



CARRIE A. WARD  
ASSOCIATE COUNSEL

March 13, 2014

**VIA OVERNIGHT DELIVERY**

Federal Communications Commission, c/o US Bank  
Government Lockbox #979089 - SL-MO-C2-GL  
1005 Convention Plaza,  
St. Louis MO 63101  
(ATTENTION: FCC Government Lockbox)

**Re: WEEI(AM), Boston, MA**  
**Facility Id. No. 1912**

Dear Sir or Madam:

On behalf of Entercom License, LLC ("Licensee"), licensee of WEEI(AM) (Facility Id. No. 1912) ("Station"), enclosed in triplicate, is an application on FCC Form 302-AM requesting a license employing moment method modeling. Enclosed also is a completed FCC Form 159 and a check payable to the FCC in the amount of \$1,365.00 to cover the applicable filing fee.

The undersigned counsel is authorized to represent that neither the licensee nor any party holding an attributable interest in the licensee is subject to a denial of federal benefits under Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. §862.

If any information is desired in connection with this matter, please feel free to contact the undersigned. Kindly date stamp the enclosed "return copy" of this filing acknowledging its receipt by your office and return it to me in the enclosed self-addressed stamped envelope.

Sincerely,

Carrie Ward

Enclosure

bcc: Phil Zachary (via email)  
John Kennedy (via email) (WEEI(AM) Authorizations & Public File)  
Andrew P. Sutor, IV (via email)  
Ken Beck (via email)  
John Price (via email)

ENTERCOM COMMUNICATIONS CORP.

401 City Avenue, Suite 809, Bala Cynwyd, PA 19004 • (610) 660-5652 • Fax (610) 660-5527 • www.entercom.com  
ETM:68392\_1 E-mail cward@entercom.com

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. *Bmml-201403/KADY*

**SECTION I - APPLICANT FEE INFORMATION**

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

ENTERCOM COMMUNICATIONS CORP.

MAILING ADDRESS (Line 1) (Maximum 35 characters)

401 E. CITY AVENUE, SUITE 809

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY

BALA CYNWYD

STATE OR COUNTRY (if foreign address)

PENNSYLVANIA

ZIP CODE

19004

TELEPHONE NUMBER (include area code)

610-660-5652

CALL LETTERS

WEEI

OTHER FCC IDENTIFIER (If applicable)

1912

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)

FEE TYPE CODE		
M	M	R

(B)

FEE MULTIPLE			
0	0	0	1

(C)

FEE DUE FOR FEE TYPE CODE IN COLUMN (A)
\$

FOR FCC USE ONLY

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

(A)

M	O	R
---	---	---

(B)

0	0	0	1
---	---	---	---

(C)

\$
----

FOR FCC USE ONLY

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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

\$

FOR FCC USE ONLY

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**CLEAR ALL PAGES**

<b>SECTION II - APPLICANT INFORMATION</b>		
1. NAME OF APPLICANT ENTERCOM LICENSE, LLC		
MAILING ADDRESS 401 E. CITY AVENUE, SUITE 809		
CITY BALA CYNWYD	STATE PENNSYLVANIA	ZIP CODE 19004

2. This application is for:

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

Call letters WEEI	Community of License BOSTON, MA	Construction Permit File No. N/A	Modification of Construction Permit File No(s). N/A	Expiration Date of Last Construction Permit N/A
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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.  
BSTA-20130613AAI

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.  
N/A MoM LICENSE

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.  
N/A MoM LICENSE

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.  
N/A

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).

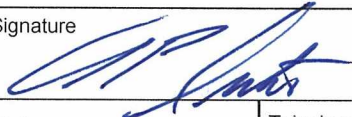
The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

### CERTIFICATION

☒ Yes ☐ No

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).

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 <i>Andrew P. Sutor, IV</i>	Signature 	
Title <i>SVP / General Counsel</i>	Date <i>3/10/2014</i>	Telephone Number <i>(610) 660-5610</i>

**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 (3060-0627), 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. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

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# SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

ENTERCOM 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	
WEEL		850	UNLIMITED	Night 50	Day 50

## 2. Station location

State MASSACHUSETTS	City or Town BOSTON
------------------------	------------------------

## 3. Transmitter location

State MA	County NORFOLK	City or Town NEEDHAM	Street address (or other identification) 1555 CENTRAL AVENUE
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## 4. Main studio location

State MA	County SUFFOLK	City or Town BRIGHTON	Street address (or other identification) 20 GUEST STREET
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## 5. Remote control point location (specify only if authorized directional antenna)

State MA	County SUFFOLK	City or Town BRIGHTON	Street address (or other identification) 20 GUEST STREET
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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.

SEE ENGINEERING

## 8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 32.45	RF common point or antenna current (in amperes) without modulation for day system 32.45
Measured antenna or common point resistance (in ohms) at operating frequency Night 50 Day 50	Measured antenna or common point reactance (in ohms) at operating frequency Night +j0 Day +j0

## 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 WEST	+54.1	-105.2	0.385	0.545		
#2 CENTER	0	0	1.0	1.0		
#3 EAST	-25.7	-24.5	0.102	0.589		

Manufacturer and type of antenna monitor:

POTOMAC INSTRUMENTS 1900



# 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 GUYED, UNIFORM CROSS SECTION	Overall height in meters of radiator above base insulator, or above base, if grounded. #1=195.1, #2 = 182.9, #3 = 170.7 METERS	Overall height in meters above ground (without obstruction lighting) #1=197.3, #2 = 184.19, #3 = 172.3 METERS	Overall height in meters above ground (include obstruction lighting) #1=198.1, #2 = 185.3, #3 = 173.1 METERS	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. <div>Exhibit No. N/A</div>
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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	42	°	16	'	41	"	West Longitude	71	°	16	'	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.  
N/A

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

Exhibit No.  
N/A


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

N/A METHOD OF MOMENTS LICENSE APPLICATION

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

N/A

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) Clarence M. Beverage	Signature (check appropriate box below) 
Address (include ZIP Code) Communications Technologies, Inc. P.O. Box 1130 Marlton, NJ 08053	Date 03/05/2014
	Telephone No. (Include Area Code) 856-985-0077 ext. 12

☐

Technical Director

☐

Registered Professional Engineer

☐

Chief Operator

☐

Technical Consultant

☒

Other (specify)

BROADCAST ENGINEERING CONSULTANT

**ENGINEERING STATEMENT IN  
SUPPORT OF 302-AM  
APPLICATION FOR LICENSE EMPLOYING MOMENT  
METHOD MODELING  
WEEI (AM) 850  
50 kW DA-2 U  
BOSTON, MASSACHUSETTS**

**MARCH 2014**

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*COMMUNICATIONS TECHNOLOGIES, INC. – BROADCAST ENGINEERING CONSULTANTS*

**ENGINEERING STATEMENT IN  
SUPPORT OF 302-AM  
APPLICATION FOR LICENSE  
EMPLOYING MOMENT METHOD MODELING  
WEEI(AM) 850  
50 kW DA-2 U  
BOSTON, MASSACHUSETTS**

**MARCH 2014**

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- II. Derivation of daytime operating parameters.
- III. Derivation of nighttime operating parameters.

**FIGURES:**

- 1. Circuit Model for Tower #1 Base – other towers floating.
- 2. Circuit Model for Tower #2 Base – other towers floating.
- 3. Circuit Model for Tower #3 Base – other towers floating.
- 4. Circuit Model for Tower #1 Base – DA-D.
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**APPENDIX:** 1. Reference Field Strength Measurements



**ENGINEERING STATEMENT IN  
SUPPORT OF 302-AM  
APPLICATION FOR LICENSE  
EMPLOYING MOMENT METHOD MODELING  
WEEI(AM) 850  
50 kW DA-2U  
BOSTON, MASSACHUSETTS**

**MARCH 2014**

**SUMMARY**

The following engineering statement has been prepared on behalf of **Entercom License, LLC**, licensee of standard broadcast station WEEI (AM), FCC ID1912, 850 kHz, Boston, Massachusetts. WEEI (AM) is currently licensed under BL-20100429AEH which authorizes 850 kHz daytime and nighttime directional operation at a power of 50 kilowatts. This application requests licensing of the WEEI (AM) antenna system using computer modeling and sample system verification as provided for in the Second Report and Order in MM Docket No. 93-177 released September 26, 2008. The rules specify that the day and night directional antenna parameters be set to the operating parameters determined by the moment method without deviation. That operation has been completed and Form 302-AM is submitted herein specifying the as adjusted operating parameters. This application is filed against STA BSTA-20130613AAI.

**METHOD OF MOMENTS MODEL – SELF IMPEDANCE ANALYSIS**

In an effort to model the antenna system as accurately as possible, detailed mechanical data was obtained from the licensee and FCC tower registration data and is summarized below:

Registration 3TA3, #1007356 - #1 West tower is 640' (195.1 meters) in height, steel, uniform cross section, 12' face mounted on a base insulator above a concrete pier.

Registration 3TA2, #1007355 - #2 Center tower is 600' (182.9 meters) in height, steel, uniform cross section, 12' face mounted on a base insulator above a concrete pier.

Registration 3TA1, #1007354 - #3 East tower is 560' (170.7 meters) in height, steel, uniform cross section, 12' face mounted on a base insulator above a concrete pier.

Base Insulators are brown ceramic 26" in height; specified capacitance of 20 pf.

A single Austin ring lighting transformer is employed at each tower; specified capacitance of 10 pf.

None of the towers support an antenna or transmission line.

The choice of calculating engine and software implementation chosen for this filing is the ACS Model Version 1.021 employing MININEC3. The circuit analysis software employed is WCAP Professional Version 1.1.02.

The wire models for the three towers are constructed as specified below:

Tower #1 West

Actual radius = 1.746 meters

Model radius = 1.746 meters

Percentage of actual radius = 100%

Z = 190.0693 meters

Percentage of actual height = 97.4%

Number of segments = 41

Tower #2 Center

Actual radius = 1.746 meters

Model radius = 1.746 meters

Percentage of actual radius = 100%

Z = 175.3732 meters

Percentage of actual height = 95.9%

Number of segments = 41

Tower #3 East

Actual radius = 1.746 meters

Model radius = 1.746 meters

Percentage of actual radius = 100%

Z = 163.6163 meters

Percentage of actual height = 95.9%

Number of segments = 41

The values above comply with the 73.151 requirement that the radius of the wire model cylinder be within 80 and 150 percent of the radius of a circle with a circumference equal to the sum of the faces, that the height be between 75 and 125 percent of the physical length and that no segment be less than 10 electrical degrees.

The tower measured base self impedances, with all other towers floating, as measured at the tower feed point, are listed below. Tower impedance was obtained using an Array Solutions VNA 2180, serial number 5036. The modeled self impedance measurements, with all other towers floating, may be found in Exhibit I, page 3 for Tower #1 and Exhibit I, page 10 for Tower #2 and Exhibit I, page 17 for tower #3. A circuit model has been constructed for each tower to account for shunt and series reactance across the tower base. All calculations have been made employing WCAP Professional version 1.1.02 as seen in Figures 1 - 3 for self impedance and Figures 4 - 6 for daytime directional operation and Figures 7 - 9 for nighttime

directional operation. The measured and calculated self impedance values are well within the tolerance specified in 73.151(c)(2)(ii) as seen below:

Tower #1

Measured self impedance at ATU:	72.2 -J170.38
Modeled self impedance at base:	77.063 -J194.63
Shunt capacitance:	10 pf in parallel with 20 pf
Series inductance:	+J 19.226, 3.6 uh
Modeled self impedance at ATU:	72.48 -170.38

Tower #2

Measured self impedance at ATU:	108.1 -J180.4
Modeled self impedance at base:	115.261 -J200.286
Shunt capacitance:	10 pf in parallel with 20 pf
Series inductance:	+J15.488, 2.9 uh
Modeled self impedance at ATU:	108.19 -J180.49

Tower #3

Measured self impedance at ATU:	167.8 -J237.1
Modeled self impedance at base:	180.389 -J246.87
Shunt capacitance:	10 pf in parallel with 20 pf
Series inductance:	+J4.539, 0.85 uh
Modeled self impedance at ATU:	166.81 -J237.57

The calculated tolerances are:

Tower #1	$72.2 \pm 4.88$ resistance, $-J 170.38 \pm 8.82$ reactance
Tower #2	$108.1 \pm 6.32$ resistance, $-J 180.4 \pm 9.22$ reactance
Tower #3	$167.8 \pm 8.71$ resistance, $-J 237.1 \pm 11.48$ reactance

#### **METHOD OF MOMENTS MODEL – BASE OPERATING PARAMETERS**

The modeled tower array was employed, as constructed for the derivation of self impedance, for the determination of day and nighttime operating parameters. The FCC theoretical values were converted to base excitation values. The base, voltage excitation values for the daytime array may be found in *Exhibit II, page 3* and the base operating parameters on *pages 3 & 4*. The base excitation voltage values for the nighttime array may be found in *Exhibit III, page 3* and the base operating parameters on *page 4*.

The calculated base operating parameters and the phase monitor parameters as adjusted and reflected on Form 302-AM, attached, are as follows. Due to the tower height base voltage sampling is employed using

Phasetek P60-206-1H sampling devices, serial numbers 01, 02 and 03. The base excitation voltages are: found on Exhibit II for Daytime and Exhibit III for Nighttime and reproduced here for ease of reference:

Day	Sources: 3	Normalized
	Pulse No., Voltage Magnitude, Phase (Degrees): 1, 2996.7, 170.3	0.556 +106.3
	Pulse No., Voltage Magnitude, Phase (Degrees): 42, 5392.2, 64.0	1.000 0.0
	Pulse No., Voltage Magnitude, Phase (Degrees): 83, 3062.6, 0.5	0.568 -63.5
Night	Sources: 3	Normalized
	Pulse No., Voltage Magnitude, Phase (Degrees): 1, 2172.1, 151.9	0.391 +84.5
	Pulse No., Voltage Magnitude, Phase (Degrees): 42, 5549.8, 67.4	1.000 0.0
	Pulse No., Voltage Magnitude, Phase (Degrees): 83, 3798.6, -24.7	0.684 -92.1

DAYTIME:

<u>Tower</u>	<u>Figures 4 – 6 Circuit Model Ratio and Phase</u>	<u>Correction to Modeled Values to Derive Antenna Monitor Values</u>
#1	0.930 0.866 ✓	0.981 -1.095
#2	0.948 1.961	1.000 0.000
#3	0.983 0.923	1.037 -1.038
<u>Tower</u>	<u>Modeled Base Voltage &amp; Phase</u>	<u>Antenna Monitor Voltage &amp; Phase</u>
#1	0.556 +106.3	0.545 +105.2
#2	1.000 0.00	1.000 0.00
#3	0.568 -63.5	0.589 -64.5

NIGHTTIME:

<u>Tower</u>	<u>Figures 7 – 9 Circuit Model Ratio and Phase</u>	<u>Correction to Modeled Values to Derive Antenna Monitor Values</u>
#1	0.945 1.372	0.993 -0.373
#2	0.952 1.745	1.000 0.000
#3	0.982 0.680	1.032 -1.065
<u>Tower</u>	<u>Modeled Base Voltage &amp; Phase</u>	<u>Antenna Monitor Voltage &amp; Phase</u>
#1	0.391 +84.5	0.388 +84.1
#2	1.000 0.00	1.000 0.00
#3	0.684 -92.1	0.706 -93.2

The adjusted pattern has phase monitor values which are equal to the modeled phase and ratio corrected for circuit model amplitude and phase. The daytime and nighttime directional patterns have been adjusted to the values above and as shown on the attached form 302-AM.

## **DIRECT MEASUREMENT OF POWER**

Common point impedance was measured with a Delta CPIB. Common point current was measured with a Delta 40 amp RF ammeter permanently installed in the phasing cabinet. Common point resistance and reactance were set to 50 +j0 and the transmitter power adjusted to yield the correct current of 32.45 amps for a power level of 52,650 watts during daytime hours and 32.45 amps for a power level of 52,650 watts during nighttime hours as found on FCC Form 302-AM attached.

## **SAMPLING SYSTEM**

A new sampling system has been installed which consists of:

Three equal lengths of Andrew LDF-4RK-50A.

Three Phasetek P60-206-1H voltage sampling devices. Serial numbers 01-03.

Potomac 1900 phase monitor, serial number 895.

The sampling devices are mounted in the cinder block dog houses located at the base of each tower. The length of copper tubing from the sample device to the tower is believed to be equal for each tower.

Measurements on the sampling system components are tabulated below. The voltage sample devices were tested for accuracy by placing them on the same conductor in the transmitter building. The sample devices were then measured when connected to the phase monitor with coax jumpers having exact equal electrical length at two different current levels:

	<u>Ratio</u>	<u>Phase</u>
Sample device tower #1	99.4	0.0
Sample device tower #2	100.0	0.0
Sample device tower #3	99.4	-0.2

The sampling device accuracy was verified as being well within the manufacturer tolerance of  $\pm 2\%$  in magnitude and  $\pm 2$  degrees in phase. Phase monitor accuracy was confirmed by feeding two tower inputs at a time through a splitter and equal length jumpers to confirm equal magnitude and phase on each tower. There were no observable errors.

Impedance and electrical length for each of the three sample lines were measured with an Array Solutions model VNA 2180, serial number 5036 ("VNA"). The VNA was connected to the sample lines at the transmitter building with the sample lines unterminated on the turning unit end. The measured electrical

length data is found below:

Sample line open-circuited odd quarter wave below 850 kHz (0.75 wavelength). Length in degrees is at 850 kHz.	1 (W) = 584 kHz 1,112' = 393.15 deg. 2 (C) = 585 kHz 1,110' = 392.44 deg. 3 (E) = 584 kHz 1,112' = 393.15 deg.
Sample line open-circuited odd quarter wave above 850 kHz (1.25 wavelength) Length in degrees is at 850 kHz.	1 (N) = 977 kHz 1,107' = 391.38 deg. 2 (S) = 977 kHz 1,107' = 391.38 deg. 3 (E) = 977 kHz 1,107' = 391.38 deg.

It may be seen that the sample lines are essentially equal in length. The sample system meets the rule requirement that the sample lines be equal to within one degree.

The impedance of the sample lines was determined by measuring the open circuit impedance 45 degrees above and below the resonant length of the sample lines. The measured data is presented below. The impedance is determined using the formula:

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

	3/8 lambda +45° From 3/4 wave	Measured Impedance	1/8 lambda -45° From 3/4 wave	Measured Impedance	Calculated Impedance by formula
Tower #1(W)	1075	6.85 - J 50.6	879	8.57 +J 50.70	51.0
Tower #2(C)	1075	7.19 -J 50.7	879	8.78 +J 50.40	51.0
Tower #3(E)	1075	7.13 -J 50.19	879	8.80 +J 50.48	51.0

The characteristic impedance of the transmission lines is within 1 ohm. The allowable tolerance is 2 ohms. Sampling system impedance was measured with each of the sampling lines terminated in its respective voltage sampling device. Impedance was measured by connecting each sample line directly to the VNA. The measured impedance data is found below as measured at 850 kHz.

Measured impedance of sampling line and associated voltage sample device

Tower #1(W) 49.9 –J0.41  
Tower #2(C) 50.2 –J0.484  
Tower #3(E) 50.0 –J 0.328

**GROUND SYSTEM**

The ground system consists of 180 radials, equally spaced, extending out 182.9 meters or to the point of common overlap. The radials are elevated 2.29 meters above the ground for the first 9.76 meters and extend along the surface of the ground beyond 9.76 meters.

**REFERENCE FIELD STRENGTH MEASUREMENTS**

Reference field strength measurements were taken by William P. Weeks whose qualifications are a matter of record with the FCC. The measurement data appears in Appendix 1. The field meter was checked against other meters of known calibration prior to the commencement of measurements.

**CONCLUSION**

All adjustments, measurements and field work were undertaken under the direction of the affiant. The foregoing was prepared on behalf of Entercom License, LLC by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



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Clarence M. Beverage  
for Communications Technologies, Inc.  
Marlton, New Jersey  
March 5, 2014



WEEI EXHIBIT I

\*\*\*\*\*  
 ACSModel  
 (MININEC 3.1 Core)  
 02-11-2014 17:33:19  
 \*\*\*\*\*

WEEI #1  
 ND#1 MININEC ADJUSTED  
 FINAL REFERENCE

Frequency = 0.850 MHz Wavelength = 352.70587 Meters

No. of Wires: 3

Wire No. 1	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
0	0	0			-1	
0	0	190.0693	1.746	0		41
Wire No. 2	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
20.41558	115.7825	0			-2	
20.41558	115.7825	175.3732	1.746	0		41
Wire No. 3	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
40.83115	231.565	0			-3	
40.83115	231.565	163.6163	1.746	0		41

\*\*\*\* ANTENNA GEOMETRY \*\*\*\*

Wire No. 1	Coordinates			Radius	Connection		Pulse
X	Y	Z		End1	End2	No.	
0	0	0	1.746	-1	1	1	
0	0	4.635836	1.746	1	1	2	
0	0	9.271672	1.746	1	1	3	
0	0	13.90751	1.746	1	1	4	
0	0	18.54334	1.746	1	1	5	
0	0	23.17918	1.746	1	1	6	
0	0	27.81502	1.746	1	1	7	
0	0	32.45085	1.746	1	1	8	
0	0	37.08669	1.746	1	1	9	
0	0	41.72253	1.746	1	1	10	
0	0	46.35836	1.746	1	1	11	
0	0	50.99419	1.746	1	1	12	
0	0	55.63003	1.746	1	1	13	
0	0	60.26587	1.746	1	1	14	
0	0	64.9017	1.746	1	1	15	
0	0	69.53754	1.746	1	1	16	
0	0	74.17338	1.746	1	1	17	
0	0	78.80921	1.746	1	1	18	
0	0	83.44505	1.746	1	1	19	
0	0	88.08088	1.746	1	1	20	
0	0	92.71672	1.746	1	1	21	
0	0	97.35255	1.746	1	1	22	
0	0	101.9884	1.746	1	1	23	
0	0	106.6242	1.746	1	1	24	
0	0	111.2601	1.746	1	1	25	
0	0	115.8959	1.746	1	1	26	
0	0	120.5317	1.746	1	1	27	
0	0	125.1676	1.746	1	1	28	

0	0	129.8034	1.746	1	1	29
0	0	134.4392	1.746	1	1	30
0	0	139.0751	1.746	1	1	31
0	0	143.7109	1.746	1	1	32
0	0	148.3468	1.746	1	1	33
0	0	152.9826	1.746	1	1	34
0	0	157.6184	1.746	1	1	35
0	0	162.2543	1.746	1	1	36
0	0	166.8901	1.746	1	1	37
0	0	171.5259	1.746	1	1	38
0	0	176.1618	1.746	1	1	39
0	0	180.7976	1.746	1	1	40
0	0	185.4334	1.746	1	0	41

Wire No.	2	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
20.41558		115.7825	0	1.746	-2	2	42
20.41558		115.7825	4.277395	1.746	2	2	43
20.41558		115.7825	8.55479	1.746	2	2	44
20.41558		115.7825	12.83219	1.746	2	2	45
20.41558		115.7825	17.10958	1.746	2	2	46
20.41558		115.7825	21.38697	1.746	2	2	47
20.41558		115.7825	25.66437	1.746	2	2	48
20.41558		115.7825	29.94177	1.746	2	2	49
20.41558		115.7825	34.21916	1.746	2	2	50
20.41558		115.7825	38.49656	1.746	2	2	51
20.41558		115.7825	42.77395	1.746	2	2	52
20.41558		115.7825	47.05135	1.746	2	2	53
20.41558		115.7825	51.32874	1.746	2	2	54
20.41558		115.7825	55.60614	1.746	2	2	55
20.41558		115.7825	59.88353	1.746	2	2	56
20.41558		115.7825	64.16093	1.746	2	2	57
20.41558		115.7825	68.43832	1.746	2	2	58
20.41558		115.7825	72.71572	1.746	2	2	59
20.41558		115.7825	76.99311	1.746	2	2	60
20.41558		115.7825	81.27051	1.746	2	2	61
20.41558		115.7825	85.5479	1.746	2	2	62
20.41558		115.7825	89.82529	1.746	2	2	63
20.41558		115.7825	94.10269	1.746	2	2	64
20.41558		115.7825	98.38009	1.746	2	2	65
20.41558		115.7825	102.6575	1.746	2	2	66
20.41558		115.7825	106.9349	1.746	2	2	67
20.41558		115.7825	111.2123	1.746	2	2	68
20.41558		115.7825	115.4897	1.746	2	2	69
20.41558		115.7825	119.7671	1.746	2	2	70
20.41558		115.7825	124.0445	1.746	2	2	71
20.41558		115.7825	128.3219	1.746	2	2	72
20.41558		115.7825	132.5993	1.746	2	2	73
20.41558		115.7825	136.8766	1.746	2	2	74
20.41558		115.7825	141.154	1.746	2	2	75
20.41558		115.7825	145.4314	1.746	2	2	76
20.41558		115.7825	149.7088	1.746	2	2	77
20.41558		115.7825	153.9862	1.746	2	2	78
20.41558		115.7825	158.2636	1.746	2	2	79
20.41558		115.7825	162.541	1.746	2	2	80
20.41558		115.7825	166.8184	1.746	2	2	81
20.41558		115.7825	171.0958	1.746	2	0	82

Wire No.	3	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
40.83115		231.565	0	1.746	-3	3	83
40.83115		231.565	3.990642	1.746	3	3	84
40.83115		231.565	7.981285	1.746	3	3	85

40.83115	231.565	11.97193	1.746	3	3	86
40.83115	231.565	15.96257	1.746	3	3	87
40.83115	231.565	19.95321	1.746	3	3	88
40.83115	231.565	23.94385	1.746	3	3	89
40.83115	231.565	27.9345	1.746	3	3	90
40.83115	231.565	31.92514	1.746	3	3	91
40.83115	231.565	35.91578	1.746	3	3	92
40.83115	231.565	39.90642	1.746	3	3	93
40.83115	231.565	43.89706	1.746	3	3	94
40.83115	231.565	47.88771	1.746	3	3	95
40.83115	231.565	51.87835	1.746	3	3	96
40.83115	231.565	55.86899	1.746	3	3	97
40.83115	231.565	59.85964	1.746	3	3	98
40.83115	231.565	63.85028	1.746	3	3	99
40.83115	231.565	67.84091	1.746	3	3	100
40.83115	231.565	71.83156	1.746	3	3	101
40.83115	231.565	75.8222	1.746	3	3	102
40.83115	231.565	79.81284	1.746	3	3	103
40.83115	231.565	83.80348	1.746	3	3	104
40.83115	231.565	87.79413	1.746	3	3	105
40.83115	231.565	91.78477	1.746	3	3	106
40.83115	231.565	95.77541	1.746	3	3	107
40.83115	231.565	99.76605	1.746	3	3	108
40.83115	231.565	103.7567	1.746	3	3	109
40.83115	231.565	107.7473	1.746	3	3	110
40.83115	231.565	111.738	1.746	3	3	111
40.83115	231.565	115.7286	1.746	3	3	112
40.83115	231.565	119.7193	1.746	3	3	113
40.83115	231.565	123.7099	1.746	3	3	114
40.83115	231.565	127.7006	1.746	3	3	115
40.83115	231.565	131.6912	1.746	3	3	116
40.83115	231.565	135.6818	1.746	3	3	117
40.83115	231.565	139.6725	1.746	3	3	118
40.83115	231.565	143.6631	1.746	3	3	119
40.83115	231.565	147.6538	1.746	3	3	120
40.83115	231.565	151.6444	1.746	3	3	121
40.83115	231.565	155.6351	1.746	3	3	122
40.83115	231.565	159.6257	1.746	3	0	123

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 1, 3372.3, 50.1

Number of Loads: 2

Pulse No., Resistance, Reactance: 42 , 0 ,-10000

Pulse No., Resistance, Reactance: 83 , 0 ,-10000

```
***** SOURCE DATA *****
Pulse 1      Voltage = (2161.1837, 2588.7669j)
              Current = (-7.6976, 14.1519j)
              Impedance = (77.063, -194.63j)
              Power = 10000.0 Watts
```

```
***** CURRENT DATA *****
```

Wire No. 1 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
1	-7.6976	14.1519	16.1099	118.543
2	-3.2897	10.4604	10.9655	107.458
3	-1.8257	9.2034	9.3828	101.2203
4	-0.3694	7.9299	7.9385	92.6669
5	0.9234	6.7703	6.833	82.2334

6	2.1297	5.6609	6.0483	69.3832
7	3.2661	4.5884	5.6321	54.5563
8	4.3423	3.5456	5.6059	39.2324
9	5.3621	2.5301	5.929	25.2597
10	6.3266	1.5421	6.5118	13.6987
11	7.235	0.5834	7.2585	4.6104
12	8.0856	-0.3433	8.0929	-2.4309
13	8.8762	-1.2348	8.9616	-7.9197
14	9.6042	-2.0876	9.8285	-12.263
15	10.2671	-2.8979	10.6682	-15.762
16	10.8622	-3.6621	11.4629	-18.6313
17	11.387	-4.3765	12.1991	-21.0238
18	11.8394	-5.0375	12.8666	-23.049
19	12.2174	-5.6417	13.4571	-24.7865
20	12.5191	-6.1861	13.9641	-26.2953
21	12.7434	-6.6677	14.3823	-27.6198
22	12.8891	-7.084	14.7075	-28.7937
23	12.9557	-7.4328	14.9364	-29.8433
24	12.943	-7.7123	15.0666	-30.7892
25	12.8512	-7.9209	15.0961	-31.6478
26	12.6808	-8.0575	15.0242	-32.4323
27	12.4328	-8.1214	14.8503	-33.1534
28	12.1087	-8.1122	14.5749	-33.8201
29	11.71	-8.0299	14.1987	-34.4397
30	11.2389	-7.8749	13.7232	-35.0185
31	10.6976	-7.6479	13.1503	-35.5616
32	10.0889	-7.3498	12.4822	-36.0736
33	9.4154	-6.9819	11.7216	-36.5584
34	8.6799	-6.5454	10.8712	-37.0194
35	7.8851	-6.0417	9.9336	-37.4597
36	7.0334	-5.4719	8.9112	-37.8821
37	6.1264	-4.8365	7.8054	-38.2892
38	5.1639	-4.1347	6.6152	-38.6838
39	4.1435	-3.3636	5.3369	-39.0691
40	3.0466	-2.5067	3.9453	-39.4475
41	1.9067	-1.5916	2.4836	-39.8525
E	0.0	0.0	0.0	0.0

Wire No. 2 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
42	0.0535	0.0623	0.0822	49.355
43	0.9583	1.1192	1.4734	49.4283
44	1.2257	1.4393	1.8905	49.5827
45	1.4904	1.762	2.3078	49.7722
46	1.7134	2.0413	2.6651	49.992
47	1.9117	2.2972	2.9886	50.2332
48	2.0892	2.5336	3.2838	50.4912
49	2.2482	2.7529	3.5543	50.7623
50	2.3902	2.9563	3.8017	51.0435
51	2.5161	3.1443	4.0271	51.3324
52	2.6264	3.3169	4.2308	51.6273
53	2.7214	3.474	4.413	51.9263
54	2.8014	3.6152	4.5735	52.2281
55	2.8666	3.7401	4.7123	52.5316
56	2.9173	3.8483	4.8291	52.8356
57	2.9536	3.9394	4.9237	53.1392
58	2.9757	4.0129	4.9959	53.4417
59	2.984	4.0686	5.0456	53.7424
60	2.9787	4.106	5.0726	54.0406
61	2.9601	4.1249	5.0771	54.3359
62	2.9286	4.1251	5.059	54.6279
63	2.8845	4.1066	5.0184	54.9161

64	2.8282	4.0693	4.9556	55.2003
65	2.7603	4.0133	4.8709	55.4802
66	2.6812	3.9387	4.7647	55.7557
67	2.5914	3.8457	4.6373	56.0265
68	2.4914	3.7347	4.4894	56.2927
69	2.3819	3.606	4.3216	56.5542
70	2.2633	3.4601	4.1346	56.8109
71	2.1363	3.2975	3.929	57.063
72	2.0015	3.1188	3.7058	57.3105
73	1.8594	2.9247	3.4657	57.5536
74	1.7107	2.7157	3.2096	57.7925
75	1.5558	2.4925	2.9382	58.0276
76	1.3954	2.2557	2.6524	58.259
77	1.2297	2.0056	2.3526	58.4874
78	1.059	1.7426	2.0392	58.7133
79	0.8832	1.4663	1.7118	58.9375
80	0.702	1.1758	1.3694	59.1615
81	0.5119	0.8651	1.0052	59.3862
82	0.3199	0.546	0.6328	59.6335
E	0.0	0.0	0.0	0.0

Wire No. 3 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
83	0.0095	-0.0191	0.0213	-63.4969
84	0.1703	-0.3414	0.3815	-63.4873
85	0.2149	-0.4304	0.4811	-63.4665
86	0.2605	-0.521	0.5825	-63.4401
87	0.2989	-0.5971	0.6677	-63.4082
88	0.3334	-0.6649	0.7438	-63.3717
89	0.3645	-0.7258	0.8122	-63.3304
90	0.3928	-0.7806	0.8738	-63.2844
91	0.4185	-0.8297	0.9293	-63.2334
92	0.4417	-0.8736	0.9789	-63.1772
93	0.4625	-0.9122	1.0228	-63.1153
94	0.4809	-0.9458	1.0611	-63.0475
95	0.4971	-0.9744	1.0938	-62.9733
96	0.5109	-0.998	1.1212	-62.8921
97	0.5224	-1.0167	1.143	-62.8037
98	0.5317	-1.0304	1.1595	-62.7075
99	0.5387	-1.0393	1.1706	-62.6029
100	0.5434	-1.0434	1.1764	-62.4896
101	0.5459	-1.0427	1.1769	-62.367
102	0.5461	-1.0373	1.1723	-62.2346
103	0.5441	-1.0273	1.1625	-62.0918
104	0.5399	-1.0128	1.1477	-61.938
105	0.5336	-0.994	1.1281	-61.7728
106	0.525	-0.9709	1.1037	-61.5956
107	0.5144	-0.9437	1.0748	-61.4057
108	0.5017	-0.9126	1.0414	-61.2025
109	0.4869	-0.8778	1.0038	-60.9853
110	0.47	-0.8395	0.9621	-60.7535
111	0.4513	-0.7978	0.9166	-60.5063
112	0.4305	-0.7531	0.8674	-60.2429
113	0.4079	-0.7054	0.8149	-59.9625
114	0.3834	-0.6552	0.7591	-59.6642
115	0.3571	-0.6025	0.7004	-59.347
116	0.3289	-0.5476	0.6388	-59.0097
117	0.299	-0.4908	0.5747	-58.6511
118	0.2672	-0.4322	0.5081	-58.2696
119	0.2336	-0.3719	0.4391	-57.8633
120	0.198	-0.3099	0.3677	-57.4298
121	0.1601	-0.2462	0.2936	-56.9646

122	0.119	-0.1795	0.2153	-56.4654
123	0.0765	-0.1128	0.1363	-55.8703
E	0.0	0.0	0.0	0.0

\*\*\*\*\* BASE OPERATING PARAMETERS \*\*\*\*\*

Twr.	Ratio	Phase
1	196.097	69.2
2	1.000	0.0
3	0.259	-112.9

\*\*\*\*\*  
 ACSModel  
 (MININEC 3.1 Core)  
 02-11-2014 17:52:53  
 \*\*\*\*\*

WEEI #2  
 ND#2 MININEC ADJUSTED  
 FINAL REFERENCE

Frequency = 0.850 MHz Wavelength = 352.70587 Meters  
 No. of Wires: 3

Wire No. 1 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
0	0	0		-1		
0	0	190.0693	1.746	0		41

Wire No. 2 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
20.41558	115.7825	0		-2		
20.41558	115.7825	175.3732	1.746	0		41

Wire No. 3 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
40.83115	231.565	0		-3		
40.83115	231.565	163.6163	1.746	0		41

\*\*\*\* ANTENNA GEOMETRY \*\*\*\*

Wire No. 1	Coordinates			Radius	Connection		Pulse
X	Y	Z		End1	End2	No.	
0	0	0	1.746	-1	1	1	
0	0	4.635836	1.746	1	1	2	
0	0	9.271672	1.746	1	1	3	
0	0	13.90751	1.746	1	1	4	
0	0	18.54334	1.746	1	1	5	
0	0	23.17918	1.746	1	1	6	
0	0	27.81502	1.746	1	1	7	
0	0	32.45085	1.746	1	1	8	
0	0	37.08669	1.746	1	1	9	
0	0	41.72253	1.746	1	1	10	
0	0	46.35836	1.746	1	1	11	
0	0	50.99419	1.746	1	1	12	
0	0	55.63003	1.746	1	1	13	
0	0	60.26587	1.746	1	1	14	
0	0	64.9017	1.746	1	1	15	



0	0	69.53754	1.746	1	1	16
0	0	74.17338	1.746	1	1	17
0	0	78.80921	1.746	1	1	18
0	0	83.44505	1.746	1	1	19
0	0	88.08088	1.746	1	1	20
0	0	92.71672	1.746	1	1	21
0	0	97.35255	1.746	1	1	22
0	0	101.9884	1.746	1	1	23
0	0	106.6242	1.746	1	1	24
0	0	111.2601	1.746	1	1	25
0	0	115.8959	1.746	1	1	26
0	0	120.5317	1.746	1	1	27
0	0	125.1676	1.746	1	1	28
0	0	129.8034	1.746	1	1	29
0	0	134.4392	1.746	1	1	30
0	0	139.0751	1.746	1	1	31
0	0	143.7109	1.746	1	1	32
0	0	148.3468	1.746	1	1	33
0	0	152.9826	1.746	1	1	34
0	0	157.6184	1.746	1	1	35
0	0	162.2543	1.746	1	1	36
0	0	166.8901	1.746	1	1	37
0	0	171.5259	1.746	1	1	38
0	0	176.1618	1.746	1	1	39
0	0	180.7976	1.746	1	1	40
0	0	185.4334	1.746	1	0	41

Wire No.	2	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
20.41558		115.7825	0	1.746	-2	2	42
20.41558		115.7825	4.277395	1.746	2	2	43
20.41558		115.7825	8.55479	1.746	2	2	44
20.41558		115.7825	12.83219	1.746	2	2	45
20.41558		115.7825	17.10958	1.746	2	2	46
20.41558		115.7825	21.38697	1.746	2	2	47
20.41558		115.7825	25.66437	1.746	2	2	48
20.41558		115.7825	29.94177	1.746	2	2	49
20.41558		115.7825	34.21916	1.746	2	2	50
20.41558		115.7825	38.49656	1.746	2	2	51
20.41558		115.7825	42.77395	1.746	2	2	52
20.41558		115.7825	47.05135	1.746	2	2	53
20.41558		115.7825	51.32874	1.746	2	2	54
20.41558		115.7825	55.60614	1.746	2	2	55
20.41558		115.7825	59.88353	1.746	2	2	56
20.41558		115.7825	64.16093	1.746	2	2	57
20.41558		115.7825	68.43832	1.746	2	2	58
20.41558		115.7825	72.71572	1.746	2	2	59
20.41558		115.7825	76.99311	1.746	2	2	60
20.41558		115.7825	81.27051	1.746	2	2	61
20.41558		115.7825	85.5479	1.746	2	2	62
20.41558		115.7825	89.82529	1.746	2	2	63
20.41558		115.7825	94.10269	1.746	2	2	64
20.41558		115.7825	98.38009	1.746	2	2	65
20.41558		115.7825	102.6575	1.746	2	2	66

20.41558	115.7825	106.9349	1.746	2	2	67
20.41558	115.7825	111.2123	1.746	2	2	68
20.41558	115.7825	115.4897	1.746	2	2	69
20.41558	115.7825	119.7671	1.746	2	2	70
20.41558	115.7825	124.0445	1.746	2	2	71
20.41558	115.7825	128.3219	1.746	2	2	72
20.41558	115.7825	132.5993	1.746	2	2	73
20.41558	115.7825	136.8766	1.746	2	2	74
20.41558	115.7825	141.154	1.746	2	2	75
20.41558	115.7825	145.4314	1.746	2	2	76
20.41558	115.7825	149.7088	1.746	2	2	77
20.41558	115.7825	153.9862	1.746	2	2	78
20.41558	115.7825	158.2636	1.746	2	2	79
20.41558	115.7825	162.541	1.746	2	2	80
20.41558	115.7825	166.8184	1.746	2	2	81
20.41558	115.7825	171.0958	1.746	2	0	82

Wire No.	3	Coordinates			Connection		Pulse
X	Y	Z	Radius	End1	End2	No.	
40.83115	231.565	0	1.746	-3	3	83	
40.83115	231.565	3.990642	1.746	3	3	84	
40.83115	231.565	7.981285	1.746	3	3	85	
40.83115	231.565	11.97193	1.746	3	3	86	
40.83115	231.565	15.96257	1.746	3	3	87	
40.83115	231.565	19.95321	1.746	3	3	88	
40.83115	231.565	23.94385	1.746	3	3	89	
40.83115	231.565	27.9345	1.746	3	3	90	
40.83115	231.565	31.92514	1.746	3	3	91	
40.83115	231.565	35.91578	1.746	3	3	92	
40.83115	231.565	39.90642	1.746	3	3	93	
40.83115	231.565	43.89706	1.746	3	3	94	
40.83115	231.565	47.88771	1.746	3	3	95	
40.83115	231.565	51.87835	1.746	3	3	96	
40.83115	231.565	55.86899	1.746	3	3	97	
40.83115	231.565	59.85964	1.746	3	3	98	
40.83115	231.565	63.85028	1.746	3	3	99	
40.83115	231.565	67.84091	1.746	3	3	100	
40.83115	231.565	71.83156	1.746	3	3	101	
40.83115	231.565	75.8222	1.746	3	3	102	
40.83115	231.565	79.81284	1.746	3	3	103	
40.83115	231.565	83.80348	1.746	3	3	104	
40.83115	231.565	87.79413	1.746	3	3	105	
40.83115	231.565	91.78477	1.746	3	3	106	
40.83115	231.565	95.77541	1.746	3	3	107	
40.83115	231.565	99.76605	1.746	3	3	108	
40.83115	231.565	103.7567	1.746	3	3	109	
40.83115	231.565	107.7473	1.746	3	3	110	
40.83115	231.565	111.738	1.746	3	3	111	
40.83115	231.565	115.7286	1.746	3	3	112	
40.83115	231.565	119.7193	1.746	3	3	113	
40.83115	231.565	123.7099	1.746	3	3	114	
40.83115	231.565	127.7006	1.746	3	3	115	
40.83115	231.565	131.6912	1.746	3	3	116	
40.83115	231.565	135.6818	1.746	3	3	117	

40.83115	231.565	139.6725	1.746	3	3	118
40.83115	231.565	143.6631	1.746	3	3	119
40.83115	231.565	147.6538	1.746	3	3	120
40.83115	231.565	151.6444	1.746	3	3	121
40.83115	231.565	155.6351	1.746	3	3	122
40.83115	231.565	159.6257	1.746	3	0	123

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 42, 3044.0, 68.9

Number of Loads: 2

Pulse No., Resistance, Reactance: 1 , 0 , -10000

Pulse No., Resistance, Reactance: 83 , 0 , -10000

```
***** SOURCE DATA *****
Pulse 42   Voltage = (1093.8747, 2840.6458j)
           Current = (-8.2933, 10.2342j)
           Impedance = (115.261, -200.286j)
           Power = 10000.0 Watts
```

```
***** CURRENT DATA *****
```

Wire No. 1 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
1	0.0336	0.0582	0.0672	60.0457
2	0.6023	1.0491	1.2097	60.1407
3	0.7839	1.3763	1.5839	60.3348
4	0.9593	1.7004	1.9523	60.57
5	1.1083	1.9862	2.2744	60.8387
6	1.2411	2.2509	2.5704	61.1297
7	1.3601	2.4984	2.8446	61.4366
8	1.4669	2.7306	3.0997	61.7547
9	1.5624	2.9484	3.3368	62.0801
10	1.6471	3.1519	3.5563	62.4099
11	1.7212	3.3408	3.7581	62.7418
12	1.7851	3.5146	3.942	63.0736
13	1.8389	3.6728	4.1075	63.4038
14	1.8828	3.8147	4.254	63.731
15	1.9168	3.9395	4.3811	64.0541
16	1.9412	4.0466	4.4882	64.3721
17	1.9562	4.1354	4.5748	64.6843
18	1.9619	4.2053	4.6405	64.9901
19	1.9585	4.2559	4.6849	65.2889
20	1.9462	4.2865	4.7077	65.5804
21	1.9254	4.2971	4.7087	65.8643
22	1.8962	4.2872	4.6878	66.1405
23	1.859	4.2569	4.6451	66.4089
24	1.814	4.2059	4.5805	66.6694
25	1.7617	4.1346	4.4942	66.9222
26	1.7022	4.0429	4.3867	67.1673
27	1.6361	3.9313	4.2581	67.4049
28	1.5636	3.8001	4.1092	67.6352

29	1.4851	3.6498	3.9404	67.8587
30	1.4011	3.481	3.7523	68.0756
31	1.3118	3.2942	3.5458	68.2863
32	1.2179	3.0903	3.3217	68.4913
33	1.1195	2.87	3.0806	68.6912
34	1.0171	2.634	2.8236	68.8865
35	0.911	2.383	2.5512	69.0779
36	0.8016	2.1176	2.2642	69.266
37	0.689	1.8381	1.963	69.4519
38	0.5733	1.5444	1.6474	69.6364
39	0.4541	1.2357	1.3165	69.8212
40	0.3297	0.9061	0.9642	70.0074
41	0.2035	0.5656	0.6011	70.2125
E	0.0	0.0	0.0	0.0

Wire No. 2 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
42	-8.2933	10.2342	13.1727	129.0196
43	-3.4738	8.3696	9.0619	112.5412
44	-2.005	7.7776	8.0319	104.4556
45	-0.5176	7.1611	7.1798	94.1343
46	0.7796	6.6007	6.6466	83.2644
47	1.977	6.0619	6.3761	71.9365
48	3.0931	5.538	6.3432	60.8159
49	4.1396	5.025	6.5105	50.518
50	5.1223	4.5212	6.8323	41.4332
51	6.0438	4.0265	7.2623	33.672
52	6.9049	3.5411	7.76	27.1507
53	7.7052	3.0661	8.2928	21.6991
54	8.4437	2.6027	8.8357	17.1313
55	9.1193	2.1523	9.3698	13.2795
56	9.7303	1.7164	9.8806	10.004
57	10.2755	1.2968	10.357	7.1926
58	10.7531	0.8949	10.7903	4.7573
59	11.162	0.5124	11.1738	2.6286
60	11.501	0.151	11.502	0.7521
61	11.769	-0.188	11.7705	-0.9152
62	11.9655	-0.5031	11.976	-2.4075
63	12.0898	-0.7929	12.1158	-3.7523
64	12.142	-1.0563	12.1878	-4.9718
65	12.122	-1.2921	12.1906	-6.0842
66	12.0302	-1.4994	12.1233	-7.1045
67	11.8673	-1.6773	11.9853	-8.0449
68	11.6343	-1.8252	11.7766	-8.9158
69	11.3325	-1.9424	11.4977	-9.726
70	10.9632	-2.0285	11.1493	-10.483
71	10.5282	-2.0833	10.7323	-11.193
72	10.0293	-2.1065	10.2482	-11.8615
73	9.4687	-2.098	9.6984	-12.4934
74	8.8484	-2.0579	9.0846	-13.0929
75	8.1706	-1.9863	8.4085	-13.6636
76	7.437	-1.8831	7.6717	-14.209
77	6.6493	-1.7484	6.8753	-14.7322

78	5.808	-1.582	6.0196	-15.2363
79	4.9122	-1.383	5.1032	-15.7243
80	3.9586	-1.1501	4.1223	-16.2004
81	2.9267	-0.8762	3.0551	-16.6668
82	1.8568	-0.5736	1.9433	-17.1679
E	0.0	0.0	0.0	0.0

Wire No. 3 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
83	0.0193	0.0986	0.1005	78.907
84	0.3457	1.7687	1.8022	78.9418
85	0.4336	2.2342	2.2759	79.0169
86	0.5216	2.7112	2.7609	79.1097
87	0.5933	3.1155	3.1715	79.2183
88	0.6552	3.4803	3.5414	79.3382
89	0.7087	3.8118	3.8771	79.4672
90	0.7549	4.1145	4.1832	79.6035
91	0.7943	4.3907	4.4619	79.7456
92	0.8274	4.6416	4.7147	79.8924
93	0.8546	4.8678	4.9423	80.0429
94	0.876	5.0697	5.1449	80.1962
95	0.8921	5.2474	5.3227	80.3517
96	0.9029	5.4006	5.4756	80.5087
97	0.9088	5.5294	5.6036	80.6666
98	0.9099	5.6336	5.7066	80.825
99	0.9065	5.7129	5.7844	80.9835
100	0.8989	5.7674	5.837	81.1417
101	0.8871	5.7969	5.8644	81.2992
102	0.8716	5.8015	5.8666	81.4557
103	0.8525	5.7811	5.8436	81.6111
104	0.8301	5.736	5.7958	81.7652
105	0.8047	5.6664	5.7232	81.9176
106	0.7764	5.5724	5.6263	82.0683
107	0.7455	5.4546	5.5053	82.2172
108	0.7123	5.3133	5.3608	82.3642
109	0.677	5.149	5.1934	82.5092
110	0.6399	4.9624	5.0035	82.6522
111	0.6012	4.7541	4.792	82.7932
112	0.561	4.5248	4.5594	82.9321
113	0.5197	4.2751	4.3066	83.0692
114	0.4774	4.0059	4.0343	83.2043
115	0.4343	3.7179	3.7432	83.3376
116	0.3906	3.4118	3.4341	83.4694
117	0.3464	3.0882	3.1076	83.5996
118	0.3019	2.7474	2.764	83.7287
119	0.2572	2.3895	2.4033	83.8569
120	0.2122	2.0138	2.025	83.9846
121	0.1669	1.6187	1.6273	84.1128
122	0.1205	1.1952	1.2012	84.2418
123	0.0749	0.7623	0.7659	84.3852
E	0.0	0.0	0.0	0.0

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BASE OPERATING PARAMETERS

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Twr.	Ratio	Phase
1	1.000	0.0
2	195.980	69.0
3	1.495	18.9

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COMMUNICATIONS TECHNOLOGIES, INC. - BROADCAST ENGINEERING CONSULTANTS

\*\*\*\*\*  
 ACSModel  
 (MININEC 3.1 Core)  
 02-11-2014 18:01:37  
 \*\*\*\*\*

WEEI #3  
 ND#3 MININEC ADJUSTED  
 FINAL REFERENCE

Frequency = 0.850 MHz Wavelength = 352.70587 Meters

No. of Wires: 3

Wire No. 1 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
0	0	0		-1		
0	0	190.0693	1.746	0		41

Wire No. 2 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
20.41558	115.7825	0		-2		
20.41558	115.7825	175.3732	1.746	0		41

Wire No. 3 of	Coordinates			Radius	End Connection	No.
X Segments	Y	Z				
40.83115	231.565	0		-3		
40.83115	231.565	163.6163	1.746	0		41

\*\*\*\* ANTENNA GEOMETRY \*\*\*\*

Wire No. 1 X	Coordinates		Radius	Connection		Pulse No.
	Y	Z		End1	End2	
0	0	0	1.746	-1	1	1
0	0	4.635836	1.746	1	1	2
0	0	9.271672	1.746	1	1	3
0	0	13.90751	1.746	1	1	4
0	0	18.54334	1.746	1	1	5
0	0	23.17918	1.746	1	1	6
0	0	27.81502	1.746	1	1	7
0	0	32.45085	1.746	1	1	8
0	0	37.08669	1.746	1	1	9
0	0	41.72253	1.746	1	1	10
0	0	46.35836	1.746	1	1	11
0	0	50.99419	1.746	1	1	12
0	0	55.63003	1.746	1	1	13
0	0	60.26587	1.746	1	1	14



0	0	64.9017	1.746	1	1	15
0	0	69.53754	1.746	1	1	16
0	0	74.17338	1.746	1	1	17
0	0	78.80921	1.746	1	1	18
0	0	83.44505	1.746	1	1	19
0	0	88.08088	1.746	1	1	20
0	0	92.71672	1.746	1	1	21
0	0	97.35255	1.746	1	1	22
0	0	101.9884	1.746	1	1	23
0	0	106.6242	1.746	1	1	24
0	0	111.2601	1.746	1	1	25
0	0	115.8959	1.746	1	1	26
0	0	120.5317	1.746	1	1	27
0	0	125.1676	1.746	1	1	28
0	0	129.8034	1.746	1	1	29
0	0	134.4392	1.746	1	1	30
0	0	139.0751	1.746	1	1	31
0	0	143.7109	1.746	1	1	32
0	0	148.3468	1.746	1	1	33
0	0	152.9826	1.746	1	1	34
0	0	157.6184	1.746	1	1	35
0	0	162.2543	1.746	1	1	36
0	0	166.8901	1.746	1	1	37
0	0	171.5259	1.746	1	1	38
0	0	176.1618	1.746	1	1	39
0	0	180.7976	1.746	1	1	40
0	0	185.4334	1.746	1	0	41

Wire No.	2	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
20.41558		115.7825	0	1.746	-2	2	42
20.41558		115.7825	4.277395	1.746	2	2	43
20.41558		115.7825	8.55479	1.746	2	2	44
20.41558		115.7825	12.83219	1.746	2	2	45
20.41558		115.7825	17.10958	1.746	2	2	46
20.41558		115.7825	21.38697	1.746	2	2	47
20.41558		115.7825	25.66437	1.746	2	2	48
20.41558		115.7825	29.94177	1.746	2	2	49
20.41558		115.7825	34.21916	1.746	2	2	50
20.41558		115.7825	38.49656	1.746	2	2	51
20.41558		115.7825	42.77395	1.746	2	2	52
20.41558		115.7825	47.05135	1.746	2	2	53
20.41558		115.7825	51.32874	1.746	2	2	54
20.41558		115.7825	55.60614	1.746	2	2	55
20.41558		115.7825	59.88353	1.746	2	2	56
20.41558		115.7825	64.16093	1.746	2	2	57
20.41558		115.7825	68.43832	1.746	2	2	58
20.41558		115.7825	72.71572	1.746	2	2	59
20.41558		115.7825	76.99311	1.746	2	2	60
20.41558		115.7825	81.27051	1.746	2	2	61
20.41558		115.7825	85.5479	1.746	2	2	62
20.41558		115.7825	89.82529	1.746	2	2	63
20.41558		115.7825	94.10269	1.746	2	2	64
20.41558		115.7825	98.38009	1.746	2	2	65

20.41558	115.7825	102.6575	1.746	2	2	66
20.41558	115.7825	106.9349	1.746	2	2	67
20.41558	115.7825	111.2123	1.746	2	2	68
20.41558	115.7825	115.4897	1.746	2	2	69
20.41558	115.7825	119.7671	1.746	2	2	70
20.41558	115.7825	124.0445	1.746	2	2	71
20.41558	115.7825	128.3219	1.746	2	2	72
20.41558	115.7825	132.5993	1.746	2	2	73
20.41558	115.7825	136.8766	1.746	2	2	74
20.41558	115.7825	141.154	1.746	2	2	75
20.41558	115.7825	145.4314	1.746	2	2	76
20.41558	115.7825	149.7088	1.746	2	2	77
20.41558	115.7825	153.9862	1.746	2	2	78
20.41558	115.7825	158.2636	1.746	2	2	79
20.41558	115.7825	162.541	1.746	2	2	80
20.41558	115.7825	166.8184	1.746	2	2	81
20.41558	115.7825	171.0958	1.746	2	0	82
Wire No. 3	Coordinates			Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
40.83115	231.565	0	1.746	-3	3	83
40.83115	231.565	3.990642	1.746	3	3	84
40.83115	231.565	7.981285	1.746	3	3	85
40.83115	231.565	11.97193	1.746	3	3	86
40.83115	231.565	15.96257	1.746	3	3	87
40.83115	231.565	19.95321	1.746	3	3	88
40.83115	231.565	23.94385	1.746	3	3	89
40.83115	231.565	27.9345	1.746	3	3	90
40.83115	231.565	31.92514	1.746	3	3	91
40.83115	231.565	35.91578	1.746	3	3	92
40.83115	231.565	39.90642	1.746	3	3	93
40.83115	231.565	43.89706	1.746	3	3	94
40.83115	231.565	47.88771	1.746	3	3	95
40.83115	231.565	51.87835	1.746	3	3	96
40.83115	231.565	55.86899	1.746	3	3	97
40.83115	231.565	59.85964	1.746	3	3	98
40.83115	231.565	63.85028	1.746	3	3	99
40.83115	231.565	67.84091	1.746	3	3	100
40.83115	231.565	71.83156	1.746	3	3	101
40.83115	231.565	75.8222	1.746	3	3	102
40.83115	231.565	79.81284	1.746	3	3	103
40.83115	231.565	83.80348	1.746	3	3	104
40.83115	231.565	87.79413	1.746	3	3	105
40.83115	231.565	91.78477	1.746	3	3	106
40.83115	231.565	95.77541	1.746	3	3	107
40.83115	231.565	99.76605	1.746	3	3	108
40.83115	231.565	103.7567	1.746	3	3	109
40.83115	231.565	107.7473	1.746	3	3	110
40.83115	231.565	111.738	1.746	3	3	111
40.83115	231.565	115.7286	1.746	3	3	112
40.83115	231.565	119.7193	1.746	3	3	113
40.83115	231.565	123.7099	1.746	3	3	114
40.83115	231.565	127.7006	1.746	3	3	115
40.83115	231.565	131.6912	1.746	3	3	116

40.83115	231.565	135.6818	1.746	3	3	117
40.83115	231.565	139.6725	1.746	3	3	118
40.83115	231.565	143.6631	1.746	3	3	119
40.83115	231.565	147.6538	1.746	3	3	120
40.83115	231.565	151.6444	1.746	3	3	121
40.83115	231.565	155.6351	1.746	3	3	122
40.83115	231.565	159.6257	1.746	3	0	123

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 83, 3219.4, 68.5

Number of Loads: 2

Pulse No., Resistance, Reactance: 1 , 0 ,-10000

Pulse No., Resistance, Reactance: 42 , 0 ,-10000

```
***** SOURCE DATA *****
Pulse 83      Voltage = (1178.4917, 2995.9957j)
               Current = (-5.6377, 8.8932j)
               Impedance = (180.389, -246.87j)
               Power = 10000.0 Watts
```

```
***** CURRENT DATA *****
Wire No. 1 :
Pulse      Real      Imaginary      Magnitude      Phase
No.         (Amps)      (Amps)         (Amps)         (Degrees)
1           0.0072     -0.012         0.014         -59.0922
2           0.1296     -0.2158        0.2517        -59.023
3           0.1703     -0.2822        0.3296        -58.8809
4           0.211      -0.3471        0.4062        -58.7071
5           0.2472     -0.4034        0.4731        -58.5056
6           0.281      -0.4547        0.5345        -58.2834
7           0.313      -0.5017        0.5913        -58.0433
8           0.3434     -0.545         0.6441        -57.7875
9           0.3722     -0.5846        0.693         -57.5171
10          0.3995     -0.6207        0.7382        -57.2328
11          0.4253     -0.6533        0.7795        -56.935
12          0.4495     -0.6823        0.817         -56.6238
13          0.4719     -0.7076        0.8506        -56.2992
14          0.4926     -0.7292        0.88          -55.9609
15          0.5113     -0.747         0.9053        -55.6088
16          0.5281     -0.761         0.9263        -55.2425
17          0.5427     -0.7711        0.9429        -54.8617
18          0.5551     -0.7772        0.9551        -54.466
19          0.5652     -0.7794        0.9628        -54.055
20          0.5728     -0.7777        0.9659        -53.6282
21          0.578      -0.7722        0.9645        -53.1854
22          0.5805     -0.7628        0.9586        -52.726
23          0.5804     -0.7497        0.9481        -52.2497
24          0.5777     -0.7329        0.9332        -51.7561
25          0.5721     -0.7127        0.9139        -51.2447
26          0.5637     -0.6891        0.8903        -50.7152
27          0.5525     -0.6624        0.8626        -50.1671
```

28	0.5385	-0.6327	0.8308	-49.6001
29	0.5216	-0.6003	0.7952	-49.0137
30	0.5018	-0.5653	0.7559	-48.4075
31	0.4791	-0.528	0.713	-47.7811
32	0.4536	-0.4887	0.6668	-47.1341
33	0.4253	-0.4476	0.6174	-46.4658
34	0.3941	-0.4049	0.565	-45.7758
35	0.3601	-0.3609	0.5098	-45.0632
36	0.3233	-0.3158	0.452	-44.327
37	0.2836	-0.2698	0.3914	-43.566
38	0.2409	-0.2229	0.3282	-42.778
39	0.195	-0.1753	0.2622	-41.9583
40	0.1447	-0.1262	0.192	-41.1043
41	0.0915	-0.0772	0.1197	-40.134
E	0.0	0.0	0.0	0.0

Wire No. 2 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
42	0.0241	0.077	0.0807	72.6203
43	0.4314	1.3823	1.448	72.6668
44	0.5509	1.7758	1.8593	72.7648
45	0.6686	2.1712	2.2718	72.8847
46	0.7668	2.5119	2.6263	73.0232
47	0.8535	2.8223	2.9485	73.1746
48	0.9302	3.1075	3.2437	73.3356
49	0.9982	3.3706	3.5153	73.5037
50	1.0582	3.6132	3.765	73.6769
51	1.1106	3.836	3.9936	73.8536
52	1.1558	4.0393	4.2014	74.0323
53	1.194	4.2228	4.3884	74.212
54	1.2254	4.3865	4.5544	74.3916
55	1.2503	4.5299	4.6992	74.5702
56	1.2687	4.6527	4.8225	74.7473
57	1.2809	4.7545	4.924	74.922
58	1.287	4.835	5.0034	75.0939
59	1.2873	4.8939	5.0604	75.2626
60	1.2819	4.9309	5.0948	75.4276
61	1.2709	4.9459	5.1066	75.5887
62	1.2547	4.9388	5.0956	75.7455
63	1.2334	4.9095	5.062	75.898
64	1.2071	4.8582	5.0059	76.046
65	1.1762	4.7849	4.9274	76.1894
66	1.1409	4.6901	4.8268	76.3281
67	1.1013	4.5739	4.7046	76.4621
68	1.0577	4.4369	4.5612	76.5916
69	1.0103	4.2795	4.3971	76.7166
70	0.9594	4.1023	4.213	76.8371
71	0.9051	3.906	4.0095	76.9535
72	0.8477	3.6913	3.7874	77.0658
73	0.7875	3.4589	3.5474	77.1743
74	0.7245	3.2095	3.2902	77.2794
75	0.6591	2.9439	3.0168	77.3811
76	0.5913	2.6627	2.7276	77.4801

77	0.5213	2.3665	2.4232	77.5766
78	0.4492	2.0554	2.1039	77.671
79	0.3749	1.7289	1.7691	77.7641
80	0.2982	1.3861	1.4178	77.8565
81	0.2177	1.0196	1.0426	77.949
82	0.1362	0.6435	0.6577	78.0508
E	0.0	0.0	0.0	0.0

Wire No. 3 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
83	-5.6377	8.8932	10.5296	122.3718
84	-0.5603	6.8888	6.9116	94.6498
85	0.8662	6.3063	6.3655	82.1795
86	2.3355	5.6928	6.1533	67.694
87	3.5923	5.1489	6.2782	55.0976
88	4.7371	4.6352	6.6277	44.3769
89	5.7891	4.1446	7.1198	35.6002
90	6.7616	3.672	7.6944	28.5049
91	7.6617	3.2151	8.309	22.7647
92	8.4932	2.773	8.9344	18.0815
93	9.2578	2.3452	9.5503	14.215
94	9.9565	1.9321	10.1423	10.9817
95	10.5894	1.5341	10.6999	8.2434
96	11.156	1.1521	11.2154	5.8964
97	11.6561	0.787	11.6826	3.8625
98	12.0889	0.4395	12.0969	2.0822
99	12.4539	0.1108	12.4544	0.5095
100	12.7507	-0.1983	12.7522	-0.8912
101	12.9788	-0.4869	12.9879	-2.1482
102	13.138	-0.7539	13.1596	-3.2841
103	13.2282	-0.9985	13.2659	-4.3168
104	13.2497	-1.2201	13.3057	-5.2613
105	13.2026	-1.4178	13.2785	-6.1295
106	13.0877	-1.5911	13.184	-6.9317
107	12.9056	-1.7394	13.0223	-7.6761
108	12.6574	-1.8623	12.7937	-8.3699
109	12.3442	-1.9594	12.4988	-9.0191
110	11.9675	-2.0304	12.1385	-9.6289
111	11.5288	-2.0751	11.7141	-10.2037
112	11.0298	-2.0936	11.2267	-10.7474
113	10.4723	-2.0856	10.6779	-11.2634
114	9.8582	-2.0513	10.0694	-11.7546
115	9.1894	-1.9908	9.4026	-12.2237
116	8.4677	-1.9041	8.6792	-12.6731
117	7.6946	-1.7913	7.9004	-13.1051
118	6.8712	-1.6524	7.0671	-13.5217
119	5.9975	-1.487	6.1791	-13.9251
120	5.0718	-1.2944	5.2344	-14.3174
121	4.0903	-1.0732	4.2287	-14.7017
122	3.0296	-0.8163	3.1376	-15.0795
123	1.9388	-0.5373	2.0119	-15.489
E	0.0	0.0	0.0	0.0

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BASE OPERATING PARAMETERS

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Twr.	Ratio	Phase
1	1.000	0.0
2	5.770	131.7
3	752.765	181.5

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COMMUNICATIONS TECHNOLOGIES, INC. - BROADCAST ENGINEERING CONSULTANTS

WEEI DA-DAY EXHIBIT II

\*\*\*\*\*  
 ACSModel  
 (MININEC 3.1 Core)  
 02-11-2014 18:42:57  
 \*\*\*\*\*

WEEI DAY  
 BASED ON ND REFERENCE MODELS  
 Frequency = 0.850 MHz Wavelength = 352.70587 Meters

No. of Wires: 3

Wire No.	Coordinates	Radius	End Connection	No. of Segments
X	Y	Z		
0	0	0	-1	
0	0	190.0693	0	41
Wire No. 2	Coordinates	Radius	End Connection	No. of Segments
X	Y	Z		
20.41558	115.7825	0	-2	
20.41558	115.7825	175.3732	0	41
Wire No. 3	Coordinates	Radius	End Connection	No. of Segments
X	Y	Z		
40.83115	231.565	0	-3	
40.83115	231.565	163.6163	0	41

\*\*\*\* ANTENNA GEOMETRY \*\*\*\*

Wire No.	Coordinates	Radius	Connection	Pulse
X	Y	Z	End1 End2	No.
0	0	0	-1 1	1
0	0	4.635836	1 1	2
0	0	9.271672	1 1	3
0	0	13.90751	1 1	4
0	0	18.54334	1 1	5
0	0	23.17918	1 1	6
0	0	27.81502	1 1	7
0	0	32.45085	1 1	8
0	0	37.08669	1 1	9
0	0	41.72253	1 1	10
0	0	46.35836	1 1	11
0	0	50.99419	1 1	12
0	0	55.63003	1 1	13
0	0	60.26587	1 1	14
0	0	64.9017	1 1	15
0	0	69.53754	1 1	16
0	0	74.17338	1 1	17
0	0	78.80921	1 1	18
0	0	83.44505	1 1	19
0	0	88.08088	1 1	20
0	0	92.71672	1 1	21
0	0	97.35255	1 1	22
0	0	101.9884	1 1	23
0	0	106.6242	1 1	24



0	0	111.2601	1.746	1	1	25
0	0	115.8959	1.746	1	1	26
0	0	120.5317	1.746	1	1	27
0	0	125.1676	1.746	1	1	28
0	0	129.8034	1.746	1	1	29
0	0	134.4392	1.746	1	1	30
0	0	139.0751	1.746	1	1	31
0	0	143.7109	1.746	1	1	32
0	0	148.3468	1.746	1	1	33
0	0	152.9826	1.746	1	1	34
0	0	157.6184	1.746	1	1	35
0	0	162.2543	1.746	1	1	36
0	0	166.8901	1.746	1	1	37
0	0	171.5259	1.746	1	1	38
0	0	176.1618	1.746	1	1	39
0	0	180.7976	1.746	1	1	40
0	0	185.4334	1.746	1	0	41

Wire No.	2	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
20.41558		115.7825	0	1.746	-2	2	42
20.41558		115.7825	4.277395	1.746	2	2	43
20.41558		115.7825	8.55479	1.746	2	2	44
20.41558		115.7825	12.83219	1.746	2	2	45
20.41558		115.7825	17.10958	1.746	2	2	46
20.41558		115.7825	21.38697	1.746	2	2	47
20.41558		115.7825	25.66437	1.746	2	2	48
20.41558		115.7825	29.94177	1.746	2	2	49
20.41558		115.7825	34.21916	1.746	2	2	50
20.41558		115.7825	38.49656	1.746	2	2	51
20.41558		115.7825	42.77395	1.746	2	2	52
20.41558		115.7825	47.05135	1.746	2	2	53
20.41558		115.7825	51.32874	1.746	2	2	54
20.41558		115.7825	55.60614	1.746	2	2	55
20.41558		115.7825	59.88353	1.746	2	2	56
20.41558		115.7825	64.16093	1.746	2	2	57
20.41558		115.7825	68.43832	1.746	2	2	58
20.41558		115.7825	72.71572	1.746	2	2	59
20.41558		115.7825	76.99311	1.746	2	2	60
20.41558		115.7825	81.27051	1.746	2	2	61
20.41558		115.7825	85.5479	1.746	2	2	62
20.41558		115.7825	89.82529	1.746	2	2	63
20.41558		115.7825	94.10269	1.746	2	2	64
20.41558		115.7825	98.38009	1.746	2	2	65
20.41558		115.7825	102.6575	1.746	2	2	66
20.41558		115.7825	106.9349	1.746	2	2	67
20.41558		115.7825	111.2123	1.746	2	2	68
20.41558		115.7825	115.4897	1.746	2	2	69
20.41558		115.7825	119.7671	1.746	2	2	70
20.41558		115.7825	124.0445	1.746	2	2	71
20.41558		115.7825	128.3219	1.746	2	2	72
20.41558		115.7825	132.5993	1.746	2	2	73
20.41558		115.7825	136.8766	1.746	2	2	74
20.41558		115.7825	141.154	1.746	2	2	75
20.41558		115.7825	145.4314	1.746	2	2	76
20.41558		115.7825	149.7088	1.746	2	2	77
20.41558		115.7825	153.9862	1.746	2	2	78
20.41558		115.7825	158.2636	1.746	2	2	79
20.41558		115.7825	162.541	1.746	2	2	80
20.41558		115.7825	166.8184	1.746	2	2	81
20.41558		115.7825	171.0958	1.746	2	0	82

Wire No.	3	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
40.83115		231.565	0	1.746	-3	3	83
40.83115		231.565	3.990642	1.746	3	3	84
40.83115		231.565	7.981285	1.746	3	3	85
40.83115		231.565	11.97193	1.746	3	3	86
40.83115		231.565	15.96257	1.746	3	3	87
40.83115		231.565	19.95321	1.746	3	3	88
40.83115		231.565	23.94385	1.746	3	3	89
40.83115		231.565	27.9345	1.746	3	3	90
40.83115		231.565	31.92514	1.746	3	3	91
40.83115		231.565	35.91578	1.746	3	3	92
40.83115		231.565	39.90642	1.746	3	3	93
40.83115		231.565	43.89706	1.746	3	3	94
40.83115		231.565	47.88771	1.746	3	3	95
40.83115		231.565	51.87835	1.746	3	3	96
40.83115		231.565	55.86899	1.746	3	3	97
40.83115		231.565	59.85964	1.746	3	3	98
40.83115		231.565	63.85028	1.746	3	3	99
40.83115		231.565	67.84091	1.746	3	3	100
40.83115		231.565	71.83156	1.746	3	3	101
40.83115		231.565	75.8222	1.746	3	3	102
40.83115		231.565	79.81284	1.746	3	3	103
40.83115		231.565	83.80348	1.746	3	3	104
40.83115		231.565	87.79413	1.746	3	3	105
40.83115		231.565	91.78477	1.746	3	3	106
40.83115		231.565	95.77541	1.746	3	3	107
40.83115		231.565	99.76605	1.746	3	3	108
40.83115		231.565	103.7567	1.746	3	3	109
40.83115		231.565	107.7473	1.746	3	3	110
40.83115		231.565	111.738	1.746	3	3	111
40.83115		231.565	115.7286	1.746	3	3	112
40.83115		231.565	119.7193	1.746	3	3	113
40.83115		231.565	123.7099	1.746	3	3	114
40.83115		231.565	127.7006	1.746	3	3	115
40.83115		231.565	131.6912	1.746	3	3	116
40.83115		231.565	135.6818	1.746	3	3	117
40.83115		231.565	139.6725	1.746	3	3	118
40.83115		231.565	143.6631	1.746	3	3	119
40.83115		231.565	147.6538	1.746	3	3	120
40.83115		231.565	151.6444	1.746	3	3	121
40.83115		231.565	155.6351	1.746	3	3	122
40.83115		231.565	159.6257	1.746	3	0	123

Sources: 3

Pulse No., Voltage Magnitude, Phase (Degrees): 1, 2996.7, 170.3

Pulse No., Voltage Magnitude, Phase (Degrees): 42, 5392.2, 64.0

Pulse No., Voltage Magnitude, Phase (Degrees): 83, 3062.6, 0.5

Number of Loads: 0

\*\*\*\*\* SOURCE DATA \*\*\*\*\*

Pulse 1 Voltage = (-2953.8678, 505.1275j)  
Current = (-3.9209, -9.9743j)  
Impedance = (56.97, -273.752j)  
Power = 3271.79 Watts

Pulse 42 Voltage = (2361.976, 4847.3349j)  
Current = (-10.7403, 17.7831j)  
Impedance = (140.948, -217.949j)  
Power = 30416.05 Watts

Pulse 83 Voltage = (3062.5298, 26.0824j)  
 Current = (10.5547, 11.5151j)  
 Impedance = (133.707, -143.403j)  
 Power = 16312.16 Watts

Total Power = 49999.997 Watts

\*\*\*\*\* CURRENT DATA \*\*\*\*\*

Wire No. 1 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
1	-3.9209	-9.9743	10.7173	-111.4598
2	-3.0585	-4.9402	5.8103	-121.762
3	-2.7659	-3.256	4.2722	-130.3474
4	-2.4701	-1.5715	2.9276	-147.5357
5	-2.2015	-0.0648	2.2025	-178.3133
6	-1.9451	1.3515	2.3685	145.2062
7	-1.6975	2.6961	3.186	122.1943
8	-1.4568	3.9795	4.2378	110.1068
9	-1.2223	5.2055	5.347	103.2146
10	-0.9938	6.3744	6.4514	98.861
11	-0.7713	7.4849	7.5246	95.8831
12	-0.5552	8.5342	8.5523	93.7221
13	-0.346	9.5189	9.5252	92.0817
14	-0.1443	10.4353	10.4363	90.7921
15	0.0494	11.2795	11.2796	89.7493
16	0.2342	12.0477	12.05	88.8863
17	0.4096	12.7361	12.7427	88.1578
18	0.5749	13.3413	13.3537	87.5324
19	0.7294	13.8602	13.8793	86.9875
20	0.8724	14.2898	14.3164	86.5064
21	1.0032	14.6279	14.6623	86.0766
22	1.1213	14.8726	14.9148	85.6884
23	1.226	15.0222	15.0722	85.3344
24	1.3167	15.076	15.1334	85.0087
25	1.3929	15.0333	15.0977	84.7065
26	1.4541	14.8944	14.9652	84.4239
27	1.5	14.6596	14.7361	84.1578
28	1.53	14.33	14.4115	83.9057
29	1.5439	13.9072	13.9926	83.6654
30	1.5413	13.393	13.4814	83.435
31	1.5221	12.7899	12.8802	83.2131
32	1.4861	12.1005	12.1914	82.9983
33	1.4331	11.3275	11.4178	82.7895
34	1.363	10.4741	10.5625	82.5858
35	1.2757	9.5432	9.6281	82.3862
36	1.171	8.5371	8.617	82.1899
37	1.0486	7.4575	7.5309	81.9961
38	0.908	6.3038	6.3688	81.8038
39	0.748	5.0726	5.1274	81.6119
40	0.5644	3.7404	3.7827	81.4194
41	0.3632	2.3483	2.3762	81.2089
E	0.0	0.0	0.0	0.0

Wire No. 2 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
42	-10.7403	17.7831	20.7748	121.1304
43	-2.5193	13.7625	13.9912	100.3734

44	-0.022	12.5016	12.5016	90.1007
45	2.5009	11.1992	11.4751	77.4119
46	4.6932	10.0292	11.073	64.9226
47	6.7094	8.9167	11.159	53.0403
48	8.5807	7.8472	11.6278	42.4434
49	10.3276	6.8114	12.3715	33.406
50	11.96	5.8054	13.2946	25.892
51	13.4824	4.8281	14.3209	19.7028
52	14.8962	3.8799	15.3932	14.599
53	16.2012	2.9622	16.4697	10.3613
54	17.3957	2.0769	17.5193	6.8084
55	18.478	1.2265	18.5186	3.7976
56	19.4456	0.4137	19.45	1.2189
57	20.2962	-0.3587	20.2994	-1.0126
58	21.0276	-1.0882	21.0557	-2.9624
59	21.6378	-1.7718	21.7102	-4.6811
60	22.125	-2.407	22.2555	-6.2088
61	22.4878	-2.9912	22.6859	-7.5768
62	22.7255	-3.5223	22.9968	-8.8103
63	22.8373	-3.998	23.1847	-9.9297
64	22.8235	-4.4164	23.2469	-10.9515
65	22.6844	-4.7759	23.1817	-11.8892
66	22.421	-5.0751	22.9882	-12.7542
67	22.0348	-5.3128	22.6663	-13.5557
68	21.5278	-5.4881	22.2163	-14.3017
69	20.9023	-5.6004	21.6396	-14.999
70	20.1613	-5.6493	20.9378	-15.6532
71	19.3078	-5.6348	20.1132	-16.2694
72	18.3455	-5.5569	19.1686	-16.8517
73	17.278	-5.4159	18.107	-17.404
74	16.1093	-5.2123	16.9316	-17.9295
75	14.8432	-4.9467	15.6458	-18.4313
76	13.483	-4.6194	14.2524	-18.912
77	12.0316	-4.2309	12.7538	-19.3742
78	10.49	-3.7809	11.1506	-19.8203
79	8.8564	-3.2678	9.4401	-20.2529
80	7.1251	-2.6889	7.6156	-20.6755
81	5.2592	-2.0283	5.6367	-21.0898
82	3.3307	-1.3144	3.5807	-21.5352
E	0.0	0.0	0.0	0.0

Wire No. 3 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
83	10.5547	11.5151	15.6205	47.4919
84	10.5861	6.3202	12.3292	30.8383
85	10.5602	4.8475	11.6197	24.6567
86	10.5095	3.3213	11.0218	17.5383
87	10.4319	2.0029	10.6224	10.8683
88	10.3289	0.7892	10.359	4.3695
89	10.2012	-0.3388	10.2068	-1.9022
90	10.0496	-1.395	10.146	-7.9029
91	9.8751	-2.3863	10.1593	-13.5852
92	9.6786	-3.3164	10.231	-18.9144
93	9.4612	-4.1871	10.3463	-23.872
94	9.2241	-4.9989	10.4916	-28.4551
95	8.9684	-5.7517	10.6544	-32.6733
96	8.6956	-6.445	10.8237	-36.5452
97	8.407	-7.078	10.9898	-40.0947
98	8.104	-7.6497	11.1442	-43.3484
99	7.7881	-8.1593	11.2795	-46.3335
100	7.4608	-8.6058	11.3897	-49.0764
101	7.1238	-8.9886	11.4692	-51.6017

102	6.7786	-9.3069	11.5138	-53.9323
103	6.4269	-9.5602	11.5197	-56.0889
104	6.0702	-9.7483	11.4838	-58.0898
105	5.7102	-9.8711	11.4037	-59.9517
106	5.3484	-9.9286	11.2775	-61.6891
107	4.9865	-9.9211	11.1038	-63.315
108	4.6261	-9.8492	10.8815	-64.8409
109	4.2686	-9.7135	10.61	-66.277
110	3.9155	-9.5149	10.289	-67.6322
111	3.5683	-9.2546	9.9186	-68.9148
112	3.2283	-8.9337	9.4991	-70.1317
113	2.897	-8.5536	9.0308	-71.2896
114	2.5754	-8.1157	8.5146	-72.3942
115	2.2647	-7.6216	7.951	-73.4509
116	1.9661	-7.0726	7.3408	-74.4644
117	1.6805	-6.47	6.6847	-75.4396
118	1.4088	-5.8145	5.9828	-76.3806
119	1.1515	-5.1062	5.2344	-77.2921
120	0.9091	-4.3434	4.4375	-78.1787
121	0.6817	-3.5227	3.5881	-79.0475
122	0.4673	-2.6236	2.6649	-79.9012
123	0.2727	-1.6889	1.7108	-80.8268
E	0.0	0.0	0.0	0.0

\*\*\*\*\* BASE OPERATING PARAMETERS \*\*\*\*\*

Twr.	Ratio	Phase
1	0.686	-159.0
2	1.330	73.6
3	1.000	0.0

WEEI DA-NIGHT EXHIBIT III

\*\*\*\*\*  
 ACSModel  
 (MININEC 3.1 Core)  
 02-15-2014 11:35:48  
 \*\*\*\*\*

WEEI NIGHT  
 BASED ON ND REFERENCE MODELS

Frequency = 0.850 MHz Wavelength = 352.70587 Meters

No. of Wires: 3

Wire No. 1	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
0	0	0		-1		
0	0	190.0693	1.746	0		41
Wire No. 2	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
20.41558	115.7825	0		-2		
20.41558	115.7825	175.3732	1.746	0		41
Wire No. 3	Coordinates			Radius	End Connection	No. of Segments
X	Y	Z				
40.83115	231.565	0		-3		
40.83115	231.565	163.6163	1.746	0		41

\*\*\*\* ANTENNA GEOMETRY \*\*\*\*

Wire No. 1	Coordinates			Radius	Connection		Pulse
X	Y	Z		End1	End2	No.	
0	0	0	1.746	-1	1	1	
0	0	4.635836	1.746	1	1	2	
0	0	9.271672	1.746	1	1	3	
0	0	13.90751	1.746	1	1	4	
0	0	18.54334	1.746	1	1	5	
0	0	23.17918	1.746	1	1	6	
0	0	27.81502	1.746	1	1	7	
0	0	32.45085	1.746	1	1	8	
0	0	37.08669	1.746	1	1	9	
0	0	41.72253	1.746	1	1	10	
0	0	46.35836	1.746	1	1	11	
0	0	50.99419	1.746	1	1	12	
0	0	55.63003	1.746	1	1	13	
0	0	60.26587	1.746	1	1	14	
0	0	64.9017	1.746	1	1	15	
0	0	69.53754	1.746	1	1	16	
0	0	74.17338	1.746	1	1	17	
0	0	78.80921	1.746	1	1	18	
0	0	83.44505	1.746	1	1	19	
0	0	88.08088	1.746	1	1	20	
0	0	92.71672	1.746	1	1	21	
0	0	97.35255	1.746	1	1	22	
0	0	101.9884	1.746	1	1	23	
0	0	106.6242	1.746	1	1	24	

0	0	111.2601	1.746	1	1	25
0	0	115.8959	1.746	1	1	26
0	0	120.5317	1.746	1	1	27
0	0	125.1676	1.746	1	1	28
0	0	129.8034	1.746	1	1	29
0	0	134.4392	1.746	1	1	30
0	0	139.0751	1.746	1	1	31
0	0	143.7109	1.746	1	1	32
0	0	148.3468	1.746	1	1	33
0	0	152.9826	1.746	1	1	34
0	0	157.6184	1.746	1	1	35
0	0	162.2543	1.746	1	1	36
0	0	166.8901	1.746	1	1	37
0	0	171.5259	1.746	1	1	38
0	0	176.1618	1.746	1	1	39
0	0	180.7976	1.746	1	1	40
0	0	185.4334	1.746	1	0	41

Wire No.	2	Coordinates			Connection	Pulse	
X		Y	Z	Radius	End1	End2	No.
20.41558		115.7825	0	1.746	-2	2	42
20.41558		115.7825	4.277395	1.746	2	2	43
20.41558		115.7825	8.55479	1.746	2	2	44
20.41558		115.7825	12.83219	1.746	2	2	45
20.41558		115.7825	17.10958	1.746	2	2	46
20.41558		115.7825	21.38697	1.746	2	2	47
20.41558		115.7825	25.66437	1.746	2	2	48
20.41558		115.7825	29.94177	1.746	2	2	49
20.41558		115.7825	34.21916	1.746	2	2	50
20.41558		115.7825	38.49656	1.746	2	2	51
20.41558		115.7825	42.77395	1.746	2	2	52
20.41558		115.7825	47.05135	1.746	2	2	53
20.41558		115.7825	51.32874	1.746	2	2	54
20.41558		115.7825	55.60614	1.746	2	2	55
20.41558		115.7825	59.88353	1.746	2	2	56
20.41558		115.7825	64.16093	1.746	2	2	57
20.41558		115.7825	68.43832	1.746	2	2	58
20.41558		115.7825	72.71572	1.746	2	2	59
20.41558		115.7825	76.99311	1.746	2	2	60
20.41558		115.7825	81.27051	1.746	2	2	61
20.41558		115.7825	85.5479	1.746	2	2	62
20.41558		115.7825	89.82529	1.746	2	2	63
20.41558		115.7825	94.10269	1.746	2	2	64
20.41558		115.7825	98.38009	1.746	2	2	65
20.41558		115.7825	102.6575	1.746	2	2	66
20.41558		115.7825	106.9349	1.746	2	2	67
20.41558		115.7825	111.2123	1.746	2	2	68
20.41558		115.7825	115.4897	1.746	2	2	69
20.41558		115.7825	119.7671	1.746	2	2	70
20.41558		115.7825	124.0445	1.746	2	2	71
20.41558		115.7825	128.3219	1.746	2	2	72
20.41558		115.7825	132.5993	1.746	2	2	73
20.41558		115.7825	136.8766	1.746	2	2	74
20.41558		115.7825	141.154	1.746	2	2	75
20.41558		115.7825	145.4314	1.746	2	2	76

20.41558	115.7825	149.7088	1.746	2	2	77
20.41558	115.7825	153.9862	1.746	2	2	78
20.41558	115.7825	158.2636	1.746	2	2	79
20.41558	115.7825	162.541	1.746	2	2	80
20.41558	115.7825	166.8184	1.746	2	2	81
20.41558	115.7825	171.0958	1.746	2	0	82

Wire No.	3	Coordinates			Connection		Pulse
X		Y	Z	Radius	End1	End2	No.
40.83115		231.565	0	1.746	-3	3	83
40.83115		231.565	3.990642	1.746	3	3	84
40.83115		231.565	7.981285	1.746	3	3	85
40.83115		231.565	11.97193	1.746	3	3	86
40.83115		231.565	15.96257	1.746	3	3	87
40.83115		231.565	19.95321	1.746	3	3	88
40.83115		231.565	23.94385	1.746	3	3	89
40.83115		231.565	27.9345	1.746	3	3	90
40.83115		231.565	31.92514	1.746	3	3	91
40.83115		231.565	35.91578	1.746	3	3	92
40.83115		231.565	39.90642	1.746	3	3	93
40.83115		231.565	43.89706	1.746	3	3	94
40.83115		231.565	47.88771	1.746	3	3	95
40.83115		231.565	51.87835	1.746	3	3	96
40.83115		231.565	55.86899	1.746	3	3	97
40.83115		231.565	59.85964	1.746	3	3	98
40.83115		231.565	63.85028	1.746	3	3	99
40.83115		231.565	67.84091	1.746	3	3	100
40.83115		231.565	71.83156	1.746	3	3	101
40.83115		231.565	75.8222	1.746	3	3	102
40.83115		231.565	79.81284	1.746	3	3	103
40.83115		231.565	83.80348	1.746	3	3	104
40.83115		231.565	87.79413	1.746	3	3	105
40.83115		231.565	91.78477	1.746	3	3	106
40.83115		231.565	95.77541	1.746	3	3	107
40.83115		231.565	99.76605	1.746	3	3	108
40.83115		231.565	103.7567	1.746	3	3	109
40.83115		231.565	107.7473	1.746	3	3	110
40.83115		231.565	111.738	1.746	3	3	111
40.83115		231.565	115.7286	1.746	3	3	112
40.83115		231.565	119.7193	1.746	3	3	113
40.83115		231.565	123.7099	1.746	3	3	114
40.83115		231.565	127.7006	1.746	3	3	115
40.83115		231.565	131.6912	1.746	3	3	116
40.83115		231.565	135.6818	1.746	3	3	117
40.83115		231.565	139.6725	1.746	3	3	118
40.83115		231.565	143.6631	1.746	3	3	119
40.83115		231.565	147.6538	1.746	3	3	120
40.83115		231.565	151.6444	1.746	3	3	121
40.83115		231.565	155.6351	1.746	3	3	122
40.83115		231.565	159.6257	1.746	3	0	123

Sources: 3

Pulse No., Voltage Magnitude, Phase (Degrees): 1, 2172.1, 151.9

Pulse No., Voltage Magnitude, Phase (Degrees): 42, 5549.8, 67.4

Pulse No., Voltage Magnitude, Phase (Degrees): 83, 3798.6, -24.7



Number of Loads: 0

\*\*\*\*\* SOURCE DATA \*\*\*\*\*

Pulse 1 Voltage = (-1915.3922, 1024.4518j)  
Current = (-5.0578, -4.0463j)  
Impedance = (132.109, -308.238j)  
Power = 2771.22 Watts

Pulse 42 Voltage = (2134.2091, 5123.0642j)  
Current = (-11.3501, 15.9647j)  
Impedance = (150.027, -240.344j)  
Power = 28782.43 Watts

Pulse 83 Voltage = (3451.2951, -1586.7404j)  
Current = (14.973, 9.317j)  
Impedance = (118.627, -179.789j)  
Power = 18446.35 Watts

Total Power = 50000.000 Watts

\*\*\*\*\* CURRENT DATA \*\*\*\*\*

Wire No. 1 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
1	-5.0578	-4.0463	6.4772	-141.3399
2	-3.3121	-0.785	3.4038	-166.6665
3	-2.7285	0.2981	2.7448	173.7656
4	-2.1452	1.3753	2.5482	147.3357
5	-1.6237	2.3313	2.841	124.8566
6	-1.1334	3.2229	3.4164	109.3757
7	-0.6677	4.0622	4.1167	99.3342
8	-0.2226	4.8563	4.8614	92.6246
9	0.2035	5.6078	5.6115	87.9216
10	0.6112	6.3172	6.3467	84.4738
11	1.0003	6.9837	7.055	81.8491
12	1.3702	7.6059	7.7283	79.788
13	1.7201	8.1817	8.3606	78.1274
14	2.0491	8.7091	8.9469	76.7604
15	2.3561	9.186	9.4834	75.6142
16	2.6403	9.6101	9.9662	74.6377
17	2.9004	9.9795	10.3924	73.7941
18	3.1356	10.2922	10.7592	73.0561
19	3.3449	10.5466	11.0643	72.4031
20	3.5276	10.7413	11.3057	71.8193
21	3.6827	10.8752	11.4819	71.2924
22	3.8096	10.9475	11.5915	70.8126
23	3.9079	10.9577	11.6337	70.3721
24	3.9769	10.9055	11.608	69.9646
25	4.0165	10.7912	11.5144	69.5848
26	4.0263	10.6152	11.3531	69.2286
27	4.0062	10.3783	11.1247	68.8923
28	3.9564	10.0816	10.8301	68.573
29	3.8769	9.7265	10.4706	68.2682

30	3.7679	9.3146	10.0479	67.9758
31	3.6299	8.848	9.5637	67.6939
32	3.4633	8.3287	9.0201	67.4211
33	3.2686	7.7589	8.4193	67.156
34	3.0462	7.1409	7.7635	66.8975
35	2.7969	6.4769	7.055	66.6443
36	2.5209	5.7689	6.2956	66.3957
37	2.2183	5.0179	5.4864	66.1506
38	1.8888	4.224	4.627	65.9079
39	1.5308	3.385	3.7151	65.666
40	1.1369	2.4859	2.7335	65.424
41	0.7193	1.5539	1.7123	65.1603
E	0.0	0.0	0.0	0.0

Wire No. 2 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
42	-11.3501	15.9647	19.5882	125.4108
43	-2.661	12.3324	12.6162	102.1764
44	-0.0206	11.1947	11.1948	90.1052
45	2.6477	10.0206	10.3645	75.1994
46	4.9672	8.967	10.2509	61.0162
47	7.1013	7.9665	10.6721	48.2861
48	9.0829	7.0056	11.4707	37.643
49	10.9336	6.076	12.5085	29.0619
50	12.6637	5.1742	13.68	22.2241
51	14.278	4.2988	14.9111	16.7561
52	15.7778	3.4503	16.1507	12.3352
53	17.1629	2.6297	17.3631	8.711
54	18.4314	1.8387	18.5229	5.697
55	19.5813	1.0795	19.6111	3.1555
56	20.6101	0.3543	20.6131	0.9849
57	21.5151	-0.3345	21.5177	-0.8908
58	22.294	-0.9846	22.3157	-2.5287
59	22.9444	-1.5935	22.9997	-3.9729
60	23.4645	-2.1591	23.5636	-5.2573
61	23.8528	-2.6791	24.0028	-6.4085
62	24.1083	-3.1516	24.3134	-7.4478
63	24.2303	-3.5747	24.4926	-8.3922
64	24.2189	-3.9467	24.5383	-9.2555
65	24.0744	-4.2662	24.4495	-10.0491
66	23.7978	-4.5321	24.2255	-10.7824
67	23.3908	-4.7432	23.8669	-11.4631
68	22.8552	-4.8989	23.3744	-12.0979
69	22.1937	-4.9985	22.7497	-12.6923
70	21.4093	-5.0417	21.9949	-13.2512
71	20.5052	-5.0285	21.1128	-13.7787
72	19.4853	-4.9588	20.1063	-14.2782
73	18.3534	-4.8331	18.9791	-14.753
74	17.1137	-4.6516	17.7346	-15.2059
75	15.7703	-4.4148	16.3766	-15.6392
76	14.3266	-4.123	14.9081	-16.0552
77	12.7857	-3.7766	13.3318	-16.4562
78	11.1486	-3.3753	11.6484	-16.844
79	9.4135	-2.9177	9.8553	-17.2209

80	7.574	-2.4012	7.9455	-17.5899
81	5.5912	-1.8116	5.8773	-17.9525
82	3.5414	-1.1742	3.731	-18.3431
E	0.0	0.0	0.0	0.0

Wire No. 3 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
83	14.973	9.317	17.6351	31.892
84	12.2697	3.4662	12.7499	15.775
85	11.4715	1.8175	11.6146	9.0027
86	10.6224	0.1156	10.623	0.6237
87	9.858	-1.345	9.9493	-7.7692
88	9.1255	-2.6804	9.511	-16.369
89	8.4155	-3.9124	9.2805	-24.934
90	7.7217	-5.0567	9.2301	-33.2196
91	7.0414	-6.1212	9.3301	-41.0014
92	6.3734	-7.1104	9.5487	-48.1283
93	5.7181	-8.0263	9.8549	-54.533
94	5.0763	-8.8699	10.2198	-60.2174
95	4.4492	-9.6413	10.6184	-65.2281
96	3.8384	-10.3402	11.0296	-69.6344
97	3.2458	-10.9659	11.4362	-73.5117
98	2.6733	-11.5179	11.824	-76.9331
99	2.1227	-11.9953	12.1817	-79.9646
100	1.5961	-12.3975	12.4999	-82.6637
101	1.0955	-12.7241	12.7712	-85.0793
102	0.6226	-12.9747	12.9897	-87.2528
103	0.1793	-13.1492	13.1504	-89.2187
104	-0.2326	-13.2475	13.2495	-91.0061
105	-0.6117	-13.27	13.2841	-92.6392
106	-0.9563	-13.2172	13.2518	-94.1385
107	-1.2653	-13.0899	13.1509	-95.521
108	-1.5373	-12.8891	12.9805	-96.8015
109	-1.7713	-12.6159	12.7397	-97.9923
110	-1.9665	-12.2719	12.4285	-99.1039
111	-2.1221	-11.8586	12.047	-100.1456
112	-2.2374	-11.3778	11.5957	-101.1252
113	-2.3121	-10.8315	11.0755	-102.0496
114	-2.3457	-10.2217	10.4874	-102.9249
115	-2.3381	-9.5503	9.8324	-103.7564
116	-2.2889	-8.8194	9.1116	-104.549
117	-2.198	-8.0306	8.3259	-105.3071
118	-2.065	-7.1849	7.4758	-106.0349
119	-1.8892	-6.2827	6.5606	-106.7362
120	-1.6694	-5.3221	5.5778	-107.4153
121	-1.4033	-4.2991	4.5224	-108.0779
122	-1.0811	-3.1892	3.3675	-108.7265
123	-0.721	-2.0443	2.1677	-109.427
E	0.0	0.0	0.0	0.0

\*\*\*\*\* BASE OPERATING PARAMETERS \*\*\*\*\*

Twr.	Ratio	Phase
1	0.367	-173.2
2	1.111	93.5
3	1.000	0.0

## WEEI FIGURE 1

WCAP - WEEI TOWER #1

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```

Node:  1  3044.7942 ∠ -69.0851° V
Node:  2  3044.7942 ∠ -69.0851° V
Node:  3  3044.8477 ∠ -69.0825° V
Node:  4  2777.4243 ∠ -66.9550° V
Node:  5  2777.3656 ∠ -66.9579° V
Node:  6  3044.7942 ∠ -69.0852° V
  
```

WCAP PART			CURRENT IN BRANCH VOLTAGE		CURRENT OUT BRANCH CURRENT	
R	4-5	0.01000000	0.15 ∠	0.000° V	15.00 ∠	0.000° A
L	5-3	3.60000000	288.40 ∠	90.000° V	15.00 ∠	0.000° A
R	3-2	0.01000000	0.15 ∠	0.000° V	15.00 ∠	0.000° A
C	1-0	0.00001000	3044.79 ∠	-69.085° V	0.16 ∠	20.915° A
C	6-0	0.00002000	3044.79 ∠	-69.085° V	0.33 ∠	20.915° A
R	2-0	77.06300000	3044.79 ∠	-69.085° V	14.55 ∠	-0.686° A
R	2-1	0.01000000	0.00 ∠	20.915° V	0.16 ∠	20.915° A
R	2-6	0.01000000	0.00 ∠	20.915° V	0.33 ∠	20.915° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.01000000	72.48 - j	170.385	72.47 - j	170.385
L	5-3	3.60000000	72.47 - j	170.385	72.47 - j	189.612
R	3-2	0.01000000	72.47 - j	189.612	72.46 - j	189.612
C	1-0	0.00001000	0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	2-0	77.06300000	77.06 - j	194.630	0.00 + j	0.000
R	2-1	0.01000000	0.01 - j	18724.111	0.01 - j	18724.111
R	2-6	0.01000000	0.01 - j	9362.055	0.00 - j	9362.055

### WCAP INPUT DATA:

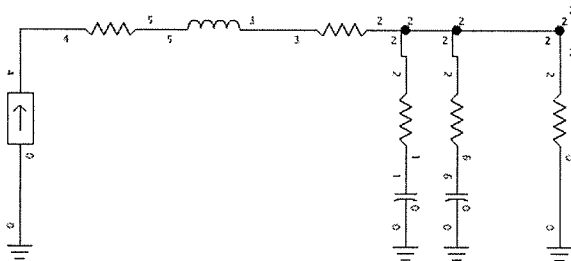
```

0.8500  0.00000000  0
I      15.00000000  0  4  0.00000000
R      0.01000000  4  5  0.00000000
L      3.60000000  5  3  0.00000000
R      0.01000000  3  2  0.00000000
C      0.00001000  1  0
C      0.00002000  6  0
R      77.06300000  2  0 -194.63000000
R      0.01000000  2  1  0.00000000
R      0.01000000  2  6  0.00000000
  
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 2

WCAP - WEEI TOWER #2

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```
Node: 1 3357.7237 4 -61.1032° V
Node: 2 3357.7237 4 -61.1032° V
Node: 3 3357.7962 4 -61.1010° V
Node: 4 3156.4802 4 -59.0602° V
Node: 5 3156.4031 4 -59.0625° V
Node: 6 3357.7237 4 -61.1033° V
```

WCAP PART			CURRENT IN BRANCH VOLTAGE		CURRENT OUT BRANCH CURRENT	
R	4-5	0.01000000	0.15 4	0.000° V	15.00 4	0.000° A
L	5-3	2.90000000	232.32 4	90.000° V	15.00 4	0.000° A
R	3-1	0.01000000	0.15 4	0.000° V	15.00 4	0.000° A
C	2-0	0.00001000	3357.72 4	-61.103° V	0.18 4	28.897° A
C	6-0	0.00002000	3357.72 4	-61.103° V	0.36 4	28.897° A
R	1-0	115.26100000	3357.72 4	-61.103° V	14.53 4	-1.025° A
R	1-2	0.01000000	0.00 4	28.897° V	0.18 4	28.897° A
R	1-6	0.01000000	0.00 4	28.897° V	0.36 4	28.897° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.01000000	108.19 - j	180.489	108.18 - j	180.489
L	5-3	2.90000000	108.18 - j	180.489	108.18 - j	195.977
R	3-1	0.01000000	108.18 - j	195.977	108.17 - j	195.977
C	2-0	0.00001000	0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	1-0	115.26100000	115.26 - j	200.268	0.00 + j	0.000
R	1-2	0.01000000	0.01 - j	18724.111	0.01 - j	18724.111
R	1-6	0.01000000	0.01 - j	9362.055	0.00 - j	9362.055

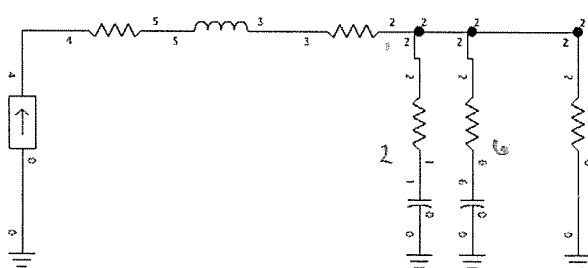
### WCAP INPUT DATA:

```
0.8500 0.00000000 0
I 15.00000000 0 4 0.00000000
R 0.01000000 4 5 0.00000000
L 2.90000000 5 3 0.00000000
R 0.01000000 3 1 0.00000000
C 0.00001000 2 0
C 0.00002000 6 0
R 115.26100000 1 0 -200.26800000
R 0.01000000 1 2 0.00000000
R 0.01000000 1 6 0.00000000
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 3

WCAP - WEEI TOWER #3

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```
Node: 1  4410.0897  4  -55.4368° V
Node: 2  4410.0897  4  -55.4368° V
Node: 3  4410.1748  4  -55.4352° V
Node: 4  4354.3580  4  -54.9252° V
Node: 5  4354.2718  4  -54.9268° V
Node: 6  4410.0897  4  -55.4368° V
```

WCAP PART			CURRENT IN		CURRENT OUT	
WCAP PART	BRANCH VOLTAGE	BRANCH CURRENT				
R 4-5	0.01000000	0.15 4 0.000° V	15.00 4	0.000° A		
L 5-3	0.85000000	68.09 4 90.000° V	15.00 4	0.000° A		
R 3-2	0.01000000	0.15 4 0.000° V	15.00 4	0.000° A		
C 1-0	0.00001000	4410.09 4 -55.437° V	0.24 4	34.563° A		
C 6-0	0.00002000	4410.09 4 -55.437° V	0.47 4	34.563° A		
R 2-0	180.38900000	4410.09 4 -55.437° V	14.42 4	-1.593° A		
R 2-1	0.01000000	0.00 4 34.563° V	0.24 4	34.563° A		
R 2-6	0.01000000	0.00 4 34.563° V	0.47 4	34.563° A		

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R 4-5	0.01000000	166.81 - j 237.575	166.80 - j	237.575		
L 5-3	0.85000000	166.80 - j 237.575	166.80 - j	242.114		
R 3-2	0.01000000	166.80 - j 242.114	166.79 - j	242.114		
C 1-0	0.00001000	0.00 - j 18724.111	0.00 + j	0.000		
C 6-0	0.00002000	0.00 - j 9362.055	0.00 + j	0.000		
R 2-0	180.38900000	180.39 - j 246.870	0.00 + j	0.000		
R 2-1	0.01000000	0.01 - j 18724.111	0.01 - j	18724.111		
R 2-6	0.01000000	0.01 - j 9362.055	0.01 - j	9362.055		

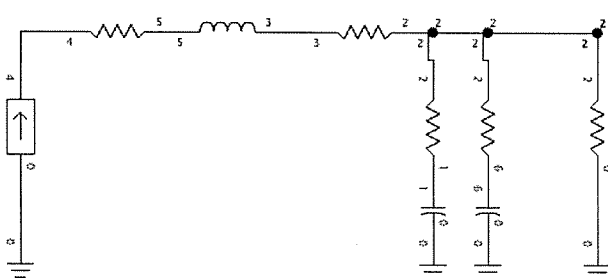
### WCAP INPUT DATA:

```
0.8500 0.00000000 0
I 15.00000000 0 4 0.00000000
R 0.01000000 4 5 0.00000000
L 0.85000000 5 3 0.00000000
R 0.01000000 3 2 0.00000000
C 0.00001000 1 0
C 0.00002000 6 0
R 180.38900000 2 0 -246.87000000
R 0.01000000 2 1 0.00000000
R 0.01000000 2 6 0.00000000
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 4

WCAP - WEEI TOWER #1 DA-D

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```

Node:  1  2118.7422  4  -78.2440° V
Node:  2  1969.8419  4  -77.3761° V
Node:  3  2118.7422  4  -78.2440° V  Tower Base
Node:  4  2118.7576  4  -78.2419° V
Node:  5  1969.8253  4  -77.3783° V  Input - Phase Monitor
Node:  6  2118.7422  4  -78.2441° V
  
```

WCAP PART			CURRENT IN BRANCH VOLTAGE		CURRENT OUT BRANCH CURRENT	
R	2-5	0.01000000	0.08 4	0.501° V	7.91 4	0.501° A
L	5-4	3.60000000	152.08 4	90.501° V	7.91 4	0.501° A
R	4-3	0.01000000	0.08 4	0.501° V	7.91 4	0.501° A
C	1-0	0.00001000	2118.74 4	-78.244° V	0.11 4	11.756° A
C	6-0	0.00002000	2118.74 4	-78.244° V	0.23 4	11.756° A
R	3-0	56.97000000	2118.74 4	-78.244° V	7.58 4	0.000° A
R	3-1	0.01000000	0.00 4	11.756° V	0.11 4	11.756° A
R	3-6	0.01000000	0.00 4	11.756° V	0.23 4	11.756° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	2-5	0.01000000	52.30 - j	243.478	52.29 - j	243.478
L	5-4	3.60000000	52.29 - j	243.478	52.29 - j	262.705
R	4-3	0.01000000	52.29 - j	262.705	52.28 - j	262.705
C	1-0	0.00001000	-0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	3-0	56.97000000	56.97 - j	273.750	0.00 + j	0.000
R	3-1	0.01000000	0.01 - j	18724.111	0.00 - j	18724.111
R	3-6	0.01000000	0.01 - j	9362.055	-0.00 - j	9362.055

### WCAP INPUT DATA:

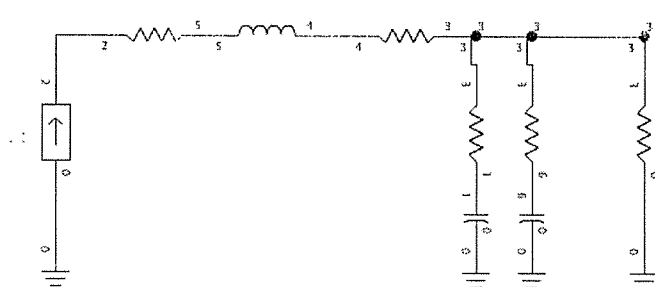
```

0.8500 0.00000000 0
I 7.91000000 0 2 0.50100000
R 0.01000000 2 5 0.00000000
L 3.60000000 5 4 0.00000000
R 0.01000000 4 3 0.00000000
C 0.00001000 1 0
C 0.00002000 6 0
R 56.97000000 3 0 -273.75000000
R 0.01000000 3 1 0.00000000
R 0.01000000 3 6 0.00000000
  
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 5

WCAP - WEEI TOWER #2 DA-D

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```

Node:  1  3813.0954  4  -57.1092° V  Tower Base
Node:  2  3813.0954  4  -57.1093° V
Node:  3  3813.1751  4  -57.1073° V
Node:  4  3614.8516  4  -55.1463° V
Node:  5  3614.7674  4  -55.1483° V  Input - Phase Monitor
Node:  6  3813.0954  4  -57.1093° V
  
```

	WCAP PART	WCAP PART	CURRENT IN BRANCH VOLTAGE		CURRENT OUT BRANCH CURRENT	
R	4-5	0.01000000	0.15 4	1.250° V	15.21 4	1.250° A
L	5-3	2.90000000	235.54 4	91.250° V	15.21 4	1.250° A
R	3-1	0.01000000	0.15 4	1.250° V	15.21 4	1.250° A
C	2-0	0.00001000	3813.10 4	-57.109° V	0.20 4	32.891° A
C	6-0	0.00002000	3813.10 4	-57.109° V	0.41 4	32.891° A
R	1-0	140.94800000	3813.10 4	-57.109° V	14.69 4	-0.000° A
R	1-2	0.01000000	0.00 4	32.891° V	0.20 4	32.891° A
R	1-6	0.01000000	0.00 4	32.891° V	0.41 4	32.891° A

	WCAP PART	WCAP PART	FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.01000000	131.55 - j	197.977	131.54 - j	197.977
L	5-3	2.90000000	131.54 - j	197.977	131.54 - j	213.465
R	3-1	0.01000000	131.54 - j	213.465	131.53 - j	213.465
C	2-0	0.00001000	0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	1-0	140.94800000	140.95 - j	217.949	0.00 + j	0.000
R	1-2	0.01000000	0.01 - j	18724.111	-0.01 - j	18724.111
R	1-6	0.01000000	0.01 - j	9362.055	-0.00 - j	9362.055

### WCAP INPUT DATA:

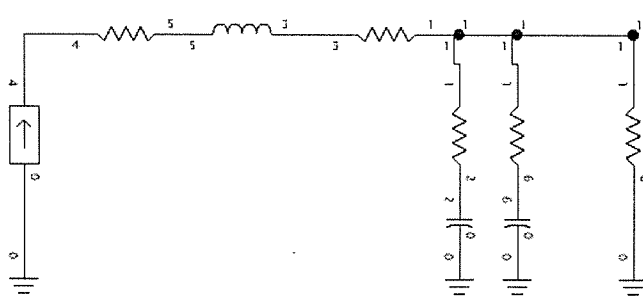
```

0.8500 0.00000000 0
I 15.20760000 0 4 1.25000000
R 0.01000000 4 5 0.00000000
L 2.90000000 5 3 0.00000000
R 0.01000000 3 1 0.00000000
C 0.00001000 2 0
C 0.00002000 6 0
R 140.94800000 1 0 -217.94900000
R 0.01000000 1 2 0.00000000
R 0.01000000 1 6 0.00000000
  
```

Center Frequency: 0.85 MHz

Frequency Range 50 kHz

Frequency Step 0 kHz





## WEEI FIGURE 6

WCAP - WEEI TOWER #3 DA-D

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

Node:	1	2165.5808	∠	-47.0037°	V
Node:	2	2165.5808	∠	-47.0036°	V
Node:	3	2165.6561	∠	-47.0014°	V
Node:	4	2127.7609	∠	-46.0783°	V
Node:	5	2127.6843	∠	-46.0805°	V
Node:	6	2165.5808	∠	-47.0037°	V

	WCAP PART	WCAP PART		CURRENT IN BRANCH VOLTAGE		CURRENT OUT BRANCH CURRENT		
R	4-5	0.01000000	0.11	∠ 1.200°	V	11.30	∠ 1.200°	A
L	5-3	0.85000000	51.30	∠ 91.200°	V	11.30	∠ 1.200°	A
R	3-2	0.01000000	0.11	∠ 1.200°	V	11.30	∠ 1.200°	A
C	1-0	0.00001000	2165.58	∠ -47.004°	V	0.12	∠ 42.996°	A
C	6-0	0.00002000	2165.58	∠ -47.004°	V	0.23	∠ 42.996°	A
R	2-0	133.70700000	2165.58	∠ -47.004°	V	11.05	∠ 0.000°	A
R	2-1	0.01000000	0.00	∠ 42.996°	V	0.12	∠ 42.996°	A
R	2-6	0.01000000	0.00	∠ 42.996°	V	0.23	∠ 42.996°	A

	WCAP PART		FROM IMPEDANCE		TO IMPEDANCE
R	4-5	0.01000000	127.73 - j	138.317	127.72 - j 138.317
L	5-3	0.85000000	127.72 - j	138.317	127.72 - j 142.857
R	3-2	0.01000000	127.72 - j	142.857	127.71 - j 142.857
C	1-0	0.00001000	-0.00 - j	18724.111	0.00 + j 0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j 0.000
R	2-0	133.70700000	133.71 - j	143.403	0.00 + j 0.000
R	2-1	0.01000000	0.01 - j	18724.111	0.01 - j 18724.111
R	2-6	0.01000000	0.01 - j	9362.055	0.01 - j 9362.055

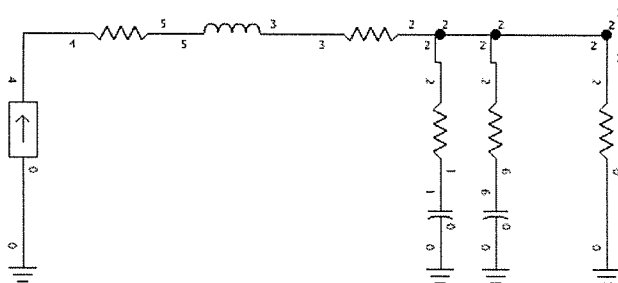
### WCAP INPUT DATA:

	0.8500	0.00000000	0	
I	11.30140000	0	4	1.20000000
R	0.01000000	4	5	0.00000000
L	0.85000000	5	3	0.00000000
R	0.01000000	3	2	0.00000000
C	0.00001000	1	0	
C	0.00002000	6	0	
R	133.70700000	2	0	-143.40300000
R	0.01000000	2	1	0.00000000
R	0.01000000	2	6	0.00000000

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 7

WCAP - WEEI TOWER #1 DA-N

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```

Node:  1  1536.0548  4  -66.7999° V
Node:  2  1536.0548  4  -66.7998° V  Tower Base
Node:  3  1536.0728  4  -66.7982° V
Node:  4  1450.8324  4  -65.4261° V
Node:  5  1450.8133  4  -65.4279° V  Input - Phase Monitor
Node:  6  1536.0548  4  -66.7999° V
  
```

WCAP PART			CURRENT IN		CURRENT OUT	
WCAP PART			BRANCH	VOLTAGE	BRANCH	CURRENT
R	4-5	0.01000000	0.05 4	1.156° V	4.81 4	1.156° A
L	5-3	3.60000000	92.43 4	91.156° V	4.81 4	1.156° A
R	3-2	0.01000000	0.05 4	1.156° V	4.81 4	1.156° A
C	1-0	0.00001000	1536.05 4	-66.800° V	0.08 4	23.200° A
C	6-0	0.00002000	1536.05 4	-66.800° V	0.16 4	23.200° A
R	2-0	132.10900000	1536.05 4	-66.800° V	4.58 4	0.000° A
R	2-1	0.01000000	0.01 4	23.200° V	0.08 4	23.200° A
R	2-6	0.01000000	0.00 4	23.200° V	0.16 4	23.200° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.01000000	119.94 - j	276.924	119.93 - j	276.924
L	5-3	3.60000000	119.93 - j	276.924	119.93 - j	296.150
R	3-2	0.01000000	119.93 - j	296.150	119.92 - j	296.150
C	1-0	0.00001000	-0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	2-0	132.10900000	132.11 - j	308.238	0.00 + j	0.000
R	2-1	0.01000000	0.01 - j	18724.111	-0.00 - j	18724.111
R	2-6	0.01000000	0.01 - j	9362.055	0.00 - j	9362.055

### WCAP INPUT DATA:

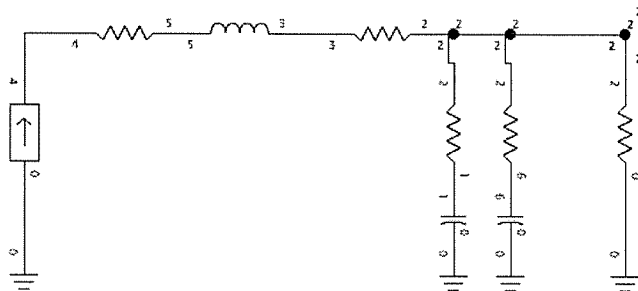
```

0.8500  0.00000000  0
I      4.80756000  0  4  1.15600000
R      0.01000000  4  5  0.00000000
L      3.60000000  5  3  0.00000000
R      0.01000000  3  2  0.00000000
C      0.00001000  1  0
C      0.00002000  6  0
R      132.10900000  2  0  -308.23800000
R      0.01000000  2  1  0.00000000
R      0.01000000  2  6  0.00000000
  
```

Center Frequency: 0.85 MHz

Frequency Range: 40 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 8

WCAP - WEEI TOWER #2 DA-N

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```
Node: 1  3924.2787  4 -58.0268° V  Tower Base
Node: 2  3924.2787  4 -58.0268° V
Node: 3  3924.3521  4 -58.0250° V
Node: 4  3734.4450  4 -56.2799° V
Node: 5  3734.3679  4 -56.2818° V  Input - Phase Monitor
Node: 6  3924.2787  4 -58.0269° V
```

WCAP PART			CURRENT IN		CURRENT OUT	
WCAP PART			BRANCH VOLTAGE		BRANCH CURRENT	
R	4-5	0.010000000	0.14 4	1.326° V	14.39 4	1.326° A
L	5-3	2.900000000	222.84 4	91.326° V	14.39 4	1.326° A
R	3-1	0.010000000	0.14 4	1.326° V	14.39 4	1.326° A
C	2-0	0.00001000	3924.28 4	-58.027° V	0.21 4	31.973° A
C	6-0	0.00002000	3924.28 4	-58.027° V	0.42 4	31.973° A
R	1-0	150.02700000	3924.28 4	-58.027° V	13.85 4	0.001° A
R	1-2	0.010000000	0.00 4	31.973° V	0.21 4	31.973° A
R	1-6	0.010000000	0.00 4	31.973° V	0.42 4	31.973° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.010000000	139.05 - j	219.162	139.04 - j	219.162
L	5-3	2.900000000	139.04 - j	219.162	139.04 - j	234.650
R	3-1	0.010000000	139.04 - j	234.650	139.03 - j	234.650
C	2-0	0.00001000	0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	1-0	150.02700000	150.03 - j	240.344	0.00 + j	0.000
R	1-2	0.010000000	0.01 - j	18724.111	-0.01 - j	18724.111
R	1-6	0.010000000	0.01 - j	9362.055	-0.00 - j	9362.055

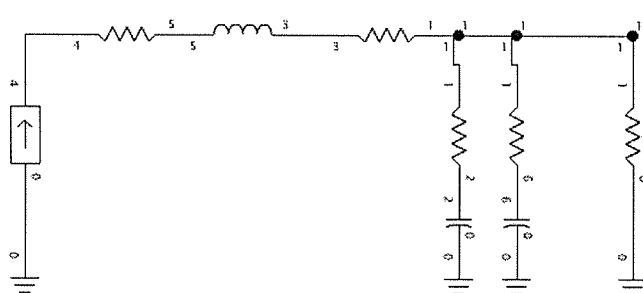
### WCAP INPUT DATA:

```
0.8500 0.00000000 0
I 14.38800000 0 4 1.32600000
R 0.01000000 4 5 0.00000000
L 2.90000000 5 3 0.00000000
R 0.01000000 3 1 0.00000000
C 0.00001000 2 0
C 0.00002000 6 0
R 150.02700000 1 0 -240.34400000
R 0.01000000 1 2 0.00000000
R 0.01000000 1 6 0.00000000
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



## WEEI FIGURE 9

WCAP - WEEI TOWER #3 DA-N

WCAP OUTPUT AT FREQUENCY: 0.850 MHz

### NODE VOLTAGES

```

Node:  1  2685.6803  4  -56.5831° V
Node:  2  2685.6803  4  -56.5831° V  Tower Base
Node:  3  2685.7490  4  -56.5808° V
Node:  4  2636.8067  4  -55.9010° V
Node:  5  2636.7368  4  -55.9033° V  Input - Phase Monitor
Node:  6  2685.6803  4  -56.5831° V
  
```

WCAP PART			CURRENT IN		CURRENT OUT	
WCAP PART			BRANCH VOLTAGE		BRANCH CURRENT	
R	4-5	0.01000000	0.13 4	1.058° V	12.83 4	1.058° A
L	5-3	0.85000000	58.24 4	91.058° V	12.83 4	1.058° A
R	3-2	0.01000000	0.13 4	1.058° V	12.83 4	1.058° A
C	1-0	0.00001000	2685.68 4	-56.583° V	0.14 4	33.417° A
C	6-0	0.00002000	2685.68 4	-56.583° V	0.29 4	33.417° A
R	2-0	118.62700000	2685.68 4	-56.583° V	12.47 4	-0.000° A
R	2-1	0.01000000	0.00 4	33.417° V	0.14 4	33.417° A
R	2-6	0.01000000	0.00 4	33.417° V	0.29 4	33.417° A

WCAP PART			FROM IMPEDANCE		TO IMPEDANCE	
R	4-5	0.01000000	112.06 - j	172.285	112.05 - j	172.285
L	5-3	0.85000000	112.05 - j	172.285	112.05 - j	176.825
R	3-2	0.01000000	112.05 - j	176.825	112.04 - j	176.825
C	1-0	0.00001000	0.00 - j	18724.111	0.00 + j	0.000
C	6-0	0.00002000	0.00 - j	9362.055	0.00 + j	0.000
R	2-0	118.62700000	118.63 - j	179.789	0.00 + j	0.000
R	2-1	0.01000000	0.01 - j	18724.111	-0.00 - j	18724.111
R	2-6	0.01000000	0.01 - j	9362.055	-0.01 - j	9362.055

### WCAP INPUT DATA:

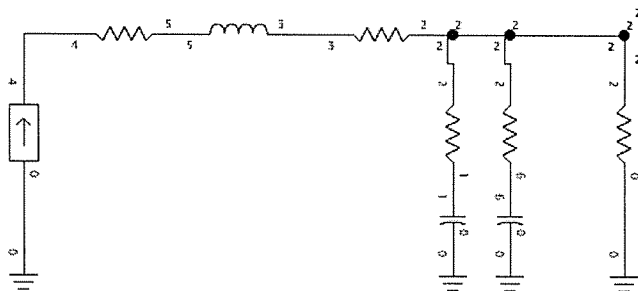
```

0.8500  0.00000000  0
I      12.82979000  0  4  1.05800000
R      0.01000000  4  5  0.00000000
L      0.85000000  5  3  0.00000000
R      0.01000000  3  2  0.00000000
C      0.00001000  1  0
C      0.00002000  6  0
R      118.62700000  2  0  -179.78900000
R      0.01000000  2  1  0.00000000
R      0.01000000  2  6  0.00000000
  
```

Center Frequency: 0.85 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



APPENDIX 1 - PAGE 1 OF 3

WEEI AM

50 KW Night

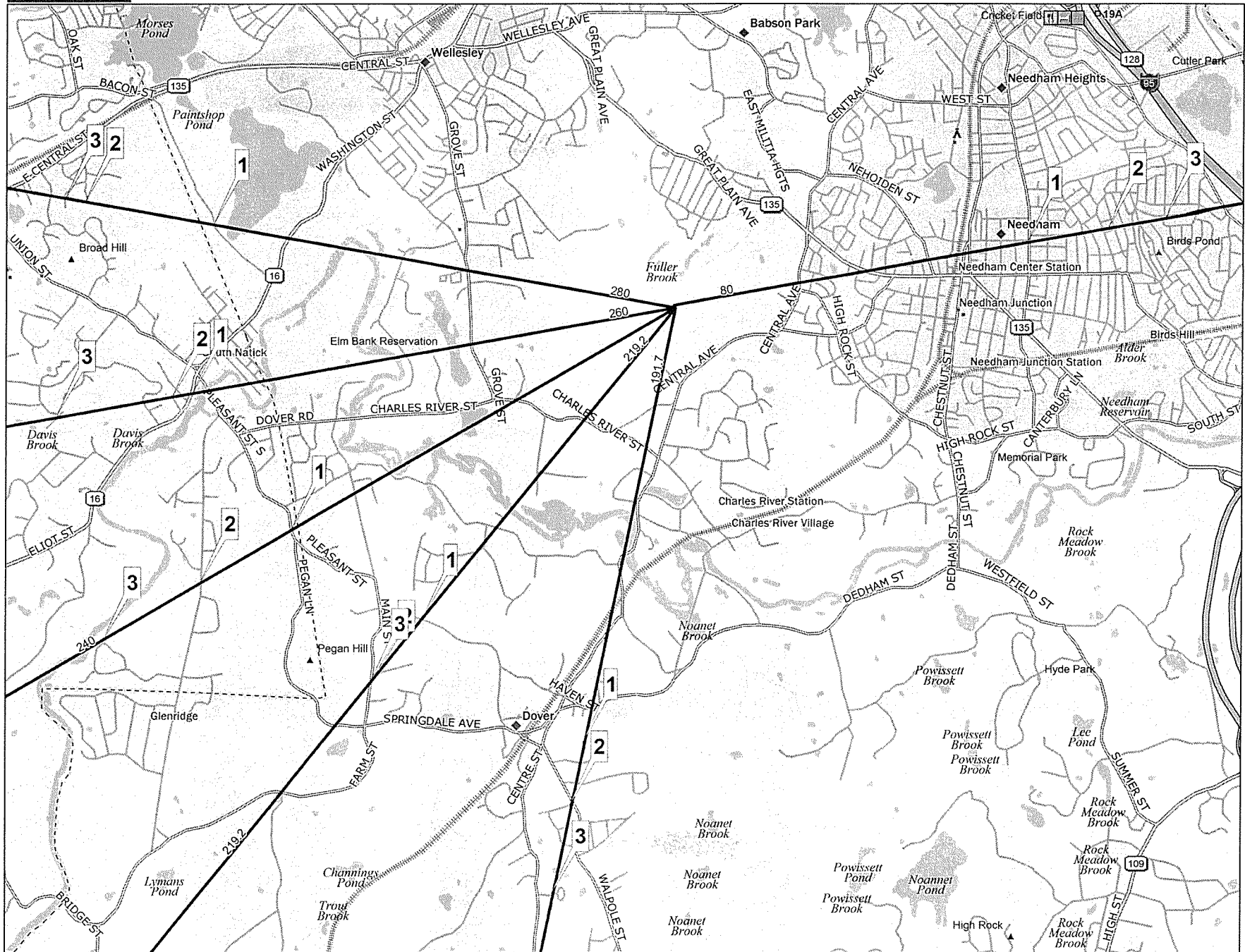
Reference Field Strength Measurements

February 20, 2014

Radial	Point	Distance KM	2014 Tme	2014 Field mV/m	Coordinates (WGS84)		Description
80	1	3.05	2:47 PM	740	42.282757	-71.230129	May St 50' from Webster
	2	3.75	2:44 PM	600	42.283851	-71.221717	#56 Nichols
	3	4.25	2:40 PM	420	42.284623	-71.215785	Helen, 75' from corner
191.7	1	3.25	3:07 PM	105	42.244593	-71.275984	In front of Hoffman tombstone
	2	3.47	3:12 PM	75	42.239844	-71.277312	Powderhouse, 100' from corner
	3	3.77	3:18 PM	58	42.233	-71.279225	Driveway #10 Ben Arthur Way
219.2	1	3.40	3:33 PM	18.5	42.254067	71.29263	Haven, 300' E of small stream bridge
	2	4.02	3:26 PM	17	42.249786	71.297343	S Side Cranberry, 200' E of Main
	3	4.10	3:25 PM	24	42.249175	71.29802	W side Main, 200' S of Cranberry
240	1	3.79	3:37 PM	32	42.26081	71.306291	Hydrant at 55 Pleasant
	2	4.67	3:41 PM	23.5	42.256798	71.315739	Opposite pole 71/40 Glen
	3	5.64	3:46 PM	17.5	42.252324	71.325862	Opposite 2 Indian Ridge
260	1	4.18	3:57 PM	49	42.271292	71.316577	Entrance to stair down to river park
	2	4.36	3:55 PM	48	42.270973	71.318696	opposite #6 Badger Ave
	3	4.83	4:02 PM	23	42.270493	71.324453	Corner Clover & Clover
280	1	4.00	4:10 PM	36	42.284102	-71.314421	Hollis Hunnewell driveway Pond Rd
	2	5.12	4:17 PM	19	42.285787	-71.327789	Driveway of 23 Strawberry Hill
	3	5.29	4:16 PM	11	42.286028	-71.329848	NW corner Rtop & Strawberry Hill

APPENDIX 1 - PAGE 2 OF 3  
**WEEI AM**  
**50 KW Day**  
**Reference Field Strength Measurements**  
**February 20, 2014**

Radial	Point	Distance KM	2014 Tme	2014 Field mV/m	Coordinates (WGS84)		Description
80	1	3.05	2:25 PM	640	42.282757	-71.230129	May St 50' from Webster
	2	3.75	2:31 PM	540	42.283851	-71.221717	#56 Nichols
	3	4.25	2:34 PM	375	42.284623	-71.215785	Helen, 75' from corner
191.7	1	3.25	12:56 PM	130	42.244593	-71.275984	In front of Hoffman tombstone
	2	3.47	1:22 PM	95	42.239844	-71.277312	Powderhouse, 100' from corner
	3	3.77	1:28 PM	78	42.233	-71.279225	Driveway #10 Ben Arthur Way
260	1	4.18	1:45 PM	135	42.271292	71.316577	Entrance to stair down to river park
	2	4.36	1:43 PM	135	42.270973	71.318696	opposite #6 Badger Ave
	3	4.83	1:51 PM	76	42.270493	71.324453	Corner Clover & Clover
280	1	4.00	2:09 PM	130	42.284102	-71.314421	Hollis Hunnewell driveway Pond Rd
	2	5.12	2:02 PM	69	42.285787	-71.327789	Driveway of 23 Strawberry Hill
	3	5.29	2:01 PM	51	42.286028	-71.329848	NW corner Rtop & Strawberry Hill



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