

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
ViaSat, Inc
DULUTH, GA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 24, 2011

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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 shared terrestrial 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. When considering the path loss toward these predicted cases and the limited transmit frequency of the proposed uplink at 2085.6875 MHz, 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 09/14/2011.

Company

CNN America, Inc.
Fox24 of Macon License LLC
Georgia Television Company
MEDIA GENERAL COMMUNICATIONS HOLDINGS, L
MEREDITH CORPORATION - WGCL-TV
NVT Birmingham Licensee, LLC
New Age Media of Tennessee License, LLC
New World Communications of Atlanta, Inc
PAPPAS TELECASTING OF OPELIKA
Pacific and Southern Company, Inc.
SARKES TARZIAN INC
TV ALABAMA, INC. - WCFT-TV
UNIVERSITY OF GEORGIA
WAFF License Subsidiary, LLC
WBRC License Subsidiary, LLC
WDEF-TV, Inc.
WTVM License Subsidiary, LLC
Ying Hua Bennis
SBE Coordinator - Georgia Northern Region (1 GHz Up)
3G Wireless, LLC
Borgeson, Tom R
Broadcast Sports Corp
Broadcast Sports Enterprises Inc.
Casper, John
Citywide News Network, Inc.
Cohen, Elana
CP Communications PA, LLC
Cowboys Stadium LP
DCI II Inc.
FISHMAN BROTHERS ENTERPRISES
GOODYEAR TIRE AND RUBBER COMPANY
Global Microwave Systems Inc.
Heiden Mr, William
Information Super Station LLC
NSM Surveillance
Onboard Images
Production & Satellite Services, Inc.
Randy Hermes Production dba Aerial Video Sys.
Regulus Media Services, Inc.
REMOTE FACILITIES CONSULTING SERVICES

RF Film, Inc
RF Technology, LLC
Total RF Marketing Inc
Universal Satellite Communications Inc.
Village Video Productions Inc
WOLFE AIR AVIATION
Western Technical Services
Wexler Video, Inc.
Winged Vision Inc

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: 10/24/2011
Job Number: 110914COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code ZVIASA
Licensee Name ViaSat, Inc

Site Information DULUTH, GA

Venue Name
Latitude (NAD 83) 33° 57' 47.2" N
Longitude (NAD 83) 84° 5' 43.0" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 286.21 m / 939.0 ft

Link Information

Satellite Type Low Earth Orbit
Mode TO - Transmit-Only
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information Transmit - FCC32

Manufacturer ViaSat
Model 7.3 Meter
Gain / Diameter 40.7 dBi / 7.3 m
3-dB / 15-dB Beamwidth 1.40° / 2.80°

Max Available RF Power (dBW/4 kHz) -2.8
(dBW/MHz) 21.2

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 2.0 GHz

Emission / Frequency Range (MHz) 128KG1D / 2085.6875

Max Great Circle Coordination Distance 180.7 km / 112.3 mi
Precipitation Scatter Contour Radius 130.9 km / 81.3 mi

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Coordination Values

DULUTH, GA

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Antenna Model ViaSat 7.3 Meter
Antenna Mode Transmit 2.0 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -2.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	93.30	7.00	180.70
5	0.00	88.31	7.00	180.70
10	0.00	83.32	7.00	180.70
15	0.00	78.33	7.00	180.70
20	0.00	73.35	7.00	180.70
25	0.00	68.36	7.00	180.70
30	0.00	63.37	7.00	180.70
35	0.00	58.39	7.00	180.70
40	0.00	53.40	7.00	180.70
45	0.00	48.42	7.00	180.70
50	0.00	43.44	7.00	180.70
55	0.00	38.47	7.00	180.70
60	0.00	33.50	7.00	180.70
65	0.00	28.54	7.00	180.70
70	0.00	23.60	7.00	180.70
75	0.00	18.68	7.00	180.70
80	0.00	13.83	7.00	180.70
85	0.00	9.13	7.00	180.70
90	0.00	5.03	7.00	180.70
95	0.00	4.15	7.00	180.70
100	0.00	7.68	7.00	180.70
105	0.00	12.28	7.00	180.70
110	0.00	17.10	7.00	180.70
115	0.00	22.00	7.00	180.70
120	0.00	26.94	7.00	180.70
125	0.00	31.89	7.00	180.70
130	0.00	36.86	7.00	180.70
135	0.00	41.83	7.00	180.70
140	0.00	46.81	7.00	180.70
145	0.00	51.79	7.00	180.70
150	0.00	56.77	7.00	180.70
155	0.00	61.76	7.00	180.70
160	0.00	66.74	7.00	180.70
165	0.00	71.73	7.00	180.70
170	0.00	76.72	7.00	180.70
175	0.00	81.71	7.00	180.70
180	0.00	86.70	7.00	180.70
185	0.00	91.69	7.00	180.70

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Coordination Values

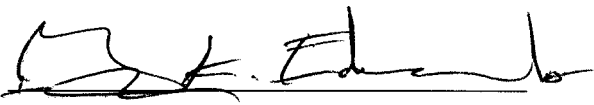
DULUTH, GA

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Max Available RF Power -2.8 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 2.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	96.68	7.00	180.70
195	0.00	101.67	7.00	180.70
200	0.00	106.65	7.00	180.70
205	0.00	111.64	7.00	180.70
210	0.00	116.63	7.00	180.70
215	0.00	121.61	7.00	180.70
220	0.00	126.60	7.00	180.70
225	0.00	131.58	7.00	180.70
230	0.00	136.56	7.00	180.70
235	0.00	141.53	7.00	180.70
240	0.00	146.50	7.00	180.70
245	0.00	151.46	7.00	180.70
250	0.00	156.40	7.00	180.70
255	0.00	161.32	7.00	180.70
260	0.00	166.17	7.00	180.70
265	0.00	170.87	7.00	180.70
270	0.00	174.97	7.00	180.70
275	0.00	175.85	7.00	180.70
280	0.00	172.32	7.00	180.70
285	0.00	167.72	7.00	180.70
290	0.00	162.90	7.00	180.70
295	0.00	158.00	7.00	180.70
300	0.00	153.06	7.00	180.70
305	0.00	148.11	7.00	180.70
310	0.00	143.14	7.00	180.70
315	0.00	138.17	7.00	180.70
320	0.00	133.19	7.00	180.70
325	0.00	128.21	7.00	180.70
330	0.00	123.23	7.00	180.70
335	0.00	118.24	7.00	180.70
340	0.00	113.26	7.00	180.70
345	0.00	108.27	7.00	180.70
350	0.00	103.28	7.00	180.70
355	0.00	98.29	7.00	180.70

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: October 24, 2011