

WFQS
BLED-19890119KF
Franklin, North Carolina
Application for Modified Facilities for Noncommercial FM Station
On Channel 217 Class C2
by
Western North Carolina Public Radio, Inc.

Exhibit: Technical Compliance

September 2021

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit: Technical Compliance, for Western North Carolina Public Radio, Inc., and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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24 September 2021

Narrative

This Exhibit provides details of the allocations for the proposed modified facilities of WFQS, Franklin, North Carolina. The authorization file number is BLED-19890119KF. This proposal complies fully with the requirements of 47 C.F.R. §73.509.

The changes are limited increased power, change of class, and a change of the directional pattern.

Allocations

This application proposes service to Franklin, North Carolina, on channel 217 as a Class C2 facility. The Allocations Table in this exhibit provides a list of the stations, construction permits, allocations, and applications studied. All currently licensed facilities are protected from interference from the proposed facilities under 47 C.F.R. §73.509 by this application.

An Allocations Study is included as Figure 1. Where there are facilities whose overlap is less than 3.2 kilometers (2 miles) additional figures are provided, along with the output tables from the computer program FMOVER. Those facilities are identified below. Note that both facilities have licensed as well as authorized facilities. Only the parameters of the closest facility are shown in detail.

Figure/Table	Facility ID	Community	Channel and Relationship
2	WTSE	Benton, Tennessee	216C3, first adjacent
3	WLFA	Asheville, North Carolina	217A, co-channel

Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's LMS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments. The contours were evaluated using terrain extracted from the FCC 30 meter terrain database, formatted by V-Soft Communications to work with its allocation and mapping programs.

Population data is from 2010 U.S. Census PL data files. Population is counted by considering the location of the centroid of each census block. The data for each block is counted if it falls within the area being counted.

Area and Population

The area within the proposed 60 dBu F(50,50) service contour is calculated by a computer program which sums the areas within the contours based on 360 radials. The area is shown on a Figure at the end of this Exhibit. The population is calculated by the centroid method and is also listed on the Figure.

Table 1: Allocations

Allocation Study											
Western North Carolina Public Radio											
REFERENCE		CH# 217C2- 91.3 MHZ, Pwr= 0.6 kW DA, HAAT= 672.6 M, COR= 1681 M								DISPLAY DATES	
35 10 24.3 N.		Average Protected F(50-50)= 42.3 km								DATA 09-24-21	
83 34 51.5 W.		Standard Directional								SEARCH 09-24-21	
CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
217C3	WFQS	LIC D		0.0	0.00	35 10 24.30	0.265	86.5	29.4	-120.8*	-125.0*
Franklin		NC		253.8	BLD19890119KF	83 34 51.50	702	1681	Western North Carolina Pub		
216C3	WTSE	CP DVN		284.6	67.23	35 19 25.20	9.500	25.8	8.9	12.4	0.1
Benton		TN		104.2	BPED20180907ACC	84 17 53.70	142	594	Radio By Grace, Inc.		
217A	WLFA	LIC CN		60.3	96.69	35 36 02.30	0.440	73.2	23.3	1.1	0.5
Asheville		NC		240.8	BLD1386	82 39 06.40	262	1019	Radio Training Network, In		
217A	WLFA	CP CN		60.3	96.69	35 36 02.30	0.420	73.1	23.3	1.1	0.5
Asheville		NC		240.8	0000147616	82 39 06.40	300	1025	Radio Training Network, In		
216C3	WTSE	LIC DVN		284.6	67.23	35 19 25.20	8.500	22.8	7.4	15.4	2.1
Benton		TN		104.2	BLD20040902ABD	84 17 53.70	142	594	Radio By Grace, Inc.		
218C2	WWEV-FM	LIC DCN		207.1	116.78	34 14 13.30	8.900	70.7	47.3	5.4	8.1
Cumming		GA		26.8	BLD19860203KB	84 09 35.60	293	644	Rln Global, Inc.		
218C2	WTBI-FM	LIC CN		109.9	109.94	34 49 51.40	22.500	62.0	41.3	8.3	11.2
Greenville		SC		290.6	BLD20071214ADL	82 26 54.40	128	414	Tabernacle Baptist Bible C		
220C	WUOT	LIC CN		340.8	98.01	36 00 19.30	81.000	11.9	85.1	43.3	11.2
Knoxville		TN		160.6	BLD20161212ABU	83 56 22.70	482	793	University Of Tennessee		
215C1	WRAF	LIC DCN		162.8	66.79	34 35 57.40	100.000	5.7	41.5	24.2	16.8
Toccoa Falls		GA		342.9	BLD20090529AEI	83 21 54.60	172	513	Radio Training Network, In		
216A	WKCS	LIC CN		341.4	96.29	35 59 37.30	0.500	13.9	9.0	40.6	22.7
Knoxville		TN		161.2	BLD20160516AAL	83 55 21.70	17	323	Fulton High School		
217A	WLMU	LIC CN		357.5	154.44	36 33 40.30	3.000	65.4	17.7	50.2	30.5
Harrogate		TN		177.5	BLD20180529ABW	83 39 20.80	15	476	Lincoln Memorial Universit		
216C3	WZTH	LIC DVN		29.1	117.85	36 05 53.40	17.000	54.8	34.9	34.3	38.0
Tusculum		TN		209.4	BLD20101001AAR	82 56 36.50	87	502	Solid Foundation Broadcast		
216C1	WYFG	LIC DCN		91.7	164.17	35 06 54.40	100.000	90.4	56.8	39.6	52.9
Gaffney		SC		272.8	BLD20170623ABO	81 46 35.40	210	455	Bible Broadcasting Network		
214C2	WGSN	LIC DVN		17.5	85.37	35 54 20.30	1.000	1.9	36.6	50.5	44.0
Newport		TN		197.6	BLD20080926ABP	83 17 47.50	700	1113	New Life Studios, Inc.		
271C1	WWST«	LIC CN		353.6	71.23	35 48 41.30	15.000	0.0	0.0	26.5R	44.7M
Sevierville		TN		173.6	BLH19860519KF	83 40 07.60	603	981	Sm-wwst, LLC		
06+--	WOOT-LD«	LI D N		271.9	154.51	37 08 00.42	1.400	16.5	5.9	22.3R	132.2M
Chattanooga, Etc.		TN		90.9	BLTVA-20070713ADV	81 35 42.39		637			

Terrain database is FCC 30 meter, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
 In & Out distances between contours are shown at closest points. Reference Zone= - Zone 2, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "«"affixed to 'IN' or 'OUT' values = site inside restricted contour.

« = Station meets FCC minimum distance spacing for its class.

Table 2: FMOVER protection of WTSE, Benton, Tennessee

09-24-2021 Terrain Data: FCC 30 meter FMOVER Analysis

WFQSm21

WTSE BPED20180907ACC

Channel = 217C2
 Max ERP = 0.6 kW
 RCAMSL = 1681 m
 N. Lat. 35 10 24.30
 W. Lng. 83 34 51.50
 Protected
 60 dBu

Channel = 216C3
 Max ERP = 9.5 kW
 RCAMSL = 594 m
 N. Lat. 35 19 25.20
 W. Lng. 84 17 53.70
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
225.0	000.5940	0714.6	043.6	144.0	003.1848	-0032.9	058.8	39.09	
226.0	000.5952	0702.7	043.2	143.7	003.1500	-0034.0	058.0	39.21	
227.0	000.5964	0689.5	042.8	143.4	003.1052	-0038.0	057.2	39.32	
228.0	000.5976	0710.3	043.5	144.2	003.2196	-0031.9	056.5	39.62	
229.0	000.5988	0732.2	044.2	145.0	003.3410	-0020.2	055.8	39.92	
230.0	000.6000	0726.2	044.1	144.9	003.3271	-0021.2	055.0	40.07	
231.0	000.6000	0712.5	043.6	144.5	003.2684	-0028.4	054.2	40.17	
232.0	000.6000	0707.3	043.5	144.4	003.2493	-0030.3	053.5	40.31	
233.0	000.6000	0711.1	043.6	144.6	003.2741	-0027.5	052.7	40.50	
234.0	000.6000	0705.9	043.4	144.4	003.2495	-0030.3	052.0	40.64	
235.0	000.6000	0704.0	043.4	144.3	003.2403	-0030.8	051.2	40.79	
236.0	000.6000	0707.0	043.4	144.4	003.2550	-0029.9	050.4	40.97	
237.0	000.6000	0694.5	043.0	143.9	003.1822	-0032.9	049.7	41.03	
238.0	000.6000	0677.9	042.5	143.3	003.0825	-0039.7	049.0	41.05	
239.0	000.6000	0670.2	042.2	142.9	003.0284	-0045.8	048.3	41.13	
240.0	000.6000	0670.7	042.3	142.8	003.0180	-0047.1	047.5	41.28	
241.0	000.6000	0666.3	042.1	142.5	002.9763	-0051.8	046.8	41.38	
242.0	000.6000	0659.4	041.9	142.1	002.9175	-0060.1	046.1	41.46	
243.0	000.6000	0647.3	041.5	141.4	002.8254	-0069.7	045.5	41.48	
244.0	000.6000	0636.7	041.1	140.8	002.7391	-0074.6	044.9	41.51	
245.0	000.6000	0617.5	040.5	139.8	002.6071	-0085.2	044.3	41.43	
246.0	000.6000	0598.1	039.8	138.7	002.4952	-0089.2	043.8	41.38	
247.0	000.6000	0589.7	039.6	138.1	002.4297	-0095.9	043.2	41.42	
248.0	000.6000	0572.6	039.0	137.0	002.3221	-0109.5	042.8	41.35	
249.0	000.6000	0561.9	038.6	136.2	002.2392	-0118.6	042.3	41.33	
250.0	000.6000	0551.1	038.1	135.3	002.1530	-0126.3	041.9	41.29	
251.0	000.6000	0532.8	037.4	134.0	002.0250	-0141.0	041.6	41.10	
252.0	000.6000	0505.0	036.2	132.1	001.8534	-0154.4	041.6	40.72	
253.0	000.6000	0491.2	035.6	131.0	001.7532	-0159.2	041.4	40.55	
254.0	000.6000	0502.3	036.1	131.1	001.7610	-0157.9	040.6	40.81	
255.0	000.6000	0500.8	036.0	130.5	001.7115	-0163.0	040.1	40.84	
256.0	000.6000	0511.2	036.4	130.5	001.7123	-0162.9	039.3	41.09	
257.0	000.6000	0518.9	036.8	130.4	001.6990	-0164.6	038.6	41.28	
258.0	000.6000	0511.2	036.4	129.4	001.6272	-0167.2	038.3	41.20	
259.0	000.6000	0490.2	035.6	127.8	001.5210	-0159.1	038.4	40.88	
260.0	000.6000	0487.8	035.5	127.1	001.4742	-0159.7	038.0	40.88	
261.0	000.5881	0493.8	035.5	126.5	001.4391	-0161.2	037.5	40.94	
262.0	000.5762	0504.5	035.8	126.1	001.4159	-0163.0	036.8	41.09	
263.0	000.5645	0504.6	035.7	125.2	001.3611	-0156.8	036.5	41.03	
264.0	000.5530	0519.1	036.1	125.0	001.3446	-0153.0	035.8	41.24	
265.0	000.5415	0533.9	036.6	124.7	001.3268	-0151.1	035.0	41.46	

266.0	000.5302	0567.5	037.7		125.1	001.3501	-0153.9	033.7	42.01
267.0	000.5189	0600.6	038.6		125.2	001.3583	-0155.9	032.6	42.47
268.0	000.5078	0621.9	039.1		124.8	001.3337	-0151.5	031.8	42.71
269.0	000.4969	0630.4	039.2		123.9	001.2788	-0146.2	031.3	42.73
270.0	000.4860	0641.2	039.4		123.0	001.2268	-0137.4	030.8	42.77
271.0	000.4699	0637.3	038.9		121.5	001.1411	-0130.3	030.8	42.46
272.0	000.4541	0632.4	038.5		120.0	001.0581	-0121.2	030.8	42.10
273.0	000.4386	0636.3	038.3		118.7	001.0042	-0104.7	030.7	41.94
274.0	000.4234	0633.4	037.9		117.2	000.9444	-0084.2	030.8	41.63
275.0	000.4084	0621.1	037.2		115.6	000.8796	-0062.4	031.2	41.14
276.0	000.3937	0616.4	036.7		114.2	000.8254	-0039.8	031.4	40.77
277.0	000.3792	0615.8	036.4		112.9	000.7767	-0022.9	031.6	40.44
278.0	000.3650	0614.3	036.0		111.6	000.7300	-0019.0	031.8	40.09
279.0	000.3511	0612.0	035.6		110.4	000.6857	-0037.8	032.0	39.71
280.0	000.3375	0608.4	035.1		109.2	000.6604	-0034.8	032.4	39.42
281.0	000.3286	0617.6	035.2		108.1	000.6455	-0044.2	032.2	39.38
282.0	000.3206	0620.1	035.0		107.0	000.6303	-0047.5	032.3	39.25
283.0	000.3119	0629.3	035.1		105.9	000.6156	-0049.2	032.2	39.18
284.0	000.3042	0638.3	035.1		104.8	000.6010	-0038.8	032.1	39.10
285.0	000.2957	0621.2	034.3		103.8	000.5867	-0029.2	032.9	38.70
286.0	000.2881	0630.1	034.4		102.7	000.5729	-0028.3	032.9	38.61
287.0	000.2799	0628.4	034.1		101.7	000.5600	-0038.2	033.2	38.38
288.0	000.2726	0627.9	033.8		100.7	000.5475	-0022.4	033.5	38.17
289.0	000.2645	0632.8	033.7		099.8	000.5332	-0006.1	033.7	37.98
290.0	000.2574	0640.4	033.7		098.8	000.5122	0013.8	033.8	37.76
291.0	000.2590	0654.5	034.2		097.6	000.4881	0028.0	033.5	37.68
292.0	000.2606	0655.5	034.3		096.6	000.4671	0027.0	033.5	37.47
293.0	000.2622	0651.9	034.2		095.7	000.4480	0036.1	033.8	38.54
294.0	000.2637	0654.0	034.3		094.6	000.4279	0045.4	033.8	40.16
295.0	000.2653	0657.7	034.5		093.6	000.4079	0054.4	033.9	41.45
296.0	000.2669	0653.1	034.4		092.7	000.3913	0056.2	034.2	41.41
297.0	000.2685	0651.0	034.4		091.8	000.3746	0070.7	034.4	42.93
298.0	000.2701	0642.3	034.2		091.0	000.3613	0072.3	034.9	42.76
299.0	000.2718	0625.3	033.7		090.5	000.3522	0073.3	035.6	42.48
300.0	000.2734	0613.1	033.4		090.0	000.3437	0080.7	036.1	42.93
301.0	000.2873	0603.6	033.6		089.0	000.3570	0091.4	036.3	44.11
302.0	000.3016	0616.0	034.4		087.6	000.3790	0098.3	035.9	45.17
303.0	000.3162	0612.1	034.7		086.5	000.3952	0098.0	036.1	45.28
304.0	000.3312	0612.3	035.1		085.3	000.4134	0091.0	036.1	44.80
305.0	000.3466	0616.5	035.6		084.1	000.4340	0089.3	036.1	44.85
306.0	000.3622	0624.9	036.2		082.6	000.4576	0092.4	036.0	45.41
307.0	000.3783	0641.1	037.1		080.9	000.4867	0075.3	035.8	43.99
308.0	000.3946	0654.2	037.9		079.3	000.5010	0072.1	035.8	43.79
309.0	000.4114	0657.8	038.4		078.0	000.4982	0079.1	036.0	44.45
310.0	000.4284	0658.6	038.8		076.8	000.4957	0095.2	036.2	45.92
311.0	000.4448	0659.8	039.2		075.7	000.4933	0088.9	036.6	45.15
312.0	000.4604	0654.5	039.3		074.9	000.4916	0088.7	037.1	44.91
313.0	000.4763	0656.4	039.7		073.9	000.4893	0102.4	037.4	45.97
314.0	000.4936	0662.7	040.2		072.7	000.4867	0118.5	037.8	46.99
315.0	000.5112	0664.4	040.6		071.7	000.4845	0127.4	038.2	47.31
316.0	000.5279	0675.1	041.2		070.3	000.4817	0127.9	038.6	47.15
317.0	000.5461	0687.7	041.9		068.9	000.4864	0125.8	039.0	46.90
318.0	000.5634	0697.2	042.5		067.7	000.4926	0119.7	039.4	46.38
319.0	000.5810	0703.6	043.0		066.7	000.4980	0115.5	040.0	45.91
320.0	000.6000	0717.2	043.8		065.4	000.5049	0116.6	040.5	45.82
321.0	000.6000	0734.5	044.3		064.4	000.5102	0120.4	041.1	45.84
322.0	000.6000	0746.5	044.7		063.6	000.5142	0120.2	041.8	45.58
323.0	000.6000	0751.2	044.8		063.2	000.5163	0122.9	042.5	45.44
324.0	000.6000	0747.3	044.7		063.2	000.5164	0122.9	043.3	45.10
325.0	000.6000	0736.5	044.4		063.5	000.5150	0121.5	044.1	44.67
326.0	000.6000	0725.5	044.0		063.8	000.5135	0120.4	044.9	44.25
327.0	000.6000	0720.7	043.9		063.8	000.5131	0120.6	045.7	43.95
328.0	000.6000	0722.8	044.0		063.6	000.5142	0120.2	046.5	43.63

329.0	000.6000	0720.6	043.9		063.6	000.5142	0120.3	047.2	43.33
330.0	000.6000	0722.9	044.0		063.5	000.5150	0121.6	048.0	43.11
331.0	000.6000	0721.6	043.9		063.5	000.5151	0121.7	048.8	42.82
332.0	000.6000	0707.6	043.5		063.9	000.5125	0120.9	049.5	42.45
333.0	000.6000	0697.4	043.1		064.3	000.5107	0120.9	050.3	42.14
334.0	000.6000	0686.8	042.8		064.7	000.5088	0118.7	051.1	41.70
335.0	000.6000	0692.9	043.0		064.4	000.5100	0120.0	051.8	41.49
336.0	000.6000	0683.1	042.7		064.8	000.5081	0118.6	052.6	41.11
337.0	000.6000	0682.1	042.6		064.8	000.5078	0118.4	053.3	40.80
338.0	000.6000	0675.9	042.4		065.1	000.5065	0117.2	054.0	40.44
339.0	000.6000	0663.3	042.0		065.6	000.5040	0116.0	054.7	40.07
340.0	000.6000	0662.4	042.0		065.6	000.5036	0115.7	055.5	39.76
341.0	000.5976	0643.8	041.3		066.4	000.4998	0115.7	056.2	39.47
342.0	000.5964	0643.6	041.3		066.4	000.4993	0115.9	056.9	39.21
343.0	000.5952	0642.9	041.3		066.6	000.4988	0115.9	057.6	38.93
344.0	000.5928	0641.4	041.2		066.7	000.4979	0115.5	058.3	38.64
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09-24-2021 Terrain Data: FCC 30 meter FMOVer Analysis

WTSE BPED20180907ACC

WFQSm21

Channel = 216C3
 Max ERP = 9.5 kW
 RCAMSL = 594 m
 N. Lat. 35 19 25.20
 W. Lng. 84 17 53.70
 Protected
 60 dBu

Channel = 217C2
 Max ERP = 0.6 kW
 RCAMSL = 1681 m
 N. Lat. 35 10 24.30
 W. Lng. 83 34 51.50
 Interfering
 54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
044.0	000.3679	0177.4	019.3	300.8	000.2846	0603.9	060.0	51.15	
045.0	000.3762	0161.3	018.5	300.0	000.2734	0613.4	059.9	51.14	
046.0	000.3846	0150.3	017.9	299.4	000.2723	0621.1	059.8	51.27	
047.0	000.3930	0144.3	017.6	299.0	000.2717	0625.4	059.6	51.39	
048.0	000.4016	0146.5	017.9	299.1	000.2720	0624.4	059.2	51.51	
049.0	000.4102	0152.7	018.4	299.5	000.2725	0618.9	058.7	51.61	
050.0	000.4189	0158.8	018.9	299.8	000.2731	0616.0	058.2	51.75	
051.0	000.4298	0163.2	019.3	300.1	000.2743	0612.3	057.8	51.88	
052.0	000.4408	0166.0	019.5	300.2	000.2762	0610.7	057.4	52.04	
053.0	000.4519	0165.6	019.6	300.2	000.2756	0611.4	057.0	52.16	
054.0	000.4632	0166.4	019.8	300.2	000.2758	0611.2	056.6	52.30	
055.0	000.4745	0170.0	020.1	300.3	000.2779	0609.2	056.2	52.47	
056.0	000.4861	0167.9	020.1	300.2	000.2758	0611.2	055.9	52.58	
057.0	000.4978	0161.6	019.9	299.8	000.2730	0616.7	055.7	52.68	
058.0	000.5096	0158.0	019.8	299.5	000.2726	0618.7	055.4	52.79	
059.0	000.5215	0150.3	019.4	299.0	000.2717	0625.4	055.3	52.90	
060.0	000.5336	0144.0	019.1	298.5	000.2710	0629.8	055.2	52.99	
061.0	000.5282	0134.3	018.3	297.7	000.2697	0646.6	055.3	53.15	
062.0	000.5229	0127.3	017.8	297.0	000.2686	0650.7	055.4	53.17	
063.0	000.5175	0122.7	017.4	296.5	000.2678	0650.4	055.3	53.16	
064.0	000.5122	0121.1	017.2	296.2	000.2673	0651.7	055.2	53.22	
065.0	000.5069	0117.5	016.9	295.8	000.2665	0656.1	055.2	53.28	
066.0	000.5017	0114.9	016.7	295.4	000.2659	0656.9	055.1	53.30	
067.0	000.4965	0116.6	016.7	295.2	000.2657	0657.2	054.8	53.40	
068.0	000.4913	0120.7	017.0	295.2	000.2657	0657.3	054.4	53.54	
069.0	000.4861	0125.5	017.3	295.2	000.2657	0657.2	054.0	53.70	
070.0	000.4809	0126.8	017.3	295.0	000.2654	0658.1	053.8	53.79	
071.0	000.4831	0130.8	017.6	295.0	000.2654	0658.0	053.3	53.95	
072.0	000.4852	0125.7	017.3	294.5	000.2646	0654.5	053.4	53.88	
073.0	000.4874	0115.5	016.6	293.8	000.2634	0656.5	053.8	53.75	
074.0	000.4895	0101.1	015.4	292.7	000.2617	0650.3	054.5	53.36	
075.0	000.4917	0088.3	014.3	291.8	000.2603	0656.5	055.2	53.17	
076.0	000.4938	0092.1	014.6	291.8	000.2603	0656.6	054.8	53.32	
077.0	000.4960	0094.0	014.8	291.7	000.2601	0656.7	054.5	53.43	
078.0	000.4982	0079.1	013.6	290.8	000.2587	0651.2	055.4	53.00	
079.0	000.5004	0070.6	012.9	290.2	000.2578	0642.2	055.8	52.71	
080.0	000.5026	0076.7	013.4	290.3	000.2579	0643.2	055.3	52.92	
081.0	000.4852	0074.8	013.1	289.9	000.2578	0640.2	055.4	52.84	
082.0	000.4682	0083.1	013.7	290.0	000.2574	0640.4	054.8	53.05	
083.0	000.4515	0093.3	014.4	290.1	000.2576	0641.1	054.1	53.33	
084.0	000.4351	0089.8	014.0	289.7	000.2597	0638.8	054.3	53.24	
085.0	000.4190	0091.2	014.0	289.4	000.2614	0636.0	054.3	53.26	
086.0	000.4031	0096.7	014.2	289.3	000.2622	0635.0	053.9	53.39	
087.0	000.3876	0098.0	014.2	289.1	000.2641	0632.9	053.8	53.42	

088.0	000.3724	0096.6	013.9		288.7	000.2668	0631.6	054.0	53.39
089.0	000.3575	0091.9	013.5		288.3	000.2700	0626.7	054.4	53.24
090.0	000.3429	0079.9	012.5		287.8	000.2743	0625.3	055.2	52.97
091.0	000.3605	0072.0	012.0		287.4	000.2768	0625.5	055.6	52.88
092.0	000.3785	0066.8	011.8		287.1	000.2788	0627.9	055.8	52.88
093.0	000.3969	0057.0	011.1		286.8	000.2817	0628.0	056.4	52.71
094.0	000.4158	0055.6	011.1		286.6	000.2833	0628.6	056.3	52.76
095.0	000.4351	0039.9	009.5		286.1	000.2874	0630.2	057.9	52.27
096.0	000.4548	0033.0	008.7		285.8	000.2897	0628.6	058.7	52.02
097.0	000.4750	0025.7	008.4		285.6	000.2911	0628.6	058.9	51.95
098.0	000.4956	0025.8	008.5		285.5	000.2920	0627.3	058.8	51.99
099.0	000.5166	0008.6	008.6		285.3	000.2930	0625.2	058.7	52.01
100.0	000.5381	-0008.3	008.7		285.2	000.2941	0623.4	058.6	52.05
101.0	000.5509	-0031.2	008.7		285.1	000.2952	0621.9	058.5	52.06
102.0	000.5637	-0035.4	008.8		284.9	000.2964	0620.7	058.5	52.09
103.0	000.5768	-0026.9	008.8		284.8	000.2976	0620.5	058.4	52.12
104.0	000.5900	-0030.6	008.9		284.6	000.2989	0621.5	058.3	52.17
105.0	000.6033	-0040.9	008.9		284.5	000.3002	0624.0	058.3	52.24
106.0	000.6168	-0049.6	009.0		284.3	000.3015	0629.6	058.3	52.35
107.0	000.6304	-0047.4	009.0		284.2	000.3028	0635.2	058.2	52.46
108.0	000.6442	-0044.9	009.1		284.0	000.3042	0638.3	058.2	52.54
109.0	000.6581	-0034.5	009.1		283.8	000.3054	0638.5	058.1	52.57
110.0	000.6722	-0039.8	009.2		283.7	000.3067	0638.3	058.1	52.60
111.0	000.7070	-0031.1	009.3		283.5	000.3080	0636.3	058.0	52.63
112.0	000.7427	-0019.4	009.4		283.3	000.3094	0632.8	057.9	52.63
113.0	000.7792	-0024.0	009.5		283.1	000.3108	0630.5	057.8	52.65
114.0	000.8167	-0036.4	009.7		283.0	000.3123	0629.1	057.7	52.68
115.0	000.8550	-0054.7	009.8		282.8	000.3139	0628.3	057.7	52.72
116.0	000.8942	-0065.9	009.9		282.6	000.3156	0626.4	057.6	52.74
117.0	000.9343	-0078.9	010.0		282.4	000.3172	0623.8	057.5	52.75
118.0	000.9752	-0097.2	010.1		282.2	000.3190	0621.9	057.5	52.77
119.0	001.0171	-0108.4	010.2		282.0	000.3207	0620.0	057.4	52.79
120.0	001.0598	-0121.3	010.3		281.8	000.3223	0618.1	057.4	52.80
121.0	001.1144	-0128.0	010.4		281.6	000.3240	0618.7	057.3	52.85
122.0	001.1704	-0131.0	010.6		281.4	000.3257	0619.1	057.3	52.90
123.0	001.2278	-0137.5	010.7		281.1	000.3274	0618.5	057.2	52.93
124.0	001.2865	-0148.1	010.8		280.9	000.3293	0616.7	057.2	52.95
125.0	001.3466	-0153.4	010.9		280.7	000.3312	0613.4	057.2	52.94
126.0	001.4081	-0162.7	011.0		280.5	000.3333	0608.9	057.1	52.91
127.0	001.4710	-0159.7	011.2		280.2	000.3353	0607.2	057.1	52.92
128.0	001.5352	-0160.3	011.3		280.0	000.3373	0608.4	057.1	52.97
129.0	001.6008	-0167.6	011.4		279.8	000.3403	0608.5	057.1	53.01
130.0	001.6678	-0168.0	011.5		279.6	000.3434	0609.4	057.1	53.06
131.0	001.7541	-0159.0	011.6		279.3	000.3468	0609.3	057.1	53.11
132.0	001.8425	-0154.5	011.8		279.1	000.3502	0611.5	057.1	53.18
133.0	001.9332	-0152.4	011.9		278.8	000.3536	0612.8	057.1	53.24
134.0	002.0260	-0140.9	012.0		278.6	000.3570	0614.0	057.1	53.29
135.0	002.1209	-0131.8	012.2		278.3	000.3605	0614.1	057.1	53.33
136.0	002.2181	-0119.3	012.3		278.1	000.3640	0614.4	057.1	53.36
137.0	002.3174	-0110.0	012.4		277.8	000.3675	0615.9	057.2	53.41
138.0	002.4189	-0098.2	012.6		277.6	000.3710	0617.4	057.2	53.46
139.0	002.5226	-0086.9	012.7		277.3	000.3745	0616.2	057.3	53.47
140.0	002.6284	-0085.0	012.8		277.1	000.3781	0616.1	057.3	53.48
141.0	002.7640	-0071.9	013.0		276.8	000.3819	0614.3	057.4	53.49
142.0	002.9031	-0061.9	013.1		276.5	000.3858	0614.1	057.4	53.51
143.0	003.0455	-0043.6	013.3		276.3	000.3897	0615.9	057.5	53.55
144.0	003.1914	-0032.9	013.4		276.0	000.3935	0616.4	057.6	53.58
145.0	003.3407	-0020.3	013.6		275.7	000.3974	0618.2	057.7	53.62
146.0	003.4933	-0012.4	013.7		275.5	000.4013	0620.6	057.7	53.66
147.0	003.6494	-0001.8	013.9		275.2	000.4052	0621.6	057.8	53.68
148.0	003.8090	0000.7	014.0		275.0	000.4090	0621.3	057.9	53.68
149.0	003.9719	0013.4	014.2		274.7	000.4129	0625.3	058.1	53.73
150.0	004.1382	0013.9	014.3		274.4	000.4167	0629.2	058.2	53.78

151.0	004.0335	0017.0	014.2		274.4	000.4177	0629.5	058.4	53.70
152.0	003.9302	0011.2	014.1		274.3	000.4185	0629.8	058.7	53.62
153.0	003.8282	0008.7	014.0		274.3	000.4192	0630.1	059.0	53.54
154.0	003.7276	0008.6	013.9		274.2	000.4198	0630.5	059.2	53.46
155.0	003.6283	0012.7	013.8		274.2	000.4204	0630.9	059.5	53.39
156.0	003.5303	0013.3	013.8		274.2	000.4209	0631.3	059.7	53.31
157.0	003.4337	0015.5	013.7		274.1	000.4213	0631.7	060.0	53.23
158.0	003.3384	0013.0	013.6		274.1	000.4216	0632.0	060.2	53.14
159.0	003.2445	0010.9	013.5		274.1	000.4218	0632.1	060.5	53.06
160.0	003.1519	0020.0	013.4		274.1	000.4220	0632.3	060.7	52.98
161.0	003.1793	0029.6	013.4		274.0	000.4236	0633.5	060.9	52.94
162.0	003.2068	0038.6	015.1		272.4	000.4479	0635.8	060.6	53.35
163.0	003.2345	0043.4	016.2		271.4	000.4641	0633.8	060.5	53.50
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Table 3: FMOVER Protection of WLFA, Asheville, North Carolina

09-24-2021 Terrain Data: FCC 30 meter FMOVER Analysis

WFQSm21

WLFA BLED1386

Channel = 217C2
 Max ERP = 0.6 kW
 RCAMSL = 1681 m
 N. Lat. 35 10 24.30
 W. Lng. 83 34 51.50
 Protected
 60 dBu

Channel = 217A
 Max ERP = 0.44 kW
 RCAMSL = 1019 m
 N. Lat. 35 36 02.30
 W. Lng. 82 39 06.40
 Interfering
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
000.0	000.3697	0559.4	034.3	261.3	000.4400	0123.2	085.1	30.15	
001.0	000.3548	0570.1	034.3	261.3	000.4400	0123.4	084.5	30.33	
002.0	000.3402	0562.2	033.7	260.8	000.4400	0128.6	084.0	30.70	
003.0	000.3259	0534.2	032.3	259.8	000.4400	0138.6	083.8	31.22	
004.0	000.3119	0516.0	031.2	259.0	000.4400	0148.5	083.5	31.73	
005.0	000.2982	0497.4	030.2	258.2	000.4400	0152.0	083.3	31.95	
006.0	000.2848	0479.9	029.2	257.4	000.4400	0149.6	083.1	31.90	
007.0	000.2718	0452.6	028.0	256.5	000.4400	0136.2	083.1	31.32	
008.0	000.2590	0479.6	028.5	256.8	000.4400	0141.8	082.4	31.77	
009.0	000.2465	0498.2	028.8	256.8	000.4400	0143.2	081.8	32.01	
010.0	000.2344	0502.9	028.6	256.5	000.4400	0136.6	081.4	31.82	
011.0	000.2255	0509.5	028.6	256.4	000.4400	0134.6	081.0	31.86	
012.0	000.2160	0515.0	028.5	256.1	000.4400	0131.9	080.6	31.86	
013.0	000.2067	0522.7	028.4	256.0	000.4400	0130.6	080.2	31.92	
014.0	000.1984	0535.0	028.5	255.9	000.4400	0130.5	079.7	32.06	
015.0	000.1895	0543.6	028.5	255.7	000.4400	0130.4	079.3	32.18	
016.0	000.1815	0562.8	028.8	255.6	000.4400	0130.3	078.7	32.34	
017.0	000.1737	0582.9	029.0	255.6	000.4400	0130.4	078.2	32.51	
018.0	000.1654	0598.1	029.0	255.4	000.4400	0131.2	077.7	32.68	
019.0	000.1573	0615.3	029.1	255.2	000.4400	0132.1	077.3	32.86	
020.0	000.1500	0629.8	029.1	255.0	000.4400	0132.3	076.9	32.99	
021.0	000.1441	0642.8	029.1	254.8	000.4400	0132.1	076.4	33.11	
022.0	000.1382	0657.7	029.2	254.6	000.4400	0130.4	076.0	33.16	
023.0	000.1325	0660.7	028.9	254.2	000.4400	0128.8	075.7	33.16	
024.0	000.1270	0665.9	028.7	253.9	000.4400	0128.7	075.5	33.23	
025.0	000.1215	0663.9	028.4	253.4	000.4400	0126.4	075.3	33.16	
026.0	000.1162	0673.8	028.3	253.1	000.4400	0125.3	075.0	33.20	
027.0	000.1109	0698.2	028.5	253.0	000.4400	0125.3	074.5	33.35	
028.0	000.1058	0714.0	028.5	252.7	000.4400	0125.3	074.2	33.46	
029.0	000.1009	0743.4	028.8	252.6	000.4400	0125.3	073.6	33.62	
030.0	000.0960	0774.8	029.0	252.4	000.4400	0125.5	073.1	33.79	
031.0	000.0922	0785.0	028.9	252.1	000.4400	0129.3	072.8	34.06	
032.0	000.0885	0783.4	028.6	251.6	000.4400	0132.3	072.8	34.24	
033.0	000.0848	0773.4	028.1	251.1	000.4400	0131.5	072.9	34.17	
034.0	000.0813	0758.8	027.6	250.5	000.4400	0131.7	073.0	34.13	
035.0	000.0778	0746.3	027.0	249.9	000.4400	0130.5	073.2	34.03	
036.0	000.0743	0754.6	026.9	249.6	000.4400	0129.5	073.0	34.02	
037.0	000.0710	0770.2	026.9	249.2	000.4400	0129.4	072.8	34.08	
038.0	000.0677	0778.6	026.7	248.9	000.4400	0126.7	072.7	33.97	
039.0	000.0646	0802.6	026.8	248.6	000.4400	0125.0	072.4	33.98	
040.0	000.0614	0825.0	026.8	248.3	000.4400	0121.6	072.2	33.88	

041.0	000.0588	0829.4	026.6		247.8	000.4400	0121.0	072.2	33.85
042.0	000.0565	0848.7	026.6		247.5	000.4400	0123.9	071.9	34.07
043.0	000.0544	0862.2	026.5		247.2	000.4400	0127.0	071.8	34.27
044.0	000.0519	0877.4	026.4		246.8	000.4400	0127.8	071.7	34.33
045.0	000.0494	0894.5	026.3		246.4	000.4400	0126.1	071.6	34.27
046.0	000.0474	0907.4	026.2		246.0	000.4400	0136.8	071.6	34.83
047.0	000.0450	0919.9	026.0		245.6	000.4400	0152.0	071.6	35.58
048.0	000.0431	0920.9	025.7		245.2	000.4400	0164.4	071.8	36.13
049.0	000.0412	0925.9	025.5		244.8	000.4400	0175.9	071.9	36.62
050.0	000.0390	0927.4	025.1		244.4	000.4400	0183.5	072.1	36.87
051.0	000.0375	0931.7	024.9		244.0	000.4400	0188.8	072.2	37.05
052.0	000.0360	0944.2	024.8		243.7	000.4400	0196.1	072.3	37.34
053.0	000.0346	0946.1	024.5		243.3	000.4400	0204.5	072.5	37.62
054.0	000.0331	0933.8	024.1		242.9	000.4400	0212.0	072.8	37.80
055.0	000.0317	0933.8	023.8		242.6	000.4400	0219.4	073.0	38.01
056.0	000.0304	0925.4	023.4		242.2	000.4400	0224.9	073.4	38.10
057.0	000.0290	0906.4	022.9		241.9	000.4400	0229.6	073.8	38.13
058.0	000.0277	0893.3	022.5		241.5	000.4400	0232.7	074.2	38.10
059.0	000.0265	0889.5	022.2		241.2	000.4400	0235.8	074.5	38.11
060.0	000.0252	0875.2	021.7		240.9	000.4400	0241.1	075.0	38.15
061.0	000.0255	0859.6	021.6		240.6	000.4400	0243.8	075.1	38.20
062.0	000.0257	0859.0	021.7		240.4	000.4400	0247.4	075.0	38.34
063.0	000.0260	0859.4	021.7		240.1	000.4400	0250.3	075.0	38.45
064.0	000.0262	0864.6	021.9		239.8	000.4400	0254.4	074.9	38.61
065.0	000.0265	0852.7	021.8		239.5	000.4400	0256.3	075.0	38.64
066.0	000.0267	0853.5	021.9		239.2	000.4400	0254.6	075.0	38.59
067.0	000.0270	0851.4	021.9		238.9	000.4400	0252.7	075.0	38.52
068.0	000.0272	0851.6	022.0		238.6	000.4400	0252.2	075.0	38.50
069.0	000.0275	0850.9	022.0		238.3	000.4400	0251.8	075.0	38.48
070.0	000.0277	0841.6	022.0		238.0	000.4400	0250.9	075.1	38.41
071.0	000.0293	0828.8	022.2		237.7	000.4400	0251.5	075.0	38.47
072.0	000.0306	0808.3	022.2		237.4	000.4400	0249.9	075.1	38.39
073.0	000.0320	0788.7	022.2		237.1	000.4400	0247.4	075.2	38.28
074.0	000.0337	0766.3	022.2		236.8	000.4400	0248.4	075.3	38.28
075.0	000.0354	0752.7	022.3		236.5	000.4400	0249.8	075.3	38.33
076.0	000.0369	0745.4	022.5		236.2	000.4400	0252.8	075.3	38.42
077.0	000.0387	0749.1	022.8		235.8	000.4400	0253.2	075.1	38.49
078.0	000.0402	0757.8	023.2		235.5	000.4400	0254.4	075.0	38.59
079.0	000.0421	0750.3	023.3		235.1	000.4400	0251.0	075.0	38.47
080.0	000.0437	0748.3	023.5		234.8	000.4400	0249.0	075.0	38.40
081.0	000.0460	0740.7	023.7		234.4	000.4400	0250.4	075.0	38.45
082.0	000.0481	0757.9	024.2		234.0	000.4400	0252.5	074.7	38.60
083.0	000.0501	0779.7	024.8		233.5	000.4400	0254.2	074.4	38.75
084.0	000.0526	0801.3	025.4		232.9	000.4400	0247.3	074.1	38.63
085.0	000.0551	0825.9	026.1		232.4	000.4400	0240.2	073.8	38.50
086.0	000.0573	0843.7	026.6		231.8	000.4400	0235.5	073.6	38.40
087.0	000.0599	0843.9	026.9		231.4	000.4400	0230.5	073.6	38.21
088.0	000.0622	0856.7	027.4		230.9	000.4400	0226.2	073.6	38.09
089.0	000.0649	0870.8	027.9		230.3	000.4400	0226.2	073.4	38.12
090.0	000.0673	0876.4	028.3		229.9	000.4400	0231.5	073.5	38.30
091.0	000.0710	0888.1	028.9		229.3	000.4400	0233.6	073.4	38.41
092.0	000.0743	0905.0	029.5		228.6	000.4400	0232.8	073.3	38.42
093.0	000.0782	0917.6	030.1		228.0	000.4400	0229.3	073.2	38.32
094.0	000.0817	0930.5	030.7		227.4	000.4400	0240.6	073.2	38.73
095.0	000.0853	0943.7	031.3		226.8	000.4400	0252.0	073.2	39.11
096.0	000.0894	0958.1	032.0		226.1	000.4400	0262.0	073.1	39.44
097.0	000.0931	0966.4	032.5		225.5	000.4400	0267.1	073.2	39.57
098.0	000.0974	0972.6	033.1		224.8	000.4400	0270.1	073.4	39.62
099.0	000.1014	0969.1	033.4		224.4	000.4400	0273.4	073.7	39.63
100.0	000.1058	0960.9	033.6		224.0	000.4400	0276.2	074.0	39.60
101.0	000.1109	0963.5	034.1		223.4	000.4400	0279.7	074.2	39.63
102.0	000.1167	0960.4	034.5		222.9	000.4400	0281.0	074.5	39.57
103.0	000.1220	0954.4	034.8		222.5	000.4400	0281.9	074.9	39.47

104.0	000.1281	0942.1	035.0		222.1	000.4400	0283.6	075.3	39.38
105.0	000.1337	0921.7	035.0		221.9	000.4400	0285.5	075.9	39.25
106.0	000.1400	0915.5	035.3		221.5	000.4400	0291.2	076.3	39.29
107.0	000.1458	0903.0	035.5		221.2	000.4400	0294.5	076.8	39.22
108.0	000.1524	0892.6	035.7		220.9	000.4400	0295.5	077.3	39.08
109.0	000.1585	0875.9	035.7		220.7	000.4400	0296.1	077.9	38.91
110.0	000.1654	0855.2	035.6		220.6	000.4400	0296.2	078.5	38.70
111.0	000.1737	0852.8	036.0		220.2	000.4400	0292.8	079.0	38.45
112.0	000.1828	0855.1	036.5		219.7	000.4400	0286.6	079.4	38.11
113.0	000.1922	0868.1	037.3		219.0	000.4400	0281.6	079.8	37.82
114.0	000.2011	0871.0	037.8		218.6	000.4400	0280.7	080.3	37.63
115.0	000.2103	0871.6	038.2		218.2	000.4400	0284.3	080.9	37.56
116.0	000.2203	0873.5	038.7		217.7	000.4400	0289.8	081.4	37.55
117.0	000.2306	0874.5	039.1		217.3	000.4400	0292.3	082.0	37.44
118.0	000.2404	0878.6	039.6		216.9	000.4400	0292.1	082.6	37.24
119.0	000.2504	0876.7	040.0		216.6	000.4400	0291.3	083.2	37.01
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09-24-2021 Terrain Data: FCC 30 meter FMOVer Analysis

WLFA BLED1386

WFQSm21

Channel = 217A
 Max ERP = 0.44 kW
 RCAMSL = 1019 m
 N. Lat. 35 36 02.30
 W. Lng. 82 39 06.40
 Protected
 60 dBu

Channel = 217C2
 Max ERP = 0.6 kW
 RCAMSL = 1681 m
 N. Lat. 35 10 24.30
 W. Lng. 83 34 51.50
 Interfering
 40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
181.0	000.4400	0270.0	024.5	074.4	000.0344	0759.0	087.0	35.53	
182.0	000.4400	0260.8	024.1	074.1	000.0338	0764.7	086.7	35.62	
183.0	000.4400	0249.1	023.6	073.7	000.0332	0774.8	086.5	35.74	
184.0	000.4400	0228.4	022.7	073.0	000.0320	0788.7	086.4	35.78	
185.0	000.4400	0217.4	022.1	072.6	000.0314	0796.2	086.2	35.85	
186.0	000.4400	0209.1	021.7	072.2	000.0310	0803.9	086.0	35.94	
187.0	000.4400	0229.0	022.7	072.7	000.0316	0793.0	085.3	36.13	
188.0	000.4400	0241.9	023.3	073.0	000.0320	0789.1	084.7	36.33	
189.0	000.4400	0255.6	023.9	073.2	000.0324	0784.6	084.1	36.53	
190.0	000.4400	0266.1	024.3	073.4	000.0327	0781.6	083.5	36.70	
191.0	000.4400	0275.2	024.7	073.5	000.0328	0779.7	082.9	36.88	
192.0	000.4400	0283.8	025.1	073.6	000.0330	0777.8	082.4	37.05	
193.0	000.4400	0284.4	025.1	073.4	000.0327	0780.6	082.0	37.18	
194.0	000.4400	0277.9	024.8	073.1	000.0322	0786.6	081.7	37.26	
195.0	000.4400	0268.4	024.4	072.7	000.0316	0792.8	081.6	37.30	
196.0	000.4400	0255.9	023.9	072.2	000.0310	0803.5	081.5	37.36	
197.0	000.4400	0263.8	024.2	072.3	000.0310	0802.8	081.0	37.53	
198.0	000.4400	0265.9	024.3	072.2	000.0309	0805.1	080.6	37.65	
199.0	000.4400	0271.6	024.6	072.1	000.0308	0805.8	080.1	37.81	
200.0	000.4400	0275.6	024.7	072.0	000.0307	0807.7	079.6	37.95	
201.0	000.4400	0287.0	025.2	072.1	000.0308	0806.0	079.0	38.14	
202.0	000.4400	0297.1	025.6	072.1	000.0308	0805.3	078.4	38.32	
203.0	000.4400	0309.9	026.2	072.2	000.0310	0803.7	077.7	38.53	
204.0	000.4400	0316.3	026.4	072.2	000.0309	0805.1	077.2	38.69	
205.0	000.4400	0317.8	026.5	072.0	000.0306	0808.9	076.8	38.81	
206.0	000.4400	0310.5	026.2	071.6	000.0301	0815.7	076.7	38.85	
207.0	000.4400	0305.0	026.0	071.2	000.0296	0824.6	076.5	38.94	
208.0	000.4400	0307.7	026.1	071.0	000.0293	0828.5	076.1	39.06	
209.0	000.4400	0314.0	026.3	070.9	000.0291	0830.7	075.6	39.21	
210.0	000.4400	0321.2	026.6	070.8	000.0290	0832.4	075.1	39.36	
211.0	000.4400	0321.9	026.7	070.5	000.0286	0835.5	074.8	39.44	
212.0	000.4400	0327.1	026.9	070.4	000.0283	0837.0	074.3	39.55	
213.0	000.4400	0326.5	026.8	070.1	000.0278	0840.8	074.0	39.60	
214.0	000.4400	0316.9	026.5	069.6	000.0276	0847.3	074.1	39.63	
215.0	000.4400	0299.9	025.8	069.0	000.0275	0850.9	074.4	39.55	
216.0	000.4400	0287.9	025.3	068.5	000.0273	0849.7	074.5	39.47	
217.0	000.4400	0292.3	025.4	068.3	000.0273	0851.0	074.1	39.59	
218.0	000.4400	0286.5	025.2	067.9	000.0272	0851.9	074.1	39.59	
219.0	000.4400	0281.7	025.0	067.5	000.0271	0851.3	074.1	39.59	
220.0	000.4400	0290.0	025.3	067.4	000.0271	0851.4	073.6	39.74	
221.0	000.4400	0295.1	025.6	067.1	000.0270	0851.4	073.2	39.85	
222.0	000.4400	0284.6	025.1	066.7	000.0269	0852.0	073.4	39.77	
223.0	000.4400	0280.5	024.9	066.3	000.0268	0852.3	073.3	39.77	
224.0	000.4400	0276.1	024.8	065.9	000.0267	0853.5	073.3	39.77	

225.0	000.4400	0268.3	024.4		065.5	000.0266	0852.9	073.5	39.70
226.0	000.4400	0263.0	024.2		065.1	000.0265	0852.2	073.6	39.66
227.0	000.4400	0247.8	023.6		064.7	000.0264	0857.5	074.0	39.55
228.0	000.4400	0229.3	022.7		064.2	000.0263	0864.1	074.7	39.38
229.0	000.4400	0234.9	023.0		063.9	000.0262	0864.6	074.4	39.49
230.0	000.4400	0229.8	022.7		063.6	000.0261	0863.6	074.5	39.43
231.0	000.4400	0227.4	022.6		063.3	000.0260	0862.5	074.5	39.39
232.0	000.4400	0236.8	023.1		063.1	000.0260	0860.2	074.0	39.52
233.0	000.4400	0248.2	023.6		062.8	000.0259	0857.3	073.4	39.66
234.0	000.4400	0252.5	023.8		062.5	000.0258	0855.8	073.2	39.71
235.0	000.4400	0249.6	023.6		062.2	000.0258	0857.7	073.2	39.69
236.0	000.4400	0253.8	023.8		061.9	000.0257	0859.9	073.0	39.77
237.0	000.4400	0247.2	023.5		061.5	000.0256	0860.3	073.2	39.69
238.0	000.4400	0250.9	023.7		061.2	000.0255	0859.7	073.0	39.73
239.0	000.4400	0253.0	023.8		060.9	000.0254	0860.5	072.9	39.76
240.0	000.4400	0251.4	023.7		060.6	000.0254	0865.9	073.0	39.78
241.0	000.4400	0240.3	023.2		060.3	000.0253	0871.9	073.5	39.68
242.0	000.4400	0228.1	022.6		060.0	000.0253	0875.8	074.1	39.54
243.0	000.4400	0210.7	021.8		059.7	000.0256	0879.6	074.9	39.37
244.0	000.4400	0189.5	020.8		059.4	000.0259	0883.4	076.0	39.14
245.0	000.4400	0171.0	019.8		059.2	000.0262	0886.5	076.9	38.91
246.0	000.4400	0138.2	017.7		059.2	000.0263	0887.7	079.0	38.29
247.0	000.4400	0127.7	017.0		059.0	000.0265	0889.5	079.8	38.10
248.0	000.4400	0120.9	016.5		058.8	000.0267	0890.9	080.4	37.98
249.0	000.4400	0127.7	017.0		058.6	000.0270	0893.2	079.9	38.19
250.0	000.4400	0130.7	017.2		058.3	000.0273	0893.7	079.8	38.29
251.0	000.4400	0131.2	017.2		058.1	000.0276	0893.1	079.8	38.32
252.0	000.4400	0130.0	017.1		057.9	000.0278	0893.6	079.9	38.32
253.0	000.4400	0125.3	016.8		057.8	000.0280	0894.9	080.3	38.24
254.0	000.4400	0129.2	017.1		057.5	000.0283	0897.6	080.1	38.38
255.0	000.4400	0132.3	017.3		057.3	000.0287	0901.3	080.0	38.50
256.0	000.4400	0130.7	017.2		057.1	000.0289	0904.7	080.2	38.50
257.0	000.4400	0146.3	018.3		056.6	000.0295	0913.5	079.3	38.96
258.0	000.4400	0151.3	018.6		056.3	000.0299	0920.6	079.1	39.14
259.0	000.4400	0148.2	018.4		056.2	000.0302	0922.8	079.4	39.09
260.0	000.4400	0135.5	017.5		056.2	000.0301	0922.4	080.3	38.80
261.0	000.4400	0125.6	016.8		056.2	000.0301	0922.2	081.1	38.56
262.0	000.4400	0117.0	016.2		056.2	000.0301	0922.2	081.8	38.35
263.0	000.4400	0100.5	014.9		056.4	000.0298	0918.2	083.1	37.87
264.0	000.4400	0089.7	014.0		056.6	000.0296	0915.4	084.0	37.55
265.0	000.4400	0076.0	012.9		056.7	000.0294	0910.8	085.1	37.14
266.0	000.4400	0061.6	011.8		057.0	000.0291	0906.8	086.2	36.72
267.0	000.4400	0059.5	011.6		056.9	000.0292	0907.7	086.4	36.67
268.0	000.4400	0054.5	011.1		057.0	000.0291	0907.1	086.9	36.50
269.0	000.4400	0065.4	012.1		056.5	000.0297	0916.3	086.2	36.89
270.0	000.4400	0073.1	012.7		056.2	000.0301	0922.7	085.8	37.13
271.0	000.4400	0079.5	013.2		055.9	000.0306	0927.8	085.5	37.32
272.0	000.4400	0101.7	015.0		055.0	000.0317	0933.8	084.2	37.93
273.0	000.4400	0116.7	016.2		054.4	000.0326	0933.6	083.4	38.29
274.0	000.4400	0114.8	016.0		054.3	000.0327	0933.3	083.7	38.21
275.0	000.4400	0112.7	015.9		054.2	000.0328	0933.1	084.0	38.13
276.0	000.4400	0108.2	015.5		054.2	000.0328	0933.3	084.5	37.99
277.0	000.4400	0111.0	015.7		054.0	000.0331	0933.8	084.5	38.04
278.0	000.4400	0114.3	016.0		053.8	000.0335	0936.8	084.5	38.11
279.0	000.4400	0113.2	015.9		053.7	000.0336	0937.9	084.8	38.06
280.0	000.4400	0129.2	017.1		052.9	000.0346	0946.4	084.1	38.46
281.0	000.4400	0137.6	017.7		052.5	000.0353	0946.8	084.0	38.59
282.0	000.4400	0140.9	017.9		052.2	000.0357	0945.7	084.0	38.61
283.0	000.4400	0141.1	017.9		052.1	000.0359	0944.9	084.3	38.56
284.0	000.4400	0140.8	017.9		052.0	000.0361	0944.0	084.5	38.49
285.0	000.4400	0150.7	018.6		051.5	000.0368	0936.2	084.4	38.56
286.0	000.4400	0154.6	018.8		051.2	000.0372	0933.3	084.5	38.55
287.0	000.4400	0170.7	019.8		050.5	000.0382	0927.4	084.2	38.70

288.0	000.4400	0182.2	020.4		050.1	000.0389	0927.5	084.2	38.79
289.0	000.4400	0196.1	021.1		049.5	000.0400	0927.5	084.1	38.93
290.0	000.4400	0205.8	021.6		049.1	000.0409	0926.6	084.2	38.99
291.0	000.4400	0220.8	022.3		048.6	000.0420	0922.4	084.2	39.07
292.0	000.4400	0230.8	022.8		048.2	000.0428	0920.6	084.3	39.10
293.0	000.4400	0243.6	023.4		047.7	000.0437	0923.8	084.4	39.19
294.0	000.4400	0260.4	024.1		047.1	000.0448	0920.8	084.5	39.25
295.0	000.4400	0270.3	024.5		046.7	000.0457	0916.7	084.7	39.22
296.0	000.4400	0274.1	024.7		046.5	000.0461	0914.2	085.0	39.14
297.0	000.4400	0279.6	024.9		046.3	000.0467	0911.4	085.4	39.07
298.0	000.4400	0283.1	025.1		046.1	000.0472	0909.4	085.7	38.98
299.0	000.4400	0288.9	025.3		045.9	000.0477	0904.1	086.1	38.88
300.0	000.4400	0286.7	025.2		045.8	000.0477	0903.6	086.5	38.74
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Figure 1: Allocation Study
Western North Carolina Public Radio

FMCommander Full Allocation Study - FCC 30 meter

09-24-2021

WFQSm21 CH 217 C2 DA
Lat= 35 10 24.30, Lng= 83 34 51.5
0.6 kW 672.6 m HAAT, 1681 m COR

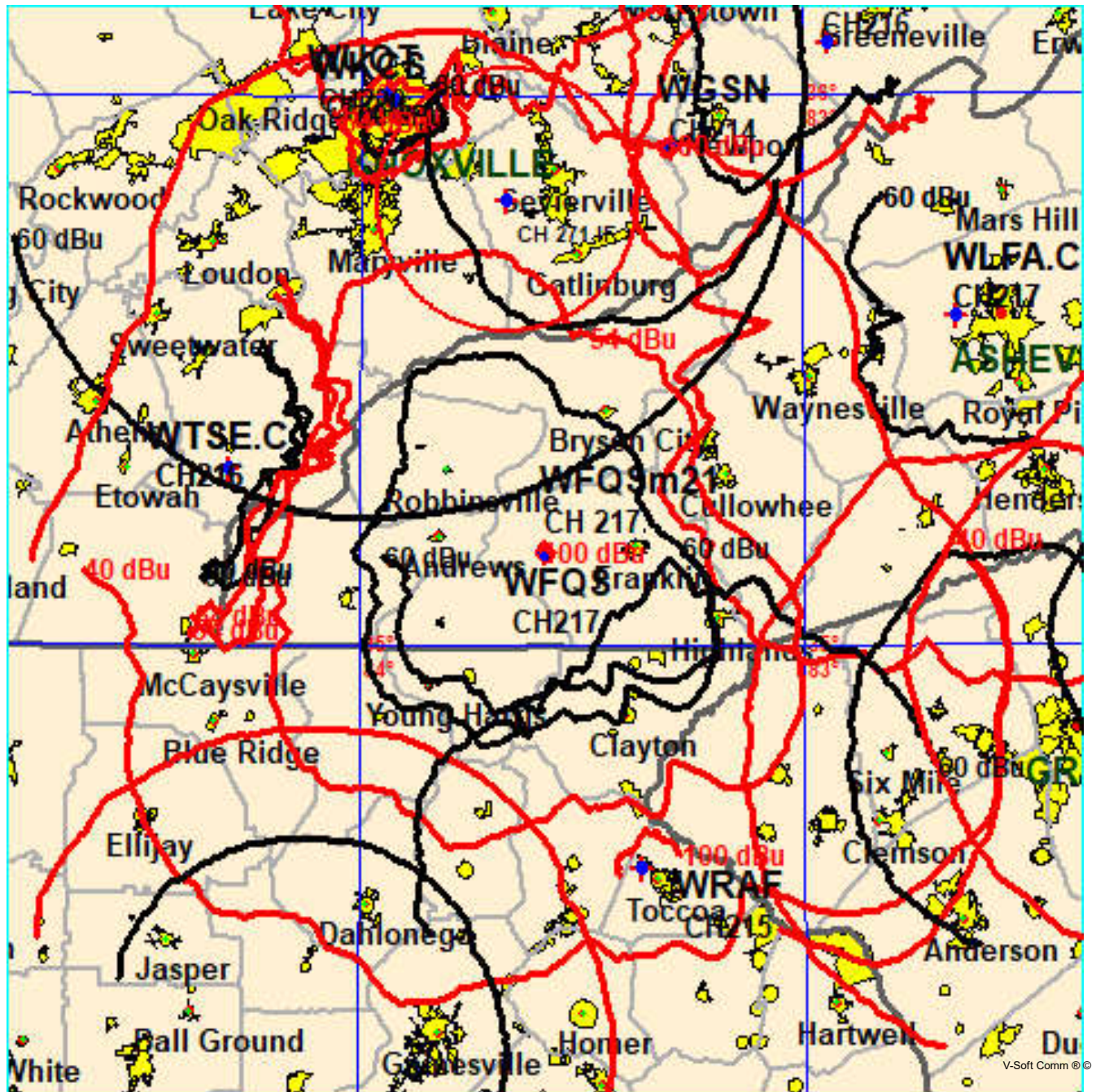


Figure 2: Allocation Study: WTSE.C
Western North Carolina Public Radio

FMCommander Single Allocation Study - 09-24-2021 - FCC 30 meter
WFQSm21's Overlaps (In= 12.4 km, Out= 0.13 km)

WFQSm21 CH 217 C2 DA
Lat= 35 10 24.30, Lng= 83 34 51.50
0.6 kW 672.6 m HAAT, 1681 m COR
Prot.= 60 dBu, Intef.= 54 dBu

WTSE-C CH 216 C3 DA BPED20180907ACC
Lat= 35 19 25.20, Lng= 84 17 53.70
9.5 kW 142 m HAAT, 594 m COR
Prot.= 60 dBu, Intef.= 54 dBu

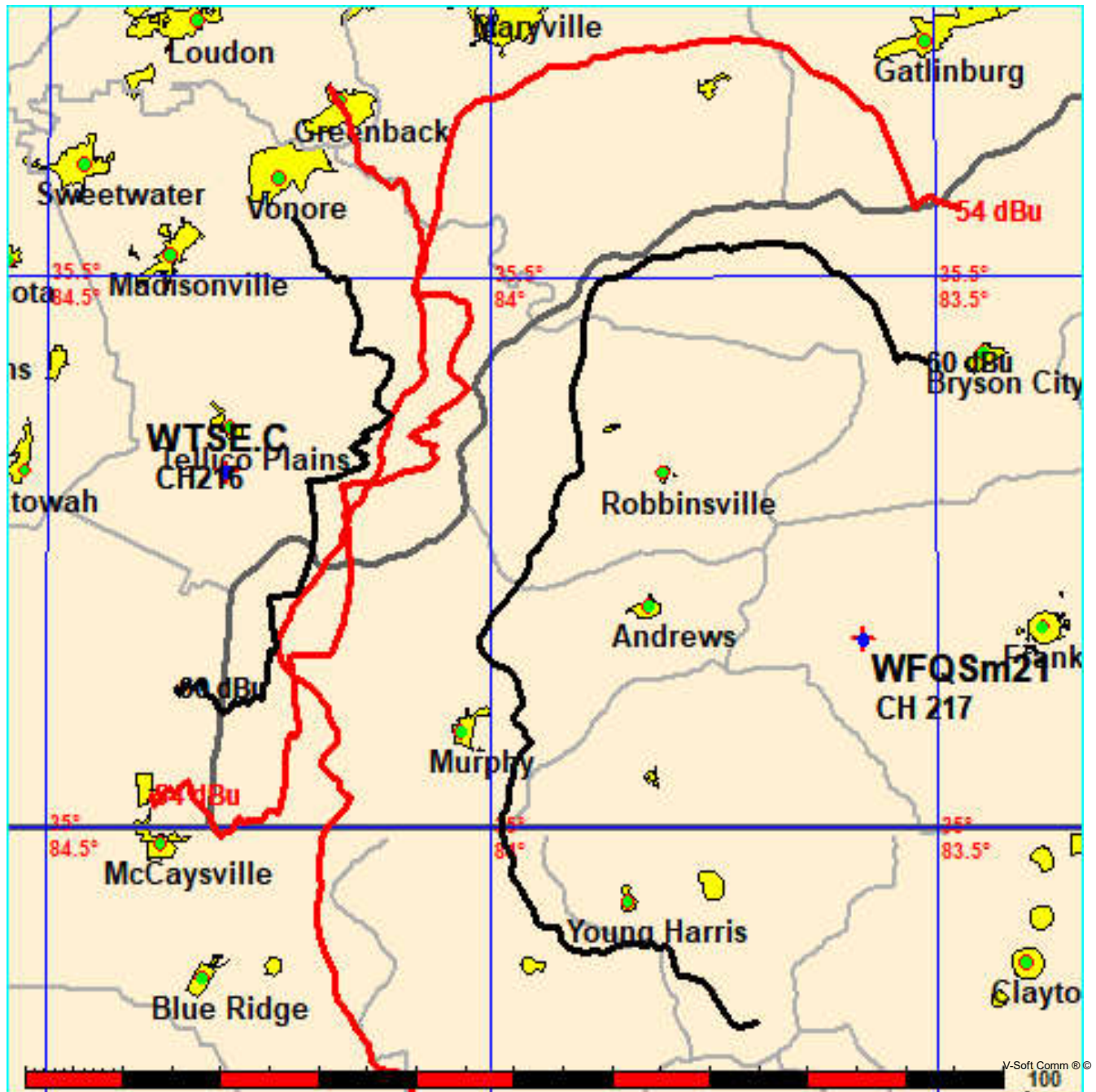


Figure 3: Allocation Study: WLFA
Western North Carolina Public Radio

FMCommander Single Allocation Study - 09-24-2021 - FCC 30 meter
WFQSm21's Overlaps (In= 1.08 km, Out= 0.51 km)

WFQSm21 CH 217 C2 DA

Lat= 35 10 24.30, Lng= 83 34 51.50

0.6 kW 672.6 m HAAT, 1681 m COR

Prot.= 60 dBu, Intef.= 40 dBu

WLFA CH 217 A BLED1386

Lat= 35 36 02.30, Lng= 82 39 06.40

0.44 kW 262 m HAAT, 1019 m COR

Prot.= 60 dBu, Intef.= 40 dBu

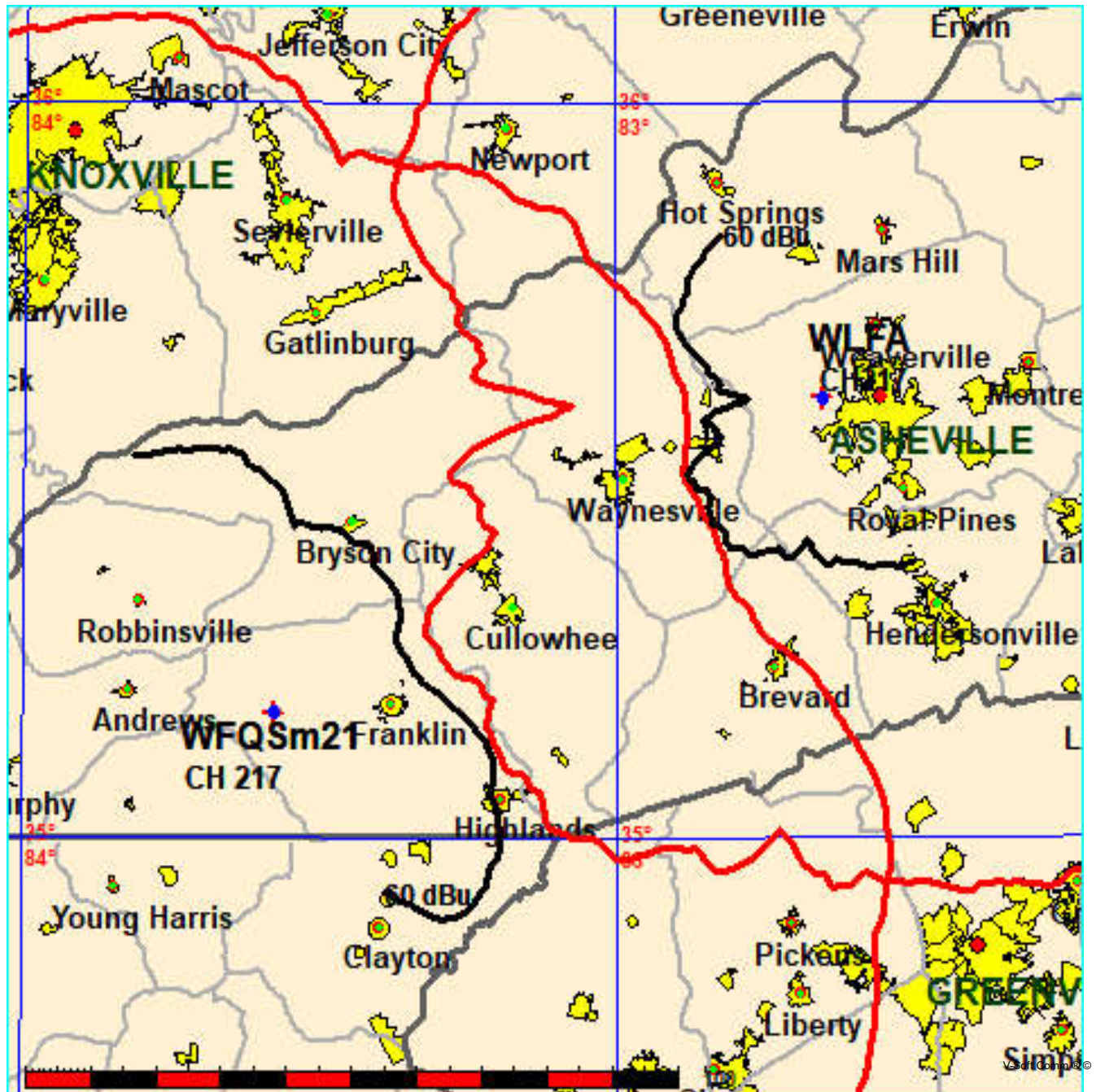


Figure 3A: Allocation Study: WLFA Detail
Western North Carolina Public Radio

FMCommander Single Allocation Study - 09-24-2021 - FCC 30 meter
WFQSm21's Overlaps (In= 1.08 km, Out= 0.51 km)

WFQSm21 CH 217 C2 DA

Lat= 35 10 24.30, Lng= 83 34 51.50

0.6 kW 672.6 m HAAT, 1681 m COR

Prot.= 60 dBu, Intef.= 40 dBu

WLFA CH 217 A BLED1386

Lat= 35 36 02.30, Lng= 82 39 06.40

0.44 kW 262 m HAAT, 1019 m COR

Prot.= 60 dBu, Intef.= 40 dBu

