ALLAN G. MOSKOWITZ, ESQ.

RIC

June 25, 2015

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

Re: **FILING OF APPLICATION FOR LICENSE TO COVER CONSTRUCTION PERMIT AND REQUEST FOR PROGRAM TEST AUTHORITY**
File No. BP-20110919ADG
Radio Station WNYG (AM)
Facility ID No. 5208
Medford, New York
Radio Cantico Nuevo, Inc.

Dear Ms. Dortch:

On behalf of Radio Cantico Nuevo, Inc., licensee of Radio Station WNYG (AM), Medford, New York, and holder of the above-referenced Construction Permit , I am herewith filing an original and two (2) copies of an application on FCC Forms 159 and 302 for a license to cover the modified Construction Permit.

The Permittee is also requesting Program Test Authority.

Attached hereto are FCC Form 159 with the payor's credit card number and his signed authorization for the FCC to charge the credit card in payment of the filing fee in the amount of $1, 480.00.

I am also enclosing a copy of this cover letter which I request be "stamped' and returned to me in the attached envelope.

Should any questions arise with respect to this matter, please contact the undersigned counsel.

Respectfully submitted

By
Allan G. Moskowitz

Cc: Son Nguyen, Media Bureau (by email)

10845 TUCKAHOE WAY | NORTH POTOMAC, MD 20878 | T 301.908.4165 | F 301.251.1353 | AMOSKOWITZ@AMOSKOWITZLAW.COM

MEMBER OF THE DC BAR. NOT LICENSED TO PRACTICE LAW IN THE STATE OF MARYLAND

(I) INSTRUCTIONS CAREFULLY BEFORE PROCEEDING

FEDERAL COMMUNICATIONS COMMISSION

REMITTANCE ADVICE

FORM 159

Approved by OMB 3060-0589

Page No 1 of 1

(1) LOCKBOX #	SPECIAL USE ONLY
979089	FCC USE ONLY

SECTION A – PAYER INFORMATION

(2) PAYER NAME (if paying by credit card enter name exactly as it appears on the card)	(3) TOTAL AMOUNT PAID (U.S. Dollars and cents)
Radio Nuevo Cantico, Inc.	$1,480.00

(4) STREET ADDRESS LINE NO 1
820 Suffolk Avenue

(5) STREET ADDRESS LINE NO 2
Suite 203

(6) CITY	(7) STATE	(8) ZIP CODE
Brentwood	NY	11717

(9) DAYTIME TELEPHONE NUMBER (include area code)	(10) COUNTRY CODE (if not in U.S.A.)
(908) 588-1430	

FCC REGISTRATION NUMBER (FRN) REQUIRED

(11) PAYER (FRN)	(12) FCC USE ONLY
0019613884	

IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C)

COMPLETE SECTION BELOW FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET

(13) APPLICANT NAME
Radio Nuevo Cantico, Inc.

(14) STREET ADDRESS LINE NO 1
820 Suffolk Avenue

(15) STREET ADDRESS LINE NO 2
Suite 203

(16) CITY	(17) STATE	(18) ZIP CODE
Brentwood	NY	11717

(19) DAYTIME TELEPHONE NUMBER (include area code)	(20) COUNTRY CODE (if not in U.S.A.)
(908) 588-1430	

FCC REGISTRATION NUMBER (FRN) REQUIRED

(21) APPLICANT (FRN)	(22) FCC USE ONLY
0019613884	

COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET

(23A) CALL SIGN/OTHER ID	(24A) PAYMENT TYPE CODE	(25A) QUANTITY
WNYG	WMR	1

(26A) FEE DUE FOR (PTC)	(27A) TOTAL FEE	FCC USE ONLY
$690.00	$690.00	

(28A) FCC CODE 1	(29A) FCC CODE 2
5208	NY, Medford

(23B) CALL SIGN/OTHER ID	(24B) PAYMENT TYPE CODE	(25B) QUANTITY
WNYG	MOR	1

(26B) FEE DUE FOR (PTC)	(27B) TOTAL FEE	FCC USE ONLY
$790.00	$790.00	

(28B) FCC CODE 1	(29B) FCC CODE 2
5208	Ny, Medford

SECTION D – CERTIFICATION

CERTIFICATION STATEMENT

I Allan Moskowitz, ESQ certify under penalty of perjury that the foregoing and supporting information is true and correct to the best of my knowledge, information and belief.

SIGNATURE Allan G. Moskowitz, ESQ DATE 6/24/15

ACCOUNT NUMBER

I hereby authorize the F

SIGNATURE

PAID BY CREDIT CARD

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. BL-20050626ABA

SECTION I - APPLICANT FEE INFORMATION

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

Radio Cantico Nuevo, Inc.

MAILING ADDRESS (Line 1) (Maximum 35 characters)
820 Suffolk Avenue

MAILING ADDRESS (Line 2) (Maximum 35 characters)
Suite 203

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
Brentwood	NY	11717

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
(908) 558-1430	WNYG	5208

2. A. Is a fee submitted with this application? [✓] Yes [ ] No

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

[ ] Governmental Entity [ ] Noncommercial educational licensee [ ] Other (Please explain):

C. If Yes, provide the following information:

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

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
MMR	0001	$690.00	

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

(A)	(B)	(C)	FOR FCC USE ONLY
M0R	0001	$790.00	

	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.	$ 1,480.00	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Radio Cantico Nuevo, Inc.		
MAILING ADDRESS 820 Suffolk Ave, Suite 203		
CITY Brentwood	STATE NY	ZIP CODE 11717

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
WNYG	Medford, NY	BP-20110919ADG		06/28/2015

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. Directional

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	
Erick Salgado		
Title	Date	Telephone Number
President	6/24/15	(908) 588-1430

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

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.
guyed uni. cross	#1 56.4, #2 39.6	#1 57.3, #2 40.5	#1 57.3, #2 40.5	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	40 °	47 '	45 "	West Longitude	72 °	59 '	32 "

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

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

No changes

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)
Charles A. Hecht	Charles A. Hecht
Address (include ZIP Code) Charles A. Hecht & Associates, Inc. 19 Mackenzie Court Freehold, NJ 07728	Date June 24, 2015 Telephone No. (Include Area Code) 732 577-0711

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☑ Technical Consultant

☐ Other (specify)

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant
Radio Cantico Nuevo, Inc.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☑ Station License ☐ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WNYG	BP-20110919ADG	1440	Unlimited	0.196	1.0

2. Station location

State	City or Town
New York	Medford

3. Transmitter location

State	County	City or Town	Street address (or other identification)
NY	Suffolk	41 Pennsylvania Ave.	Medford

4. Main studio location

State	County	City or Town	Street address (or other identification)
NY	Suffolk	41 Pennsylvania Ave.	Medford

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

State	County	City or Town	Street address (or other identification)
NY	Suffolk	41 Pennsylvania Ave.	Medford

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 Eng.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
2.06	2.66
Measured antenna or common point resistance (in ohms) at operating frequency	**Measured antenna or common point reactance (in ohms) at operating frequency**
Night: 50 Day: 141	Night: 0 Day: 122.4

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1 (S)	-96.7	---	0.302	---		
3 (N)	0.0	---	1.000	---		

Manufacturer and type of antenna monitor: Gorman Redlich CMR

ENGINEERING REPORT IN SUPPORT OF
APPLICATION FOR LICENSE AND REQUEST FOR PROGRAM TEST AUTHORITY
EMPLOYING MOMENT METHOD MODELING
WNYG 1440 KHZ BP-20110919ADG 0.196 KW DA-N
MEDFORD, NEW YORK

JUNE 2015

ENGINEERING REPORT IN SUPPORT OF
APPLICATION FOR LICENSE AND REQUEST FOR PROGRAM TEST AUTHORITY
EMPLOYING MOMENT METHOD MODELING
WNYG 1440 KHZ BP-20110919ADG 0.196 KW DA-N
MEDFORD, NEW YORK

SUMMARY

This engineering report is submitted on behalf of Radio Cantico Nuevo, Inc., (hereinafter referred to as "Radio Cantico"), licensee of AM station WNYG Medford, New York in support of an application for license and request for program test authority for WNYG. WNYG is licensed to operate daytime hours only on 1440 kilohertz with power of 1 kilowatt employing a non-directional antenna. This report will demonstrate Radio Cantico has constructed WNYG in accordance with permit BP-20110919ADG. The permit authorizes nighttime operation with power of 0.196 kilowatts utilizing a directional antenna system from the existing transmitter site location. There are no changes for the daytime operation or for the ground system. The daytime operation is licensed to diplex with WLIM Patchogue, New York from this site.

In support thereof, contained in this report is a complete method of moments proof of performance for the directional antenna system with associated engineering exhibits, including spurious emissions measurements, and the Engineering section of FCC Form 302-AM.

METHODOLOGY

The antenna system has been adjusted to produce monitoring system parameters in compliance with the method of moments ("MoM") calculated values (as calculated using Expert Mininec Broadcast Professional Version 23 and the antenna monitoring system has been adjusted to produce monitoring system parameters which are within ± 5% in field ratio and ± 3° in phase of the modeled values as required by Section 73.151(c)(2)(ii) of the rules.

SAMPLE SYSTEM

Tower currents were sampled with new Phasetek, Inc. model P600-203 toroidal current transformers with a sensitivity of 1.0 volt per amp mounted in a metal cabinet located at the base of each tower. The toroidal sample devices were calibrated by the manufacturer and were certified as being within 2% amplitude and 2° phase accuracy. In addition, the transformers were measured with an Array Solutions VNA2180 vector network analyzer and found to be within the manufacturer's specifications as shown in the following table.

TCT	SN	Amplitude 1440 Khz	Phase 1440 Khz
1	735	0.997	-0.2°
2	736	1.000	0.0°

The sampling transformers are connected to the antenna monitor with equal lengths of Andrew LDF4-50A foam coaxial cable. The sample lines are equal in length, buried and exposed to similar environmental conditions. Manufacturer specifications were verified following installation. The antenna monitor is a new Gorman Redlich CMR, serial number 501. The antenna monitor was calibrated with a "T" connector and two equal length cables. The results are within the manufacturer's rated maximum accuracy of ± 2% amplitude and ± 1° phase and are provided in the table below. The sample system as installed meets FCC type approval requirements.

INPUT	Amplitude 1440 Khz	Phase 1440 Khz
1	1.01	0.1°
2	1.00	0.0°

Impedance measurements were made on the antenna sampling system using an Array Solutions VNA2180 vector network analyzer. The measurements were made looking into the antenna monitor ends of the sample lines with the tower ends open-circuited, connected to the sampling toroid and measured at a frequency of 1440 kilohertz. All connectors were installed on the sample lines and readings were normalized to include the test leads.

All test and impedance measurements, field strength measurements, antenna adjustments and antenna modeling presented in this report were done by Kurt R. Gorman of Phasetek, Inc.

The table below shows the frequencies above and below the carrier frequency where resonance, defined as zero reactance corresponding with low resistance, was found. The electrical length at carrier frequency appearing in the table below was calculated by ratioing the frequencies.

Tower	Resonance Below 1440 Khz	Resonance Above 1440 Khz	Calculated Electrical Length @1440 khz
1	496.0 khz	1495.1 khz	260.1°
3*	496.3 khz	1495.5 khz	260.0°

Based upon the measurements shown above, the sample lines are within the required tolerance of one electrical degree.

To determine the characteristic impedance values of the sample lines, open-circuited measurements were made with frequencies offset to produce ± 45 degrees of electrical length from resonance. The characteristic impedance was calculated using the following formula, where R1 +j X1 and R2 +j X2 are the measured impedances at the +45 and -45 degree offset frequencies, respectively:

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

* There are three towers on the site. The center tower is not used for the night directional operation. Therefore, tower 2 on the construction permit is actually tower 3 of the array. See Exhibit III for additional information.

Tower	+45 Degree Offset Frequency (KHz)	+45 Degree Measured Impedance (Ohms)	-45 Degree Offset Frequency (KHz)	-45 Degree Measured Impedance (Ohms)	Calculated Characteristic Impedance (Ohms)	Line Impedance connected to TCT (Ohms)
1	1744.4	4.7 +j 50.6	1245.9	3.1 –j 50.9	50.9	53.5 -j3.4
3	1774.8	4.7 +j 49.7	1246.2	3.1 –j 50.0	50.1	51.7 -j3.3
				Max Impedance	50.9	
				Min Impedance	50.1	
			MAXIMUM IMPEDANCE DELTA		0.8	

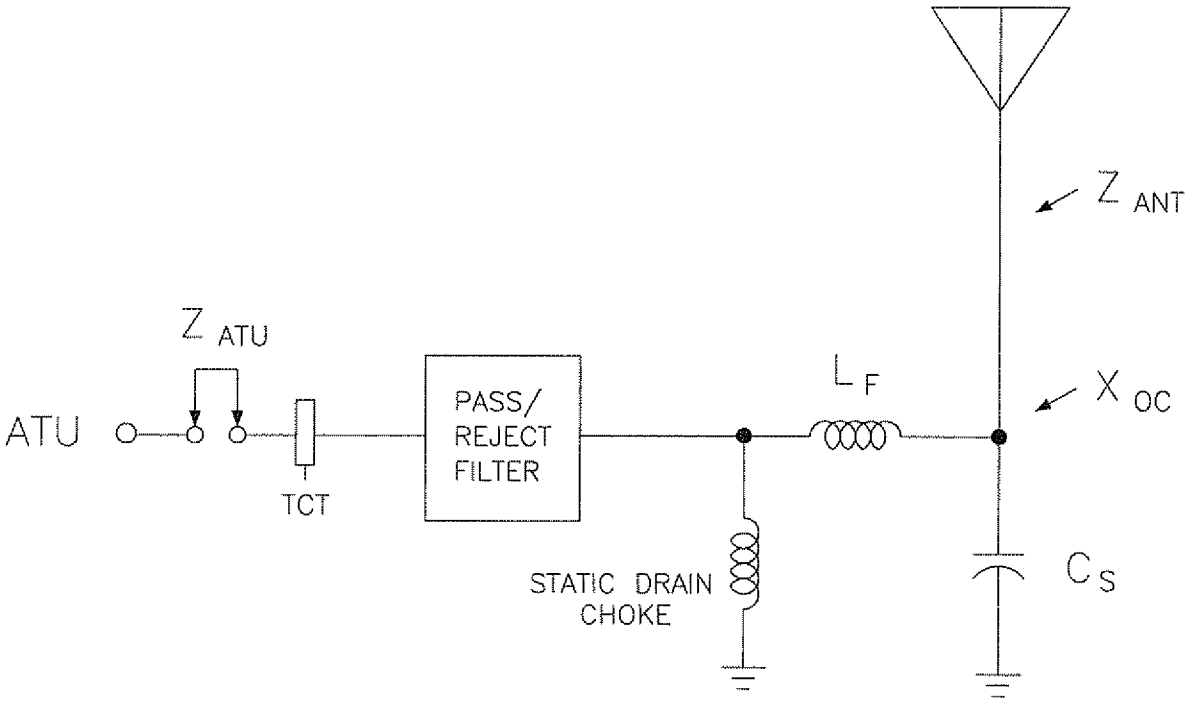
As shown above, the sample lines measured characteristic impedance meets the requirement that they be within 2 ohms.

TOWER BASE IMPEDANCE MEASUREMENTS

The impedance of each tower was measured at the jack at the output of the filter network at the base of each tower. All impedance measurements were obtained with a Delta Electronics OIB-3 Operating Impedance Bridge and a Hewlett Packard 8753ES Network Analyzer with a Tunwall Directional Coupler. Before use, tests of known impedances were made to verify accurate operation. Measurements were taken with the test leads shorted (for reference), from the output jack to the tower with the tower base shorted, and from the jack to the tower with the tower in-circuit. All measurements were taken for each tower with all other tower output jacks open-circuited. The following exhibits describe the measurement conditions and assumptions used in the MoM analysis.

EXHIBIT 1

WNYG TOWER IMPEDANCE MEASUREMENTS COMPARED TO METHOD OF MOMENTS MODEL



TOWER	Specified Cs (pf)	Measured L_F (µH)	Measured X_F (Ω)	Modeled Z_{ANT} (Ω)	Modeled Z_{ATU} (Ω)	Measured Z_{ATU} (Ω)
1	15	0.66	+j6.0	77.2 +j 113.0	131.0 +j 130.1	134.2 +j 130.8
2	15	1.88	+j17.0	72.0 +j 100.2	75.3 +j 118.5	72.0 +j 118.1
3	15	0.55	+j5.0	42.6 +j 66.1	58.2 +j 77.4	56.4 +j79.5

Tower	Calculated X_{OC} (Ω)
1	-j 7,368.3
2	-j 7,368.3
3	-j 7,368.3

EXHIBIT II

WNYG MOM MODEL PARAMETERS

Tower #	Wire #	# of Segments	Base Node
1	1	12	1
2	2	12	13
3	3-6	16	25

Tower #	Physical Height Degrees	Modeled Height Degrees	Modeled Radius Meters	% of Equivalent Radius
1	97.5	106.0	.22	121.0
2	97.5	106.0	.20	110.0
3	68.4	74.3	.29	132.8

NOTES

1. ALL TOWERS ARE UNIFORM CROSS SECTION AND BASE INSULATED.
2. TOWERS 1 AND 2 ARE THREE SIDED WITH 15" FACE WIDTH. TOWER 3 IS THREE SIDED WITH 18" FACE WIDTH WITH GUY WIRE TOP-LOADING. GUY WIRE TOP-LOADING FOR TOWER 3 IS MODELED AS 94.5% OF ACTUAL LENGTH.
3. BASE INSULATORS FOR TOWERS 1 AND 2 ARE LAPP WITH AN ASSUMED CAPACITANCE OF 15 PF. TOWER 3 BASE INSULATOR IS AUSTIN A-4197L WITH AN ASSUMED CAPACITANCE OF 15 PF.
4. ALL TOWERS HAVE KTL STATIC DRAIN CHOKES. THESE MEASURE –J14,000 OHMS @ 1440 KHZ.
5. MEASURED EQUIVALENT SHUNT REACTANCE OF FILTER CIRCUIT AND CHOKE IS 218PF (-J507.0 OHMS @ 1440 KHZ)

EXHIBIT III

WNYG DERIVED OPERATING PARAMETERS

WNYG Calculated Night Parameters

Tower	Theoretical Field/Phase	Base Network Input Current	Normalized TCT Value Field/ Phase
1 (S)	0.680/236.0°	0.58/-89.61°	0.302/-96.7°
3 (N)	1.000/0.0°	1.92/7.04°	1.000/0.0°

METHOD OF MOMENTS DETAIL

Although there are three towers on the WNYG site, only the two end towers are used for the nighttime directional operation. However, all three towers are included in the model. One wire was used to represent Towers 1 (S) and 2 (C). Four wires were used to represent Tower 3 (N) with the top-loading. Towers were driven individually to verify the Model compared to measured impedance data. Once the Model was verified, the night directional antenna system was computed. For the directional mode, the complex voltage values for sources located at ground level were computed. These sources produce current moment sums for each tower that, when normalized, equate to the theoretical field parameters for each respective tower.

EXHIBIT IV

WNYG MOMENT MODELING

TOWER 1 GEOMETRY (others open)
Wire coordinates in degrees; other dimensions in meters
Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.22	12
		0	0	107.5		
2	none	54.7	350.	0	.2	12
		54.7	350.	106.		
3	none	109.4	350.	0	.29	10
		109.4	350.	74.3		
4	none	109.4	350.	74.3	.03	3
		127.6	350.	57.1		
5	none	109.4	350.	74.3	.03	3
		101.5	358.93	57.1		
6	none	109.4	350.	74.3	.03	3
		101.5	341.07	57.1		

Number of wires = 6
current nodes = 43

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	3	7.43	1	8.95833
radius	4	.03	3	.29

ELECTRICAL DESCRIPTION
Frequencies (MHz)

	frequency		no. of	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	1.44	0	1	.0206389	.0248843

Sources

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

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	13	0	-7,368.3	0	0	0
2	25	0	-7,368.3	0	0	0

IMPEDANCE
normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.44	77.159	112.97	136.81	55.7	5.3112	-3.3103	-2.7297

CURRENT rms
Frequency = 1.44 MHz
Input power = .00206125 watts
Efficiency = 100. %
coordinates in degrees

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	5.17E-03	304.3	2.92E-03	-4.27E-03
2	0	0	8.95833	5.64E-03	300.9	2.89E-03	-4.84E-03
3	0	0	17.9167	5.83E-03	298.9	2.82E-03	-5.1E-03
4	0	0	26.875	5.85E-03	297.4	2.7E-03	-5.19E-03
5	0	0	35.8333	5.72E-03	296.3	2.53E-03	-5.13E-03
6	0	0	44.7917	5.44E-03	295.3	2.32E-03	-4.92E-03
7	0	0	53.75	5.02E-03	294.4	2.08E-03	-4.57E-03
8	0	0	62.7083	4.47E-03	293.7	1.8E-03	-4.09E-03
9	0	0	71.6667	3.8E-03	293.	1.49E-03	-3.5E-03
10	0	0	80.625	3.03E-03	292.4	1.15E-03	-2.8E-03
11	0	0	89.5833	2.16E-03	291.8	8.01E-04	-2.E-03
12	0	0	98.5417	1.19E-03	291.2	4.3E-04	-1.11E-03
END	0	0	107.5	0	0	0	0
GND	53.869	9.49856	0	4.43E-05	194.5	-4.29E-05	-1.11E-05
14	53.869	9.49856	8.83333	3.12E-04	194.5	-3.02E-04	-7.81E-05
15	53.869	9.49856	17.6667	4.76E-04	194.5	-4.61E-04	-1.19E-04
16	53.869	9.49856	26.5	5.92E-04	194.5	-5.73E-04	-1.48E-04
17	53.869	9.49856	35.3333	6.67E-04	194.6	-6.46E-04	-1.68E-04
18	53.869	9.49856	44.1667	7.05E-04	194.7	-6.82E-04	-1.79E-04
19	53.869	9.49856	53.	7.05E-04	194.9	-6.82E-04	-1.81E-04
20	53.869	9.49856	61.8333	6.71E-04	195.1	-6.48E-04	-1.75E-04
21	53.869	9.49856	70.6667	6.04E-04	195.5	-5.82E-04	-1.61E-04
22	53.869	9.49856	79.5	5.05E-04	195.9	-4.85E-04	-1.38E-04
23	53.869	9.49856	88.3333	3.75E-04	196.4	-3.6E-04	-1.06E-04
24	53.869	9.49856	97.1667	2.14E-04	196.9	-2.05E-04	-6.22E-05
END	53.869	9.49856	106.	0	0	0	0
GND	107.738	18.9971	0	2.89E-05	145.2	-2.37E-05	1.65E-05
26	107.738	18.9971	7.43	2.09E-04	145.1	-1.72E-04	1.2E-04
27	107.738	18.9971	14.86	3.13E-04	145.	-2.56E-04	1.79E-04
28	107.738	18.9971	22.29	3.87E-04	144.9	-3.16E-04	2.22E-04
29	107.738	18.9971	29.72	4.37E-04	144.8	-3.57E-04	2.52E-04
30	107.738	18.9971	37.15	4.65E-04	144.7	-3.8E-04	2.69E-04
31	107.738	18.9971	44.58	4.74E-04	144.6	-3.86E-04	2.75E-04
32	107.738	18.9971	52.01	4.65E-04	144.5	-3.78E-04	2.7E-04
33	107.738	18.9971	59.44	4.4E-04	144.5	-3.58E-04	2.56E-04
34	107.738	18.9971	66.87	4.04E-04	144.5	-3.28E-04	2.35E-04
J3	107.738	18.9971	74.3	3.61E-04	144.5	-2.94E-04	2.1E-04
2J1	107.738	18.9971	74.3	1.16E-04	156.1	-1.06E-04	4.71E-05
36	113.713	20.0506	68.5667	8.16E-05	159.3	-7.64E-05	2.89E-05
37	119.687	21.104	62.8333	4.18E-05	163.4	-4.01E-05	1.2E-05
END	125.662	22.1575	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	1.24E-04	139.1	-9.39E-05	8.13E-05
39	105.653	13.2966	68.5667	8.8E-05	137.9	-6.53E-05	5.9E-05
40	103.568	7.59598	62.8333	4.52E-05	136.4	-3.27E-05	3.11E-05
END	101.482	1.89542	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	1.24E-04	139.1	-9.39E-05	8.13E-05
42	103.829	23.6407	68.5667	8.8E-05	137.9	-6.53E-05	5.9E-05
43	99.9196	28.2843	62.8333	4.52E-05	136.4	-3.27E-05	3.11E-05
END	96.0104	32.9279	57.1	0	0	0	0

TOWER 2 GEOMETRY (others open)
Wire coordinates in degrees; other dimensions in meters
Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.22	12
		0	0	107.5		
2	none	54.7	350.	0	.2	12
		54.7	350.	106.		
3	none	109.4	350.	0	.29	10
		109.4	350.	74.3		
4	none	109.4	350.	74.3	.03	3
		127.6	350.	57.1		
5	none	109.4	350.	74.3	.03	3
		101.5	358.93	57.1		
6	none	109.4	350.	74.3	.03	3
		101.5	341.07	57.1		

Number of wires = 6
current nodes = 43

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	3	7.43	1	8.95833
radius	4	.03	3	.29

ELECTRICAL DESCRIPTION
Frequencies (MHz)

	frequency		no. of	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	1.44	0	1	.0206389	.0248843

Sources

source	node	sector	magnitude	phase	type
1	13	1	1.	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	1	0	-7,368.3	0	0	0
2	25	0	-7,368.3	0	0	0

IMPEDANCE
normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 13, sector 1							
1.44	72.001	100.17	123.36	54.3	4.7095	-3.7457	-2.3816

CURRENT rms
Frequency = 1.44 MHz
Input power = .00236554 watts
Efficiency = 100. %
coordinates in degrees

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	4.92E-05	195.8	-4.73E-05	-1.34E-05
2	0	0	8.95833	3.6E-04	195.8	-3.46E-04	-9.82E-05
3	0	0	17.9167	5.48E-04	195.9	-5.27E-04	-1.5E-04
4	0	0	26.875	6.82E-04	195.9	-6.56E-04	-1.87E-04
5	0	0	35.8333	7.68E-04	196.1	-7.38E-04	-2.13E-04
6	0	0	44.7917	8.11E-04	196.3	-7.78E-04	-2.27E-04
7	0	0	53.75	8.11E-04	196.5	-7.78E-04	-2.31E-04
8	0	0	62.7083	7.72E-04	196.9	-7.38E-04	-2.24E-04
9	0	0	71.6667	6.93E-04	197.4	-6.62E-04	-2.07E-04
10	0	0	80.625	5.79E-04	197.9	-5.51E-04	-1.78E-04
11	0	0	89.5833	4.3E-04	198.5	-4.08E-04	-1.36E-04
12	0	0	98.5417	2.45E-04	199.1	-2.32E-04	-8.04E-05
END	0	0	107.5	0	0	0	0
GND	53.869	9.49856	0	5.73E-03	305.7	3.35E-03	-4.65E-03
14	53.869	9.49856	8.83333	6.17E-03	302.6	3.32E-03	-5.2E-03
15	53.869	9.49856	17.6667	6.33E-03	300.7	3.23E-03	-5.44E-03
16	53.869	9.49856	26.5	6.32E-03	299.4	3.1E-03	-5.51E-03
17	53.869	9.49856	35.3333	6.15E-03	298.2	2.91E-03	-5.41E-03
18	53.869	9.49856	44.1667	5.82E-03	297.3	2.67E-03	-5.17E-03
19	53.869	9.49856	53.	5.36E-03	296.5	2.39E-03	-4.79E-03
20	53.869	9.49856	61.8333	4.76E-03	295.7	2.07E-03	-4.29E-03
21	53.869	9.49856	70.6667	4.04E-03	295.1	1.71E-03	-3.66E-03
22	53.869	9.49856	79.5	3.21E-03	294.4	1.33E-03	-2.92E-03
23	53.869	9.49856	88.3333	2.28E-03	293.8	9.22E-04	-2.09E-03
24	53.869	9.49856	97.1667	1.25E-03	293.3	4.94E-04	-1.15E-03
END	53.869	9.49856	106.	0	0	0	0
GND	107.738	18.9971	0	3.55E-05	196.8	-3.4E-05	-1.02E-05
26	107.738	18.9971	7.43	2.58E-04	196.7	-2.47E-04	-7.42E-05
27	107.738	18.9971	14.86	3.85E-04	196.7	-3.69E-04	-1.1E-04
28	107.738	18.9971	22.29	4.76E-04	196.6	-4.56E-04	-1.36E-04
29	107.738	18.9971	29.72	5.37E-04	196.6	-5.15E-04	-1.54E-04
30	107.738	18.9971	37.15	5.72E-04	196.6	-5.48E-04	-1.64E-04
31	107.738	18.9971	44.58	5.82E-04	196.7	-5.58E-04	-1.67E-04
32	107.738	18.9971	52.01	5.71E-04	196.8	-5.46E-04	-1.65E-04
33	107.738	18.9971	59.44	5.41E-04	196.9	-5.17E-04	-1.57E-04
34	107.738	18.9971	66.87	4.96E-04	197.	-4.74E-04	-1.45E-04
J3	107.738	18.9971	74.3	4.44E-04	196.9	-4.24E-04	-1.29E-04
2J1	107.738	18.9971	74.3	1.56E-04	217.2	-1.24E-04	-9.44E-05
36	113.713	20.0506	68.5667	1.13E-04	221.4	-8.48E-05	-7.46E-05
37	119.687	21.104	62.8333	6.E-05	226.1	-4.16E-05	-4.33E-05
END	125.662	22.1575	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	1.51E-04	186.6	-1.5E-04	-1.74E-05
39	105.653	13.2966	68.5667	1.07E-04	184.	-1.07E-04	-7.41E-06
40	103.568	7.59598	62.8333	5.52E-05	181.1	-5.52E-05	-1.08E-06
END	101.482	1.89542	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	1.51E-04	186.6	-1.5E-04	-1.74E-05
42	103.829	23.6407	68.5667	1.07E-04	184.	-1.07E-04	-7.41E-06
43	99.9196	28.2843	62.8333	5.52E-05	181.1	-5.52E-05	-1.08E-06
END	96.0104	32.9279	57.1	0	0	0	0

TOWER 3 GEOMETRY (others open)
Wire coordinates in degrees; other dimensions in meters
Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.22	12
		0	0	106.		
2	none	54.7	350.	0	.2	12
		54.7	350.	106.		
3	none	109.4	350.	0	.29	10
		109.4	350.	74.3		
4	none	109.4	350.	74.3	.03	3
		127.6	350.	57.1		
5	none	109.4	350.	74.3	.03	3
		101.5	358.93	57.1		
6	none	109.4	350.	74.3	.03	3
		101.5	341.07	57.1		

Number of wires = 6
current nodes = 43

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	3	7.43	1	8.83333
radius	4	.03	3	.29

ELECTRICAL DESCRIPTION
Frequencies (MHz)

	frequency		no. of	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	1.44	0	1	.0206389	.024537

Sources

source	node	sector	magnitude	phase	type
1	25	1	1.	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	1	0	-7,368.3	0	0	0
2	13	0	-7,368.3	0	0	0

IMPEDANCE
normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 25, sector 1							
1.44	42.598	66.087	78.626	57.2	3.8141	-4.6636	-1.8158

CURRENT rms
Frequency = 1.44 MHz
Input power = .00344531 watts
Efficiency = 100. %
coordinates in degrees

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	4.9E-05	143.8	-3.96E-05	2.9E-05
2	0	0	8.83333	3.55E-04	143.7	-2.87E-04	2.1E-04
3	0	0	17.6667	5.4E-04	143.7	-4.35E-04	3.2E-04
4	0	0	26.5	6.7E-04	143.6	-5.39E-04	3.98E-04
5	0	0	35.3333	7.54E-04	143.5	-6.06E-04	4.48E-04
6	0	0	44.1667	7.94E-04	143.4	-6.38E-04	4.73E-04
7	0	0	53.	7.93E-04	143.4	-6.37E-04	4.73E-04
8	0	0	61.8333	7.53E-04	143.4	-6.04E-04	4.49E-04
9	0	0	70.6667	6.76E-04	143.4	-5.43E-04	4.03E-04
10	0	0	79.5	5.64E-04	143.4	-4.53E-04	3.36E-04
11	0	0	88.3333	4.19E-04	143.4	-3.36E-04	2.5E-04
12	0	0	97.1667	2.39E-04	143.4	-1.92E-04	1.42E-04
END	0	0	106.	0	0	0	0
GND	53.869	9.49856	0	5.62E-05	193.7	-5.46E-05	-1.33E-05
14	53.869	9.49856	8.83333	3.96E-04	194.	-3.84E-04	-9.6E-05
15	53.869	9.49856	17.6667	6.02E-04	194.6	-5.82E-04	-1.52E-04
16	53.869	9.49856	26.5	7.46E-04	195.3	-7.2E-04	-1.97E-04
17	53.869	9.49856	35.3333	8.39E-04	196.2	-8.05E-04	-2.35E-04
18	53.869	9.49856	44.1667	8.83E-04	197.3	-8.43E-04	-2.63E-04
19	53.869	9.49856	53.	8.81E-04	198.5	-8.36E-04	-2.8E-04
20	53.869	9.49856	61.8333	8.37E-04	199.9	-7.87E-04	-2.84E-04
21	53.869	9.49856	70.6667	7.51E-04	201.3	-7.E-04	-2.72E-04
22	53.869	9.49856	79.5	6.27E-04	202.6	-5.79E-04	-2.41E-04
23	53.869	9.49856	88.3333	4.65E-04	203.8	-4.26E-04	-1.88E-04
24	53.869	9.49856	97.1667	2.66E-04	204.8	-2.41E-04	-1.11E-04
END	53.869	9.49856	106.	0	0	0	0
GND	107.738	18.9971	0	8.99E-03	302.8	4.87E-03	-7.56E-03
26	107.738	18.9971	7.43	9.45E-03	300.8	4.84E-03	-8.12E-03
27	107.738	18.9971	14.86	9.59E-03	299.7	4.76E-03	-8.33E-03
28	107.738	18.9971	22.29	9.55E-03	298.9	4.62E-03	-8.36E-03
29	107.738	18.9971	29.72	9.34E-03	298.3	4.42E-03	-8.23E-03
30	107.738	18.9971	37.15	8.98E-03	297.7	4.18E-03	-7.95E-03
31	107.738	18.9971	44.58	8.5E-03	297.3	3.9E-03	-7.55E-03
32	107.738	18.9971	52.01	7.92E-03	297.	3.59E-03	-7.05E-03
33	107.738	18.9971	59.44	7.27E-03	296.8	3.28E-03	-6.49E-03
34	107.738	18.9971	66.87	6.61E-03	296.7	2.97E-03	-5.91E-03
J3	107.738	18.9971	74.3	6.02E-03	296.8	2.72E-03	-5.37E-03
2J1	107.738	18.9971	74.3	2.E-03	296.7	8.99E-04	-1.79E-03
36	113.713	20.0506	68.5667	1.5E-03	297.1	6.85E-04	-1.34E-03
37	119.687	21.104	62.8333	8.26E-04	297.6	3.82E-04	-7.33E-04
END	125.662	22.1575	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	2.01E-03	296.9	9.09E-04	-1.79E-03
39	105.653	13.2966	68.5667	1.51E-03	297.3	6.93E-04	-1.34E-03
40	103.568	7.59598	62.8333	8.31E-04	297.8	3.88E-04	-7.35E-04
END	101.482	1.89542	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	2.01E-03	296.9	9.09E-04	-1.79E-03
42	103.829	23.6407	68.5667	1.51E-03	297.3	6.93E-04	-1.34E-03
43	99.9196	28.2843	62.8333	8.31E-04	297.8	3.88E-04	-7.35E-04
END	96.0104	32.9279	57.1	0	0	0	0

MEDIUM WAVE ARRAY SYNTHESIS FROM FIELD RATIOS

Frequency = 1.44 MHz

tower	field ratio magnitude	phase (deg)
1	.68	236.
2	0	0
3	1.	0

VOLTAGES AND CURRENTS - rms

source node	voltage magnitude	phase (deg)	current magnitude	phase (deg)
1	185.149	301.8	.862155	247.4
13	65.5753	314.5	.133749	50.3
25	142.828	70.6	1.92437	2.8

Sum of square of source currents = 8.92883
Total power = 196. watts

TOWER ADMITTANCE MATRIX

admittance	real (mhos)	imaginary (mhos)
Y(1, 1)	.00316602	-.00551836
Y(1, 2)	.00185176	.00270123
Y(1, 3)	.00138102	.000360104
Y(2, 1)	.00185215	.00270111
Y(2, 2)	.00174434	-.00559233
Y(2, 3)	.00230892	.00332813
Y(3, 1)	.00138127	.000360581
Y(3, 2)	.002309	.00333302
Y(3, 3)	.00494169	-.00915952

TOWER IMPEDANCE MATRIX

impedance	real (ohms)	imaginary (ohms)
Z(1, 1)	73.1463	104.248
Z(1, 2)	57.4458	-19.6693
Z(1, 3)	14.8203	-36.5612
Z(2, 1)	57.4454	-19.6706
Z(2, 2)	72.6771	101.103
Z(2, 3)	43.4529	-14.4116
Z(3, 1)	14.7942	-36.5399
Z(3, 2)	43.3992	-14.4334
Z(3, 3)	42.9194	66.1584

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

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.22	12
		0	0	106.		
2	none	54.7	350.	0	.2	12
		54.7	350.	106.		
3	none	109.4	350.	0	.29	10
		109.4	350.	74.3		
4	none	109.4	350.	74.3	.03	3
		127.6	350.	57.1		
5	none	109.4	350.	74.3	.03	3
		101.5	358.93	57.1		
6	none	109.4	350.	74.3	.03	3
		101.5	341.07	57.1		

Number of wires = 6
current nodes = 43

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	3	7.43	1	8.83333
radius	4	.03	3	.29

ELECTRICAL DESCRIPTION
Frequencies (MHz)

	frequency		no. of	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	1.44	0	1	.0206389	.024537

Sources

source	node	sector	magnitude	phase	type
1	1	1	261.841	301.8	voltage
2	25	1	201.989	70.6	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	13	0	487.25	0	0	0

IMPEDANCE
normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.44	125.28	175.97	216.01	54.6	7.7187	-2.2633	-3.913
source = 2; node 25, sector 1							
1.44	28.3	68.629	74.235	67.6	5.4788	-3.2067	-2.8224

CURRENT rms
Frequency = 1.44 MHz
Input power = 196. watts
Efficiency = 100. %
coordinates in degrees

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	.855377	247.2	-.330809	-.788819
2	0	0	8.83333	.980329	241.9	-.461505	-.864904
3	0	0	17.6667	1.04282	239.2	-.534512	-.895417
4	0	0	26.5	1.06914	237.2	-.579031	-.898769
5	0	0	35.3333	1.06242	235.7	-.598674	-.877677
6	0	0	44.1667	1.02439	234.5	-.595081	-.833812
7	0	0	53.	.956646	233.5	-.569448	-.7687
8	0	0	61.8333	.861	232.6	-.522971	-.683975
9	0	0	70.6667	.739482	231.8	-.456945	-.581407
10	0	0	79.5	.59416	231.2	-.372685	-.462744
11	0	0	88.3333	.426647	230.5	-.271207	-.329354
12	0	0	97.1667	.236551	229.9	-.152221	-.181067
END	0	0	106.	0	0	0	0
GND	53.869	9.49856	0	.134657	46.	.0936043	.0968024
14	53.869	9.49856	8.83333	.079952	45.7	.0558706	.0571909
15	53.869	9.49856	17.6667	.0445175	43.9	.0320973	.0308475
16	53.869	9.49856	26.5	.0172698	33.8	.0143484	9.61E-03
17	53.869	9.49856	35.3333	7.63E-03	281.8	1.56E-03	-7.47E-03
18	53.869	9.49856	44.1667	.0218019	251.7	-6.85E-03	-.020699
19	53.869	9.49856	53.	.0322601	249.1	-.0114958	-.0301423
20	53.869	9.49856	61.8333	.038112	249.8	-.013145	-.0357734
21	53.869	9.49856	70.6667	.0395872	251.3	-.0126596	-.0375084
22	53.869	9.49856	79.5	.0368541	252.9	-.0108295	-.0352271
23	53.869	9.49856	88.3333	.0298972	254.1	-8.17E-03	-.0287594
24	53.869	9.49856	97.1667	.0184167	254.9	-4.8E-03	-.0177804
END	53.869	9.49856	106.	0	0	0	0
GND	107.738	18.9971	0	1.92009	3.	1.91744	.100812
26	107.738	18.9971	7.43	2.02127	1.7	2.02038	.0599489
27	107.738	18.9971	14.86	2.05258	1.	2.05229	.0349707
28	107.738	18.9971	22.29	2.0442	.4	2.04414	.0152369
29	107.738	18.9971	29.72	2.00045	360.	2.00045	-3.29E-04
30	107.738	18.9971	37.15	1.92473	359.6	1.92469	-.0121457
31	107.738	18.9971	44.58	1.8212	359.4	1.82109	-.0204032
32	107.738	18.9971	52.01	1.69608	359.1	1.69589	-.0252306
33	107.738	18.9971	59.44	1.55835	359.	1.55812	-.0267759
34	107.738	18.9971	66.87	1.41691	359.	1.41669	-.0252715
J3	107.738	18.9971	74.3	1.28975	359.1	1.28957	-.0213275
2J1	107.738	18.9971	74.3	.42617	358.9	.426088	-8.37E-03
36	113.713	20.0506	68.5667	.319648	359.1	.319611	-4.81E-03
37	119.687	21.104	62.8333	.175543	359.4	.175534	-1.74E-03
END	125.662	22.1575	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	.431797	359.1	.431749	-6.48E-03
39	105.653	13.2966	68.5667	.324624	359.4	.324608	-3.21E-03
40	103.568	7.59598	62.8333	.178754	359.7	.178752	-7.95E-04
END	101.482	1.89542	57.1	0	0	0	0
2J1	107.738	18.9971	74.3	.431786	359.1	.431737	-6.48E-03
42	103.829	23.6407	68.5667	.324611	359.4	.324595	-3.21E-03
43	99.9196	28.2843	62.8333	.178747	359.7	.178745	-7.95E-04
END	96.0104	32.9279	57.1	0	0	0	0

EXHIBIT V

TOWER BASE CIRCUIT ANALYSIS MODEL

CIRCUIT ANALYSIS

Circuit analysis was performed on each tower of the WNYG model. "Phasetek" nodal circuit analysis program was used to compute base model input/output voltages and currents. For the directional mode, the calculated Mininec tower base drive voltage was used to determine the base network input current. This point is the location of the sampling TCT. "Z_1" represents the ATU shunt impedance, "Z_2" represents the tower feed impedance, and "Z_3" represents the tower base shunt impedance.

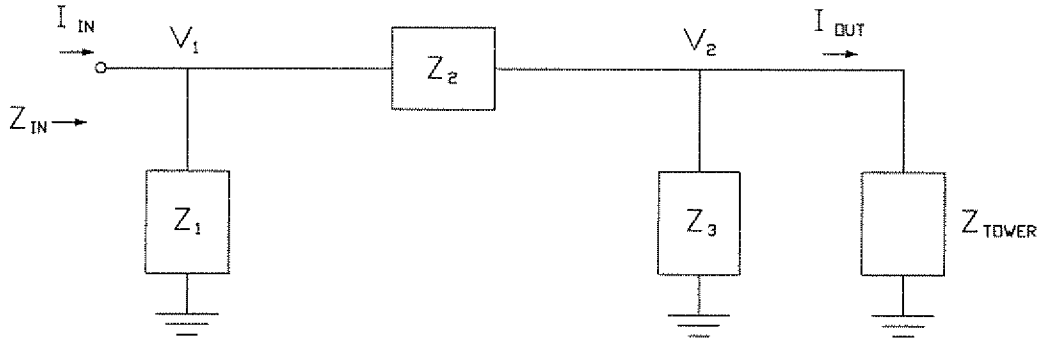


EXHIBIT VI

WNYG CIRCUIT ANALYSIS

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 1 (OTHERS OPEN)

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, -507.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 6.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 77.20, 113.00 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS) R	X
1		GROUND	0.00	-507.00
2		GROUND	79.61	113.91
1		2	0.00	6.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	100.00	0.00
2	96.55	-1.37

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	131.04	130.11	184.66	44.80
INPUT CURRENT (AMPS) :	0.38	-0.38	0.54	-44.80
OUTPUT CURRENT (AMPS) :	0.38	-0.59	0.71	-57.03

INPUT/OUTPUT CURRENT RATIO = 0.7676
INPUT/OUTPUT PHASE = 12.23 DEGREES

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 1 NIGHT

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, -507.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 6.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 125.28, 175.97 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS) R	X
1		GROUND	0.00	-507.00
2		GROUND	131.45	177.99
1		2	0.00	6.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	189.21	-57.30
2	185.15	301.80

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	277.82	175.73	328.73	32.31
INPUT CURRENT (AMPS) :	0.00	-0.58	0.58	-89.61
OUTPUT CURRENT (AMPS) :	-0.33	-0.79	0.86	-112.75

INPUT/OUTPUT CURRENT RATIO = 0.6715
INPUT/OUTPUT PHASE = 23.14 DEGREES

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 2 (OTHERS OPEN)

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00,-14000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 17.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 72.00, 100.20 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS) R	X
1		GROUND	0.00	-14000.00
2		GROUND	73.99	100.85
1		2	0.00	17.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	100.00	0.00
2	89.89	-4.14

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	75.25	118.45	140.33	57.57
INPUT CURRENT (AMPS) :	0.38	-0.60	0.71	-57.57
OUTPUT CURRENT (AMPS) :	0.38	-0.62	0.73	-58.44

INPUT/OUTPUT CURRENT RATIO = 0.9782
INPUT/OUTPUT PHASE = 0.87 DEGREES

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 2 (OTHERS OPEN)

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00,-14000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 17.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 72.00, 100.20 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS) R	X
1		GROUND	0.00	-14000.00
2		GROUND	73.99	100.85
1		2	0.00	17.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	100.00	0.00
2	89.89	-4.14

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	75.25	118.45	140.33	57.57
INPUT CURRENT (AMPS) :	0.38	-0.60	0.71	-57.57
OUTPUT CURRENT (AMPS) :	0.38	-0.62	0.73	-58.44

INPUT/OUTPUT CURRENT RATIO = 0.9782
INPUT/OUTPUT PHASE = 0.87 DEGREES

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 3 (OTHERS OPEN)

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, -507.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 5.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 42.60, 66.10 OHMS

NODE	TO NODE	IMPEDANCE (OHMS) R	X
1	GROUND	0.00	-507.00
2	GROUND	43.37	66.45
1	2	0.00	5.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	100.00	0.00
2	94.94	-1.87

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	58.19	77.37	96.81	53.05
INPUT CURRENT (AMPS) :	0.62	-0.83	1.03	-53.05
OUTPUT CURRENT (AMPS) :	0.62	-1.04	1.21	-59.07

INPUT/OUTPUT CURRENT RATIO = 0.8556
INPUT/OUTPUT PHASE = 6.02 DEGREES

BASE NETWORK COMPUTATION

NETWORK ID : TOWER 3 NIGHT

FREQUENCY : 1440.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, -507.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 5.00 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -7368.30 OHMS
TOWER IMPEDANCE (R,X) : 28.30, 68.63 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS) R	X
1		GROUND	0.00	-507.00
2		GROUND	28.83	69.16
1		2	0.00	5.00

NODE	VOLTAGE MAGNITUDE	PHASE
1	151.67	71.99
2	142.83	70.60

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	39.39	84.25	93.00	64.94
INPUT CURRENT (AMPS) :	1.62	0.20	1.63	7.04
OUTPUT CURRENT (AMPS) :	1.92	0.10	1.92	3.01

INPUT/OUTPUT CURRENT RATIO = 0.8477
INPUT/OUTPUT PHASE = 4.03 DEGREES

FIELD STRENGTH MEASUREMENTS

Reference field strength measurements were made using a Potomac Instruments FIM-41 field strength meter, serial number 2181, calibrated October 9, 2009. The meter was compared to a Potomac Instruments FIM-21, serial number 901, calibrated August 29, 2012 and found to be within manufacturer's specifications on all pertinent operating scales. Measurements were taken at three locations along each radial specified on the WNYG construction permit for the night pattern and on the major lobe radial of the pattern. The measured field strengths, descriptions, and GPS coordinates for the reference measurement points are shown below. All locations indicated are listed using NAD 27 datum.

49° Radial

Point No.	Dist. Km.	Latitude	Longitude	Time Local	Field mV/m	Point Description
1	1.85	40° 48' 25.4"	72° 58' 32.0"	1409	1.74	Mailbox 1045 Sipp Avenue
2	2.20	40° 48' 33.0"	72° 58' 21.2"	1415	1.19	In front 51 Matsunaye Drive
3	2.85	40° 48' 46.5"	72° 58' 00.1"	1421	0.81	70 Whitepine Way

170° Radial

Point No.	Dist. Km.	Latitude	Longitude	Time Local	Field mV/m	Point Description
1	0.94	40° 47' 16.5"	72° 59' 25.5"	1316	98	Across from 3 Patricia Road
2	2.88	40° 46' 14.4"	72° 59' 11.6"	1334	7.3	Mailbox 97 Hewlett Avenue
3	3.24	40° 46' 03.0"	72° 59' 08.2"	1341	9.0	SW corner Loews parking lot

291° Radial

Point No.	Dist. Km.	Latitude	Longitude	Time Local	Field mV/m	Point Description
1	1.52	40° 48' 04.1"	73° 00' 32.7"	1433	2.71	Mailbox 54 Southaven Ave.
2	1.95	40° 48' 09.2"	73° 00' 50.3"	1447	1.79	Storm drain opposite 26 Cedar Avenue
3	4.18	40° 48' 34.0"	73° 02' 19.4"	1509	0.40	Corporate Drive opposite SW corner Topaz Building

All measurements were conducted on June 20, 2015 by Kurt R. Gorman.

SPECIAL OPERATING CONDITION 6

In accordance with special operating condition 6 of the WNYG construction permit, spurious emissions measurements were conducted on WNYG and WLIM after construction was completed to demonstrate compliance with Section 73.44(d)(2) of the rules. A tabulation of the measurement data follows and documents the WNYG/WLIM diplex system is operating in compliance with Section 73.44(d)(2).

Filtering was installed and adjusted at all towers to prevent interaction and spurious radiation products. Filter circuits for towers 1 and 3 are located on the tower side of the sampling toroidal current transformers for both stations. The distributed capacity of the filter circuits in parallel with the static drain chokes was measured to be 218 pF (-j507 ohms @ 1440 kHz). This value is included in the circuit model for towers 1 and 3.

Although there was no significant change to the night directional operation of co-located station WLIM, a change was observed in the base impedance for the WLIM daytime non-directional operation. Accordingly, Form 302-AM is being filed for WLIM.

ARRAY SURVEY

A survey was made to confirm the WNYG towers were constructed within the authorized FCC tolerance of a circle with an 1.5 electrical degree radius per tower. The measured coordinates and results of the survey are provided below and demonstrate the array is well within FCC specifications. A copy of the signed and sealed survey follows.

WNYG Array Survey Results

Tower	Construction Permit Spacing°	Surveyed Spacing°	Construction Permit Bearing °T	Surveyed Bearing °T
1	Reference	Reference	Reference	Reference
2*	54.7	54.8	350.0	349.4
3	109.4	109.4	350.0	349.5

*Tower 2 is not used for the WNYG night directional operation, but the data is supplied for modeling purposes. Tower 3 serves as Tower 2 of the WNYG antenna system.

PAUL BARYLSKI
LICENSED
LAND SURVEYING

46 Terrell Street • Patchogue, New York 11772 • Tel (631) 294-6985 • Fax: (631) 627-3186
Email: paulbarylski@yahoo.com

JUNE 17, 2015

Pastor Erick Selgado
WNYG(AM)
41 Pennsylvania Avenue
Medford, NY 11763

As requested, we have performed a survey of the WNYG PROPERTY LOCATED ON THE CORNER OF PENNSYLVANIA AVENUE AND EAST WOODSIDE AVE. MEDFORD NY.

THE SOUTH TOWER SERVES AS A REFERENCE .

1. FROM THE SOUTH TOWER (#1) TO THE CENTER TOWER (#2)
A NORTH AZIMUTH OF **349°23'14"** AND A DISTANCE OF **103.90'** FROM TRUE NORTH

2. FROM THE SOUTH TOWER (#1) TO THE NORTH TOWER (#3)
A NORTH AZIMUTH OF **349°29'58"** AND A DISTANCE OF **207.58'** FROM TRUE NORTH

Paul Barylski, L.S. # 050782

DAY MODE SPURIOUS RADIATION MEASUREMENTS
WNYG 1440 KHZ 1 KW ND
WLIM 1580 KHZ 10 KW ND

Frequency khz	Day Field (mV/m)	Attenuation (dB) relative to WNYG	WLIM
1440	122		
1580	307		
1160	.025	73.7	81.8
1300	.026	73.4	81.4
1720	.024*	74.1	82.1
1860	.012	80.1	88.1
2740	<.010	>81.7	>89.7
2880	<.010	>81.7	>89.7
3020	.017	77.1	85.1
3160	.015	78.2	86.2
3300	<.010	>81.7	>89.7
4320	<.010	>81.7	>89.7
4460	<.010	>81.7	>89.7
4600	.012	80.1	88.1
4740	.018	76.6	84.6

Measurements taken with Potomac Instruments, FIM-41, 0.94 km from the array on a bearing of 170.0° T. Point Coordinates (NAD27): N 40° 47' 16.5", W 72° 59' 25.5".

Measurements meet required day attenuation of 80 dB for WLIM and 73 dB for WNYG.

*Noise

NIGHT MODE SPURIOUS RADIATION MEASUREMENTS
WNYG 1440 KHZ 0.196 KW DA
WLIM 1580 KHZ 0.5 KW DA

Frequency khz	Night Field (mV/m)	Attenuation (dB) relative to WNYG	WLIM
1440	98		
1580	163		
1160	.040*	67.8	72.2
1300	<.010	>79.8	>84.2
1720	.040*	67.8	72.2
1860	<.010	>79.8	>84.2
2740	<.010	>79.8	>84.2
2880	<.010	>79.8	>84.2
3020	.019	74.2	78.7
3160	.020	73.8	78.2
3300	<.010	>79.8	>84.2
4320	<.010	>79.8	>84.2
4460	<.010	>79.8	>84.2
4600	<.010	>79.8	>84.2
4740	.011	76.6	84.6

Measurements taken with Potomac Instruments, FIM-41, 0.94 km from the array on a bearing of 170.0° T. Point Coordinates (NAD27): N 40° 47' 16.5", W 72° 59' 25.5".

Measurements meet required night attenuation of 70 db for WLIM and 65.9 for WNYG.

*Noise

DECLARATION

The foregoing was prepared by or under the immediate supervision of Charles A. Hecht of Charles A. Hecht & Associates, Inc., Freehold, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. All statements herein are true and correct of his knowledge except such statements made on information and belief, and as to those statements, he believes them to be true and correct under the penalty of perjury.

Respectfully submitted,

/s/

Charles A. Hecht
Charles A. Hecht & Associates, Inc.
19 Mackenzie Court
Freehold, New Jersey 07728
(732) 577-0711
June 24, 2015

DECLARATION

The foregoing was prepared by or under the immediate supervision of Charles A. Hecht of Charles A. Hecht & Associates, Inc., Freehold, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. All statements herein are true and correct of his knowledge except such statements made on information and belief, and as to those statements, he believes them to be true and correct under the penalty of perjury.

Respectfully submitted,

/s/

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June 24, 2015