

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
SES Americom, Inc.
WOODBINE, MD
(Ku-band DBS)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
January 31, 2006

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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 01/31/2006.

Company

ACC LICENSEE, INC
ACCELACOM-BALTIMORE LLC
ADAMS COUNTY EMERGENCY MANAGEMENT AGENCY
AMFM RADIO LICENSES, LLC
ARLINGTON COUNTY EMERGENCY COMM CTR
AT&T CORP
Airband Communications Inc
American Personal Communications
BUSINESS INFORMATION GROUP, INC.
CALVERT COUNTY
CBS Broadcasting Inc
COMCAST CABLEVISION OF MARYLAND L.P.
CRISPUS ATTUCKS ASSOCIATION
Cellco Partnership- PA Region
ERICSSON INC
Enoch Pratt Free Library
FLIGHT SYSTEMS
FRANKLIN CNTY EMERGENCY MANAGEMENT AGENC
GEORGE WASHINGTON UNIVERSITY
GlobalSat
M&T Bank
MARYLAND, STATE OF - MDOT - MTA
MONTGOMERY COUNTY DEPT OF TELECOMM
NBC TELEMUNDO LICENSE CO.
Network for Instructional TV, Inc.
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS LLC -NE Reg
PRINCE WILLIAM COUNTY
ROADSTAR INTERNET, INC.
WASHINGTON CABLE SYSTEMS INC
WASHINGTON METRO AREA TRANSIT AUTHORITY
WGN CONTINENTAL BROADCASTING CO
WKYSFM, INC
YORK COUNTY

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: 01/31/2006
Job Number: <PCNJobCode>

Administrative Information

Status ENGINEER PROPOSAL
Call Sign <PCNCallSign>
Licensee Code P3210
Licensee Name SES Americom, Inc.

Site Information

WOODBINE, MD
Venue Name
Latitude (NAD 83) 39° 22' 37.1" N
Longitude (NAD 83) 77° 4' 49.1" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 198.12 m / 650.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 90° W to 136° West Longitude
Azimuth Range 199.9° to 249.1°
Corresponding Elevation Angles 42.5° / 15.1°
Antenna Centerline (AGL) 6.4 m / 21.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Vertex		Vertex	
Model		13.1 KPK		13.1 KPK	
Gain / Diameter		62.2 dBi / 13.1 m		63.7 dBi / 13.1 m	
3-dB / 15-dB Beamwidth		0.03° / 0.07°		0.02° / 0.03°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-15.8 8.2	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			47.9 71.9	
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

	Receive 12.2 GHz	Transmit 17.3 GHz
Emission / Frequency Range (MHz)	24M0G7W / 12200.0 - 12700.0	24M0G7W / 17300.0 - 17800.0
Max Great Circle Coordination Distance	272.9 km / 169.5 mi	129.8 km / 80.7 mi
Precipitation Scatter Contour Radius	506.9 km / 315.0 mi	100.0 km / 62.1 mi

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Coordination Values

WOODBINE, MD

Licensee Name SES Americom, Inc.
Latitude (NAD 83) 39° 22' 37.1" N
Longitude (NAD 83) 77° 4' 49.1" W
Ground Elevation (AMSL) 198.12 m / 650.0 ft
Antenna Centerline (AGL) 6.4 m / 21.0 ft
Antenna Model Vertex 13.1 KPK
Antenna Mode Receive 12.2 GHz Transmit 17.3 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 -15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 12.2 GHz		Transmit 17.3 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.99	110.27	-10.00	177.86	-10.00	100.00
5	0.87	115.08	-10.00	184.14	-10.00	100.00
10	0.62	119.84	-10.00	196.89	-10.00	100.00
15	0.42	124.58	-10.00	206.86	-10.00	100.00
20	0.79	129.40	-10.00	188.47	-10.00	100.00
25	0.72	134.10	-10.00	191.79	-10.00	100.00
30	0.83	137.35	-10.00	186.38	-10.00	100.00
35	0.77	136.11	-10.00	189.07	-10.00	100.00
40	0.84	134.56	-10.00	185.95	-10.00	100.00
45	0.84	132.58	-10.00	185.53	-10.00	100.00
50	1.02	130.40	-10.00	176.44	-10.00	100.00
55	0.69	127.58	-10.00	193.23	-10.00	100.00
60	0.93	124.90	-10.00	181.01	-10.00	100.00
65	0.80	121.80	-10.00	187.83	-10.00	100.00
70	0.80	118.61	-10.00	187.97	-10.00	100.00
75	0.76	115.26	-10.00	189.82	-10.00	100.00
80	0.60	111.77	-10.00	197.69	-10.00	100.00
85	0.38	108.19	-10.00	209.99	-10.00	100.00
90	0.44	104.62	-10.00	205.59	-10.00	100.00
95	0.31	100.97	-10.00	216.63	-10.00	102.90
100	0.44	97.32	-10.00	205.09	-10.00	100.00
105	0.36	93.61	-10.00	211.73	-10.00	100.00
110	0.20	89.91	-10.00	227.01	-10.00	111.23
115	0.67	86.18	-10.00	194.37	-10.00	100.00
120	0.54	82.49	-10.00	200.76	-10.00	100.00
125	0.45	78.83	-10.00	204.13	-10.00	100.00
130	0.00	75.30	-10.00	227.19	-10.00	111.37
135	0.00	71.75	-10.00	227.19	-10.00	111.37
140	0.00	68.28	-10.00	227.19	-10.00	111.37
145	0.00	64.89	-10.00	227.19	-10.00	111.37
150	0.00	61.62	-10.00	227.19	-10.00	111.37
155	0.00	58.49	-10.00	227.19	-10.00	111.37
160	0.30	55.34	-10.00	217.39	-10.00	103.53
165	0.27	52.59	-10.00	220.67	-10.00	106.19
170	0.27	50.04	-10.00	219.95	-10.00	105.61
175	0.56	47.55	-9.93	200.23	-9.93	100.00
180	0.61	45.56	-9.46	199.78	-9.46	100.00
185	0.53	44.05	-9.10	202.61	-9.10	100.00

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Coordination Values

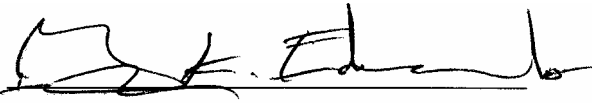
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Max Available RF Power -15.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 12.2 GHz		Transmit 17.3 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.60	42.82	-8.79	202.64	-8.79	100.00
195	0.52	41.67	-8.50	205.07	-8.50	100.00
200	0.43	40.10	-8.08	214.13	-8.08	100.00
205	0.39	38.08	-7.52	219.74	-7.52	102.72
210	0.52	35.58	-6.78	212.24	-6.78	100.00
215	0.70	32.77	-5.89	207.15	-5.89	100.00
220	0.49	30.02	-4.94	222.70	-4.94	102.03
225	0.33	27.02	-3.79	242.85	-3.79	116.57
230	0.59	23.55	-2.30	229.23	-2.30	103.81
235	0.60	20.11	-0.59	236.71	-0.59	107.36
240	0.51	17.15	1.14	251.78	1.14	116.19
245	0.39	15.27	2.40	269.50	2.40	127.85
250	0.42	14.73	2.79	269.24	2.79	127.06
255	0.34	15.91	1.96	272.87	1.96	129.83
260	0.39	18.27	0.46	259.34	0.46	123.01
265	0.44	21.54	-1.33	245.57	-1.33	114.95
270	0.42	25.39	-3.12	237.94	-3.12	111.88
275	0.55	29.50	-4.74	219.68	-4.74	100.00
280	0.51	33.90	-6.25	215.22	-6.25	100.00
285	0.42	38.44	-7.62	216.38	-7.62	100.04
290	0.34	43.07	-8.85	218.89	-8.85	103.55
295	0.42	47.72	-9.97	206.90	-9.97	100.00
300	0.40	52.44	-10.00	209.04	-10.00	100.00
305	0.43	57.19	-10.00	205.80	-10.00	100.00
310	0.88	61.90	-10.00	183.38	-10.00	100.00
315	1.22	66.68	-10.00	169.83	-10.00	100.00
320	1.30	71.50	-10.00	167.29	-10.00	100.00
325	1.31	76.34	-10.00	166.87	-10.00	100.00
330	1.36	81.19	-10.00	162.89	-10.00	100.00
335	1.37	86.05	-10.00	162.25	-10.00	100.00
340	1.24	90.90	-10.00	169.11	-10.00	100.00
345	0.98	95.75	-10.00	178.31	-10.00	100.00
350	0.60	100.58	-10.00	197.81	-10.00	100.00
355	0.64	105.41	-10.00	195.91	-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: January 31, 2006