

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Carolina Christian Broadcasting, Inc.
TAYLORS, SC
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
January 28, 2020

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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 transmit-only earth station.

Company

Conterra Ultra Broadband, LLC

No other 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 01/14/2020.

Company

Alltel Communications , LLC - Tennessee
Athens Cellular, Inc.
Athens-Clark County Unified Government
Barrow County Emergency Services
Bellsouth Telecommunications, Inc.
Blue Ridge Electric Cooperative Inc
Blue Ridge Electric Membership Corp.
Cellco Partnership - Georgia Mkt
Charlotte, City of
City of Johnson City, TN
Conterra Ultra Broadband, LLC
Duke Energy Business Services, LLC.
Gaston County
Hall County 9-1-1
Jackson Electric Membership Corporation
Jenkins, Micheal H
Motorola Solutions, Inc. (Palmetto 800)
Mountain Internet Services
New Cingular Wireless PCS LLC - WV,NC,SC
Norfolk Southern Railway Company
North Carolina RSA 1 Partnership
North Carolina State Highway Patrol
Northeastern Georgia RSA Limited Partner
Oconee County Sheriffs Office
One Ring Networks, Inc.
PTA-FLA, Inc.
Radio Training Network, Inc.
Rayle Electric Membership Corporation
South Carolina Public Service Authority
Southern Company Services, Inc.
Sprintcom, Inc
T-Mobile License LLC
Tennessee Dept. Of Safety & Homeland Sec
Transcontinental Gas Pipe Line Co., LLC
Tri Cities Communications Inc
USCOC of Greater North Carolina, LLC
USCOC of North Carolina RSA #7, Inc.
United Telephone - Southeast
University of North Carolina
Verizon Wireless (VAW) LLC (Georgia)

Verizon Wireless (VAW) LLC- Tennessee
Verizon Wireless (VAW) LLC-NC&SC Mkts
West Carolina Rural Telephone Coop., Inc
York, County of

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: 01/28/2020
Job Number: 200114COMSGE43

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code DOVEBR
Licensee Name **Carolina Christian Broadcasting, Inc.**

Site Information

TAYLORS, SC
Venue Name
Latitude (NAD 83) 34° 54' 53.3" N
Longitude (NAD 83) 82° 19' 34.5" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 309.37 m / 1015.0 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 58° W to 145° West Longitude
Azimuth Range 141.7° to 253.5°
Corresponding Elevation Angles 41.9° / 13.7°
Antenna Centerline (AGL) 3.66 m / 12.0 ft

Antenna Information

Transmit - FCC32
Manufacturer Vertex
Model 6.3 meter
Gain / Diameter 50.3 dBi / 6.3 m
3-dB / 15-dB Beamwidth 0.28° / 0.56°

Max Available RF Power (dBW/4 kHz) -11.3
(dBW/MHz) 12.7

Maximum EIRP (dBW/4 kHz) 39.0
(dBW/MHz) 63.0

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)
3M25G7W / 5925.0 - 5929.0
3M25G7W / 6020.0 - 6047.0
3M25G7W / 6139.0 - 6210.0
3M25G7W / 6272.0 - 6299.0
3M25G7W / 6331.0 - 6425.0
3M25G7W / 6079.0 - 6107.0

Max Great Circle Coordination Distance 168.5 km / 104.7 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

TAYLORS, SC

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Longitude (NAD 83) 82° 19' 34.5" W
Ground Elevation (AMSL) 309.37 m / 1015.0 ft
Antenna Centerline (AGL) 3.66 m / 12.0 ft
Antenna Model Vertex 6.3 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 -11.3 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	106.00	-10.00	139.17
5	0.00	110.84	-10.00	139.17
10	0.00	115.67	-10.00	139.17
15	0.00	116.42	-10.00	139.17
20	0.00	113.03	-10.00	139.17
25	0.00	109.54	-10.00	139.17
30	0.00	105.98	-10.00	139.17
35	0.00	102.35	-10.00	139.17
40	0.00	98.68	-10.00	139.17
45	0.00	94.98	-10.00	139.17
50	0.00	91.27	-10.00	139.17
55	0.30	87.53	-10.00	132.22
60	0.32	83.80	-10.00	130.39
65	0.00	80.14	-10.00	139.17
70	0.00	76.48	-10.00	139.17
75	0.00	72.87	-10.00	139.17
80	0.00	69.33	-10.00	139.17
85	0.00	65.87	-10.00	139.17
90	0.00	62.52	-10.00	139.17
95	0.00	59.30	-10.00	139.17
100	0.00	56.23	-10.00	139.17
105	0.00	53.35	-10.00	139.17
110	0.00	50.70	-10.00	139.17
115	0.00	48.31	-10.00	139.17
120	0.00	46.23	-9.62	140.29
125	0.00	44.51	-9.21	141.54
130	0.00	43.20	-8.89	142.54
135	0.00	42.32	-8.66	143.23
140	0.00	41.91	-8.56	143.56
145	0.00	41.99	-8.58	143.50
150	0.00	42.55	-8.72	143.05
155	0.00	43.57	-8.98	142.25
160	0.00	45.02	-9.34	141.16
165	0.00	46.80	-9.76	139.89
170	0.00	48.25	-10.00	139.17
175	0.00	49.14	-10.00	139.17
180	0.00	49.44	-10.00	139.17
185	0.35	48.80	-10.00	128.16

COMSEARCH

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Coordination Values

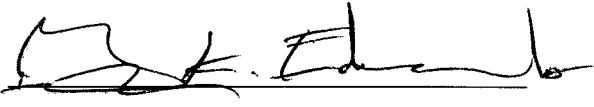
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Max Available RF Power -11.3 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.40	47.87	-10.00	123.61
195	0.27	46.56	-9.70	133.54
200	0.24	44.66	-9.25	137.42
205	0.00	42.51	-8.71	143.08
210	0.00	39.80	-8.00	145.33
215	0.00	36.80	-7.15	148.10
220	0.00	33.57	-6.15	151.47
225	0.00	30.13	-4.98	155.56
230	0.00	26.54	-3.60	160.58
235	0.00	22.83	-1.96	168.46
240	0.27	18.94	0.06	168.52
245	0.62	15.54	2.21	145.48
250	0.84	13.29	3.91	140.36
255	0.87	12.88	4.26	140.02
260	0.64	14.52	2.95	146.90
265	1.13	16.93	1.28	122.31
270	1.59	20.33	-0.70	104.57
275	1.84	24.38	-2.68	100.00
280	1.80	28.84	-4.50	100.00
285	1.57	33.50	-6.13	100.00
290	1.85	38.09	-7.52	100.00
295	1.68	42.87	-8.80	100.00
300	1.70	47.65	-9.95	100.00
305	1.04	52.57	-10.00	100.00
310	0.83	57.42	-10.00	100.73
315	0.37	62.31	-10.00	126.33
320	0.00	67.18	-10.00	139.17
325	0.00	72.02	-10.00	139.17
330	0.00	76.87	-10.00	139.17
335	0.00	81.72	-10.00	139.17
340	0.00	86.58	-10.00	139.17
345	0.00	91.44	-10.00	139.17
350	0.00	96.29	-10.00	139.17
355	0.00	101.15	-10.00	139.17

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: January 28, 2020