

Exhibit C – Frequency Coordination Report

Ka-Band Earth Station – Laredo, TX

Frequency Coordination Report

28 GHz



Prepared on Behalf of
Media Networks
Services USA

January 25, 2013





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1. Summary of Results

On behalf of Media Networks Services' proposed earth station transmitting at 28 GHz¹, Comsearch performed a frequency search considering all existing and proposed terrestrial licenses within the coordination contours of the Ka-Band station in Laredo, Texas. The search results identified licensees in the local multipoint distribution service (LMDS), common carrier fixed microwave service and local television transmission service (LTTS). Prior notification letters were sent to the licensees and a copy of the notification data is provided in section four of this report. The earth station coordination was finalized on January 25, 2013.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the LMDS incumbents was performed under the assumption that the earth station would be operating on a secondary basis to LMDS Block A operations and a contact at Media Networks Services USA has been provided in case any concerns may arise in the future.

2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, a Ka-Band earth station in Laredo, TX was prior coordinated by Comsearch. The notification letters and datasheet for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees on January 4, 2013. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a statewide or nationwide basis.

Licensee	Authorized Geographic Area
GTE Southwest Inc. dba Verizon Southwest	Continental US

A notification letter and datasheet for the Ka-Band earth station in Laredo, TX was also sent to the following 28 GHz local television transmission licensee on January 4, 2013. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Information Super Station, LLC	Continental US

No objections were received from the common carrier or local television transmission service incumbents.

¹ The proposed earth station will operate in the 28.1 – 28.6 and 29.5 – 30.0 GHz portion of the Ka-Band.

3. 28 GHz LMDS Coordination

Notification letters were sent to the following 28 GHz LMDS licensees on January 4, 2013 with a follow-up notification on January 22, 2013. The proposed earth station will operate on frequencies that overlap Block A of the LMDS service. The total frequency allocation for Block A of the LMDS spectrum appears below.

Block A: 27.500-28.350 GHz
29.100-29.250 GHz
31.075-31.225 GHz

Licensee	Market	Market Name
CenturyTel ²	BTA099	Corpus Christi, TX
None	BTA121	Eagle Pass-Del Rio, TX
Alenco Communications ³	BTA242 ⁴	Laredo, TX
Nextlink / XO	BTA401	San Antonio, TX

No objections were received from the LMDS incumbents. A summary of responses is provided below.

- Nextlink / XO sent a response stating that they do not see any interference to their links at this time and that they will contact Media Networks Services USA if they have any concerns in the future.

4. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station in Laredo, TX. This data was circulated to all incumbent licensees in the 28 GHz shared frequency ranges.

² CenturyTel's license for BTA099, callsign WPLM479, was canceled by the FCC on May 10, 2012.

³ Alenco Communications' license for BTA242, callsign WPOH459, was terminated by the FCC on June 1, 2012.

⁴ The proposed Vernon, TX earth station will be located inside BTA242.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5662 <http://www.comsearch.com>

Date: 1/2/2013

Administrative Information

Status ENGINEER PROPOSAL
Licensee Code MNSUSA
Licensee Name Media Networks Services USA

Site Information

LAREDO, TX
Venue Name
Latitude (NAD 83) 27° 41' 27.0" N
Longitude (NAD 83) 99° 27' 0.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 199.03 m / 653.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 61° W to 61° West Longitude
Azimuth Range 120.3° to 120.3°
Corresponding Elevation Angles 37.0° / 37.0°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		ViaSat		ViaSat	
Model		9.1 Meter		9.1 Meter	
Gain / Diameter		63.6 dBi / 9.1 m		66.7 dBi / 9.1 m	
3-dB / 15-dB Beamwidth		0.06° / 0.12°		0.04° / 0.08°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-14.0 10.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			52.7 76.7	
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz -146.0 dBW/MHz	20% 0.01%	-151.0 dBW/4 kHz -128.0 dBW/4 kHz	20% 0.0025%

Frequency Information

	Receive 18.0 GHz	Transmit 29.0 GHz
Emission / Frequency Range (MHz)	36M0F8W / 18300.0 - 18800.0 36M0F8W / 19700.0 - 20200.0	50M0F8W / 28100.0 - 28600.0 50M0F8W / 29500.0 - 30000.0
Max Great Circle Coordination Distance	144.2 km / 89.6 mi	103.4 km / 64.3 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

LAREDO, TX

Licensee Name	Media Networks Services USA			
Latitude (NAD 83)	27° 41' 27.0" N			
Longitude (NAD 83)	99° 27' 0.0" W			
Ground Elevation (AMSL)	199.03 m / 653.0 ft			
Antenna Centerline (AGL)	5.49 m / 18.0 ft			
Antenna Model	ViaSat 9.1 Meter			
Antenna Mode	Receive 18.0 GHz		Transmit 29.0 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 18.0 GHz		Transmit 29.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	1.25	114.22	-10.00	100.00	-10.00	100.00
5	1.30	110.35	-10.00	100.00	-10.00	100.00
10	1.15	106.37	-10.00	100.00	-10.00	100.00
15	1.30	102.41	-10.00	100.00	-10.00	100.00
20	1.27	98.38	-10.00	100.00	-10.00	100.00
25	0.81	94.31	-10.00	101.26	-10.00	100.00
30	0.46	90.27	-10.00	116.99	-10.00	100.00
35	0.00	86.28	-10.00	136.18	-10.00	100.00
40	0.27	82.27	-10.00	130.51	-10.00	100.00
45	0.29	78.29	-10.00	128.91	-10.00	100.00
50	0.21	74.36	-10.00	134.97	-10.00	100.00
55	0.00	70.53	-10.00	136.18	-10.00	100.00
60	0.00	66.71	-10.00	136.18	-10.00	100.00
65	0.00	62.97	-10.00	136.18	-10.00	100.00
70	0.00	59.34	-10.00	136.18	-10.00	100.00
75	0.00	55.83	-10.00	136.18	-10.00	100.00
80	0.00	52.48	-10.00	136.18	-10.00	100.00
85	0.00	49.32	-10.00	136.18	-10.00	100.00
90	0.00	46.40	-9.66	137.11	-9.66	100.00
95	0.00	43.77	-9.03	138.88	-9.03	100.00
100	0.00	41.48	-8.45	140.53	-8.45	100.43
105	0.00	39.60	-7.94	141.98	-7.94	101.64
110	0.00	38.18	-7.55	143.13	-7.55	102.59
115	0.00	37.29	-7.29	143.89	-7.29	103.21
120	0.00	36.97	-7.20	144.17	-7.20	103.44
125	0.00	37.22	-7.27	143.95	-7.27	103.26
130	0.00	38.03	-7.50	143.26	-7.50	102.70
135	0.00	39.38	-7.88	142.16	-7.88	101.79
140	0.00	41.20	-8.37	140.74	-8.37	100.61
145	0.00	43.44	-8.95	139.11	-8.95	100.00
150	0.00	46.03	-9.58	137.35	-9.58	100.00
155	0.00	48.91	-10.00	136.18	-10.00	100.00
160	0.00	52.04	-10.00	136.18	-10.00	100.00
165	0.00	55.37	-10.00	136.18	-10.00	100.00
170	0.00	58.85	-10.00	136.18	-10.00	100.00
175	0.24	62.38	-10.00	133.18	-10.00	100.00
180	0.00	66.20	-10.00	136.18	-10.00	100.00
185	0.27	69.93	-10.00	130.67	-10.00	100.00

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Antenna Centerline (AGL)	5.49 m / 18.0 ft			
Antenna Model	ViaSat 9.1 Meter			
Antenna Mode	Receive 18.0 GHz		Transmit 29.0 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 18.0 GHz		Transmit 29.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.30	73.81	-10.00	129.23	-10.00	100.00
195	0.34	77.74	-10.00	125.86	-10.00	100.00
200	0.40	81.71	-10.00	121.50	-10.00	100.00
205	0.80	85.69	-10.00	101.44	-10.00	100.00
210	0.52	89.73	-10.00	113.19	-10.00	100.00
215	0.53	93.75	-10.00	112.72	-10.00	100.00
220	0.62	97.77	-10.00	108.86	-10.00	100.00
225	0.49	101.74	-10.00	115.27	-10.00	100.00
230	0.46	105.69	-10.00	117.23	-10.00	100.00
235	0.39	109.58	-10.00	122.00	-10.00	100.00
240	0.35	113.40	-10.00	124.94	-10.00	100.00
245	0.32	117.15	-10.00	127.75	-10.00	100.00
250	0.32	120.80	-10.00	127.63	-10.00	100.00
255	0.32	124.33	-10.00	127.44	-10.00	100.00
260	0.29	127.68	-10.00	129.31	-10.00	100.00
265	0.23	130.82	-10.00	133.62	-10.00	100.00
270	0.00	133.60	-10.00	136.18	-10.00	100.00
275	0.47	136.60	-10.00	116.63	-10.00	100.00
280	0.61	139.04	-10.00	109.54	-10.00	100.00
285	0.80	141.13	-10.00	101.50	-10.00	100.00
290	1.04	142.81	-10.00	100.00	-10.00	100.00
295	1.06	143.75	-10.00	100.00	-10.00	100.00
300	1.01	144.04	-10.00	100.00	-10.00	100.00
305	0.92	143.70	-10.00	100.00	-10.00	100.00
310	0.75	142.69	-10.00	103.58	-10.00	100.00
315	0.72	141.28	-10.00	104.83	-10.00	100.00
320	0.89	139.56	-10.00	100.00	-10.00	100.00
325	0.84	137.23	-10.00	100.00	-10.00	100.00
330	0.73	134.50	-10.00	104.49	-10.00	100.00
335	0.65	131.51	-10.00	108.00	-10.00	100.00
340	0.77	128.41	-10.00	102.90	-10.00	100.00
345	0.88	125.09	-10.00	100.00	-10.00	100.00
350	0.73	121.47	-10.00	104.58	-10.00	100.00
355	0.79	117.84	-10.00	101.78	-10.00	100.00



5. Contact Information

For questions or information regarding the 28 GHz Frequency Coordination Report, please contact:

Contact person:	Joanna Lynch
Title:	Manager, Spectrum & Data Solutions
Company:	Comsearch
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