

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

**PanAmSat Licensee Corp.
Ellenwood, Georgia
(Call Sign: E940532)**

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
September 27, 2010

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

Clearwire Spectrum Holdings II, LLC
Verizon Wireless (VAW), LLC (Georgia)

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.

Expedited coordination data for this earth station was emailed and sent to the below listed carriers with a letter dated September 5, 2010.

Company

ALLTEL Communications, LLC
Airband Communications Inc
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 dba Verizon Wire (GA
City of Douglasville
Clearwire Spectrum Holdings II, LLC
Clearwire Spectrum Holdings III, LLC
Conterra Ultra Broadband, LLC
FULTON, COUNTY OF
FiberTower Network Services Corp.
Hall County 9-1-1
International Communications Group, Inc.
LigoWave
METROPOLITAN AREA NETWORKS, INC.
New Cingular Wireless PCS, LLC - LA, GM
North Carolina RSA 1 Partnership
One Ring Networks, Inc.
Open Range Communications
PATHNET, INC. - DEBTOR IN POSSESSION
SENETS BROADBAND
Spalding, County of
TOWER CLOUD, INC
Verizon Wireless (VAW) LLC (Georgia)
Verizon Wireless of The East LP - (GA)
Verizon Wireless of the East LP- Alabama
Vyvx, LLC - Atlanta

Company (Continued)

ATLANTA TELEVISION STATION WUPA INC
BOARD OF EDUCATION, CITY OF ATLANTA
COMMUNITY TELEVISION, INC.
Georgia Television Company
James Cable Partners L.P.
KM LPTV OF ATLANTA, L.L.C.
MEREDITH CORPORATION
MEREDITH CORPORATION - WGCL-TV
NBC TELEMUNDO LICENSE CO.
New World Communications of Atlanta, Inc
Northland Cable Properties, Inc.
PLANTATION CABLEVISION
PRISM BROADCASTING NETWORK, INC.
Pacific and Southern Company, Inc.
UNIVISION ATLANTA, LLC

Society of Broadcast Engineers

Alabama: Birmingham Region
Montgomery Region

Georgia: Northern Region
Southern Region

South Carolina: Greenville/Spartanburg Region
Midlands Region

Tennessee: Knoxville Region

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: 09/27/2010
Job Number: 100905COMSJC01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E940532
Licensee Code PANAS
Licensee Name PanAmSat Licensee Corp.

Site Information ELLENWOOD, GEORGIA

Venue Name
Latitude (NAD 83) 33° 39' 50.4" N
Longitude (NAD 83) 84° 16' 18.7" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 237.8 m / 780.2 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Analog and Digital
Satellite Arc 43° W to 58° West Longitude
Azimuth Range 122.3° to 138.3°
Corresponding Elevation Angles 31.3° / 41.8°
Antenna Centerline (AGL) 8.38 m / 27.5 ft

Antenna Information

	Receive	Transmit
Manufacturer	Vertex	Vertex
Model	7.2 KPK	7.2 KPK
Gain / Diameter	57.0 dBi / 7.2 m	58.4 dBi / 7.2 m
3-dB / 15-dB Beamwidth	0.25° / 0.50°	0.21° / 0.43°
Max Available RF Power (dBW/4 kHz)		-1.1
(dBW/MHz)		22.9
Maximum EIRP (dBW/4 kHz)		57.3
(dBW/MHz)		81.3
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 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	750KF2D / 10950.0 - 11200.0	750KF2D / 13246.5
	56K0G7W - 72M0G7W / 10950.0 - 11200.0	750KF2D / 13995.0
	750KF2D / 11450.0 - 11700.0	750KF2D / 13995.5
	56K0G7W - 72M0G7W / 11450.0 - 11700.0	750KF2D / 14000.5
		750KF2D / 14494.5
		750KF2D / 14498.5
		64K0G7W - 36M0G7W / 13750.0 - 14500.0
		56K0G7W - 72M0G7W / 14000.0 - 14500.0

Max Great Circle Coordination Distance 231.4 km / 143.7 mi 150.7 km / 93.6 mi
Precipitation Scatter Contour Radius 522.4 km / 324.6 mi 121.5 km / 75.5 mi

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Coordination Values

ELLENWOOD, GA

Licensee Name PanAmSat Licensee Corp.
Latitude (NAD 83) 33° 39' 50.4" N
Longitude (NAD 83) 84° 16' 18.7" W
Ground Elevation (AMSL) 237.8 m / 780.2 ft
Antenna Centerline (AGL) 8.38 m / 27.5 ft
Antenna Model Vertex 7.2 KPK
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 -1.1 (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	1.66	117.66	-10.00	156.77	-10.00	100.00
5	1.10	113.34	-10.00	178.45	-10.00	101.74
10	0.29	108.96	-10.00	222.87	-10.00	142.16
15	0.36	104.76	-10.00	216.44	-10.00	135.92
20	0.38	100.51	-10.00	214.45	-10.00	134.04
25	0.23	96.23	-10.00	228.30	-10.00	147.58
30	0.22	91.95	-10.00	229.65	-10.00	148.95
35	0.00	87.67	-10.00	231.37	-10.00	150.70
40	0.26	83.39	-10.00	225.26	-10.00	144.53
45	0.40	79.11	-10.00	212.74	-10.00	132.44
50	0.43	74.86	-10.00	210.65	-10.00	130.51
55	0.48	70.63	-10.00	205.96	-10.00	127.46
60	0.45	66.46	-10.00	208.80	-10.00	130.08
65	0.24	62.42	-10.00	227.69	-10.00	146.96
70	0.36	58.35	-10.00	215.99	-10.00	135.50
75	0.29	54.45	-10.00	222.90	-10.00	142.19
80	0.00	50.79	-10.00	231.37	-10.00	150.70
85	0.58	46.84	-9.76	203.79	-9.76	122.98
90	0.76	43.27	-8.90	198.75	-8.90	117.59
95	0.84	40.00	-8.05	198.58	-8.05	116.66
100	0.63	37.25	-7.28	208.87	-7.28	127.70
105	0.74	34.69	-6.50	206.92	-6.50	125.17
110	0.86	32.60	-5.83	204.39	-5.83	122.13
115	1.01	31.07	-5.31	201.98	-5.31	117.10
120	1.15	30.23	-5.01	199.63	-5.01	114.64
125	1.09	30.32	-5.04	200.96	-5.04	115.88
130	1.06	31.12	-5.33	200.68	-5.33	115.92
135	1.26	32.39	-5.76	193.08	-5.76	109.60
140	1.56	34.20	-6.35	181.51	-6.35	100.67
145	2.00	36.44	-7.04	160.95	-7.04	100.00
150	1.50	39.76	-7.99	175.15	-7.99	100.00
155	1.25	42.69	-8.76	179.36	-8.76	101.30
160	1.16	45.14	-9.36	179.52	-9.36	101.99
165	0.99	47.44	-9.90	182.37	-9.90	104.70
170	1.25	49.71	-10.00	173.28	-10.00	100.00
175	0.93	52.67	-10.00	185.14	-10.00	107.00
180	0.68	55.76	-10.00	198.12	-10.00	118.01
185	0.53	58.96	-10.00	203.00	-10.00	124.68

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Coordination Values

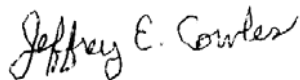
ELLENWOOD, GA

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Longitude (NAD 83) 84° 16' 18.7" W
Ground Elevation (AMSL) 237.8 m / 780.2 ft
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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 -1.1 (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	0.56	62.21	-10.00	204.02	-10.00	123.40
195	0.60	65.59	-10.00	202.22	-10.00	121.73
200	0.58	69.09	-10.00	202.79	-10.00	122.26
205	0.61	72.67	-10.00	201.48	-10.00	121.05
210	0.97	76.24	-10.00	183.43	-10.00	105.63
215	0.95	79.97	-10.00	184.15	-10.00	106.21
220	0.42	83.77	-10.00	210.84	-10.00	130.69
225	0.44	87.51	-10.00	209.76	-10.00	129.70
230	0.38	91.26	-10.00	214.50	-10.00	134.09
235	0.34	95.00	-10.00	218.38	-10.00	137.77
240	0.28	98.72	-10.00	223.65	-10.00	142.93
245	0.00	102.36	-10.00	231.37	-10.00	150.70
250	0.22	106.04	-10.00	229.27	-10.00	148.56
255	0.36	109.67	-10.00	216.69	-10.00	136.16
260	0.47	113.23	-10.00	206.50	-10.00	127.96
265	0.56	116.69	-10.00	204.15	-10.00	123.53
270	0.68	120.06	-10.00	198.35	-10.00	118.21
275	0.83	123.32	-10.00	190.53	-10.00	111.44
280	0.95	126.40	-10.00	184.51	-10.00	106.49
285	1.22	129.40	-10.00	174.30	-10.00	100.00
290	1.98	132.54	-10.00	147.28	-10.00	100.00
295	2.65	135.41	-10.00	132.48	-10.00	100.00
300	3.53	138.18	-10.00	118.16	-10.00	100.00
305	4.24	140.48	-10.00	107.25	-10.00	100.00
310	5.06	142.46	-10.00	100.00	-10.00	100.00
315	5.81	143.88	-10.00	100.00	-10.00	100.00
320	6.07	144.23	-10.00	100.00	-10.00	100.00
325	6.24	143.90	-10.00	100.00	-10.00	100.00
330	5.38	142.00	-10.00	100.00	-10.00	100.00
335	4.98	138.95	-10.00	100.00	-10.00	100.00
340	4.67	135.00	-10.00	101.92	-10.00	100.00
345	4.12	130.81	-10.00	108.79	-10.00	100.00
350	3.77	126.62	-10.00	114.09	-10.00	100.00
355	3.03	122.24	-10.00	126.88	-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.

A handwritten signature in black ink that reads "Jeffrey E. Cowles". The signature is written in a cursive style. To the right of the signature is a vertical red line.

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

DATED: September 27, 2010