

**FREQUENCY COORDINATION AND INTERFERENCE
ANALYSIS REPORT**

Prepared for
Intelsat License LLC
ELLENWOOD, GA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 05, 2017

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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 04/27/2017.

Company

Alabama Power Company
Alabama Regional Communications System
Alltel Communications LLC - Alabama
Athens Cellular, Inc.
Athens-Clark County Unified Government
Baldwin County Sheriffs Office
Barrow County Emergency Services
Blue Ridge Electric Cooperative Inc
Calhoun County 911
Cellco Partnership - Alabama
Cellco Partnership - Georgia Mkt
Central of Georgia Railway Company
City of Conyers
Clayton, County of
Cobb, County of
Conterra Ultra Broadband, LLC
Coweta County
DeKalb County Police Department
Diverse Power Inc
Flint Electric Membership Corporation
Floyd County
Forsyth, County of
Fulton, County of
Gadsden Celltelco Partnership
Georgia Public Web
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
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
Northeastern Georgia RSA Limited Partner

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
Tallapoosa, County of
USCOC of Greater North Carolina, LLC
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless (VAW) LLC - Alabama
Verizon Wireless of The East LP - (GA)
Verizon Wireless of the East LP- Alabama

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: 06/05/2017
Job Number: 170427COMSGE06

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E030306
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information ELLENWOOD, GA

Venue Name
Latitude (NAD 83) 33° 39' 50.0" N
Longitude (NAD 83) 84° 16' 22.0" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 239.27 m / 785.0 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Analog and Digital
Satellite Arc 17° W to 139° West Longitude
Azimuth Range 103.1° to 248.6°
Corresponding Elevation Angles 10.2° / 20.6°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information Transmit - FCC32

Manufacturer Vertex
Model 9 KPC
Gain / Diameter 53.8 dBi / 9.0 m
3-dB / 15-dB Beamwidth 0.35° / 0.74°

Max Available RF Power (dBW/4 kHz) 3.0
(dBW/MHz) 27.0

Maximum EIRP (dBW/4 kHz) 56.8
(dBW/MHz) 80.8

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) 850KFXD - 1M20FXD / 5853.0 and 6424.5

Max Great Circle Coordination Distance 213.7 km / 132.8 mi
Precipitation Scatter Contour Radius 270.5 km / 168.1 mi

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Earth Station Data Sheet

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Coordination Values	ELLENWOOD, GA
Licensee Name	Intelsat License LLC
Latitude (NAD 83)	33° 39' 50.0" N
Longitude (NAD 83)	84° 16' 22.0" W
Ground Elevation (AMSL)	239.27 m / 785.0 ft
Antenna Centerline (AGL)	5.49 m / 18.0 ft
Antenna Model	Vertex 9 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	3.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	4.53	103.01	-10.00	100.00
5	3.87	98.02	-10.00	100.00
10	2.37	93.05	-10.00	102.92
15	0.75	88.10	-10.00	146.23
20	0.44	83.17	-10.00	167.72
25	0.39	78.25	-10.00	173.40
30	0.50	73.32	-10.00	160.42
35	0.33	68.41	-10.00	179.01
40	0.33	63.50	-10.00	179.56
45	0.45	58.59	-10.00	165.14
50	0.61	53.67	-10.00	153.52
55	0.51	48.80	-10.00	159.74
60	0.68	43.91	-9.06	153.82
65	0.42	39.12	-7.81	179.14
70	0.39	34.34	-6.39	188.08
75	0.48	29.58	-4.77	185.86
80	0.42	24.95	-2.93	199.22
85	0.74	20.32	-0.70	188.95
90	1.12	15.87	1.98	183.64
95	1.07	12.16	4.88	198.25
100	1.16	9.54	7.51	205.99
105	1.04	9.36	7.72	210.60
110	1.15	11.38	5.60	199.37
115	1.18	14.91	2.66	184.76
120	1.38	18.74	0.18	165.31
125	1.29	22.68	-1.89	158.70
130	1.49	26.32	-3.51	145.53
135	2.04	29.60	-4.78	128.26
140	2.75	32.59	-5.83	110.60
145	2.08	36.31	-7.00	119.32
150	1.40	39.83	-8.01	132.09
155	1.29	42.66	-8.75	132.30
160	1.14	45.16	-9.37	133.94
165	1.18	47.06	-9.82	131.40
170	1.08	48.60	-10.00	133.42
175	0.80	49.76	-10.00	143.80
180	0.73	50.13	-10.00	147.20
185	0.62	49.93	-10.00	152.92

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Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

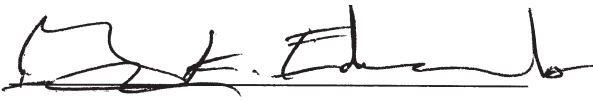
ELLENWOOD, GA

Licensee Name Intelsat License LLC
Latitude (NAD 83) 33° 39' 50.0" N
Longitude (NAD 83) 84° 16' 22.0" W
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Antenna Model Vertex 9 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 3.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.67	48.98	-10.00	150.30
195	0.71	47.48	-9.91	148.76
200	0.79	45.44	-9.44	146.03
205	1.07	42.82	-8.79	136.49
210	1.04	40.09	-8.08	139.89
215	0.71	37.27	-7.28	159.57
220	0.56	34.06	-6.31	173.93
225	0.46	30.62	-5.15	186.51
230	0.45	27.14	-3.84	193.30
235	0.38	24.19	-2.59	204.30
240	0.34	21.92	-1.52	210.90
245	0.45	20.44	-0.76	205.93
250	0.35	20.28	-0.68	213.69
255	0.48	21.06	-1.09	201.90
260	0.78	22.74	-1.92	181.41
265	0.94	25.39	-3.12	165.49
270	0.89	28.78	-4.48	161.72
275	0.91	32.51	-5.80	155.00
280	1.10	36.43	-7.04	142.19
285	1.23	40.60	-8.21	134.26
290	1.63	44.82	-9.29	121.85
295	2.17	49.14	-10.00	106.80
300	2.59	53.62	-10.00	100.00
305	3.30	58.11	-10.00	100.00
310	4.52	62.62	-10.00	100.00
315	6.11	67.20	-10.00	100.00
320	7.16	71.94	-10.00	100.00
325	7.22	76.79	-10.00	100.00
330	7.12	81.65	-10.00	100.00
335	6.90	86.51	-10.00	100.00
340	6.69	91.37	-10.00	100.00
345	6.08	96.21	-10.00	100.00
350	5.64	101.02	-10.00	100.00
355	5.23	105.81	-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: June 05, 2017