

READ INSTRUCTIONS CAREFULLY
BEFORE PROCEEDING

FEDERAL COMMUNICATIONS COMMISSION
REMITTANCE ADVICE
FORM 159

Approved by OMB
3060-0589
Page No. 1 of 1

RECEIVED
2014 APR -3 P 3

(1) LOCKBOX # 979089		SPECIAL USE ONLY	
		FCC USE ONLY	
SECTION A - PAYER INFORMATION			
(2) PAYER NAME (if paying by credit card enter name exactly as it appears on the card) Putbrese Hunsaker & Trent, P.C.		(3) TOTAL AMOUNT PAID (U.S. Dollars and cents) \$730.00	
(4) STREET ADDRESS LINE NO. 1 200 South Church Street			
(5) STREET ADDRESS LINE NO. 2			
(6) CITY Woodstock		(7) STATE VA	(8) ZIP CODE 22664
(9) DAYTIME TELEPHONE NUMBER (include area code) (540) 459-7646		(10) COUNTRY CODE (if not in U.S.A.)	
FCC REGISTRATION NUMBER (FRN) REQUIRED			
(11) PAYER (FRN) 0004202685		(12) FCC USE ONLY	
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C) COMPLETE SECTION BELOW FOR EACH SERVICE. IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET			
(13) APPLICANT NAME Buddy Tucker Association, Inc.			
(14) STREET ADDRESS LINE NO. 1 P.O. Box 63			
(15) STREET ADDRESS LINE NO. 2			
(16) CITY Mobile		(17) STATE AL	(18) ZIP CODE 36601
(19) DAYTIME TELEPHONE NUMBER (include area code) (334) 432-1360		(20) COUNTRY CODE (if not in U.S.A.)	
FCC REGISTRATION NUMBER (FRN) REQUIRED			
(21) APPLICANT (FRN) 0009653767		(22) FCC USE ONLY	
COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET			
(23A) CALL SIGN/OTHER ID WMOB	(24A) PAYMENT TYPE CODE MOR	(25A) QUANTITY 1	
(26A) FEE DUE FOR (PTC) \$730.00	(27A) TOTAL FEE \$730.00	FCC USE ONLY	
(28A) FCC CODE 1 7740		(29A) FCC CODE 2 AL, Mobile	
(23B) CALL SIGN/OTHER ID	(24B) PAYMENT TYPE CODE	(25B) QUANTITY	
(26B) FEE DUE FOR (PTC)	(27B) TOTAL FEE	FCC USE ONLY	
(28B) FCC CODE 1		(29B) FCC CODE 2	
SECTION D - CERTIFICATION			
CERTIFICATION STATEMENT I, <u><i>John W. Trent</i></u> , certify under penalty of perjury that the foregoing and supporting information is true and correct to the best of my knowledge, information and belief.			
SIGNATURE <u><i>John W. Trent</i></u>		DATE <u><i>3/27/2014</i></u>	
SECTION E - CREDIT CARD PAYMENT INFORMATION			
MASTERCARD _____ VISA _____ AMEX _____ DISCOVER _____			
ACCOUNT NUMBER _____		EXPIRATION DATE _____	
I hereby authorize the FCC to charge my credit card for the service(s)/authorization herein described.			
SIGNATURE _____		DATE _____	

John C. Trent

David M. Hunsaker
(1944 - 2002)
Keith E. Putbrese
(Retired)

Law Offices of
Putbrese Hunsaker & Trent, P.C.
200 South Church Street
Woodstock, Virginia 22664
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JCT e-mail:
fccman3@shentel.net

March 27, 2014

Federal Communications Commission
Media Bureau
P.O. Box 979089
St. Louis MO 63197-9000

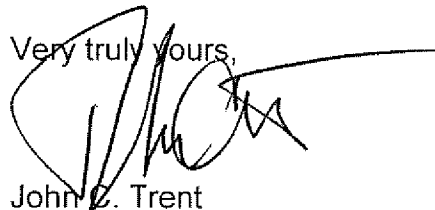
Re: Radio Station WMOB (AM), Mobile, Alabama, FCC Facility ID No.7740;
License to Cover CP BP-20101012AEM

Dear Madam Secretary:

On behalf of Buddy Tucker Association, Inc., the Licensee of Radio Station WMOB (AM), Mobile, Alabama, please find attached in triplicate, FCC Form 302-AM License Application to cover Construction Permit BP-20101012AEM.

In addition the Form 302-AM, there is attached FCC Form 159, together with credit card information for the requisite filing fee of \$730.00. If you have any questions, please contact this office.

Very truly yours,



John C. Trent

cc: WMOB Public Inspection File

FOR
FCC
USE
ONLY

FCC 302-AM
APPLICATION FOR AM
BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY

FILE NO *Bmmk-20140328ALF*

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

Putbrese Hunsaker & Trent, P.C.

MAILING ADDRESS (Line 1) (Maximum 35 characters)
200 South Church Street

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY
Woodstock

STATE OR COUNTRY (if foreign address)
VA

ZIP CODE
22664

TELEPHONE NUMBER (include area code)
5404597646

CALL LETTERS
WMOB

OTHER FCC IDENTIFIER (If applicable)
7740

2. A. Is a fee submitted with this application?

☒ Yes ☐ No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

☐ Governmental Entity ☐ Noncommercial educational licensee ☐ Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A)	(B)	(C)	
FEE TYPE CODE	FEE MULTIPLE	FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M O R	0 0 0 1	\$ 730.00	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	
			FOR FCC USE ONLY
	0 0 0 1	\$	

ADD ALL AMOUNTS SHOWN IN COLUMN C,
AND ENTER THE TOTAL HERE.
THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED
REMITTANCE.

TOTAL AMOUNT
REMITTED WITH THIS
APPLICATION
\$ 730.00

FOR FCC USE ONLY

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Buddy Tucker Association, Inc.		
MAILING ADDRESS P.O. Box 63		
CITY Mobile	STATE AL	ZIP CODE 36601

2. This application is for:

☒ Commercial
 ☐ Noncommercial
☒ AM Directional
 ☐ AM Non-Directional

Call letters WMOB	Community of License Mobile	Construction Permit File No. BP-20101012AEM	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit 06/28/2015
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3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☐ Yes
 ☒ No

If No, explain in an Exhibit.

Exhibit No.
see engineering

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☒ Yes
 ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☒ Yes
 ☐ No

If Yes, explain in an Exhibit.

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☐ Yes
 ☐ No

☒ Does not apply

If No, explain in an Exhibit.

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes
 ☒ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☒ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

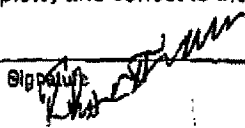
The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

☒ Yes ☐ No

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

Name Theodore D. Tucker	Signature 	
Title President	Date 03/25/2014	Telephone Number (251) 660-1360

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3080-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3). AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-311, DECEMBER 11, 1980, 44 U.S.C. 3507.

ENGINEERING STATEMENT CONCERNING

APPLICATION FOR LICENSE INFORMATION

EMPLOYING MOMENT METHOD MODELING

WMOB, 1360 KHZ, DA-2

MOBILE, ALABAMA

MARCH, 2014

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

BUDDY TUCKER ASSOCIATION, INC.

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	
WMOB	BP-20101012AEM	1360	UNLIMITED	Night 0.20	Day 9.0

2. Station location

State ALABAMA	City or Town MOBILE
------------------	------------------------

3. Transmitter location

State AL	County BALDWIN	City or Town SPANISH FORT	Street address (or other identification) 1263 BATTLESHIP PKWY
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4. Main studio location

State AL	County BALDWIN	City or Town SPANISH FORT	Street address (or other identification) 1263 BATTLESHIP PKWY
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5. Remote control point location (specify only if authorized directional antenna)

State AL	County BALDWIN	City or Town SPANISH FORT	Street address (or other identification) 1263 BATTLESHIP PKWY
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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.

ENG

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 2.08	RF common point or antenna current (in amperes) without modulation for day system 13.77
Measured antenna or common point resistance (in ohms) at operating frequency Night 50.0 Day 50.0	Measured antenna or common point reactance (in ohms) at operating frequency Night 0.0 Day 0.0

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
1 (S)	0.0	0.0	1.000	1.000		
2 (N)	-3.6	-135.0	.963	.468		

Manufacturer and type of antenna monitor:

POTOMAC INSTRUMENTS 1901-2

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 SELF SUPPORTING TOWER	Overall height in meters of radiator above base insulator, or above base, if grounded. 56.7	Overall height in meters above ground (without obstruction lighting) 59.9	Overall height in meters above ground (include obstruction lighting) 59.9	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. Exhibit No. ENG
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Excitation ☒ Series ☐ Shunt

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

North Latitude	30 ° 40 ' 54 "	West Longitude	88 ° 00 ' 02 "
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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. ENG

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system.

Exhibit No. ENG

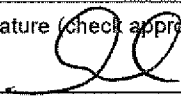
10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

NONE

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

NEW CONSTRUCTION

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) KURT GORMAN	Signature (check appropriate box below) 
Address (include ZIP Code) PHASETEK INC. 550 CALIFORNIA ROAD, SUITE 11 QUAKERTOWN, PA 18951	Date MARCH 7, 2014 Telephone No. (Include Area Code) 215-536-6648

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☒ Technical Consultant

☐ Other (specify)

PHASETEK INC.
**ENGINEERING STATEMENT CONCERNING
APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB, 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014**

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302-AM

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PHASETEK INC.

ENGINEERING STATEMENT CONCERNING APPLICATION FOR LICENSE INFORMATION EMPLOYING MOMENT METHOD MODELING WMOB, 1360 KHZ, DA-2 MOBILE, ALABAMA MARCH, 2014

SUMMARY

Adjustment of the Antenna System and a Proof of Performance employing Moment Method Modeling was performed on Radio Station WMOB, 1360 kHz, Mobile, Alabama, after installation of Antenna Phasing equipment, Transmission and Sampling Lines, and new Tower Feed Assemblies. WMOB holds Construction Permit Number: BP-20101012AEM to change Transmitter site and patterns. This report was prepared on behalf of Buddy Tucker Association, Inc, licensee of Radio Station WMOB.

SITE MODIFICATIONS

The WMOB Transmitter site is that as previously licensed for Radio Station WLTV, 1410 kHz, which was abandoned in 2009. New Transmission Lines, Sampling Lines, and Antenna Phasing and Branching equipment have been installed. All Towers remain unchanged. A License Application employing Moment Method Modeling as set forth in Section 73.151(C) has been done to cover the Radio Station WMOB Construction Permit and license under the new rules.

REFERENCE POINTS

Reference Points were measured at pattern minima and maxima for the Directional modes of operation. These Points and their measured field intensity are shown in Figure 15.

METHOD OF MOMENTS DETAIL

All Moment Method Modeling was done with Expert MININEC Broadcast Professional, Version 23. Towers were driven individually to verify the Model compared to measured impedance data. Once the Model was verified, both the Day and Night Directional Antenna Systems were computed. For Directional modes, the complex voltage values for sources located at ground level were computed. These sources produce current moment sums for each Tower that, when normalized, equate to the Theoretical Field Parameters for each respective Tower.

PHASETEK INC.

ENGINEERING STATEMENT CONCERNING APPLICATION FOR LICENSE INFORMATION EMPLOYING MOMENT METHOD MODELING WMOB, 1360 KHZ, DA-2 MOBILE, ALABAMA MARCH, 2014

MEASURING EQUIPMENT AND PERSONNEL

All Tower Resistance and Reactance measurements were made with a Delta Electronics OIB-3 Operating Impedance Bridge and an Array Solutions Power AIM 120 Vector Network Analyzer. Before use, tests of known impedances were made to verify operation. All Field Intensity Measurements were made with a Potomac Instruments Field Intensity Meter; FIM-41, Serial Number 2181, calibrated on June 27, 2006. The meter was calibrated by Potomac Instruments, Silver Spring, Maryland. The meter was also compared to a Potomac Instrument FIM-21, Serial Number 901, calibrated August 29, 2012 by Potomac Instruments and agreed within tolerance. All measurements were taken by Phasetek Inc. personnel supervised by Kurt Gorman of Phasetek Inc.

CONCLUSION

It is believed that the WMOB Antenna System has been constructed and adjusted in accordance with all applicable Commission rules and regulations. The foregoing was prepared on behalf of Buddy Tucker Association Inc., under the immediate supervision of Kurt Gorman, Phasetek Inc., Quakertown, Pennsylvania, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

PHASETEK INC.

**ENGINEERING STATEMENT CONCERNING
APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB, 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014**

A handwritten signature in black ink, consisting of two large, stylized loops, positioned above a horizontal line.

**Kurt Gorman, President
Phasetek Inc.
Quakertown, Pennsylvania**

FIGURE 1

ANTENNA SYSTEM AS ADJUSTED

APPLICATION FOR LICENSE INFORMATION EMPLOYING MOMENT METHOD MODELING WMOB, 1360 KHZ, DA-2 MOBILE, ALABAMA MARCH, 2014

ANTENNA SYSTEM DESCRIPTION

1. The Antenna System consists of two (2), self-supporting, vertical steel transmitting Towers. Towers stand 56.7M (92.5°) above their Base Insulators. The Towers are arranged with Tower 1 as a reference; Tower 2 is spaced 127.9° on a bearing of 0.0°T. No lighting or additional Antennas are installed on either Tower.
2. The Ground System for each Tower consists of (120) buried copper Radials, 73.2M in length, except where they intersect with copper transverse straps between Towers or property boundaries. Copper strap connects all Towers to the main Transmitter grounding point.
3. The Sampling System consists of two (2), Delta Electronics TCT-3, 1.0 V/A Toroidal Current Transformers. Both TCT's are at the Output of each Antenna Tuning Unit. These TCT's are connected to a Potomac Instruments 1901-2 Antenna Monitor via two (2) equal lengths of Andrew, LDF2-50, 3/8" phase stabilized foam coaxial cable.

**FIGURE 1
ANTENNA SYSTEM AS ADJUSTED**

**APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014**

CONTINUED

ANTENNA SYSTEM DESCRIPTION – Continued

DIRECTIONAL OPERATION (DAY)

COMMON POINT

Impedance = 50.0 + j 0.0 Ohms
Current = 13.77 Amperes
Power = 9,477 Watts

DIRECTIONAL OPERATION (NIGHT)

COMMON POINT

Impedance = 50.0 + j 0.0 Ohms
Current = 2.08 Amperes
Power = 216 Watts

Directional Antenna Monitor indications are within $\pm 5\%$ and $\pm 3^\circ$ of the modeled TCT values.

FIGURE 2
WMOB SAMPLING SYSTEM DESCRIPTION/MEASUREMENTS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

SAMPLING SYSTEM DESCRIPTION

The Sampling System consists of Delta Electronics TCT-3 Toroidal Sampling Transformers (1.0 volt/amp) mounted at the base of each Tower. The sampling devices are connected to the Antenna Monitor with equal lengths of Andrew LDF2-50. The Antenna Monitor is a Potomac Instruments Model 1901-2, Serial Number 844.

SAMPLE LINE MEASUREMENTS

Impedance measurements were made of the Antenna Sampling Lines using an Array Solutions Power Aim 120 Vector Network Analyzer (VNA). Measurements were done with the lines open circuited and then connected to the TCT's.

The table below shows the frequencies above and below the carrier frequency where resonance, defined as zero reactance corresponding with low resistance, was found. Frequencies of resonance occur at odd multiples of 90 degrees electrical length, the Sample Line length at the resonant frequency below the carrier frequency, which is the closest one to the carrier frequency, was found to be 270 electrical degrees. The electrical length at carrier frequency appearing in the table below was calculated by ratioing the frequencies.

SAMPLE LINE MEASUREMENTS

	Resonant Frequency (KHz) below 1360 KHz	Resonant Frequency (KHz) above 1360 KHz	Calculated Electrical Length (deg) at 1360 KHz	Measured Impedance (ohms) Connected to TCT @ 1360 KHz
Tower 1	1186.2	1984.1	309.6	49.27 -j 1.30
Tower 2	1189.1	1989.8	308.8	49.18 -j 1.36

FIGURE 2
WMOB SAMPLING SYSTEM DESCRIPTION/MEASUREMENTS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014
CONTINUED

SAMPLE LINE MEASUREMENTS (CONTINUED)

To determine the characteristic impedance values of the Sample Lines, open-circuited measurements were made with frequencies offset to produce ± 45 degrees of electrical length from resonance. The characteristic impedance was calculated using the following formula, where $R_1 + j X_1$ and $R_2 + j X_2$ are the measured impedances at the +45 and -45 degree offset frequencies, respectively:

$$Z_0 = ((R_1^2 + X_1^2)^{1/2} \cdot (R_2^2 + X_2^2)^{1/2})^{1/2}$$

WSRF TOWER SAMPLE LINE MEASUREMENTS

Tower	+ 45 Degree Offset Frequency (kHz)	+ 45 Degree Measured Impedance (Ohms)	- 45 Degree Offset Frequency (kHz)	- 45 Degree Measured Impedance (Ohms)	Calculated Characteristic Impedance (Ohms)
1	1383.9	7.69 +J 49.90	988.5	5.41 -J 49.94	50.36
2	1387.3	7.50 +J 49.50	990.9	5.40 -J 50.19	50.27

SAMPLING TCT MEASUREMENTS

Measurements of the Delta Electronics TCT-3, 1.0 V/A Toroidal Current Transformers were performed by a Hewlett Packard 8713C, Network Analyzer. Measurements are normalized to Tower #1 (reference) and are within the manufacturer's rating of $\pm 2.0\%$ and $\pm 3.0^\circ$.

FIGURE 2
WMOB SAMPLING SYSTEM DESCRIPTION/MEASUREMENTS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

CONTINUED

SAMPLING TCT MEASUREMENTS CONT'D

<i>TOWER</i>	<i>TCT SERIAL #</i>	<i>MAGNITUDE</i>	<i>PHASE</i>
1	17894	1.000	0.0°
2	18004	.999	0.1°

ANTENNA MONITOR MEASUREMENT

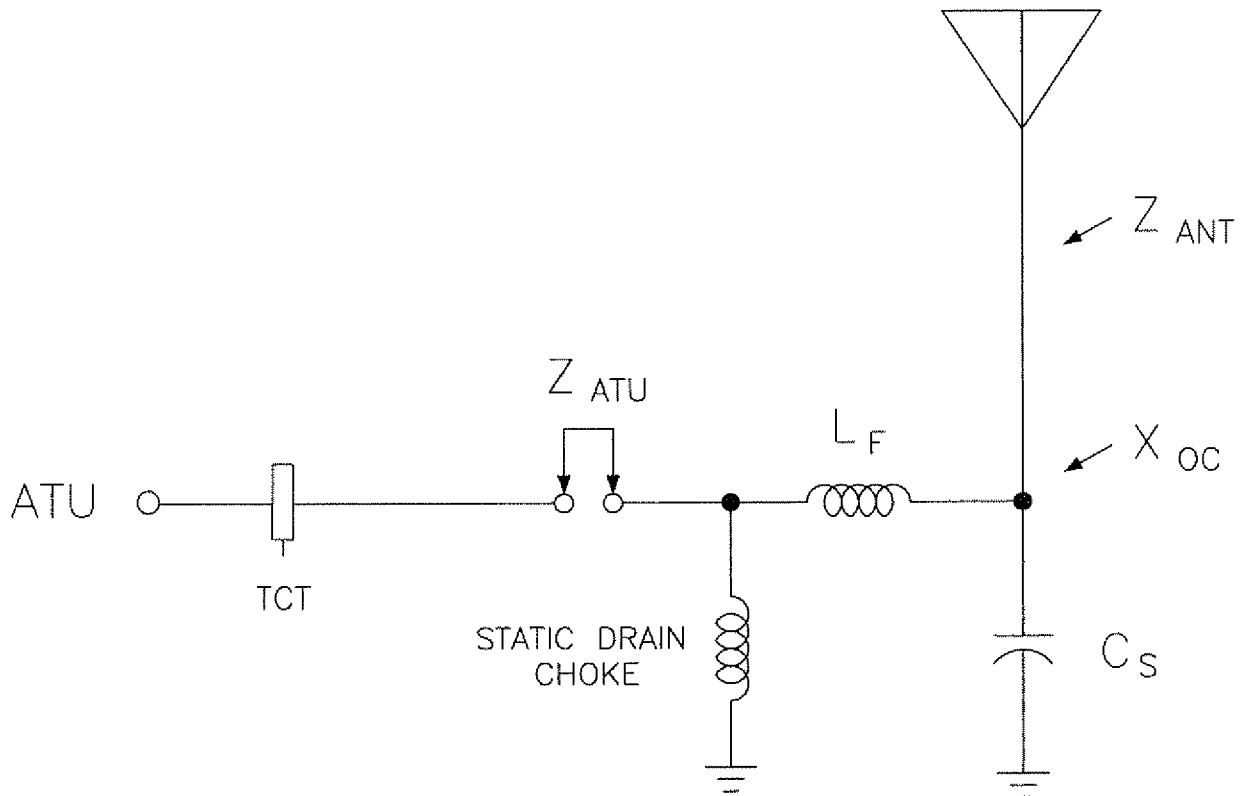
Measurement of the Potomac Instruments Model 1901-2 Antenna Monitor was performed to verify calibration. A single RF Voltage was applied to the Reference Input (Tower #1) and each other Input by use of a "T" divider and equal electrical length coaxial cables. This yields the following:

Tower	Ratio	Phase
1	1.000	0.0°
2	1.001	-0.2°

The above is within the manufacturer's rating of $\pm 1.0\%$ and $\pm 1.0^\circ$.

FIGURE 3
WMOB TOWER IMPEDANCE MEASUREMENTS COMPARED TO
METHOD OF MOMENTS MODEL

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014



TOWER	Calculated $X_{OC} (\Omega)$	Measured $L_F (\mu H)$	Measured $X_F (\Omega)$	Modeled $Z_{ANT} (\Omega)$	Modeled $Z_{ATU} (\Omega)$	Measured $Z_{ATU} (\Omega)$
1	-j2,600.6	1.05	+j9.0	87.6 +j97.5	94.9 +j107.1	99.0 +j103.4
2	-j2,600.6	1.17	+j10.0	87.6 +j97.6	94.9 +j108.1	99.0 +j106.1

FIGURE 4
WMOB MOMENT MODEL PARAMETERS

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EMPLOYING MOMENT METHOD MODELING
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MOBILE, ALABAMA
MARCH, 2014

Tower #	Wire #	Base Node	Physical Height Degrees	Modeled Height Degrees
1	1 - 26	1	92.5	103.4
2	27 - 52	105	92.5	103.4

Both Towers are three (3) sided, self-supporting. Each Tower has three (3) Base Insulators. Tower construction is identical for both Towers. Each Tower has 120" face width at base and tapers 36" face width at 46 ft. then tapers to 30" face width at top.

All Base Insulators are manufactured by LAPP Insulators. Assumed capacity of 15pf each, 45pf (-j2600.9 ohms @ 1360 kHz) total.

Both Towers have a Kintronics Static Drain Choke. These measure -j 42,000 ohms @ 1360 KHz.

MODEL DESCRIPTION

Due to the size/taper of the base section, a multiple wire model was used to represent the base section legs and cross members. A single wire was used to model the upper section of the Tower. A single base feed wire at ground represents the actual Tower Feed Assembly. All wires used are within 75 – 125% of the actual lengths and within 80 – 150% of the equivalent radius of elements.

Figure 4A shows the actual Tower dimensions.

FIGURE 4A
WMOB TOWER ELEVATION

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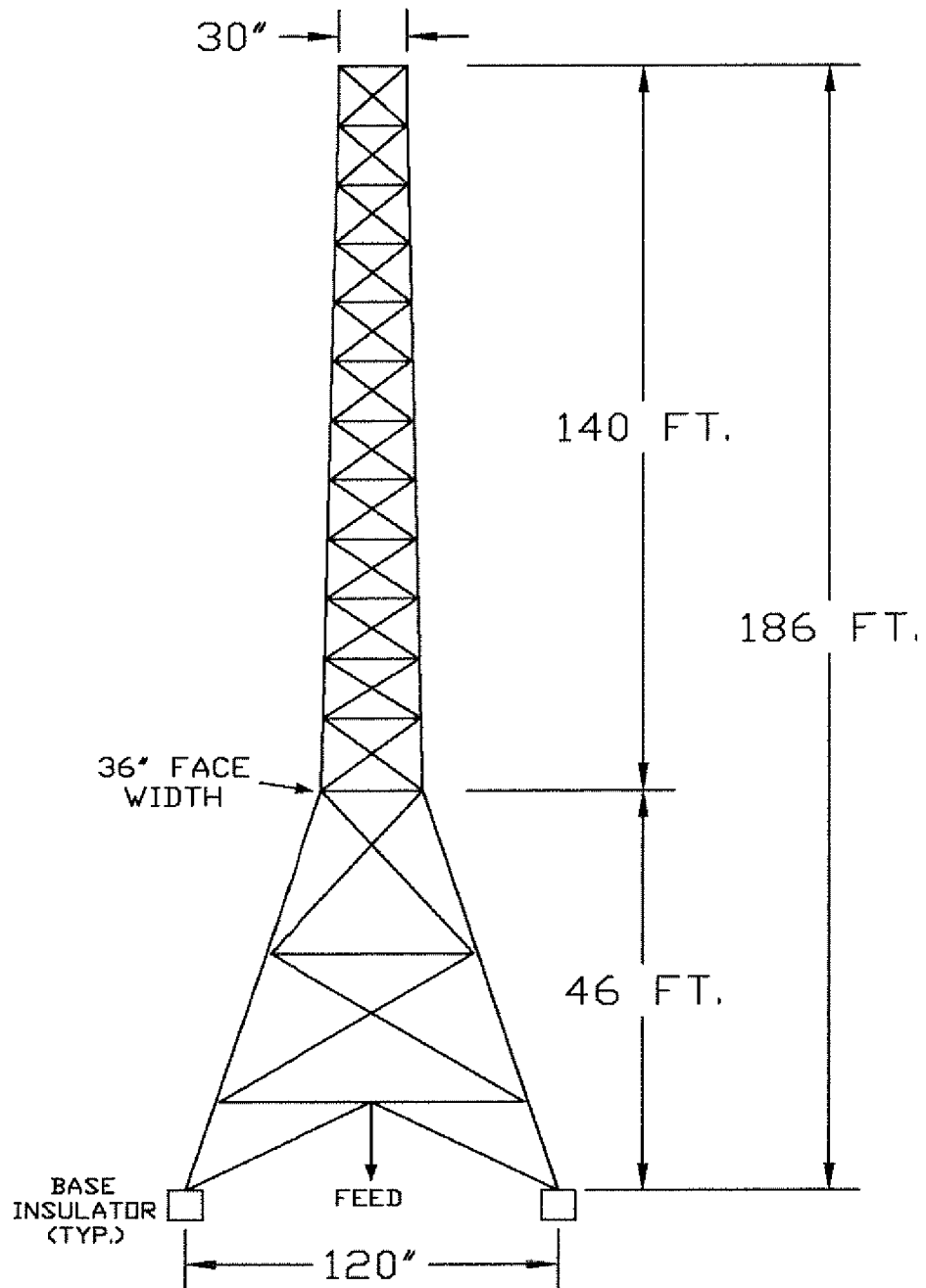


FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING

WMOB 1360 KHZ, DA-2

MOBILE, ALABAMA

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WMOB TOWER 1 (OTHER OPEN)

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.005	2
		0	0	1.6		
2	none	0	0	1.6	.04	2
		3.	0	.5		
3	none	0	0	1.6	.04	2
		3.	120.	.5		
4	none	0	0	1.6	.04	2
		3.	240.	.5		
5	none	3.	0	.5	.04	4
		2.	0	9.3		
6	none	3.	120.	.5	.04	4
		2.	120.	9.3		
7	none	3.	240.	.5	.04	4
		2.	240.	9.3		
8	none	2.	0	9.3	.04	4
		1.	0	18.6		
9	none	2.	120.	9.3	.04	4
		1.	120.	18.6		
10	none	2.	240.	9.3	.04	4
		1.	240.	18.6		
11	none	1.	0	18.6	.04	4
		0	0	28.		
12	none	1.	120.	18.6	.04	4
		0	0	28.		
13	none	1.	240.	18.6	.04	4
		0	0	28.		
14	none	3.	0	.5	.04	4
		2.	120.	9.3		
15	none	3.	120.	.5	.04	4
		2.	240.	9.3		
16	none	3.	240.	.5	.04	4
		2.	0	9.3		
17	none	2.	0	9.3	.04	4
		1.	120.	18.6		
18	none	2.	120.	9.3	.04	4
		1.	240.	18.6		
19	none	2.	240.	9.3	.04	4
		1.	0	18.6		
20	none	2.	0	9.3	.04	1
		2.	120.	9.3		
21	none	2.	120.	9.3	.04	1
		2.	240.	9.3		
22	none	2.	240.	9.3	.04	1
		2.	0	9.3		
23	none	1.	0	18.6	.04	1
		1.	120.	18.6		
24	none	1.	120.	18.6	.04	1
		1.	240.	18.6		
25	none	1.	240.	18.6	.04	1
		1.	0	18.6		

FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

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EMPLOYING MOMENT METHOD MODELING

WMOB 1360 KHZ, DA-2

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WMOB TOWER 1 (OTHER OPEN) CONT'D

wire	caps	Distance	Angle	Z	radius	segs
26	none	0	0	28. 103.4	.35	16
27	none	127.9	0	0	.005	2
28	none	127.9	0	1.6	.04	2
29	none	127.9	0	1.6	.04	2
30	none	126.43	1.18	.5	.04	2
31	none	126.43	358.82	.5	.04	4
32	none	129.9	0	9.3	.04	4
33	none	126.43	1.18	.5	.04	4
34	none	126.91	.78	9.3	.04	4
35	none	126.43	358.82	.5	.04	4
36	none	126.91	359.22	9.3	.04	4
37	none	129.9	0	9.3	.04	4
38	none	128.9	0	18.6	.04	4
39	none	126.91	.78	9.3	.04	4
40	none	127.4	.39	18.6	.04	4
41	none	126.91	359.22	9.3	.04	4
42	none	127.4	359.61	18.6	.04	4
43	none	128.9	0	18.6	.04	4
44	none	127.9	0	28.	.04	4
45	none	127.4	.39	18.6	.04	4
46	none	127.9	0	28.	.04	4
47	none	127.4	359.61	18.6	.04	4
48	none	127.9	0	28.	.04	4
49	none	130.9	0	.5	.04	4
50	none	126.91	.78	9.3	.04	4
51	none	126.43	1.18	.5	.04	4
		126.91	359.22	9.3	.04	4
		126.43	358.82	.5	.04	4
		129.9	0	9.3	.04	4
		129.9	0	9.3	.04	4
		127.4	.39	18.6	.04	4
		126.91	.78	9.3	.04	4
		127.4	359.61	18.6	.04	4
		126.91	359.22	9.3	.04	4
		128.9	0	18.6	.04	1
		129.9	0	9.3	.04	1
		126.91	.78	9.3	.04	1
		126.91	.78	9.3	.04	1
		126.91	359.22	9.3	.04	1
		126.91	359.22	9.3	.04	1
		129.9	0	9.3	.04	1
		128.9	0	18.6	.04	1
		127.4	.39	18.6	.04	1
		127.4	.39	18.6	.04	1
		127.4	359.61	18.6	.04	1
		127.4	359.61	18.6	.04	1

FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

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MOBILE, ALABAMA
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WMOB TOWER 1 (OTHER OPEN) CONT'D

wire	caps	Distance	Angle	Z	radius	segs
		128.9	0	18.6		
52	none	127.9	0	28.	.35	16
		127.9	0	103.4		

Number of wires = 52
current nodes = 208

		minimum		maximum
Individual wires	wire	value	wire	value
segment length	1	.8	26	4.7125
radius	1	5.E-03	26	.35

ELECTRICAL DESCRIPTION

Frequencies (MHz)

no.	frequency	step	no. of steps	segment length (wavelengths)
1	1.36	0	1	2.22E-03
				maximum .0130903

Sources

source	node	sector	magnitude	phase	type
1	1	1	1.	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	105	0	-2,600.6	0	0	0

IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.36	87.571	97.502	131.05	48.1	4.2588	-4.1566	-2.1042

FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

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EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB TOWER 2 (OTHER OPEN)

GEOMETRY

Wire coordinates in degrees; other dimensions in meters
 Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.005	2
		0	0	1.6		
2	none	0	0	1.6	.04	2
		3.	0	.5		
3	none	0	0	1.6	.04	2
		3.	120.	.5		
4	none	0	0	1.6	.04	2
		3.	240.	.5		
5	none	3.	0	.5	.04	4
		2.	0	9.3		
6	none	3.	120.	.5	.04	4
		2.	120.	9.3		
7	none	3.	240.	.5	.04	4
		2.	240.	9.3		
8	none	2.	0	9.3	.04	4
		1.	0	18.6		
9	none	2.	120.	9.3	.04	4
		1.	120.	18.6		
10	none	2.	240.	9.3	.04	4
		1.	240.	18.6		
11	none	1.	0	18.6	.04	4
		0	0	28.		
12	none	1.	120.	18.6	.04	4
		0	0	28.		
13	none	1.	240.	18.6	.04	4
		0	0	28.		
14	none	3.	0	.5	.04	4
		2.	120.	9.3		
15	none	3.	120.	.5	.04	4
		2.	240.	9.3		
16	none	3.	240.	.5	.04	4
		2.	0	9.3		
17	none	2.	0	9.3	.04	4
		1.	120.	18.6		
18	none	2.	120.	9.3	.04	4
		1.	240.	18.6		
19	none	2.	240.	9.3	.04	4
		1.	0	18.6		
20	none	2.	0	9.3	.04	1
		2.	120.	9.3		
21	none	2.	120.	9.3	.04	1
		2.	240.	9.3		
22	none	2.	240.	9.3	.04	1
		2.	0	9.3		
23	none	1.	0	18.6	.04	1
		1.	120.	18.6		
24	none	1.	120.	18.6	.04	1
		1.	240.	18.6		

FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

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WMOB TOWER 2 (OTHER OPEN) CONT'D

wire	caps	Distance	Angle	Z	radius	segs
25	none	1.	240.	18.6	.04	1
		1.	0	18.6		
26	none	0	0	28.	.35	16
		0	0	103.4		
27	none	127.9	0	0	.005	2
		127.9	0	1.6		
28	none	127.9	0	1.6	.04	2
		130.9	0	.5		
29	none	127.9	0	1.6	.04	2
		126.43	1.18	.5		
30	none	127.9	0	1.6	.04	2
		126.43	358.82	.5		
31	none	130.9	0	.5	.04	4
		129.9	0	9.3		
32	none	126.43	1.18	.5	.04	4
		126.91	.78	9.3		
33	none	126.43	358.82	.5	.04	4
		126.91	359.22	9.3		
34	none	129.9	0	9.3	.04	4
		128.9	0	18.6		
35	none	126.91	.78	9.3	.04	4
		127.4	.39	18.6		
36	none	126.91	359.22	9.3	.04	4
		127.4	359.61	18.6		
37	none	128.9	0	18.6	.04	4
		127.9	0	28.		
38	none	127.4	.39	18.6	.04	4
		127.9	0	28.		
39	none	127.4	359.61	18.6	.04	4
		127.9	0	28.		
40	none	130.9	0	.5	.04	4
		126.91	.78	9.3		
41	none	126.43	1.18	.5	.04	4
		126.91	359.22	9.3		
42	none	126.43	358.82	.5	.04	4
		129.9	0	9.3		
43	none	129.9	0	9.3	.04	4
		127.4	.39	18.6		
44	none	126.91	.78	9.3	.04	4
		127.4	359.61	18.6		
45	none	126.91	359.22	9.3	.04	4
		128.9	0	18.6		
46	none	129.9	0	9.3	.04	1
		126.91	.78	9.3		
47	none	126.91	.78	9.3	.04	1
		126.91	359.22	9.3		
48	none	126.91	359.22	9.3	.04	1
		129.9	0	9.3		
49	none	128.9	0	18.6	.04	1
		127.4	.39	18.6		
50	none	127.4	.39	18.6	.04	1
		127.4	359.61	18.6		

FIGURE 5
WMOB MOMENT SUMMARY FOR INDIVIDUAL TOWERS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
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WMOB TOWER 2 (OTHER OPEN) CONT'D

wire	caps	Distance	Angle	Z	radius	segs
51	none	127.4	359.61	18.6	.04	1
		128.9	0	18.6		
52	none	127.9	0	28.	.35	16
		127.9	0	103.4		

Number of wires = 52
current nodes = 208

	minimum	maximum
Individual wires	wire value	wire value
segment length	1 .8	26 4.7125
radius	1 5.E-03	26 .35

ELECTRICAL DESCRIPTION

Frequencies (MHz)

no.	frequency	step	no. of steps	segment length (wavelengths)
1	lowest			minimum maximum
1	1.36	0	1	2.22E-03 .0130903

Sources

source	node	sector	magnitude	phase	type
1	105	1	1.	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	1	0	-2,600.6	0	0	0

IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	s11 dB	s12 dB
source = 1; node 105, sector 1							
1.36	87.568	97.548	131.09	48.1	4.261	-4.1544	-2.1056

FIGURE 6
WMOB MOMENT MODEL ARRAY SYNTHESIS (DIRECTIONAL DAY)

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WMOB DIRECTIONAL DAY

MEDIUM WAVE ARRAY SYNTHESIS FROM FIELD RATIOS

Frequency = 1.36 MHz

tower	field ratio magnitude	phase (deg)
1	1.	0
2	.569	-147.

VOLTAGES AND CURRENTS - rms

source	voltage node	magnitude	phase (deg)	current magnitude	phase (deg)
1	1,230.84	68.5	9.0578	10.9	
105	1,006.95	279.5	4.32708	233.6	

Sum of square of source currents = 201.535

Total power = 9,000. watts

TOWER ADMITTANCE MATRIX

admittance	real (mhos)	imaginary (mhos)
Y(1, 1)	.00604694	-.00502679
Y(1, 2)	.00295837	-7.8489E-05
Y(2, 1)	.00295837	-7.849E-05
Y(2, 2)	.00604371	-.00502681

TOWER IMPEDANCE MATRIX

impedance	real (ohms)	imaginary (ohms)
Z(1, 1)	87.3974	96.5377
Z(1, 2)	-3.3542	-48.9096
Z(2, 1)	-3.35418	-48.9096
Z(2, 2)	87.3993	96.5912

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL DAY MODE

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WMOB DIRECTIONAL DAY

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.005	2
		0	0	1.6		
2	none	0	0	1.6	.04	2
		3.	0	.5		
3	none	0	0	1.6	.04	2
		3.	120.	.5		
4	none	0	0	1.6	.04	2
		3.	240.	.5		
5	none	3.	0	.5	.04	4
		2.	0	9.3		
6	none	3.	120.	.5	.04	4
		2.	120.	9.3		
7	none	3.	240.	.5	.04	4
		2.	240.	9.3		
8	none	2.	0	9.3	.04	4
		1.	0	18.6		
9	none	2.	120.	9.3	.04	4
		1.	120.	18.6		
10	none	2.	240.	9.3	.04	4
		1.	240.	18.6		
11	none	1.	0	18.6	.04	4
		0	0	28.		
12	none	1.	120.	18.6	.04	4
		0	0	28.		
13	none	1.	240.	18.6	.04	4
		0	0	28.		
14	none	3.	0	.5	.04	4
		2.	120.	9.3		
15	none	3.	120.	.5	.04	4
		2.	240.	9.3		
16	none	3.	240.	.5	.04	4
		2.	0	9.3		
17	none	2.	0	9.3	.04	4
		1.	120.	18.6		
18	none	2.	120.	9.3	.04	4
		1.	240.	18.6		
19	none	2.	240.	9.3	.04	4
		1.	0	18.6		
20	none	2.	0	9.3	.04	1
		2.	120.	9.3		
21	none	2.	120.	9.3	.04	1
		2.	240.	9.3		
22	none	2.	240.	9.3	.04	1
		2.	0	9.3		
23	none	1.	0	18.6	.04	1
		1.	120.	18.6		

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL DAY MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB DIRECTIONAL DAY CONT'D

wire	caps	Distance	Angle	Z	radius	segs
24	none	1.	120.	18.6	.04	1
		1.	240.	18.6		
25	none	1.	240.	18.6	.04	1
		1.	0	18.6		
26	none	0	0	28.	.35	16
		0	0	103.4		
27	none	127.9	0	0	.005	2
		127.9	0	1.6		
28	none	127.9	0	1.6	.04	2
		130.9	0	.5		
29	none	127.9	0	1.6	.04	2
		126.43	1.18	.5		
30	none	127.9	0	1.6	.04	2
		126.43	358.82	.5		
31	none	130.9	0	.5	.04	4
		129.9	0	9.3		
32	none	126.43	1.18	.5	.04	4
		126.91	.78	9.3		
33	none	126.43	358.82	.5	.04	4
		126.91	359.22	9.3		
34	none	129.9	0	9.3	.04	4
		128.9	0	18.6		
35	none	126.91	.78	9.3	.04	4
		127.4	.39	18.6		
36	none	126.91	359.22	9.3	.04	4
		127.4	359.61	18.6		
37	none	128.9	0	18.6	.04	4
		127.9	0	28.		
38	none	127.4	.39	18.6	.04	4
		127.9	0	28.		
39	none	127.4	359.61	18.6	.04	4
		127.9	0	28.		
40	none	130.9	0	.5	.04	4
		126.91	.78	9.3		
41	none	126.43	1.18	.5	.04	4
		126.91	359.22	9.3		
42	none	126.43	358.82	.5	.04	4
		129.9	0	9.3		
43	none	129.9	0	9.3	.04	4
		127.4	.39	18.6		
44	none	126.91	.78	9.3	.04	4
		127.4	359.61	18.6		
45	none	126.91	359.22	9.3	.04	4
		128.9	0	18.6		
46	none	129.9	0	9.3	.04	1
		126.91	.78	9.3		
47	none	126.91	.78	9.3	.04	1
		126.91	359.22	9.3		
48	none	126.91	359.22	9.3	.04	1
		129.9	0	9.3		

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL DAY MODE

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MOBILE, ALABAMA
MARCH, 2014

WMOB DIRECTIONAL DAY CONT'D

wire	caps	Distance	Angle	Z	radius	segs
49	none	128.9	0	18.6	.04	1
		127.4	.39	18.6		
50	none	127.4	.39	18.6	.04	1
		127.4	359.61	18.6		
51	none	127.4	359.61	18.6	.04	1
		128.9	0	18.6		
52	none	127.9	0	28.	.35	16
		127.9	0	103.4		

Number of wires = 52
current nodes = 208

	minimum	maximum
Individual wires	wire value	wire value
segment length	1 .8	26 4.7125
radius	1 5.E-03	26 .35

ELECTRICAL DESCRIPTION

Frequencies (MHz)

no.	frequency	step	no. of steps	segment length (wavelengths)
1	1.36	0	1	minimum maximum
				2.22E-03 .0130903

Sources

source	node	sector	magnitude	phase	type
1	1	1	1,740.67	68.5	voltage
2	105	1	1,424.04	279.5	voltage

IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.36	72.722	114.79	135.89	57.6	5.5868	-3.1433	-2.8813
source = 2; node 105, sector 1							
1.36	162.02	167.04	232.71	45.9	6.8473	-2.5553	-3.5186

CURRENT rms

Frequency = 1.36 MHz
Input power = 9,000. watts
Efficiency = 100. %
coordinates in degrees

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL DAY MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
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WMOB DIRECTIONAL DAY CONT'D

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	9.05782	10.9	8.89569	1.70611
2	0	0	.8	9.10499	10.7	8.94759	1.68566
J1	0	0	1.6	9.11555	10.6	8.95914	1.68135
2J1	0	0	1.6	3.05998	10.2	3.01132	.543528
4	1.5	0	1.05	3.13239	9.4	3.0907	.509324
J2	3.	0	.5	3.23948	8.1	3.20691	.458215
2J1	0	0	1.6	3.02344	10.9	2.9688	.572197
6	-.75	-1.29904	1.05	3.09531	10.	3.0482	.537983
J3	-1.5	-2.59808	.5	3.20169	8.7	3.16446	.48684
2J1	0	0	1.6	3.03224	10.8	2.97902	.565621
8	-.75	1.29904	1.05	3.10424	9.9	3.05841	.531409
J4	-1.5	2.59808	.5	3.2108	8.6	3.17468	.480271
2J1	3.	0	.5	1.96417	7.4	1.94761	.254504
10	2.75	0	2.7	2.05445	5.9	2.0436	.210906
11	2.5	0	4.9	2.12545	4.7	2.11819	.17554
12	2.25	0	7.1	2.18012	3.9	2.17517	.146935
J5	2.	0	9.3	2.21388	3.3	2.21017	.128009
2J1	-1.5	-2.59808	.5	1.93347	8.3	1.91342	.277672
14	-1.375	-2.38157	2.7	2.02306	6.6	2.00948	.234036
15	-1.25	-2.16506	4.9	2.09359	5.4	2.08415	.198648
16	-1.125	-1.94856	7.1	2.14796	4.5	2.14122	.170035
J6	-1.	-1.73205	9.3	2.18154	4.	2.1763	.151109
2J1	-1.5	2.59808	.5	1.93211	8.3	1.91181	.279377
18	-1.375	2.38157	2.7	2.02164	6.7	2.00785	.235748
19	-1.25	2.16506	4.9	2.09213	5.5	2.08251	.200369
20	-1.125	1.94856	7.1	2.14645	4.6	2.13956	.171765
J7	-1.	1.73205	9.3	2.18	4.	2.17463	.152846
2J1	2.	0	9.3	2.25417	3.	2.25116	.116504
22	1.75	0	11.625	2.27679	2.6	2.2745	.102102
23	1.5	0	13.95	2.30228	2.1	2.30076	.0835815
24	1.25	0	16.275	2.32297	1.6	2.32204	.0657069
J8	1.	0	18.6	2.33578	1.3	2.33521	.0516332
2J1	-1.	-1.73205	9.3	2.22689	3.5	2.2227	.136609
26	-.875	-1.51554	11.625	2.24944	3.1	2.24612	.122207
27	-.75	-1.29904	13.95	2.27486	2.6	2.27249	.103689
28	-.625	-1.08253	16.275	2.29549	2.1	2.29388	.0858202
J9	-.5	-.866025	18.6	2.30827	1.8	2.30716	.0717533
2J1	-1.	1.73205	9.3	2.22611	3.5	2.22188	.137174
30	-.875	1.51554	11.625	2.24865	3.1	2.24529	.122776
31	-.75	1.29904	13.95	2.27406	2.6	2.27167	.104266
32	-.625	1.08253	16.275	2.29468	2.2	2.29305	.0864035
J10	-.5	.866025	18.6	2.30745	1.8	2.30631	.0723401
2J1	1.	0	18.6	3.86999	1.4	3.8688	.0957762
34	.75	0	20.95	3.88027	1.2	3.87949	.0778793
35	.5	0	23.3	3.88454	.9	3.88408	.059771
36	.25	0	25.65	3.88181	.7	3.88156	.0444915
J11	0	0	28.	3.87511	.5	3.87495	.0344781
2J1	-.5	-.866025	18.6	3.8537	1.6	3.85219	.107842

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
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WMOB DIRECTIONAL DAY CONT'D

38	-.375	-.649519	20.95	3.86405	1.3	3.863	.0899504
39	-.25	-.433013	23.3	3.86837	1.1	3.8677	.0718527
40	-.125	-.216506	25.65	3.86566	.8	3.86524	.0565821
2J2	0	0	28.	3.85926	.7	3.85898	.0465773
2J1	-.5	.866025	18.6	3.85306	1.6	3.85154	.108361
43	-.375	.649519	20.95	3.8634	1.3	3.86234	.0904715
44	-.25	.433013	23.3	3.86771	1.1	3.86703	.0723752
45	-.125	.216506	25.65	3.865	.8	3.86458	.0571057
2J2	0	0	28.	3.8586	.7	3.85831	.0471014
2J1	3.	0	.5	1.27567	9.2	1.2593	.203711
48	2.	-.433013	2.7	1.36159	6.8	1.35197	.161604
49	1.	-.866025	4.9	1.42278	5.3	1.41672	.131155
50	0	-1.29904	7.1	1.4639	4.3	1.45979	.109699
2J2	-1.	-1.73205	9.3	1.48956	3.7	1.4865	.095359
2J1	-1.5	-2.59808	.5	1.2684	9.5	1.25104	.209168
53	-1.375	-1.51555	2.7	1.3541	7.1	1.34376	.16703
54	-1.25	-.433013	4.9	1.41516	5.5	1.40855	.136571
55	-1.125	.649519	7.1	1.45621	4.5	1.45165	.115119
2J2	-1.	1.73205	9.3	1.48181	3.9	1.47838	.100783
2J1	-1.5	2.59808	.5	1.27875	9.	1.26287	.200893
58	-.625	1.94856	2.7	1.36485	6.7	1.35558	.158766
59	.25	1.29904	4.9	1.42613	5.2	1.42034	.128321
60	1.125	.649519	7.1	1.46728	4.2	1.46339	.106878
2J2	2.	0	9.3	1.49293	3.6	1.49006	.0925419
2J1	2.	0	9.3	1.48367	3.3	1.48117	.0860768
63	1.375	-.216506	11.625	1.50239	2.8	1.50055	.0742476
64	.75	-.433013	13.95	1.52186	2.3	1.52066	.0604089
65	.125	-.649519	16.275	1.53506	1.8	1.53427	.0491806
2J2	-.5	-.866025	18.6	1.54363	1.5	1.54312	.0398601
2J1	-1.	-1.73205	9.3	1.47195	3.7	1.46891	.0945946
68	-.875	-1.08253	11.625	1.49063	3.2	1.48833	.0827704
69	-.75	-.433013	13.95	1.51007	2.6	1.5085	.0689414
70	-.625	.216506	16.275	1.52326	2.2	1.52216	.0577255
2J2	-.5	.866025	18.6	1.53179	1.8	1.53103	.0484113
2J1	-1.	1.73205	9.3	1.47707	3.5	1.47428	.0908159
73	-.5	1.29904	11.625	1.49577	3.	1.49369	.0789959
74	1.19E-07	.866025	13.95	1.51522	2.5	1.51382	.0651726
75	.5	.433013	16.275	1.52837	2.	1.52741	.0539599
2J2	1.	0	18.6	1.53686	1.7	1.53621	.0446458
2J1	2.	0	9.3	.0959789	176.8	-.0958314	5.32E-03
2J2	-1.	-1.73205	9.3	.0628195	193.2	-.0611683	-.0143085
2J1	-1.	-1.73205	9.3	.0899795	179.4	-.0899744	9.56E-04
2J2	-1.	1.73205	9.3	.0583156	198.7	-.0552476	-.0186659
2J1	-1.	1.73205	9.3	.0986386	175.9	-.0983918	6.97E-03
2J2	2.	0	9.3	.0649766	191.2	-.063733	-.0126513
2J1	1.	0	18.6	.0444828	179.6	-.0444819	2.84E-04
2J2	-.5	-.866025	18.6	.0403431	187.5	-.0399972	-5.27E-03
2J1	-.5	-.866025	18.6	.0419381	182.1	-.0419112	-1.5E-03
2J2	-.5	.866025	18.6	.0380473	190.7	-.0373876	-7.05E-03
2J1	-.5	.866025	18.6	.0518615	174.1	-.0515862	5.34E-03

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
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2J2	1.	0	18.6	.0471038	180.3	-.0471033	-2.19E-04
2J1	0	0	28.	11.593	.6	11.5922	.128157
90	0	0	32.7125	11.4358	.1	11.4358	.0190999
91	0	0	37.425	11.2002	359.6	11.2	-.070734
92	0	0	42.1375	10.8825	359.2	10.8815	-.148124
93	0	0	46.85	10.4846	358.8	10.4824	-.213222
94	0	0	51.5625	10.0091	358.5	10.0056	-.266101
95	0	0	56.275	9.45871	358.1	9.45374	-.306754
96	0	0	60.9875	8.83643	357.8	8.83007	-.335162
97	0	0	65.7	8.14539	357.5	8.13781	-.351315
98	0	0	70.4125	7.38883	357.2	7.38029	-.355208
99	0	0	75.125	6.5695	357.	6.56033	-.346837
100	0	0	79.8375	5.68979	356.7	5.68043	-.326172
101	0	0	84.55	4.7508	356.5	4.74175	-.293102
102	0	0	89.2625	3.75106	356.2	3.74289	-.24732
103	0	0	93.975	2.68261	356.	2.67601	-.187987
104	0	0	98.6875	1.52613	355.7	1.52191	-.1133
END	0	0	103.4	0	0	0	0
GND	127.9	0	0	4.32708	233.6	-2.56898	-3.48194
106	127.9	0	.8	4.35995	233.2	-2.614	-3.48944
J27	127.9	0	1.6	4.36725	233.1	-2.62381	-3.49121
2J1	127.9	0	1.6	1.49173	234.8	-.860613	-1.21844
108	129.4	0	1.05	1.54237	232.8	-.932363	-1.22866
J28	130.9	0	.5	1.61982	230.1	-1.03849	-1.24313
2J1	127.9	0	1.6	1.43393	231.8	-.886104	-1.12738
110	127.152	-1.3018	1.05	1.48727	229.9	-.957981	-1.13765
J29	126.403	-2.60359	.5	1.56845	227.3	-1.06417	-1.1522
2J1	127.9	0	1.6	1.44263	232.6	-.877088	-1.14539
112	127.152	1.30181	1.05	1.49536	230.6	-.94898	-1.15565
J30	126.403	2.60361	.5	1.57567	228.	-1.05516	-1.17019
2J1	130.9	0	.5	.997095	230.	-.641125	-.763647
114	130.65	0	2.7	1.06477	226.7	-.730166	-.774982
115	130.4	0	4.9	1.12013	224.4	-.800841	-.783163
116	130.15	0	7.1	1.16426	222.6	-.856405	-.788721
J31	129.9	0	9.3	1.19248	221.6	-.891882	-.791551
2J1	126.403	-2.60359	.5	.954685	226.3	-.660142	-.689664
118	126.527	-2.3846	2.7	1.02596	223.1	-.749045	-.701092
119	126.651	-2.16561	4.9	1.08393	220.9	-.819586	-.709356
120	126.775	-1.94661	7.1	1.12997	219.3	-.874995	-.714991
J32	126.898	-1.72762	9.3	1.15936	218.3	-.910351	-.717894
2J1	126.403	2.60361	.5	.954178	226.	-.662999	-.686213
122	126.527	2.38462	2.7	1.02573	222.9	-.751952	-.697631
123	126.651	2.16563	4.9	1.08389	220.6	-.822535	-.705874
124	126.775	1.94663	7.1	1.13008	219.	-.877986	-.711491
J33	126.898	1.72764	9.3	1.15956	218.	-.913364	-.714377
2J1	129.9	0	9.3	1.21664	220.4	-.926388	-.788686
126	129.65	0	11.625	1.23683	219.7	-.95183	-.789789
127	129.4	0	13.95	1.26095	218.8	-.982758	-.790044
128	129.15	0	16.275	1.28217	218.	-1.01065	-.789011
J34	128.9	0	18.6	1.29699	217.4	-1.03089	-.787059
2J1	126.898	-1.72762	9.3	1.19446	217.6	-.945932	-.729345

FIGURE 7
WMOB MOMENT MODEL SUMMARY FOR
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WMOB DIRECTIONAL DAY CONT'D

177	127.399	1.29573	11.625	.805769	217.9	-.635713	-.495109
178	127.899	.863821	13.95	.824411	216.9	-.658915	-.495464
179	128.4	.431911	16.275	.838162	216.2	-.676464	-.494886
2J2	128.9	0	18.6	.848291	215.6	-.689883	-.493619
2J1	129.9	0	9.3	.0554728	31.6	.0472432	.0290741
2J2	126.898	-1.72762	9.3	.0289524	67.	.0113332	.026642
2J1	126.898	-1.72762	9.3	.0571752	18.3	.0542746	.0179799
2J2	126.898	1.72764	9.3	.0242009	39.8	.0185858	.0155
2J1	126.898	1.72764	9.3	.059292	36.9	.0474238	.0355882
2J2	129.9	0	9.3	.0351094	70.8	.0115203	.0331655
2J1	128.9	0	18.6	.0272775	23.8	.0249614	.0109996
2J2	127.397	-.867188	18.6	.0210657	34.7	.0173219	.0119882
2J1	127.397	-.867188	18.6	.0274677	12.2	.0268479	5.8E-03
2J2	127.397	.86721	18.6	.0204236	19.3	.0192747	6.75E-03
2J1	127.397	.86721	18.6	.0300314	53.3	.0179521	.024075
2J2	128.9	0	18.6	.0271029	67.6	.0103083	.025066
2J1	127.9	0	28.	6.52865	214.	-5.41256	-3.65067
194	127.9	0	32.7125	6.50206	213.1	-5.44397	-3.55528
195	127.9	0	37.425	6.41996	212.4	-5.41843	-3.44334
196	127.9	0	42.1375	6.284	211.8	-5.341	-3.31094
197	127.9	0	46.85	6.09531	211.2	-5.21298	-3.15874
198	127.9	0	51.5625	5.85524	210.7	-5.03571	-2.98756
199	127.9	0	56.275	5.56537	210.2	-4.81069	-2.79833
200	127.9	0	60.9875	5.22739	209.7	-4.53945	-2.5921
201	127.9	0	65.7	4.84306	209.3	-4.22361	-2.36988
202	127.9	0	70.4125	4.41418	208.9	-3.86476	-2.13275
203	127.9	0	75.125	3.94241	208.5	-3.46439	-1.88165
204	127.9	0	79.8375	3.42912	208.1	-3.02372	-1.6174
205	127.9	0	84.55	2.87493	207.8	-2.54329	-1.34048
206	127.9	0	89.2625	2.27884	207.5	-2.02219	-1.05065
207	127.9	0	93.975	1.63592	207.1	-1.45598	-.745892
208	127.9	0	98.6875	.934171	206.8	-.833849	-.421155
END	127.9	0	103.4	0	0	0	0

FIGURE 8
WMOB MOMENT MODEL ARRAY SYNTHESIS
DIRECTIONAL NIGHT

APPLICATION FOR LICENSE INFORMATION
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WMOB DIRECTIONAL NIGHT

MEDIUM WAVE ARRAY SYNTHESIS FROM FIELD RATIOS

Frequency = 1.36 MHz

tower	field ratio magnitude	phase (deg)
1	1.	0
2	.95	-5.

VOLTAGES AND CURRENTS - rms

source node	voltage magnitude	phase (deg)	current magnitude	phase (deg)
1	106.105	46.	1.11364	14.4
105	104.996	38.1	1.06735	10.6

Sum of square of source currents = 4.75883

Total power = 200. watts

TOWER ADMITTANCE MATRIX

admittance	real (mhos)	imaginary (mhos)
Y(1, 1)	.00604694	-.00502679
Y(1, 2)	.00295837	-7.8489E-05
Y(2, 1)	.00295837	-7.849E-05
Y(2, 2)	.00604371	-.00502681

TOWER IMPEDANCE MATRIX

impedance	real (ohms)	imaginary (ohms)
Z(1, 1)	87.3974	96.5377
Z(1, 2)	-3.3542	-48.9096
Z(2, 1)	-3.35418	-48.9096
Z(2, 2)	87.3993	96.5912

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

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WMOB DIRECTIONAL NIGHT

GEOMETRY

Wire coordinates in degrees; other dimensions in meters
 Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.005	2
		0	0	1.6		
2	none	0	0	1.6	.04	2
		3.	0	.5		
3	none	0	0	1.6	.04	2
		3.	120.	.5		
4	none	0	0	1.6	.04	2
		3.	240.	.5		
5	none	3.	0	.5	.04	4
		2.	0	9.3		
6	none	3.	120.	.5	.04	4
		2.	120.	9.3		
7	none	3.	240.	.5	.04	4
		2.	240.	9.3		
8	none	2.	0	9.3	.04	4
		1.	0	18.6		
9	none	2.	120.	9.3	.04	4
		1.	120.	18.6		
10	none	2.	240.	9.3	.04	4
		1.	240.	18.6		
11	none	1.	0	18.6	.04	4
		0	0	28.		
12	none	1.	120.	18.6	.04	4
		0	0	28.		
13	none	1.	240.	18.6	.04	4
		0	0	28.		
14	none	3.	0	.5	.04	4
		2.	120.	9.3		
15	none	3.	120.	.5	.04	4
		2.	240.	9.3		
16	none	3.	240.	.5	.04	4
		2.	0	9.3		
17	none	2.	0	9.3	.04	4
		1.	120.	18.6		
18	none	2.	120.	9.3	.04	4
		1.	240.	18.6		
19	none	2.	240.	9.3	.04	4
		1.	0	18.6		
20	none	2.	0	9.3	.04	1
		2.	120.	9.3		
21	none	2.	120.	9.3	.04	1
		2.	240.	9.3		

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
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WMOB DIRECTIONAL NIGHT CONT'D

wire	caps	Distance	Angle	Z	radius	segs
22	none	2.	240.	9.3	.04	1
		2.	0	9.3		
23	none	1.	0	18.6	.04	1
		1.	120.	18.6		
24	none	1.	120.	18.6	.04	1
		1.	240.	18.6		
25	none	1.	240.	18.6	.04	1
		1.	0	18.6		
26	none	0	0	28.	.35	16
		0	0	103.4		
27	none	127.9	0	0	.005	2
		127.9	0	1.6		
28	none	127.9	0	1.6	.04	2
		130.9	0	.5		
29	none	127.9	0	1.6	.04	2
		126.43	1.18	.5		
30	none	127.9	0	1.6	.04	2
		126.43	358.82	.5		
31	none	130.9	0	.5	.04	4
		129.9	0	9.3		
32	none	126.43	1.18	.5	.04	4
		126.91	.78	9.3		
33	none	126.43	358.82	.5	.04	4
		126.91	359.22	9.3		
34	none	129.9	0	9.3	.04	4
		128.9	0	18.6		
35	none	126.91	.78	9.3	.04	4
		127.4	.39	18.6		
36	none	126.91	359.22	9.3	.04	4
		127.4	359.61	18.6		
37	none	128.9	0	18.6	.04	4
		127.9	0	28.		
38	none	127.4	.39	18.6	.04	4
		127.9	0	28.		
39	none	127.4	359.61	18.6	.04	4
		127.9	0	28.		
40	none	130.9	0	.5	.04	4
		126.91	.78	9.3		
41	none	126.43	1.18	.5	.04	4
		126.91	359.22	9.3		
42	none	126.43	358.82	.5	.04	4
		129.9	0	9.3		
43	none	129.9	0	9.3	.04	4
		127.4	.39	18.6		
44	none	126.91	.78	9.3	.04	4
		127.4	359.61	18.6		
45	none	126.91	359.22	9.3	.04	4
		128.9	0	18.6		
46	none	129.9	0	9.3	.04	1
		126.91	.78	9.3		

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

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WMOB DIRECTIONAL NIGHT CONT'D

wire	caps	Distance	Angle	Z	radius	segs
47	none	126.91	.78	9.3	.04	1
		126.91	359.22	9.3		
48	none	126.91	359.22	9.3	.04	1
		129.9	0	9.3		
49	none	128.9	0	18.6	.04	1
		127.4	.39	18.6		
50	none	127.4	.39	18.6	.04	1
		127.4	359.61	18.6		
51	none	127.4	359.61	18.6	.04	1
		128.9	0	18.6		
52	none	127.9	0	28.	.35	16
		127.9	0	103.4		

Number of wires = 52
current nodes = 208

		minimum		maximum
Individual wires	wire	value	wire	value
segment length	1	.8	26	4.7125
radius	1	5.E-03	26	.35

ELECTRICAL DESCRIPTION

Frequencies (MHZ)

frequency	no. of	segment length (wavelengths)
no. lowest step	steps	minimum maximum
1 1.36 0	1	2.22E-03 .0130903

Sources

source	node	sector	magnitude	phase	type
1	1	1	150.055	46.	voltage
2	105	1	148.487	38.1	voltage

IMPEDANCE

normalization = 50.

freq (MHZ)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.36	81.122	49.972	95.278	31.6	2.4456	-7.5445	-.84081
source = 2; node 105, sector 1							
1.36	87.247	45.441	98.372	27.5	2.3693	-7.8208	-.784

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
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EMPLOYING MOMENT METHOD MODELING
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WMOB DIRECTIONAL NIGHT CONT'D

CURRENT rms

Frequency = 1.36 MHz

Input power = 200. watts

Efficiency = 100. %

coordinates in degrees

current

no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	1.11363	14.4	1.07874	.276579
2	0	0	.8	1.11616	14.2	1.0822	.273238
J1	0	0	1.6	1.11676	14.1	1.083	.272533
2J1	0	0	1.6	.371998	14.9	.359446	.0958173
4	1.5	0	1.05	.375468	13.9	.364466	.0902283
J2	3.	0	.5	.380629	12.4	.37172	.0818719
2J1	0	0	1.6	.372413	13.6	.362016	.0873808
6	-.75	-1.29904	1.05	.376038	12.6	.367035	.0817953
J3	-1.5	-2.59808	.5	.381423	11.1	.374284	.0734483
2J1	0	0	1.6	.372408	13.9	.361535	.0893352
8	-.75	1.29904	1.05	.375999	12.9	.366553	.0837498
J4	-1.5	2.59808	.5	.381333	11.4	.373804	.0754017
2J1	3.	0	.5	.227869	12.3	.222656	.0484629
10	2.75	0	2.7	.23223	10.3	.228522	.0413328
11	2.5	0	4.9	.235648	8.7	.23295	.0355537
12	2.25	0	7.1	.238202	7.4	.236191	.0308841
J5	2.	0	9.3	.239682	6.7	.238064	.0277974
2J1	-1.5	-2.59808	.5	.228632	10.5	.224806	.0416484
14	-1.375	-2.38157	2.7	.233236	8.5	.230666	.0345311
15	-1.25	-2.16506	4.9	.236837	7.	.235084	.0287636
16	-1.125	-1.94856	7.1	.23953	5.8	.238314	.0241045
J6	-1.	-1.73205	9.3	.241093	5.	.240175	.0210263
2J1	-1.5	2.59808	.5	.228767	10.4	.225026	.0412038
18	-1.375	2.38157	2.7	.233388	8.4	.230886	.0340849
19	-1.25	2.16506	4.9	.237002	6.9	.235305	.028315
20	-1.125	1.94856	7.1	.239705	5.7	.238536	.0236533
J7	-1.	1.73205	9.3	.241276	4.9	.240398	.020573
2J1	2.	0	9.3	.242903	5.9	.241633	.0248079
22	1.75	0	11.625	.243759	5.3	.242722	.0224607
23	1.5	0	13.95	.244511	4.6	.243737	.0194457
24	1.25	0	16.275	.244861	3.9	.244301	.0165393
J8	1.	0	18.6	.244795	3.3	.244379	.0142537
2J1	-1.	-1.73205	9.3	.244244	4.5	.243506	.0189807
26	-.875	-1.51554	11.625	.245149	3.9	.244583	.0166416
27	-.75	-1.29904	13.95	.245962	3.2	.245584	.0136377
28	-.625	-1.08253	16.275	.246364	2.5	.24613	.0107436
J9	-.5	-.866025	18.6	.246337	2.	.246191	8.47E-03
2J1	-1.	1.73205	9.3	.244273	4.4	.243548	.0188189
30	-.875	1.51554	11.625	.245179	3.9	.244624	.0164793
31	-.75	1.29904	13.95	.245994	3.1	.245624	.0134744
32	-.625	1.08253	16.275	.246397	2.5	.24617	.0105785
J10	-.5	.866025	18.6	.246373	1.9	.246233	8.3E-03
2J1	1.	0	18.6	.408296	2.6	.407862	.0188239
34	.75	0	20.95	.407646	2.2	.407335	.0159222

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING

WMOB 1360 KHZ, DA-2

MOBILE, ALABAMA

MARCH, 2014

WMOB DIRECTIONAL NIGHT CONT'D

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
35	.5	0	23.3	.406364	1.8	.406157	.0129922
36	.25	0	25.65	.404638	1.5	.404501	.0105244
J11	0	0	28.	.403006	1.3	.402908	8.91E-03
2J1	-.5	-.866025	18.6	.409231	2.2	.408943	.0153662
38	-.375	-.649519	20.95	.408587	1.7	.408397	.0124763
39	-.25	-.433013	23.3	.407315	1.3	.407202	9.56E-03
40	-.125	-.216506	25.65	.405596	1.	.405534	7.1E-03
2J2	0	0	28.	.403997	.8	.40396	5.49E-03
2J1	-.5	.866025	18.6	.409277	2.1	.408994	.0152177
43	-.375	.649519	20.95	.408634	1.7	.408448	.0123271
44	-.25	.433013	23.3	.407362	1.3	.407253	9.41E-03
45	-.125	.216506	25.65	.405645	1.	.405585	6.95E-03
2J2	0	0	28.	.404047	.8	.404011	5.34E-03
2J1	3.	0	.5	.152762	12.6	.149064	.033409
48	2.	-.433013	2.7	.156981	9.7	.154724	.0265254
49	1.	-.866025	4.9	.160045	7.7	.158586	.0215543
50	0	-1.29904	7.1	.162054	6.4	.161044	.0180576
2J2	-1.	-1.73205	9.3	.16323	5.5	.162471	.015724
2J1	-1.5	-2.59808	.5	.152823	12.	.149478	.0317999
53	-1.375	-1.51555	2.7	.157123	9.1	.155133	.0249266
54	-1.25	-.433013	4.9	.160237	7.2	.158989	.0199618
55	-1.125	.649519	7.1	.162279	5.8	.161441	.0164681
2J2	-1.	1.73205	9.3	.163477	5.	.162865	.0141351
2J1	-1.5	2.59808	.5	.152658	12.9	.148778	.0341979
58	-.625	1.94856	2.7	.156832	10.	.154434	.0273215
59	.25	1.29904	4.9	.159865	8.	.158294	.022351
60	1.125	.649519	7.1	.161855	6.7	.160754	.0188505
2J2	2.	0	9.3	.163024	5.8	.162186	.0165117
2J1	2.	0	9.3	.161301	5.6	.160524	.0158094
63	1.375	-.216506	11.625	.162033	4.9	.161437	.0138838
64	.75	-.433013	13.95	.162657	4.1	.16224	.0116355
65	.125	-.649519	16.275	.162909	3.5	.162613	9.82E-03
2J2	-.5	-.866025	18.6	.162876	2.9	.162664	8.31E-03
2J1	-1.	-1.73205	9.3	.161822	4.7	.161271	.0133438
68	-.875	-1.08253	11.625	.162578	4.	.162176	.0114232
69	-.75	-.433013	13.95	.163228	3.2	.16297	9.18E-03
70	-.625	.216506	16.275	.1635	2.6	.163334	7.36E-03
2J2	-.5	.866025	18.6	.163485	2.1	.16338	5.86E-03
2J1	-1.	1.73205	9.3	.161608	5.1	.160963	.0144253
73	-.5	1.29904	11.625	.162352	4.4	.16187	.0125022
74	1.19E-07	.866025	13.95	.162991	3.6	.162669	.0102536
75	.5	.433013	16.275	.16326	3.	.163042	8.43E-03
2J2	1.	0	18.6	.163244	2.4	.163098	6.92E-03
2J1	2.	0	9.3	9.32E-03	177.	-9.31E-03	4.84E-04
2J2	-1.	-1.73205	9.3	8.02E-03	199.8	-7.55E-03	-2.71E-03

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB DIRECTIONAL NIGHT CONT'D

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
2J1	-1.	-1.73205	9.3	9.83E-03	170.	-9.68E-03	1.71E-03
2J2	-1.	1.73205	9.3	8.06E-03	190.5	-7.92E-03	-1.47E-03
2J1	-1.	1.73205	9.3	9.17E-03	180.1	-9.17E-03	-1.09E-05
2J2	2.	0	9.3	8.07E-03	203.4	-7.4E-03	-3.21E-03
2J1	1.	0	18.6	4.76E-03	173.5	-4.73E-03	5.38E-04
2J2	-.5	-.866025	18.6	4.79E-03	184.3	-4.78E-03	-3.63E-04
2J1	-.5	-.866025	18.6	4.98E-03	167.8	-4.86E-03	1.05E-03
2J2	-.5	.866025	18.6	4.92E-03	178.2	-4.92E-03	1.51E-04
2J1	-.5	.866025	18.6	4.39E-03	191.9	-4.3E-03	-9.08E-04
2J2	1.	0	18.6	4.7E-03	202.6	-4.34E-03	-1.81E-03
2J1	0	0	28.	1.21104	.9	1.21088	.0197308
90	0	0	32.7125	1.18469	.1	1.18469	2.21E-03
91	0	0	37.425	1.15215	359.4	1.15208	-.0121562
92	0	0	42.1375	1.11237	358.7	1.1121	-.0244786
93	0	0	46.85	1.06549	358.1	1.06492	-.0347876
94	0	0	51.5625	1.01175	357.6	1.01083	-.0431044
95	0	0	56.275	.951404	357.	.950119	-.0494385
96	0	0	60.9875	.884736	356.5	.883099	-.0537977
97	0	0	65.7	.812044	356.	.810097	-.0561918
98	0	0	70.4125	.733642	355.6	.731453	-.0566321
99	0	0	75.125	.649797	355.1	.647454	-.0551302
100	0	0	79.8375	.56074	354.7	.558352	-.0516943
101	0	0	84.55	.466577	354.3	.464272	-.0463205
102	0	0	89.2625	.367164	353.9	.365089	-.0389746
103	0	0	93.975	.261731	353.5	.260058	-.0295402
104	0	0	98.6875	.148417	353.1	.147352	-.0177514
END	0	0	103.4	0	0	0	0
GND	127.9	0	0	1.06735	10.6	1.04904	.196847
106	127.9	0	.8	1.06955	10.4	1.05198	.193105
J27	127.9	0	1.6	1.07008	10.4	1.05266	.192309
2J1	127.9	0	1.6	.359788	9.5	.354841	.0594621
108	129.4	0	1.05	.362958	8.4	.359028	.0532693
J28	130.9	0	.5	.367694	6.9	.365048	.0440337
2J1	127.9	0	1.6	.355114	10.9	.348655	.0674171
110	127.152	-1.3018	1.05	.358125	9.8	.352855	.0612092
J29	126.403	-2.60359	.5	.362616	8.2	.358875	.0519497
2J1	127.9	0	1.6	.355241	10.6	.349163	.0654296
112	127.152	1.30181	1.05	.358292	9.5	.353363	.0592221
J30	126.403	2.60361	.5	.36284	7.9	.359384	.0499645
2J1	130.9	0	.5	.221557	5.8	.220437	.0222468
114	130.65	0	2.7	.225721	3.7	.225262	.0143987
115	130.4	0	4.9	.229002	2.	.228859	8.07E-03
116	130.15	0	7.1	.231461	.7	.231442	2.98E-03
J31	129.9	0	9.3	.232886	359.9	.232886	-3.61E-04
2J1	126.403	-2.60359	.5	.217213	7.6	.215307	.0287095
118	126.527	-2.3846	2.7	.221114	5.4	.220129	.0208517
119	126.651	-2.16561	4.9	.224197	3.7	.223727	.014508
120	126.775	-1.94661	7.1	.226512	2.4	.226317	9.41E-03
J32	126.898	-1.72762	9.3	.227854	1.5	.227773	6.06E-03

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

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MOBILE, ALABAMA
MARCH, 2014

WMOB DIRECTIONAL NIGHT CONT'D

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
3J1	126.403	2.60361	.5	.21747	7.7	.215489	.0292809
122	126.527	2.38462	2.7	.221352	5.6	.220313	.0214207
123	126.651	2.16563	4.9	.22442	3.9	.223913	.0150767
124	126.775	1.94663	7.1	.226723	2.5	.226503	9.98E-03
J33	126.898	1.72764	9.3	.228056	1.7	.227959	6.63E-03
2J1	129.9	0	9.3	.234322	359.4	.234308	-2.53E-03
126	129.65	0	11.625	.23514	358.8	.235086	-5.04E-03
127	129.4	0	13.95	.235865	358.	.235721	-8.23E-03
128	129.15	0	16.275	.236206	357.3	.235937	-.0112678
J34	128.9	0	18.6	.236148	356.7	.235755	-.0136258
2J1	126.898	-1.72762	9.3	.231292	.8	.231267	3.37E-03
130	127.023	-1.51251	11.625	.232057	.2	.232056	8.59E-04
131	127.148	-1.2974	13.95	.232717	359.4	.232705	-2.34E-03
132	127.272	-1.0823	16.275	.233001	358.7	.232939	-5.39E-03
J35	127.397	-.867188	18.6	.232907	358.1	.232778	-7.76E-03
2J1	126.898	1.72764	9.3	.231238	.9	.231211	3.54E-03
134	127.023	1.51253	11.625	.232002	.3	.232	1.03E-03
135	127.148	1.29743	13.95	.232661	359.5	.232651	-2.17E-03
136	127.272	1.08232	16.275	.232943	358.7	.232884	-5.22E-03
J36	127.397	.86721	18.6	.232845	358.1	.232721	-7.58E-03
2J1	128.9	0	18.6	.390544	357.2	.390069	-.0192569
138	128.65	0	20.95	.389882	356.7	.389249	-.0221996
139	128.4	0	23.3	.388628	356.3	.387816	-.0251208
140	128.15	0	25.65	.386961	355.9	.385981	-.0275271
J37	127.9	0	28.	.385378	355.7	.384281	-.029058
2J1	127.397	-.867188	18.6	.387876	357.7	.387559	-.0156718
142	127.523	-.650391	20.95	.387207	357.2	.386759	-.0186251
143	127.649	-.433594	23.3	.385943	356.8	.385341	-.0215546
144	127.774	-.216797	25.65	.384267	356.4	.383519	-.0239673
2J2	127.9	0	28.	.382725	356.2	.381875	-.0255056
2J1	127.397	.86721	18.6	.387849	357.7	.387539	-.0155221
147	127.523	.650408	20.95	.38718	357.3	.386739	-.0184748
148	127.649	.433605	23.3	.385914	356.8	.38532	-.0214039
149	127.774	.216803	25.65	.384238	356.4	.383499	-.0238162
2J2	127.9	0	28.	.382695	356.2	.381854	-.0253544
2J1	130.9	0	.5	.146242	8.6	.14461	.0217869
152	129.9	-.431905	2.7	.149942	5.4	.149268	.014209
153	128.899	-.86381	4.9	.152665	3.3	.152413	8.75E-03
154	127.899	-1.29572	7.1	.154463	1.8	.154384	4.93E-03
2J2	126.898	-1.72762	9.3	.155516	.9	.155497	2.4E-03
2J1	126.403	-2.60359	.5	.145437	9.2	.143568	.0232401
157	126.527	-1.52078	2.7	.149047	6.	.148223	.0156472
158	126.651	-.437974	4.9	.151714	3.8	.151373	.010179
159	126.775	.644834	7.1	.153476	2.4	.153345	6.35E-03
2J2	126.898	1.72764	9.3	.154508	1.4	.154461	3.82E-03
2J1	126.403	2.60361	.5	.145373	8.2	.143894	.0206836

FIGURE 9
WMOB MOMENT MODEL SUMMARY FOR
DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB DIRECTIONAL NIGHT CONT'D

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
162	127.277	1.95271	2.7	.149126	5.	.14855	.013091
163	128.152	1.30181	4.9	.151887	2.9	.151696	7.63E-03
164	129.026	.650903	7.1	.153709	1.4	.153661	3.8E-03
2J2	129.9	0	9.3	.154775	.5	.15477	1.27E-03
2J1	129.9	0	9.3	.153943	.2	.153942	4.16E-04
167	129.274	-.216797	11.625	.154611	359.4	.154602	-1.65E-03
168	128.649	-.433594	13.95	.155177	358.5	.155124	-4.04E-03
169	128.023	-.650391	16.275	.155401	357.8	.155287	-5.95E-03
2J2	127.397	-.867188	18.6	.155364	357.2	.155182	-7.52E-03
2J1	126.898	-1.72762	9.3	.153238	1.1	.15321	2.91E-03
172	127.023	-1.07891	11.625	.15388	.3	.153878	8.42E-04
173	127.148	-.430205	13.95	.154417	359.4	.15441	-1.55E-03
174	127.272	.218503	16.275	.154619	358.7	.15458	-3.47E-03
2J2	127.397	.86721	18.6	.154562	358.1	.15448	-5.04E-03
2J1	126.898	1.72764	9.3	.153438	.7	.153428	1.78E-03
177	127.399	1.29573	11.625	.154093	359.9	.154093	-2.86E-04
178	127.899	.863821	13.95	.154641	359.	.154618	-2.67E-03
179	128.4	.431911	16.275	.154846	358.3	.154778	-4.58E-03
2J2	128.9	0	18.6	.154789	357.7	.154667	-6.14E-03
2J1	129.9	0	9.3	8.8E-03	168.1	-8.61E-03	1.81E-03
2J2	126.898	-1.72762	9.3	7.46E-03	192.7	-7.27E-03	-1.64E-03
2J1	126.898	-1.72762	9.3	8.5E-03	176.3	-8.48E-03	5.45E-04
2J2	126.898	1.72764	9.3	7.7E-03	202.1	-7.14E-03	-2.9E-03
2J1	126.898	1.72764	9.3	9.62E-03	166.6	-9.36E-03	2.23E-03
2J2	129.9	0	9.3	8.11E-03	188.6	-8.02E-03	-1.21E-03
2J1	128.9	0	18.6	4.37E-03	175.8	-4.36E-03	3.16E-04
2J2	127.397	-.867188	18.6	4.54E-03	187.7	-4.5E-03	-6.11E-04
2J1	127.397	-.867188	18.6	4.1E-03	183.	-4.1E-03	-2.17E-04
2J2	127.397	.86721	18.6	4.38E-03	195.2	-4.23E-03	-1.15E-03
2J1	127.397	.86721	18.6	4.9E-03	159.	-4.57E-03	1.76E-03
2J2	128.9	0	18.6	4.78E-03	170.	-4.71E-03	8.29E-04
2J1	127.9	0	28.	1.15079	356.	1.14801	-.0799179
194	127.9	0	32.7125	1.12553	355.1	1.12144	-.0958604
195	127.9	0	37.425	1.09446	354.3	1.08912	-.108013
196	127.9	0	42.1375	1.05655	353.6	1.05	-.117435
197	127.9	0	46.85	1.01195	353.	1.0043	-.124179
198	127.9	0	51.5625	.96085	352.3	.952247	-.128287
199	127.9	0	56.275	.903502	351.7	.89413	-.129796
200	127.9	0	60.9875	.840165	351.2	.830243	-.128741
201	127.9	0	65.7	.771129	350.7	.760904	-.125159
202	127.9	0	70.4125	.696673	350.2	.686419	-.119091
203	127.9	0	75.125	.617057	349.7	.607069	-.110574
204	127.9	0	79.8375	.532493	349.2	.523088	-.099637
205	127.9	0	84.55	.44308	348.8	.434597	-.0862876
206	127.9	0	89.2625	.348681	348.3	.341483	-.0704816
207	127.9	0	93.975	.248561	347.9	.243053	-.052037
208	127.9	0	98.6875	.140954	347.5	.137608	-.0305287
END	127.9	0	103.4	0	0	0	0

FIGURE 10
DERIVED DIRECTIONAL PARAMETERS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

DAY:

	Theoretical		Base Network Input Current		Normalized TCT	
Tower	Field	Phase	Amplitude	Phase	Amplitude	Phase
1 (S)	1.000	0.0°	8.64	12.64°	1.000	0.0°
2 (N)	.569	-147.0°	4.04	-122.31°	.468	-135.0°

NIGHT:

	Theoretical		Base Network Input Current		Normalized TCT	
Tower	Field	Phase	Amplitude	Phase	Amplitude	Phase
1 (S)	1.000	0.0°	1.09	16.30°	1.000	0.0°
2 (N)	.950	-5.0°	1.05	12.67°	.963	-3.6°

FIGURE 11
WMOB TOWER BASE CIRCUIT ANALYSIS DESCRIPTION

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

CIRCUIT ANALYSIS

Circuit Analysis was performed on each Tower of the WMOB model. "Phasetek" nodal Circuit Analysis program was used to compute base model Input/Output voltages and currents. For the Directional modes, the calculated Mininec Tower Base Drive Voltage was used to determine the Base Network Input Current. This point is the location of the Sampling TCT. " Z_1 " represents the ATU Shunt impedance, " Z_2 " represents the Tower Feed impedance, and " Z_3 " represents the Tower Base Shunt impedance.

FIGURE 12
WMOB CIRCUIT ANALYSIS FOR INDIVIDUAL TOWERS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING

WMOB 1360 KHZ, DA-2

MOBILE, ALABAMA

MARCH, 2014

WMOB TOWER 1 (OTHER OPEN)

FREQUENCY : 1360.00 KHZ

ATU SHUNT IMPEDANCE (R,X) : 0.00, -42000.00 OHMS

TOWER FEED IMPEDANCE (R,X) : 0.00, 9.00 OHMS

TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS

TOWER IMPEDANCE (R,X) : 87.57, 97.50 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	94.41	98.00
1		2	0.00	9.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	95.36	-2.51

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	94.89	107.06	143.06	48.45
INPUT CURRENT (AMPS) :	0.46	-0.52	0.70	-48.45
OUTPUT CURRENT (AMPS) :	0.46	-0.56	0.73	-50.58

INPUT/OUTPUT CURRENT RATIO = 0.9606

INPUT/OUTPUT PHASE = 2.13 DEGREES

FIGURE 12
WMOB CIRCUIT ANALYSIS FOR INDIVIDUAL TOWERS

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING

WMOB 1360 KHZ, DA-2

MOBILE, ALABAMA

MARCH, 2014

WMOB TOWER 2 (OTHER OPEN)

FREQUENCY : 1360.00 KHZ
 ATU SHUNT IMPEDANCE (R,X) : 0.00,-42000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 10.00 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS
 TOWER IMPEDANCE (R,X) : 87.57, 97.55 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	94.41	98.05
1		2	0.00	10.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	94.86	-2.77

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	94.90	108.11	143.85	48.72
INPUT CURRENT (AMPS) :	0.46	-0.52	0.70	-48.72
OUTPUT CURRENT (AMPS) :	0.46	-0.56	0.72	-50.86

INPUT/OUTPUT CURRENT RATIO = 0.9606
 INPUT/OUTPUT PHASE = 2.13 DEGREES

FIGURE 13
WMOB CIRCUIT ANALYSIS FOR DIRECTIONAL DAY MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB TOWER 1 DAY

FREQUENCY : 1360.00 khz
 ATU SHUNT IMPEDANCE (R,X) : 0.00, -42000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 9.00 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS
 TOWER IMPEDANCE (R,X) : 72.72, 114.79 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	79.53	117.76
1		2	0.00	9.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	1296.18	70.43
2	1230.84	68.50

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	80.01	127.00	150.10	57.79
INPUT CURRENT (AMPS) :	8.43	1.89	8.64	12.64
OUTPUT CURRENT (AMPS) :	8.90	1.71	9.06	10.86

INPUT/OUTPUT CURRENT RATIO = 0.9534
 INPUT/OUTPUT PHASE = 1.78 DEGREES

FIGURE 13
WMOB CIRCUIT ANALYSIS FOR DIRECTIONAL DAY MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB TOWER 2 DAY

FREQUENCY : 1360.00 khz

ATU SHUNT IMPEDANCE (R,X) : 0.00,-42000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 10.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS
TOWER IMPEDANCE (R,X) : 162.02, 167.04 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	184.21	166.24
1		2	0.00	10.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	1034.58	-78.83
2	1006.95	279.50

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	185.76	176.17	256.01	43.48
INPUT CURRENT (AMPS) :	-2.16	-3.42	4.04	-122.31
OUTPUT CURRENT (AMPS) :	-2.57	-3.48	4.33	-126.37

INPUT/OUTPUT CURRENT RATIO = 0.9339
INPUT/OUTPUT PHASE = 4.06 DEGREES

FIGURE 14
WMOB CIRCUIT ANALYSIS FOR DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

WMOB TOWER 1 NIGHT

FREQUENCY : 1360.00 kHz
 ATU SHUNT IMPEDANCE (R,X) : 0.00, -42000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 9.00 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS
 TOWER IMPEDANCE (R,X) : 81.12, 49.97 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	84.25	48.27
1		2	0.00	9.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	111.32	50.40
2	106.11	46.00

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	84.48	57.18	102.01	34.09
INPUT CURRENT (AMPS) :	1.05	0.31	1.09	16.30
OUTPUT CURRENT (AMPS) :	1.08	0.28	1.11	14.37

INPUT/OUTPUT CURRENT RATIO = 0.9799
 INPUT/OUTPUT PHASE = 1.94 DEGREES

FIGURE 14
WMOB CIRCUIT ANALYSIS FOR DIRECTIONAL NIGHT MODE

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014
CONTINUED

WMOB TOWER 2 NIGHT

FREQUENCY : 1360.00 khz
 ATU SHUNT IMPEDANCE (R,X) : 0.00, -42000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 10.00 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -2600.60 OHMS
 TOWER IMPEDANCE (R,X) : 87.25, 45.44 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	-42000.00
2		GROUND	90.27	43.17
1		2	0.00	10.00

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	109.93	43.04
2	105.00	38.10

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	90.50	53.04	104.90	30.37
INPUT CURRENT (AMPS) :	1.02	0.23	1.05	12.67
OUTPUT CURRENT (AMPS) :	1.05	0.20	1.07	10.59

INPUT/OUTPUT CURRENT RATIO = 0.9819
 INPUT/OUTPUT PHASE = 2.08 DEGREES

FIGURE 15
WMOB REFERENCE FIELD INTENSITY MEASUREMENTS
DAY PATTERN

APPLICATION FOR LICENSE INFORMATION
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WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014

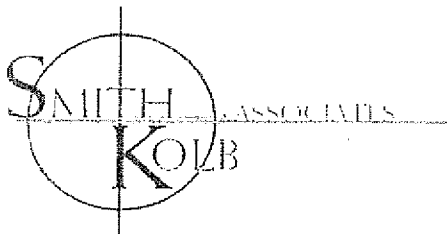
<u>Radial</u>	<u>Dist</u> <u>km</u>	<u>mV/m</u>	<u>Date</u> <u>Time</u>	<u>CO-ORD NAD27</u>			<u>Description</u>
				<u>Deg</u>	<u>Min</u>	<u>Sec</u>	
N 0 E							
			<u>12/27/13</u>				
1	25.90	8.3	1512	N 30	54	55.6	Dead Lake Rd N edge at field entrance
				W 88	0	6.0	
2	26.00	7.8	1508	N 30	54	58.5	In field 100 m N of previous point
				W 88	0	6.0	
3	26.10	8.8	1505	N 30	55	0.8	N edge of field 100 m N of previous point
				W 88	0	6.0	
N 105 E							
			<u>12/28/13</u>				
1	3.49	102.0	1623	N 30	40	25.2	US 90/98 - Ed's Restaurant -- SW corner of building,
				W 87	57	55.6	near rocks (adjacent to elevated deck)
2	8.67	43.0	1643	N 30	39	39.1	US 98 EB after US 90 split - black and yellow marker
				W 87	54	48.1	at beginning of guard rail
3	8.93	48.0	1650	N 30	39	41.0	US 90 WB N of Bass Pro Dr - Shell gas station
				W 87	54	37.7	NE corner of lot at dumpster
N 180 E							
			<u>12/27/13</u>				
1	157	6000.0	1547	N 30	40	48.4	In line with Towers:
				W 88	0	2.1	Median of /US 90/98
2	192	5100.0	1549	N 30	40	47.4	S shoulder of service road @ yield sign
				W 88	0	2.1	
3	250	3750.0	1552	N 30	40	45.6	At old fence near water line
				W 88	0	2.1	
N 255 E							
			<u>12/28/13</u>				
1	6.36	50.0	1600	N 30	40	0.9	Russ & Gorgas - W side of Russ in line with chimney of blue house
				W 88	3	54.0	
2	6.96	41.2	1553	N 30	39	54.5	Driveway 1409 Clover leaf Circle N (just off Michigan E side)
				W 88	4	15.3	
3	8.01	30.5	1543	N 30	39	47.2	Liberty W of Houston - N curb 10' W of drain
				W 88	4	53.6	

FIGURE 15
WMOB REFERENCE FIELD INTENSITY MEASUREMENTS
NIGHT PATTERN

APPLICATION FOR LICENSE INFORMATION
EMPLOYING MOMENT METHOD MODELING
WMOB 1360 KHZ, DA-2
MOBILE, ALABAMA
MARCH, 2014
CONTINUED

<u>Radial</u>		<u>Dist</u> km	<u>mV/m</u>	<u>12/27/13</u> Time	<u>CO-ORD NAD27</u>			<u>Description</u>
N 0 E					<u>Deg</u>	<u>Min</u>	<u>Sec</u>	
	1	25.90	0.485	1450	N 30	54	55.6	Dead Lake Rd N edge at field entrance
					W 88	0	6.0	
	2	26.00	0.475	1455	N 30	54	58.5	In field 100 m N of previous point
					W 88	0	6.0	
	3	26.10	0.540	1459	N 30	55	0.8	N edge of field 100 m N of previous point
					W 88	0	6.0	
N 90 E	1	9.28	10.0	1251	N 30	40	55.4	At sidewalk to house #8 Iron Clad Port
					W 87	54	13.9	
	2	9.46	10.2	1239	N 30	40	54.8	Oakridge Dr at driveway to first house on right
					W 87	54	7.1	off State Route 225
	3	10.20	7.6	1300	N 30	40	51.7	At driveway 31247 Blakeley Ridge Ct
					W 87	53	39.9	
N 180 E	1	157	480.0	1207	N 30	40	48.4	Median of I / US 90/98
					W 88	0	2.1	
	2	192	329.0	1211	N 30	40	47.4	S shoulder of service road @ yield sign
					W 88	0	2.1	
	3	250	209.0	1216	N 30	40	45.6	At old fence near water line
					W 88	0	2.1	
N 270 E	1	4.68	16.1	1341	N 30	40	54.4	Charleston W of Washington - N curb at storm drain
					W 88	2	58.6	(near brick house)
	2	6.46	17.4	1354	N 30	40	54.8	Bradford & Government -- driveway from Bradford
					W 88	4	5.5	to building on NW corner of intersection
	3	9.58	4.5	1404	N 30	40	52.4	Florida & Taylor SE corner
					W 88	6	2.7	

FIGURE 16
WMOB CERTIFIED ARRAY GEOMETRY SURVEY



February 6, 2014

WMOB
ATTN: Dave Miniard
2212 Charring Wood Dr. W.
Mobile, AL 36985

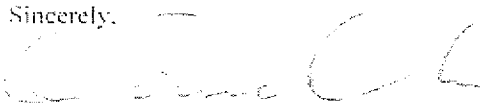
Dear : Mr. Miniard,

As requested we have performed a survey on the two freestanding towers at WMOB on Battleship Parkway in Spanish Fort, Alabama.

The conditions as surveyed are as follows:

1. South tower location 30°40'53.204" N 88°00'02.140" W, North tower location 30°40'55.739" N 88°00'02.146" W
2. The South tower and North tower are 78.068 meters center to center at an azimuth of 00°08'35" (0.143056°) from South tower to North tower as referenced to True North.
3. The average elevation of the insulators, at center: South tower = 3.747 meters (average ground elevation 0.53 meters). North tower = 3.733 meters (average ground elevation 0.53 meters)
4. The orientation of the towers to the studio building: Northeast building corner to South tower = 77.572 meters at 30°04'21" azimuth as referenced to True North. Northeast building corner to North tower = 150.362 meters at 15°03'32" azimuth as referenced to True North. Northwest building corner to South tower = 83.024 meters at 39°04'17" azimuth as referenced to True North. Northwest building corner to North tower = 151.895 meters at 20°13'48" azimuth as referenced to True North.

Sincerely,


Daniel Clark P.L.S.
SMITH, KOLB & ASSOCIATES L.L.C.
LAND SURVEYORS
P.O. Box 7082
Spanish Fort, AL 36577

