

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
DNET Group Inc
N MIAMI BCH, FL
(3.8 Meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
December 13, 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 when considering pathloss calculations and frequency offsets.

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 10/30/2013.

Company

Alltel Communications LLC - S Florida
Embarq Florida, Inc.
FLORIDA POWER AND LIGHT COMPANY
Florida RSA No. 2B (Indian River) LP
Florida Rural Broadband Alliance, LLC
Harris Corporation - Orlando, FL
Miami-Dade County
New Cingular Wireless PCS LLC - N FL
New Cingular Wireless PCS LLC - S FL
PALM BEACH, COUNTY OF
Palm Beach, County Facilities Dev & Ops
South Florida Water Management District
T-Mobile License LLC
Verizon Wireless (VAW) LLC - S Florida
Verizon Wireless Personal Comm, LP(S FL)

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: 12/13/2013
Job Number: 131030COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E120231
Licensee Code DNETGR
Licensee Name DNET Group Inc

Site Information N MIAMI BCH, FL

Venue Name
Latitude (NAD 83) 25° 56' 59.6" N
Longitude (NAD 83) 80° 11' 30.5" W
Climate Zone B
Rain Zone 1
Ground Elevation (AMSL) 1.52 m / 5.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 40° W to 143° West Longitude
Azimuth Range 117.4° to 257.3°
Corresponding Elevation Angles 36.4° / 15.9°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Prodelin		Prodelin	
Model		1383		1383	
Gain / Diameter		42.1 dBi / 3.8 m		46.0 dBi / 3.8 m	
3-dB / 15-dB Beamwidth		1.60° / 3.20°		0.80° / 1.60°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-12.5 11.5	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			33.5 57.5	
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)	18M0G7D / 3700.0 - 4200.0	18M0G7D / 5925.0 - 6107.0 18M0G7D / 6140.0 - 6270.0 18M0G7D / 6303.0 - 6359.0 18M0G7D / 6392.0 - 6425.0
Max Great Circle Coordination Distance	588.2 km / 365.5 mi	212.8 km / 132.2 mi
Precipitation Scatter Contour Radius	594.9 km / 369.6 mi	100.0 km / 62.1 mi

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Earth Station Data Sheet

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Coordination Values

N MIAMI BCH, FL

Licensee Name DNET Group Inc
Latitude (NAD 83) 25° 56' 59.6" N
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Ground Elevation (AMSL) 1.52 m / 5.0 ft
Antenna Centerline (AGL) 2.74 m / 9.0 ft
Antenna Model Prodelin 3.8 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 -12.5 (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	0.00	102.18	-10.00	412.20	-10.00	151.99
5	0.00	106.98	-10.00	412.20	-10.00	151.99
10	0.00	103.92	-10.00	412.20	-10.00	151.99
15	0.00	99.94	-10.00	412.20	-10.00	151.99
20	0.00	95.94	-10.00	412.20	-10.00	151.99
25	0.00	91.92	-10.00	412.20	-10.00	151.99
30	0.00	87.89	-10.00	412.20	-10.00	151.99
35	0.00	83.88	-10.00	412.20	-10.00	151.99
40	0.00	79.87	-10.00	412.20	-10.00	151.99
45	0.00	75.90	-10.00	412.20	-10.00	151.99
50	0.00	71.97	-10.00	412.20	-10.00	151.99
55	0.00	68.09	-10.00	412.20	-10.00	151.99
60	0.00	64.29	-10.00	412.20	-10.00	151.99
65	0.00	60.57	-10.00	412.20	-10.00	151.99
70	0.00	56.97	-10.00	412.20	-10.00	151.99
75	0.00	53.52	-10.00	412.20	-10.00	151.99
80	0.00	50.24	-10.00	412.20	-10.00	151.99
85	0.00	47.17	-9.84	414.16	-9.84	152.65
90	0.00	44.37	-9.18	422.52	-9.18	155.46
95	0.00	41.90	-8.55	430.54	-8.55	158.16
100	0.00	39.81	-8.00	437.82	-8.00	160.63
105	0.00	38.16	-7.54	443.90	-7.54	162.69
110	0.00	37.03	-7.21	448.30	-7.21	164.19
115	0.00	36.46	-7.04	450.59	-7.04	164.97
120	0.00	36.47	-7.05	450.53	-7.05	164.95
125	0.00	37.07	-7.23	448.14	-7.23	164.14
130	0.00	38.23	-7.56	443.65	-7.56	162.61
135	0.00	39.89	-8.02	437.50	-8.02	160.52
140	0.00	42.00	-8.58	430.18	-8.58	158.04
145	0.00	44.50	-9.21	422.14	-9.21	155.33
150	0.00	47.31	-9.87	413.77	-9.87	152.52
155	0.00	50.38	-10.00	412.20	-10.00	151.99
160	0.00	53.42	-10.00	412.20	-10.00	151.99
165	0.00	55.99	-10.00	412.20	-10.00	151.99
170	0.23	57.78	-10.00	400.62	-10.00	147.80
175	0.00	59.24	-10.00	412.20	-10.00	151.99
180	0.00	59.67	-10.00	412.20	-10.00	151.99
185	0.00	59.24	-10.00	412.20	-10.00	151.99

COMSEARCH

Earth Station Data Sheet

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Coordination Values

N MIAMI BCH, FL

Licensee Name	DNET Group Inc			
Latitude (NAD 83)	25° 56' 59.6" N			
Longitude (NAD 83)	80° 11' 30.5" W			
Ground Elevation (AMSL)	1.52 m / 5.0 ft			
Antenna Centerline (AGL)	2.74 m / 9.0 ft			
Antenna Model	Prodelin 3.8 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			-12.5 (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	0.00	57.98	-10.00	412.20	-10.00	151.99
195	0.00	55.99	-10.00	412.20	-10.00	151.99
200	0.00	53.42	-10.00	412.20	-10.00	151.99
205	0.00	50.38	-10.00	412.20	-10.00	151.99
210	0.00	46.99	-9.80	414.69	-9.80	152.82
215	0.00	43.33	-8.92	425.84	-8.92	156.58
220	0.00	39.46	-7.90	439.06	-7.90	161.05
225	0.00	35.44	-6.74	454.79	-6.74	166.40
230	0.00	31.30	-5.39	473.01	-5.39	172.85
235	0.00	27.17	-3.85	495.47	-3.85	180.56
240	0.00	23.35	-2.21	520.71	-2.21	189.24
245	0.00	20.02	-0.54	547.58	-0.54	198.86
250	0.00	17.47	0.95	572.46	0.95	207.39
255	0.00	16.06	1.85	588.21	1.85	212.76
260	0.00	16.12	1.82	587.60	1.82	212.55
265	0.00	17.61	0.86	570.94	0.86	206.87
270	0.00	20.23	-0.65	545.73	-0.65	198.23
275	0.00	23.60	-2.32	518.90	-2.32	188.62
280	0.00	27.45	-3.96	493.83	-3.96	180.00
285	0.00	31.60	-5.49	471.55	-5.49	172.36
290	0.00	35.95	-6.89	452.68	-6.89	165.68
295	0.00	40.43	-8.17	435.61	-8.17	159.88
300	0.00	45.00	-9.33	420.60	-9.33	154.81
305	0.00	49.64	-10.00	412.20	-10.00	151.99
310	0.00	54.33	-10.00	412.20	-10.00	151.99
315	0.00	59.05	-10.00	412.20	-10.00	151.99
320	0.00	63.80	-10.00	412.20	-10.00	151.99
325	0.00	68.57	-10.00	412.20	-10.00	151.99
330	0.00	73.35	-10.00	412.20	-10.00	151.99
335	0.00	78.15	-10.00	412.20	-10.00	151.99
340	0.00	82.95	-10.00	412.20	-10.00	151.99
345	0.00	87.76	-10.00	412.20	-10.00	151.99
350	0.00	92.57	-10.00	412.20	-10.00	151.99
355	0.00	97.38	-10.00	412.20	-10.00	151.99

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: December 13, 2013

COMSEARCH

Earth Station Data Sheet

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FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
DNET Group Inc
N MIAMI BCH, FL
(4.5 Meter)
Satellite Earth Station

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Job Number: 131030COMSGE01

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Call Sign E120231
Licensee Code DNETGR
Licensee Name DNET Group Inc

Site Information N MIAMI BCH, FL

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Longitude (NAD 83) 80° 11' 30.5" W
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Ground Elevation (AMSL) 1.52 m / 5.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 40° W to 143° West Longitude
Azimuth Range 117.4° to 257.3°
Corresponding Elevation Angles 36.4° / 15.9°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Andrew		Andrew	
Model		ESA45		ESA45	
Gain / Diameter		43.9 dBi / 4.5 m		46.3 dBi / 4.5 m	
3-dB / 15-dB Beamwidth		1.20° / 2.40°		0.94° / 1.90°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-12.8 11.2	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			33.5 57.5	
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
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Max Great Circle Coordination Distance	588.2 km / 365.5 mi	211.0 km / 131.1 mi
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Antenna Model Andrew 4.5 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 -12.8 (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	0.00	102.18	-10.00	412.20	-10.00	150.75
5	0.00	106.98	-10.00	412.20	-10.00	150.75
10	0.00	103.92	-10.00	412.20	-10.00	150.75
15	0.00	99.94	-10.00	412.20	-10.00	150.75
20	0.00	95.94	-10.00	412.20	-10.00	150.75
25	0.00	91.92	-10.00	412.20	-10.00	150.75
30	0.00	87.89	-10.00	412.20	-10.00	150.75
35	0.00	83.88	-10.00	412.20	-10.00	150.75
40	0.00	79.87	-10.00	412.20	-10.00	150.75
45	0.00	75.90	-10.00	412.20	-10.00	150.75
50	0.00	71.97	-10.00	412.20	-10.00	150.75
55	0.00	68.09	-10.00	412.20	-10.00	150.75
60	0.00	64.29	-10.00	412.20	-10.00	150.75
65	0.00	60.57	-10.00	412.20	-10.00	150.75
70	0.00	56.97	-10.00	412.20	-10.00	150.75
75	0.00	53.52	-10.00	412.20	-10.00	150.75
80	0.00	50.24	-10.00	412.20	-10.00	150.75
85	0.00	47.17	-9.84	414.16	-9.84	151.40
90	0.00	44.37	-9.18	422.52	-9.18	154.18
95	0.00	41.90	-8.55	430.54	-8.55	156.85
100	0.00	39.81	-8.00	437.82	-8.00	159.29
105	0.00	38.16	-7.54	443.90	-7.54	161.34
110	0.00	37.03	-7.21	448.30	-7.21	162.82
115	0.00	36.46	-7.04	450.59	-7.04	163.59
120	0.00	36.47	-7.05	450.53	-7.05	163.57
125	0.00	37.07	-7.23	448.14	-7.23	162.76
130	0.00	38.23	-7.56	443.65	-7.56	161.25
135	0.00	39.89	-8.02	437.50	-8.02	159.19
140	0.00	42.00	-8.58	430.18	-8.58	156.73
145	0.00	44.50	-9.21	422.14	-9.21	154.05
150	0.00	47.31	-9.87	413.77	-9.87	151.27
155	0.00	50.38	-10.00	412.20	-10.00	150.75
160	0.00	53.42	-10.00	412.20	-10.00	150.75
165	0.00	55.99	-10.00	412.20	-10.00	150.75
170	0.23	57.78	-10.00	400.62	-10.00	146.61
175	0.00	59.24	-10.00	412.20	-10.00	150.75
180	0.00	59.67	-10.00	412.20	-10.00	150.75
185	0.00	59.24	-10.00	412.20	-10.00	150.75

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

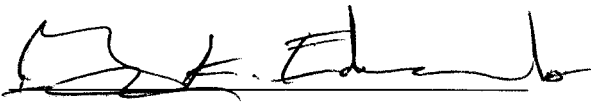
N MIAMI BCH, FL

Licensee Name	DNET Group Inc			
Latitude (NAD 83)	25° 56' 59.6" N			
Longitude (NAD 83)	80° 11' 30.5" W			
Ground Elevation (AMSL)	1.52 m / 5.0 ft			
Antenna Centerline (AGL)	2.74 m / 9.0 ft			
Antenna Model	Andrew 4.5 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			-12.8 (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	0.00	57.98	-10.00	412.20	-10.00	150.75
195	0.00	55.99	-10.00	412.20	-10.00	150.75
200	0.00	53.42	-10.00	412.20	-10.00	150.75
205	0.00	50.38	-10.00	412.20	-10.00	150.75
210	0.00	46.99	-9.80	414.69	-9.80	151.57
215	0.00	43.33	-8.92	425.84	-8.92	155.28
220	0.00	39.46	-7.90	439.06	-7.90	159.71
225	0.00	35.44	-6.74	454.79	-6.74	165.01
230	0.00	31.30	-5.39	473.01	-5.39	171.39
235	0.00	27.17	-3.85	495.47	-3.85	179.03
240	0.00	23.35	-2.21	520.71	-2.21	187.63
245	0.00	20.02	-0.54	547.58	-0.54	197.17
250	0.00	17.47	0.95	572.46	0.95	205.64
255	0.00	16.06	1.85	588.21	1.85	210.97
260	0.00	16.12	1.82	587.60	1.82	210.76
265	0.00	17.61	0.86	570.94	0.86	205.12
270	0.00	20.23	-0.65	545.73	-0.65	196.54
275	0.00	23.60	-2.32	518.90	-2.32	187.01
280	0.00	27.45	-3.96	493.83	-3.96	178.47
285	0.00	31.60	-5.49	471.55	-5.49	170.90
290	0.00	35.95	-6.89	452.68	-6.89	164.30
295	0.00	40.43	-8.17	435.61	-8.17	158.55
300	0.00	45.00	-9.33	420.60	-9.33	153.54
305	0.00	49.64	-10.00	412.20	-10.00	150.75
310	0.00	54.33	-10.00	412.20	-10.00	150.75
315	0.00	59.05	-10.00	412.20	-10.00	150.75
320	0.00	63.80	-10.00	412.20	-10.00	150.75
325	0.00	68.57	-10.00	412.20	-10.00	150.75
330	0.00	73.35	-10.00	412.20	-10.00	150.75
335	0.00	78.15	-10.00	412.20	-10.00	150.75
340	0.00	82.95	-10.00	412.20	-10.00	150.75
345	0.00	87.76	-10.00	412.20	-10.00	150.75
350	0.00	92.57	-10.00	412.20	-10.00	150.75
355	0.00	97.38	-10.00	412.20	-10.00	150.75

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: December 13, 2013