

## **EXHIBIT 12-C**

### **LPFM PRECLUSION STUDY K287AN Fayetteville, AR**

Coordinates: 36-08-50 N. ~ 94-11-13 W.  
Antenna Structure Registration Number: 1222501  
RC-AMSL: 560 m.  
ERP: 0.25 kW (non-directional antenna)  
HAAT: 175 m

This LPFM preclusion study is conducted on behalf of Don Campbell, licensee of FM translator K287AN, Facility ID No. 150321 at Fayetteville, Arkansas. The proposed modification site is located within the 39 km buffer zone of the Fayetteville (North West AR) market, a Spectrum Available Market.

This exhibit is provided to demonstrate compliance with the LPFM requirements set forth in Attachment B to DA 13-283 (released February 26, 2013) and DA 13-454 (released March 18, 2013).

Exhibit 1-A shows the Fayetteville (NorthWest AR) 31 x 31 Grid. The proposed construction permit modification location is within the Fayetteville (NorthWest AR) 31 x 31 LPFM grid. The proposal translator location is not within the 39 km. buffer zone of any other Arbitron Metro.

A copy of the relevant portions of the Fayetteville (NorthWest AR) LPFM Preclusion Study generated by the FCC's LPFM6 software program is attached. The channel impacted by this proposal are highlighted in yellow. As indicated on

the study, no LPFM grid points are identified on any of the channels in the study relevant to the proposed K287AN modification.

Also include are two channel studies using the FCC's LPFM Channel Finder program. The studies were conducted using the coordinates of the licensed/proposed K287AN facility. One study assumes waivers for I.F. and 3rd adjacent channels and another assumes waivers for I.F., 2nd and 3rd adjacent channels. Both studies show no availability for LPFM on the co, 1st, 2nd, and 3rd adjacent channels or the I.F. Channels of K287AN.

Exhibit 1-B uses the FCC HAAT calculator to determine that the licensed K287AN facility has an HAAT of 175 meters. Also included with Exhibit 1-B is a screenshot of the FCC FM and TV Propagation Curves Calculations showing the F(50,50) 60 dBu contour for the licensed K287AN facility extends 12.16 km. from the licensed site. Therefore the current licensed K287AN facility falls into the Greater than 7.3 km. but less than 13.3 km. FM translator category and is entitled to the following minimum separations from LPFM applications: Co-Channel 32 km., 1st adjacent channels 21 km., and second adjacent channels 14 km.

Exhibit 1-C shows a screenshot of the FCC FM and TV Propagation Curves Calculations showing the FCC F(50,50) 60 dBu contour of the proposed K287AN modification extends 17.379 km from the proposed site. This proposed modification is located on the same tower, at the same height above ground and

using the same exact transmit antenna as the current licensed facility. Therefore the proposed K287AN facility has an FCC F(50,50) 60 dBu contour that extends greater than 13.3 km. The proposed facility required protections extend farther than the licensed facility. Therefore this proposed modification is could potentially be short spaced to LPFM applications. There are no LPFM grid points in the Fayetteville (North West AR) grid on co-channel of adjacent channels that could be impacted by this proposed modification. The only potential LPFM filing conflicts would occur outside the LPFM grid. Baker understands that any LPFM applications that are short spaced must be resolved before a construction permit for K287AN could become final.

There are no LPFM facilities or pending applications within 100 km. on co, first or second adjacent channels to K287AN. Although this application is being filed after June 16, 2013, it meets all required protections to current and future LPFM facilities.

Therefore it is believed that the proposed modification for K287AN is in compliance with the requirements of the LPFM Preclusion Study as described in *"Creation of a Low Power Radio Service, Fourth Report and order and Third Order on Reconsideration, 27, FCC Rcd 3364, 3382-88 (2012)"* (*"Fourth Report and Order* and the LPFM requirements set forth in Attachment B to DA 13-283 (released February 26, 2013) and DA 13-454 (released March 18, 2013).

Fayetteville (NW AR)

Latitude 36-03-45

Longitude 094-09-26

Grid Size 31 x 31

Micro FM 100 Watts at 30m HAAT

Co-Channel and 1st Adjacent Protected

2nd Adjacent Channel Protected

3rd Adjacent Channel Not Protected

I.F. Not Protected

TV Channel 6 Not Protected

CP Records Protected

APP Records Protected

FM Translators Protected

TV Channel 6 Translators/LP Not Protected

Auc83 FX App Records Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	0	260	3	280	0
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	4	262	177	282	0
203	0	223	0	243	0	263	221	283	140
204	0	224	39	244	0	264	10	284	0
205	0	225	0	245	0	265	0	285	0
206	0	226	0	246	56	266	0	286	0
207	0	227	0	247	355	267	0	287	0
208	0	228	0	248	310	268	0	288	0
209	0	229	0	249	111	269	0	289	0
210	0	230	0	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	18	292	0
213	0	233	0	253	0	273	0	293	0
214	0	234	0	254	0	274	0	294	0
215	0	235	0	255	182	275	0	295	88
216	0	236	0	256	0	276	0	296	94
217	0	237	0	257	0	277	129	297	134
218	0	238	0	258	0	278	0	298	0
219	0	239	0	259	0	279	0	299	0
								300	0

-----  
Total 2071

Total allotments, least preclusive spacing: 38

Total allotments, most preclusive spacing: 27

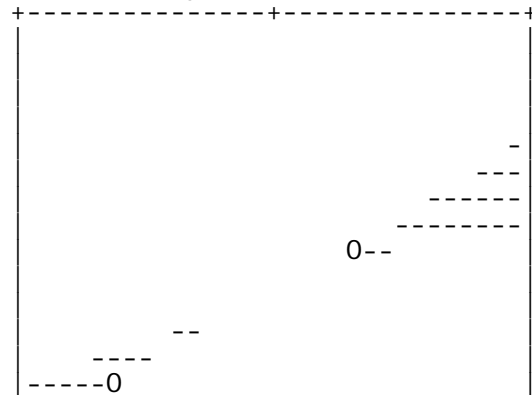
Fayetteville (NW AR)

Latitude 36-03-45

Longitude 094-09-26

Least preclusive siting

Availability of Channel 224 (X)



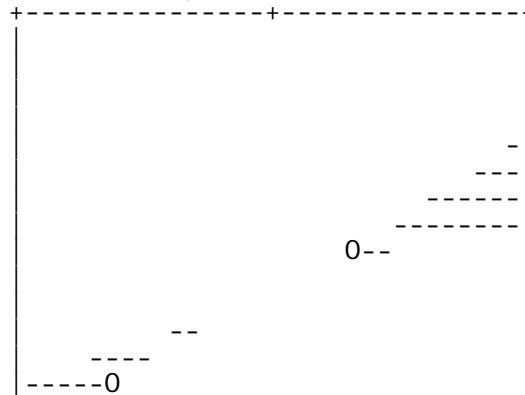
Fayetteville (NW AR)

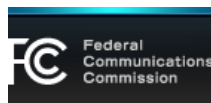
Latitude 36-03-45

Longitude 094-09-26

Most preclusive siting

Availability of Channel 224 (X)





## Low Power FM (LPFM) Channel Finder Results

More search options at [LPFM Channel Finder Search](#)

AM QUERY   FM QUERY   TV QUERY   TV STATION PROFILES & PUBLIC INSPECTION FILES   CDBS SEARCH   MEDIA BUREAU

Tue Jul 30 17:57:53 2013   EXCLUDES second-adjacent channel spacings  
EXCLUDES intermediate frequency (I.F.) spacings  
Input options:   Latitude, Longitude: 36° 8' 50", 94 11' 13"

Google Map: [5.6 km radius \(approximate 60 dBu service contour coverage\)](#)



**CONDITIONAL.** The requested latitude and longitude meet the PROPOSED LPFM spacing requirements for one or more second adjacent and/or intermediate frequency (I.F.) channels.

These proposed spacing rules are not yet in effect.

### Channels Available for LPFM LP100 Stations [Channels 201 to 300, [corresponding to 88.1 to 107.9 MHz](#)]

Channel 209	----	89.7 MHz
Channel 219	----	91.7 MHz
Channel 224	----	92.7 MHz
Channel 225	----	92.9 MHz
Channel 237	----	95.3 MHz
Channel 242	----	96.3 MHz
Channel 246	----	97.1 MHz
Channel 254	----	98.7 MHz
Channel 255	----	98.9 MHz
Channel 282	----	104.3 MHz
Channel 283	----	104.5 MHz
Channel 291	----	106.1 MHz
Channel 295	----	106.9 MHz
Channel 297	----	107.3 MHz
Channel 298	----	107.5 MHz

This analysis does not determine whether an LPFM station at this location and channel might receive interference within its 60 dBu LPFM service contour from FM broadcast stations already operating or authorized in the band from fully spaced locations. LPFM stations must accept all such interference.

Because the FM database constantly changes, there is no guarantee that channels represented as "available" will be technically acceptable at the time of application filing.

### Available Channels Interference Analysis

This section considers the acceptable LPFM-use channels listed above, and determines which of these channels will be less likely to suffer interference from existing or authorized stations. This analysis only considers spacing, and assumes that the interfering stations are operating with the [reference facilities for the FM station's class](#). While helpful, the results shown below should not take the place of a thorough analysis of all options by a broadcast consulting engineer.

If interference is possible, the following table will contain:

- Call Sign of the interfering station
- Channel of that station
- Channel relationships: Same channel OR First-adjacent channel OR Second-adjacent channel

- Actual separation (in km)
- Minimum Separation for no interference within the 60 dBu contour (based on reference facilities and flat terrain)

Channel 209				
KBHN	209	Same channel (cochannel)	112.3 km actual	178.0 km for no interference
KOZO	209	Same channel (cochannel)	95.8 km actual	143.0 km for no interference
KRPS	210	First-adjacent channel	141.0 km actual	142.0 km for no interference
Channel 219				
KNEO	219	Same channel (cochannel)	84.7 km actual	119.0 km for no interference
KARG	219	Same channel (cochannel)	127.4 km actual	143.0 km for no interference
Channel 224				
KSYN	223	First-adjacent channel	110.9 km actual	130.0 km for no interference
KDYN-FM	224	Same channel (cochannel)	78.1 km actual	119.0 km for no interference
Channel 225				
KOSP	225	Same channel (cochannel)	114.2 km actual	143.0 km for no interference
KBEZ	225	Same channel (cochannel)	171.9 km actual	193.0 km for no interference
Channel 237				
KERX	237	Same channel (cochannel)	96.3 km actual	143.0 km for no interference
Channel 242				
KTTG	242	Same channel (cochannel)	163.2 km actual	178.0 km for no interference
Channel 246				
KYAL-FM	246	Same channel (cochannel)	134.1 km actual	203.0 km for no interference
Channel 254				
KWTO-FM	254	Same channel (cochannel)	128.9 km actual	178.0 km for no interference
Channel 255				
KMAG	256	First-adjacent channel	127.2 km actual	142.0 km for no interference
K256BG	256	First-adjacent channel	26.6 km actual	35.0 km for no interference
Channel 282				
KBCN-FM	282	Same channel (cochannel)	141.7 km actual	193.0 km for no interference
Channel 283				
KMYZ-FM	283	Same channel (cochannel)	133.1 km actual	178.0 km for no interference
Channel 291				
KTGX	291	Same channel (cochannel)	138.2 km actual	203.0 km for no interference
Channel 295				
K295BS	295	Same channel (cochannel)	27.3 km actual	30.0 km for no interference
KHTT	295	Same channel (cochannel)	145.9 km actual	193.0 km for no interference
KTHS-FM	296	First-adjacent channel	66.6 km actual	67.0 km for no interference
Channel 297				
KTHS-FM	296	First-adjacent channel	66.6 km actual	67.0 km for no interference
KOMS	297	Same channel (cochannel)	132.5 km actual	203.0 km for no interference
Channel 298				
KOMS	297	First-adjacent channel	132.5 km actual	142.0 km for no interference
KOMT	298	Same channel (cochannel)	156.6 km actual	193.0 km for no interference
KOSN	298	Same channel (cochannel)	132.8 km actual	178.0 km for no interference

A simple test for potential interference is to tune a radio to the channel or frequency under consideration, while at the proposed transmitter site. If a station can be heard, you should expect that coverage from an LPFM station may be diminished. Interference to the LPFM station could occur at some future date should the listed FM station increase its facilities to the maximums permitted for the station's class.

### AM Stations Within 3.2 km

Use this button to check for AM stations within 3.2 km [2 miles] of the coordinates specified above. If a *nondirectional* AM station appears within **0.8** km of these coordinates, or a *directional* AM station appears within **3.2** km, the LPFM applicant is responsible for measures to protect the AM station from changes in its operation caused by the LPFM antenna-supporting tower structure. See [47 CFR 73.1692](#). LPFM applicants should be aware that remediation may be costly if it becomes necessary to mitigate the impact on the AM station.

AM Stations within 3.2 km

'No records found' indicates that the coordinates are not within 3.2 km of an AM station.

### Airports Within 8 km (5 Miles)

The tool below allows you to check for airports within 8 km of the proposed station's coordinates. If you get a FAIL message, or if your proposed tower or supporting structure will be greater than 200 feet (61 meters) at ANY location, then you MUST obtain clearance from the FAA using [FAA Form 7460-1](#), and the FAA-approved structure must be registered with the FCC via the [Antenna Structure Registration \(ASR\)](#) system.

The [FAA's Form 7460-1](#) and FCC antenna structure registration both require coordinates in the NAD83 coordinate system. To convert from NAD27 coordinates (used for broadcast station analyses) to NAD83 coordinates, you may use the [National Geodetic Survey's](#) conversion program at: <http://www.ngs.noaa.gov/cgi-bin/nadcon.prl>.

Convert 36° 8' 50", 94° 11' 13" to NAD83

Once you have obtained the converted coordinates, copy them down and enter them into the FCC's Wireless Telecommunications Bureau's

### [TOWAIR Query](#)

If the proposed structure does not pass the TOWAIR test, you will need to request FAA clearance and register the antenna structure with the FCC once clearance is obtained from the FAA.

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### New LPFM Channel Finder Analysis?

**NAD 27 Coordinates** (degrees, minutes, seconds latitude and longitude)

FM Station Latitude

FM Station Longitude

36

8

50

94

11

13

- ☒ Results only

☐ Show List of Stations Considered

#### Special search options:

*Second adjacent channels:* An LPFM application must satisfy minimum distance separation requirements to stations operating on and applications proposing operations on second-adjacent channels. The *Local Community Radio Act* authorizes the Commission to waive the second-adjacent channel protection requirement and the Commission has under consideration proposed waiver standards.

☒ Include (more restrictive) ☐ Exclude

*Second-adjacent channel distance separation requirements to authorized stations and pending applications*

*Intermediate Frequency (I.F.) channels:* An LPFM application must satisfy minimum distance separation requirements to stations operating on and applications proposing operations on intermediate frequency (IF) channels. The Commission has under consideration a proposal to eliminate this requirement for LPFM applications proposing operations at less than 100 watts effective radiated power.

☒ Include (more restrictive) ☐ Exclude

*I.F. channel distance separation requirements to authorized stations and pending applications*

Submit the Data

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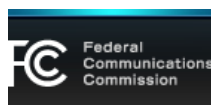
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## Low Power FM (LPFM) Channel Finder Results

More search options at [LPFM Channel Finder Search](#)

AM QUERY   FM QUERY   TV QUERY   TV STATION PROFILES & PUBLIC INSPECTION FILES   CDBS SEARCH   MEDIA BUREAU

Tue Jul 30 17:56:02 2013   EXCLUDES intermediate frequency (I.F.) spacings  
INCLUDES second-adjacent channel spacings

Input options:  
Latitude, Longitude: 36° 8' 50", 94 11' 13"

Google Map: [5.6 km radius \(approximate 60 dBu service contour coverage\)](#)



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(based on reference facilities and flat terrain)

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KDYN-FM 224	Same channel (cochannel)	78.1 km actual	119.0 km for no interference	
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KMAG 256	First-adjacent channel	127.2 km actual	142.0 km for no interference	
K256BG 256	First-adjacent channel	26.6 km actual	35.0 km for no interference	

Channel 297

KTHS-FM 296	First-adjacent channel	66.6 km actual	67.0 km for no interference
KOMS 297	Same channel (cochannel)	132.5 km actual	203.0 km for no interference

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Convert 36° 8' 50", 94° 11' 13" to NAD83

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---

### New LPFM Channel Finder Analysis?

**NAD 27 Coordinates** (degrees, minutes, seconds latitude and longitude)

FM Station Latitude

36 8 50

FM Station Longitude

94 11 13

- ☒ Results only  
☐ Show List of Stations Considered

**Special search options:**

*Second adjacent channels:* An LPFM application must satisfy minimum distance separation requirements to stations operating on and applications proposing operations on second-adjacent channels. The *Local Community Radio Act* authorizes the Commission to waive the second-adjacent channel protection requirement and the Commission has under consideration proposed waiver standards.

- ☒ Include (more restrictive) ☐ Exclude

*Second-adjacent channel distance separation requirements to authorized stations and pending applications*

*Intermediate Frequency (I.F.) channels:* An LPFM application must satisfy minimum distance separation requirements to stations operating on and applications proposing operations on intermediate frequency (IF) channels. The Commission has under consideration a proposal to eliminate this requirement for LPFM applications proposing operations at less than 100 watts effective radiated power.

- ☒ Include (more restrictive) ☐ Exclude

*I.F. channel distance separation requirements to authorized stations and pending applications*

Submit the Data

Clear the Form



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**K287AN Appl.**

Latitude: 36-08-50 N  
Longitude: 094-11-13 W  
ERP: 0.25 kW  
Channel: 287  
Frequency: 105.3 MHz  
AMSL Height: 560.0 m  
Elevation: 414.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: None

**EXHIBIT 1-A**

K287AN - Fayetteville, AR  
Proposed FM translator site is located  
in a Spectrum Available Market

Bentonville

Benton Rogers

Carroll

**Fayetteville (North West AR)**

30 min. x 30 min. LPFM Grid  
(Spectrum Available)

Springdale

+  
K287AN Appl.

Fayetteville

Washington

Madison

Tahlequah  
Cherokee

Adair

Crawford

**HORIZON**  
BROADCAST SOLUTIONS

Scale 1:750,000

0 10 20 30 km

V-Soft Communications LLC ©

# EXHIBIT 1-B

## K287AN Licensed Facility FCC HAAT Calculator Screenshot FCC FM and TV Propagation Curves Calculation FCC F(50,50) 60 dBu Contour Distance

Antenna Height Above Average Terrain (HAAT) Calculations (HAAT) Results

Aud... Page 1 of 2



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**Antenna Height Above Average Terrain (HAAT) / Contour Calculations**

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[FCC site map](#)

### Antenna Height Above Average Terrain Calculations -- Input

Latitude **36 8 50.0 North**  
Longitude **94 11 13.0 West** (NAD 27)

Height of antenna radiation center above mean sea level [RCAMSL] = **560.0** meters

Number of Evenly Spaced Radials = 12 0° is referenced to True North

### Results:

**Calculated HAAT= 175. meters**

(Antenna Height Above Average Terrain)  
using the 30 second FCC/NGDC terrain data)

### Antenna Radiation Center Heights Above Individual Radials:

0.0°	176.4 meters
30.0°	154.1 meters
60.0°	156.7 meters
90.0°	175.9 meters
120.0°	168.3 meters
150.0°	152.6 meters
180.0°	159.0 meters
210.0°	184.3 meters
240.0°	208.2 meters
270.0°	190.4 meters
300.0°	188.9 meters
330.0°	186.8 meters

### New Antenna Height Above Average Terrain (HAAT) calculation?

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## Results -- FM and TV Propagation Curves Calculations

### Results of Calculation

**Distance to Contour = 12.160 km**

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#### For input data from Pages 1 and 2:

ERP entered = 0.062 kW

HAAT entered = 175.00 meters

Field Strength entered = 60.000 dBu

Find the Distance to the Contour, Given a Field Strength

F(50,50) curves for service contours

FM and NTSC analog TV Channels 2 through 6

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# EXHIBIT 1-C

## K287AN Application FCC FM and TV Propagation Curves Calculation FCC F(50,50) 60 dBu Contour Distance

Page 1 of 1



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### Results -- FM and TV Propagation Curves Calculations

#### Results of Calculation

**Distance to Contour = 17.379 km**

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#### For input data from Pages 1 and 2:

ERP entered = 0.250 kW

HAAT entered = 175.00 meters

Field Strength entered = 60.000 dBu

Find the Distance to the Contour, Given a Field Strength

F(50,50) curves for service contours

FM and NTSC analog TV Channels 2 through 6

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