

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

**KEY WEST, 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 Key West, 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: 151124SKJTEL09  
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**  
**Key West, 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

## Skjei Telecom, Inc.

Site							
Desired Frequencies (MHz)			5950.1992 - 5953.9708	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248	6401.51 - 6408.415
Into 2							
Case #	Margin(dB)						
		Summary					
Notes		Into 1					
		Case #	Margin(dB)				
Desired Frequencies (MHz)			5950.1992 - 5953.9708	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248	
Into 2							
Case #	Margin(dB)						
Notes							

Table 1 – ESV Interference Cases

No Cases

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.

Verizon Wireless (VAW) LLC-South Florida  
Verizon Wireless VAW LLC - S Florida  
Embarq Florida, Inc.  
New Cingular Wireless PCS LLC - S FL  
T-Mobile License LLC  
Verizon Wireless (VAW) LLC - S Florida  
Verizon Wireless Personal Comm, LP(S FL)  
T-Mobile License 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: 151124SKJTEL09

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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

**KEY WEST, FL**  
Venue Name KEY WEST ESV  
Latitude (NAD 83) 24° 33' 18.4" N  
Longitude (NAD 83) 81° 48' 34.2" 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 102.6° to 120.9°  
Corresponding Elevation Angles 17.1° / 41.8°  
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 223.0 km / 138.6 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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**Coordination Values****KEY WEST, FL**

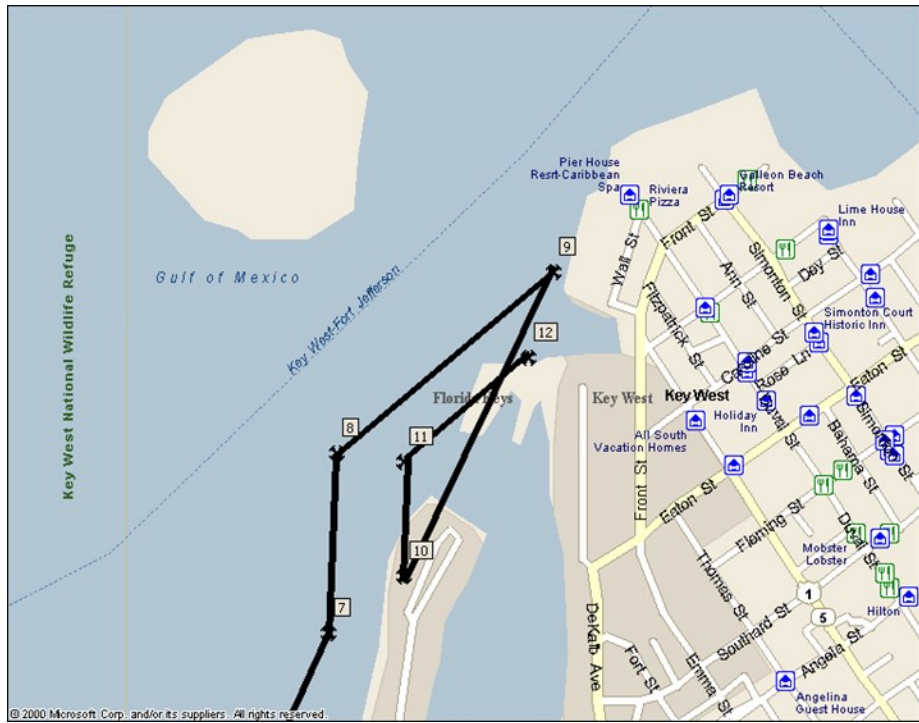
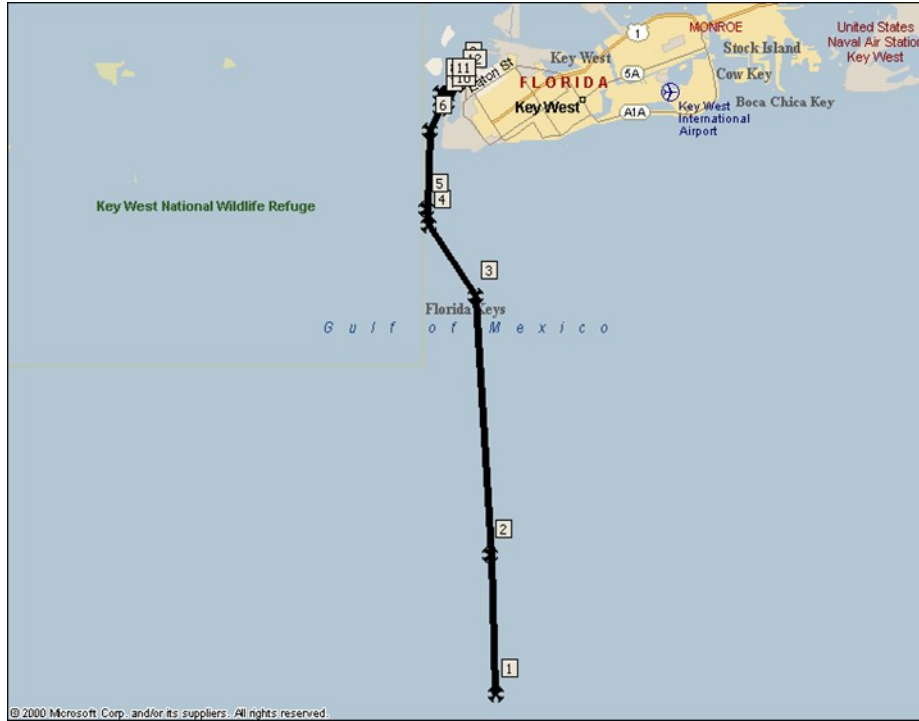
Licensee Name MTN License Corp. - ESV In-Motion Route  
Latitude (NAD 83) 24° 33' 18.4" N  
Longitude (NAD 83) 81° 48' 34.2" W  
Ground Elevation (AMSL) 0.0 m / 0.0 ft  
Antenna Centerline (AGL) 15.54 m / 51.0 ft  
Antenna Model FCC Reference 32-25LOG(THETA)  
Antenna Mode Transmit 6.1 GHz  
Interference 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	101.99	-10.00	162.88
5	0.00	97.22	-10.00	162.88
10	0.00	92.45	-10.00	162.88
15	0.00	87.67	-10.00	162.88
20	0.00	82.89	-10.00	162.88
25	0.00	78.12	-10.00	162.88
30	0.00	73.36	-10.00	162.88
35	0.00	68.61	-10.00	162.88
40	0.00	63.87	-10.00	162.88
45	0.00	59.16	-10.00	162.88
50	0.00	54.48	-10.00	162.88
55	0.00	49.84	-10.00	162.88
60	0.00	45.26	-9.39	165.68
65	0.00	40.75	-8.25	171.08
70	0.00	36.35	-7.01	177.21
75	0.00	32.09	-5.66	184.16
80	0.00	28.06	-4.20	191.99
85	0.00	24.35	-2.66	201.00
90	0.00	21.14	-1.13	209.91
95	0.00	18.69	0.21	217.93
100	0.00	17.32	1.03	222.97
105	0.00	17.31	1.05	223.04
110	0.00	18.64	0.24	218.09
115	0.00	21.07	-1.09	210.12
120	0.00	24.26	-2.62	201.21
125	0.00	27.97	-4.17	192.19
130	0.00	32.00	-5.63	184.33
135	0.00	36.20	-6.97	177.44
140	0.00	40.31	-8.13	171.66
145	0.00	44.27	-9.15	166.80
150	0.00	48.03	-10.00	162.88
155	0.00	51.54	-10.00	162.88
160	0.00	54.70	-10.00	162.88
165	0.00	57.68	-10.00	162.88
170	0.00	60.83	-10.00	162.88
175	0.00	64.12	-10.00	162.88
180	0.00	67.53	-10.00	162.88
185	0.00	71.03	-10.00	162.88

<b>Coordination Values</b>		<b>KEY WEST, FL</b>	
Licensee Name		MTN License Corp. - ESV In-Motion Route	
Latitude (NAD 83)		24° 33' 18.4" N	
Longitude (NAD 83)		81° 48' 34.2" 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	74.61	-10.00	162.88
195	0.00	78.25	-10.00	162.88
200	0.00	81.92	-10.00	162.88
205	0.00	85.63	-10.00	162.88
210	0.00	89.35	-10.00	162.88
215	0.00	93.08	-10.00	162.88
220	0.00	96.79	-10.00	162.88
225	0.00	100.48	-10.00	162.88
230	0.00	104.13	-10.00	162.88
235	0.00	107.73	-10.00	162.88
240	0.00	111.26	-10.00	162.88
245	0.00	114.71	-10.00	162.88
250	0.00	118.04	-10.00	162.88
255	0.00	121.24	-10.00	162.88
260	0.00	124.29	-10.00	162.88
265	0.00	127.13	-10.00	162.88
270	0.00	129.75	-10.00	162.88
275	0.00	132.09	-10.00	162.88
280	0.00	134.11	-10.00	162.88
285	0.00	135.77	-10.00	162.88
290	0.00	137.02	-10.00	162.88
295	0.00	137.82	-10.00	162.88
300	0.00	138.15	-10.00	162.88
305	0.00	137.99	-10.00	162.88
310	0.00	137.35	-10.00	162.88
315	0.00	136.25	-10.00	162.88
320	0.00	134.73	-10.00	162.88
325	0.00	132.83	-10.00	162.88
330	0.00	130.26	-10.00	162.88
335	0.00	125.63	-10.00	162.88
340	0.00	120.95	-10.00	162.88
345	0.00	116.24	-10.00	162.88
350	0.00	111.51	-10.00	162.88
355	0.00	106.76	-10.00	162.88

Name	Latitude	Longitude
E	24.22467	-79.95413
2	24.46167	-81.80133
3	24.5147	-81.8047
4	24.5292	-81.8155
5	24.5327	-81.816
6	24.54867	-81.81517
7	24.5532	-81.8128
8	24.5563	-81.8127
9	24.5595	-81.8083
10	24.5542	-81.8113
11	24.5562	-81.8113
B12	24.558	-81.8088



## 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