

# 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.  
Baldwin County Sheriffs Office  
Barrow County Emergency Services  
Bartow, County of  
Calhoun County 911  
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 Southern and Florida Railway Co  
Georgia System Operations Corporation  
Greene County E911  
Gwinnett County Government  
Hall County 9-1-1  
Henry County Emergency Communications  
Jackson Electric Membership Corporation  
Macon-Bibb County Government  
Monroe, County of (GA)  
New Cingular Wireless PCS LLC - AL, MS  
Norfolk Southern Railway  
Oconee County Sheriffs Office  
Olympic Wireless, LLC  
One Ring Networks, Inc.  
PowerSouth Energy Cooperative  
Public Service Telephone Company  
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: 03/26/2019  
Job Number: 190312COMSGE15

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### Administrative Information

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

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### Site Information ATLANTA, GA

Venue Name  
Latitude (NAD 83) 33° 41' 26.0" N  
Longitude (NAD 83) 84° 37' 19.0" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 251.46 m / 825.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TO - Transmit-Only  
Modulation Digital  
Satellite Arc 15° W to 95° West Longitude  
Azimuth Range 101.6° to 198.3°  
Corresponding Elevation Angles 8.2° / 49.3°  
Antenna Centerline (AGL) 5.49 m / 18.0 ft

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### Antenna Information Transmit - FCC32

Manufacturer Andrew  
Model ES93C-1  
Gain / Diameter 53.7 dBi / 9.3 m  
3-dB / 15-dB Beamwidth 0.32° / 0.65°

Max Available RF Power (dBW/4 kHz) -17.8  
(dBW/MHz) 6.2

Maximum EIRP (dBW/4 kHz) 35.9  
(dBW/MHz) 59.9

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

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### Frequency Information Transmit 6.1 GHz

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

Max Great Circle Coordination Distance 188.7 km / 117.2 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### ATLANTA, GA

Licensee Name WML Services, LLC  
Latitude (NAD 83) 33° 41' 26.0" N  
Longitude (NAD 83) 84° 37' 19.0" W  
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Antenna Centerline (AGL) 5.49 m / 18.0 ft  
Antenna Model Andrew 9.3 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 -17.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.53	101.54	-10.00	100.00
5	0.80	96.59	-10.00	100.00
10	0.58	91.63	-10.00	100.00
15	0.51	86.68	-10.00	100.00
20	0.31	81.73	-10.00	113.72
25	0.00	76.79	-10.00	122.77
30	0.00	71.84	-10.00	122.77
35	0.30	66.88	-10.00	114.71
40	0.39	61.93	-10.00	107.25
45	0.63	56.98	-10.00	100.00
50	0.80	52.03	-10.00	100.00
55	0.91	47.09	-9.82	100.00
60	1.10	42.14	-8.62	100.00
65	1.06	37.24	-7.28	100.00
70	1.37	32.30	-5.73	100.00
75	1.06	27.53	-3.99	100.00
80	0.91	22.79	-1.95	101.55
85	0.84	18.17	0.51	111.49
90	0.97	13.70	3.59	114.25
95	0.81	9.95	7.05	131.95
100	0.62	7.79	9.71	188.69
105	0.65	8.29	9.04	144.83
110	0.70	11.23	5.74	133.09
115	0.58	15.26	2.41	128.86
120	0.80	19.08	-0.01	111.49
125	0.66	23.04	-2.06	112.39
130	0.29	27.05	-3.81	132.18
135	0.22	30.76	-5.20	134.21
140	0.37	34.17	-6.34	118.53
145	0.52	37.38	-7.32	104.94
150	0.42	40.53	-8.19	109.87
155	0.46	43.27	-8.90	104.73
160	0.83	45.39	-9.42	100.00
165	0.49	47.64	-9.95	100.00
170	0.52	49.09	-10.00	100.00
175	0.28	50.24	-10.00	116.50
180	0.00	50.83	-10.00	122.77
185	0.00	50.51	-10.00	122.77



# COMSEARCH

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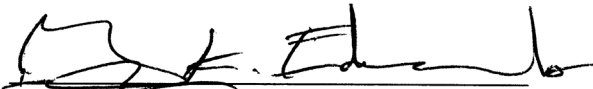
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<b>Coordination Values</b>	<b>ATLANTA, GA</b>
Licensee Name	WML Services, LLC
Latitude (NAD 83)	33° 41' 26.0" N
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Antenna Model	Andrew 9.3 meter
Antenna Mode	Transmit 6.1 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-17.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	49.78	-10.00	122.77
195	0.00	49.35	-10.00	122.77
200	0.00	49.29	-10.00	122.77
205	0.60	49.02	-10.00	100.00
210	0.91	49.42	-10.00	100.00
215	0.22	51.12	-10.00	121.47
220	0.00	52.69	-10.00	122.77
225	0.00	54.35	-10.00	122.77
230	0.00	56.29	-10.00	122.77
235	0.00	58.47	-10.00	122.77
240	0.00	60.86	-10.00	122.77
245	0.00	63.43	-10.00	122.77
250	0.30	66.01	-10.00	114.57
255	0.31	68.89	-10.00	113.45
260	0.62	71.76	-10.00	100.00
265	0.54	74.90	-10.00	100.00
270	0.56	78.06	-10.00	100.00
275	0.52	81.30	-10.00	100.00
280	0.64	84.55	-10.00	100.00
285	0.70	87.84	-10.00	100.00
290	0.75	91.15	-10.00	100.00
295	0.86	94.46	-10.00	100.00
300	0.89	97.76	-10.00	100.00
305	0.88	101.02	-10.00	100.00
310	0.85	104.23	-10.00	100.00
315	0.80	107.35	-10.00	100.00
320	0.88	110.45	-10.00	100.00
325	0.99	113.46	-10.00	100.00
330	0.97	116.29	-10.00	100.00
335	0.96	118.97	-10.00	100.00
340	0.94	121.36	-10.00	100.00
345	0.81	116.40	-10.00	100.00
350	0.51	111.44	-10.00	100.00
355	0.50	106.49	-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