

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Christian Television Network, Inc.
LARGO, FL
Satellite Earth Station

Prepared By:
COMSEARCH
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166
August 29, 2022

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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 08/19/2022.

Company

Cellco Partnership - Florida
Duke Energy Business Services, LLC.
Echo Technologies
Florida Mobile Telecom, Inc.
Florida Rural Broadband Alliance, LLC
Florida, State of
Florida, State of
Gulfstream Natural Gas System
Hernando County Board of Co Commissioner
Hillsborough County Sheriffs Office
L3Harris Technologies, Inc
Lake, County of
Manatee, County of
Mosaic Fertilizer LLC
New Cingular Wireless PCS LLC - N FL
New Cingular Wireless PCS LLC - S FL
Olympic Wireless, LLC
Osceola County Intergovernmental Comm
Pasco, County of
Peace River Electric Cooperative Inc.
Pinellas, County of
Polk, County of
Rapid Systems
Sarasota, County of
Sumter County Board of County Commission
Sumter Electric Cooperative, Inc.
T-Mobile License LLC
Tampa Electric Company
Verizon Wireless (VAW) LLC - S Florida
iHM Licenses, LLC

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: 08/29/2022
Job Number: 220819COMSGE01

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign: E861058
Licensee Code: CHRTEL
Licensee Name: Christian Television Network, Inc.

Site Information

LARGO, FL

Venue Name
Latitude (NAD 83): 27° 53' 55.9" N
Longitude (NAD 83): 82° 44' 4.4" W
Climate Zone: B
Rain Zone: 1
Ground Elevation (AMSL): 4.31 m / 14.1 ft
Country: ESID:1896

Link Information

Satellite Type: Geostationary
Mode: TR - Transmit-Receive
Modulation: Digital
Satellite Arc: 58° W to 143° West Longitude
Azimuth Range: 135.4° to 255.0°
Corresponding Elevation Angles: 47.5° / 17.7°
Antenna Centerline (AGL): 4.27 m / 14.0 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	Antesky	Antesky
Model	6.2 meter	6.2 meter
Gain / Diameter	46.4 dBi / 6.2 m	50.0 dBi / 6.2 m
3-dB / 15-dB Beamwidth	0.80° / 1.40°	0.56° / 1.00°
Max Available RF Power (dBW/4 kHz)	-19.1	-19.1
(dBW/MHz)	4.9	4.9
Maximum EIRP (dBW/4 kHz)	30.9	30.9
(dBW/MHz)	54.9	54.9
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%
	Short Term	-146.0 dBW/MHz 0.01%
		-154.0 dBW/4 kHz 20%
		-131.0 dBW/4 kHz 0.0025%

Frequency Information

Receive 4.0 GHz

Transmit 6.1 GHz

Emission / Frequency Range (MHz)	3M45G7W / 3700.0 - 4200.0	4M50G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	569.8 km / 354.0 mi	170.8 km / 106.1 mi
Precipitation Scatter Contour Radius	587.5 km / 365.0 mi	100.0 km / 62.1 mi

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Antenna Centerline (AGL) 4.27 m / 14.0 ft

Antenna Model Antesky 6.2 meter

Antenna Mode Receive 4.0 GHz

Transmit 6.1 GHz

Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%

Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%

Max Available RF Power -19.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	104.24	-10.00	412.20	-10.00	128.01
5	0.00	108.98	-10.00	412.20	-10.00	128.01
10	0.00	113.05	-10.00	412.20	-10.00	128.01
15	0.00	110.01	-10.00	412.20	-10.00	128.01
20	0.00	106.87	-10.00	412.20	-10.00	128.01
25	0.00	103.64	-10.00	412.20	-10.00	128.01
30	0.00	100.36	-10.00	412.20	-10.00	128.01
35	0.00	97.03	-10.00	412.20	-10.00	128.01
40	0.00	93.68	-10.00	412.20	-10.00	128.01
45	0.00	90.30	-10.00	412.20	-10.00	128.01
50	0.00	86.93	-10.00	412.20	-10.00	128.01
55	0.00	83.57	-10.00	412.20	-10.00	128.01
60	0.00	80.23	-10.00	412.20	-10.00	128.01
65	0.00	76.94	-10.00	412.20	-10.00	128.01
70	0.00	73.71	-10.00	412.20	-10.00	128.01
75	0.00	70.55	-10.00	412.20	-10.00	128.01
80	0.00	67.48	-10.00	412.20	-10.00	128.01
85	0.00	64.53	-10.00	412.20	-10.00	128.01
90	0.00	61.72	-10.00	412.20	-10.00	128.01
95	0.00	59.08	-10.00	412.20	-10.00	128.01
100	0.00	56.63	-10.00	412.20	-10.00	128.01
105	0.00	54.40	-10.00	412.20	-10.00	128.01
110	0.00	52.43	-10.00	412.20	-10.00	128.01
115	0.00	50.75	-10.00	412.20	-10.00	128.01
120	0.00	49.40	-10.00	412.20	-10.00	128.01
125	0.00	48.39	-10.00	412.20	-10.00	128.01
130	0.00	47.76	-9.98	412.48	-9.98	128.08
135	0.00	47.53	-9.92	413.14	-9.92	128.25
140	0.00	47.69	-9.96	412.68	-9.96	128.13
145	0.00	48.25	-10.00	412.20	-10.00	128.01
150	0.00	49.19	-10.00	412.20	-10.00	128.01
155	0.00	50.48	-10.00	412.20	-10.00	128.01
160	0.00	52.11	-10.00	412.20	-10.00	128.01
165	0.00	54.03	-10.00	412.20	-10.00	128.01
170	0.00	55.87	-10.00	412.20	-10.00	128.01
175	0.00	57.03	-10.00	412.20	-10.00	128.01
180	0.00	57.43	-10.00	412.20	-10.00	128.01
185	0.00	57.03	-10.00	412.20	-10.00	128.01

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Transmit 6.1 GHz

-154.0 dBW/4 kHz 20%

-131.0 dBW/4 kHz 0.0025%

Max Available RF Power

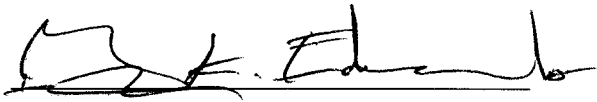
-19.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	55.87	-10.00	412.20	-10.00	128.01
195	0.00	54.02	-10.00	412.20	-10.00	128.01
200	0.00	51.61	-10.00	412.20	-10.00	128.01
205	0.00	48.73	-10.00	412.20	-10.00	128.01
210	0.00	45.49	-9.45	419.10	-9.45	129.77
215	0.00	41.98	-8.58	430.27	-8.58	132.66
220	0.00	38.25	-7.57	443.57	-7.57	136.14
225	0.00	34.35	-6.40	459.45	-6.40	140.35
230	0.00	30.33	-5.05	477.90	-5.05	145.48
235	0.00	26.50	-3.58	499.56	-3.58	151.24
240	0.00	23.08	-2.08	522.72	-2.08	157.62
245	0.00	20.28	-0.68	545.28	-0.68	163.90
250	0.00	18.39	0.38	562.90	0.38	168.86
255	0.00	17.71	0.79	569.83	0.79	170.82
260	0.00	18.38	0.39	563.08	0.39	168.91
265	0.00	20.25	-0.66	545.57	-0.66	163.98
270	0.00	23.03	-2.06	523.04	-2.06	157.71
275	0.00	26.45	-3.56	499.87	-3.56	151.32
280	0.00	30.28	-5.03	478.18	-5.03	145.55
285	0.00	34.39	-6.41	459.30	-6.41	140.31
290	0.00	38.68	-7.69	441.95	-7.69	135.71
295	0.00	43.11	-8.86	426.55	-8.86	131.69
300	0.00	47.62	-9.95	412.87	-9.95	128.18
305	0.00	52.21	-10.00	412.20	-10.00	128.01
310	0.00	56.85	-10.00	412.20	-10.00	128.01
315	0.00	61.52	-10.00	412.20	-10.00	128.01
320	0.00	66.23	-10.00	412.20	-10.00	128.01
325	0.00	70.95	-10.00	412.20	-10.00	128.01
330	0.00	75.69	-10.00	412.20	-10.00	128.01
335	0.00	80.45	-10.00	412.20	-10.00	128.01
340	0.00	85.20	-10.00	412.20	-10.00	128.01
345	0.00	89.97	-10.00	412.20	-10.00	128.01
350	0.00	94.73	-10.00	412.20	-10.00	128.01
355	0.00	99.49	-10.00	412.20	-10.00	128.01

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
21515 Ridgetop Circle, Suite 300
Sterling, VA 20166

DATED: August 29, 2022