

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Interstate Communications, Inc.**  
**BATON ROUGE, LA**  
**(E050083)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
July 19, 2012

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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.

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

Bell Atlantic Mobile Allentown-Verizon W  
Southern Light, LLC  
Verizon Wireless Personal Comm LP-LA/MS

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 06/20/2012.

#### Company

Acadiana Cellular General Partnership  
Alltel Communications LLC - LA/MS  
Bell Atlantic Mobile Allentown-Verizon W  
Cebridge Acquisition, L.P.  
Cellular South Licenses, Inc.  
Cleco Power LLC  
DELTA MEDIA CORPORATION  
DIXIE ELECTRIC MEMBERSHIP CORP  
ENERGY XXI LLC  
ENTERGY SERVICES INC  
GTE Mobilnet of South Texas LTD Partners  
Greater Lafourche Port Commission  
Jefferson Parish Sheriff's Office  
Lafayette MSA Limited Partnership  
Louisiana RSA #7 Cell Gen Partnership  
Louisiana, State Of  
Louisiana Dept. of Transportation and Dev  
Mississippi Authority for ED TV  
NETWORK USA  
NEW ORLEANS CITY POLICE DEPARTMENT  
NEW ORLEANS EDUCATIONAL TELECOMM  
New Cingular Wireless PCS, LLC - LA, GM  
New Orleans City  
New Orleans UASI Region  
Plaquemines Parish Government  
STAR TELEPHONE COMPANY  
Southern Light, LLC  
Sprint Spectrum LP DBA Sprint PCS  
Sprint Spectrum LP Louisiana  
State of Mississippi Wireless Communicat  
Stratos Offshore Services Company  
T-MOBILE USA, INC.  
TELELINK INC.  
Texas Eastern Communications, Inc.  
Verizon Wireless Mississippi, LLC  
Verizon Wireless Personal Comm LP-LA/MS  
Wireless Infrastructure Partners, 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.

# COMSEARCH

## Earth Station Data Sheet

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

Date: 07/19/2012  
Job Number: 120620COMSGE01

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E050083  
Licensee Code NRSTAT  
Licensee Name Interstate Communications, Inc.

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### Site Information

**BATON ROUGE, LA**

Venue Name  
Latitude (NAD 83) 30° 24' 56.0" N  
Longitude (NAD 83) 91° 3' 50.8" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 13.7 m / 45.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 65° W to 140° West Longitude  
Azimuth Range 136.0° to 246.2°  
Corresponding Elevation Angles 44.6° / 26.7°  
Antenna Centerline (AGL) 2.13 m / 7.0 ft

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### Antenna Information

		<b>Receive - FCC32</b>		<b>Transmit - FCC32</b>	
Manufacturer		Vertex		Vertex	
Model		3.8 Meter		3.8 Meter	
Gain / Diameter		42.6 dBi / 3.8 m		46.2 dBi / 3.8 m	
3-dB / 15-dB Beamwidth		1.28° / 2.69°		0.85° / 1.79°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-14.0 10.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			32.2 56.2	
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%

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### Frequency Information

	<b>Receive 4.0 GHz</b>	<b>Transmit 6.1 GHz</b>
Emission / Frequency Range (MHz)	400KG7W / 3700.0 - 4200.0	400KG7W / 5925.0 - 5948.0 400KG7W / 6139.0 - 6200.0 400KG7W / 6253.0 - 6260.0 400KG7W / 6313.0 - 6378.0
Max Great Circle Coordination Distance	329.1 km / 204.5 mi	150.6 km / 93.6 mi
Precipitation Scatter Contour Radius	565.6 km / 351.4 mi	100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### BATON ROUGE, LA

Licensee Name Interstate Communications, Inc.  
Latitude (NAD 83) 30° 24' 56.0" N  
Longitude (NAD 83) 91° 3' 50.8" W  
Ground Elevation (AMSL) 13.7 m / 45.0 ft  
Antenna Centerline (AGL) 2.13 m / 7.0 ft  
Antenna Model Vertex 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 -14.0 (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	111.13	-10.00	285.28	-10.00	132.84
5	0.00	115.48	-10.00	285.28	-10.00	132.84
10	0.00	114.74	-10.00	285.28	-10.00	132.84
15	0.00	111.51	-10.00	285.28	-10.00	132.84
20	0.00	108.18	-10.00	285.28	-10.00	132.84
25	0.00	104.78	-10.00	285.28	-10.00	132.84
30	0.00	101.31	-10.00	285.28	-10.00	132.84
35	0.00	97.80	-10.00	285.28	-10.00	132.84
40	0.00	94.26	-10.00	285.28	-10.00	132.84
45	0.00	90.70	-10.00	285.28	-10.00	132.84
50	0.00	87.15	-10.00	285.28	-10.00	132.84
55	0.00	83.60	-10.00	285.28	-10.00	132.84
60	0.00	80.07	-10.00	285.28	-10.00	132.84
65	0.00	76.59	-10.00	285.28	-10.00	132.84
70	0.00	73.16	-10.00	285.28	-10.00	132.84
75	0.00	69.80	-10.00	285.28	-10.00	132.84
80	0.00	66.53	-10.00	285.28	-10.00	132.84
85	0.00	63.37	-10.00	285.28	-10.00	132.84
90	0.00	60.35	-10.00	285.28	-10.00	132.84
95	0.00	57.49	-10.00	285.28	-10.00	132.84
100	0.00	54.82	-10.00	285.28	-10.00	132.84
105	0.00	52.38	-10.00	285.28	-10.00	132.84
110	0.00	50.20	-10.00	285.28	-10.00	132.84
115	0.00	48.33	-10.00	285.28	-10.00	132.84
120	0.00	46.80	-9.76	286.84	-9.76	133.50
125	0.00	45.65	-9.49	288.57	-9.49	134.23
130	0.00	44.91	-9.31	289.71	-9.31	133.46
135	0.00	44.60	-9.23	290.20	-9.23	133.66
140	0.00	44.74	-9.27	289.99	-9.27	133.57
145	0.00	45.31	-9.40	289.10	-9.40	133.20
150	0.00	46.30	-9.64	287.59	-9.64	133.82
155	0.00	47.68	-9.96	285.54	-9.96	132.96
160	0.00	49.42	-10.00	285.28	-10.00	132.84
165	0.00	51.45	-10.00	285.28	-10.00	132.84
170	0.00	53.14	-10.00	285.28	-10.00	132.84
175	0.00	54.19	-10.00	285.28	-10.00	132.84
180	0.00	54.55	-10.00	285.28	-10.00	132.84
185	0.00	54.20	-10.00	285.28	-10.00	132.84



# COMSEARCH

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### Coordination Values

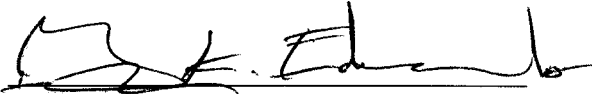
### BATON ROUGE, LA

Licensee Name	Interstate Communications, Inc.			
Latitude (NAD 83)	30° 24' 56.0" N			
Longitude (NAD 83)	91° 3' 50.8" W			
Ground Elevation (AMSL)	13.7 m / 45.0 ft			
Antenna Centerline (AGL)	2.13 m / 7.0 ft			
Antenna Model	Vertex 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			-14.0 (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	53.14	-10.00	285.28	-10.00	132.84
195	0.00	51.45	-10.00	285.28	-10.00	132.84
200	0.00	49.22	-10.00	285.28	-10.00	132.84
205	0.00	46.54	-9.70	287.22	-9.70	133.66
210	0.00	43.50	-8.96	291.96	-8.96	134.41
215	0.00	40.17	-8.10	297.66	-8.10	136.84
220	0.00	36.75	-7.13	304.19	-7.13	139.67
225	0.00	33.63	-6.17	310.82	-6.17	142.59
230	0.00	30.95	-5.27	317.78	-5.27	145.43
235	0.00	28.83	-4.50	323.27	-4.50	147.94
240	0.00	27.40	-3.94	327.25	-3.94	149.78
245	0.00	26.77	-3.69	329.08	-3.69	150.63
250	0.00	26.99	-3.78	328.42	-3.78	150.33
255	0.00	28.05	-4.20	325.40	-4.20	148.92
260	0.00	29.86	-4.88	320.55	-4.88	146.69
265	0.00	32.29	-5.73	314.54	-5.73	143.97
270	0.00	35.21	-6.67	307.37	-6.67	141.07
275	0.00	38.51	-7.64	300.74	-7.64	138.17
280	0.00	42.09	-8.61	294.31	-8.61	135.40
285	0.00	45.90	-9.55	288.19	-9.55	134.07
290	0.00	49.87	-10.00	285.28	-10.00	132.84
295	0.00	53.97	-10.00	285.28	-10.00	132.84
300	0.00	58.17	-10.00	285.28	-10.00	132.84
305	0.00	62.45	-10.00	285.28	-10.00	132.84
310	0.00	66.78	-10.00	285.28	-10.00	132.84
315	0.00	71.16	-10.00	285.28	-10.00	132.84
320	0.00	75.58	-10.00	285.28	-10.00	132.84
325	0.00	80.01	-10.00	285.28	-10.00	132.84
330	0.00	84.47	-10.00	285.28	-10.00	132.84
335	0.00	88.93	-10.00	285.28	-10.00	132.84
340	0.00	93.40	-10.00	285.28	-10.00	132.84
345	0.00	97.86	-10.00	285.28	-10.00	132.84
350	0.00	102.30	-10.00	285.28	-10.00	132.84
355	0.00	106.73	-10.00	285.28	-10.00	132.84

## 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: July 19, 2012