

**FREQUENCY COORDINATION AND INTERFERENCE
ANALYSIS REPORT**

Prepared for

**Intelsat License LLC
Ellenwood, Georgia
(Call Sign: E990365)**

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
March 2, 2012

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.

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-receive earth station.

Company

None

No 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.

Expedited coordination data for this earth station was emailed and sent to the below listed carriers with a letter dated January 18, 2012.

Company

Airband Communications Inc
Alltel Communications LLC - Alabama
Alltel Communications LLC - Georgia
Alltel Communications, LLC - Arkansas
Atlanta Police Department
Biltmore Communications
Blue Ridge Electric Cooperative Inc
CALHOUN COUNTY COMMISSIONERS
CALHOUN, COUNTY OF
Calhoun, County of - Emergency Managemen
Cellco Partnership - Alabama
Cellco Partnership - Georgia Mkt
City of Douglasville
City of Macon, Georgia
Clearwire Spectrum Holdings II, LLC
Clearwire Spectrum Holdings III, LLC
Conterra Ultra Broadband, LLC
FULTON, COUNTY OF
FiberTower Network Services Corp.
Greene County EOC/E-911
Hall County 9-1-1
Jackson County Public Safety
LigoWave
METROPOLITAN AREA NETWORKS, INC.
New Cingular Wireless PCS LLC - AL, MS,
New Cingular Wireless PCS LLC - Georgia
New Cingular Wireless PCS LLC-WV/VA/NC/S
New Cingular Wireless PCS, LLC - LA, GM
Oconee County Sheriffs Office
One Ring Networks, Inc.
Open Range Communications Inc., D-I-P
Spalding, County of
Sprintcom, Inc
TOWER CLOUD, INC
Talladega County Emergency Mangement Age

Company (Continued)

US Cellular Telephone Co-Grtr Knoxville
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless of the East LP- Alabama
Vyvx, LLC - Atlanta

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: 03/02/2012
Job Number: 120118COMSJC02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E990365
Licensee Code INTELS
Licensee Name Intelsat License LLC

Site Information ELLENWOOD, GEORGIA

Venue Name
Latitude (NAD 83) 33° 39' 52.4" N
Longitude (NAD 83) 84° 16' 13.7" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 236.0 m / 774.3 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 37° W to 110° West Longitude
Azimuth Range 117.1° to 221.0°
Corresponding Elevation Angles 26.6° / 42.1°
Antenna Centerline (AGL) 8.4 m / 27.6 ft

Antenna Information

	Receive	Transmit
Manufacturer	Vertex	Vertex
Model	13.1 Meter	13.1 Meter
Gain / Diameter	62.5 dBi / 13.1 m	63.8 dBi / 13.1 m
3-dB / 15-dB Beamwidth	0.80° / 1.40°	0.60° / 1.20°

750KF2D 64K0G7W to 36M0G7W

Max Available RF Power	(dBW/4 kHz)	-1.5	-14.0	-18.3	
	(dBW/MHz)	21.2	-2.0	5.7	
Maximum EIRP	(dBW/4 kHz)	62.3	49.8	45.5	
	(dBW/MHz)	85.0	61.8	69.5	
	(dBW)	85.0	61.8	85.0	
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-128.0 dBW/4 kHz	0.0025%

Frequency Information

Emission / Frequency Range (MHz)	Receive 11.0 GHz	Transmit 14.0 GHz
	750KF2D / 10950.0 - 11200.0	36M0G7W / 14000.0 - 14500.0
	64K0G7W / 10950.0 - 11200.0	64K0G7W / 14000.0 - 14500.0
	36M0G7W / 10950.0 - 11200.0	750KF2D / 14000.0 - 14500.0
	750KF2D / 11450.0 - 12200.0	
	64K0G7W / 11450.0 - 12200.0	
	36M0G7W / 11450.0 - 12200.0	

Max Great Circle Coordination Distance	234.8 km / 145.9 mi	152.0 km / 94.5 mi
Precipitation Scatter Contour Radius	528.2 km / 328.1 mi	116.8 km / 72.6 mi

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Coordination Values

ELLENWOOD, GA

Licensee Name Intelsat License LLC
Latitude (NAD 83) 33° 39' 52.4" N
Longitude (NAD 83) 84° 16' 13.7" W
Ground Elevation (AMSL) 236.0 m / 774.3 ft
Antenna Centerline (AGL) 8.4 m / 27.6 ft
Antenna Model Vertex 13.1 Meter
Antenna Mode Receive 11.0 GHz Transmit 14.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%
Max Available RF Power -1.5 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.35	114.13	-10.00	216.85	-10.00	135.12
5	0.35	109.73	-10.00	217.28	-10.00	135.52
10	0.38	105.31	-10.00	214.86	-10.00	133.25
15	0.39	100.85	-10.00	213.41	-10.00	131.91
20	0.38	96.38	-10.00	214.35	-10.00	132.79
25	0.34	91.90	-10.00	218.48	-10.00	136.66
30	0.40	87.41	-10.00	213.08	-10.00	131.61
35	0.25	82.94	-10.00	226.38	-10.00	144.33
40	0.49	78.45	-10.00	205.04	-10.00	125.49
45	0.49	74.00	-10.00	205.64	-10.00	126.05
50	0.54	69.56	-10.00	204.81	-10.00	123.04
55	0.58	65.15	-10.00	203.19	-10.00	121.52
60	0.55	60.81	-10.00	204.65	-10.00	122.89
65	0.31	56.60	-10.00	220.95	-10.00	139.02
70	0.40	52.37	-10.00	212.38	-10.00	130.97
75	0.38	48.29	-10.00	214.75	-10.00	133.16
80	0.00	44.53	-9.22	234.83	-9.22	152.04
85	0.40	40.55	-8.20	220.59	-8.20	136.93
90	0.84	36.72	-7.12	202.04	-7.12	117.81
95	0.87	33.44	-6.11	204.80	-6.11	119.40
100	0.99	30.49	-5.11	203.88	-5.11	117.51
105	0.79	28.34	-4.31	213.68	-4.31	127.99
110	1.03	26.50	-3.58	206.54	-3.58	120.68
115	0.96	25.74	-3.26	210.57	-3.26	124.06
120	1.02	25.74	-3.27	208.03	-3.27	121.73
125	1.15	26.58	-3.61	203.08	-3.61	117.44
130	1.23	28.27	-4.28	200.57	-4.28	113.57
135	1.16	30.76	-5.20	198.30	-5.20	112.47
140	1.26	33.63	-6.17	191.13	-6.17	107.20
145	1.86	36.47	-7.05	168.28	-7.05	100.00
150	2.00	39.39	-7.88	156.68	-7.88	100.00
155	1.56	42.45	-8.70	169.71	-8.70	100.00
160	1.28	45.04	-9.34	175.67	-9.34	100.00
165	1.22	47.02	-9.81	175.26	-9.81	100.00
170	0.98	48.69	-10.00	182.72	-10.00	103.97
175	1.29	49.27	-10.00	172.07	-10.00	100.00
180	1.05	49.81	-10.00	180.10	-10.00	101.91
185	0.71	49.85	-10.00	196.85	-10.00	115.77

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Coordination Values

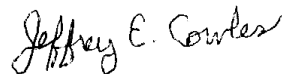
ELLENWOOD, GA

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Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%
Max Available RF Power -1.5 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.61	49.03	-10.00	201.39	-10.00	119.86
195	0.63	47.54	-9.93	200.75	-9.93	119.21
200	0.63	45.64	-9.48	202.74	-9.48	120.64
205	0.70	43.88	-9.06	200.77	-9.06	118.45
210	0.64	42.67	-8.75	205.02	-8.75	122.12
215	0.93	41.56	-8.47	192.15	-8.47	110.30
220	0.87	41.28	-8.39	195.63	-8.39	113.24
225	0.45	41.84	-8.54	214.40	-8.54	131.49
230	0.41	42.51	-8.71	217.42	-8.71	134.45
235	0.36	43.64	-9.00	220.58	-9.00	137.70
240	0.30	45.21	-9.38	224.44	-9.38	141.80
245	0.00	47.35	-9.88	231.88	-9.88	149.73
250	0.24	49.38	-10.00	227.79	-10.00	145.74
255	0.35	51.82	-10.00	217.38	-10.00	135.61
260	0.60	54.43	-10.00	202.19	-10.00	120.59
265	0.62	57.41	-10.00	201.20	-10.00	119.69
270	0.86	60.46	-10.00	188.96	-10.00	109.02
275	1.06	63.70	-10.00	179.55	-10.00	101.48
280	1.69	66.92	-10.00	155.89	-10.00	100.00
285	2.69	70.21	-10.00	131.63	-10.00	100.00
290	4.12	73.60	-10.00	108.82	-10.00	100.00
295	4.86	77.33	-10.00	100.00	-10.00	100.00
300	5.10	81.24	-10.00	100.00	-10.00	100.00
305	5.69	85.18	-10.00	100.00	-10.00	100.00
310	5.57	89.20	-10.00	100.00	-10.00	100.00
315	5.22	93.20	-10.00	100.00	-10.00	100.00
320	4.83	97.15	-10.00	100.01	-10.00	100.00
325	4.63	101.07	-10.00	102.44	-10.00	100.00
330	3.78	104.79	-10.00	113.92	-10.00	100.00
335	3.27	108.46	-10.00	122.63	-10.00	100.00
340	2.31	111.86	-10.00	139.48	-10.00	100.00
345	1.07	114.94	-10.00	179.42	-10.00	101.38
350	0.47	118.05	-10.00	206.75	-10.00	127.08
355	0.45	118.50	-10.00	208.14	-10.00	128.37

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.



Jeffrey E. Cowles
Engineer III, Telecommunications
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Va. 20147

DATED: March 2, 2012