

Ka-Band Earth Station – Mt. Jackson, VA

Frequency Coordination Report

28 GHz



Prepared on Behalf of
Telesat Canada

July 8, 2016



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1. Summary of Results

On behalf of Telesat Canada, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Mt. Jackson, Virginia, which will transmit at 28 GHz¹. 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 July 8, 2015.

No objections were received from any of the incumbent 28 GHz licensees.

2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Mt. Jackson, Virginia was prior-coordinated by Comsearch. A notification letter and datasheet for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees on June 6, 2016. These licensees are authorized to operate temporary fixed operations from 27.5 to 29.5 GHz on a statewide or nationwide basis.

Licensee	Authorized Geographic Area
Frontier	Continental US
Verizon	Statewide: Virginia

A notification letter and datasheets for the Ka-Band earth station in Mt. Jackson, Virginia were also sent to the following 28 GHz local television transmission licensee on June 6, 2016. This licensee is authorized to operate temporary fixed operations from 27.5 to 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 27.6 – 28.6 GHz and 29.25 – 30.0 GHz portions of the Ka-Band.

3. 28 GHz LMDS Coordination

A Notification letter was sent to the following 28 GHz LMDS licensees on June 6, 2016. 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
Gateway Telecom	BTA306	Morgantown, WV
Nextlink / XO	BTA374	Richmond-Petersburg, VA
Virginia Tech	BTA376	Roanoke, VA
Nextlink / XO	BTA461	Washington, DC

No objections were received from the LMDS incumbents.

4. Earth Station Coordination Data

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

Date: 06/02/2016
Job Number: <PCNJobCode>

Administrative Information

Status ENGINEER PROPOSAL
Call Sign <PCNCallSign>
Licensee Code TELSAT
Licensee Name Telesat Canada

Site Information**MT JACKSON, VA**

Venue Name
Latitude (NAD 83) 38° 43' 47.7" N
Longitude (NAD 83) 78° 39' 28.6" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 283.91 m / 931.5 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 63° W to 63° West Longitude
Azimuth Range 155.9° to 155.9°
Corresponding Elevation Angles 42.3° / 42.3°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information**Receive - FCC32****Transmit - FCC32**

Manufacturer	ASC Signal	ASC Signal	
Model	9.4 Meter	9.4 Meter	
Gain / Diameter	63.0 dBi / 9.4 m	66.5 dBi / 9.4 m	
3-dB / 15-dB Beamwidth	0.10° / 0.20°	0.07° / 0.14°	
Max Available RF Power	(dBW/4 kHz)	-21.0	
	(dBW/MHz)	3.0	
Maximum EIRP	(dBW/4 kHz)	45.5	
	(dBW/MHz)	69.5	
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%

Frequency Information**Receive 18.0 GHz****Transmit 28.0 GHz**

Emission / Frequency Range (MHz)	500KG7D - 112MG7D / 18300.0 - 18800.0	500KG7D - 112MG7D / 27600.0 - 28600.0
	500KG7D - 112MG7D / 19700.0 - 20200.0	500KG7D - 112MG7D / 29250.0 - 30000.0
Max Great Circle Coordination Distance	138.6 km / 86.1 mi	100.0 km / 62.1 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi	100.0 km / 62.1 mi

Coordination Values**MT JACKSON, VA**

Licensee Name Telesat Canada
 Latitude (NAD 83) 38° 43' 47.7" N
 Longitude (NAD 83) 78° 39' 28.6" W
 Ground Elevation (AMSL) 283.91 m / 931.5 ft
 Antenna Centerline (AGL) 5.49 m / 18.0 ft
 Antenna Model ASC Signal 9.4 meter
 Antenna Mode Receive 18.0 GHz Transmit 28.0 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 -21.0 (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	0.64	133.02	-10.00	108.16	-10.00	100.00
5	0.51	130.67	-10.00	113.65	-10.00	100.00
10	0.43	128.08	-10.00	119.05	-10.00	100.00
15	0.61	125.42	-10.00	109.55	-10.00	100.00
20	0.66	122.46	-10.00	107.48	-10.00	100.00
25	0.36	119.14	-10.00	124.70	-10.00	100.00
30	0.00	115.70	-10.00	136.18	-10.00	100.00
35	0.00	112.32	-10.00	136.18	-10.00	100.00
40	0.00	108.84	-10.00	136.18	-10.00	100.00
45	0.00	105.29	-10.00	136.18	-10.00	100.00
50	0.00	101.68	-10.00	136.18	-10.00	100.00
55	0.21	98.05	-10.00	135.75	-10.00	100.00
60	0.60	94.38	-10.00	109.88	-10.00	100.00
65	1.06	90.65	-10.00	100.00	-10.00	100.00
70	2.04	86.85	-10.00	100.00	-10.00	100.00
75	3.76	82.87	-10.00	100.00	-10.00	100.00
80	3.91	78.96	-10.00	100.00	-10.00	100.00
85	4.35	75.02	-10.00	100.00	-10.00	100.00
90	4.69	71.09	-10.00	100.00	-10.00	100.00
95	4.77	67.28	-10.00	100.00	-10.00	100.00
100	4.57	63.64	-10.00	100.00	-10.00	100.00
105	3.23	60.64	-10.00	100.00	-10.00	100.00
110	3.47	57.13	-10.00	100.00	-10.00	100.00
115	3.48	53.88	-10.00	100.00	-10.00	100.00
120	3.30	50.95	-10.00	100.00	-10.00	100.00
125	3.47	48.01	-10.00	100.00	-10.00	100.00
130	3.45	45.48	-9.45	100.00	-9.45	100.00
135	3.40	43.32	-8.92	100.00	-8.92	100.00
140	2.50	42.32	-8.66	100.00	-8.66	100.00
145	1.75	41.71	-8.51	100.00	-8.51	100.00
150	1.37	41.25	-8.38	100.00	-8.38	100.00
155	0.71	41.57	-8.47	109.17	-8.47	100.00
160	0.34	42.09	-8.60	129.21	-8.60	100.00
165	0.23	42.83	-8.79	136.63	-8.79	100.00
170	0.00	44.14	-9.12	138.62	-9.12	100.00
175	0.00	45.64	-9.48	137.61	-9.48	100.00
180	0.00	47.52	-9.92	136.40	-9.92	100.00
185	0.27	49.52	-10.00	130.52	-10.00	100.00

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 Max Available RF Power -128.0 dBW/4 kHz 0.0025%
 -21.0 (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)
190	0.00	52.22	-10.00	136.18	-10.00	100.00
195	0.00	54.97	-10.00	136.18	-10.00	100.00
200	0.00	57.92	-10.00	136.18	-10.00	100.00
205	0.57	60.75	-10.00	111.25	-10.00	100.00
210	0.99	63.87	-10.00	100.00	-10.00	100.00
215	0.82	67.38	-10.00	100.72	-10.00	100.00
220	0.44	71.03	-10.00	118.65	-10.00	100.00
225	0.94	74.48	-10.00	100.00	-10.00	100.00
230	1.52	78.04	-10.00	100.00	-10.00	100.00
235	1.06	81.84	-10.00	100.00	-10.00	100.00
240	1.02	85.59	-10.00	100.00	-10.00	100.00
245	0.65	89.35	-10.00	107.96	-10.00	100.00
250	0.85	93.10	-10.00	100.00	-10.00	100.00
255	1.42	96.89	-10.00	100.00	-10.00	100.00
260	2.42	100.80	-10.00	100.00	-10.00	100.00
265	2.03	104.49	-10.00	100.00	-10.00	100.00
270	1.15	107.94	-10.00	100.00	-10.00	100.00
275	1.08	111.49	-10.00	100.00	-10.00	100.00
280	1.10	114.99	-10.00	100.00	-10.00	100.00
285	1.28	118.45	-10.00	100.00	-10.00	100.00
290	1.75	121.96	-10.00	100.00	-10.00	100.00
295	1.88	125.17	-10.00	100.00	-10.00	100.00
300	1.64	127.95	-10.00	100.00	-10.00	100.00
305	1.41	130.48	-10.00	100.00	-10.00	100.00
310	1.32	132.81	-10.00	100.00	-10.00	100.00
315	1.48	135.03	-10.00	100.00	-10.00	100.00
320	1.47	136.73	-10.00	100.00	-10.00	100.00
325	1.61	138.16	-10.00	100.00	-10.00	100.00
330	1.85	139.23	-10.00	100.00	-10.00	100.00
335	1.88	139.61	-10.00	100.00	-10.00	100.00
340	1.67	139.23	-10.00	100.00	-10.00	100.00
345	1.46	138.36	-10.00	100.00	-10.00	100.00
350	1.19	136.98	-10.00	100.00	-10.00	100.00
355	0.94	135.20	-10.00	100.00	-10.00	100.00



5. Contact Information

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

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Title: Manager, Spectrum & Data Solutions
Company: Comsearch
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