

**NOTICE OF COMPLETION OF C-BAND ESV COORDINATION –**

**MIAMI, FLORIDA PORT AREA**

MTN License Corp. (“MTN”), pursuant to Section 25.221(a)(12) of the Commission’s rules, 47 C.F.R. 25.221(a)(12), hereby submits notification of the successful completion of frequency coordination of Earth Station on Vessels (“ESV”) operations conducted in the port area of Miami, Florida under its C-band ESV network license (Call Sign E050281). In support of this notification, MTN provides the following information as set forth in the Commission’s Public Notice DA 05-1671 (released June 15, 2005):

1. Name and contact information of the frequency coordinator

Ken Ryan, P.E.  
Skjei Telecom, Inc.  
777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043  
Telephone: 703-917-4077  
Email: [www.skjeitelecom.com](http://www.skjeitelecom.com)

2. Reference identification, date, and duration (if relevant) of the coordination report

Coordination Report Number: 151125SKJTEL06  
Date: February 3, 2016

3. Frequency coordination method used

Critical contour point method

4. Interference criteria used

Long term: -154.0 dBW/4 kHz 20%  
Short term: -131.0 dBW/4 kHz 0.0025%

5. Speed of coordinated vessel, if relevant

8.6 knots

6. Center frequencies, bandwidths, and total spectrum coordinated per satellite

Frequency Range: 6314.7-6344.3 MHz<sup>1</sup>

Bandwidths: 1.05 MHz and 3.75 MHz

Total spectrum coordinated: 29.6 MHz

7. Name of satellite(s) and transponder(s) being used

Satellite: NSS7 @ 20° W.L.

Transponders: GAL8/GAR8

Transponder Frequency Range: 6309.0-6363.0 MHz

8. Textual description and scaled map of the geographic area(s) coordinated

The geographic area coordinated is the route depicted in the maps contained in the attached Frequency Coordination and Interference Analysis Report, as well as all of the area seaward of this route within 200 kilometers of the baseline of the United States or 200 kilometers from any fixed service offshore installation.

9. 24/7 contact information for the ESV operator

Telephone: 1-954-538-4074

Email: noc.maritime@emconnected.com

10. Call sign of the hub station if independently licensed

N/A

11. Statement indicating that as of the date of this notification there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the coordination area in Section 25.202(a)(8)

The frequency coordination advises that there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the 5925-6425 MHz band.

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<sup>1</sup> MTN notes that the attached Frequency Coordination and Interference Analysis Report also includes the coordination of the 6410.4-6420.5 MHz frequency band. Although these frequencies were coordinated, MTN has no immediate plans to operate within this band and thus does not include it as part of this Notice.

**MTN License Corp.**

Call Sign E050281

January 27, 2017

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MTN respectfully requests that this notification be placed on Public Notice. Questions concerning this matter should be directed to MTN's counsel, David Keir (email address: [dkeir@lermansenter.com](mailto:dkeir@lermansenter.com); telephone: 202-416-6742) and Philip Bonomo (email address: [pbonomo@lermansenter.com](mailto:pbonomo@lermansenter.com); telephone: 202-416-6773).

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**MTN license Corp**  
**Miami, FL**  
**Satellite Earth Station on Vessel (ESV)**

Prepared By:  
Skjei Telecom, Inc.  
7777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043  
February 3, 2016

# Skjei Telecom, Inc.

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## **Skjei Telecom, Inc.**

### **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. There will be spectrum restrictions due to interference considerations.

## Skjei Telecom, Inc.

### 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. The Critical Contour Point method of determining worst case interference from the route and port sites was the interference method used. 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. In those cases where OH losses did not resolve the interference the ESV will mute transmission within an exclusion zone sufficient in size to preclude interference. Also note, that there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the coordination area in the 5925-6425 MHz band.

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-only earth station. The ESV will employ a GPS sensitive ability to cease transmission when traveling in certain exclusion zones. The interference cases and the location of the critical contour point (CCP), around which the exclusion zones exist are detailed in the tables below.

#### Company

Computer Office Solutions, Inc.  
GM Consulting Group, Inc.  
HiQ Data Corporation  
Miami-Dade County  
Verizon Wireless (VAW) LLC-South Florida  
Verizon Wireless VAW LLC - S Florida  
Wireless Applications Corporation  
Embarq Florida, Inc.  
Florida Power and Light Company  
Florida RSA No. 2B (Indian River) LP  
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)  
T-Mobile License LLC  
Florida Rural Broadband Alliance, LLC  
Olympic Wireless, LLC

## Skjei Telecom, Inc.

Site	Miami																	
Desired Frequencies (MHz)			5950.199 2 - 5953.970 8	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248	6401.51 6408.415											
Into 1																		
Case #	Margin(dB)	Summary					Frequencies Affected											
172	64.7				Y		6019.325	0	0	0	0	0	0	0	0	0	0	0
171	37.2		Y		Y		5960.025	0	0	0	0	0	0	0	0	0	0	0
173	33.4			Y			6078.625	0	0	0	0	0	0	0	0	0	0	0
7	31.7					Y	6315.84	0	0	0	0	0	0	0	0	0	0	0
96	27.9				Y		6034.15	0	0	0	0	0	0	0	0	0	0	0
90	26.6					Y	6315.84	0	0	0	0	0	0	0	0	0	0	0
68	21.2		Y	Y	Y		5945.2	5974.85	6004.5	6034.15	6063.8	6093.45	6123.1	6152.75				
169	19.1		Y	Y	Y		5945.2	5974.85	6004.5	6034.15	6063.8	6093.45	6123.1	6152.75				
174	17.4			Y			6137.925	0	0	0	0	0	0	0	0	0	0	0
87	12.5			Y			6093.45	0	0	0	0	0	0	0	0	0	0	0
Desired Frequencies (MHz)			5950.199 2 - 5953.970 8	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248												
Into 2																		
Case #	Margin(dB)						Frequencies Affected											
86	38.5					Y	6404.79	0	0	0	0	0	0	0	0	0	0	0
192	34.0			Y			6137.925	0	0	0	0	0	0	0	0	0	0	0
88	31.7			Y			6123.1	0	0	0	0	0	0	0	0	0	0	0
196	29.9		Y	Y	Y		5960.025	6137.925	0	0	0	0	0	0	0	0	0	0
87	12.4					Y	6345.49	0	0	0	0	0	0	0	0	0	0	0
112	12.3					Y	6315.84	0	0	0	0	0	0	0	0	0	0	0
174	0.5					Y	6389.965	0	0	0	0	0	0	0	0	0	0	0

Table 1 – ESV Interference Cases



## Skjei Telecom, Inc.

Interference Zones					
Into 1					
Case #	CCP Latitude (dec.deg)	CCP Longitude (dec.deg.)	Margin (dB)	Victim Rx Site	Licensee
172	25.76548383	80.1388644	64.7	SOUTH BEACH1	HiQ Data Corporation
171	25.7673601	80.14339842	37.2	SOUTH BEACH1	HiQ Data Corporation
173	25.74515218	80.1597567	33.4	DORAL1	HiQ Data Corporation
7	25.5478111	80.09122286	31.7	GO	Florida Power and Light Company
96	25.78458817	80.18297282	27.9	RNAS	Miami-Dade County
90	25.55982171	80.09538689	26.6	PSN	Miami-Dade County
68	26.00134621	79.95931334	21.2	ANDY TOWN S	Verizon Wireless Personal Comm, LP(S FL)
169	26.00134621	79.95931334	19.1	ANDY TOWN S	Verizon Wireless Personal Comm, LP(S FL)
174	25.78458817	80.18297282	17.4	AVENTURAL1	HiQ Data Corporation
87	25.78458817	80.18297282	12.5	CAB	Miami-Dade County
Case #	CCP Latitude (dec.deg)	CCP Longitude (dec.deg.)	Margin (dB)	Victim Rx Site	Licensee
86	25.7688052	80.16934324	38.5	MIA	Miami-Dade County
192	25.78243041	80.17829787	34.0	MET2	Computer Office Solutions, Inc.
88	25.79487402	80.0204587	31.7	IC	Miami-Dade County
196	25.76313184	80.16601318	29.9	TITAN PEN-K5	GM Consulting Group, Inc.
87	25.78458817	80.18297282	12.4	INT	Miami-Dade County
112	25.70228281	80.1448476	12.3	CASA DEL MAR	Miami-Dade County
174	26.01319369	79.95684779	0.5	MIDTOWN1	HiQ Data Corporation

Table 2 - ESV CCP Locations  
See Interference Analysis for Exclusion Zone Details

### **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 Skjei Telecom, Inc. 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 PCN letter dated 11/25/2015.

Computer Office Solutions, Inc.  
GM Consulting Group, Inc.  
HiQ Data Corporation  
Miami-Dade County  
Verizon Wireless (VAW) LLC-South Florida  
Verizon Wireless VAW LLC - S Florida  
Wireless Applications Corporation  
Embarq Florida, Inc.  
Florida Power and Light Company  
Florida RSA No. 2B (Indian River) LP  
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)  
T-Mobile License LLC  
Florida Rural Broadband Alliance, LLC  
Olympic Wireless, LLC

## **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. The coordination contours include all the area within this route as well as all of the area seaward of this route within 200 km of the baseline of the United States or 200 km from any fixed service offshore installations.”

Date: 11/25/2015  
Job Number: 151125SKJTEL06

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code MRNESV  
Licensee Name MTN License Corp. - ESV In-Motion Route

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### Site Information

**MIAMI, FL**  
Venue Name MIAMI ESV  
Latitude (NAD 83) 25° 46' 37.2" N  
Longitude (NAD 83) 80° 10' 11.3" W  
Climate Zone B  
Rain Zone 1  
Ground Elevation (AMSL) 0.0 m / 0.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TO - Transmit-Only  
Modulation Digital  
Satellite Arc 20° W to 47° West Longitude  
Azimuth Range 104.0° to 123.6°  
Corresponding Elevation Angles 18.4° / 42.5°  
Antenna Centerline (AGL) 15.54 m / 51.0 ft

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### Antenna Information

**Transmit - FCC32**  
Manufacturer FCC REFERENCE  
Model 32-25LOG(THETA)  
Gain / Diameter 41.7 dBi / 2.4 m  
3-dB / 15-dB Beamwidth 0.66° / 1.55°

Max Available RF Power (dBW/4 kHz) -10.0  
(dBW/MHz) 14.0

Maximum EIRP (dBW/4 kHz) 31.7  
(dBW/MHz) 55.7  
(dBW) 61.4

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%  
Short Term -131.0 dBW/4 kHz 0.0025%

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### Frequency Information

**Transmit 6.1 GHz**  
Emission / Frequency Range (MHz) 1M05G7W - 3M75G7W / 6314.7 - 6344.3  
1M05G7W - 3M75G7W / 6410.4 - 6420.5

Max Great Circle Coordination Distance 219.0 km / 136.1 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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**Coordination Values****MIAMI, FL**

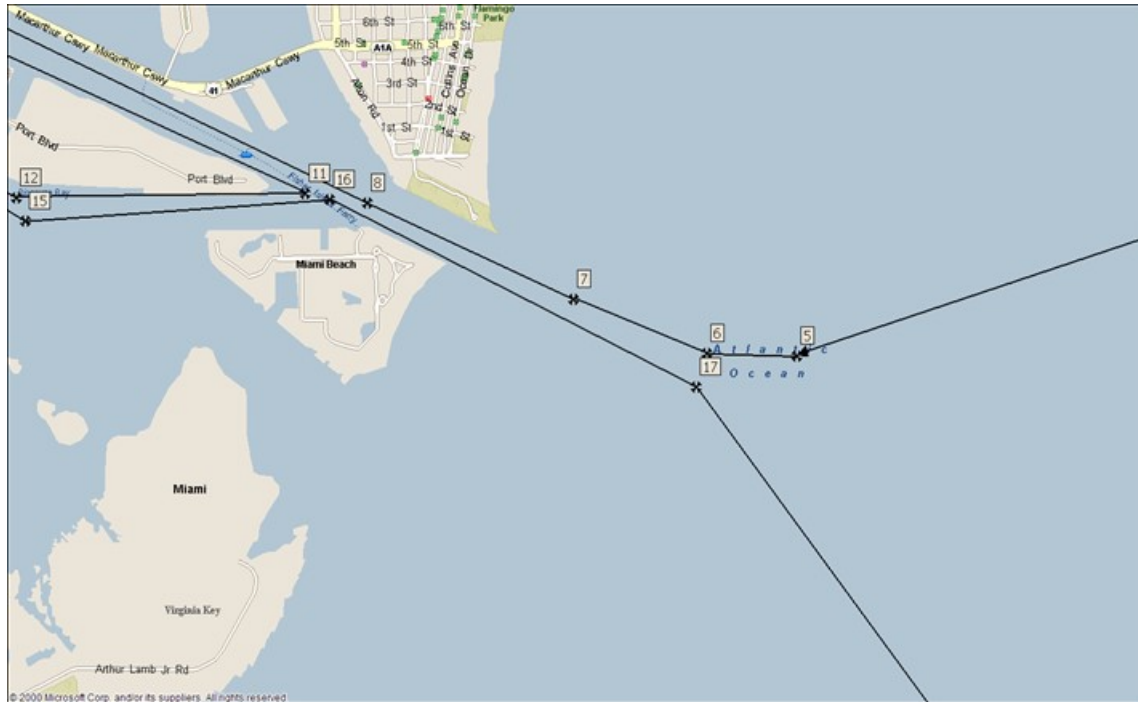
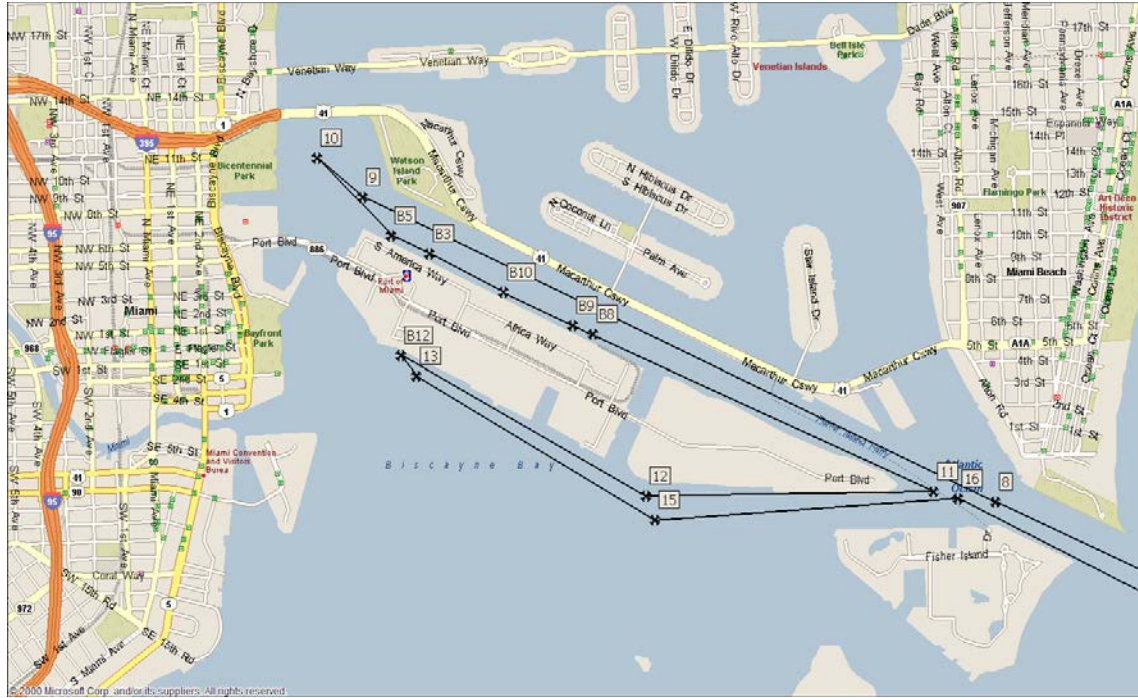
Licensee Name MTN License Corp. - ESV In-Motion Route  
Latitude (NAD 83) 25° 46' 37.2" N  
Longitude (NAD 83) 80° 10' 11.3" W  
Ground Elevation (AMSL) 0.0 m / 0.0 ft  
Antenna Centerline (AGL) 15.54 m / 51.0 ft  
Antenna Model FCC Reference 32-25LOG(THETA)  
Antenna Mode Transmit 6.1 GHz  
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%  
Short Term -131.0 dBW/4 kHz 0.0025%  
Max Available RF Power -10.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	103.28	-10.00	162.88
5	0.00	98.54	-10.00	162.88
10	0.00	93.80	-10.00	162.88
15	0.00	89.05	-10.00	162.88
20	0.00	84.31	-10.00	162.88
25	0.00	79.57	-10.00	162.88
30	0.00	74.84	-10.00	162.88
35	0.00	70.12	-10.00	162.88
40	0.00	65.42	-10.00	162.88
45	0.00	60.74	-10.00	162.88
50	0.00	56.09	-10.00	162.88
55	0.00	51.49	-10.00	162.88
60	0.00	46.95	-9.79	163.84
65	0.00	42.48	-8.70	168.92
70	0.00	38.11	-7.53	174.64
75	0.00	33.89	-6.25	181.08
80	0.00	29.89	-4.89	188.27
85	0.00	26.18	-3.45	196.53
90	0.00	22.94	-2.02	204.70
95	0.00	20.38	-0.73	212.26
100	0.00	18.78	0.16	217.61
105	0.00	18.38	0.39	219.00
110	0.00	19.28	-0.13	215.86
115	0.00	21.30	-1.21	209.41
120	0.00	24.17	-2.58	201.45
125	0.00	27.61	-4.03	192.94
130	0.00	31.45	-5.44	185.31
135	0.00	35.54	-6.77	178.45
140	0.00	39.57	-7.93	172.64
145	0.00	43.45	-8.95	167.76
150	0.00	47.12	-9.83	163.66
155	0.00	50.53	-10.00	162.88
160	0.00	53.58	-10.00	162.88
165	0.00	56.41	-10.00	162.88
170	0.00	59.43	-10.00	162.88
175	0.00	62.60	-10.00	162.88
180	0.00	65.90	-10.00	162.88
185	0.00	69.31	-10.00	162.88

<b>Coordination Values</b>	<b>MIAMI, FL</b>
Licensee Name	MTN License Corp. - ESV In-Motion Route
Latitude (NAD 83)	25° 46' 37.2" N
Longitude (NAD 83)	80° 10' 11.3" W
Ground Elevation (AMSL)	0.0 m / 0.0 ft
Antenna Centerline (AGL)	15.54 m / 51.0 ft
Antenna Model	FCC Reference 32-25LOG(THETA)
Antenna Mode	Transmit 6.1 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-10.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	72.81	-10.00	162.88
195	0.00	76.38	-10.00	162.88
200	0.00	79.99	-10.00	162.88
205	0.00	83.64	-10.00	162.88
210	0.00	87.32	-10.00	162.88
215	0.00	91.00	-10.00	162.88
220	0.00	94.68	-10.00	162.88
225	0.00	98.35	-10.00	162.88
230	0.00	101.98	-10.00	162.88
235	0.00	105.57	-10.00	162.88
240	0.00	109.10	-10.00	162.88
245	0.00	112.56	-10.00	162.88
250	0.00	115.91	-10.00	162.88
255	0.00	119.15	-10.00	162.88
260	0.00	122.24	-10.00	162.88
265	0.00	125.15	-10.00	162.88
270	0.00	127.85	-10.00	162.88
275	0.00	130.31	-10.00	162.88
280	0.00	132.47	-10.00	162.88
285	0.00	134.30	-10.00	162.88
290	0.00	135.75	-10.00	162.88
295	0.00	136.78	-10.00	162.88
300	0.00	137.36	-10.00	162.88
305	0.00	137.46	-10.00	162.88
310	0.00	137.10	-10.00	162.88
315	0.00	136.27	-10.00	162.88
320	0.00	135.01	-10.00	162.88
325	0.00	133.35	-10.00	162.88
330	0.00	131.25	-10.00	162.88
335	0.00	126.68	-10.00	162.88
340	0.00	122.06	-10.00	162.88
345	0.00	117.40	-10.00	162.88
350	0.00	112.71	-10.00	162.88
355	0.00	108.00	-10.00	162.88

Break Point Name	Latitude	Longitude
1	26.225	-79.08833
2	26.01333	-79.95667
3	25.805	-80
4	25.7667	-80.0783
5	25.7572	-80.1108
6	25.75733	-80.11667
7	25.7603	-80.1253
8	25.7657	-80.1387
9	25.7827	-80.1798
10	25.7848	-80.1828
11	25.7661	-80.1423
12	25.7656	-80.1609
13	25.7727	-80.1763
14	25.7647	-80.1608
15	25.7659	-80.1411
16	25.7555	-80.1174
17	25.65	-80.0283
18	25.3667	-80.0283
B10	25.7773	-80.1707
B12	25.77383	-80.17733
B3	25.7795	-80.1755
B5	25.7805	-80.178
B8	25.775	-80.1648
B9	25.7755	-80.1662







## 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:



Ken Ryan, P.E.  
Principal Engineer  
Skjei Telecom, Inc.  
7777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043

DATED: February 3, 2016