.09	-9.35	100.00
165	1.05	47.05	-9.81	100.00
170	0.89	48.64	-10.00	100.00
175	1.00	49.42	-10.00	100.00
180	1.23	49.49	-10.00	100.00
185	1.08	49.35	-10.00	100.00

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Earth Station Data Sheet

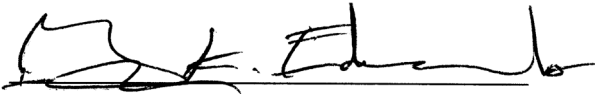
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Antenna Model	RSI 15.5 meter
Antenna Mode	Transmit 6.1 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-19.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	1.03	48.51	-10.00	100.00
195	1.41	46.73	-9.74	100.00
200	1.29	44.91	-9.31	100.00
205	1.24	42.58	-8.73	100.00
210	1.36	39.76	-7.99	100.00
215	1.49	36.64	-7.10	100.00
220	1.40	33.42	-6.10	100.00
225	1.62	29.79	-4.85	100.00
230	1.78	26.08	-3.41	100.00
235	2.46	22.26	-1.69	100.00
240	2.03	19.95	-0.50	100.00
245	1.57	18.70	0.20	100.00
250	1.60	18.24	0.47	100.00
255	1.90	18.82	0.14	100.00
260	1.81	20.93	-1.02	100.00
265	1.52	24.03	-2.52	100.00
270	1.38	27.56	-4.01	100.00
275	1.28	31.43	-5.43	100.00
280	1.37	35.47	-6.75	100.00
285	1.13	39.84	-8.01	100.00
290	1.09	44.24	-9.15	100.00
295	1.26	48.67	-10.00	100.00
300	1.72	53.12	-10.00	100.00
305	1.74	57.74	-10.00	100.00
310	1.96	62.37	-10.00	100.00
315	1.96	67.08	-10.00	100.00
320	1.97	71.80	-10.00	100.00
325	1.73	76.56	-10.00	100.00
330	1.61	81.31	-10.00	100.00
335	1.90	86.04	-10.00	100.00
340	1.50	90.80	-10.00	100.00
345	1.56	95.55	-10.00	100.00
350	2.20	100.33	-10.00	100.00
355	1.62	105.03	-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.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: March 26, 2019