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HARRISONBURG, VA 22801
(540) 568-3809

WMRA

Your NPR Station

*HARRISONBURG 90.7 * CHARLOTTESVILLE 103.5 * WINCHESTER 94.5 * LEXINGTON 89.9*

NOTICE:

Because of time constraints and the May 28, 2019 deadline, a Frequency Coordination Report has not been prepared. We will supply that information to the Commission in short order for attachment to this application.

The previously commissioned study for this location from 2003 is attached for reference.

William D. Fawcett
Director of Engineering

Attachment: Comsearch Coordination Report 2003 - CALLSIGN E030319

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
JAMES MADISON UNIV BOARD OF VISITORS (WMRA-FM)
HARRISONBURG, VA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 20, 2003

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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 receive-only earth station.

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 11/19/2003.

Company
AT&T COMMUNICATIONS OF VIRGINIA INC
AT&T CORP
MCI NETWORK SERVICES INC
NATIONAL RADIO ASTRONOMY OBSERVATORY

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.

SATELLITE EARTH STATION
FREQUENCY COORDINATION DATA
11/18/2003

Company	JAMES MADISON UNIVERSITY BOARD OF VISITORS	
Earth Station Name, State	HARRISONBURG, VA	
Latitude (DMS) (NAD83)	38 26 27.1 N	
Longitude (DMS) (NAD83)	78 51 30.2 W	
Ground Elevation AMSL (Ft/m)	1370.07 / 417.58	
Antenna Centerline AGL (Ft/m)	8.20 / 2.50	
Receive Antenna Type: C40381	COMTECH ANTENNA SYSTEMS 3.8 METER PF	
4.0 GHz Gain (dBi) / Diameter (m)	42.9 / 3.8	
3 dB / 15 dB Half Beamwidth	0.70 / 1.40	
Operating Mode	RECEIVE ONLY	
Modulation	ANALOG & DIGITAL	
Emission / Receive Band (MHz)	30K0F1D / 3700.0000 - 4200.0000	
	10M3G7W / 3700.0000 - 4200.0000	
Max permissible Interference Power		
4.0 GHz, 20% (dBW/1 MHz)	-156.0	
4.0 GHz, 0.0100% (dBW/1 MHz)	-146.0	
Range of Satellite Arc (Geostationary)		
Degrees Longitude	60.0 W / 143.0 W	
Azimuth Range (Min/Max)	151.2 / 253.2	
Corresponding Elevation Angles	41.3 / 11.5	
Radio Climate	A	
Rain Zone	2	
Max Great Circle Coordination Distance (Mi/Km)		
4.0 GHz	233.9 / 376.5	
Precipitation Scatter Contour Radius (Mi/Km)		
4.0 GHz	331.2 / 533.1	

Table of Earth Station Coordination Values
11/18/2003

Earth Station Name HARRISONBURG VA
Owner JAMES MADISON UNIVERSITY BOARD OF VISITORS
Latitude (DMS) (NAD83) 38 26 27.1 N
Longitude (DMS) (NAD83) 78 51 30.2 W
Ground Elevation (Ft/m) 1370.07 / 417.58 AMSL
Antenna Centerline (Ft/m) 8.20 / 2.50 AGL
Antenna Model COMTECH ANTENNA SYSTEMS 3.8 METER PF
Objectives: Receive -156.0 (dBW /1 MHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4.0 GHz Antenna Gain (dBi)	Coordination Distance (Km)
0	1.85	106.53	-8.10	204.9
5	1.69	111.44	-8.10	209.2
10	1.56	116.34	-8.64	210.2
15	1.40	121.23	-10.35	206.8
20	1.32	120.32	-10.16	209.8
25	1.36	116.93	-8.87	214.7
30	1.10	113.32	-8.10	227.0
35	1.09	109.71	-8.10	227.4
40	0.95	106.01	-8.10	232.9
45	0.76	102.25	-8.10	244.5
50	0.66	98.49	-8.10	250.9
55	0.55	94.71	-8.10	257.9
60	0.56	90.92	-8.10	257.5
65	0.54	87.14	-8.10	258.6
70	0.67	83.35	-8.10	250.4
75	0.85	79.56	-8.10	238.8
80	0.80	75.83	-8.10	242.0
85	0.76	72.16	-8.10	244.1
90	0.76	68.54	-8.10	244.3
95	0.82	64.99	-8.10	240.7
100	1.04	61.45	-8.10	228.9
105	1.11	58.10	-8.10	226.6
110	1.09	54.95	-8.10	227.3
115	1.00	52.03	-8.10	230.1
120	1.26	49.11	-8.10	221.8
125	1.64	46.33	-8.10	210.5
130	1.17	44.55	-8.10	224.7
135	1.95	42.07	-7.93	205.5
140	1.50	41.11	-7.54	217.4
145	1.57	40.15	-7.16	217.2
150	1.95	39.38	-6.98	207.4
155	2.55	38.92	-6.88	197.1
160	1.95	40.17	-7.17	206.5
165	1.26	41.98	-7.89	222.9
170	1.82	42.66	-8.17	205.3
175	1.32	43.90	-8.66	217.1
180	1.42	44.06	-8.72	213.9

Table of Earth Station Coordination Values
11/18/2003

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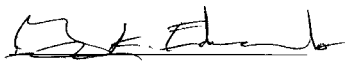
Antenna Model COMTECH ANTENNA SYSTEMS 3.8 METER PF
Objectives: Receive -156.0 (dBW /1 MHz)

Azimuth (Deg)	Horizon Elevation Angle (Deg)	Antenna Disc. Angle (Deg)	4.0 GHz Antenna Gain (dBi)	Coordination Distance (Km)
185	1.87	43.35	-8.44	205.1
190	1.33	43.13	-8.35	218.3
195	1.62	41.64	-7.76	212.8
200	1.86	39.77	-7.05	209.5
205	1.25	38.23	-6.75	229.3
210	0.77	36.20	-6.34	254.2
215	0.80	33.44	-6.10	253.8
220	0.31	30.84	-6.10	297.4
225	0.00	27.87	-5.25	317.9
230	0.00	24.51	-3.90	327.5
235	0.00	21.02	-2.51	337.7
240	0.45	17.12	0.78	329.8
245	0.36	13.78	4.33	370.4
250	0.63	11.29	8.32	376.5
255	0.90	10.70	9.20	371.8
260	1.25	12.22	6.68	325.2
265	1.59	15.31	2.59	278.1
270	1.88	19.24	-1.34	240.6
275	2.11	23.60	-3.54	221.1
280	2.21	28.21	-5.38	209.0
285	2.44	32.90	-6.10	203.1
290	2.32	37.73	-6.65	203.1
295	2.40	42.56	-8.10	194.5
300	2.37	47.44	-8.10	195.1
305	2.32	52.34	-8.10	196.3
310	2.28	57.25	-8.10	197.1
315	2.23	62.17	-8.10	198.3
320	2.16	67.09	-8.10	199.9
325	2.15	72.02	-8.10	200.1
330	2.10	76.95	-8.10	201.1
335	1.78	81.89	-8.10	206.8
340	1.66	86.82	-8.10	210.0
345	1.69	91.75	-8.10	209.1
350	1.86	96.68	-8.10	204.5
355	1.90	101.61	-8.10	206.0

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
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19700 Janelia Farm Boulevard
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DATED: November 20, 2003