

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Turner Broadcasting System, Inc.
ATLANTA, GA
(9.1 Meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
July 24, 2013

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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-receive earth station.

Company

Alltel Communications LLC - Georgia
Greene County EOC/E-911
Oconee County Sheriffs Office
Alltel Communications LLC - Alabama
Athens Cellular, Inc.
Conterra Ultra Broadband, LLC
Southwestco Wireless LP (Georgia 5)
Verizon Wireless of The East LP - (GA)
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless of the East LP- Alabama
Norfolk Southern Railway
Alabama Great Southern Railroad Company

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 with a letter dated 07/23/2013.

Company

Alabama Great Southern Railroad Company
Alabama Regional Communications System
Allied Wireless Communications Corp.
Alltel Communications LLC - Alabama
Alltel Communications LLC - Georgia
Athens Cellular, Inc.
Baldwin County Sheriffs Office
Barrow County Emergency Services
Bell Atlantic Mobile Allentown-Verizon W
CATOOSA COUNTY
COBB COUNTY
Cellco Partnership - Alabama
Cellco Partnership - Georgia Mkt
Cellco Partnership-Newark-Dallas Verizon
Central of Georgia Railway Company
City of Macon, Georgia
Conterra Ultra Broadband, LLC
County of Forsyth
Coweta County
DeKalb County Police Department
Etowah County Communications
FLINT ELECTRIC MEMBERSHIP CORPORATION
Floyd County Emergency Management
Fulton, County of
GWINNETT, COUNTY OF
Gadsden Celltelco Partnership
Georgia Southern and Florida Railway Co
Georgia System Operations Corporation
Greene County EOC/E-911
Hall County 9-1-1
Jackson Electric Membership Corporation
New Cingular Wireless PCS LLC - AL, MS,
Norfolk Southern Railway
North Georgia Electric Membership Corp.
Oconee County Sheriffs Office
Public Service Telephone Company
SOUTHERN COMPANY SERVICES INC
Southwestco Wireless LP (Georgia 5)
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: 07/24/2013
Job Number: 130723COMSGE06

Administrative Information

Status ENGINEER PROPOSAL
Call Sign ATLANTA
Licensee Code TURCOM
Licensee Name Turner Broadcasting System, Inc.

Site Information ATLANTA, GA

Venue Name
Latitude (NAD 83) 33° 41' 24.0" N
Longitude (NAD 83) 84° 37' 20.0" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 247.2 m / 811.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 18° W to 65° West Longitude
Azimuth Range 103.5° to 147.3°
Corresponding Elevation Angles 10.7° / 45.5°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	ViaSat	ViaSat	
Model	8009A	8009A	
Gain / Diameter	50.3 dBi / 9.1 m	53.8 dBi / 9.1 m	
3-dB / 15-dB Beamwidth	0.50° / 1.10°	0.40° / 0.70°	
Max Available RF Power (dBW/4 kHz)		-2.7	
(dBW/MHz)		21.3	
Maximum EIRP (dBW/4 kHz)		51.1	
(dBW/MHz)		75.1	
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-154.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-131.0 dBW/4 kHz 0.0025%

Frequency Information

Receive 4.0 GHz

Transmit 6.1 GHz

Emission / Frequency Range (MHz)	64K0G1D - 36M0G7F / 3700.0 - 4200.0	64K0G1D - 36M0G7F / 5925.0 - 6425.0
Max Great Circle Coordination Distance	339.1 km / 210.7 mi	184.4 km / 114.6 mi
Precipitation Scatter Contour Radius	621.9 km / 386.4 mi	135.3 km / 84.1 mi

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Coordination Values

ATLANTA, GA

Licensee Name Turner Broadcasting System, Inc.
Latitude (NAD 83) 33° 41' 24.0" N
Longitude (NAD 83) 84° 37' 20.0" W
Ground Elevation (AMSL) 247.2 m / 811.0 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model ViaSat 9.1 Meter
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -2.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.57	103.27	-10.00	245.02	-10.00	135.71
5	0.84	98.36	-10.00	228.93	-10.00	124.64
10	0.61	93.43	-10.00	242.56	-10.00	133.85
15	0.51	88.51	-10.00	249.13	-10.00	138.87
20	0.33	83.59	-10.00	269.27	-10.00	155.16
25	0.00	78.69	-10.00	285.28	-10.00	170.66
30	0.00	73.78	-10.00	285.28	-10.00	170.66
35	0.96	68.81	-10.00	222.18	-10.00	119.19
40	1.09	63.89	-10.00	217.49	-10.00	115.26
45	1.45	58.95	-10.00	207.12	-10.00	106.11
50	1.37	54.05	-10.00	209.22	-10.00	108.02
55	1.25	49.18	-10.00	212.76	-10.00	111.18
60	1.37	44.29	-9.16	213.33	-9.16	110.65
65	1.57	39.40	-7.89	213.47	-7.89	109.20
70	1.38	34.62	-6.48	226.76	-6.48	118.52
75	1.46	29.84	-4.87	233.12	-4.87	121.65
80	1.70	25.07	-2.98	236.53	-2.98	122.28
85	1.50	20.59	-0.84	256.98	-0.84	133.38
90	1.52	16.28	1.71	274.22	1.71	142.57
95	1.52	12.50	4.58	296.30	4.58	155.02
100	1.12	10.22	6.76	331.48	6.76	179.46
105	1.02	9.83	7.19	339.08	7.19	184.38
110	0.92	11.76	5.24	328.94	5.24	180.33
115	1.16	14.93	2.65	295.47	2.65	157.29
120	1.09	18.91	0.08	279.00	0.08	148.25
125	0.70	23.02	-2.05	287.58	-2.05	158.04
130	0.64	26.84	-3.72	280.33	-3.72	154.62
135	0.96	30.28	-5.03	250.63	-5.03	133.47
140	0.92	33.81	-6.22	245.89	-6.22	132.80
145	0.55	37.36	-7.31	262.74	-7.31	145.75
150	0.55	40.43	-8.17	257.74	-8.17	143.02
155	0.66	43.12	-8.87	246.00	-8.87	135.02
160	1.03	45.22	-9.38	222.62	-9.38	118.81
165	1.04	47.16	-9.84	219.83	-9.84	117.04
170	0.79	49.06	-10.00	231.70	-10.00	126.83
175	0.56	51.22	-10.00	245.99	-10.00	136.45
180	0.92	53.20	-10.00	224.50	-10.00	121.09
185	1.97	55.02	-10.00	195.26	-10.00	100.00

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Coordination Values

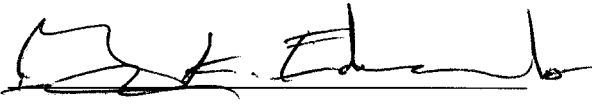
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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -2.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	2.17	57.71	-10.00	190.57	-10.00	100.00
195	2.13	60.74	-10.00	191.54	-10.00	100.00
200	2.53	63.71	-10.00	182.48	-10.00	100.00
205	2.12	67.17	-10.00	191.67	-10.00	100.00
210	0.57	71.08	-10.00	245.17	-10.00	135.83
215	0.57	74.44	-10.00	245.38	-10.00	135.99
220	0.75	77.83	-10.00	234.06	-10.00	128.66
225	0.32	81.39	-10.00	269.87	-10.00	155.67
230	0.00	84.91	-10.00	285.28	-10.00	170.66
235	0.00	88.41	-10.00	285.28	-10.00	170.66
240	0.00	91.91	-10.00	285.28	-10.00	170.66
245	0.00	95.41	-10.00	285.28	-10.00	170.66
250	0.34	98.93	-10.00	267.84	-10.00	153.95
255	0.43	102.41	-10.00	257.81	-10.00	145.66
260	0.67	105.90	-10.00	239.11	-10.00	132.51
265	0.64	109.25	-10.00	240.86	-10.00	133.83
270	0.62	112.51	-10.00	242.32	-10.00	133.67
275	0.56	115.66	-10.00	245.91	-10.00	136.39
280	0.69	118.76	-10.00	237.85	-10.00	131.57
285	0.78	121.71	-10.00	232.56	-10.00	127.50
290	0.80	124.43	-10.00	231.35	-10.00	126.55
295	0.90	127.00	-10.00	225.59	-10.00	121.98
300	0.92	129.26	-10.00	224.51	-10.00	121.10
305	0.93	131.22	-10.00	224.14	-10.00	120.79
310	0.91	132.82	-10.00	225.25	-10.00	121.70
315	0.85	134.02	-10.00	228.54	-10.00	124.34
320	0.94	134.95	-10.00	223.78	-10.00	120.50
325	1.02	135.45	-10.00	219.81	-10.00	117.22
330	0.96	132.70	-10.00	222.39	-10.00	119.36
335	0.98	127.83	-10.00	221.35	-10.00	118.51
340	1.01	122.94	-10.00	219.98	-10.00	117.36
345	0.91	118.03	-10.00	225.36	-10.00	121.79
350	0.55	113.09	-10.00	246.64	-10.00	136.95
355	0.60	108.19	-10.00	243.55	-10.00	134.60

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: July 24, 2013