

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
3003 Moffitt LLC
MISSOURI CTY, TX
(9 Meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 03, 2011

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 III, LLC
Fibertower Network Services Corp.
GTE Mobilnet of South Texas LTD Partners
Radio One of Boston, Inc.
Centerpoint Energy Inc.

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 10/20/2011.

Company

AirCanopy Internet Services
AirTap Communications, LLC
Airband Communications Inc
Austin Energy
Austin, City of
CENTERPOINT ENERGY INC
CONROE ISD
City of College Station
City of Sugar Land, Texas
Clearwire Spectrum Holdings II, LLC
Clearwire Spectrum Holdings III, LLC
Computer Solutions
Cricket Licensee (Reauction), Inc.
Cy-Fair Volunteer Fire Department
DETEL Wireless LLC
Dallas MTA, L.P.
Dobson Cellular Systems LLC - S Texas
ENTERPRISE PRODUCTS OPERATING LLC
EOG Resources Inc
FiberTower Network Services Corp.
Franklin Group Inc.
GTE Mobilnet of South Texas LTD Partners
GUADALUPE VALLEY ELECTRIC COOPERATIVE
Harris County ITC
Harris County Public ITC
Houston, City of
Internet America, Inc.
James Cable Partners L.P.
Kansas City Southern Railway Company
LOWER COLORADO RIVER AUTHORITY
METROPOLITAN AREA NETWORKS, INC.
Montgomery County Hospital District
New Cingular Wireless PCS LLC - S Texas
Northwest Communications Inc.
Radio One of Boston, Inc.
SKYNET COMMUNICATIONS
STX Wireless License, LLC
Sam Houston Electric Cooperative
San Antonio MTA, L.P.
Sprint Spectrum, LP

Stelera Wireless, LLC
T-MOBILE USA, INC.
TISD, Inc.
TXWI NET LLC
Texas Communications of Bryan, Inc
Texas Eastern Communications, Inc.
Transcontinental Gas Pipeline Corp.
Trunkline Gas Company, LLC
Verizon Wireless Texas, LLC
Versona Systems, LLC
Victoria County Electric Cooperative Co

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: 11/03/2011
Job Number: 111020COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code MOFFIT
Licensee Name 3003 Moffitt LLC

Site Information

MISSOURI CTY, TX
Venue Name
Latitude (NAD 83) 29° 35' 1.9" N
Longitude (NAD 83) 95° 30' 9.1" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 24.69 m / 81.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 24.5° W to 143° West Longitude
Azimuth Range 99.6° to 245.7°
Corresponding Elevation Angles 7.8° / 28.3°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Vertex		Vertex	
Model		9 KPK		9 KPK	
Gain / Diameter		59.2 dBi / 9.0 m		60.4 dBi / 9.0 m	
3-dB / 15-dB Beamwidth		0.20° / 0.38°		0.16° / 0.32°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-14.0 10.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			46.4 70.4	
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)	2M00G7D - 54M0G7D / 10950.0 - 11200.0 2M00G7D - 54M0G7D / 11450.0 - 12200.0	2M00G7D - 54M0G7D / 14000.0 - 14500.0
Max Great Circle Coordination Distance	456.4 km / 283.6 mi	209.4 km / 130.1 mi
Precipitation Scatter Contour Radius	557.8 km / 346.6 mi	100.0 km / 62.1 mi

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Earth Station Data Sheet

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Coordination Values

MISSOURI CTY, TX

Licensee Name	3003 Moffitt LLC		
Latitude (NAD 83)	29° 35' 1.9" N		
Longitude (NAD 83)	95° 30' 9.1" W		
Ground Elevation (AMSL)	24.69 m / 81.0 ft		
Antenna Centerline (AGL)	5.49 m / 18.0 ft		
Antenna Model	Vertex 9 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			-14.0 (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	0.00	99.56	-10.00	231.37	-10.00	115.80
5	0.00	94.61	-10.00	231.37	-10.00	115.80
10	0.00	89.65	-10.00	231.37	-10.00	115.80
15	0.00	84.70	-10.00	231.37	-10.00	115.80
20	0.00	79.75	-10.00	231.37	-10.00	115.80
25	0.00	74.80	-10.00	231.37	-10.00	115.80
30	0.00	69.85	-10.00	231.37	-10.00	115.80
35	0.00	64.90	-10.00	231.37	-10.00	115.80
40	0.00	59.96	-10.00	231.37	-10.00	115.80
45	0.00	55.03	-10.00	231.37	-10.00	115.80
50	0.00	50.10	-10.00	231.37	-10.00	115.80
55	0.00	45.19	-9.38	234.12	-9.38	117.36
60	0.00	40.29	-8.13	239.74	-8.13	120.48
65	0.00	35.41	-6.73	246.41	-6.73	124.03
70	0.00	30.57	-5.13	254.14	-5.13	128.12
75	0.00	25.79	-3.29	263.44	-3.29	131.71
80	0.00	21.09	-1.10	274.89	-1.10	137.88
85	0.00	16.57	1.52	289.36	1.52	146.06
90	0.00	12.40	4.66	305.13	4.66	156.96
95	0.00	9.10	8.03	328.83	8.03	171.16
100	0.00	7.84	9.65	456.44	9.65	209.41
105	0.00	9.47	7.59	325.51	7.59	169.49
110	0.00	12.95	4.19	302.12	4.19	155.25
115	0.00	17.13	1.16	287.31	1.16	144.88
120	0.00	21.31	-1.21	274.30	-1.21	137.56
125	0.00	25.42	-3.13	264.23	-3.13	132.13
130	0.00	29.45	-4.73	256.14	-4.73	129.17
135	0.00	33.38	-6.09	249.49	-6.09	125.67
140	0.00	37.17	-7.25	243.81	-7.25	122.70
145	0.00	40.78	-8.26	239.14	-8.26	120.15
150	0.00	44.17	-9.13	235.22	-9.13	117.98
155	0.00	47.27	-9.86	231.96	-9.86	116.14
160	0.00	50.01	-10.00	231.37	-10.00	115.80
165	0.00	52.30	-10.00	231.37	-10.00	115.80
170	0.00	54.04	-10.00	231.37	-10.00	115.80
175	0.00	55.13	-10.00	231.37	-10.00	115.80
180	0.00	55.50	-10.00	231.37	-10.00	115.80
185	0.00	55.13	-10.00	231.37	-10.00	115.80

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Coordination Values

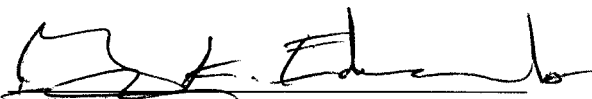
MISSOURI CTY, TX

Licensee Name	3003 Moffitt LLC		
Latitude (NAD 83)	29° 35' 1.9" N		
Longitude (NAD 83)	95° 30' 9.1" W		
Ground Elevation (AMSL)	24.69 m / 81.0 ft		
Antenna Centerline (AGL)	5.49 m / 18.0 ft		
Antenna Model	Vertex 9 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	-14.0 (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	0.00	54.04	-10.00	231.37	-10.00	115.80
195	0.00	52.30	-10.00	231.37	-10.00	115.80
200	0.00	50.01	-10.00	231.37	-10.00	115.80
205	0.00	47.27	-9.86	231.96	-9.86	116.14
210	0.00	44.17	-9.13	235.22	-9.13	117.98
215	0.00	40.78	-8.26	239.14	-8.26	120.15
220	0.00	37.49	-7.35	243.36	-7.35	122.46
225	0.00	34.55	-6.46	247.69	-6.46	124.71
230	0.00	32.05	-5.65	251.62	-5.65	126.80
235	0.00	30.11	-4.97	254.95	-4.97	128.55
240	0.00	28.85	-4.50	257.27	-4.50	129.75
245	0.00	28.34	-4.31	258.23	-4.31	130.25
250	0.00	28.64	-4.42	257.67	-4.42	129.96
255	0.00	29.71	-4.82	255.67	-4.82	128.92
260	0.00	31.49	-5.45	252.57	-5.45	127.30
265	0.00	33.85	-6.24	248.76	-6.24	125.28
270	0.00	36.69	-7.11	244.60	-7.11	123.06
275	0.00	39.89	-8.02	240.24	-8.02	120.75
280	0.00	43.39	-8.93	236.09	-8.93	118.46
285	0.00	47.10	-9.83	232.13	-9.83	116.24
290	0.00	50.99	-10.00	231.37	-10.00	115.80
295	0.00	55.01	-10.00	231.37	-10.00	115.80
300	0.00	59.13	-10.00	231.37	-10.00	115.80
305	0.00	63.33	-10.00	231.37	-10.00	115.80
310	0.00	67.60	-10.00	231.37	-10.00	115.80
315	0.00	71.91	-10.00	231.37	-10.00	115.80
320	0.00	76.26	-10.00	231.37	-10.00	115.80
325	0.00	80.63	-10.00	231.37	-10.00	115.80
330	0.00	85.02	-10.00	231.37	-10.00	115.80
335	0.00	89.42	-10.00	231.37	-10.00	115.80
340	0.00	93.82	-10.00	231.37	-10.00	115.80
345	0.00	98.22	-10.00	231.37	-10.00	115.80
350	0.00	102.60	-10.00	231.37	-10.00	115.80
355	0.00	104.51	-10.00	231.37	-10.00	115.80

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: November 04, 2011

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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.

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Austin Energy
Austin, City of
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City of College Station
City of Sugar Land, Texas
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Clearwire Spectrum Holdings III, LLC
Computer Solutions
Cricket Licensee (Reauction), Inc.
Cy-Fair Volunteer Fire Department
DETEL Wireless LLC
Dobson Cellular Systems LLC - S Texas
ENTERPRISE PRODUCTS OPERATING LLC
EOG Resources Inc
FiberTower Network Services Corp.
Franklin Group Inc.
GTE Mobilnet of South Texas LTD Partners
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Harris County ITC
Harris County Public ITC
Houston, City of
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James Cable Partners L.P.
Kansas City Southern Railway Company
LOWER COLORADO RIVER AUTHORITY
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Montgomery County Hospital District
New Cingular Wireless PCS LLC - S Texas
Northwest Communications Inc.
Radio One of Boston, Inc.
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STX Wireless License, LLC
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TISD, Inc.
TXWI NET LLC
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Texas Eastern Communications, Inc.
Transcontinental Gas Pipeline Corp.
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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

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19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Date: 11/03/2011
Job Number: 111020COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code MOFFIT
Licensee Name 3003 Moffitt LLC

Site Information MISSOURI CITY, TX

Venue Name
Latitude (NAD 83) 29° 35' 1.9" N
Longitude (NAD 83) 95° 30' 9.1" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 24.69 m / 81.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 24.5° W to 143° West Longitude
Azimuth Range 99.6° to 245.7°
Corresponding Elevation Angles 7.8° / 28.3°
Antenna Centerline (AGL) 4.88 m / 16.0 ft

Antenna Information

Receive - V80612

Transmit - V90612

Manufacturer	VERTEX COMMUNICATIONS	VERTEX COMMUNICATIONS	
Model	6.1 KPK	6.1 KPK	
Gain / Diameter	55.5 dBi / 6.1 m	56.9 dBi / 6.1 m	
3-dB / 15-dB Beamwidth	0.28° / 0.56°	0.24° / 0.48°	
Max Available RF Power (dBW/4 kHz)		-14.0	
(dBW/MHz)		10.0	
Maximum EIRP (dBW/4 kHz)		42.9	
(dBW/MHz)		66.9	
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 11.0 GHz

Transmit 14.0 GHz

Emission / Frequency Range (MHz) 2M00G7D - 54M0G7D / 10950.0 - 11200.0 2M00G7D - 54M0G7D / 14000.0 - 14500.0
2M00G7D - 54M0G7D / 11450.0 - 12200.0

Max Great Circle Coordination Distance 423.0 km / 262.8 mi 195.4 km / 121.4 mi
Precipitation Scatter Contour Radius 557.8 km / 346.6 mi 100.0 km / 62.1 mi

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Coordination Values

MISSOURI CTY, TX

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Longitude (NAD 83)	95° 30' 9.1" W			
Ground Elevation (AMSL)	24.69 m / 81.0 ft			
Antenna Centerline (AGL)	4.88 m / 16.0 ft			
Antenna Model	VERTEX COMMUNICATIONS 6.1 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
Max Available RF Power			-14.0 (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	0.00	99.56	-10.50	229.20	-10.10	115.56
5	0.00	94.61	-10.50	229.20	-10.10	115.56
10	0.00	89.65	-10.50	229.20	-10.10	115.56
15	0.00	84.70	-10.50	229.20	-10.10	115.56
20	0.00	79.75	-10.50	229.20	-10.10	115.56
25	0.00	74.80	-10.50	229.20	-10.10	115.56
30	0.00	69.85	-10.50	229.20	-10.10	115.56
35	0.00	64.90	-10.50	229.20	-10.10	115.56
40	0.00	59.96	-10.50	229.20	-10.10	115.56
45	0.00	55.03	-10.50	229.20	-10.10	115.56
50	0.00	50.10	-10.50	229.20	-10.10	115.56
55	0.00	45.19	-9.54	233.40	-9.14	117.95
60	0.00	40.29	-8.56	237.79	-8.16	120.41
65	0.00	35.41	-6.67	246.72	-7.18	122.88
70	0.00	30.57	-4.73	256.14	-5.33	127.62
75	0.00	25.79	-3.66	261.53	-3.41	131.36
80	0.00	21.09	-1.16	274.61	-0.76	138.92
85	0.00	16.57	1.56	289.59	1.96	147.52
90	0.00	12.40	4.50	304.08	4.50	156.36
95	0.00	9.10	7.40	324.13	7.80	170.30
100	0.00	7.84	7.50	423.03	7.90	195.35
105	0.00	9.47	7.03	321.37	7.43	168.87
110	0.00	12.95	4.50	304.08	3.95	154.38
115	0.00	17.13	1.22	287.68	1.62	146.40
120	0.00	21.31	-1.28	273.92	-0.88	138.53
125	0.00	25.42	-3.58	261.90	-3.27	131.75
130	0.00	29.45	-4.39	257.83	-4.88	128.77
135	0.00	33.38	-5.85	250.63	-6.45	124.74
140	0.00	37.17	-7.37	243.28	-7.53	121.99
145	0.00	40.78	-8.66	237.35	-8.26	120.17
150	0.00	44.17	-9.33	234.31	-8.93	118.46
155	0.00	47.27	-9.95	231.57	-9.55	116.91
160	0.00	50.01	-10.50	229.20	-10.10	115.56
165	0.00	52.30	-10.50	229.20	-10.10	115.56
170	0.00	54.04	-10.50	229.20	-10.10	115.56
175	0.00	55.13	-10.50	229.20	-10.10	115.56
180	0.00	55.50	-10.50	229.20	-10.10	115.56
185	0.00	55.13	-10.50	229.20	-10.10	115.56

COMSEARCH

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Coordination Values

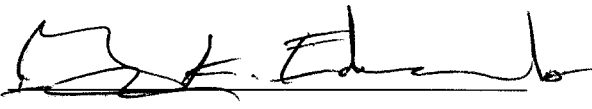
MISSOURI CTY, TX

Licensee Name 3003 Moffitt LLC
Latitude (NAD 83) 29° 35' 1.9" N
Longitude (NAD 83) 95° 30' 9.1" W
Ground Elevation (AMSL) 24.69 m / 81.0 ft
Antenna Centerline (AGL) 4.88 m / 16.0 ft
Antenna Model VERTEX COMMUNICATIONS 6.1 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 -14.0 (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	0.00	54.04	-10.50	229.20	-10.10	115.56
195	0.00	52.30	-10.50	229.20	-10.10	115.56
200	0.00	50.01	-10.50	229.20	-10.10	115.56
205	0.00	47.27	-9.95	231.57	-9.55	116.91
210	0.00	44.17	-9.33	234.31	-8.93	118.46
215	0.00	40.78	-8.66	237.34	-8.26	120.16
220	0.00	37.49	-7.50	242.67	-7.60	121.82
225	0.00	34.55	-6.32	248.37	-6.92	123.54
230	0.00	32.05	-5.32	253.21	-5.92	126.09
235	0.00	30.11	-4.55	257.05	-5.15	128.09
240	0.00	28.85	-4.27	258.44	-4.64	129.40
245	0.00	28.34	-4.17	258.95	-4.44	129.93
250	0.00	28.64	-4.23	258.65	-4.56	129.62
255	0.00	29.71	-4.44	257.57	-4.99	128.50
260	0.00	31.49	-5.10	254.33	-5.70	126.68
265	0.00	33.85	-6.04	249.72	-6.64	124.26
270	0.00	36.69	-7.17	244.31	-7.44	122.23
275	0.00	39.89	-8.46	238.25	-8.08	120.61
280	0.00	43.39	-9.18	235.00	-8.78	118.85
285	0.00	47.10	-9.92	231.72	-9.52	117.00
290	0.00	50.99	-10.50	229.20	-10.10	115.56
295	0.00	55.01	-10.50	229.20	-10.10	115.56
300	0.00	59.13	-10.50	229.20	-10.10	115.56
305	0.00	63.33	-10.50	229.20	-10.10	115.56
310	0.00	67.60	-10.50	229.20	-10.10	115.56
315	0.00	71.91	-10.50	229.20	-10.10	115.56
320	0.00	76.26	-10.50	229.20	-10.10	115.56
325	0.00	80.63	-10.50	229.20	-10.10	115.56
330	0.00	85.02	-10.50	229.20	-10.10	115.56
335	0.00	89.42	-10.50	229.20	-10.10	115.56
340	0.00	93.82	-10.50	229.20	-10.10	115.56
345	0.00	98.22	-10.50	229.20	-10.10	115.56
350	0.00	102.60	-10.50	229.20	-10.10	115.56
355	0.00	104.51	-10.50	229.20	-10.10	115.56

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: November 04, 2011