

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Family Broadcasting Corporation
NOBLESVILLE, IN
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 04, 2021

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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.

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 08/26/2021.

Company

AT&T Mobility Spectrum LLC - Indiana
Agile Network Builders LLC
Cellco Partnership - IN & KY Mkts
Cellco Partnership - Indiana
City of Indianapolis
ConVergence Technologies, Inc
Conterra Ultra Broadband, LLC
Duke Energy Business Services, LLC.
GTE Mobilnet of Indiana Ltd Partnership
Hamilton County Public Safety Communicat
Hendricks County Communications Center
Hoosier Energy Rec, Inc.
Indiana Department of Transportation
Indiana Michigan Power Company
Indiana, State of (IPSC)
Madison, County of
New Cingular Wireless PCS LLC - Indiana
Norfolk Southern Railway Company
Northern Indiana Public Service Company
Panhandle Eastern Pipe Line Company, L.P
Peachy Networks LLC
South Central Indiana REMC
Utilities Dist of Western Indiana REMC
Verizon Wireless (VAW) LLC- IN & KY Mkts
W.A.T.C.H. TV Company Inc.

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: 10/04/2021
Job Number: 210826COMSGE01

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code FAMBRC
Licensee Name Family Broadcasting Corporation

Site Information NOBLESVILLE, IN

Venue Name
Latitude (NAD 83) 40° 0' 54.0" N
Longitude (NAD 83) 85° 58' 58.4" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 250.39 m / 821.5 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 66° W to 145° West Longitude
Azimuth Range 150.5° to 248.9°
Corresponding Elevation Angles 39.3° / 14.8°
Antenna Centerline (AGL) 4.88 m / 16.0 ft

Antenna Information Transmit - FCC32

Manufacturer Andrew
Model ES7.6C-1
Gain / Diameter 52.4 dBi / 7.6 m
3-dB / 15-dB Beamwidth 0.40° / 0.76°

Max Available RF Power (dBW/4 kHz) -22.6
(dBW/MHz) 1.4

Maximum EIRP (dBW/4 kHz) 29.8
(dBW/MHz) 53.8
(dBW)

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%

Frequency Information Transmit 6.1 GHz

Emission / Frequency Range (MHz) 36M0G7F / 5925.0 - 6425.0

Max Great Circle Coordination Distance 143.4 km / 89.1 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

NOBLESVILLE, IN

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Antenna Model Andrew 7.6 meter
Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -22.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	110.38	-10.00	110.45
5	0.00	115.18	-10.00	110.45
10	0.00	119.97	-10.00	110.45
15	0.00	123.50	-10.00	110.45
20	0.00	120.17	-10.00	110.45
25	0.00	116.71	-10.00	110.45
30	0.00	113.13	-10.00	110.45
35	0.00	109.46	-10.00	110.45
40	0.00	105.73	-10.00	110.45
45	0.00	101.94	-10.00	110.45
50	0.00	98.11	-10.00	110.45
55	0.00	94.26	-10.00	110.45
60	0.00	90.40	-10.00	110.45
65	0.00	86.53	-10.00	110.45
70	0.00	82.67	-10.00	110.45
75	0.00	78.84	-10.00	110.45
80	0.00	75.04	-10.00	110.45
85	0.00	71.30	-10.00	110.45
90	0.00	67.62	-10.00	110.45
95	0.00	64.02	-10.00	110.45
100	0.00	60.53	-10.00	110.45
105	0.00	57.17	-10.00	110.45
110	0.00	53.97	-10.00	110.45
115	0.00	50.97	-10.00	110.45
120	0.00	48.20	-10.00	110.45
125	0.00	45.72	-9.50	111.71
130	0.00	43.56	-8.98	113.04
135	0.00	41.80	-8.53	114.18
140	0.00	40.48	-8.18	115.07
145	0.00	39.64	-7.95	115.65
150	0.00	39.32	-7.87	115.87
155	0.00	39.53	-7.92	115.72
160	0.00	40.26	-8.12	115.21
165	0.00	41.49	-8.45	114.38
170	0.00	42.71	-8.76	113.58
175	0.00	43.46	-8.95	113.10
180	0.00	43.71	-9.01	112.94
185	0.00	43.46	-8.95	113.10

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Coordination Values

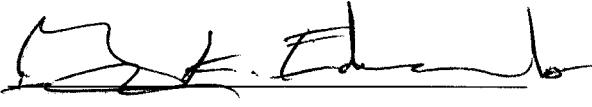
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Max Available RF Power -22.6 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	42.71	-8.76	113.58
195	0.00	41.49	-8.45	114.38
200	0.00	39.84	-8.01	115.50
205	0.00	37.82	-7.44	116.96
210	0.00	35.45	-6.74	118.76
215	0.00	32.81	-5.90	120.94
220	0.00	29.92	-4.90	123.55
225	0.00	26.84	-3.72	126.66
230	0.00	23.59	-2.32	130.39
235	0.00	20.20	-0.63	133.67
240	0.00	17.22	1.10	138.57
245	0.00	15.30	2.38	142.44
250	0.00	14.85	2.70	143.44
255	0.00	16.00	1.90	140.96
260	0.00	18.44	0.35	136.42
265	0.00	21.75	-1.44	132.74
270	0.00	25.60	-3.20	128.02
275	0.00	29.76	-4.84	123.70
280	0.00	34.14	-6.33	119.83
285	0.00	38.65	-7.68	116.35
290	0.00	43.25	-8.90	113.24
295	0.00	47.92	-10.00	110.45
300	0.00	52.63	-10.00	110.45
305	0.00	57.38	-10.00	110.45
310	0.00	62.16	-10.00	110.45
315	0.00	66.95	-10.00	110.45
320	0.00	71.76	-10.00	110.45
325	0.00	76.58	-10.00	110.45
330	0.00	81.41	-10.00	110.45
335	0.00	86.24	-10.00	110.45
340	0.00	91.08	-10.00	110.45
345	0.00	95.91	-10.00	110.45
350	0.00	100.74	-10.00	110.45
355	0.00	105.56	-10.00	110.45

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: October 04, 2021