

# Ka-Band Earth Station – Mt. Jackson, VA

## Frequency Coordination Report

28 GHz



Prepared on Behalf of  
Telesat Canada

August 4, 2015



**COMSEARCH**  
A CommScope Company

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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 GHz<sup>1</sup>. 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 August 3, 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 licensee on July 2, 2015. This licensee is authorized to operate temporary fixed operations from 27.5 to 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Verizon	Continental US

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 July 2, 2015. 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.

<sup>1</sup> The proposed earth station will operate in the 28.3 – 29.9 GHz portion of the Ka-Band.

### **3. 28 GHz LMDS Coordination**

The proposed earth station will not operate on frequencies that overlap Block A of the LMDS service. Therefore, no LMDS coordination was necessary.

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

## **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: 06/30/2015  
Job Number: <PCNJobCode>

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**Administrative Information**

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

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**Site Information** **MT JACKSON, VA**

Venue Name  
Latitude (NAD 83) 38° 43' 44.4" N  
Longitude (NAD 83) 78° 39' 24.1" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 282.24 m / 926.0 ft

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**Link Information**

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 15° W to 15° West Longitude  
Azimuth Range 107.2° to 107.2°  
Corresponding Elevation Angles 11.7° / 11.7°  
Antenna Centerline (AGL) 5.49 m / 18.0 ft

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**Antenna Information**

		<b>Receive - FCC32</b>		<b>Transmit - FCC32</b>
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) (dBW/MHz)			-30.0 -6.0
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			36.5 60.5
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz -146.0 dBW/MHz	20% 0.01%	-151.0 dBW/4 kHz 20% -128.0 dBW/4 kHz 0.0025%

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**Frequency Information**

	<b>Receive 18.0 GHz</b>	<b>Transmit 29.0 GHz</b>
Emission / Frequency Range (MHz)	500KG7D - 112MG7D / 18306.0 - 19103.0 500KG7D - 112MG7D / 19700.0 - 20070.0	500KG7D - 112MG7D / 28361.0 - 28872.0 500KG7D - 112MG7D / 29256.0 - 29868.0
Max Great Circle Coordination Distance	136.2 km / 84.6 mi	100.7 km / 62.6 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' 44.4" N  
 Longitude (NAD 83) 78° 39' 24.1" W  
 Ground Elevation (AMSL) 282.24 m / 926.0 ft  
 Antenna Centerline (AGL) 5.49 m / 18.0 ft  
 Antenna Model ASC Signal 9.4 meter  
 Antenna Mode Receive 18.0 GHz  
 Interference Objectives: Long Term -156.0 dBW/MHz 20% Transmit 29.0 GHz  
 Short Term -146.0 dBW/MHz 0.01% -151.0 dBW/4 kHz 20%  
 -128.0 dBW/4 kHz 0.0025%  
 Max Available RF Power -30.0 (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	0.54	106.88	-10.00	112.36	-10.00	100.00
5	0.49	101.98	-10.00	114.63	-10.00	100.00
10	0.75	97.08	-10.00	103.74	-10.00	100.00
15	0.51	92.17	-10.00	113.62	-10.00	100.00
20	0.59	87.27	-10.00	110.49	-10.00	100.00
25	0.33	82.37	-10.00	126.81	-10.00	100.00
30	0.00	77.49	-10.00	136.18	-10.00	100.00
35	0.00	72.60	-10.00	136.18	-10.00	100.00
40	0.00	67.72	-10.00	136.18	-10.00	100.00
45	0.00	62.84	-10.00	136.18	-10.00	100.00
50	0.00	57.98	-10.00	136.18	-10.00	100.00
55	0.30	53.09	-10.00	129.15	-10.00	100.00
60	0.74	48.18	-10.00	104.11	-10.00	100.00
65	1.28	43.25	-8.90	100.00	-8.90	100.00
70	2.43	38.20	-7.55	100.00	-7.55	100.00
75	3.91	33.05	-5.98	100.00	-5.98	100.00
80	4.10	28.19	-4.25	100.00	-4.25	100.00
85	4.34	23.36	-2.21	100.00	-2.21	100.00
90	4.83	18.51	0.31	100.00	0.31	100.00
95	4.81	14.02	3.33	100.00	3.33	100.00
100	4.72	10.05	6.94	100.00	6.94	100.00
105	3.36	8.67	8.55	106.83	8.55	100.71
110	3.56	8.64	8.59	100.00	8.59	100.00
115	3.54	11.28	5.69	100.00	5.69	100.00
120	3.36	15.25	2.42	100.00	2.42	100.00
125	3.55	19.53	-0.27	100.00	-0.27	100.00
130	3.58	24.13	-2.56	100.00	-2.56	100.00
135	3.47	28.89	-4.52	100.00	-4.52	100.00
140	3.03	33.80	-6.22	100.00	-6.22	100.00
145	1.91	38.86	-7.74	100.00	-7.74	100.00
150	1.45	43.77	-9.03	100.00	-9.03	100.00
155	0.78	48.72	-10.00	102.19	-10.00	100.00
160	0.43	53.62	-10.00	119.11	-10.00	100.00
165	0.25	58.51	-10.00	132.31	-10.00	100.00
170	0.21	63.38	-10.00	135.14	-10.00	100.00
175	0.00	68.27	-10.00	136.18	-10.00	100.00
180	0.00	73.16	-10.00	136.18	-10.00	100.00
185	0.28	78.03	-10.00	129.67	-10.00	100.00

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 Short Term -146.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%  
 Max Available RF Power -30.0 (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	0.27	82.93	-10.00	130.65	-10.00	100.00
195	0.00	87.83	-10.00	136.18	-10.00	100.00
200	0.00	92.73	-10.00	136.18	-10.00	100.00
205	0.25	97.63	-10.00	131.82	-10.00	100.00
210	0.95	102.56	-10.00	100.00	-10.00	100.00
215	1.11	107.47	-10.00	100.00	-10.00	100.00
220	1.01	112.36	-10.00	100.00	-10.00	100.00
225	0.53	117.21	-10.00	113.04	-10.00	100.00
230	1.19	122.16	-10.00	100.00	-10.00	100.00
235	1.47	127.08	-10.00	100.00	-10.00	100.00
240	0.94	131.85	-10.00	100.00	-10.00	100.00
245	1.01	136.69	-10.00	100.00	-10.00	100.00
250	0.78	141.43	-10.00	102.33	-10.00	100.00
255	1.11	146.26	-10.00	100.00	-10.00	100.00
260	2.10	151.25	-10.00	100.00	-10.00	100.00
265	2.52	156.04	-10.00	100.00	-10.00	100.00
270	1.16	159.88	-10.00	100.00	-10.00	100.00
275	1.17	163.90	-10.00	100.00	-10.00	100.00
280	1.06	167.13	-10.00	100.00	-10.00	100.00
285	1.14	169.18	-10.00	100.00	-10.00	100.00
290	1.46	169.35	-10.00	100.00	-10.00	100.00
295	1.81	167.41	-10.00	100.00	-10.00	100.00
300	1.61	163.74	-10.00	100.00	-10.00	100.00
305	1.37	159.50	-10.00	100.00	-10.00	100.00
310	1.20	155.02	-10.00	100.00	-10.00	100.00
315	1.31	150.47	-10.00	100.00	-10.00	100.00
320	1.41	145.80	-10.00	100.00	-10.00	100.00
325	1.45	141.04	-10.00	100.00	-10.00	100.00
330	1.72	136.28	-10.00	100.00	-10.00	100.00
335	1.58	131.41	-10.00	100.00	-10.00	100.00
340	1.36	126.51	-10.00	100.00	-10.00	100.00
345	0.99	121.58	-10.00	100.00	-10.00	100.00
350	0.85	116.69	-10.00	100.00	-10.00	100.00
355	0.63	111.78	-10.00	108.67	-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
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