WFHC-LP

Hendersonville, North Carolina

Amendment to Application for Minor Modification

On Channel 248 Class L1

by

JBN, Inc.

Engineering Exhibit

Change of Frequency

December 2008

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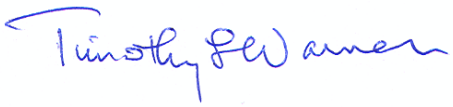
Declaration

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 Engineering Exhibit for JBN, 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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Narrative

This Exhibit provides details of Protection under §73.807 for the proposed change of frequency for WFHC-LP, Hendersonville, North Carolina. The facility is proposed on channel 248. The facilities proposed will experience less interference than the authorized channel 247.

Table 5 provides all channel adjacencies where the margin compared to the spacings in §73.807 are no more than 75 kilometers. Rounding of 0.5 kilometers is shown. Table 6 shows the nearest allocations for the licensed facilities of WFHC-LP. Since WFHC-LP was authorized, listening tests in the WFHC-LP primary coverage area have shown that co-channel station WKBC-FM, North Wilkesboro, North Carolina, has sufficient signal in the Hendersonville area to impair reception of WFHC-LP. Given the irregular mountainous terrain in western North Carolina, signal in some directions well beyond the primary contour of full Class C stations including WKBC-FM is to be expected.

Section 73.870 of the Commission's rules provides that: "Minor changes of LPFM stations may include changes in frequency to adjacent or IF frequencies or, upon a technical showing of reduced interference, to any frequency." This application proposes a change to a frequency that will experience less interference.

The public interest will be served by permitting WFHC-LP to change frequency and improve service to the community.

This application proposes a minor change in coordinates and a change in antenna radiation center above ground.

Translator Height Above Average Terrain and Distance To Contour

The protection distance for protection of translators by Low Power FM stations is determined by the distance to the FM translator 60 dBu contour, as set forth in §73.807(d)(1).

For several of the translators applications studied for this application, the protection status depends on a detailed study of the translator proposal. There are no "close calls" with licensed translators. Additional details are provided for the following translator applications:

Table 1: Translators Requiring Study

Application ID	Channel Relationship	Community	File Number	Applicant
626602	247 first adjacent	Balfour, NC	BNPFT-20030312ARH	Frank G. McCoy
970915TG	248 co-channel	Brevard, NC	BPFT-19970915TG	Radio Training Network, Inc.
626592	248 co-channel	Chimney Rock, NC	BNPFT-20030312AQR (original)	Frank G. McCoy
643543	249 first adjacent	Chimney Rock, NC	BNPFT-20030312AQR (amended, signed 20030311)	Frank G. McCoy

Application 626602, Balfour, North Carolina

The facilities proposed for this facility are 1.6 kilometers from the authorized WFHC-LP facilities and co-channel to the facilities authorized for WFHC-LP and for the co-channel station NEW.C, Hendersonville, North Carolina. The facilities proposed in application 626602 did not protect the LPFM applications that preceded it. The proposed modification to first adjacent channel 248 continues to be incompatible with application 626602.

Application 970915TG, Brevard, North Carolina

This application is short spaced to the Brevard application, as are the granted facilities for WFHC-LP. Because there is no change in status, no new protection is shown.

Application 626592, Chimney Rock, North Carolina

Height above average terrain and distance to contour for the standard 12 translator radials and for the radial where the predicted distance to contour is the greatest for 626592 are shown below. The facilities are incompatible with both the authorized and the proposed facilities for WFHC-LP. No protection is shown. The application has been amended as 643543, studied below. Note that the site proposed is the same, but this application has a center of radiation 1,044 meters (3,425 feet) higher than the amended application. The height above ground greater than 1,000 meters as shown in this application is simply not possible.

Table 2: HAAT and Distance to Contour for Translator 626592

Bearing (degrees)	3 sec HAAT (meters)	60 dBu F(50,50) (km)	30 sec HAAT (meters)	60 dBu F(50,50) (km)
0	1,361	0.2	1,363	0.2
30	1,494	0.7	1,488	0.7
60	1,645	0.8	1,638	0.8
90	1,713	0.8	1,725	0.8
120	1,777	0.5	1,780	0.5
150	1,771	0.2	1,759	0.2
180	1,696	0.4	1,667	0.4
210	1,328	8.5	1,332	8.5
240	1,439	16.8	1,450	16.9
270	1,295	14.2	1,283	14.1
300	1,275	4.6	1,287	4.6
330	1,273	0.2	1,256	0.2
maximum				
250 degrees	1,323	17.1	1,335	17.2

Application 643543, Chimney Rock, North Carolina

Height above average terrain and distance to contour for the standard 12 translator radials and for the radial where the predicted distance to contour is the greatest for 643543 are shown below. As the table shows, the greatest distance to the 60 dBu F(50,50) contour is less

than 13.3 kilometers. Therefore, the translator must be protected as a middle set of separation distances. This application protects 643543 as a first adjacent facility.

Table 3: HAAT and Distance to Contour for Translator 643543

Bearing (degrees)	3 sec HAAT (meters)	60 dBu F(50,50) (km)	30 sec HAAT (meters)	60 dBu F(50,50) (km)
0	317	0.2	319	0.2
30	450	0.7	444	0.7
60	601	0.8	594	0.8
90	669	0.8	681	0.8
120	733	0.5	736	0.5
150	727	0.2	715	0.2
180	652	0.4	623	0.4
210	284	5.9	288	6
240	395	10.5	406	10.7
270	251	7.8	239	7.6
300	231	3.6	243	3.7
330	229	0.2	212	0.2
maximum				
240			406	10.7
241	394	10.6		

Height Above Average Terrain and Effective Radiated Power

The proposed facilities represent a slight change in coordinates and elevation to provide an installation that complies with zoning and building regulations. Table 2 lists the Height Above Average Terrain ("HAAT") for 8 radials, 12 radials, 72 radials, and 360 radials using 30 arc second terrain data and the latest NED 3 second terrain data. In each case, the HAAT is less than 30 meters (100 feet). The Effective Radiated Power ("ERP") should therefore be 100 Watts. All studies in this Exhibit were prepared using the NED 03 terrain database as described below and 100 Watts ERP.

Table 4: Height Above Average Terrain

	NED 03 Arc Second Terrain	30 Arc Second Terrain
8 Radial Average	-15.8	-11.0
12 Radial Average	-11.1	-6.1
72 Radial Average	-12.6	-9.8
360 Radial Average	-12.5	-9.9

Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one-degree horizontal increments. Terrain data for the comparative contours is extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database. The USGS National Elevation Dataset has been developed by merging the highest-resolution, best-quality elevation data available across the United States into a seamless raster format. NED is the result of the maturation of the USGS effort to provide 1:24,000-scale Digital Elevation Model (DEM) data for the conterminous US and 1:63,360-scale DEM data for Alaska.

Terrain data is also extracted from a NGDC 30 arcsecond terrain database to verify that the HAAT for the proposed facility is not dependent on the specific terrain data used.

All population data is from 2000 U.S. Census SF1 data files. Population is counted by considering the location of the centroid of each census bloc. The data for each block is counted if it falls within the area being counted.

Table 5: Proposed Allocation

Timothy L. Warner, Inc.
Asheville, North Carolina

JBN Inc. Proposed Modified Facilities
Allocation Study

REFERENCE
35 20 32.0 N.
82 28 36.0 W.

CLASS = L1
Current Spacings to 3rd Adj.
Channel 248 - 97.5 MHz

DISPLAY DATES
DATA 12-12-08
SEARCH 12-12-08

Call		Channel	Location		Azi	Dist	FCC	Margin
WFHC-LP	CP	247L1	Hendersonville	NC	157.5	0.1	13.5	-13.4
This is the facility being modified								
626602	APP-D	247D	Balfour	NC	324.4	1.6	27.5	-25.9
Short spaced to authorized facility (as co-channel)								
970915TG	APP	248D	Brevard	NC	225.6	25.8	38.5	-12.7
Translator for WLFJ, Greenville, SC								
Short spaced to authorized facility (as first adjacent)								
626592	APP-D	248D	Chimney Rock	NC	56.0	26.1	38.5	-12.4
Short spaced to authorized facility (as first adjacent)								
NEW	CP	247L1	Hendersonville	NC	101.0	2.0	13.5	-11.6
Time share agreement with WFHC-LP								
W250AN	LIC-D	250D	Tryon	NC	111.7	22.8	20.5	2.3
WHZT	LIC	251C0	Seneca	SC	212.7	86.3	83.5	2.8
W249AR	LIC	249D	Asheville	NC	327.1	32.8	27.5	5.3
643543	APP-D	249D	Chimney Rock	NC	56.0	26.1	20.5	5.6
W251AO	LIC-D	251D	Asheville	NC	331.2	32.8	20.5	12.3
649301	APP	247D	Black Mountain	NC	20.3	33.9	20.5	13.4
632628	APP	247D	Canton	NC	301.1	41.2	27.5	13.7
649562	APP	247D	Asheville	NC	344.3	31.9	14.5	17.4
WJXB-FM	LIC	248C	Knoxville	TN	299.9	151.2	129.5	21.7
WKBC-FM	LIC-D	247C	North Wilkesboro	NC	55.8	146.7	119.5	27.2
WPEG	LIC-D	250C	Concord	NC	88.6	120.1	92.5	27.6
634608	APP-D	246D	Lake Toxaway	NC	243.2	51.7	20.5	31.2
WXBQ-FM	LIC-D	245C	Bristol	VA	14.1	124.9	92.5	32.4
643833	APP-D	250D	Lake Junaluska	NC	303.0	46.4	13.5	32.9
W247AB	LIC	247D	Greenville	SC	172.7	54.8	20.5	34.3
Translator For WNCW, Spindale, NC								
W237AR	APP-D	246D	Hazelwood, Etc.	NC	283.3	58.8	20.5	38.3
W249CB	LIC	249D	Six Mile	SC	203.9	61.1	14.5	46.6
WKKT	LIC-D	245C	Statesville	NC	81.6	154.0	92.5	61.5
W246BU	LIC	246D	Spartanburg	SC	120.0	69.8	7.5	62.4

Table 6: Authorized Allocation

Timothy L. Warner, Inc.
Asheville, North Carolina

JBN Inc. Construction Permit Facilities
Allocation Study

REFERENCE
35 20 32.0 N.
82 28 36.0 W.

CLASS = L1
Current Spacings to 3rd Adj.
Channel 247 - 97.3 MHz

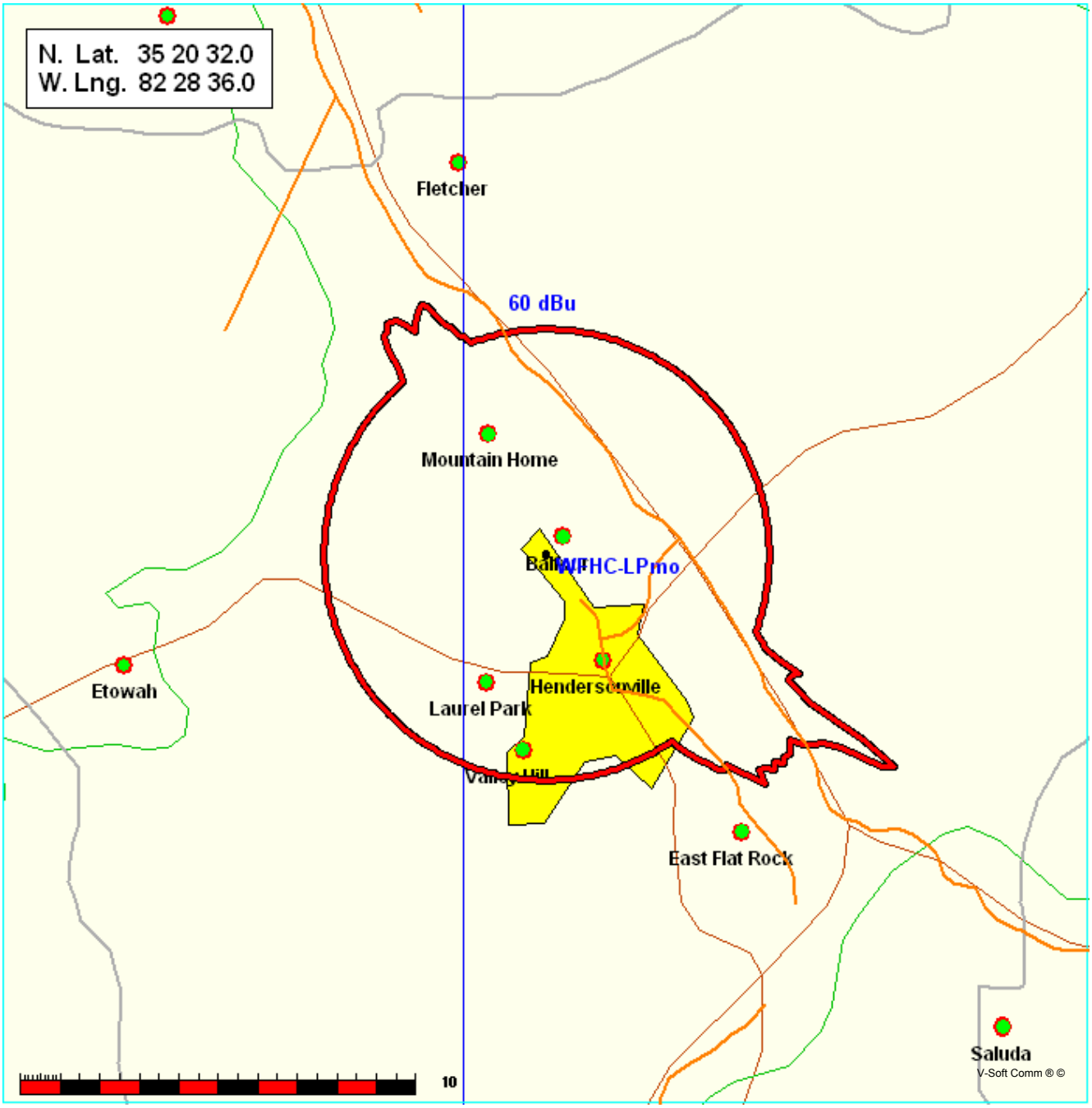
DISPLAY DATES
DATA 12-12-08
SEARCH 12-12-08

Call		Channel	Location		Azi	Dist	FCC	Margin
WFHC-LP	CP	247L1	Hendersonville	NC	157.5	0.1	23.5	-23.4
This is the facility being modified								
626602	APP-D	247D	Balfour	NC	324.4	1.6	38.5	-36.9
Also short spaced to proposed modified facilities								
NEW	CP	247L1	Hendersonville	NC	101.0	2.0	23.5	-21.6
Time share agreement with WFJC-LP								
970915TG	APP	248D	Brevard	NC	225.6	25.8	27.5	-1.7
Translator for WLFJ, Greenville, SC								
Also short spaced to proposed modified facilities								
626592	APP-D	248D	Chimney Rock	NC	56.0	26.1	27.5	-1.4
Also short spaced to proposed modified facilities								
649550	APP	300D	Hendersonville	NC	227.0	5.3	4.5	0.8
W250AN	LIC-D	250D	Tryon	NC	111.7	22.8	20.5	2.3
649301	APP	247D	Black Mountain	NC	20.3	33.9	31.5	2.4
632628	APP	247D	Canton	NC	301.1	41.2	38.5	2.7
649562	APP	247D	Asheville	NC	344.3	31.9	25.5	6.4
W249AR	LIC	249D	Asheville	NC	327.1	32.8	20.5	12.3
643543	APP-D	249D	Chimney Rock	NC	56.0	26.1	13.5	12.6
WKBC-FM	LIC-D	247C	North Wilkesboro	NC	55.8	146.7	129.5	17.2
WBZT-FM	LIC-Z	244A	Mauldin	SC	171.7	47.2	28.5	18.7
W247AB	LIC	247D	Greenville	SC	172.7	54.8	31.5	23.3
Translator For WNCW, Spindale, NC								
634608	APP-D	246D	Lake Toxaway	NC	243.2	51.7	27.5	24.2
649553	APP	300D	Asheville	NC	345.9	29.1	4.5	24.6
WPEG	LIC-D	250C	Concord	NC	88.6	120.1	92.5	27.6
W237AR	APP-D	246D	Hazelwood, Etc.	NC	283.3	58.8	27.5	31.3
WJXB-FM	LIC	248C	Knoxville	TN	299.9	151.2	119.5	31.7
WXBQ-FM	LIC-D	245C	Bristol	VA	14.1	124.9	92.5	32.4
643833	APP-D	250D	Lake Junaluska	NC	303.0	46.4	13.5	32.9
626601	APP-D	300D	Weaverville	NC	350.9	40.7	4.5	36.2
W249CB	LIC	249D	Six Mile	SC	203.9	61.1	7.5	53.6
WNCC-FM	APP-N	244A	Franklin	NC	260.1	82.4	28.5	53.9
WNCC-FM	LIC	244A	Franklin	NC	260.1	82.4	28.5	53.9
W246BU	LIC	246D	Spartanburg	SC	120.0	69.8	14.5	55.4
WKKT	LIC-D	245C	Statesville	NC	81.6	154.0	92.5	61.5
WSRV	LIC	246C	Gainesville	GA	223.4	185.0	119.5	65.5

JBN Inc.
Figure 1: WFHC-LP Coverage

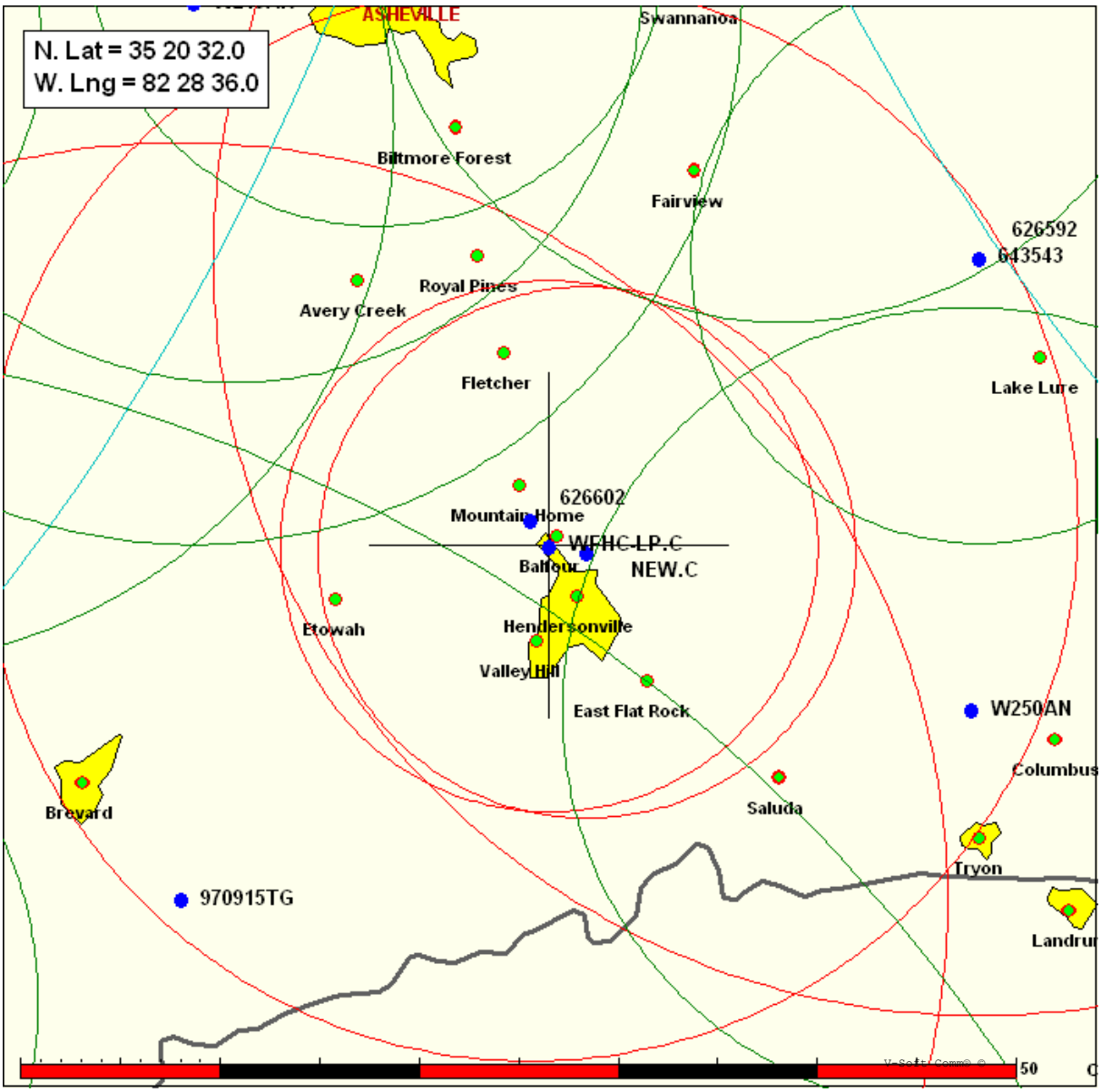
Coverage Study - NED 03 SEC
12-12-2008

WFHC-LPmo CH247 L1 0.1 kW 684M COR
Prot. = 60 dBu. Population = 36,437



CH 248 L1 97.5 MHz

Current Spacings to 3rd Adj.
JBN Inc.
Figure 2: Allocation Study (Channel 248)



Data Date:12-12-08 Job Date:12-12-08

Call	CH#	Type	Location		Azi	D-KM	FCC	Margin
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626602	247D	APP-D	Balfour	NC	324.4	1.6	27.5	-25.9
970915TG	248D	APP	Brevard	NC	225.6	25.8	38.5	-12.7
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632628	247D	APP	Canton	NC	301.1	41.2	27.5	13.7
649562	247D	APP	Asheville	NC	344.3	31.9	14.5	17.4
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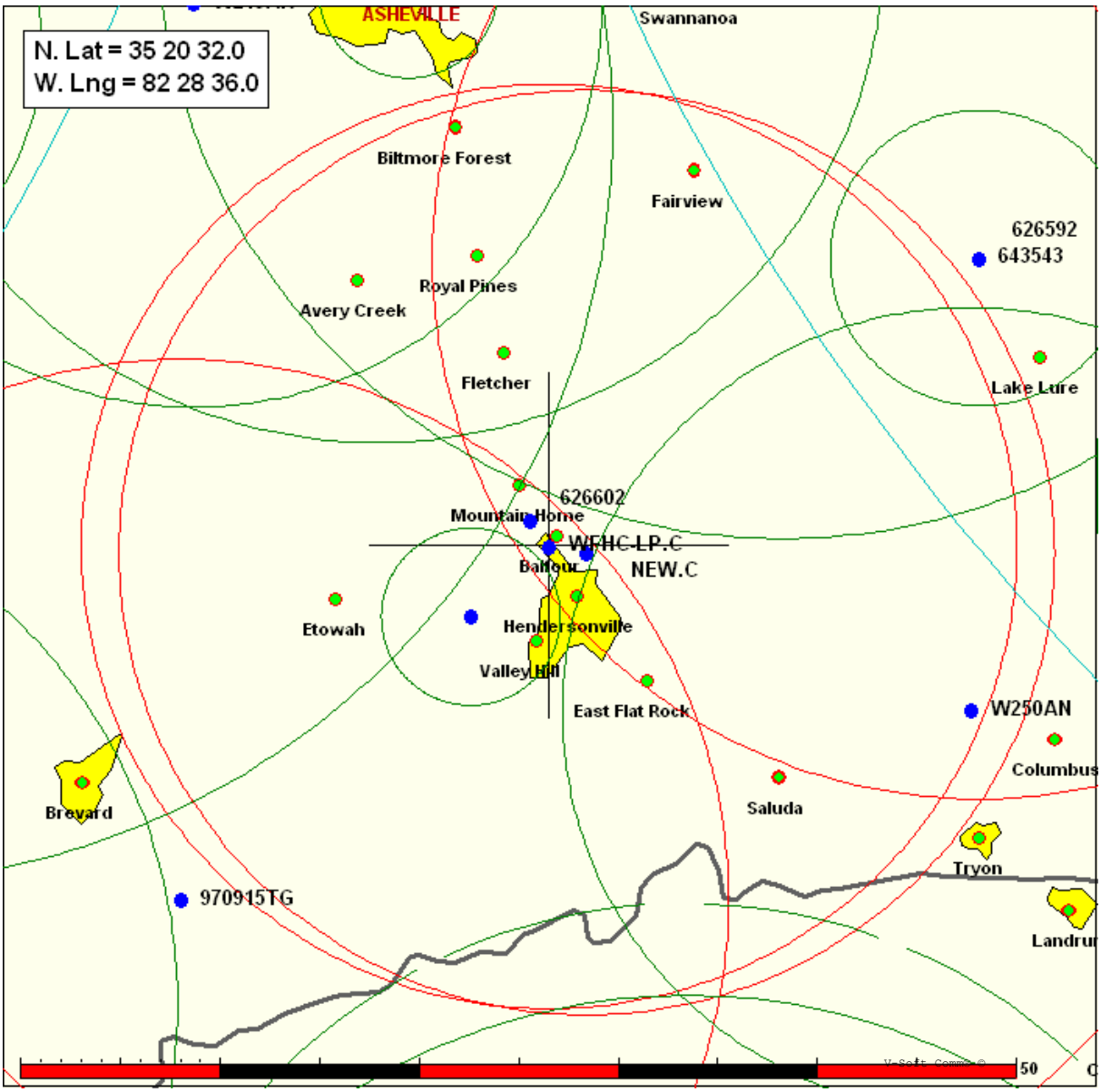
WKBC-FM	247C	LIC-D	North Wilkesboro	NC	55.8	146.7	119.5	27.2
WPEG	250C	LIC-D	Concord	NC	88.6	120.1	92.5	27.6

See Table 5 for remaining facilities studied

CH 247 L1 97.3 MHz

Current Spacings to 3rd Adj.
JBN Inc.
Figure 3: Allocation Study (Channel 247)



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