

# **Exhibit B**

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

**Inmarsat PLC**  
**Lino Lakes, Minnesota**

**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, Virginia 20147  
April 17, 2012

## TABLE OF CONTENTS

1. CONCLUSIONS.....	3
2. SUMMARY OF RESULTS.....	4
3. SUPPLEMENTAL SHOWING .....	5
4. EARTH STATION COORDINATION DATA .....	6
5. CERTIFICATION .....	10

## 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

None

No 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 March 13, 2012.

#### Company

ALLINA MEDICAL TRANSPORTATION  
BFI Licenses, LLC  
Clearwire Spectrum Holdings II, LLC  
Clearwire Spectrum Holdings III, LLC  
Dunn County  
Genesis Technology Communications, LLC  
HENNEPIN COUNTY  
Maximum Communications Cellular, LLP  
Minneapolis, City of  
Multimedia Holdings Corp. (KARE-TV)  
New Cingular Wireless PCS LLC-Minnesota  
Nextera Wireless  
North Memorial Health Care  
SAGAMOREHILL OF MINNESOTA LICENSES, LLC  
ST. MICHAEL BROADCASTING, INC.  
St Paul Police Department  
T-MOBILE USA, INC.  
T-Mobile License LLC  
Telecom Transport Management, Inc  
Wireless Communications Venture, LLC  
XCEL ENERGY SERVICES INC

## **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: 04/17/2012  
Job Number: 120313COMSJC05

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code IMMSAT  
Licensee Name Inmarsat PLC

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### Site Information LINO LAKES, MINNESOTA

Venue Name  
Latitude (NAD 83) 45° 7' 56.0" N  
Longitude (NAD 83) 93° 5' 44.0" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 273.47 m / 897.2 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 55° W to 63° West Longitude  
Azimuth Range 132.1° to 140.7°  
Corresponding Elevation Angles 25.9° / 30.1°  
Antenna Centerline (AGL) 9.14 m / 30.0 ft

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### Antenna Information

	Receive	Transmit
Manufacturer	GD SATCOM Technologies	GD SATCOM Technologies
Model	13.2 Meter	13.2 Meter
Gain / Diameter	65.6 dBi / 13.2 m	68.9 dBi / 13.2 m
3-dB / 15-dB Beamwidth	0.09° / 0.17°	0.06° / 0.13°
Max Available RF Power (dBW/4 kHz)		-30.9
(dBW/MHz)		-6.9
Maximum EIRP (dBW/4 kHz)		38.0
(dBW/MHz)		62.0
(dBW)		77.0
Interference Objectives: Long Term	-156.7 dBW/MHz 20%	-151.0 dBW/4 kHz 20%
Short Term	-146.7 dBW/MHz 0.01%	-128.0 dBW/4 kHz 0.0025%

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### Frequency Information

	Receive 18.0 GHz	Transmit 28.0 GHz
Emission / Frequency Range (MHz)	32M0G7W / 17700.0 - 19700.0	32M0G7W / 27500.0 - 29500.0
Max Great Circle Coordination Distance	158.9 km / 98.7 mi	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi



# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### LINO LAKES, MN

Licensee Name Inmarsat PLC  
Latitude (NAD 83) 45° 7' 56.0" N  
Longitude (NAD 83) 93° 5' 44.0" W  
Ground Elevation (AMSL) 273.47 m / 897.2 ft  
Antenna Centerline (AGL) 9.14 m / 30.0 ft  
Antenna Model GD SATCOM Technologies 13.2 Meter  
Antenna Mode Receive 18.0 GHz Transmit 28.0 GHz  
Interference Objectives: Long Term -156.7 dBW/MHz 20% -151.0 dBW/4 kHz 20%  
Short Term -146.7 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
Max Available RF Power -30.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	127.10	-10.00	138.12	-10.00	100.00
5	0.00	122.87	-10.00	138.12	-10.00	100.00
10	0.00	118.57	-10.00	138.12	-10.00	100.00
15	0.00	114.21	-10.00	138.12	-10.00	100.00
20	0.00	109.80	-10.00	138.12	-10.00	100.00
25	0.00	105.35	-10.00	138.12	-10.00	100.00
30	0.00	100.88	-10.00	138.12	-10.00	100.00
35	0.00	96.40	-10.00	138.12	-10.00	100.00
40	0.00	91.90	-10.00	138.12	-10.00	100.00
45	0.00	87.41	-10.00	138.12	-10.00	100.00
50	0.00	82.91	-10.00	138.12	-10.00	100.00
55	0.00	78.43	-10.00	138.12	-10.00	100.00
60	0.00	73.97	-10.00	138.12	-10.00	100.00
65	0.00	69.53	-10.00	138.12	-10.00	100.00
70	0.00	65.12	-10.00	138.12	-10.00	100.00
75	0.00	60.77	-10.00	138.12	-10.00	100.00
80	0.00	56.47	-10.00	138.12	-10.00	100.00
85	0.00	52.26	-10.00	138.12	-10.00	100.00
90	0.00	48.15	-10.00	138.12	-10.00	100.00
95	0.00	44.17	-9.13	140.58	-9.13	100.00
100	0.00	40.37	-8.15	143.41	-8.15	100.00
105	0.00	36.81	-7.15	146.40	-7.15	100.00
110	0.00	33.56	-6.15	149.47	-6.15	100.00
115	0.00	30.72	-5.19	152.48	-5.19	100.00
120	0.00	28.42	-4.34	155.19	-4.34	100.00
125	0.00	26.80	-3.70	157.28	-3.70	100.00
130	0.00	25.99	-3.37	158.88	-3.37	100.00
135	0.00	26.05	-3.40	158.79	-3.40	100.00
140	0.00	27.00	-3.78	157.01	-3.78	100.00
145	0.22	28.54	-4.39	153.19	-4.39	100.00
150	0.00	30.98	-5.28	152.20	-5.28	100.00
155	0.26	32.79	-5.89	145.29	-5.89	100.00
160	0.20	35.08	-6.63	147.65	-6.63	100.00
165	0.34	37.68	-7.40	133.77	-7.40	100.00
170	0.21	40.86	-8.28	142.23	-8.28	100.00
175	0.00	44.36	-9.18	140.45	-9.18	100.00
180	0.00	47.95	-10.00	138.12	-10.00	100.00

# COMSEARCH

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### Coordination Values

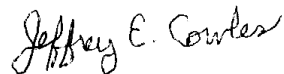
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Interference Objectives:	Long Term	-156.7 dBW/MHz    20%	-151.0 dBW/4 kHz    20%
	Short Term	-146.7 dBW/MHz    0.01%	-128.0 dBW/4 kHz    0.0025%
Max Available RF Power	-30.9 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 18.0 GHz		Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
185	0.00	51.72	-10.00	138.12	-10.00	100.00
190	0.00	55.63	-10.00	138.12	-10.00	100.00
195	0.00	59.66	-10.00	138.12	-10.00	100.00
200	0.00	63.76	-10.00	138.12	-10.00	100.00
205	0.00	67.94	-10.00	138.12	-10.00	100.00
210	0.00	72.17	-10.00	138.12	-10.00	100.00
215	0.00	76.44	-10.00	138.12	-10.00	100.00
220	0.00	80.73	-10.00	138.12	-10.00	100.00
225	0.00	85.05	-10.00	138.12	-10.00	100.00
230	0.00	89.37	-10.00	138.12	-10.00	100.00
235	0.28	93.71	-10.00	131.76	-10.00	100.00
240	0.00	98.01	-10.00	138.12	-10.00	100.00
245	0.00	102.32	-10.00	138.12	-10.00	100.00
250	0.00	106.59	-10.00	138.12	-10.00	100.00
255	0.00	110.83	-10.00	138.12	-10.00	100.00
260	0.00	115.03	-10.00	138.12	-10.00	100.00
265	0.00	119.16	-10.00	138.12	-10.00	100.00
270	0.00	123.21	-10.00	138.12	-10.00	100.00
275	0.00	127.15	-10.00	138.12	-10.00	100.00
280	0.00	130.97	-10.00	138.12	-10.00	100.00
285	0.00	134.62	-10.00	138.12	-10.00	100.00
290	0.00	138.05	-10.00	138.12	-10.00	100.00
295	0.00	141.21	-10.00	138.12	-10.00	100.00
300	0.00	144.01	-10.00	138.12	-10.00	100.00
305	0.00	146.38	-10.00	138.12	-10.00	100.00
310	0.00	148.22	-10.00	138.12	-10.00	100.00
315	0.00	149.41	-10.00	138.12	-10.00	100.00
320	0.00	149.89	-10.00	138.12	-10.00	100.00
325	0.00	149.63	-10.00	138.12	-10.00	100.00
330	0.00	148.63	-10.00	138.12	-10.00	100.00
335	0.00	145.97	-10.00	138.12	-10.00	100.00
340	0.00	142.66	-10.00	138.12	-10.00	100.00
345	0.00	139.06	-10.00	138.12	-10.00	100.00
350	0.00	135.23	-10.00	138.12	-10.00	100.00
355	0.00	131.23	-10.00	138.12	-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.



Jeffrey E. Cowles  
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COMSEARCH  
19700 Janelia Farm Boulevard  
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DATED: April 17, 2012