SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

Townsquare Media Lansing License, LLC

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☐ Station License ☑ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WJIM	not applicable	1240 kHz	Unlimited	0.890 kW	0.890 kW

2. Station location

State	City or Town
Michigan	Lansing

3. Transmitter location

State	County	City or Town	Street address (or other identification)
Michigan	Ingham	Lansing	2150 E Main Street

4. Main studio location

State	County	City or Town	Street address (or other identification)
Michigan	Ingham	Lansing	3420 Pine Tree Road

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☑ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☐ Yes ☐ No ☑ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for Night System	RF common point or antenna current (in amperes) without modulation for day system
2.21 amperes	2.21 amperes

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
181.5 ohms	181.5 ohms	+ j 273.95 ohms	+ j 273.95 ohms

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day

Manufacturer and type of antenna monitor:

SECTION III - Page 2

9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
One, guyed, uniform cross-section steel tower mounted on a concrete base pier and insulator.	97.5 meters	98.4 meters	99.3 meters	Exhibit No.

Excitation ☑ Series ☐ Shunt NDA Tower = ASR #1055176

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	42 °	43 '	13 "	West Longitude	84 °	31 '	11 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No. See Vertical Plan

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No.

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

The facility, as constructed, consists of one single AM tower broadcasting the recently diplexed signals of KTGG(AM) - Okemos, MI, Facility ID: 61993, (BP-20080124ACW) and WJIM(AM) - Lansing, MI, Facility ID: 17382, (BL-19971226KA); in addition to housing recently co-located FM Translator W284AH - Lansing, MI, Facility ID: 77818, (BP-20151216ABP) and existing STL License WLF273.

11. Give reasons for the change in antenna or common point resistance.

This Form 302-AM is being filed to reflect the new antenna resistance and reactance measurements associated with the recent construction as authorized by KTGG(AM) - Okemos, MI, Facility ID: 61993, Construction Permit BP-20080124ACW and W284AH - Lansing, MI, Facility ID: 77818, Construction Permit BP-20151216ABP.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
Justin W. Asher	Justin W. Asher
Address (include ZIP Code) P.O. Box 220 385 Airport Drive Coldwater, MI 49036	Date September 9, 2016 Telephone No. (Include Area Code) 1(517)278-7339

☐ Technical Director ☐ Registered Professional Engineer

☐ Chief Operator ☑ Technical Consultant

☐ Other (specify)

ANTENNA SITE MAITENANCE AGREEMENT

This Antenna Site Maintenance Agreement (this "Agreement") is made this 18th_____ day of August, 2016 by and between WEST CENTRAL MICHIGAN MEDIA MINISTRIES ("Lessee") and TOWNSQUARE MEDIA LANSING, LLC ("Lessor"). This Agreement is a supplement statement to that certain Building and Tower Use Agreement (the "Use Agreement") between Lessor and Lessee granted to be effective June 22, , 2016.

Pursuant to the Use Agreement, Lessor and Lessee have agreed to operate Lessor's radio station WJIM and Lessee's radio station KTGG from a common antenna site and through a single combined antenna system. For the purposes of implementing that cooperative joint operation, the parties agree as follows:

Lessor shall be solely responsible, at its sole cost and expense, for maintaining the property at the antenna site, including the transmitter building, and for maintenance and repair of the tower; provided that Lessor and Lessee shall share equally (i.e. 50% each) responsibility and expense for maintenance and repairs of the Diplexer/ATU and HVAC units. Lessor and Lessee shall also share equally the costs associated with installing filters and traps as may be necessary.

Lessor shall not be responsible or liable to Lessee for any inconvenience or annoyance to Lessee arising from the repair or maintenance of the antenna tower or the transmitter building.

This Agreement summarizes Section 9 "Tower and Property Maintenance" of the Use Agreement and does not supersede or modify any terms of said Use Agreement.

IN WITNESS WHEREOF, this Lease has been duly executed and delivered by Lessor and Lessee on the date first above written.

LESSOR:

Townsquare Media Lansing, LLC

By: _____

Name: ZOE B. FLY

Title: Market President/ RVP

LESSEE

West Central Michigan Media Ministries

By: _____

Name: David Bolduc

Title: President - West Central MI Media Min.

ENGINEERING REPORT

Spurious Emissions Measurement Study

associated with the
combined operations of

KTGG(AM).C (Fac ID: 61993)
Okemos, MI
BP-20080124ACW

WJIM(AM).L (Fac ID: 17382)
Lansing, MI
BL-19971226KA

August, 2016

MUNN–REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036

RF Signal Spurious Emissions Study for the Combined Operations of KTGG(AM).C - Okemos, MI & WJIM(AM).L - Lansing, MI

This firm has been retained to prepare the required engineering report in support of this Spurious Emissions Measurement Study for the combined operation of AM Station(s) KTGG(AM).C - Okemos, MI and WJIM(AM).L - Lansing, MI onto the tower identified by Antenna Structure Registration Number #1055176. This study is associated with, and a condition of licensing for, KTGG(AM).C Construction Permit BP-20080124ACW.

KTGG(AM).C operates on 1540 kHz with a daytime non-directional power of 0.400 kW and a critical hours non-directional power of 0.219 kW. WJIM(AM) operates of 1240 kHz with a daytime non-directional power of 0.890 kW and a nighttime non-directional power of 0.890 kW. As stated before, the common tower is identified as ASR #1055176 and employs a radiating element 97.5 meters in length. This element functions as a 180.4° (0.501 ʎ) element for the KTGG(AM) operational frequency of 1540 kHz, and a 145.2° (0.403 ʎ) element for the WJIM(AM) operational frequency of 1240 kHz. The common element is matched with a Kintronics Laboratories, Inc., Band-Pass; Band-Reject Diplexer Number 112971-Custom(WJIM/KTGG). Factory settings were matched employing information from the FCC database concerning the KTGG(AM).C and WJIM(AM).L operating parameters; and manufacturer specifications for the diplexer.

RF signal purity measurements were conducted during the equipment test operations associated with , KTGG(AM).C Construction Permit BP-20080124ACW. Measurements were conducted by Mr. Edmond Trombley, a staff engineer in the employ of Munn-Reese, Inc. Mr. Trombley conducted his measurements with the AM transmitters in full operation employing the Kintronics Combiner for the common AM operations. A broad spectral sweep found no obvious products above the analyzer noise floor. Using a computer generated mixing product chart, high resolution, low noise floor measurements were also made out to the 1st, 2nd and 3rd order. With the exception of noted carrier frequencies, the suppression of the mixing products tabulated here-in exceed the minimum suppression required for each station.

Attached as ***Exhibit A*** is a copy of the 1st, 2nd and 3rd order potential mixing product measurement results for the harmonic relationships associated with the 1240 kHz and 1540 kHz combined operations. A Schematic diagram of the Kintronics Laboratories Diplexer/Combiner has been included in ***Exhibit B***. As a result of these studies, it has been concluded the combined operations of KTGG(AM).C and WJIM(AM).L meets or exceeds the requirements of the special condition of licensing associated with KTGG(AM).C Construction Permit BP-20080124ACW.

CERTIFICATION OF ENGINEER

The data utilized in this report was taken from the FCC Secondary Database and data on file. While this information is believed accurate, errors or omissions in the database and file data are possible. This firm may not be held liable for damages as a result of such data errors or omissions.

The report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission. I declare under penalty of the laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

August 4, 2016

By _____
Edmond R. Trombley, Staff Engineer
MUNN-REESE, INC.
Broadcast Engineering Consultants
COLDWATER, MI 49036-0220
517-278-7339 (x105)
et@munn-reese.com

By _____
Justin W. Asher, Staff Engineer
MUNN-REESE, INC.
Broadcast Engineering Consultants
COLDWATER, MI 49036-0220
517-278-7339 (x107)
justin@munn-reese.com

Exhibit A - Tabulation of Potential Mixing Products
KTGG(AM).C - Okemos, MI & WJIM(AM).L - Lansing, MI

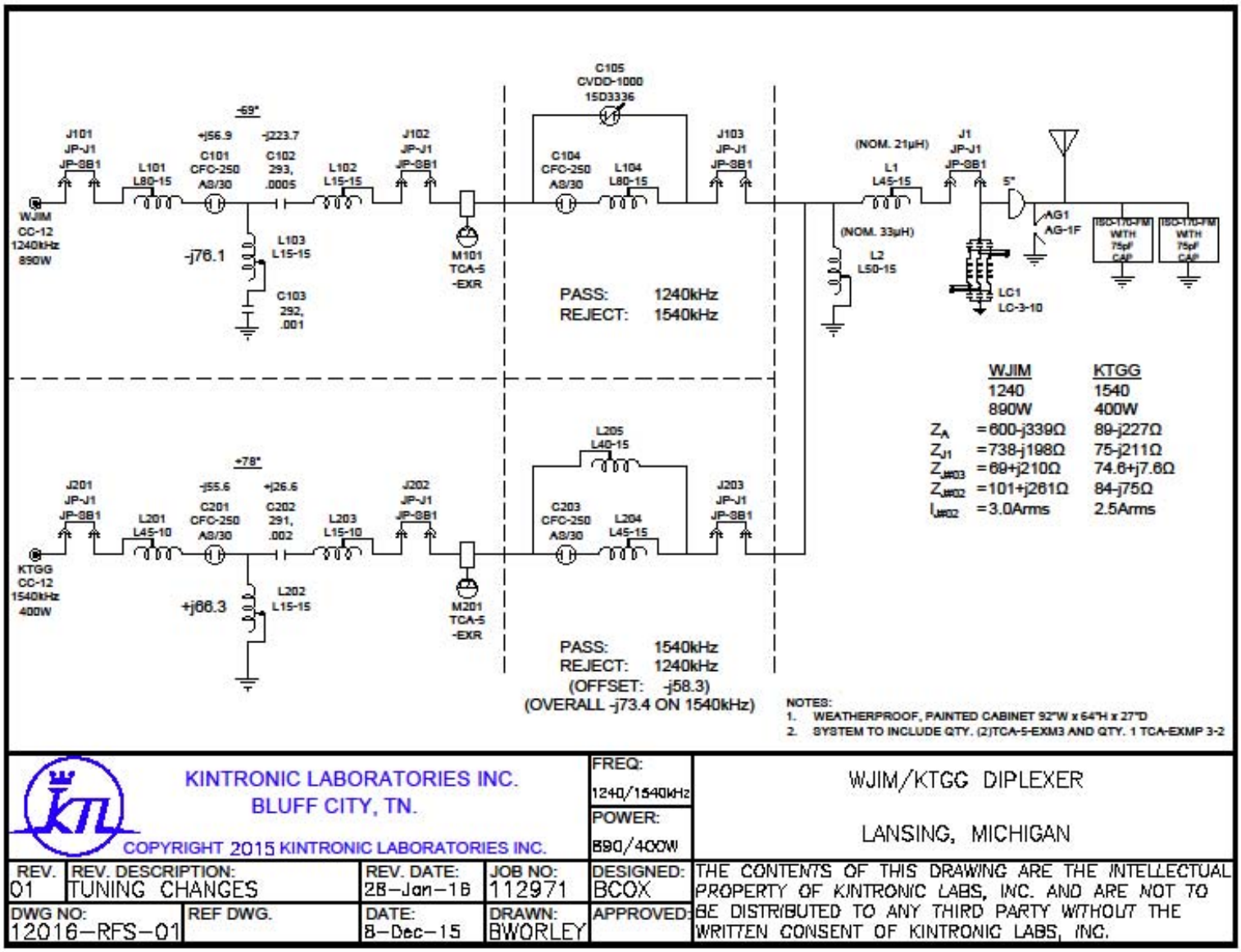
Frequency (kHz)	Measured Level (dBc)		Frequency (MHz)	Measured Level (dBc)		Frequency (MHz)	Measured Level (dBc)		Frequency (MHz)	Measured Level (dBc)
600 kHz	-94.8 dBc		2780 kHz	-96.7 dBc		4960 kHz	-97.5 dBc			
940 kHz	-84.3 dBc		3080 kHz	-93.4 dBc						
1240 kHz	WJIM(AM) Carrier*		3720 kHz	-82.8 dBc						
1540 kHz	KTGG(AM) Carrier*		4020 kHz	-97.5 dBc						
1840 kHz	-82.6 dBc		4320 kHz	-94.8 dBc						
2480 kHz	-91.1 dBc		4620 kHz	-93.4 dBc						

*No intermodulation mixing was noted on any carrier frequencies.

WJIM(AM) - minimum attenuation Level: -69.0 dBc (890 watts ERP)

KTGG(AM) - minimum attenuation Level: -72.5 dBc (400 watts ERP)

Exhibit B - Schematic Documentation of Combiner Design/Installation
KTGG(AM).C - Okemos, MI & WJIM(AM).L - Lansing, MI



ENGINEERING REPORT
OCCUPIED SPECTRUM ANALYSIS

CFR 47 §73.44 Compliance

WJIM(AM) – Lansing, MI

1240 kHz

July 2016

MUNN–REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036

AM OCCUPIED SPECTRUM ANALYSIS

Station Data

Call: WJIM

City of License: Lansing, MI

Frequency: 1240 kHz

Operating Mode: ND2

Schedule: unlimited

Day Power: 0.89 kW

Facility ID: 17382

Measurement Date: 07/27/2016

Discussion

The measurement data obtained for this report indicates the operation of WJIM to be IN COMPLIANCE with the provisions of CFR 47 §73.44 of the FCC rules regarding AM Broadcast Stations. Occupied Spectrum measurements were taken during the regular broadcast day by Edmond R. Trombley, staff engineer in the regular employ of Munn-Reese, Inc. In addition, spurious emission and harmonic measurements were made using a calibrated field strength meter. All measurements were made within 1 km of the transmitter, to provide sufficient signal to the analyzer.

Equipment employed

Anritsu MS2721B Spectrum Master. Technical specifications of the Anritsu MS2721B are available on the Internet at www.anritsu.com.

Potomac Instruments FIM-41, Field Meter, Serial No: 1149. Calibration Date: 05/04/2016. Technical specifications of the FIM-41 field intensity meter are available at www.pi-usa.com.

EXHIBITS

Measured Carrier Frequency – 1,239,997.318 Hz.

Figure A - Plot of Occupied Spectrum – Span 50 kHz

Figure B - Plot of Occupied Spectrum – Span 200 kHz

Figure C - Tabulation of Harmonic Measurement Data

HARMONIC MEASUREMENT DATA

Operating Power:	0.89 kW	
Required Attenuation:	-72.49 dB	
Fundamental Field:	1825 mV/M	
Second Harmonic:	0.023 mV/m	-97.99 dB below reference
Third Harmonic:	0.034 mV/m	-94.60 dB below reference
Forth Harmonic:	0.010 mV/m	-105.23 dB below reference

This report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission. I declare under penalty of laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

July 29, 2016

By _____
Wayne S. Reese, President

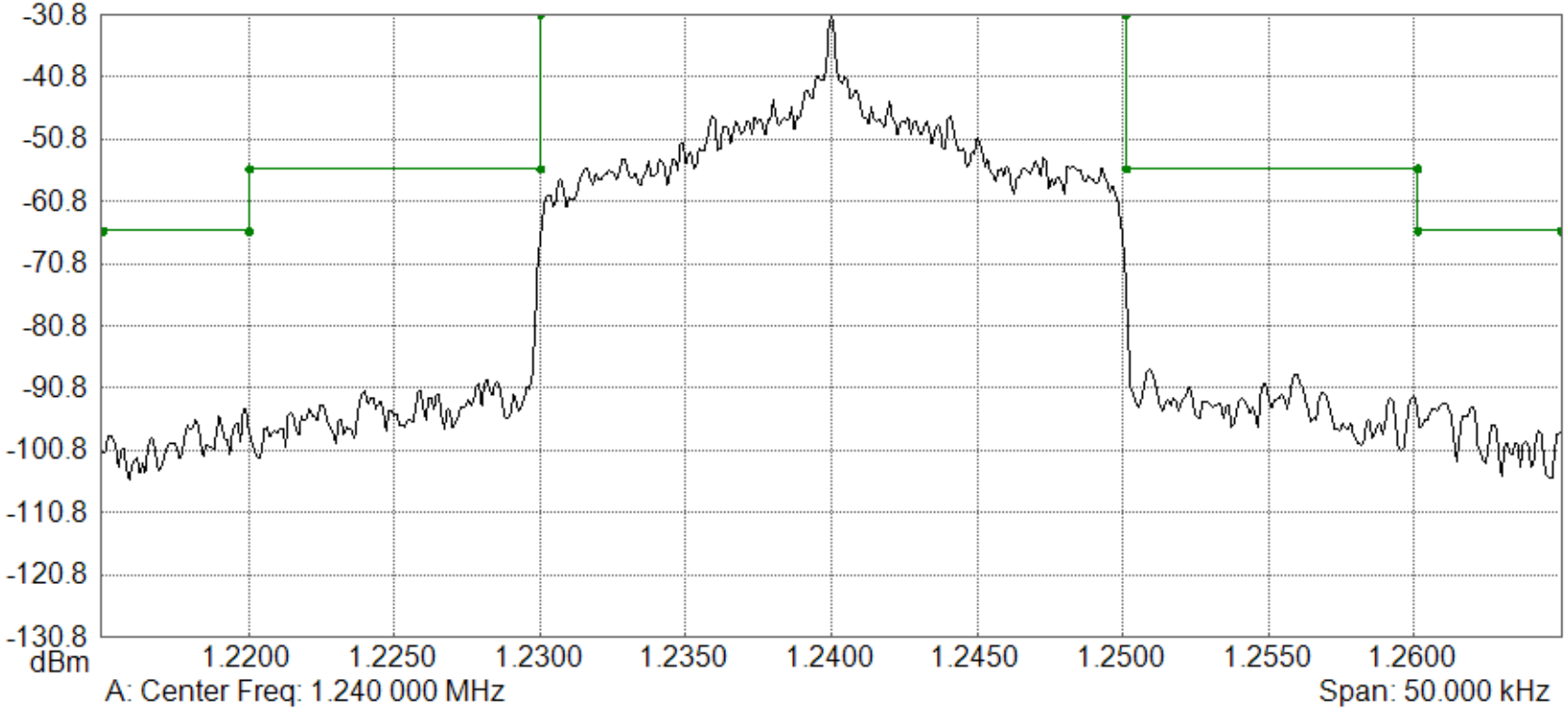
By _____
Edmond R. Trombley, Project Engineer

MUNN–REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036

Spectrum Analyzer Data

WJIM-A (7/27/2016 1:34:20 PM)

Spectrum Analyzer



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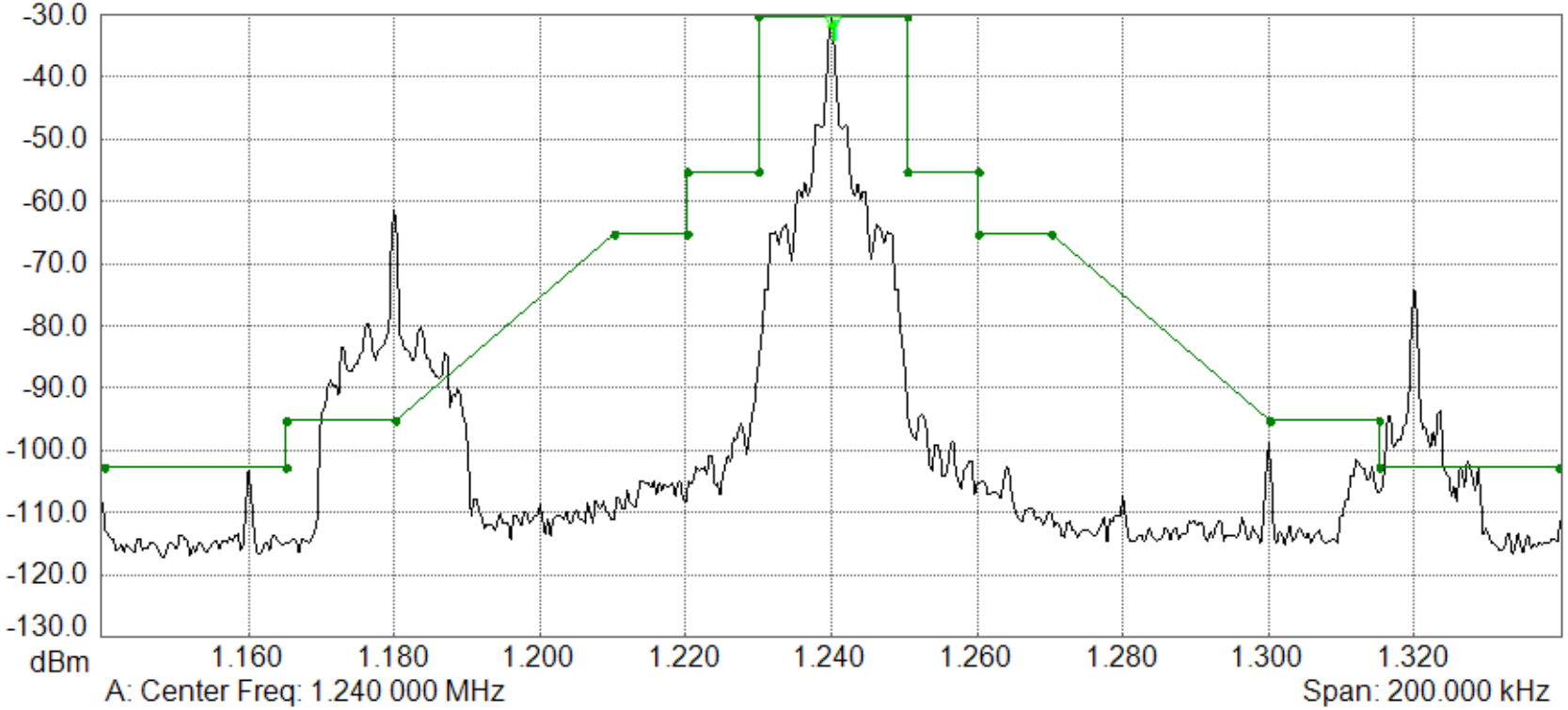
Min Sweep Time = 0.001 S	Stop Frequency = 1.265 000 MHz	Options = 9, 20, 31
Reference Level Offset = 0 dB	Frequency Span = 50.000 000 kHz	Date = 7/27/2016 1:34:20 PM
Input Attenuation = 0.0 dB	Reference Level = -30.800 dBm	Device Name =
RBW = 100.0 Hz	Scale = 10.0 dB/div	
VBW = 30.0 Hz	Serial Number = 1002033	

Spectrum Analyzer Data

WJIM-B (7/27/2016 1:19:59 PM)

Spectrum Analyzer



Trace A data:	Detection = Peak	Base Ver. = V4.32
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Preamp = OFF	Start Frequency = 1.140 000 MHz	Model = MS2721B
Min Sweep Time = 0.001 S	Stop Frequency = 1.340 000 MHz	Options = 9, 20, 31
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RBW = 300.0 Hz	Scale = 10.0 dB/div	
VBW = 100.0 Hz	Serial Number = 1002033	

ENGINEERING REPORT
OCCUPIED SPECTRUM ANALYSIS

CFR 47 §73.44 Compliance

KTGG(AM) - Lansing, MI

1540 kHz

July 2016

MUNN–REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036

AM OCCUPIED SPECTRUM ANALYSIS

Station Data

Call: KTGG

City of License: Lansing, MI

Frequency: 1540 kHz

Operating Mode: NDD

Schedule: Daytime

Day Power: 0.40 kW

Critical Hours Power 0.219 kW

Facility ID: 61993

Measurement Date: 07/29/2016

Discussion

The measurement data obtained for this report indicates the operation of KTGG to be IN COMPLIANCE with the provisions of CFR 47 §73.44 of the FCC rules regarding AM Broadcast Stations. Occupied Spectrum measurements were taken during the regular broadcast day by Edmond R. Trombley, staff engineer in the regular employ of Munn-Reese, Inc. In addition, spurious emission and harmonic measurements were made using a calibrated field strength meter. All measurements were made within 1 km of the transmitter, to provide sufficient signal to the analyzer.

Equipment employed

Anritsu MS2721B Spectrum Master. Technical specifications of the Anritsu MS2721B are available on the Internet at www.anritsu.com.

Potomac Instruments FIM-41, Field Meter, Serial No: 1149. Calibration Date: 05/04/2016. Technical specifications of the FIM-41 field intensity meter are available at www.pi-usa.com.

EXHIBITS

Measured Carrier Frequency – 1,540,004.277 Hz.

Figure A - Plot of Occupied Spectrum – Span 50 kHz

Figure B - Plot of Occupied Spectrum – Span 200 kHz

Figure C - Tabulation of Harmonic Measurement Data

HARMONIC MEASUREMENT DATA

Operating Power:	0.40 kW	
Required Attenuation:	-69.02 dB	
Fundamental Field:	470 mV/M	
Second Harmonic:	0.011 mV/m	-92.61 dB below reference
Third Harmonic:	0.013 mV/m	-91.16 dB below reference

This report has been prepared by properly trained electronics specialists under the direction of the undersigned whose qualifications are a matter of record before the Federal Communications Commission. I declare under penalty of laws of perjury that the contents of this report are true and accurate to the best of my knowledge and belief.

July, 29, 2016

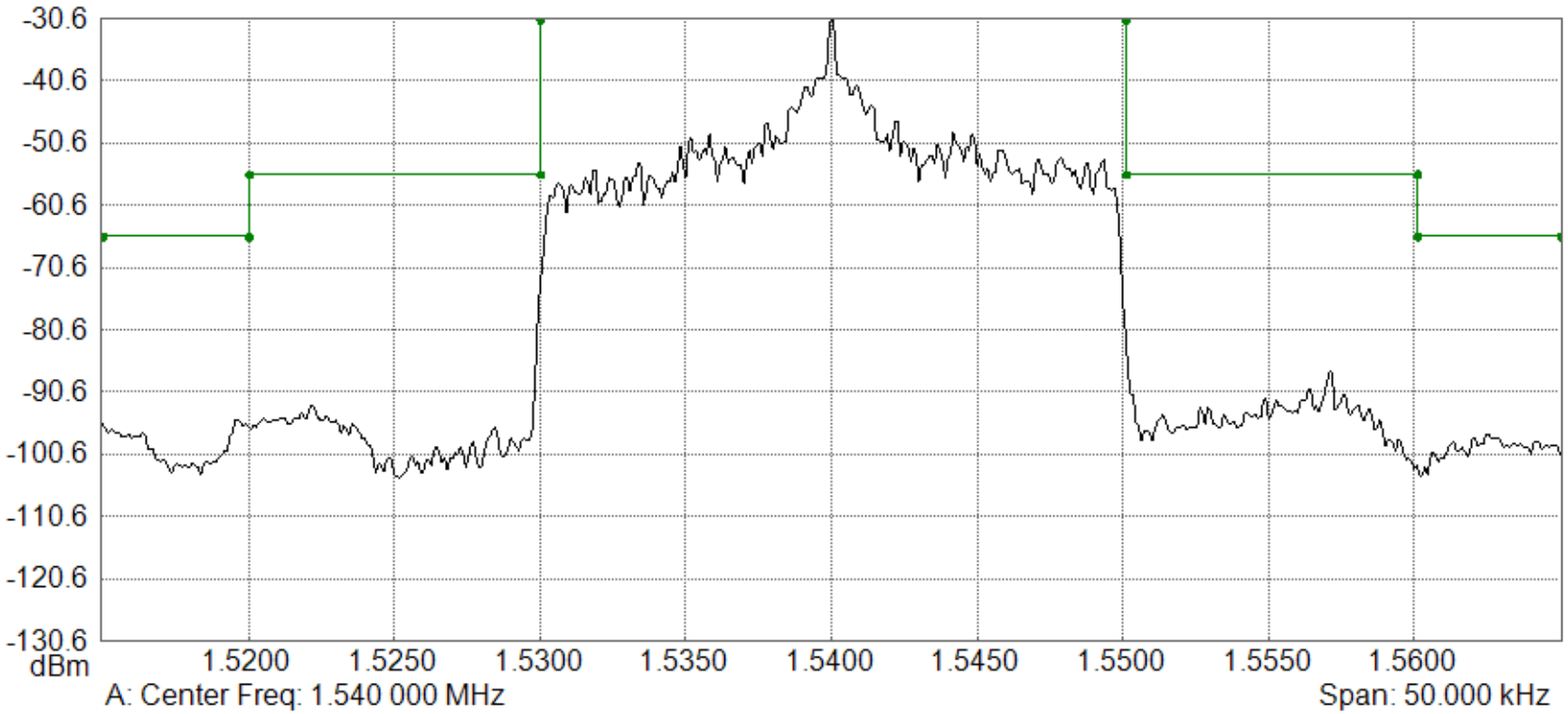
By _____
Wayne S. Reese, President

By _____
Edmond R. Trombley, Project Engineer

Spectrum Analyzer Data

KTGG-A (7/27/2016 1:58:46 PM)

Spectrum Analyzer



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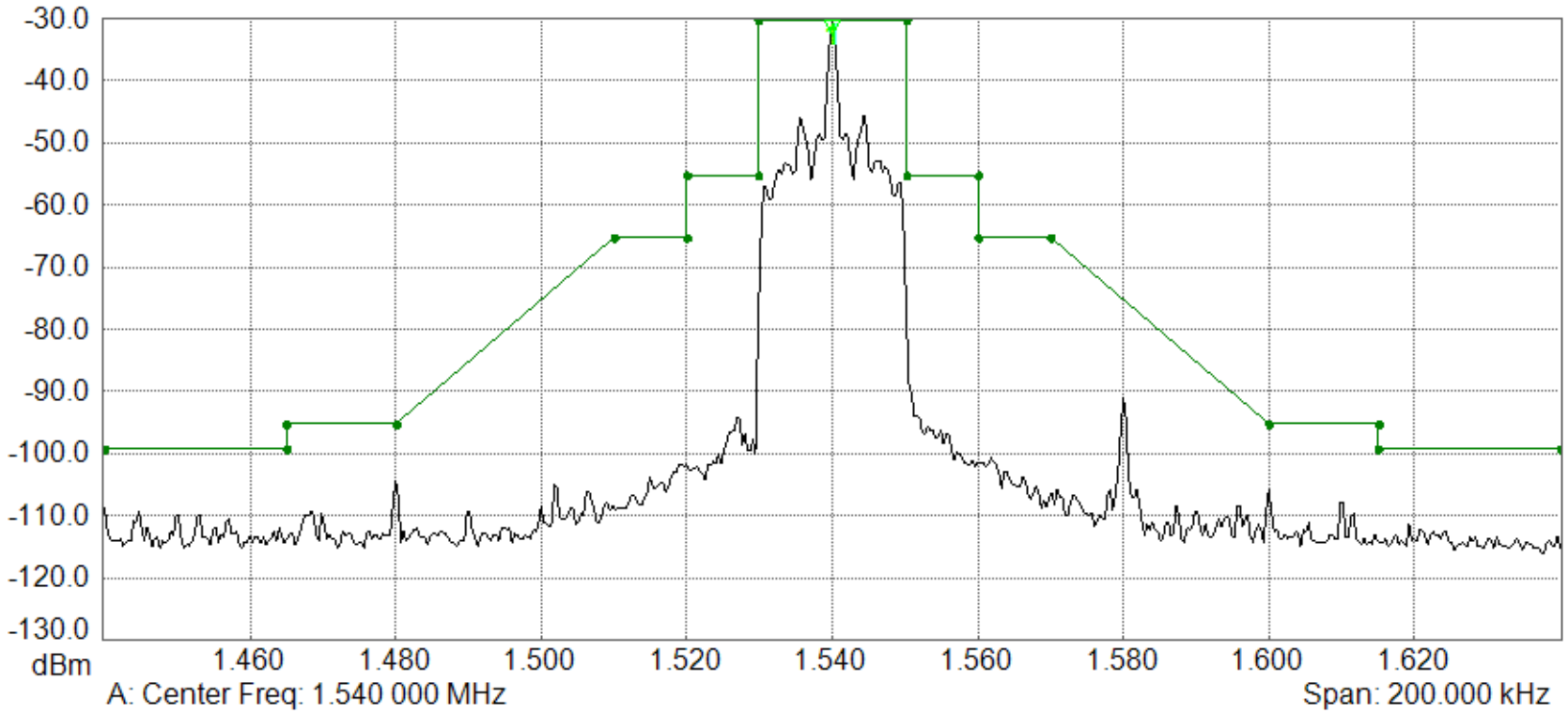
RBW = 100.0 Hz	Scale = 10.0 dB/div	
VBW = 30.0 Hz	Serial Number = 1002033	

Spectrum Analyzer Data

KTGG-B (7/27/2016 1:44:32 PM)



Trace A data:	Detection = Peak	Base Ver. = V4.32
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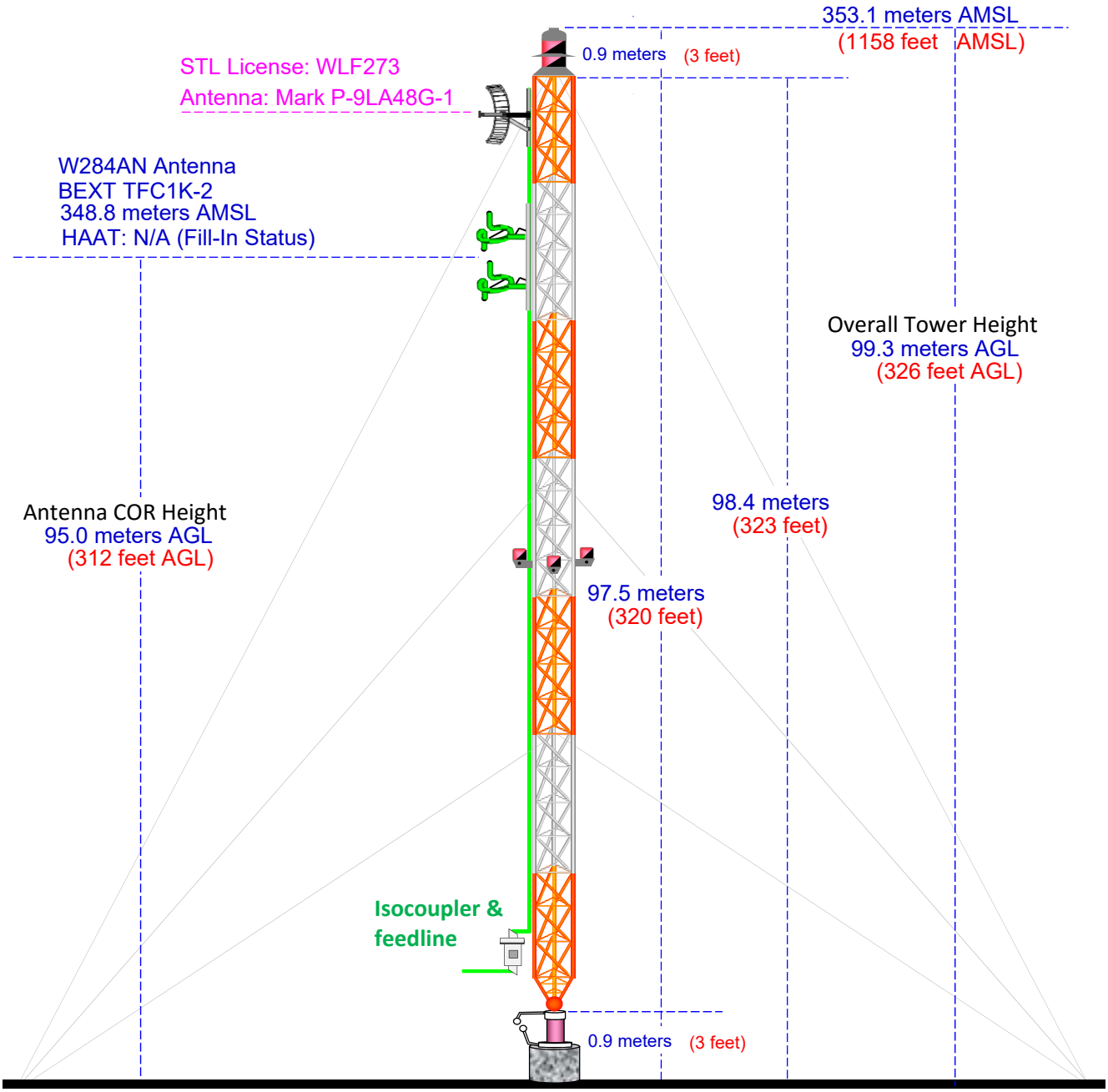
Reference Level Offset = 0 dB	Frequency Span = 200.000 000 kHz	Date = 7/27/2016 1:44:32 PM
Input Attenuation = 0.0 dB	Reference Level = -30.000 dBm	Device Name =
RBW = 300.0 Hz	Scale = 10.0 dB/div	
VBW = 100.0 Hz	Serial Number = 1002033	

Lansing, MI - WJIM(AM)
Vertical Plan of Antenna System

THE SITE IS LOCATED AT 2150 EAST MAIN STREET; THE CITY OF LANSING; INGHAM COUNTY; THE STATE OF MICHIGAN.	
Antenna Structure Registration No. **1055176**	**Latitude (D M S)** **Longitude (D M S)** NAD 27 datum values: 42 43 12.87386 84 31 10.68054 NAD 83 datum values: 42 43 13.00000 84 31 10.60000



Ground Elevation = 253.8 meters AMSL (833 feet AMSL)

Drawing is not to Scale

Munn–Reese, Inc.
Broadcast Engineering Consultants
Coldwater, MI 49036