

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
TEOTL 108 LLC
DECATUR, GA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 10, 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. 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-only earth station.

Company

Central of Georgia Railway Company
Cobb, County of
Fayette County
Southwestco Wireless LP (Georgia 5)

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.

Company

Athens-Clark County Unified Government
Baldwin County Sheriffs Office
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
Douglas County Sheriff Office
Fayette County
Floyd County
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)
Norfolk Southern Railway Company
Oconee County Sheriffs Office
Olympic Wireless, LLC
One Ring Networks, Inc.
Polk County
Public Service Telephone Company
Public Service Towers, Inc.
Rayle Electric Membership Corporation
Southern Company Services, Inc.
Southwestco Wireless LP (Georgia 5)
T-Mobile License LLC
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: 11/10/2020
Job Number: 201110COMSTC02

Administrative Information

Licensee Code TEOTL
Licensee Name TEOTL 108 LLC

Site Information

DECATUR, GA

Latitude (NAD 83) 33° 44' 50.7" N
Longitude (NAD 83) 84° 13' 43.8" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 294.33 m / 965.7 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 141.0° to 251.4°
Corresponding Elevation Angles 43.0° / 17.2°
Antenna Centerline (AGL) 1.22 m / 4.0 ft

Antenna Information

Transmit

Manufacturer VertexRSI
Gain / Diameter 50.2 dBi / 6.3 m
3-dB / 15-dB Beamwidth 1.00° / 2.00°

51K2G7W - 36M0G7W

Max Available RF Power	(dBW/4 kHz)	-19.5	-19.5
	(dBW/MHz)	-8.43	4.5
Maximum EIRP	(dBW/4 kHz)	30.7	30.7
	(dBW/MHz)	41.77	54.7
	(dBW)	41.77	70.2
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) 51K2G7W - 36M0G7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 121.4 km / 75.4 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

DECATUR, GA

Licensee Name TEOTL 108 LLC
Latitude (NAD 83) 33° 44' 50.7" N
Longitude (NAD 83) 84° 13' 43.8" W
Ground Elevation (AMSL) 294.33 m / 965.7 ft
Antenna Centerline (AGL) 1.22 m / 4.0 ft
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 -19.5 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.20	107.77	-10.00	118.03
5	0.00	112.50	-10.00	118.35
10	0.00	117.22	-10.00	118.35
15	0.00	115.47	-10.00	118.35
20	0.00	112.14	-10.00	118.35
25	0.00	108.71	-10.00	118.35
30	0.00	105.20	-10.00	118.35
35	0.00	101.63	-10.00	118.35
40	0.00	98.02	-10.00	118.35
45	0.00	94.38	-10.00	118.35
50	0.00	90.73	-10.00	118.35
55	0.00	87.07	-10.00	118.35
60	0.00	83.42	-10.00	118.35
65	0.00	79.80	-10.00	118.35
70	0.00	76.21	-10.00	118.35
75	0.00	72.68	-10.00	118.35
80	0.00	69.21	-10.00	118.35
85	0.00	65.84	-10.00	118.35
90	0.00	62.57	-10.00	118.35
95	0.00	59.44	-10.00	118.35
100	0.00	56.47	-10.00	118.35
105	0.00	53.69	-10.00	118.35
110	0.00	51.14	-10.00	118.35
115	0.00	48.86	-10.00	118.35
120	0.00	46.90	-9.78	118.92
125	0.00	45.29	-9.40	119.91
130	0.00	44.07	-9.10	120.67
135	0.00	43.29	-8.91	121.18
140	0.00	42.97	-8.83	121.39
145	0.00	43.11	-8.86	121.30
150	0.00	43.71	-9.01	120.91
155	0.00	44.76	-9.27	120.24
160	0.00	46.21	-9.62	119.34
165	0.00	48.01	-10.00	118.35
170	0.00	49.51	-10.00	118.35
175	0.00	50.45	-10.00	118.35
180	0.00	50.77	-10.00	118.35
185	0.00	50.45	-10.00	118.35

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Licensee Name		TEOTL 108 LLC	
Latitude (NAD 83)		33° 44' 50.7" N	
Longitude (NAD 83)		84° 13' 43.8" W	
Ground Elevation (AMSL)		294.33 m / 965.7 ft	
Antenna Centerline (AGL)		1.22 m / 4.0 ft	
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		-19.5 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	49.52	-10.00	118.35
195	0.00	48.01	-10.00	118.35
200	0.26	45.79	-9.52	114.44
205	0.32	43.33	-8.92	111.45
210	0.42	40.48	-8.18	105.65
215	0.63	37.26	-7.28	100.00
220	0.74	33.89	-6.25	100.00
225	0.72	30.40	-5.07	100.00
230	0.88	26.66	-3.64	100.00
235	1.11	22.83	-1.96	100.00
240	1.18	19.59	-0.30	100.00
245	1.48	16.97	1.26	100.00
250	1.32	15.97	1.91	100.00
255	1.16	16.47	1.58	100.00
260	1.05	18.28	0.45	100.00
265	1.00	21.07	-1.09	100.00
270	1.14	24.42	-2.69	100.00
275	0.97	28.41	-4.34	100.00
280	0.84	32.63	-5.84	100.00
285	0.94	36.94	-7.19	100.00
290	0.87	41.44	-8.43	100.00
295	0.62	46.07	-9.59	100.00
300	0.59	50.70	-10.00	100.00
305	0.56	55.37	-10.00	100.00
310	0.48	60.09	-10.00	100.00
315	0.61	64.80	-10.00	100.00
320	0.60	69.55	-10.00	100.00
325	0.37	74.34	-10.00	104.87
330	0.39	79.11	-10.00	102.89
335	0.26	83.90	-10.00	113.26
340	0.00	88.68	-10.00	118.35
345	0.20	93.46	-10.00	118.03
350	0.00	98.23	-10.00	118.35
355	0.23	103.01	-10.00	115.55

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: November 10, 2020