Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

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.

SECTION I - APPLICANT FEE INFORMATION

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

Sunrise Broadcasting Corporation

MAILING ADDRESS (Line 1) (Maximum 35 characters)

661 Little Britain Road

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
New Windsor	NY	12553

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
845-561-2131	WGNY(AM)	File No. BMML-20090603ADH

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): AMENDMENT

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	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
	0001	$	

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

(A)	(B)	(C)	FOR FCC USE ONLY
	0001	$	

	TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.	$	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Sunrise Broadcasting Corporation		
MAILING ADDRESS 661 Little Britain Road		
CITY New Windsor	STATE NY	ZIP CODE 12553

2. This application is for:

☑ Commercial ☐ Noncommercial

☑ AM Directional ☐ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
WGNY(AM)	Newburgh, NY	BP-20080919ACV		2/25/2012

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.

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

☑ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

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

☐ Yes ☑ No

If Yes, explain in an Exhibit.

Exhibit No.

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

☐ Yes ☐ No

☑ Does not apply

If No, explain in an Exhibit.

Exhibit No.

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

☐ Yes ☑ No

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

Exhibit No.

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

☐ Yes ☑ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

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

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

CERTIFICATION

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

☑ Yes ☐ No

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

Name	Signature	
Joerg G. Klebe		
Title	Date	Telephone Number
President	1/12/2010	845-561-2131

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.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

Sunrise Broadcasting Corporation

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☑ Station License ☐ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WGNY	BP-20080919ACV	1220	Unlimited	0.18	10.0

2. Station location

State	City or Town
New York	Newburgh

3. Transmitter location

State	County	City or Town	Street address (or other identification)
NY	Orange	Newburgh	2,900' E-NE of intersection of Rock Cut & 17K

4. Main studio location

State	County	City or Town	Street address (or other identification)
NY	Orange	New Windsor	661 Little Britain Road

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

State	County	City or Town	Street address (or other identification)
NY	Orange	New Windsor	661 Little Britain Road

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	RF common point or antenna current (in amperes) without modulation for day system
1.97	14.5

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
50	50	+J0	+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	+158.6	-120.8	0.577	0.541	-------	-------
2 Center	0	0	1.0	1.0	-------	--------
3 East	-151.9	+166.9	0.861	0.602	-------	-------

Manufacturer and type of antenna monitor: Potomac Instruments 1901 Serial #715

SECTION III - Page 2

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

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Uniform cross section guyed	51.8	52.7	53.0	Exhibit No. See Eng.

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	41 °	31 '	53 "	West Longitude	74 °	06 '	48.0 "

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

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

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

None.

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

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)	Signature (check appropriate box below)
Clarence M. Beverage	
Address (include ZIP Code)	Date
Communications Technologies, Inc. P. O. Box 1130 Marlton, NJ 08053	1/11/2010
	Telephone No. (Include Area Code) 856-985-0077

☐ Technical Director ☐ Registered Professional Engineer

☐ Chief Operator ☐ Technical Consultant

☑ Other (specify) Broadcast Engineering Consultant

ENGINEERING STATEMENT IN

SUPPORT OF AMENDMENT TO 302-AM

APPLICATION FOR LICENSE EMPLOYING MOMENT

METHOD MODELING

WGNY 1220 kHz BMML-20090603AHD

0.18/10 kW LS DA-2 U

NEWBURGH, NEW YORK

JANUARY 2010

ENGINEERING STATEMENT IN
SUPPORT OF AMENDMENT TO 302-AM
APPLICATON FOR LICENSE
EMPLOYING MOMENT METHOD MODELING
WGNY 1220 kHz BMML-20090603AHD
0.18/10 kW LS DA-2 U
NEWBURGH, NEW YORK

JANUARY 2010

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NEWBURGH, NEW YORK

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APPENDIX:

ENGINEERING STATEMENT IN
SUPPORT OF AMENDMENT TO 302-AM
APPLICATON FOR LICENSE
EMPLOYING MOMENT METHOD MODELING
WGNY 1220 kHz BMML-20090603AHD
0.18/10 kW LS DA-2 U
NEWBURGH, NEW YORK

JANUARY 2010

SUMMARY

The following engineering statement has been prepared on behalf of Sunrise Broadcasting Corporation, licensee of standard broadcast station WGNY, FCC ID 63942, 1220 kHz, Newburgh, New York. WGNY holds construction permit BP-20080919ACV which authorizes an increase in daytime power from the licensed 5 kW to 10 kW. A license application covering both the 10 kW daytime construction permit facilities and the licensed 0.18 kW nighttime facilities has been filed and assigned file number BMML-20090603AHD. This amendment is filed in response to an Audio division staff letter dated September 1, 2009. The staff letter specifies that the day and night directional antenna parameters must be set to the operating parameters determined by the moment method with no deviation. That operation has been completed and Form 302-AM is submitted herein employing the as adjusted operating parameters. Given the need to file an amendment the computer model runs have been updated to show closer correlation with measured self impedance data employing the most recent revision to the software, ACSModel 1.013. No other changes to the engineering data currently on file are associated with this amendment.

DESCRIPTION OF TRANSMISSION FACILITIES AS CONSTRUCTED

The antenna system is described as follows:

TOWERS	Electrical 75.9° & 10.0° of guy wire top loading Each tower 18" face, uniform cross section, 1" OD leg, with Austin A-4197L base insulator.
(3 IDENTICAL)	51.8 meters above base (170') tower steel 52.7 meters AGL (173') overall height less lighting 53.0 meters AGL (174') overall height with lighting
GROUND SYSTEM	Elevated counterpoise system for each tower consisting of 6 equally spaced radials 62.4 meters in length, 6.1 meters above ground, unless truncated by property boundary.

DESCRIPTION OF SAMPLING SYSTEM AS CONSTRUCTED

The sampling system consists of Phastek P600-161-3 toroidal sampling transformers mounted in weather proof tuning unit enclosures at the base of each tower. The sampling devices are connected to the phase monitor with equal lengths of Andrew Heliax cable type LDF2-50. The phase monitor is a Potomac Instruments Model 1901, serial number 715. Measurements on the sampling system components are tabulated below.

Toroidal sample devices were tested for accuracy by removing the units from the tuning units at the base of each of the three towers and placing the devices in series 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:

Current Source	Toroid #1 Ratio/Phase	Toroid #2 Ratio/Phase	Toroid #3 Ratio/Phase
1.0 Amp	1.004/-0.1	1.0/0	1.001/0.6
1.5 Amp	1.004/-0.1	1.0/0	1.001/0.6
1.5 Amp (1&3 swapped)	1.004/0.8	1.0/0	1.001/0
3.0 Amp	1.004/0.3	1.0/0	1.001/0.6

The sampling device accuracy was verified as being well within the manufacturer tolerance of +/- 2% in magnitude and +/- 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.

Impedance and electrical length for each of the three sample lines were measured with an Array Solutions model AIM4170B vector network analyzer ("VNA"). The VNA was connected to the sample lines at the transmitter building with the sample lines unterminated on the tuning unit end. The measured electrical length data is found below:

(Determine the frequencies at which there are nulls in measured resistance in order to determine line length; also measure the lines with a TDR, if available.)	1	2	3
Initial line length from TDR	648	647.9	648.19
Predicted frequency for odd quarter wave below carrier	1047	1047	1047
Predicted wavelength at resonance below carrier	0.75	0.75	0.75
Measured frequency for odd quarter wave below carrier	991.74	993.15	993.22
Predicted frequency for odd quarter wave above carrier	1745	1745	1745
Predicted wavelength for odd quarter wave above carrier	1.25	1.25	1.25
Measured frequency for odd quarter wave above carrier	1658.88	1661.37	1660.11
Resulting length below carrier, feet	655	654	654
Resulting length above carrier, feet	652	651	652
Variation	-0.004	-0.004	-0.003
Averaged length, degrees at carrier	331.5	331.1	331.2

It may be seen that the sample lines are equal for all practical purposes being equal in length to better than 0.4 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:

(Measure the resistance and reactance at the indicated frequencies to determine characteristic impedance)	1		2		3	
1/8 wavelength below null frequency	826		828		828	
	R	X	R	X	R	X
1/8 below	5.543	-50.483	5.602	-51.039	5.421	-50.924
1/8 wavelength above frequency	1157		1159		1159	
1/8 above	8.379	49.686	8.27	48.909	8.294	49.24
Resistance variation	-0.34		-0.32		-0.35	
Calculated characteristic Impedance	50.6		50.5		50.6	

The impedance is calculated internally by the VNA. The impedance values in the table above were verified by employing the formula:

$$Z_O = \sqrt{\sqrt{R_1^2 + X_1^2} * \sqrt{R_2^2 + X_2^2}}$$

The sampling line measured characteristic impedances meet the requirement that the lines be equal within 2 ohms as required by 73.151(c)(2)(ii).

Sampling system impedance was measured with each of the three sampling lines terminated in its respective toroid sampling device. Impedance of the sampling system was measured with an AIM4170B. The VNA was connected to the sample lines at the transmitter building with the sample lines terminated on the tuning unit end. The measured impedance data is found below:

Measured Impedance of sampling line and toroid:

Tower #1 = 49.7 –J 0.1
Tower #2 = 49.6 –J 0.3
Tower #3 = 49.6 –J 0.3

POST CONSTRUCTION – CERTIFICATION

Appendix 1 is a plot plan for the WGNY site signed and sealed by Darren J. Stridiron, P.L.S. The site plan has the "as constructed" tower distance and bearing added effective February 27, 2009. The first license application for this three tower array was filed on September 18, 2007. The authorized and "as constructed" tower data is tabulated below:

Tower Reference	Authorized Distance/Bearing N/A	Certified Distance/Bearing N/A	Deviation
#2	90 degree spacing = 201.55' 90 degree orientation	89 degree spacing = 199.3' 89.5125 degrees	1 degree -0.4875 degree
#3	180 degree spacing = 403.1' 90 degree orientation	180 degree spacing = 403.1' 89.5947 degrees	0 degree -0.4053 degree

The "as constructed" certified data is believed to demonstrate very close correlation with the theoretical array parameters. Distance data is based on the speed of light in a vacuum yielding a wavelength of 299.792458 meters for 1 MHz. This is, for all practical purposes, the traditional formula for determining the number of feet in one electrical degree which is 2.732 divided by frequency in Megahertz.

TOWER BASE IMPEDANCE MEASUREMENT DATA

The impedance of each tower was measured at the J plug at the output of T matching network at the base of each tower. All impedance measurement data was obtained with an Array Solutions model AIM4170B VNA. The VNA data was in good agreement with data taken on other occasions with a Delta operating impedance bridge and was calibrated with precision open, short and terminations and the test leads were included in the calibration process. When the base impedance for one tower was recorded the remaining towers were open circuited by pulling the J plug at the T matching network output.

Each tower is lighted and the tower lighting cable runs through metal conduit. Tower lighting chokes and a static drain choke are mounted in each tuning unit cabinet. The impedance of the lighting and static drain chokes was measured and the measured data confirmed no abnormal condition which would be expected to affect tower impedance.

The tower base impedance and mechanical conditions were recorded and are tabulated below:

TOWER FEED DESCRIPTION	1	2	3
Tubing diameter	¾"	¾"	¾"
Lightning choke diameter	13"	12"	12"
Choke turns spacing	4"	3"	3"
Length from ATU to choke	13"	12"	15"
Length from choke to tower	16"	12"	13"
Total length feed-thru bowl to tower	43"	31"	38"

.

Measured Tower Impedances

	Tower Measured					
	1		2		3	
	R	X	R	X	R	X
Other towers floating	26.58	7.374	25.937	4.442	22.969	3.045

METHOD OF MOMENTS MODEL – SELF IMPEDANCE ANALYSIS

As stated in the original filing, to model the antenna system as accurately as possible, detailed mechanical data was obtained and is summarized below:

> Each tower is 170' steel, uniform cross section, 18" face mounted on a 30" diameter sonotube form filled with concrete with 4" strap in an X configuration.
>
> Base Insulators are Austin A-4197L with manufacturer specified capacitance of 20 pf.
>
> Each tower is guy wire top loaded with a top loading measured length of 22' 10", or 10.2 degrees.
>
> Tower #1 supports a 950 MHz STL antenna, 7/8" heliax and has a KTL model FMC 0.2 isocoupler with 65 pf capacitance across the base.

The choice of calculating engine and software implementation chosen for this filing is the ACS Model written by Au Contraire Software, Ltd. employing MININEC3. This software implementation has demonstrated a high level of agreement with results obtained for this array employing both Westberg Consulting, Phasor Professional, 2.1.1.12 and MININEC Broadcast Professional. The model for all three towers is based on a radius of 0.2183 meters which is 100% of the equivalent radius. The model for tower #1 (wire 1) has a height of Z = 49.83697 meters, tower #2 (wire 5) Z = 49.88134 meters and tower #3 (wire 9) Z= 47.33181 meter compared to the full physical height of 51.8166 meters (170'). Thus, tower #1 is modeled at 96.18% of its height, tower #2 96.27% of its height and tower #3 91.34% of its height.

The tower measured base self impedances, with all other towers floating, as measured at the J plug, are listed above. The modeled self impedance measurements, with all other towers floating, are listed in Exhibit I, page 5 for Tower #1, page 12 for Tower #2 and page 19 for Tower #3. A circuit model has been constructed for each tower to account for shunt and series reactances 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 – 9 for daytime directional and 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:	26.58 +J 7.374
Modeled self impedance at base:	26.584 –J 33.85
Shunt capacitance:	20 pf in parallel with 65 pf
Series inductance:	+J 41.218, 5.377 uh
Modeled self impedance at ATU:	25.44 +J 7.667

Tower #2

Measured self impedance at ATU:	25.937 +J 4.442
Modeled self impedance at base:	25.948 –J 33.753
Shunt capacitance:	20 pf
Series inductance:	+J 38.113, 4.972 uh
Modeled self impedance at ATU:	25.68 +J 4.432

Tower #3

Measured self impedance at ATU:	22.969 +J 3.045
Modeled self impedance at base:	22.975 –J 52.678
Shunt capacitance:	20 pf
Series inductance:	+J 55.421, 7.23 uh
Modeled self impedance at ATU:	22.61 +J 3.086

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 daytime and nighttime operating parameters. The FCC theoretical values were converted to base excitation values. The base excitation values for the daytime array may be found at the end of Exhibit II, page 28 and the base driving point impedances on pp 26. The base excitation values for the nighttime array may be found at the end of Exhibit III, page 35 and the base driving point impedances on pp 33.

The calculated base operating parameters and the phase monitor parameters as adjusted and reflected on Form 302-AM, attached, are as follows:

DAYTIME:

Tower	Figures 4 – 6 Circuit Model Ratio and Phase		Correction to Modeled Values to Derive Antenna Monitor Values	
#1	1.00	-0.755°	1.00	-0.644°
#2	1.00	-0.091°	1.00	0°
#3	0.99	-0.044°	0.99	+0.047

Tower	MoM Modeled Current & Phase		Antenna Monitor Current & Phase	
#1	0.541	-120.2	0.541	-120.8
#2	1.0	0	1.0	0
#3	0.608	+166.9	0.602	+166.9

NIGHTTIME:

Tower	Figures 7 – 9 Circuit Model Ratio and Phase		Correction to Modeled Values to Derive Antenna Monitor Values	
#1	0.98	-0.112°	0.98	-0.056
#2	1.0	-0.056°	1.0	0
#3	0.99	-0.072°	0.99	-0.016

Tower	MoM Modeled Current & Phase		Antenna Monitor Current & Phase	
#1	0.589	+158.7	0.577	+158.6
#2	1.0	0	1.0	0
#3	0.870	-151.9	0.861	-151.9

The adjusted patterns have 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.

Appendix 2 is submitted as independent confirmation of the ACSModel calculated results via Westberg Consulting Phasor Professional 2.1.1.12. Phasor Professional does not allow for implementation of top loading so the ACS model physical tower heights were employed plus a 4 meter extension to allow for the affect of the top loading wires. The resistive component of the self impedance for towers 1 and 2 agree to within 1% of the ACS model values. The resistive component for tower # 3 agrees to within 1.3% of the ACS model value. The daytime base operating parameters depicted on page 4 are the same as computed by the ACS Model.

DIRECT MEASUREMENT OF POWER

Common point impedance was measured with a Delta CPB-1A, SN 1153, permanently installed in the phasing cabinet. Common point current was measured with a Delta TCA 10/20 EXR permanently installed in the phasing cabinet with the toroidal sample immediately adjacent to the impedance bridge. Common point resistance was set to 50 +J0 and the transmitter power adjusted to yield the correct current for a power level of 10,530 watts as found on FCC Form 302-AM attached.

REFERENCE FIELD STRENGTH MEASUREMENTS

A Potomac Instruments FIM-41, Serial number 748, of known calibration, was used to take field strength measurements, during daytime hours, for both the day and night directional patterns. Three measurements were taken on each of the specified monitored radials and on the major lobe radial for each pattern. Exhibit IV includes the measured field strength values, point descriptions and GPS coordinates. A WAAS enabled GPS was employed. All measurements were conducted with the antenna system adjusted to the values specified on the 302-AM license application attached.

CONCLUSION

All adjustments, measurements and field work were undertaken by William P. Weeks whose qualifications are a matter of record with the Federal Communications Commission.

The foregoing was prepared on behalf of **Sunrise Broadcasting Corporation** 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.

/s/ Clarence M. Beverage
for Communications Technologies, Inc.
Marlton, New Jersey

January 11, 2010

EXHIBIT I
METHOD OF MOMENTS ANALYSIS
#1 WEST TOWER – OTHERS FLOATING

****
ACSModel
(MININEC 3.1 Core)
10-30-2009 14:07:15
****

WGNY
Tower 1 Driven
Towers 2 & 3 Floated

Frequency = 1.220 MHz Wavelength = 245.73770 Meters

No. of Wires: 12

Wire No. 1 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	0		-1	
0	0	49.83697	0.2183	0	15

Wire No. 2 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 3 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
-3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 4 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
0	-3.914481	44.24487	0.0125	0	2

Wire No. 5 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	0		-5	
0	61.43443	49.88134	0.2183	0	15

Wire No. 6	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 7	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
-3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 8	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
0	57.51994	44.28924	0.0125	0	2

Wire No. 9	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	0		-9	
0	122.8689	47.33181	0.2183	0	15

Wire No. 10	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 11	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
-3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 12	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
0	118.9544	41.73971	0.0125	0	2

**** ANTENNA GEOMETRY ****

Wire No. 1 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	0	0.2183	-1	1	1
0	0	3.322465	0.2183	1	1	2
0	0	6.644929	0.2183	1	1	3
0	0	9.967394	0.2183	1	1	4
0	0	13.28986	0.2183	1	1	5
0	0	16.61232	0.2183	1	1	6
0	0	19.93479	0.2183	1	1	7
0	0	23.25725	0.2183	1	1	8
0	0	26.57972	0.2183	1	1	9
0	0	29.90218	0.2183	1	1	10
0	0	33.22465	0.2183	1	1	11
0	0	36.54711	0.2183	1	1	12
0	0	39.86958	0.2183	1	1	13
0	0	43.19204	0.2183	1	1	14
0	0	46.51451	0.2183	1	0	15

Wire No. 2 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	2	16
1.69502	0.9786202	47.04092	0.0125	2	0	17

Wire No. 3 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	3	18
-1.69502	0.9786202	47.04092	0.0125	3	0	19

Wire No. 4 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	4	20
0	-1.95724	47.04092	0.0125	4	0	21

Wire No. 5 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	0	0.2183	-5	5	22
0	61.43443	3.325423	0.2183	5	5	23
0	61.43443	6.650846	0.2183	5	5	24
0	61.43443	9.976268	0.2183	5	5	25
0	61.43443	13.30169	0.2183	5	5	26
0	61.43443	16.62711	0.2183	5	5	27
0	61.43443	19.95254	0.2183	5	5	28
0	61.43443	23.27796	0.2183	5	5	29
0	61.43443	26.60338	0.2183	5	5	30
0	61.43443	29.9288	0.2183	5	5	31
0	61.43443	33.25423	0.2183	5	5	32
0	61.43443	36.57965	0.2183	5	5	33
0	61.43443	39.90507	0.2183	5	5	34
0	61.43443	43.23049	0.2183	5	5	35
0	61.43443	46.55592	0.2183	5	0	36

Wire No. 6 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	6	37
1.69502	62.41305	47.08529	0.0125	6	0	38

Wire No. 7 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	7	39
-1.69502	62.41305	47.08529	0.0125	7	0	40

Wire No. 8 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	8	41
0	59.47718	47.08529	0.0125	8	0	42

Wire No. 9 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	0	0.2183	-9	9	43
0	122.8689	3.155454	0.2183	9	9	44
0	122.8689	6.310908	0.2183	9	9	45
0	122.8689	9.466361	0.2183	9	9	46
0	122.8689	12.62182	0.2183	9	9	47
0	122.8689	15.77727	0.2183	9	9	48
0	122.8689	18.93272	0.2183	9	9	49
0	122.8689	22.08818	0.2183	9	9	50
0	122.8689	25.24363	0.2183	9	9	51
0	122.8689	28.39909	0.2183	9	9	52
0	122.8689	31.55454	0.2183	9	9	53
0	122.8689	34.71	0.2183	9	9	54
0	122.8689	37.86544	0.2183	9	9	55
0	122.8689	41.0209	0.2183	9	9	56
0	122.8689	44.17635	0.2183	9	0	57

Wire No. 10 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	10	58
1.69502	123.8475	44.53576	0.0125	10	0	59

Wire No. 11 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	11	60
-1.69502	123.8475	44.53576	0.0125	11	0	61

Wire No. 12 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	12	62
0	120.9116	44.53576	0.0125	12	0	63

```
Sources:  1
Pulse No., Voltage Magnitude, Phase (Degrees): 1, 1.0, 0.0

Number of Loads:  2
Pulse No., Resistance, Reactance:  22 , 0 ,-10000
Pulse No., Resistance, Reactance:  43 , 0 ,-10000
********************    SOURCE DATA     ********************
Pulse  1      Voltage = (1.0, 0.0j)
              Current = (0.0144, 0.0183j)
              Impedance = (26.584, -33.85j)
              Power = 0.007175 Watts


********************    CURRENT DATA    ********************
Wire No.  1 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
 1            0.0144        0.0183        0.0232        51.8554
 2            0.0143        0.0176        0.0227        50.9976
 3            0.0141        0.0171        0.0222        50.4479
 4            0.0138        0.0165        0.0215        49.9822
 5            0.0134        0.0158        0.0207        49.5708
 6            0.0129        0.015         0.0198        49.1989
 7            0.0123        0.0141        0.0187        48.8584
 8            0.0116        0.0131        0.0175        48.5438
 9            0.0108        0.0121        0.0162        48.2515
 10           0.0099        0.0109        0.0147        47.9794
 11           0.0088        0.0097        0.0132        47.7264
 12           0.0078        0.0085        0.0115        47.4933
 13           0.0066        0.0072        0.0098        47.2844
 14           0.0054        0.0059        0.008         47.113
 15           0.0044        0.0047        0.0064        47.0206
J             0.0034        0.0037        0.005         47.0838

Wire No.  2 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0011        0.0012        0.0017        47.0859
 17           0.0007        0.0007        0.001         47.3196
E             0.0           0.0           0.0           0.0

Wire No.  3 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0011        0.0012        0.0017        47.0859
 19           0.0007        0.0007        0.001         47.3196
E             0.0           0.0           0.0           0.0

Wire No.  4 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0011        0.0012        0.0017        47.0797
 21           0.0007        0.0007        0.001         47.312
E             0.0           0.0           0.0           0.0
```

Wire No. 5 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
22	0.0	0.0	0.0	-79.052
23	0.0001	-0.0003	0.0003	-78.981
24	0.0001	-0.0004	0.0004	-78.866
25	0.0001	-0.0005	0.0005	-78.7269
26	0.0001	-0.0006	0.0006	-78.5686
27	0.0001	-0.0007	0.0007	-78.394
28	0.0001	-0.0007	0.0007	-78.2054
29	0.0001	-0.0007	0.0007	-78.0048
30	0.0002	-0.0007	0.0007	-77.7946
31	0.0002	-0.0007	0.0007	-77.5773
32	0.0001	-0.0006	0.0007	-77.3564
33	0.0001	-0.0006	0.0006	-77.1367
34	0.0001	-0.0005	0.0005	-76.9267
35	0.0001	-0.0004	0.0005	-76.7451
36	0.0001	-0.0004	0.0004	-76.644
J	0.0001	-0.0003	0.0003	-76.7315

Wire No. 6 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-73.5163
38	0.0	-0.0001	0.0001	-72.7231
E	0.0	0.0	0.0	0.0

Wire No. 7 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-73.5163
40	0.0	-0.0001	0.0001	-72.7231
E	0.0	0.0	0.0	0.0

Wire No. 8 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-82.8056
42	0.0	-0.0001	0.0001	-85.01
E	0.0	0.0	0.0	0.0

Wire No. 9 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
43	0.0	0.0	0.0	-157.2659
44	-0.0002	-0.0001	0.0002	-157.2927
45	-0.0002	-0.0001	0.0003	-157.3363
46	-0.0003	-0.0001	0.0003	-157.3893
47	-0.0003	-0.0001	0.0004	-157.4499
48	-0.0004	-0.0002	0.0004	-157.5171
49	-0.0004	-0.0002	0.0004	-157.5903
50	-0.0004	-0.0002	0.0004	-157.669
51	-0.0004	-0.0002	0.0004	-157.7527
52	-0.0004	-0.0002	0.0004	-157.8407
53	-0.0004	-0.0002	0.0004	-157.9321
54	-0.0004	-0.0001	0.0004	-158.0254
55	-0.0003	-0.0001	0.0003	-158.1173
56	-0.0003	-0.0001	0.0003	-158.1992
57	-0.0002	-0.0001	0.0002	-158.2471
J	-0.0002	-0.0001	0.0002	-158.2095

Wire No. 10 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.0001	0.0	0.0001	-156.9622
59	0.0	0.0	0.0	-156.3296
E	0.0	0.0	0.0	0.0

Wire No. 11 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.0001	0.0	0.0001	-156.9622
61	0.0	0.0	0.0	-156.3296
E	0.0	0.0	0.0	0.0

Wire No. 12 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.0001	0.0	0.0001	-160.5661
63	0.0	0.0	0.0	-161.245
E	0.0	0.0	0.0	0.0

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

Twr.	Ratio	Phase
1	1.000	0.0
2	0.002	-130.9
3	0.001	-209.1

EXHIBIT I
METHOD OF MOMENTS ANALYSIS
#2 CENTER TOWER – OTHERS FLOATING

****
ACSModel
(MININEC 3.1 Core)
10-30-2009 14:13:32
****

WGNY
Tower 2 Driven
Towers 1 & 3 Floated

Frequency = 1.220 MHz Wavelength = 245.73770 Meters

No. of Wires: 12

Wire No. 1 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	0		-1	
0	0	49.83697	0.2183	0	15

Wire No. 2 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 3 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
-3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 4 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
0	-3.914481	44.24487	0.0125	0	2

Wire No. 5 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	0		-5	
0	61.43443	49.88134	0.2183	0	15

Wire No. 6	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 7	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
-3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 8	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
0	57.51994	44.28924	0.0125	0	2

Wire No. 9	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	0		-9	
0	122.8689	47.33864	0.2183	0	15

Wire No. 10	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33864		9	
3.39004	124.8261	41.74654	0.0125	0	2

Wire No. 11	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33864		9	
-3.39004	124.8261	41.74654	0.0125	0	2

Wire No. 12	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33864		9	
0	118.9544	41.74654	0.0125	0	2

**** ANTENNA GEOMETRY ****

Wire No. 1 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	0	0.2183	-1	1	1
0	0	3.322465	0.2183	1	1	2
0	0	6.644929	0.2183	1	1	3
0	0	9.967394	0.2183	1	1	4
0	0	13.28986	0.2183	1	1	5
0	0	16.61232	0.2183	1	1	6
0	0	19.93479	0.2183	1	1	7
0	0	23.25725	0.2183	1	1	8
0	0	26.57972	0.2183	1	1	9
0	0	29.90218	0.2183	1	1	10
0	0	33.22465	0.2183	1	1	11
0	0	36.54711	0.2183	1	1	12
0	0	39.86958	0.2183	1	1	13
0	0	43.19204	0.2183	1	1	14
0	0	46.51451	0.2183	1	0	15

Wire No. 2 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	2	16
1.69502	0.9786202	47.04092	0.0125	2	0	17

Wire No. 3 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	3	18
-1.69502	0.9786202	47.04092	0.0125	3	0	19

Wire No. 4 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	4	20
0	-1.95724	47.04092	0.0125	4	0	21

Wire No. 5 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	0	0.2183	-5	5	22
0	61.43443	3.325423	0.2183	5	5	23
0	61.43443	6.650846	0.2183	5	5	24
0	61.43443	9.976268	0.2183	5	5	25
0	61.43443	13.30169	0.2183	5	5	26
0	61.43443	16.62711	0.2183	5	5	27
0	61.43443	19.95254	0.2183	5	5	28
0	61.43443	23.27796	0.2183	5	5	29
0	61.43443	26.60338	0.2183	5	5	30
0	61.43443	29.9288	0.2183	5	5	31
0	61.43443	33.25423	0.2183	5	5	32
0	61.43443	36.57965	0.2183	5	5	33
0	61.43443	39.90507	0.2183	5	5	34
0	61.43443	43.23049	0.2183	5	5	35
0	61.43443	46.55592	0.2183	5	0	36

Wire No. 6 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	6	37
1.69502	62.41305	47.08529	0.0125	6	0	38

Wire No. 7 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	7	39
-1.69502	62.41305	47.08529	0.0125	7	0	40

Wire No. 8 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	8	41
0	59.47718	47.08529	0.0125	8	0	42

Wire No. 9 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	0	0.2183	-9	9	43
0	122.8689	3.155909	0.2183	9	9	44
0	122.8689	6.311819	0.2183	9	9	45
0	122.8689	9.467728	0.2183	9	9	46
0	122.8689	12.62364	0.2183	9	9	47
0	122.8689	15.77955	0.2183	9	9	48
0	122.8689	18.93546	0.2183	9	9	49
0	122.8689	22.09137	0.2183	9	9	50
0	122.8689	25.24727	0.2183	9	9	51
0	122.8689	28.40318	0.2183	9	9	52
0	122.8689	31.55909	0.2183	9	9	53
0	122.8689	34.715	0.2183	9	9	54
0	122.8689	37.87091	0.2183	9	9	55
0	122.8689	41.02682	0.2183	9	9	56
0	122.8689	44.18273	0.2183	9	0	57

Wire No. 10 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33864	0.0125	9	10	58
1.69502	123.8475	44.54259	0.0125	10	0	59

Wire No. 11 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33864	0.0125	9	11	60
-1.69502	123.8475	44.54259	0.0125	11	0	61

Wire No. 12 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33864	0.0125	9	12	62
0	120.9116	44.54259	0.0125	12	0	63

```
Sources:  1
Pulse No., Voltage Magnitude, Phase (Degrees): 22, 1.0, 0.0

Number of Loads:  2
Pulse No., Resistance, Reactance:  1 , 0 ,-10000
Pulse No., Resistance, Reactance:  43 , 0 ,-10000
********************    SOURCE DATA     ********************
Pulse  22     Voltage = (1.0, 0.0j)
              Current = (0.0143, 0.0186j)
              Impedance = (25.948, -33.753j)
              Power = 0.007158 Watts

********************    CURRENT DATA    ********************
Wire No.  1 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
 1            0.0           0.0           0.0           -78.4619
 2            0.0001        -0.0003       0.0003        -78.3902
 3            0.0001        -0.0004       0.0004        -78.2741
 4            0.0001        -0.0005       0.0005        -78.1336
 5            0.0001        -0.0006       0.0006        -77.9735
 6            0.0001        -0.0007       0.0007        -77.7969
 7            0.0002        -0.0007       0.0007        -77.6058
 8            0.0002        -0.0007       0.0007        -77.4024
 9            0.0002        -0.0007       0.0007        -77.1889
 10           0.0002        -0.0007       0.0007        -76.9679
 11           0.0002        -0.0007       0.0007        -76.7428
 12           0.0001        -0.0006       0.0006        -76.5185
 13           0.0001        -0.0005       0.0005        -76.3036
 14           0.0001        -0.0004       0.0005        -76.1172
 15           0.0001        -0.0004       0.0004        -76.012
J             0.0001        -0.0003       0.0003        -76.0993

Wire No.  2 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           -0.0001       0.0001        -78.9884
 17           0.0           -0.0001       0.0001        -80.194
E             0.0           0.0           0.0           0.0

Wire No.  3 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           -0.0001       0.0001        -78.9884
 19           0.0           -0.0001       0.0001        -80.194
E             0.0           0.0           0.0           0.0

Wire No.  4 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           -0.0001       0.0001        -70.0377
 21           0.0           0.0           0.0001        -68.3337
E             0.0           0.0           0.0           0.0
```

Wire No. 5 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
22	0.0143	0.0186	0.0235	52.4491
23	0.0143	0.018	0.023	51.6115
24	0.0141	0.0174	0.0224	51.0746
25	0.0138	0.0168	0.0217	50.6197
26	0.0134	0.0161	0.0209	50.2178
27	0.0129	0.0153	0.02	49.8545
28	0.0123	0.0144	0.0189	49.5218
29	0.0116	0.0134	0.0177	49.2144
30	0.0107	0.0123	0.0163	48.9287
31	0.0098	0.0112	0.0149	48.6626
32	0.0088	0.0099	0.0133	48.4152
33	0.0077	0.0087	0.0116	48.1872
34	0.0066	0.0073	0.0099	47.9828
35	0.0054	0.006	0.0081	47.8149
36	0.0044	0.0048	0.0065	47.7243
J	0.0034	0.0037	0.005	47.7862

Wire No. 6 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0011	0.0012	0.0017	47.7856
38	0.0007	0.0007	0.001	48.0136
E	0.0	0.0	0.0	0.0

Wire No. 7 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0011	0.0012	0.0017	47.7856
40	0.0007	0.0007	0.001	48.0136
E	0.0	0.0	0.0	0.0

Wire No. 8 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0011	0.0012	0.0017	47.7873
42	0.0007	0.0007	0.001	48.0158
E	0.0	0.0	0.0	0.0

Wire No. 9 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
43	0.0	0.0	0.0	-78.2414
44	0.0001	-0.0002	0.0003	-78.1751
45	0.0001	-0.0004	0.0004	-78.0667
46	0.0001	-0.0005	0.0005	-77.9352
47	0.0001	-0.0005	0.0005	-77.7851
48	0.0001	-0.0006	0.0006	-77.6189
49	0.0001	-0.0006	0.0006	-77.4388
50	0.0001	-0.0006	0.0007	-77.2466
51	0.0001	-0.0006	0.0007	-77.0444
52	0.0001	-0.0006	0.0006	-76.8346
53	0.0001	-0.0006	0.0006	-76.6203
54	0.0001	-0.0005	0.0006	-76.4066
55	0.0001	-0.0005	0.0005	-76.202
56	0.0001	-0.0004	0.0004	-76.0265
57	0.0001	-0.0003	0.0003	-75.9325
J	0.0001	-0.0003	0.0003	-76.0258

Wire No. 10 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-72.7007
59	0.0	0.0	0.0	-71.8695
E	0.0	0.0	0.0	0.0

Wire No. 11 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-72.7007
61	0.0	0.0	0.0	-71.8695
E	0.0	0.0	0.0	0.0

Wire No. 12 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-82.2742
63	0.0	-0.0001	0.0001	-84.5824
E	0.0	0.0	0.0	0.0

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

Twr.	Ratio	Phase
1	0.002	-130.9
2	1.000	0.0
3	0.002	-130.7

EXHIBIT I
METHOD OF MOMENTS ANALYSIS
#3 EAST TOWER – OTHERS FLOATING

****
ACSModel
(MININEC 3.1 Core)
10-30-2009 14:17:35
****

WGNY
Tower 3 Driven
Towers 1 & 2 Floated

Frequency = 1.220 MHz Wavelength = 245.73770 Meters

No. of Wires: 12

Wire No. 1 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	0		-1	
0	0	49.83697	0.2183	0	15

Wire No. 2 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 3 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
-3.39004	1.95724	44.24487	0.0125	0	2

Wire No. 4 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	0	49.83697		1	
0	-3.914481	44.24487	0.0125	0	2

Wire No. 5 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	0		-5	
0	61.43443	49.88134	0.2183	0	15

Wire No. 6 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 7 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
-3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 8 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
0	57.51994	44.28924	0.0125	0	2

Wire No. 9 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	0		-9	
0	122.8689	47.33181	0.2183	0	15

Wire No. 10 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 11 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
-3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 12 Coordinates				End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
0	118.9544	41.73971	0.0125	0	2

**** ANTENNA GEOMETRY ****

Wire No. 1 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	0	0.2183	-1	1	1
0	0	3.322465	0.2183	1	1	2
0	0	6.644929	0.2183	1	1	3
0	0	9.967394	0.2183	1	1	4
0	0	13.28986	0.2183	1	1	5
0	0	16.61232	0.2183	1	1	6
0	0	19.93479	0.2183	1	1	7
0	0	23.25725	0.2183	1	1	8
0	0	26.57972	0.2183	1	1	9
0	0	29.90218	0.2183	1	1	10
0	0	33.22465	0.2183	1	1	11
0	0	36.54711	0.2183	1	1	12
0	0	39.86958	0.2183	1	1	13
0	0	43.19204	0.2183	1	1	14
0	0	46.51451	0.2183	1	0	15

Wire No. 2 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	2	16
1.69502	0.9786202	47.04092	0.0125	2	0	17

Wire No. 3 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	3	18
-1.69502	0.9786202	47.04092	0.0125	3	0	19

Wire No. 4 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	4	20
0	-1.95724	47.04092	0.0125	4	0	21

Wire No. 5 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	0	0.2183	-5	5	22
0	61.43443	3.325423	0.2183	5	5	23
0	61.43443	6.650846	0.2183	5	5	24
0	61.43443	9.976268	0.2183	5	5	25
0	61.43443	13.30169	0.2183	5	5	26
0	61.43443	16.62711	0.2183	5	5	27
0	61.43443	19.95254	0.2183	5	5	28
0	61.43443	23.27796	0.2183	5	5	29
0	61.43443	26.60338	0.2183	5	5	30
0	61.43443	29.9288	0.2183	5	5	31
0	61.43443	33.25423	0.2183	5	5	32
0	61.43443	36.57965	0.2183	5	5	33
0	61.43443	39.90507	0.2183	5	5	34
0	61.43443	43.23049	0.2183	5	5	35
0	61.43443	46.55592	0.2183	5	0	36

Wire No. 6 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	6	37
1.69502	62.41305	47.08529	0.0125	6	0	38

Wire No. 7 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	7	39
-1.69502	62.41305	47.08529	0.0125	7	0	40

Wire No. 8 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	49.88134	0.0125	5	8	41
0	59.47718	47.08529	0.0125	8	0	42

Wire No. 9 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	0	0.2183	-9	9	43
0	122.8689	3.155454	0.2183	9	9	44
0	122.8689	6.310908	0.2183	9	9	45
0	122.8689	9.466361	0.2183	9	9	46
0	122.8689	12.62182	0.2183	9	9	47
0	122.8689	15.77727	0.2183	9	9	48
0	122.8689	18.93272	0.2183	9	9	49
0	122.8689	22.08818	0.2183	9	9	50
0	122.8689	25.24363	0.2183	9	9	51
0	122.8689	28.39909	0.2183	9	9	52
0	122.8689	31.55454	0.2183	9	9	53
0	122.8689	34.71	0.2183	9	9	54
0	122.8689	37.86544	0.2183	9	9	55
0	122.8689	41.0209	0.2183	9	9	56
0	122.8689	44.17635	0.2183	9	0	57

Wire No. 10 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	10	58
1.69502	123.8475	44.53576	0.0125	10	0	59

Wire No. 11 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	11	60
-1.69502	123.8475	44.53576	0.0125	11	0	61

Wire No. 12 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	122.8689	47.33181	0.0125	9	12	62
0	120.9116	44.53576	0.0125	12	0	63

```
Sources:  1
Pulse No., Voltage Magnitude, Phase (Degrees): 43, 1.0, 0.0

Number of Loads:  2
Pulse No., Resistance, Reactance:  1 , 0 ,-10000
Pulse No., Resistance, Reactance:  22 , 0 ,-10000
 ********************    SOURCE DATA     ********************
Pulse  43     Voltage = (1.0, 0.0j)
              Current = (0.007, 0.0159j)
              Impedance = (22.975, -52.678j)
              Power = 0.003478 Watts

 ********************    CURRENT DATA    ********************
 Wire No.  1 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
 1            0.0           0.0           0.0           -142.7068
 2            -0.0001       -0.0001       0.0001        -142.7368
 3            -0.0002       -0.0001       0.0002        -142.7853
 4            -0.0002       -0.0001       0.0002        -142.844
 5            -0.0002       -0.0002       0.0003        -142.911
 6            -0.0003       -0.0002       0.0003        -142.9852
 7            -0.0003       -0.0002       0.0003        -143.066
 8            -0.0003       -0.0002       0.0003        -143.1528
 9            -0.0003       -0.0002       0.0003        -143.2451
 10           -0.0003       -0.0002       0.0003        -143.3422
 11           -0.0003       -0.0002       0.0003        -143.4432
 12           -0.0002       -0.0002       0.0003        -143.5467
 13           -0.0002       -0.0002       0.0003        -143.6492
 14           -0.0002       -0.0001       0.0002        -143.7422
 15           -0.0001       -0.0001       0.0002        -143.7997
J             -0.0001       -0.0001       0.0001        -143.7643

Wire No.  2 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           0.0           0.0           -144.9099
 17           0.0           0.0           0.0           -145.1491
E             0.0           0.0           0.0           0.0

Wire No.  3 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           0.0           0.0           -144.9099
 19           0.0           0.0           0.0           -145.1491
E             0.0           0.0           0.0           0.0

Wire No.  4 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             0.0           0.0           0.0           -141.348
 21           0.0           0.0           0.0           -140.2796
E             0.0           0.0           0.0           0.0
```

Wire No. 5 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
22	0.0	0.0	0.0	-64.2725
23	0.0001	-0.0002	0.0002	-64.1901
24	0.0001	-0.0003	0.0003	-64.0566
25	0.0002	-0.0003	0.0004	-63.8953
26	0.0002	-0.0004	0.0004	-63.712
27	0.0002	-0.0004	0.0005	-63.5101
28	0.0002	-0.0004	0.0005	-63.2926
29	0.0002	-0.0004	0.0005	-63.0619
30	0.0002	-0.0004	0.0005	-62.8209
31	0.0002	-0.0004	0.0005	-62.5728
32	0.0002	-0.0004	0.0005	-62.3214
33	0.0002	-0.0004	0.0004	-62.0725
34	0.0002	-0.0003	0.0004	-61.8354
35	0.0001	-0.0003	0.0003	-61.6309
36	0.0001	-0.0002	0.0003	-61.5161
J	0.0001	-0.0002	0.0002	-61.6099

Wire No. 6 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-64.6585
38	0.0	0.0	0.0	-65.9373
E	0.0	0.0	0.0	0.0

Wire No. 7 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-64.6585
40	0.0	0.0	0.0	-65.9373
E	0.0	0.0	0.0	0.0

Wire No. 8 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0	-0.0001	0.0001	-55.209
42	0.0	0.0	0.0	-53.4189
E	0.0	0.0	0.0	0.0

Wire No. 9 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
43	0.007	0.0159	0.0174	66.4356
44	0.0069	0.0154	0.0168	65.7093
45	0.0068	0.0148	0.0163	65.2409
46	0.0067	0.0143	0.0158	64.8405
47	0.0065	0.0137	0.0151	64.4841
48	0.0063	0.013	0.0144	64.16
49	0.006	0.0122	0.0136	63.8616
50	0.0056	0.0114	0.0127	63.5845
51	0.0053	0.0105	0.0117	63.3262
52	0.0048	0.0095	0.0106	63.0849
53	0.0043	0.0085	0.0095	62.8603
54	0.0038	0.0074	0.0083	62.6533
55	0.0033	0.0063	0.0071	62.4686
56	0.0027	0.0052	0.0058	62.3192
57	0.0022	0.0042	0.0047	62.2429
J	0.0017	0.0033	0.0037	62.3052

Wire No. 10 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0006	0.0011	0.0012	62.3033
59	0.0003	0.0007	0.0007	62.5242
E	0.0	0.0	0.0	0.0

Wire No. 11 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0006	0.0011	0.0012	62.3033
61	0.0003	0.0007	0.0007	62.5242
E	0.0	0.0	0.0	0.0

Wire No. 12 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.0006	0.0011	0.0012	62.3091
63	0.0003	0.0007	0.0007	62.5313
E	0.0	0.0	0.0	0.0

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

Twr.	Ratio	Phase
1	0.673	-78.4
2	1.000	0.0
3	585.507	130.7

EXHIBIT II
METHOD OF MOMENTS ANALYSIS
DERIVATION OF WGNY DAYTIME BASE DRIVES

```
****************************************
                ACSModel
          (MININEC 3.1 Core)
      10-30-2009          14:21:16
****************************************

WGNY
Daytime Directional Antenna


Frequency = 1.220 MHz     Wavelength = 245.73770 Meters

No. of Wires: 12

Wire No. 1   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             0                        -1
 0             0             49.83697     0.2183       0             15

Wire No. 2   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
 3.39004       1.95724       44.24487     0.0125       0             2

Wire No. 3   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
-3.39004       1.95724       44.24487     0.0125       0             2

Wire No. 4   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
 0            -3.914481      44.24487     0.0125       0             2

Wire No. 5   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             61.43443      0                        -5
 0             61.43443      49.88134     0.2183       0             15
```

Wire No. 6	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 7	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
-3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 8	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
0	57.51994	44.28924	0.0125	0	2

Wire No. 9	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	0		-9	
0	122.8689	47.33181	0.2183	0	15

Wire No. 10	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 11	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
-3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 12	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
0	118.9544	41.73971	0.0125	0	2

**** ANTENNA GEOMETRY ****

Wire No. 1 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	0	0.2183	-1	1	1
0	0	3.322465	0.2183	1	1	2
0	0	6.644929	0.2183	1	1	3
0	0	9.967394	0.2183	1	1	4
0	0	13.28986	0.2183	1	1	5
0	0	16.61232	0.2183	1	1	6
0	0	19.93479	0.2183	1	1	7
0	0	23.25725	0.2183	1	1	8
0	0	26.57972	0.2183	1	1	9
0	0	29.90218	0.2183	1	1	10
0	0	33.22465	0.2183	1	1	11
0	0	36.54711	0.2183	1	1	12
0	0	39.86958	0.2183	1	1	13
0	0	43.19204	0.2183	1	1	14
0	0	46.51451	0.2183	1	0	15

Wire No. 2 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	2	16
1.69502	0.9786202	47.04092	0.0125	2	0	17

Wire No. 3 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	3	18
-1.69502	0.9786202	47.04092	0.0125	3	0	19

Wire No. 4 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	4	20
0	-1.95724	47.04092	0.0125	4	0	21

Wire No. 5 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	0	0.2183	-5	5	22
0	61.43443	3.325423	0.2183	5	5	23
0	61.43443	6.650846	0.2183	5	5	24
0	61.43443	9.976268	0.2183	5	5	25
0	61.43443	13.30169	0.2183	5	5	26
0	61.43443	16.62711	0.2183	5	5	27
0	61.43443	19.95254	0.2183	5	5	28
0	61.43443	23.27796	0.2183	5	5	29
0	61.43443	26.60338	0.2183	5	5	30
0	61.43443	29.9288	0.2183	5	5	31
0	61.43443	33.25423	0.2183	5	5	32
0	61.43443	36.57965	0.2183	5	5	33
0	61.43443	39.90507	0.2183	5	5	34
0	61.43443	43.23049	0.2183	5	5	35
0	61.43443	46.55592	0.2183	5	0	36

Wire No. 6 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	6	37
1.69502	62.41305	47.08529	0.0125	6	0	38

Wire No. 7 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	7	39
-1.69502	62.41305	47.08529	0.0125	7	0	40

Wire No. 8 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	8	41
0	59.47718	47.08529	0.0125	8	0	42

Wire No. 9 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	0	0.2183	-9	9	43
0	122.8689	3.155454	0.2183	9	9	44
0	122.8689	6.310908	0.2183	9	9	45
0	122.8689	9.466361	0.2183	9	9	46
0	122.8689	12.62182	0.2183	9	9	47
0	122.8689	15.77727	0.2183	9	9	48
0	122.8689	18.93272	0.2183	9	9	49
0	122.8689	22.08818	0.2183	9	9	50
0	122.8689	25.24363	0.2183	9	9	51
0	122.8689	28.39909	0.2183	9	9	52
0	122.8689	31.55454	0.2183	9	9	53
0	122.8689	34.71	0.2183	9	9	54
0	122.8689	37.86544	0.2183	9	9	55
0	122.8689	41.0209	0.2183	9	9	56
0	122.8689	44.17635	0.2183	9	0	57

Wire No. 10 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	10	58
1.69502	123.8475	44.53576	0.0125	10	0	59

Wire No. 11 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	11	60
-1.69502	123.8475	44.53576	0.0125	11	0	61

Wire No. 12 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	12	62
0	120.9116	44.53576	0.0125	12	0	63

Sources: 3
Pulse No., Voltage Magnitude, Phase (Degrees): 1, 364.7, -112.7
Pulse No., Voltage Magnitude, Phase (Degrees): 22, 1008.6, -68.9
Pulse No., Voltage Magnitude, Phase (Degrees): 43, 953.2, 84.1

Number of Loads: 0

```
********************    SOURCE DATA     ********************
Pulse  1      Voltage = (-140.8044, -336.4122j)
              Current = (-8.7455, -15.669j)
              Impedance = (20.195, 2.285j)
              Power = 3251.31 Watts

Pulse  22     Voltage = (362.4399, -941.229j)
              Current = (33.149, 0.6121j)
              Impedance = (10.406, -28.586j)
              Power = 5719.23 Watts

Pulse  43     Voltage = (98.4731, 948.07j)
              Current = (-19.7002, 4.2179j)
              Impedance = (5.073, -47.039j)
              Power = 1029.46 Watts

Total Power = 10000.000 Watts

********************    CURRENT DATA    ********************

Wire No.  1 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
 1            -8.7455       -15.669       17.9443       -119.1676
 2            -8.8947       -15.5283      17.8954       -119.8045
 3            -8.8988       -15.2925      17.6932       -120.1955
 4            -8.807        -14.9424      17.3447       -120.5151
 5            -8.6261       -14.4776      16.8526       -120.7876
 6            -8.3601       -13.8997      16.2201       -121.0252
 7            -8.0123       -13.2116      15.4514       -121.2352
 8            -7.5861       -12.4172      14.5511       -121.4221
 9            -7.0847       -11.5209      13.5249       -121.5893
 10           -6.5123       -10.5281      12.3794       -121.7393
 11           -5.8731       -9.4453       11.1224       -121.8734
 12           -5.1732       -8.2812       9.7642        -121.9925
 13           -4.4225       -7.0513       8.3234        -122.0954
 14           -3.6483       -5.7986       6.8509        -122.177
 15           -2.9246       -4.6407       5.4854        -122.2198
J             -2.2742       -3.6126       4.2688        -122.1918

Wire No.  2 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             -0.765        -1.2033       1.4259        -122.447
 17           -0.4518       -0.7116       0.8429        -122.4111
E             0.0           0.0           0.0           0.0

Wire No.  3 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             -0.765        -1.2033       1.4259        -122.447
 19           -0.4518       -0.7116       0.8429        -122.4111
E             0.0           0.0           0.0           0.0
```

Wire No. 4 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.7442	-1.206	1.4171	-121.6781
21	-0.4361	-0.7137	0.8364	-121.4276
E	0.0	0.0	0.0	0.0

Wire No. 5 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
22	33.149	0.6121	33.1547	1.0578
23	32.4964	0.4097	32.499	0.7223
24	31.7824	0.2813	31.7836	0.5071
25	30.8736	0.1746	30.8741	0.3241
26	29.7586	0.0839	29.7587	0.1614
27	28.4368	0.0066	28.4368	0.0134
28	26.9123	-0.058	26.9124	-0.1234
29	25.1922	-0.1104	25.1924	-0.2511
30	23.2855	-0.1508	23.286	-0.3709
31	21.2033	-0.1791	21.2041	-0.4839
32	18.959	-0.1953	18.96	-0.5901
33	16.5705	-0.1993	16.5717	-0.6891
34	14.0692	-0.1913	14.0705	-0.779
35	11.5417	-0.172	11.543	-0.8536
36	9.2237	-0.144	9.2248	-0.8943
J	7.1849	-0.1086	7.1858	-0.8662

Wire No. 6 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	2.3954	-0.0413	2.3957	-0.9884
38	1.4215	-0.0228	1.4217	-0.9185
E	0.0	0.0	0.0	0.0

Wire No. 7 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	2.3954	-0.0413	2.3957	-0.9884
40	1.4215	-0.0228	1.4217	-0.9185
E	0.0	0.0	0.0	0.0

Wire No. 8 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	2.3942	-0.026	2.3943	-0.6215
42	1.4208	-0.0112	1.4208	-0.4507
E	0.0	0.0	0.0	0.0

Wire No. 9 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
43	-19.7002	4.2179	20.1467	167.9152
44	-19.1158	4.1487	19.5608	167.755
45	-18.5799	4.0676	19.02	167.6513
46	-17.9581	3.9608	18.3897	167.5621
47	-17.2372	3.8271	17.657	167.482
48	-16.4139	3.6665	16.8184	167.4082
49	-15.4888	3.4793	15.8747	167.3394
50	-14.4648	3.2665	14.8291	167.2747
51	-13.3464	3.029	13.6858	167.2134
52	-12.1391	2.7679	12.4507	167.1552
53	-10.85	2.485	11.1309	167.1001
54	-9.4893	2.1823	9.737	167.0485
55	-8.076	1.8642	8.2884	167.0018
56	-6.6637	1.5429	6.84	166.9634
57	-5.3787	1.2474	5.5214	166.9435
J	-4.245	0.9832	4.3573	166.9599

Wire No. 10 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-1.4089	0.3258	1.4461	166.9808
59	-0.8352	0.1921	0.857	167.0457
E	0.0	0.0	0.0	0.0

Wire No. 11 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-1.4089	0.3258	1.4461	166.9808
61	-0.8352	0.1921	0.857	167.0457
E	0.0	0.0	0.0	0.0

Wire No. 12 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-1.4271	0.3316	1.4651	166.9187
63	-0.8489	0.1966	0.8714	166.9641
E	0.0	0.0	0.0	0.0

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

Twr.	Ratio	Phase
1	0.541	-120.2
2	1.000	0.0
3	0.608	166.9

EXHIBIT III
METHOD OF MOMENTS ANALYSIS
DERIVATION OF WGNY NIGHTTIME BASE DRIVES

```
****************************************
                ACSModel
          (MININEC 3.1 Core)
      10-30-2009          14:23:56
****************************************

WGNY
Night Directional Antenna


Frequency = 1.220 MHz     Wavelength = 245.73770 Meters

No. of Wires: 12

Wire No. 1   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             0                        -1
 0             0             49.83697     0.2183       0             15

Wire No. 2   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
 3.39004       1.95724       44.24487     0.0125       0             2

Wire No. 3   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
-3.39004       1.95724       44.24487     0.0125       0             2

Wire No. 4   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             0             49.83697                  1
 0            -3.914481      44.24487     0.0125       0             2

Wire No. 5   Coordinates                                End         No.
of
   X             Y             Z          Radius     Connection
Segments
 0             61.43443      0                        -5
 0             61.43443      49.88134     0.2183       0             15
```

Wire No. 6	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 7	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
-3.39004	63.39167	44.28924	0.0125	0	2

Wire No. 8	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	61.43443	49.88134		5	
0	57.51994	44.28924	0.0125	0	2

Wire No. 9	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	0		-9	
0	122.8689	47.33181	0.2183	0	15

Wire No. 10	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 11	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
-3.39004	124.8261	41.73971	0.0125	0	2

Wire No. 12	Coordinates			End	No. of
X	Y	Z	Radius	Connection	Segments
0	122.8689	47.33181		9	
0	118.9544	41.73971	0.0125	0	2

**** ANTENNA GEOMETRY ****

Wire No. 1 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	0	0.2183	-1	1	1
0	0	3.322465	0.2183	1	1	2
0	0	6.644929	0.2183	1	1	3
0	0	9.967394	0.2183	1	1	4
0	0	13.28986	0.2183	1	1	5
0	0	16.61232	0.2183	1	1	6
0	0	19.93479	0.2183	1	1	7
0	0	23.25725	0.2183	1	1	8
0	0	26.57972	0.2183	1	1	9
0	0	29.90218	0.2183	1	1	10
0	0	33.22465	0.2183	1	1	11
0	0	36.54711	0.2183	1	1	12
0	0	39.86958	0.2183	1	1	13
0	0	43.19204	0.2183	1	1	14
0	0	46.51451	0.2183	1	0	15

Wire No. 2 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	2	16
1.69502	0.9786202	47.04092	0.0125	2	0	17

Wire No. 3 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	3	18
-1.69502	0.9786202	47.04092	0.0125	3	0	19

Wire No. 4 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	0	49.83697	0.0125	1	4	20
0	-1.95724	47.04092	0.0125	4	0	21

Wire No. 5 Coordinates				Connection		Pulse
X	Y	Z	Radius	End1	End2	No.
0	61.43443	0	0.2183	-5	5	22
0	61.43443	3.325423	0.2183	5	5	23
0	61.43443	6.650846	0.2183	5	5	24
0	61.43443	9.976268	0.2183	5	5	25
0	61.43443	13.30169	0.2183	5	5	26
0	61.43443	16.62711	0.2183	5	5	27
0	61.43443	19.95254	0.2183	5	5	28
0	61.43443	23.27796	0.2183	5	5	29
0	61.43443	26.60338	0.2183	5	5	30
0	61.43443	29.9288	0.2183	5	5	31
0	61.43443	33.25423	0.2183	5	5	32
0	61.43443	36.57965	0.2183	5	5	33
0	61.43443	39.90507	0.2183	5	5	34
0	61.43443	43.23049	0.2183	5	5	35
0	61.43443	46.55592	0.2183	5	0	36

Wire No. 6 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	6	37
1.69502	62.41305	47.08529	0.0125	6	0	38

Wire No. 7 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	7	39
-1.69502	62.41305	47.08529	0.0125	7	0	40

Wire No. 8 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	61.43443	49.88134	0.0125	5	8	41
0	59.47718	47.08529	0.0125	8	0	42

Wire No. 9 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	0	0.2183	-9	9	43
0	122.8689	3.155454	0.2183	9	9	44
0	122.8689	6.310908	0.2183	9	9	45
0	122.8689	9.466361	0.2183	9	9	46
0	122.8689	12.62182	0.2183	9	9	47
0	122.8689	15.77727	0.2183	9	9	48
0	122.8689	18.93272	0.2183	9	9	49
0	122.8689	22.08818	0.2183	9	9	50
0	122.8689	25.24363	0.2183	9	9	51
0	122.8689	28.39909	0.2183	9	9	52
0	122.8689	31.55454	0.2183	9	9	53
0	122.8689	34.71	0.2183	9	9	54
0	122.8689	37.86544	0.2183	9	9	55
0	122.8689	41.0209	0.2183	9	9	56
0	122.8689	44.17635	0.2183	9	0	57

Wire No. 10 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	10	58
1.69502	123.8475	44.53576	0.0125	10	0	59

Wire No. 11 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	11	60
-1.69502	123.8475	44.53576	0.0125	11	0	61

Wire No. 12 Coordinates

X	Y	Z	Radius	Connection End1	End2	Pulse No.
0	122.8689	47.33181	0.0125	9	12	62
0	120.9116	44.53576	0.0125	12	0	63

Sources: 3
Pulse No., Voltage Magnitude, Phase (Degrees): 1, 119.5, 58.8
Pulse No., Voltage Magnitude, Phase (Degrees): 22, 112.4, -87.5
Pulse No., Voltage Magnitude, Phase (Degrees): 43, 164.6, 116.6

Number of Loads: 0

```
********************    SOURCE DATA     ********************
Pulse  1      Voltage = (61.9012, 102.2154j)
              Current = (-2.461, 1.766j)
              Impedance = (3.071, -39.331j)
              Power = 14.09 Watts

Pulse  22     Voltage = (4.9889, -112.3003j)
              Current = (4.9805, -1.2748j)
              Impedance = (6.357, -20.921j)
              Power = 84.01 Watts

Pulse  43     Voltage = (-73.7719, 147.1034j)
              Current = (-4.3427, -1.0643j)
              Impedance = (8.194, -35.882j)
              Power = 81.9 Watts

Total Power = 180.000 Watts

********************    CURRENT DATA    ********************

Wire No.  1 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
 1            -2.461        1.766         3.0291        144.3361
 2            -2.3947       1.7248        2.9512        144.2361
 3            -2.3308       1.6829        2.8749        144.1704
 4            -2.2549       1.6315        2.7832        144.113
 5            -2.1654       1.5697        2.6745        144.0607
 6            -2.0622       1.4976        2.5486        144.0116
 7            -1.9454       1.4152        2.4057        143.965
 8            -1.8156       1.323         2.2465        143.9203
 9            -1.6734       1.2213        2.0717        143.8771
 10           -1.5196       1.1108        1.8823        143.8353
 11           -1.3553       0.9921        1.6796        143.7951
 12           -1.1817       0.8662        1.4652        143.7567
 13           -1.0011       0.7348        1.2419        143.7212
 14           -0.8198       0.6024        1.0174        143.6913
 15           -0.6546       0.4813        0.8125        143.6748
J             -0.5104       0.3751        0.6334        143.6866

Wire No.  2 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             -0.171        0.1254        0.212         143.7379
 17           -0.1018       0.0746        0.1262        143.7924
E             0.0           0.0           0.0           0.0

Wire No.  3 :
Pulse         Real          Imaginary     Magnitude     Phase
 No.          (Amps)        (Amps)        (Amps)        (Degrees)
J             -0.171        0.1254        0.212         143.7379
 19           -0.1018       0.0746        0.1262        143.7924
E             0.0           0.0           0.0           0.0
```

Wire No. 4 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.1685	0.1243	0.2094	143.5826
21	-0.1	0.0737	0.1242	143.5987
E	0.0	0.0	0.0	0.0

Wire No. 5 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
22	4.9805	-1.2748	5.1411	-14.3574
23	4.8984	-1.2724	5.061	-14.5615
24	4.8006	-1.2587	4.9629	-14.6918
25	4.6713	-1.2344	4.8316	-14.8024
26	4.5092	-1.1998	4.6661	-14.9005
27	4.3144	-1.1552	4.4664	-14.9899
28	4.0878	-1.1009	4.2334	-15.0724
29	3.8304	-1.0371	3.9683	-15.1495
30	3.5437	-0.9643	3.6726	-15.222
31	3.2295	-0.8829	3.348	-15.2904
32	2.8898	-0.7935	2.9968	-15.3549
33	2.5273	-0.6969	2.6217	-15.4152
34	2.147	-0.5942	2.2278	-15.47
35	1.7621	-0.4892	1.8288	-15.5157
36	1.4085	-0.3917	1.462	-15.5407
J	1.097	-0.3047	1.1386	-15.5236

Wire No. 6 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.3662	-0.1011	0.3799	-15.4317
38	0.2173	-0.0596	0.2253	-15.3439
E	0.0	0.0	0.0	0.0

Wire No. 7 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.3662	-0.1011	0.3799	-15.4317
40	0.2173	-0.0596	0.2253	-15.3439
E	0.0	0.0	0.0	0.0

Wire No. 8 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	0.3646	-0.1025	0.3787	-15.7081
42	0.2161	-0.0607	0.2244	-15.6934
E	0.0	0.0	0.0	0.0

Wire No. 9 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
43	-4.3427	-1.0643	4.4712	-166.2297
44	-4.247	-1.0207	4.3679	-166.4859
45	-4.1487	-0.9847	4.264	-166.6476
46	-4.0272	-0.9458	4.1367	-166.7832
47	-3.8804	-0.9029	3.984	-166.9015
48	-3.708	-0.8556	3.8054	-167.007
49	-3.5104	-0.8039	3.6013	-167.1023
50	-3.2884	-0.7478	3.3723	-167.1888
51	-3.0428	-0.6875	3.1196	-167.2678
52	-2.7751	-0.6234	2.8443	-167.34
53	-2.4868	-0.5556	2.5481	-167.4057
54	-2.1801	-0.4847	2.2333	-167.465
55	-1.8594	-0.4116	1.9044	-167.5168
56	-1.5369	-0.3391	1.5739	-167.558
57	-1.2417	-0.2735	1.2715	-167.5786
J	-0.9792	-0.216	1.0028	-167.5622

Wire No. 10 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.3253	-0.0724	0.3333	-167.4494
59	-0.1924	-0.0432	0.1971	-167.3567
E	0.0	0.0	0.0	0.0

Wire No. 11 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.3253	-0.0724	0.3333	-167.4494
61	-0.1924	-0.0432	0.1971	-167.3567
E	0.0	0.0	0.0	0.0

Wire No. 12 :

Pulse No.	Real (Amps)	Imaginary (Amps)	Magnitude (Amps)	Phase (Degrees)
J	-0.3286	-0.0711	0.3362	-167.7856
63	-0.1949	-0.0422	0.1994	-167.792
E	0.0	0.0	0.0	0.0

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

Twr.	Ratio	Phase
1	0.589	158.7
2	1.000	0.0
3	0.870	-151.9

WGNY
10 KW Day
Reference Field Strength Measurements
MOM Proof
May 2, 2009

Radial	Point	Time	Distance	Field (mV/m)	Coordinates (WGS84)		Description
0.5	1	10:58 AM	1.81	73	41° 32' 50.4"	-74° 6' 46.4"	South side of South St, 125' west of Smith Ave
	2	11:02 AM	1.94	85	41° 32' 54.7"	-74° 6' 46.3"	East side of Valley Ave, even with front of house on east side of Valley facing First St
	3	11:07 AM	2.28	49	41° 33' 5.6"	-74° 6' 46.2"	South side of Third Ave, opposite stub driveway behind house on east corner of Rose Estates Rd
53	1	11:14 AM	1.96	102	41° 32' 30"	-74° 5' 39.4"	North side of Gardnertown Road, 25' west of west driveway of #750.
	2	11:22 AM	3.36	36	41° 32' 57.4"	-74° 4' 50.7"	West side of Hickory Hill Road, near dead end, at mailbox to #165.
	3	11:33 AM	3.66	32	41° 33' 3.2"	-74° 4' 40.4"	West side of Union Avenue, at south edge of driveway to #1299
127	1	11:58 AM	2.22	82	41° 31' 8.6"	-74° 5' 30.3"	West side of Fletcher Drive N, at south end of overpass over US 84.
	2	12:01 PM	2.6	36	41° 31' 1"	-74° 5' 17.1"	10' from far dead end of Fletcher Drive, 15' east of mailboxes for #1 & 2
	3	12:12 PM	5.1	22	41° 30' 12.5"	-74° 3' 50.9"	East edge of HSBC Bank driveway, opposite east door to building.
179.5	1	12:21 PM	1.69	81	41° 30' 57.2"	-74° 6' 46.4"	Northwest side Governor Drive, 40' north of fireplug (which also has fireplug directly across the street).
	2	12:25 PM	2.14	77	41° 30' 42.4"	-74° 6' 46.2"	Turnoff at sharp curve of Enterprise Drive, "no parking"
	3	12:27 PM	2.56	64	41° 30' 28.9"	-74° 6' 45.9"	Trailer parking lot off Cargo Drive, 20' south of Cargo Drive,30' east of Enterprise Drive
270	1	12:58 PM	2.62	315	41° 31' 51.8"	-74° 8' 40.3"	West side Brown's Road, at stone wall between #333 and #329
	2	1:08 PM	3.43	120	41° 31' 50.5"	-74° 9' 15.4"	West side Coldenham Road, 100' south of high tension line, opposite garage of #444
	3	1:15 PM	5.29	52	41° 31' 51.8"	-74° 10' 35.8"	West side Berea Rd, opposite cemetary entrance, at driveway.

FIM 41 SN 748

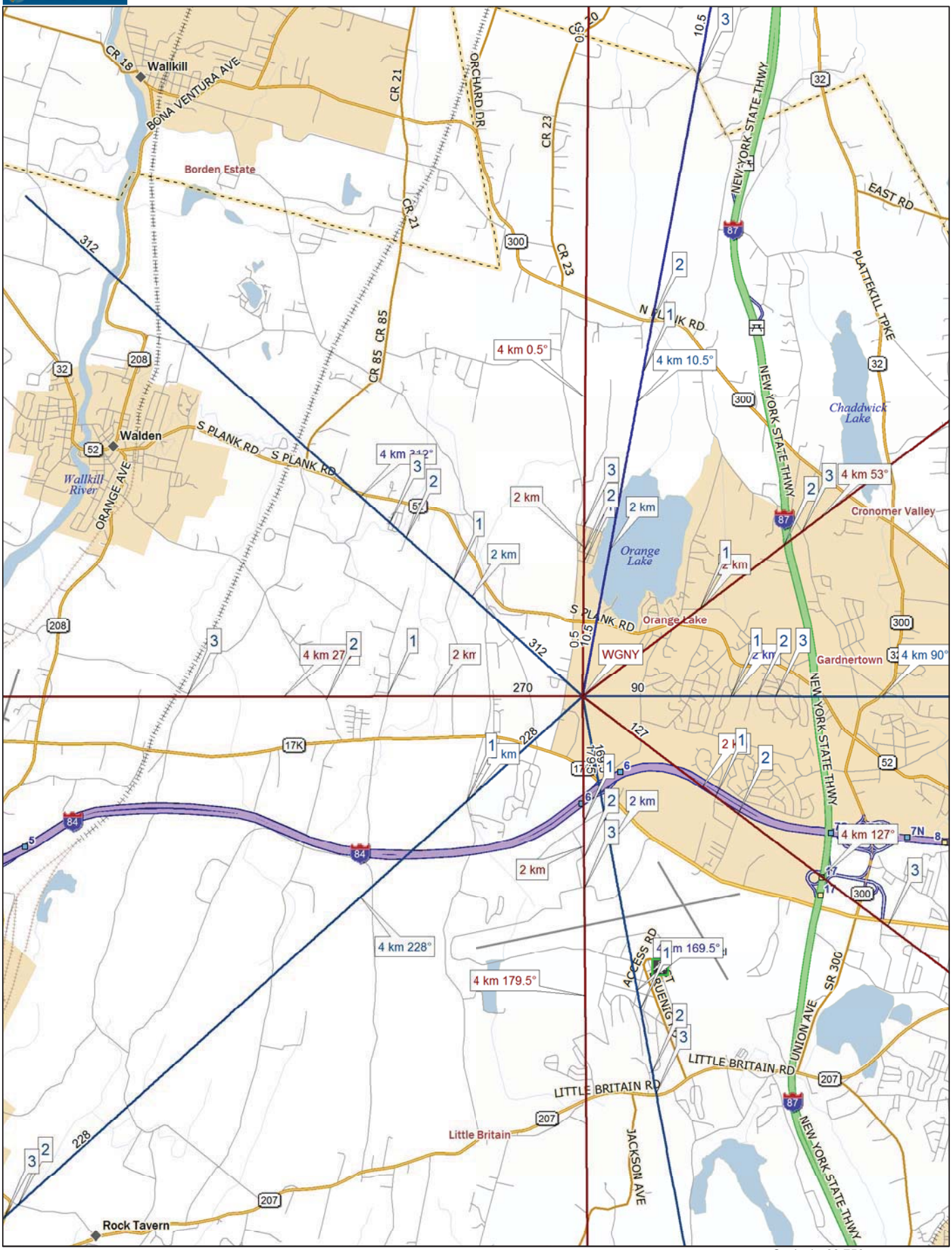
EXHIBIT IV PAGE 1

WGNY
.180 KW Night
Reference Field Strength Measurements
MOM Proof
May 2, 2009

Radial	Point	Time	Distance	Field (mV/m)	Coordinates (WGS84)		Description
10.5	1	3:39 PM	4.43	2.85	41° 34' 13.1"	-74° 6' 11.7"	East edge of dead end turnaround of Greenshire Way
	2	3:42 PM	5.11	1.8	41° 34' 34.8"	-74° 6' 6.7"	South side Rt 300, 200' west of Mandy Lane
	3	3:49 PM	8.44	0.38	41° 36' 20.7"	-74° 5' 40.3"	East side Quaker St, on curve, at drive into field on
90	1	3:10 PM	1.98	52	41° 31' 51.9"	-74° 5' 21.4"	West side Delaware Road, at hedge between #40 &
	2	3:15 PM	2.32	51	41° 31' 51.8"	-74° 5' 6.7"	Southwest corner Wesley and Angelina.
	3	3:18 PM	2.58	42	41° 31' 51.9"	-74° 4' 55.5"	East side Meadow Wind Lane opposite Wesley Ct.
169.5	1	2:48 PM	4.25	1.6	41° 29' 36.5"	-74° 6' 13.6"	South side World Trade Way, opposite yard between ends of buildings 1602
	2	2:44 PM	5.1	0.9	41° 29' 9.3"	-74° 6' 6.8"	South side of Avenue of the Americas, at the north entrance of #555 Hudwon Valley Avenue
	3	2:41 PM	5.39	1	41° 29' 0.2"	-74° 6' 4.6"	Southeast corner Medical Center of New Windsor parking lot, in the bulge toward Rt 207.
228	1	2:03 PM	2.1	0.88	41° 31' 6.4"	-74° 7' 54.6"	West side Drury Lane, 40' south of driveway #615
	2	2:21 PM	10.16	0.078	41° 28' 11.5"	-74° 12' 13.4"	South side of Forester Road, at pond.
	3	2:24 PM	10.39	0.068	41° 28' 6.5"	-74° 12' 21.1"	West side Rt 208,20' south of driveway #3640
312	1	1:41 PM	2.32	2.3	41° 32' 42.2"	-74° 8' 1.8"	East side Stone Castle Road, 30' south of Cranesville Block Company driveway.
	2	1:47 PM	3.18	1	41° 33' 0.7"	-74° 8' 29.3"	Van Wert Lane at driveway #48.
	3	1:51 PM	3.47	0.77	41° 33' 7.1"	-74° 8' 38.6"	East side Mark Twain Drive, 20' north of Robert Frost Lane.

FIM 41 SN 748

EXHIBIT IV PAGE 2



TN
MN (13.3°W)

Scale 1 : 68,750
1" = 1.09 mi
Data Zoom 11-5

Figure 1

WGNY TOWER #1

```
WCAP - WGNY-1

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     27.5307 ∠   16.1692° V
Node:   2     26.5718 ∠   16.7697° V
Node:   3     42.1062 ∠  -52.8267° V
```

	WCAP PART		CURRENT IN	CURRENT OUT

	WCAP PART		BRANCH VOLTAGE	BRANCH CURRENT
R	1>2	1.00000000	1.00 ∠ 0.000° V	1.00 ∠ 0.000° A
L	2>3	5.37700000	41.22 ∠ 90.000° V	1.00 ∠ 0.000° A
C	3>0	0.00008500	42.11 ∠ -52.827° V	0.03 ∠ 37.173° A
R	3>0	26.58400000	42.11 ∠ -52.827° V	0.98 ∠ -0.971° A

	WCAP PART		FROM IMPEDANCE	TO IMPEDANCE
R	1>2	1.00000000	26.44 + j 7.667	25.44 + j 7.667
L	2>3	5.37700000	25.44 + j 7.667	25.44 - j 33.551
C	3>0	0.00008500	0.00 - j 1534.763	0.00 + j 0.000
R	3>0	26.58400000	26.58 - j 33.850	0.00 + j 0.000

```
WCAP INPUT DATA:
      1.2200       0.00500000   1
I        1.00000000   0   1       0.00000000
R        1.00000000   1   2       0.00000000
L        5.37700000   2   3       0.00000000
C        0.00008500   3   0
R       26.58400000   3   0     -33.85000000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

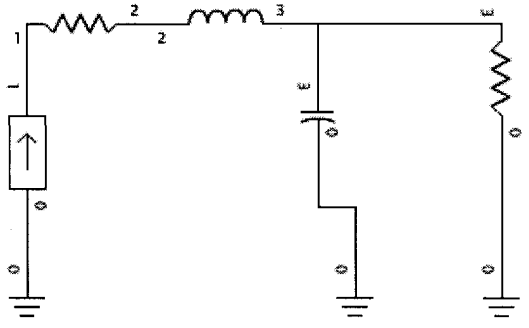


Figure 2

WGNY TOWER #2

```
WCAP - WGNY-2

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     27.0467 ∠    9.4311° V
Node:   2     26.0607 ∠    9.7914° V
Node:   3     42.3547 ∠  -52.6751° V
```

	WCAP PART		CURRENT IN	CURRENT OUT
	WCAP PART		BRANCH VOLTAGE	BRANCH CURRENT
R	1>2	1.00000000	1.00 ∠ 0.000° V	1.00 ∠ 0.000° A
L	2>3	4.97200000	38.11 ∠ 90.000° V	1.00 ∠ 0.000° A
C	3>0	0.00002000	42.35 ∠ -52.675° V	0.01 ∠ 37.325° A
R	3>0	25.94800000	42.35 ∠ -52.675° V	0.99 ∠ -0.227° A

	WCAP PART		FROM IMPEDANCE	TO IMPEDANCE
R	1>2	1.00000000	26.68 + j 4.432	25.68 + j 4.432
L	2>3	4.97200000	25.68 + j 4.432	25.68 - j 33.681
C	3>0	0.00002000	0.00 - j 6522.744	0.00 + j 0.000
R	3>0	25.94800000	25.95 - j 33.753	0.00 + j 0.000

```
WCAP INPUT DATA:
      1.2200       0.00500000   1
I        1.00000000   0   1       0.00000000
R        1.00000000   1   2       0.00000000
L        4.97200000   2   3       0.00000000
C        0.00002000   3   0
R       25.94800000   3   0     -33.75300000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

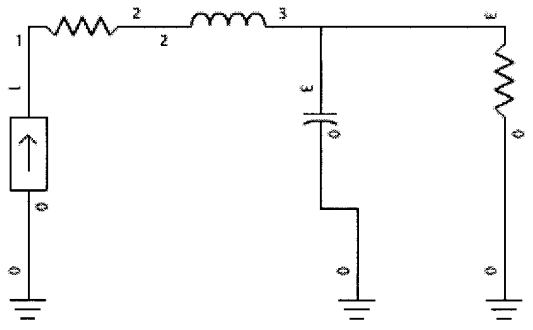


Figure 3

WGNY TOWER #3

```
WCAP - WGNY-3

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     23.8090 ∠    7.4485° V
Node:   2     22.8178 ∠    7.7741° V
Node:   3     57.0094 ∠  -66.6362° V

    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000     1.00 ∠     0.000° V     1.00 ∠     0.000° A
L    2>3       7.23000000    55.42 ∠    90.000° V     1.00 ∠     0.000° A
C    3>0       0.00002000    57.01 ∠   -66.636° V     0.01 ∠    23.364° A
R    3>0      22.97500000    57.01 ∠   -66.636° V     0.99 ∠    -0.200° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000    23.61 + j      3.086     22.61 + j      3.086
L    2>3       7.23000000    22.61 + j      3.086     22.61 - j     52.335
C    3>0       0.00002000     0.00 - j   6522.744      0.00 + j      0.000
R    3>0      22.97500000    22.98 - j     52.678      0.00 + j      0.000


WCAP INPUT DATA:
      1.2200       0.00500000   1
I       1.00000000   0   1       0.00000000
R       1.00000000   1   2       0.00000000
L       7.23000000   2   3       0.00000000
C       0.00002000   3   0
R      22.97500000   3   0     -52.67800000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

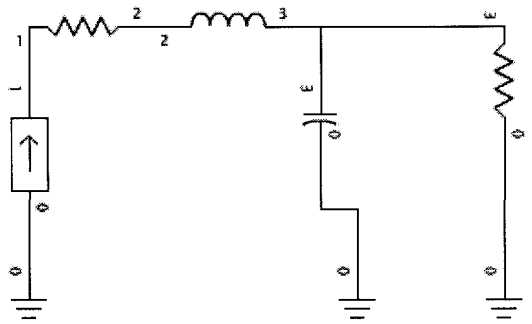


Figure 4

WGNY TOWER #1 DAY

```
WCAP - WGNY-1 DAY DA

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     48.1792 ∠   63.8260° V
Node:   2     47.7465 ∠   64.9030° V
Node:   3     20.3524 ∠    5.7004° V

    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000      1.00 ∠     0.000° V     1.00 ∠     0.000° A
L    2>3       5.37700000     41.22 ∠    90.000° V     1.00 ∠     0.000° A
C    3>0       0.00008500     20.35 ∠     5.700° V     0.01 ∠    95.700° A
R    3>0      20.19500000     20.35 ∠     5.700° V     1.00 ∠    -0.755° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000     21.25 + j     43.239     20.25 + j     43.239
L    2>3       5.37700000     20.25 + j     43.239     20.25 + j      2.022
C    3>0       0.00008500      0.00 - j   1534.763      0.00 + j      0.000
R    3>0      20.19500000     20.20 + j      2.285      0.00 + j      0.000


WCAP INPUT DATA:
      1.2200       0.00500000   1
I       1.00000000   0   1       0.00000000
R       1.00000000   1   2       0.00000000
L       5.37700000   2   3       0.00000000
C       0.00008500   3   0
R      20.19500000   3   0       2.28500000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

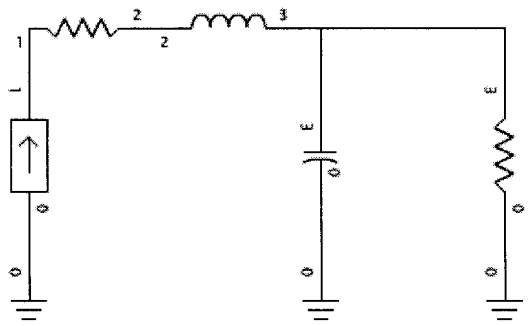


Figure 5

WGNY TOWER #2 DAY

```
WCAP - WGNY-2 DAY DA

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     14.8618 ∠   40.4147° V
Node:   2     14.1153 ∠   43.0472° V
Node:   3     30.2883 ∠  -70.0883° V

    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2        1.00000000      1.00 ∠     0.000° V     1.00 ∠     0.000° A
L    2>3        4.97200000     38.11 ∠    90.000° V     1.00 ∠     0.000° A
C    3>0        0.00002000     30.29 ∠   -70.088° V     0.00 ∠    19.912° A
R    3>0       10.40600000     30.29 ∠   -70.088° V     1.00 ∠    -0.091° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2        1.00000000     11.32 + j      9.635     10.32 + j      9.635
L    2>3        4.97200000     10.32 + j      9.635     10.32 - j     28.478
C    3>0        0.00002000      0.00 - j   6522.744      0.00 + j      0.000
R    3>0       10.40600000     10.41 - j     28.586      0.00 + j      0.000


WCAP INPUT DATA:
      1.2200       0.00500000   1
I       1.00000000   0   1       0.00000000
R       1.00000000   1   2       0.00000000
L       4.97200000   2   3       0.00000000
C       0.00002000   3   0
R      10.40600000   3   0     -28.58600000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

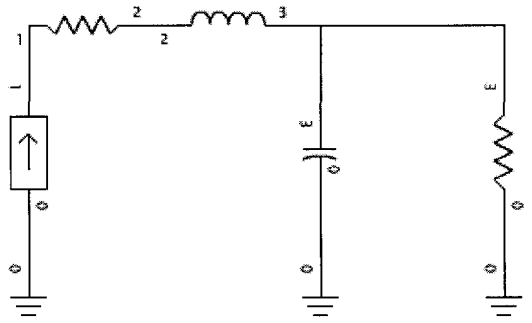


Figure 6

WGNY TOWER #3 DAY

```
WCAP - WGNY-3 DAY DA

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     10.5814 ∠   55.4523° V
Node:   2     10.0481 ∠   60.1542° V
Node:   3     46.9730 ∠  -83.8889° V


    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                      BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000      1.00 ∠     0.000° V     1.00 ∠     0.000° A
L    2>3       7.23000000     55.42 ∠    90.000° V     1.00 ∠     0.000° A
C    3>0       0.00002000     46.97 ∠   -83.889° V     0.01 ∠     6.111° A
R    3>0       5.07300000     46.97 ∠   -83.889° V     0.99 ∠    -0.044° A

    WCAP PART                      FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000      6.00 + j      8.715     5.00 + j      8.715
L    2>3       7.23000000      5.00 + j      8.715     5.00 - j     46.706
C    3>0       0.00002000     -0.00 - j   6522.744     0.00 + j      0.000
R    3>0       5.07300000      5.07 - j     47.039     0.00 + j      0.000


WCAP INPUT DATA:
      1.2200       0.00500000   1
I        1.00000000   0   1       0.00000000
R        1.00000000   1   2       0.00000000
L        7.23000000   2   3       0.00000000
C        0.00002000   3   0
R        5.07300000   3   0     -47.03900000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

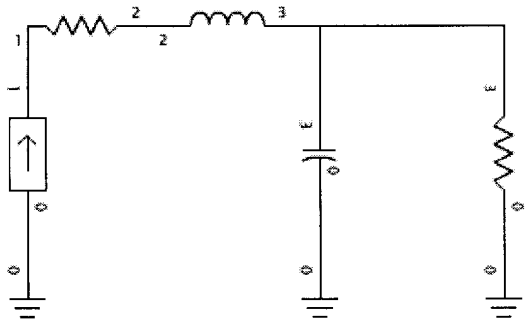


Figure 7

WGNY TOWER #1 NIGHT

```
WCAP - WGNY-1 NIGHT DA

WCAP OUTPUT AT FREQUENCY: 1.220 MHz


NODE VOLTAGES
Node:   1      4.8540 ∠   36.1502° V
Node:   2      4.0893 ∠   44.4444° V
Node:   3     38.4649 ∠  -85.6471° V


    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000     1.00 ∠     0.000° V    1.00 ∠     0.000° A
L    2>3       5.37700000    41.22 ∠    90.000° V    1.00 ∠     0.000° A
C    3>0       0.00008500    38.46 ∠   -85.647° V    0.03 ∠     4.353° A
R    3>0       3.07100000    38.46 ∠   -85.647° V    0.98 ∠    -0.112° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000     3.92 + j      2.863    2.92 + j      2.863
L    2>3       5.37700000     2.92 + j      2.863    2.92 - j     38.354
C    3>0       0.00008500     0.00 - j   1534.763    0.00 + j      0.000
R    3>0       3.07100000     3.07 - j     39.331    0.00 + j      0.000


WCAP INPUT DATA:
      1.2200       0.00500000   1
I        1.00000000   0   1       0.00000000
R        1.00000000   1   2       0.00000000
L        5.37700000   2   3       0.00000000
C        0.00008500   3   0
R        3.07100000   3   0     -39.33100000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

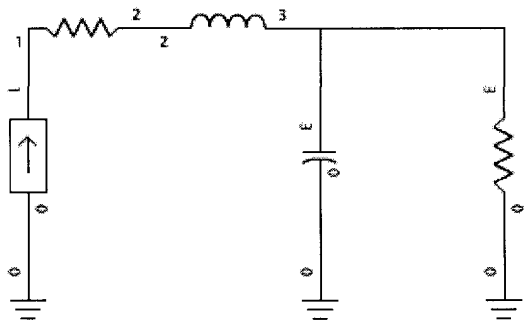


Figure 8

WGNY TOWER #2 NIGHT

```
WCAP - WGNY-2 NIGHT DA

WCAP OUTPUT AT FREQUENCY: 1.220 mHz

NODE VOLTAGES
Node:   1     18.7398 ∠   67.0193° V
Node:   2     18.3725 ∠   69.8916° V
Node:   3     21.7956 ∠  -73.1539° V

    WCAP PART                    CURRENT IN              CURRENT OUT


    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000      1.00 ∠     0.000° V     1.00 ∠     0.000° A
L    2>3       4.97200000     38.11 ∠    90.000° V     1.00 ∠     0.000° A
C    3>0       0.00002000     21.80 ∠   -73.154° V     0.00 ∠    16.846° A
R    3>0       6.35700000     21.80 ∠   -73.154° V     1.00 ∠    -0.056° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000      7.32 + j     17.253     6.32 + j     17.253
L    2>3       4.97200000      6.32 + j     17.253     6.32 - j     20.860
C    3>0       0.00002000      0.00 - j   6522.744     0.00 + j      0.000
R    3>0       6.35700000      6.36 - j     20.921     0.00 + j      0.000


WCAP INPUT DATA:
      1.2200      0.00500000   1
I        1.00000000   0   1      0.00000000
R        1.00000000   1   2      0.00000000
L        4.97200000   2   3      0.00000000
C        0.00002000   3   0
R        6.35700000   3   0    -20.92100000
```

Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz

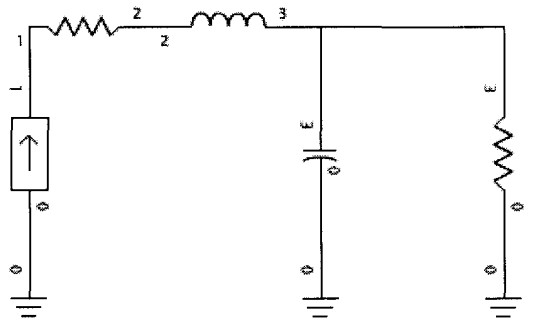


Figure 9

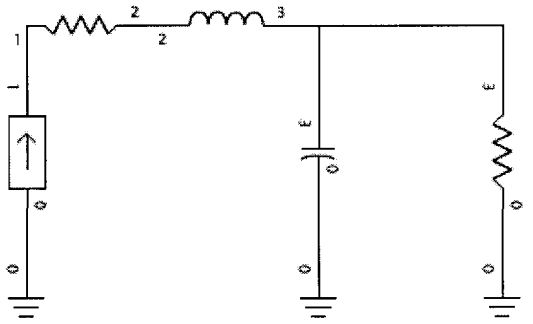
WGNY TOWER #3 NIGHT

```
WCAP - WGNY-3 NIGHT DA

WCAP OUTPUT AT FREQUENCY: 1.220 mHz


NODE VOLTAGES
Node:   1     21.7254 ∠   65.2238° V
Node:   2     21.3257 ∠   67.6640° V
Node:   3     36.6043 ∠  -77.2081° V

    WCAP PART                    CURRENT IN              CURRENT OUT

    WCAP PART                    BRANCH VOLTAGE          BRANCH CURRENT
R    1>2       1.00000000     1.00 ∠     0.000° V    1.00 ∠     0.000° A
L    2>3       7.23000000    55.42 ∠    90.000° V    1.00 ∠     0.000° A
C    3>0       0.00002000    36.60 ∠   -77.208° V    0.01 ∠    12.792° A
R    3>0       8.19400000    36.60 ∠   -77.208° V    0.99 ∠    -0.072° A


    WCAP PART                    FROM IMPEDANCE          TO IMPEDANCE
R    1>2       1.00000000     9.10 + j     19.726    8.10 + j     19.726
L    2>3       7.23000000     8.10 + j     19.726    8.10 - j     35.696
C    3>0       0.00002000     0.00 - j   6522.744    0.00 + j      0.000
R    3>0       8.19400000     8.19 - j     35.882    0.00 + j      0.000


WCAP INPUT DATA:
      1.2200      0.00500000   1
I       1.00000000   0   1      0.00000000
R       1.00000000   1   2      0.00000000
L       7.23000000   2   3      0.00000000
C       0.00002000   3   0
R       8.19400000   3   0    -35.88200000
```

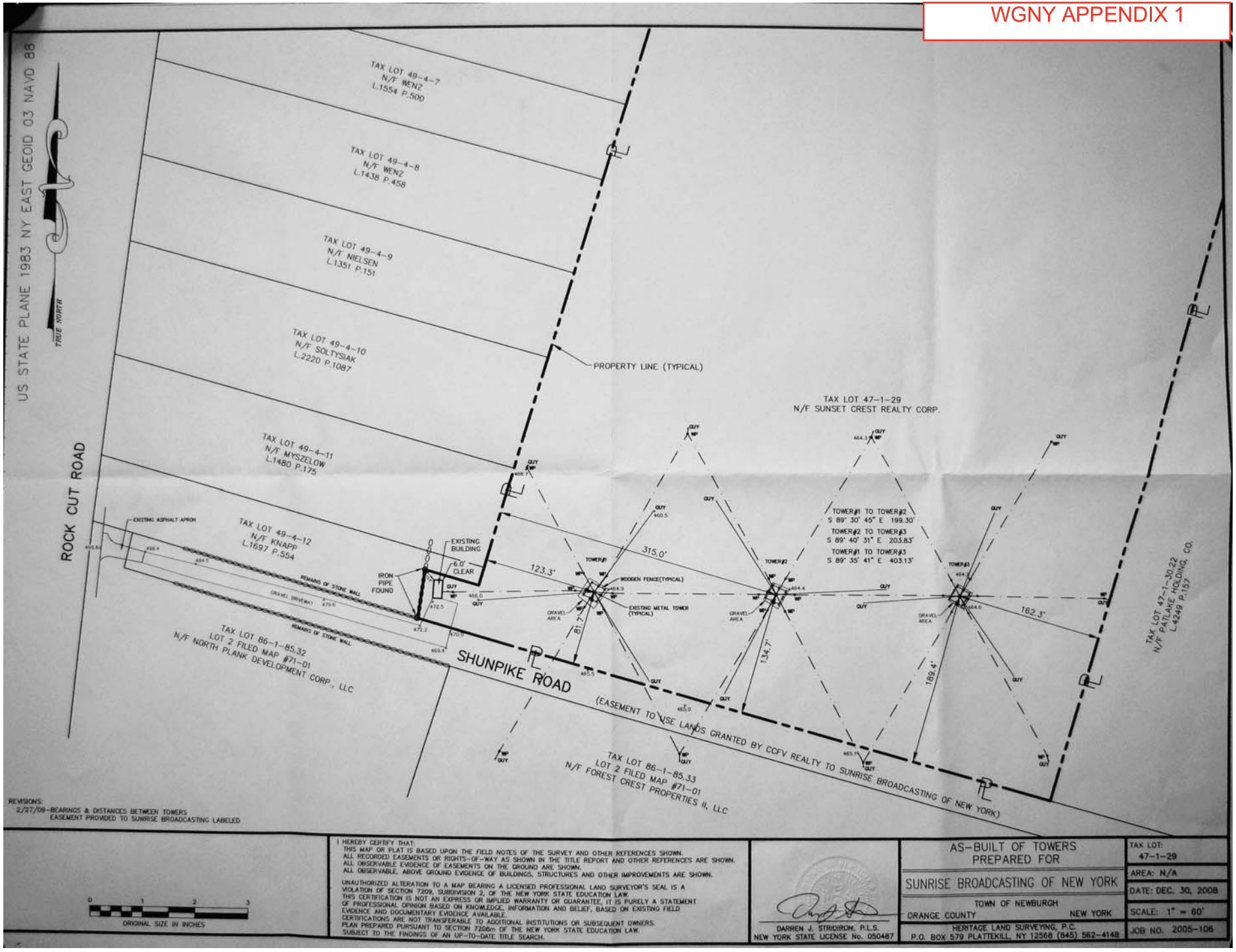
Center Frequency: 1.22 MHz

Frequency Range: ±0 kHz

Frequency Step: 5 kHz



WGNY APPENDIX 1



APPENDIX 2

SUPPLEMENTAL METHOD OF MOMENTS ANALYSIS

WGNY-AM DAYTIME ANTENNA SYSTEM

EMPLOYING Westberg Consulting Phasor Professional 2.1.1.12

OCTOBER 30, 2009

The following computations are offered as a supplemental to the ACS Model calculations in Exhibit II to demonstrate the extremely close agreement between the methodologies. Phasor Professional does not allow for implementation of top loading so the ACS model physical tower heights were employed plus a 4 meter extension to allow for the top loading wires. The resistive component of the self impedance for towers 1 and 2 agree to within 1% of the ACS model values. The resistive component for tower # 3 agrees to within 1.3% of the ACS model value. The daytime base operating parameters depicted on page 4 are the same as computed by the ACS Model.

STATION INFORMATION		
Call Letters	No. Towers	Frequency
WGNY	3	1.2200

TOWER INFORMATION						
	Tower Height (°)	Spacing (°)	Orientation	Face Width (in.)	Radius (in.)	Velocity Factor
Tower 1	79.0100	0.0000	0.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000
Tower 2	79.0800	90.0000	90.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000
Tower 3	75.3400	180.0000	90.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000

MATRIX INFORMATION		
	Impedance (other towers open)	Impedance (other towers shorted)
Tower 1	26.77 - j37.58	22.41 - j36.74
Tower 2	26.17 - j37.46	15.67 - j35.17
Tower 3	23.27 - j56.38	19.91 - j57.68

DETUNED TOWER CURRENTS
Tower 1
0.000000 > 0.000000 - 79.01° above ground
0.121106 > -123.696510 - 69.13° above ground
0.177776 > -124.609493 - 59.26° above ground

0.187346 > -125.653109 - 49.38° above ground
0.148464 > -127.093937 - 39.51° above ground
0.059119 > -131.568872 - 29.63° above ground
0.085052 > 57.933419 - 19.75° above ground
0.288496 > 54.319092 - 9.88° above ground
0.640118 > 52.980151 - 0.00° above ground

Tower 2
0.000000 > 0.000000 - 79.08° above ground
0.121266 > -123.630844 - 69.19° above ground
0.178024 > -124.555878 - 59.31° above ground
0.187620 > -125.616757 - 49.42° above ground
0.148696 > -127.085589 - 39.54° above ground
0.059237 > -131.653050 - 29.66° above ground
0.085171 > 58.047940 - 19.77° above ground
0.288925 > 54.353453 - 9.89° above ground
0.641073 > 52.982404 - 0.00° above ground

Tower 3
0.000000 > 0.000000 - 75.34° above ground
0.076551 > 153.124401 - 65.92° above ground
0.110809 > 153.638793 - 56.50° above ground
0.115138 > 154.177523 - 47.09° above ground
0.089578 > 154.892015 - 37.67° above ground
0.033633 > 157.223238 - 28.25° above ground
0.054287 > -27.467178 - 18.83° above ground
0.177084 > -25.836674 - 9.42° above ground
0.388596 > -25.215824 - -0.00° above ground

ZMatrix		
26.77 - j37.58	14.04 - j12.05	-5.63 - j10.16
14.04 - j12.05	26.17 - j37.46	13.13 - j11.19
-5.63 - j10.16	13.13 - j11.19	23.27 - j56.38

YMatrix

0.012099 + j0.019839	-0.000587 - j0.009148	-0.005424 + j0.001825
-0.000587 - j0.009148	0.010566 + j0.023725	0.001833 - j0.006338
-0.005424 + j0.001825	0.001833 - j0.006338	0.005348 + j0.015490

HMatrix - [I] = [H] X [F]		
0.029874 + j0.001440	0.000547 + j0.000804	0.000591 - j0.000245
0.000548 + j0.000805	0.029831 + j0.001442	0.000552 + j0.000808
0.000545 - j0.000225	0.000513 + j0.000745	0.032186 + j0.001337

HMatrix-inverse - [F] = $[H]^{-1}$ X [I]		
33.396150 - j1.586769	-0.676828 - j0.828918	-0.596404 + j0.339600
-0.678006 - j0.829984	33.428428 - j1.553835	-0.625656 - j0.776546
-0.550293 + j0.312601	-0.581016 - j0.715067	31.016347 - j1.271137

TOWER CURRENTS
Mode 1
Tower 1
0.000000 > 0.000000 - 79.01° above ground
3.126791 > -123.454614 - 69.13° above ground
5.586058 > -123.228654 - 59.26° above ground
7.733606 > -122.971812 - 49.38° above ground
9.551251 > -122.668633 - 39.51° above ground
11.009591 > -122.302040 - 29.63° above ground
12.078341 > -121.846035 - 19.75° above ground
12.733595 > -121.258415 - 9.88° above ground
12.964229 > -120.239360 - 0.00° above ground
Tower 2
0.000000 > 0.000000 - 79.08° above ground
5.227961 > -2.133492 - 69.19° above ground
9.425926 > -1.915028 - 59.31° above ground
13.177137 > -1.690980 - 49.42° above ground
16.449014 > -1.452814 - 39.54° above ground
19.190718 > -1.192765 - 29.66° above ground
21.352349 > -0.898806 - 19.77° above ground
22.900060 > -0.551557 - 9.89° above ground
23.978742 > 0.000000 - 0.00° above ground

Tower 3
0.000000 > 0.000000 - 75.34° above ground
3.033548 > 165.766912 - 65.92° above ground
5.473794 > 165.884519 - 56.50° above ground
7.671557 > 166.003528 - 47.09° above ground
9.612734 > 166.128084 - 37.67° above ground
11.272524 > 166.261665 - 28.25° above ground
12.626811 > 166.409682 - 18.83° above ground
13.661806 > 166.580671 - 9.42° above ground
14.525493 > 166.846240 - -0.00° above ground

FIELD INFORMATION - DAY		
	Field Ratio	Field Phase
Tower 1	0.5700	-121.0000
Tower 2	1.0000	0.0000
Tower 3	0.5620	167.4000

TOWER DRIVE INFORMATION - DAY					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 1	0.5700	-121.0000	20.21 - j1.23	12.96 ∠ -120.24 (0.541)	3396.9572
Tower 2	1.0000	0.0000	10.52 - j32.33	23.98 ∠ 0.00 (1.0)	6048.1279
Tower 3	0.5620	167.4000	5.14 - j50.79	14.53 ∠ 166.85 (0.606)	1084.9149

APPENDIX 2 CONTINUED

SUPPLEMENTAL METHOD OF MOMENTS ANALYSIS

WGNY-AM NIGHTTIME ANTENNA SYSTEM

EMPLOYING Westberg Consulting Phasor Professional 2.1.1.12

OCTOBER 30, 2009

The following computations are offered as a supplemental to the ACS Model calculations in Exhibit II to demonstrate the extremely close agreement between the methodologies. Phasor Professional does not allow for implementation of top loading so the ACS model physical tower heights were employed plus a 4 meter extension to allow for the top loading wires. The resistive component of the self impedance for towers 1 and 2 agree to within 1% of the ACS model values. The resistive component for tower # 3 agrees to within 1.3% of the ACS model value. The nighttime base operating parameters depicted on page 8 are the same as computed by the ACS Model.

STATION INFORMATION		
Call Letters	No. Towers	Frequency
WGNY	3	1.2200

TOWER INFORMATION						
	Tower Height (°)	Spacing (°)	Orientation	Face Width (in.)	Radius (in.)	Velocity Factor
Tower 1	79.0100	0.0000	0.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000
Tower 2	79.0800	90.0000	90.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000
Tower 3	75.3400	180.0000	90.0000	18.0000 / 18.0000	8.3138 / 8.3138	1.000000

MATRIX INFORMATION		
	Impedance (other towers open)	Impedance (other towers shorted)
Tower 1	26.77 - j37.58	22.41 - j36.74
Tower 2	26.17 - j37.46	15.67 - j35.17
Tower 3	23.27 - j56.38	19.91 - j57.68

DETUNED TOWER CURRENTS
Tower 1
0.000000 > 0.000000 - 79.01° above ground
0.016480 > -123.696510 - 69.13° above ground
0.024192 > -124.609493 - 59.26° above ground

0.025495 > -125.653109 - 49.38° above ground
0.020203 > -127.093937 - 39.51° above ground
0.008045 > -131.568872 - 29.63° above ground
0.011574 > 57.933419 - 19.75° above ground
0.039259 > 54.319092 - 9.88° above ground
0.087109 > 52.980151 - 0.00° above ground

Tower 2
0.000000 > 0.000000 - 79.08° above ground
0.016502 > -123.630844 - 69.19° above ground
0.024226 > -124.555878 - 59.31° above ground
0.025532 > -125.616757 - 49.42° above ground
0.020235 > -127.085589 - 39.54° above ground
0.008061 > -131.653050 - 29.66° above ground
0.011590 > 58.047940 - 19.77° above ground
0.039318 > 54.353453 - 9.89° above ground
0.087239 > 52.982404 - 0.00° above ground

Tower 3
0.000000 > 0.000000 - 75.34° above ground
0.010417 > 153.124401 - 65.92° above ground
0.015079 > 153.638793 - 56.50° above ground
0.015668 > 154.177523 - 47.09° above ground
0.012190 > 154.892015 - 37.67° above ground
0.004577 > 157.223238 - 28.25° above ground
0.007388 > -27.467178 - 18.83° above ground
0.024098 > -25.836674 - 9.42° above ground
0.052881 > -25.215824 - -0.00° above ground

ZMatrix		
26.77 - j37.58	14.04 - j12.05	-5.63 - j10.16
14.04 - j12.05	26.17 - j37.46	13.13 - j11.19
-5.63 - j10.16	13.13 - j11.19	23.27 - j56.38

YMatrix		
0.012099 + j0.019839	-0.000587 - j0.009148	-0.005424 + j0.001825
-0.000587 - j0.009148	0.010566 + j0.023725	0.001833 - j0.006338
-0.005424 + j0.001825	0.001833 - j0.006338	0.005348 + j0.015490

HMatrix - [I] = [H] X [F]		
0.029874 + j0.001440	0.000547 + j0.000804	0.000591 - j0.000245
0.000548 + j0.000805	0.029831 + j0.001442	0.000552 + j0.000808
0.000545 - j0.000225	0.000513 + j0.000745	0.032186 + j0.001337

HMatrix-inverse - [F] = $[H]^{-1}$ X [I]		
33.396150 - j1.586769	-0.676828 - j0.828918	-0.596404 + j0.339600

-0.678006 - j0.829984	33.428428 - j1.553835	-0.625656 - j0.776546
-0.550293 + j0.312601	-0.581016 - j0.715067	31.016347 - j1.271137

TOWER CURRENTS
Mode 1
Tower 1
0.000000 > 0.000000 - 79.01° above ground
0.465487 > 157.951197 - 69.13° above ground
0.842989 > 158.039728 - 59.26° above ground
1.183767 > 158.127692 - 49.38° above ground
1.484639 > 158.217242 - 39.51° above ground
1.740823 > 158.310101 - 29.63° above ground
1.947732 > 158.409354 - 19.75° above ground
2.102441 > 158.520312 - 9.88° above ground
2.223672 > 158.687304 - 0.00° above ground
Tower 2
0.000000 > 0.000000 - 79.08° above ground
0.841508 > -1.296265 - 69.19° above ground
1.514508 > -1.162239 - 59.31° above ground
2.113012 > -1.025511 - 49.42° above ground
2.631608 > -0.880805 - 39.54° above ground
3.061913 > -0.723338 - 29.66° above ground
3.395600 > -0.545654 - 19.77° above ground
3.626718 > -0.335589 - 9.89° above ground
3.771410 > 0.000000 - 0.00° above ground
Tower 3
0.000000 > 0.000000 - 75.34° above ground
0.711103 > -153.328857 - 65.92° above ground
1.277412 > -153.208519 - 56.50° above ground
1.782246 > -153.076935 - 47.09° above ground
2.222699 > -152.927793 - 37.67° above ground
2.593298 > -152.754852 - 28.25° above ground
2.888533 > -152.548782 - 18.83° above ground
3.104938 > -152.295140 - 9.42° above ground
3.267697 > -151.878066 - -0.00° above ground

FIELD INFORMATION - NIT		
	Field Ratio	**Field Phase**
Tower 1	0.5700	144.0000
Tower 2	1.0000	-15.0000
Tower 3	0.8100	-167.0000

TOWER DRIVE INFORMATION - NIT					
	Field Ratios	Field Phase	Drive Imped. (Ω)	Current	Power (W)
Tower 1	0.5700	144.0000	3.12 - j43.19	2.22 ∠ 158.69 (0.589)	15.4421
Tower 2	1.0000	-15.0000	6.44 - j24.65	3.77 ∠ 0.00 (1.00)	91.5452
Tower 3	0.8100	-167.0000	8.24 - j39.43	3.27 ∠ -151.88 (0.87)	88.0127