

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
United Teleports
THOMASTON, GA
(9.3 meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
May 27, 2020

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	7
5. CERTIFICATION.....	11

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 01/28/2020.

Company

Alabama Power Company
Alltel Communications LLC - Alabama
Athens Cellular, Inc.
Baldwin County Sheriffs Office
Barrow County Emergency Services
Cellco Partnership - Georgia Mkt
Central of Georgia Railway Company
City of Phenix City
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
Flint Electric Membership Corporation
Fulton, County of
Georgia Southern and Florida Railway Co
Georgia System Operations Corporation
Greene County E911
Gwinnett County Government
Henry County Emergency Communications
Houston County Water Department
Jackson Electric Membership Corporation
Macon-Bibb County Government
Monroe, County of (GA)
New Cingular Wireless PCS LLC - AL, MS
New Cingular Wireless PCS LLC - Georgia
New Cingular Wireless PCS LLC - WV,NC,SC
Norfolk Southern Railway Company
Oconee County Sheriffs Office
Olympic Wireless, LLC
PowerSouth Energy Cooperative
Public Service Telephone Company
Public Service Towers, Inc.
Rayle Electric Membership Corporation
Southern Company Services, Inc.
T-Mobile License LLC
Tallapoosa, County of

Troy University
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless (VAW) LLC - Alabama
Verizon Wireless of The East LP - (GA)
Verizon Wireless of the East LP- Alabama
ViaSat, Inc
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: 05/27/2020
Job Number: 200128COMSGE11

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code UNTELE
Licensee Name United Teleports

Site Information THOMASTON, GA

Venue Name
Latitude (NAD 83) 32° 56' 56.7" N
Longitude (NAD 83) 84° 15' 42.1" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 241.89 m / 793.6 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 11° W to 143° West Longitude
Azimuth Range 99.3° to 251.7°
Corresponding Elevation Angles 5.3° / 17.5°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information Transmit - FCC32

Manufacturer Andrew/ASC
Model 9.3 meter
Gain / Diameter 53.7 dBi / 9.3 m
3-dB / 15-dB Beamwidth 0.30° / 0.60°

Max Available RF Power (dBW/4 kHz) -15.8
(dBW/MHz) 8.2

Maximum EIRP (dBW/4 kHz) 37.9
(dBW/MHz) 61.9

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) 3M00G7W - 54M0G7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 256.5 km / 159.4 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

THOMASTON, GA

Licensee Name United Teleports
Latitude (NAD 83) 32° 56' 56.7" N
Longitude (NAD 83) 84° 15' 42.1" W
Ground Elevation (AMSL) 241.89 m / 793.6 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model Andrew/ASC 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 -15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	99.25	-10.00	128.03
5	0.00	94.27	-10.00	128.03
10	0.00	89.30	-10.00	128.03
15	0.00	84.32	-10.00	128.03
20	0.00	79.34	-10.00	128.03
25	0.00	74.36	-10.00	128.03
30	0.00	69.39	-10.00	128.03
35	0.00	64.41	-10.00	128.03
40	0.00	59.44	-10.00	128.03
45	0.00	54.47	-10.00	128.03
50	0.00	49.50	-10.00	128.03
55	0.00	44.54	-9.22	130.11
60	0.00	39.59	-7.94	133.54
65	0.00	34.65	-6.49	136.28
70	0.00	29.73	-4.83	141.18
75	0.00	24.83	-2.88	147.35
80	0.00	19.99	-0.52	155.41
85	0.00	15.23	2.43	168.05
90	0.00	10.70	6.27	182.94
95	0.00	6.84	11.13	201.59
100	0.00	5.37	13.75	256.53
105	0.00	7.80	9.70	196.12
110	0.00	11.82	5.18	178.75
115	0.00	15.88	1.98	164.67
120	0.00	19.88	-0.46	155.61
125	0.00	23.81	-2.42	148.86
130	0.00	27.64	-4.04	143.62
135	0.00	31.36	-5.41	139.44
140	0.00	34.92	-6.58	136.05
145	0.00	38.30	-7.58	133.27
150	0.00	41.44	-8.44	132.21
155	0.00	44.29	-9.16	130.28
160	0.00	46.78	-9.75	128.70
165	0.00	48.84	-10.00	128.03
170	0.00	50.38	-10.00	128.03
175	0.00	51.34	-10.00	128.03
180	0.00	51.67	-10.00	128.03
185	0.00	51.34	-10.00	128.03

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

THOMASTON, GA

Licensee Name United Teleports
Latitude (NAD 83) 32° 56' 56.7" N
Longitude (NAD 83) 84° 15' 42.1" W
Ground Elevation (AMSL) 241.89 m / 793.6 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model Andrew/ASC 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 -15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	50.38	-10.00	128.03
195	0.00	48.84	-10.00	128.03
200	0.00	46.78	-9.75	128.69
205	0.00	44.29	-9.16	130.28
210	0.00	41.44	-8.44	132.21
215	0.00	38.30	-7.58	133.27
220	0.00	34.92	-6.58	136.05
225	0.00	31.36	-5.41	139.44
230	0.00	27.64	-4.04	143.62
235	0.00	24.04	-2.52	148.51
240	0.00	20.98	-1.05	153.55
245	0.00	18.73	0.19	157.94
250	0.00	17.61	0.86	160.42
255	0.00	17.82	0.73	159.94
260	0.00	19.32	-0.15	156.72
265	0.00	21.86	-1.49	152.00
270	0.00	25.11	-3.00	146.96
275	0.00	28.84	-4.50	142.19
280	0.00	32.88	-5.92	137.92
285	0.00	37.13	-7.24	134.18
290	0.00	41.53	-8.46	132.15
295	0.00	46.03	-9.58	129.16
300	0.00	50.60	-10.00	128.03
305	0.00	55.23	-10.00	128.03
310	0.21	59.87	-10.00	127.35
315	0.43	64.54	-10.00	109.24
320	0.22	69.30	-10.00	126.46
325	0.20	74.05	-10.00	127.84
330	0.00	78.83	-10.00	128.03
335	0.00	83.59	-10.00	128.03
340	0.34	88.35	-10.00	116.44
345	0.00	93.12	-10.00	128.03
350	0.00	97.89	-10.00	128.03
355	0.00	102.65	-10.00	128.03

COMSEARCH

Earth Station Data Sheet

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

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: May 27, 2020

COMSEARCH

Earth Station Data Sheet

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

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
United Teleports
THOMASTON, GA
(7.3 meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
May 27, 2020

COMSEARCH

Earth Station Data Sheet

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

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	7
5. CERTIFICATION.....	11

COMSEARCH

Earth Station Data Sheet

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

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.

COMSEARCH

Earth Station Data Sheet

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

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.

COMSEARCH

Earth Station Data Sheet

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

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 01/28/2020.

Company

Alabama Power Company
Alltel Communications LLC - Alabama
Athens Cellular, Inc.
Baldwin County Sheriffs Office
Barrow County Emergency Services
Cellco Partnership - Georgia Mkt
Central of Georgia Railway Company
City of Phenix City
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
Flint Electric Membership Corporation
Fulton, County of
Georgia Southern and Florida Railway Co
Georgia System Operations Corporation
Greene County E911
Gwinnett County Government
Henry County Emergency Communications
Houston County Water Department
Jackson Electric Membership Corporation
Macon-Bibb County Government
Monroe, County of (GA)
New Cingular Wireless PCS LLC - AL, MS
New Cingular Wireless PCS LLC - Georgia
New Cingular Wireless PCS LLC - WV,NC,SC
Norfolk Southern Railway Company
Oconee County Sheriffs Office
Olympic Wireless, LLC
PowerSouth Energy Cooperative
Public Service Telephone Company
Public Service Towers, Inc.
Rayle Electric Membership Corporation
Southern Company Services, Inc.

COMSEARCH

Earth Station Data Sheet

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

T-Mobile License LLC
Tallapoosa, County of
Troy University
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless (VAW) LLC - Alabama
Verizon Wireless of The East LP - (GA)
Verizon Wireless of the East LP- Alabama
ViaSat, Inc
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: 05/27/2020
Job Number: 200128COMSGE10

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code UNTELE
Licensee Name United Teleports

Site Information THOMASTON, GA

Venue Name
Latitude (NAD 83) 32° 56' 56.7" N
Longitude (NAD 83) 84° 15' 42.1" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 241.89 m / 793.6 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 11° W to 143° West Longitude
Azimuth Range 99.3° to 251.7°
Corresponding Elevation Angles 5.3° / 17.5°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information Transmit - FCC32

Manufacturer Andrew/ASC
Model 7.3 meter
Gain / Diameter 51.6 dBi / 7.3 m
3-dB / 15-dB Beamwidth 0.44° / 0.88°

Max Available RF Power (dBW/4 kHz) -15.8
(dBW/MHz) 8.2

Maximum EIRP (dBW/4 kHz) 35.8
(dBW/MHz) 59.8

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) 3M00G7W - 54M0G7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 243.5 km / 151.3 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values	THOMASTON, GA
Licensee Name	United Teleports
Latitude (NAD 83)	32° 56' 56.7" N
Longitude (NAD 83)	84° 15' 42.1" W
Ground Elevation (AMSL)	241.89 m / 793.6 ft
Antenna Centerline (AGL)	5.49 m / 18.0 ft
Antenna Model	Andrew/ASC 7.3 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	-15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	99.25	-10.00	128.03
5	0.00	94.27	-10.00	128.03
10	0.00	89.30	-10.00	128.03
15	0.00	84.32	-10.00	128.03
20	0.00	79.34	-10.00	128.03
25	0.00	74.36	-10.00	128.03
30	0.00	69.39	-10.00	128.03
35	0.00	64.41	-10.00	128.03
40	0.00	59.44	-10.00	128.03
45	0.00	54.47	-10.00	128.03
50	0.00	49.50	-10.00	128.03
55	0.00	44.54	-9.22	130.11
60	0.00	39.59	-7.94	133.54
65	0.00	34.65	-6.49	136.28
70	0.00	29.73	-4.83	141.18
75	0.00	24.83	-2.88	147.35
80	0.00	19.99	-0.52	155.41
85	0.00	15.23	2.43	168.05
90	0.00	10.70	6.27	182.94
95	0.00	6.84	11.13	201.59
100	0.00	5.37	13.75	243.45
105	0.00	7.80	9.70	196.12
110	0.00	11.82	5.18	178.75
115	0.00	15.88	1.98	164.67
120	0.00	19.88	-0.46	155.61
125	0.00	23.81	-2.42	148.86
130	0.00	27.64	-4.04	143.62
135	0.00	31.36	-5.41	139.44
140	0.00	34.92	-6.58	136.05
145	0.00	38.30	-7.58	133.27
150	0.00	41.44	-8.44	132.21
155	0.00	44.29	-9.16	130.28
160	0.00	46.78	-9.75	128.70
165	0.00	48.84	-10.00	128.03
170	0.00	50.38	-10.00	128.03
175	0.00	51.34	-10.00	128.03
180	0.00	51.67	-10.00	128.03
185	0.00	51.34	-10.00	128.03

COMSEARCH

Earth Station Data Sheet

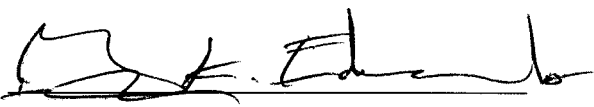
19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values	THOMASTON, GA
Licensee Name	United Teleports
Latitude (NAD 83)	32° 56' 56.7" N
Longitude (NAD 83)	84° 15' 42.1" W
Ground Elevation (AMSL)	241.89 m / 793.6 ft
Antenna Centerline (AGL)	5.49 m / 18.0 ft
Antenna Model	Andrew/ASC 7.3 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	-15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	50.38	-10.00	128.03
195	0.00	48.84	-10.00	128.03
200	0.00	46.78	-9.75	128.69
205	0.00	44.29	-9.16	130.28
210	0.00	41.44	-8.44	132.21
215	0.00	38.30	-7.58	133.27
220	0.00	34.92	-6.58	136.05
225	0.00	31.36	-5.41	139.44
230	0.00	27.64	-4.04	143.62
235	0.00	24.04	-2.52	148.51
240	0.00	20.98	-1.05	153.55
245	0.00	18.73	0.19	157.94
250	0.00	17.61	0.86	160.42
255	0.00	17.82	0.73	159.94
260	0.00	19.32	-0.15	156.72
265	0.00	21.86	-1.49	152.00
270	0.00	25.11	-3.00	146.96
275	0.00	28.84	-4.50	142.19
280	0.00	32.88	-5.92	137.92
285	0.00	37.13	-7.24	134.18
290	0.00	41.53	-8.46	132.15
295	0.00	46.03	-9.58	129.16
300	0.00	50.60	-10.00	128.03
305	0.00	55.23	-10.00	128.03
310	0.21	59.87	-10.00	127.35
315	0.43	64.54	-10.00	109.24
320	0.22	69.30	-10.00	126.46
325	0.20	74.05	-10.00	127.84
330	0.00	78.83	-10.00	128.03
335	0.00	83.59	-10.00	128.03
340	0.34	88.35	-10.00	116.44
345	0.00	93.12	-10.00	128.03
350	0.00	97.89	-10.00	128.03
355	0.00	102.65	-10.00	128.03

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: May 27, 2020