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WASHINGTON, D.C. OFFICE  
flour mill building  
1000 potomac street nw  
suite 200  
washington, d.c. 20007-3501  
TEL 202 965 7880 FAX 202 965 1729

anchorage, alaska  
beijing, china  
new york, new york  
portland, oregon  
seattle, washington  
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Please reply to MELODIE A. VIRTUE  
mvirtue@gsblaw.com TEL EXT 2527

December 29, 2017

Our File No. 22274-00100

**VIA HAND DELIVERY**

ACCEPTED/FILED

DEC 29 2017

Federal Communications Commission  
Office of the Secretary

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Office of the Secretary  
445 12<sup>th</sup> Street, S.W.  
Room TW-A325  
Washington, DC 20554

Re: ***Request for Extension of Single Sideband Suppressed Carrier  
Broadcast Experimental Authorization***  
Radio Station KOJB(FM-NCE), Cass Lake, MN  
Facility ID No. 173472  
**Leech Lake Band of Ojibwe**

Dear Ms. Dortch:

Transmitted herewith on behalf of Leech Lake Band of Ojibwe, licensee of Station KOJB(FM), Cass Lake, Minnesota, pursuant to FCC Rule 5.203, is a request for a one-year extension of its "broadcast experimental authorization" for testing of single sideband suppressed carrier ("SSBSC") modulation of the stereophonic subcarrier in the multiplex baseband signal on KOJB ("Request"). The initial authorization was granted by letter dated September 9, 2013, from Susan N. Crawford, Assistant Chief of the Audio Division of the Media Bureau ("Initial Experimental Authorization"). The authorization was most recently extended by letter from Ms. Crawford dated January 26, 2017 (the "Extension Letter"). A copy of the Request, the Initial Experimental Authorization, and the Extension Letter are attached along with the report from KOJB's Chief Engineer, Bob Ryan, detailing the methodology employed and the results obtained.

Should you have any questions regarding this matter, kindly communicate directly with this office.

Very truly yours,

Melodie A. Virtue

MAV:cll  
Attachment  
cc: Susan N. Crawford (pdf copy via email [Susan.Crawford@fcc.gov](mailto:Susan.Crawford@fcc.gov))



## LEECH LAKE BAND OF OJIBWE

*Faron Jackson, Sr., Chairman*  
*Arthur LaRose, Secretary-Treasurer*

*Penny DeVault, District I Representative*  
*Steve White, District II Representative*  
*LeRoy Staples Fairbanks III, District III Representative*

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12/22/17

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Office of the Secretary  
445 12<sup>th</sup> Street, S.W.  
Room TW-A325  
Washington, DC 20554

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DEC 29 2017

Federal Communications Commission  
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Re: ***Request for Extension of Single Sideband Suppressed Carrier  
Broadcast Experimental Authorization***  
Radio Station KOJB(FM-NCE), Cass Lake, MN  
Facility ID No. 173472  
**Leech Lake Band of Ojibwe**

Dear Ms. Dortch:

On behalf of Leech Lake Band of Ojibwe, licensee of Station KOJB(FM), Cass Lake, Minnesota, pursuant to FCC Rule 5.203, we hereby respectfully request a one-year extension of its "broadcast experimental authorization" initially issued in the letter dated September 9, 2013, from Susan N. Crawford, Assistant Chief, Audio Division of the Media Bureau (the "Letter"), for testing of single sideband suppressed carrier ("SSBSC") modulation of the stereophonic subcarrier in the multiplex baseband signal on KOJB. The authorization was most recently extended by letter from Ms. Crawford dated January 26, 2017 (the "Extension Letter"). A copy of the Letter and the Extension Letter are attached along with the report from KOJB's Chief Engineer, Bob Ryan, detailing the methodology employed and the results obtained.

No filing fee is required for this extension request.

Questions relating to this request may be directed to Brad Walhof, Station Manager, Radio Station KOJB, (218) 335-7252, email, [Brad.Walhof@llojibwe.org](mailto:Brad.Walhof@llojibwe.org).

Applicant hereby certifies that neither the applicant nor any party to the application is subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.

I certify that the statements made in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.



## LEECH LAKE BAND OF OJIBWE

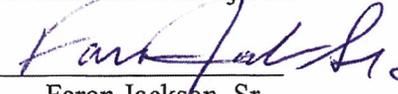
*Faron Jackson, Sr., Chairman*  
*Arthur LaRose, Secretary-Treasurer*

*Penny DeVault, District I Representative*  
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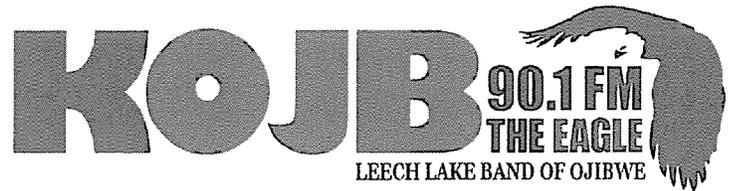
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Respectfully submitted,

Leech Lake Band of Ojibwe

By   
Faron Jackson, Sr.  
Chairman

Attachments (3)



SSBSC Report 12-20-2017

On September 9, 2013 the FCC granted KOJB's request for single sideband suppressed carrier modulation experimental authority. This authority has been extended in 2014, 2015 and 2016. As of August 1 2017 KOJB has operated in the SSBSC mode for approximately 4 years. Suppression was accomplished using a Omnia 11 audio processor, a Nautel NV 7.5 solid state transmitter, and a Shively 6 bay Antenna. Approximate costs of the Omnia 11 processor, mileage, and labor were 14,500 as of 8-1-2014. Transmitter output power is 4KW with a radiated output power of 18kw. Drive and fixed location tests were accomplished with a Sangean WR-2 receiver and Alpine CD105 receiver.

The intended goal of this effort was to reduce perceived multipath of the FM channel through a reduction of occupied bandwidth and sideband pairs of the modulated carrier.

Drive testing was done in approximately 10 percent of the KOJB city grade coverage area with and without SSBSC options activated. These areas were chosen due to known and observed multipathing. In all areas there was a perceived decrease in multipathing interference. Coverage was also improved in difficult to penetrate structures. We continue to have no complaints of interoperability with radios. We continue to have no complaints of loss of audio fidelity. We continue to have no complaints of any interference with adjacent channels. Therefore KOJB would like to request an extension of the experimental authority to operate and continue testing the SSBSC technology.

Sincerely,  
Bob Ryan  
Chief Engineer

**FEDERAL COMMUNICATIONS COMMISSION**  
**445 12<sup>th</sup> STREET, SW**  
**WASHINGTON, DC 20554**

**MEDIA BUREAU**  
**AUDIO DIVISION**  
**APPLICATION STATUS:** (202) 418-2730  
**HOME PAGE:** [www.fcc.gov/mb/audio/](http://www.fcc.gov/mb/audio/)

**PROCESSING ENGINEER:** Susan N. Crawford  
**TELEPHONE:** (202) 418-2754  
**GROUP FACSIMILE:** (202) 418-1411  
**INTERNET ADDRESS:** [Susan.Crawford@fcc.gov](mailto:Susan.Crawford@fcc.gov)

September 9, 2013

Melodie A. Virtue, Esquire  
Garvey Schubert Barer  
1000 Potomac Street, NW  
Fifth Floor, Flour Mill Building  
Washington, DC 20007-3501

Re: KOJB(FM), Cass Lake, Minnesota  
Leech Lake Band of Ojibwe  
Facility ID No. 173472  
File No. 20130603BKB

**Request for Experimental Authority**

Dear Counsel:

The staff has under consideration the June 3, 2013, request for experimental authority submitted on behalf of Leech Lake Band of Ojibwe (“LLBOO”), licensee of noncommercial educational FM Station KOJB(FM), Cass Lake, Minnesota,<sup>1</sup> to permit Station KOJB(FM) to conduct testing of single sideband multiplex stereo transmission. The experimental authority is requested pursuant to Section 5.203 of the Commission’s Rules<sup>2</sup> for a period of one year.

The request states that LLBOO is seeking experimental authority to operate Station KOJB(FM) with a technology developed by Omnia Audio known as single sideband suppressed carrier (“SSBSC”) modulation of the stereo subcarrier in the FM multiplex baseband signal to test whether multipath interference can be reduced through a reduction of occupied bandwidth and sideband pairs of the modulated carrier.

The subject request for experimental authority meets the requirements for experimental operations set forth in Section 5.203.<sup>3</sup> Accordingly, the request is **HEREBY GRANTED**. This experimental authority expires on **September 9, 2014**. This authority is specifically conditioned on the lack of objectionable interference. A report detailing the methodology employed and the

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<sup>1</sup> File Number BLED-20110920ABY.

<sup>2</sup> 47 C.F.R. § 5.203.

<sup>3</sup> *Id.*

results obtained must be submitted within 90 days following the conclusion of the experimental operation. Any request for extension of this experimental authority should be filed at least 30 days prior to the expiration date of the authority. Additionally, an extension request must include an interim version of the aforementioned report that details the progress of the experimental operation as of the filing date of the request.

Sincerely,

A handwritten signature in blue ink, appearing to read "Susan N. Crawford". The signature is fluid and cursive, with a large loop at the end.

Susan N. Crawford  
Assistant Chief  
Audio Division  
Media Bureau

cc: Leech Lake Band of Ojibwe

**FEDERAL COMMUNICATIONS COMMISSION**  
**445 12<sup>th</sup> STREET, SW**  
**WASHINGTON, DC 20554**

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**APPLICATION STATUS:** (202) 418-2730  
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**PROCESSING ENGINEER:** Susan N. Crawford  
**TELEPHONE:** (202) 418-2754  
**GROUP FACSIMILE:** (202) 418-1411  
**INTERNET ADDRESS:** [Susan.Crawford@fcc.gov](mailto:Susan.Crawford@fcc.gov)

January 26, 2017

Melodie A. Virtue, Esq.  
Garvey Schubert Barer  
1000 Potomac Street, NW  
Suite 200  
Washington, DC 20007-3501

Re: KOJB(FM), Cass Lake, Minnesota  
Leech Lake Band of Ojibwe  
Facility ID No. 173472  
File No. 20170103ACA

**Request for Extension of  
Experimental Authority**

Dear Counsel:

The staff has under consideration the January 3, 2017, request for extension of experimental authority<sup>1</sup> submitted on behalf of Leech Lake Band of Ojibwe (LLBOO), licensee of noncommercial educational FM Station KOJB(FM), Cass Lake, Minnesota,<sup>2</sup> to permit KOJB(FM) to continue to conduct testing of single sideband multiplex stereo transmission. The experimental authority is requested pursuant to Section 5.203 of the Commission's Rules<sup>3</sup> for a period of one year.

The request states that LLBOO is seeking further experimental authority to continue to operate KOJB(FM) with a technology developed by Omnia Audio known as single sideband suppressed carrier (SSBSC) modulation of the stereo subcarrier in the FM multiplex baseband signal for further testing. In support of the extension request, LLBOO submitted an interim report detailing the progress and results of the testing undertaken during the experimental program as required by the experimental authorization. The report states that there is a perceived reduction in multipath interference and improved coverage in difficult to penetrate structures using the SSBSC technology. Additionally, LLBOO states that it has not received any reports of

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<sup>1</sup> File No. 20151228BFR.

<sup>2</sup> File No. BLED-20110920ABY.

<sup>3</sup> 47 CFR § 5.203 (Section 5.203).

interference or decreased audio fidelity resulting from the currently authorized KOJB(FM) experimental operation.<sup>4</sup>

Our review shows that the LLBOO request for extension of experimental authority for KOJB(FM) meets the requirements for experimental operations set forth in Section 5.203. Accordingly, the request IS HEREBY GRANTED. This experimental authority expires on **January 26, 2018**. This authority is specifically conditioned on the lack of objectionable interference. A report detailing the methodology employed and the results obtained must be submitted within 90 days following the conclusion of the experimental operation. Any request for further extension of this experimental authority should be filed at least 30 days prior to the expiration date of the authority. Additionally, an extension request must include an interim report that details the progress of the experimental operation as of the filing date of the request.

Sincerely,



Susan N. Crawford  
Senior Engineer  
Audio Division  
Media Bureau

cc: Leech Lake Band of Ojibwe

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<sup>4</sup> File No. 20151228BFR.