

June 22, 2011

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

Re: Station KGOL(AM)
Humble, Texas
Facility ID No. 34473
File No. BP-19870331BS
Application for License to Cover Construction Permit
Stop Code 1800B2

Dear Sir:

Transmitted herewith, in triplicate, on behalf of Entravision Holdings, LLC, the licensee of Station KGOL(AM), Humble, Texas, is an application on FCC Form 302-AM. The application requests a license to cover the construction permit for the modification of facilities of the Station authorized in File No. BP-19870331BS.

The application is being filed pursuant to the provisions of Section 73.1620 of the Commission's Rules and the construction permit for KGOL. The Commission is requested to issue program test authority for operation of the Station under the terms of its construction permit.

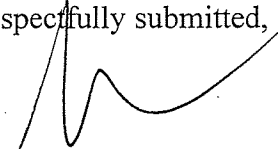
Also enclosed is FCC Form 159 and a check in the amount of \$1,365.00 for the required filing fee for a license to cover a construction permit and for the AM directional antenna system.

Finally, we are also providing a copy of this submission along with a stamped, self-addressed envelope. We request that a stamped copy of the submission be returned to us in that envelope.

Federal Communications Commission
6/21/2011
Page 2

Should there be any questions in regard hereto, please communicate with the undersigned.

Respectfully submitted,



Barry A. Friedman

Enclosures

cc: Ms. Carmen Aguilar (For Public Inspection)
Mr. Rick Hunt
Ms. Ann Gallagher (FCC Audio Division)

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.

BmmL-20110624C.GP

SECTION I- APPLICANT FEE INFORMATION

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

Entravision Communications Corporation

MAILING ADDRESS (Line 1) (Maximum 35 characters)

Suite 6000 West

MAILING ADDRESS (Line 2) (Maximum 35 characters)

2425 Olympic Boulevard

CITY

San Monica

STATE OR COUNTRY (if foreign address)

CA

ZIP CODE

90404

TELEPHONE NUMBER (include area code)

310 447 3870

CALL LETTERS

KGCL

OTHER FCC IDENTIFIER (If applicable)

34473

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			
0	0	0	1

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

FOR FCC USE ONLY

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)			
0	0	0	1

(C)
\$

FOR FCC USE ONLY

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

TOTAL AMOUNT REMITTED WITH THIS APPLICATION
\$

FOR FCC USE ONLY

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Entertainment Holdings, LLC		
MAILING ADDRESS 3450 West 34th Street, Boulevard		
CITY Santa Monica	STATE CA	ZIP CODE 90404

2. This application is for:

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

Call letters KGOQ	Community of License Humble, Texas	Construction Permit File No. BP-19870331BS	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit January 7, 2012
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3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☐ Yes ☒ No

If No, explain in an Exhibit.

Exhibit No.
NA

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.
NA

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.
NA

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

If No, explain in an Exhibit.

☒ Does not apply

Exhibit No.
NA

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.
NA

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. NA

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).

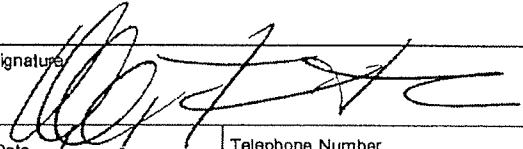
The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

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 882, 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 Walter F. Ulloa	Signature 
Title Chief Executive Officer	Date 6/21/2011
	Telephone Number 310-447-3870

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

ENTRAVISION HOLDINGS, LLC.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)



Station License



Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
KGOL	GP 15K7012155	1540	LINE 15.1		9

2. Station location

State TEXAS	City or Town HUMBLE
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3. Transmitter location

State TX	County MONTGOMERY	City or Town PORTER	Street address (or other identification) 21575 FM 1314 WEST
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4. Main studio location

State TX	County HARRIS	City or Town HOUSTON	Street address (or other identification) 5353 W. ALABAMA SUITE 450
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5. Remote control point location (specify only if authorized directional antenna)

State TX	County HARRIS	City or Town HOUSTON	Street address (or other identification) 5353 W. ALABAMA SUITE 450
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6. Has type-approved stereo generating equipment been installed?



Yes



No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68?



Yes



No



Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed.

Exhibit No.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 8.05		RF common point or antenna current (in amperes) without modulation for day system 32.5	
Measured antenna or common point resistance (in ohms) at operating frequency Night 50	Day 50	Measured antenna or common point reactance (in ohms) at operating frequency Night 0	Day 0

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
1 (Southwest)	0.0	-95.7	1.000	0.534	0.0	0.0
2 (Northwest)	108.0	0.0	1.068	1.000		
3 (Northeast)	104.8	-	0.799	-		
4 (Southeast)	-17.7	-	0.731	-		

Manufacturer and type of antenna monitor:

Rotenna, model number AA419J, J...

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 guy-uniform cross-sect	Overall height in meters of radiator above base insulator, or above base, if grounded. 63.5	Overall height in meters above ground (without obstruction lighting) 64.6	Overall height in meters above ground (include obstruction lighting) 65.5	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. Exhibit No.
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Excitation



Series



Shunt

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

North Latitude	30° 08' 21"	West Longitude	95° 17' 24"
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If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits.

Exhibit No.

3

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

Exhibit No.

4

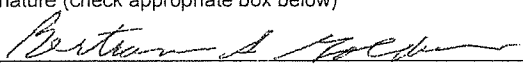
10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

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) Bertram S. Goldman	Signature (check appropriate box below) 
Address (include ZIP Code) 8226 Douglas Ave. Suite 627 Dallas, TX 75225	Date 6/20/2011
	Telephone No. (Include Area Code) 469-619-1005



Technical Director



Registered Professional Engineer



Chief Operator



Technical Consultant



Other (specify)

ENGINEERING STATEMENT
IN SUPPORT OF 302-AM

APPLICATION FOR LICENSE EMPLOYING
MOMENT METHOD MODELING

KGOL 1180kHz
Construction Permit BP-19870331BS

50KW DA-D, 3KW DA-N

Humble, TX.

June 20, 2011

ENGINEERING STATEMENT IN SUPPORT OF 302-AM
APPLICATION FOR LICENSE EMPLOYING
MOMENT METHOD MODELING

KGOL 1180kHz
BP-19870331BS

June 20, 2011

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ENGINEERING STATEMENT

FORMS: FORM 302-AM
 Form 302-AM, Exhibit 1 – Station Operation
 Form 302-AM, Exhibit 2 – Description of sampling system
 Form 302-AM, Exhibit 3 – Tower details and isolation circuits
 Form 302-AM, Exhibit 4 – Description of ground system

EXECUTIVE SUMMARY:

EXHIBITS:

- I. Tower Base Impedance Measurements
- II. Individual Tower Measurements vs. Modeled
- III. MoM Model Parameters
- IV. Derived and measured Operating Parameters
- V. MoM Analysis for Towers driven Individually
- VI. Medium Wave Array Synthesis From Field Ratios
- VII. Tower Base Circuit Analysis Model
- VIII. Reference Field Measurements
- IX. Survey of Towers As Built (towers 3 and 4)

Form 302-AM, Exhibit 1 – Station Operation

SUMMARY

The following engineering statement has been prepared on behalf of Entravision Holdings, LLC. licensee of standard broadcast station KGOL, FCC ID 34473, 1180kHz, Humble, Texas. KGOL holds construction permit BP- 19870331BS which authorizes an increase in nighttime power from 1kW to 3kW along with a reconfiguration in operating parameters and relocation of towers 3 and 4.

The towers and ground system have been constructed in accordance with the terms of the construction permit.

There has been no change in the daytime facilities other than a change in operating parameters and replacement of sample lines in order to comply with the method of moments ("MoM") requirements and calculated values.

The day and night antenna systems have been adjusted to produce monitoring system parameters which are within $\pm 5\%$ in field ratio and $\pm 3^\circ$ in phase of the modeled values as required by 73.151(c)(2)(ii).

DESCRIPTION OF TRANSMISSION FACILITIES AS CONSTRUCTED

TOWERS	Electrical , 90°. Each tower face, 18" uniform cross-section, 1"O.D. leg with Lapp Base insulator (appx. 14pF). 4 identical towers 65.5m AGL including lighting. Tower 1- 1048052, day and night (no change) Tower 2- 1048053, day and night (no change) Tower 3- 1048054, night only (ASR modified, new location) Tower 4- 1048055, night only (ASR modified, new location)
GROUND SYSTEM	120 equally spaced, buried, #10 copper radials about the base of each tower, each 61 meters in length except where intersecting common chords or property lines limit length. Intersecting radials are shortened and bonded to a transverse copper strap midway between adjacent towers.

Form 302-AM, Exhibit 2 – Description of sampling system

DESCRIPTION OF SAMPLING SYSTEM AS CONSTRUCTED

Samples for the antenna monitor are obtained from toroidal current transformers mounted at the outputs of the antenna coupling units. Samples are returned to the antenna monitor using equal lengths of Andrew LDF4-50A foam phase stabilized coaxial cable with solid copper outer shield.

All sample lines were tested and verified to be within 1° electrical length and with characteristic impedance to be within FCC guidelines . Verification of the sample lines and sampling transformers is included in the attached Method of Moments application.

The phase monitor is a Potomac Instruments AM-19D antenna monitor. 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 within .002 current ratio and 0.2 degrees phase.

Measured phases and ratios at 1180kHz are shown below:

REF TWR 1

REF TWR 2

TWR	Ratio	Phase		TWR	Ratio	Phase
1	1.0	0.0		1	1.002	+0.1
1-2	1.0	0.0		2-1	1.0	0.0
1-3	0.998	-0.1		2-3	0.999	-0.1
1-4	0.999	+0.1		2-4	1.001	+0.1

Toroidal sample devices were tested for accuracy and were certified as being within 1 percent ratio and 1 degree phase accuracy. Devices were placed on the same conductor in the transmitter building and then measured connected to the same input of the phase monitor at 1180kHz. Sample devices were measured when connected to the phase monitor with coax jumpers at the exact same length:

Current Source	Toroid 1 Ratio / Phase	Toroid 2 Ratio / Phase	Toroid 3 Ratio / Phase	Toroid 4 Ratio / Phase
1.0 Amp	1.003 / -0.1	1.0 / 0	1.001 / -0.4	1.002 / -0.4
2.0 Amp	1.003 / -0.1	1.0 / 0	1.001 / -0.3	1.002 / -0.3
2.0 Amp (1&3 Swapped)	1.002 / -0.3	1.0 / 0	1.003 / -0.1	1.002 / -0.3
3.0 Amp	1.003 / -0.1	1.0 / 0	1.001 / -0.4	1.002 / -0.4

Impedance measurements were made of the antenna sampling system using an Array Solutions Model AIM4170C Vector Network Analyzer (VNA). The measurements were made looking into the antenna monitor ends of the sample lines with the tower ends open-circuited. All connectors were installed on the sample lines and readings were normalized to include the test leads.

The table below shows the frequencies above and below the carrier frequency where resonance, defined as zero reactance corresponding with low resistance, was found. As the length of distortionless transmission line is 180 electrical degrees at the difference frequency between adjacent frequencies of resonance, and frequencies of resonance occur at odd multiples of 90 degrees electrical length, the sample line length at the resonant frequency above carrier frequency, which is the closest one to the carrier frequency, was found to be 270 electrical degrees. The electrical length at carrier frequency appearing in the table below was calculated by ratioing the frequencies.

KGOL Tower Sample Measurements

	Resonance Below 1180Khz	Resonance Above 1180Khz	Calculated Electrical Length	Impedance into TCT @1180kHz
Tower 1	552.0	1652.7	192.8	49.8 -j0.5
Tower 2	552.4	1658.0	192.2	50.6 -j0.3
Tower 3	552.6	1656.0	192.4	49.5 -j0.5
Tower 4	552.0	1658.5	192.1	50.8 -j0.6

Max Delta 0.7deg

Based upon the measurements shown above, the sample lines are within the one electrical degree requirement.

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 $R1 + jX1$ and $R2 + jX2$ are the measured impedances at the +45 and -45 degree offset frequencies, respectively:

$$Z_0 = ((R1^2 + X1^2)^{1/2} \times (R2^2 + X2^2)^{1/2})^{1/2}$$

KGOL Sample Line Characteristic Impedance Measurements

	+45 Degree Offset Frequency (KHz)	+45 Degree Measured Impedance (Ohms)	-45 Degree Offset Frequency (KHz)	-45 Degree Measured Impedance (Ohms)	Calculated Characteristic Impedance (Ohms)
Tower 1	1401.3	2.90 -j44.6	840.8	3.95 +j54.5	49.42
Tower 2	1425.0	2.84 -j43.4	855.0	4.03 +j56.2	49.51
Tower 3	1418.8	2.73 -j43.3	851.3	4.53 +j56.1	49.39
Tower 4	1422.5	2.79 -j43.5	853.5	3.97 +j55.7	49.32

MAX Impedance 49.51
MIN Impedance 49.32

As shown above, the sample lines measured characteristic impedances meet the requirement that they be equal to 50 Ohms within ± 2 ohms.

The sampling system for KGOL is type approved under 47CFR 73.68 of the FCC rules.

Form 302-AM, Exhibit 3 – Tower details and isolation circuits

The following isolation circuits are attached to the KGOL towers and have been included in the MoM analysis:

All Towers: Standard tower lighting (beacon and side markers) fed with an isolation coil inside the phasor.

Form 302-AM, Exhibit 4 – Description of ground system

GROUND SYSTEM 120 equally spaced, buried, #10 copper radials about the base of each tower, each 61 meters in length except where intersecting common chords or property lines limit length. Intersecting radials are shortened and bonded to a transverse copper strap midway between adjacent towers.

New ground system replaced the old system on towers 3 and 4.

Post Construction Verification- Certification

As shown in the as-built survey attached as Exhibit IX, all towers were built as specified to within one second of the location specified in the pre-construction documents.

The survey was signed and sealed by Robert D. Ellis, Registered Professional Land Surveyor, Texas registration number 4006. The final survey was completed on 10/20/2010 as indicated on the text block on the attached survey copy. All relative tower orientations and distances are verified to be exactly as specified in the construction permit.

Direct Measurement of Power

Common point impedance was measured with a Delta OIB-3 calibrated RF ammeter. The common point current was measured with a Delta TCA toroidal RF current meter permanently installed in the phasing cabinet.

Common point resistance was set to $50\Omega \pm j0$. The transmitter was adjusted to yield the correct current as reflected on the 302-AM attached.

CONCLUSION

All adjustments and measurements were conducted jointly by Bertram Goldman and Kurt Gorman. Method of Moments analysis was conducted by Kurt Gorman. Both Gorman's and Goldman's qualifications are a matter of record with the Federal Communications Commission.

This application was prepared on behalf of Entravision Holdings, LLC. by Bertram Goldman of Independence Broadcast Services, LLC. All statements herein are true and correct to the best of his knowledge.



Bertram S. Goldman
V.P. Engineering

Independence Broadcast Services, LLC.

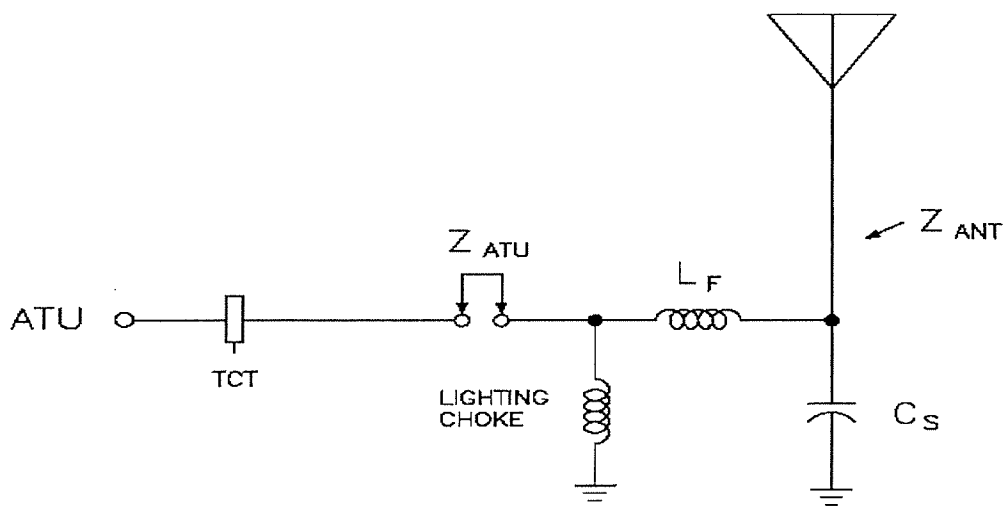
EXHIBIT I
Tower Base Impedance Measurements

The impedance of each tower was measured at the J plug at the output of the T matching network at the base of each tower. All impedance measurements were obtained using a Delta OIB-3 operating impedance bridge with a Potomac Instruments SG-31/SD31 RF generator/ detector operating at 1180kHz. Measurements were taken with the test leads shorted (for reference), from the J plug to the tower with the tower base shorted, and from the J plug to the tower with the tower in-circuit. All measurements were taken for each tower with all other towers open-circuited.

The following exhibit II describes the measurement conditions and assumptions used in the MoM analysis.

EXHIBIT II

Tower Impedance Measurements Compared to Method of Moments Model



TOWER	Specified C_s (pf)	Measured L_F (μ H)	Measured X_F (Ω)	Modeled Z_{ANT} (Ω)	Modeled Z_{ATU} (Ω)	Measured Z_{ATU} (Ω)
1	14	3.35	+j24.8	50.0 + j 52.2	48.7 + j 76.2	49.0 + j 75.5
2	14	3.82	+j28.3	51.6 + j 51.9	50.1 + j 79.3	49.0 + j 77.9
3	14	3.44	+j25.5	50.4 + j 51.7	49.0 + j 76.4	49.5 + j 77.0
4	14	3.57	+j26.5	50.9 + j 51.2	49.5 + j 76.8	50.0 + j 76.5

Circuit Analysis for Towers Driven Individually

BASE NETWORK COMPUTATION
PHASETEK INC.
QUAKERTOWN PA

CUSTOMER : KGOL
NETWORK ID : TOWER 1 (OTHERS OPEN)

FREQUENCY : 1180.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 24.80 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
TOWER IMPEDANCE (R,X) : 50.00, 52.20 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	50.54	52.22
1		2	0.00	24.80

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	78.89	-10.79

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	48.65	76.17	90.38	57.44
INPUT CURRENT (AMPS) :	0.60	-0.93	1.11	-57.44
OUTPUT CURRENT (AMPS) :	0.59	-0.92	1.09	-57.02

INPUT/OUTPUT CURRENT RATIO = 1.0138
INPUT/OUTPUT PHASE = -0.41 DEGREES

CUSTOMER : KGOL

NETWORK ID : TOWER 2 (OTHERS OPEN)

FREQUENCY : 1180.00 kHz

ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS

TOWER FEED IMPEDANCE (R,X) : 0.00, 28.30 OHMS

TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS

TOWER IMPEDANCE (R,X) : 51.60, 51.90 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	52.16	51.90
1		2	0.00	28.30

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	76.91	-12.10

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	50.12	79.26	93.78	57.69
INPUT CURRENT (AMPS) :	0.57	-0.90	1.07	-57.69
OUTPUT CURRENT (AMPS) :	0.57	-0.88	1.05	-57.27

INPUT/OUTPUT CURRENT RATIO = 1.0147

INPUT/OUTPUT PHASE = -0.42 DEGREES

CUSTOMER : KGOL

NETWORK ID : TOWER 3 (OTHERS OPEN)

FREQUENCY : 1180.00 kHz

ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS

TOWER FEED IMPEDANCE (R,X) : 0.00, 25.50 OHMS

TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS

TOWER IMPEDANCE (R,X) : 50.40, 51.70 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	50.94	51.71
1		2	0.00	25.50

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	78.47	-11.15

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	49.03	76.36	90.74	57.30
INPUT CURRENT (AMPS) :	0.60	-0.93	1.10	-57.30
OUTPUT CURRENT (AMPS) :	0.59	-0.91	1.09	-56.88

INPUT/OUTPUT CURRENT RATIO = 1.0139

INPUT/OUTPUT PHASE = -0.41 DEGREES

CUSTOMER : KGOL

NETWORK ID : TOWER 4 (OTHERS OPEN)

FREQUENCY : 1180.00 kHz

ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS

TOWER FEED IMPEDANCE (R,X) : 0.00, 26.50 OHMS

TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS

TOWER IMPEDANCE (R,X) : 50.90, 51.20 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	51.44	51.20
1		2	0.00	26.50

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	100.00	0.00
2	77.89	-11.63

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	49.49	76.84	91.40	57.22
INPUT CURRENT (AMPS) :	0.59	-0.92	1.09	-57.22
OUTPUT CURRENT (AMPS) :	0.59	-0.90	1.08	-56.80

INPUT/OUTPUT CURRENT RATIO = 1.0141

INPUT/OUTPUT PHASE = -0.42 DEGREES

EXHIBIT III

MoM Model Parameters

Tower	Wire No.	No. Segments	Base Node	Radius	Model Length (degrees)	Physical Length (degrees)
1	1	12	1	.24	96.2	90.0
2	2	12	13	.24	96.0	90.0
3	3	12	25	.24	96.1	90.0
4	4	12	37	.24	96.0	90.0

Tower 1-4 base insulators- Lapp, 14pF

EXHIBIT IV KGOL DERIVED AND MEASURED OPERATING PARAMETERS

KGOL Calculated / Operating Parameters- DAY

TOWER	Input to Base Network Current	TCT Value Ratio/ Phase ¹	Indicated Ratio/Phase*
1	15.36/-92.9°	.534/-95.7°	.540/-95.9°
2	28.78/3.59°	1.00/ +0.0°	1.00/ +0.0°
3	Tower detuned +j497.3		
4	Tower detuned +j496.9		

KGOL Calculated / Operating Parameters - NIGHT

TOWER	Input to Base Network Current	TCT Value Ratio/ Phase ¹	Indicated Ratio/Phase*
1	5.58/4.42°	1.00/0.0°	1.00/+0.0°
2	5.96/ 112.42°	1.068/+108.0°	1.044/+108.3°
3	4.46/ 109.24°	.799/+104.8°	.802/+104.7°
4	4.08/ -13.30°	.731/ -17.7°	.731/ -18.0°

¹These numbers are submitted as final operating parameters on FCC 302-AM application.

* Final antenna monitor indications from Potomac Instruments AM-19D antenna monitor.

EXHIBIT V

Method of Moment Analysis

(KGOL)Tower 1 (SW) Tower- Others Floating

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4
current nodes = 48

	minimum	maximum
Individual wires	wire value	wire value
segment length	2 8.	1 8.01667
radius	1 .24	1 .24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency	no. of	segment length (wavelengths)
no. lowest step	steps	minimum maximum
1 1.18 0	1	.0222222 .0222685

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	-9,634.1	0	0	0
2	25	0	-9,634.1	0	0	0
3	37	0	-9,634.1	0	0	0

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IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.18	49.969	52.182	72.249	46.2	2.7225	-6.6934	-1.0464

(KGOL2) Tower 2 (NW) Tower- Others Floating

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4

current nodes = 48

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	2	8.	1	8.01667
radius	1	.24	1	.24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency			no. of segment length (wavelengths)		
no.	lowest	step	steps	minimum	maximum
1	1.18	0	1	.0222222	.0222685

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	-9,634.1	0	0	0
2	25	0	-9,634.1	0	0	0
3	37	0	-9,634.1	0	0	0

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IMPEDANCE

normalization = 50.

freq	resist	react	imped	phase	VSWR	S11	S12
(MHz)	(ohms)	(ohms)	(ohms)	(deg)		dB	dB
source = 1; node 13, sector 1							
1.18	51.599	51.929	73.206	45.2	2.672	-6.8334	-1.0091

(KGOL3) Tower 3 (NE) Tower- Others Floating

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4
current nodes = 48

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	2	8.	1	8.01667
radius	1	.24	1	.24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency		no. of steps	segment length (wavelengths)	
no.	lowest		minimum	maximum
1	1.18	0	.0222222	.0222685

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	-9,634.1	0	0	0
2	13	0	-9,634.1	0	0	0
3	37	0	-9,634.1	0	0	0

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IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 25, sector 1							
1.18	50.428	51.735	72.246	45.7	2.6898	-6.7833	-1.0223

(KGOL4) Tower 4 (SE) Tower- Others Floating

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4
current nodes = 48

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	2	8.	1	8.01667
radius	1	.24	1	.24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency			no. of steps	segment length (wavelengths)	
no.	lowest	step		minimum	maximum
1	1.18	0	1	.0222222	.0222685

Sources

source node	sector	magnitude	phase	type
1	37	1	0	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	1	0	-9,634.1	0	0	0
2	13	0	-9,634.1	0	0	0
3	25	0	-9,634.1	0	0	0

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IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 37, sector 1							
1.18	50.928	51.169	72.194	45.1	2.6514	-6.8922	-.99382

EXHIBIT VI

(KGOLDA-DAY)Medium Wave Array Synthesis From Field Ratios

MEDIUM WAVE ARRAY SYNTHESIS FROM FIELD RATIOS

Frequency = 1.18 MHz

tower	field ratio magnitude	phase (deg)
1	.6	-100.
2	1.	0
3	0	0
4	0	0

VOLTAGES AND CURRENTS - rms

source	voltage magnitude	phase (deg)	current magnitude	phase (deg)
1	2,101.89	317.1	15.0376	268.7
13	1,524.11	51.8	28.4101	3.9
25	294.611	218.6	.59236	307.5
37	369.559	217.	.743618	305.9

Sum of square of source currents = 2,068.34

Total power = 50,000. watts

TOWER ADMITTANCE MATRIX

admittance	real (mhos)	imaginary (mhos)
Y(1, 1)	.00780073	-.00825471
Y(1, 2)	.00462429	.0032675
Y(1, 3)	.000371949	-.000613983
Y(1, 4)	.00148693	-.00161515
Y(2, 1)	.00462428	.00326752
Y(2, 2)	.0102189	-.00791463
Y(2, 3)	.00333751	-.00119985
Y(2, 4)	.00493206	-.000526812
Y(3, 1)	.000371948	-.000613982
Y(3, 2)	.00333751	-.00119986
Y(3, 3)	.00819679	-.00817831
Y(3, 4)	.00478849	.00398008
Y(4, 1)	.00148692	-.00161515
Y(4, 2)	.00493206	-.000526814
Y(4, 3)	.00478849	.00398009
Y(4, 4)	.00897052	-.00810871

TOWER IMPEDANCE MATRIX

impedance	real (ohms)	imaginary (ohms)
Z(1, 1)	50.1389	52.2211
Z(1, 2)	25.7749	-25.7258
Z(1, 3)	-13.5013	11.0602
Z(1, 4)	-18.0658	-.214263
Z(2, 1)	25.7748	-25.7258
Z(2, 2)	51.6567	51.939
Z(2, 3)	-16.3368	-11.2547
Z(2, 4)	-13.3874	-15.4629
Z(3, 1)	-13.5013	11.0602
Z(3, 2)	-16.3368	-11.2547
Z(3, 3)	50.561	51.7754
Z(3, 4)	27.6602	-24.1039
Z(4, 1)	-18.0657	-.214291
Z(4, 2)	-13.3875	-15.4629
Z(4, 3)	27.6602	-24.1039
Z(4, 4)	51.024	51.2146

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4
current nodes = 48

	minimum	maximum
Individual wires	wire value	wire value
segment length	2 8.	1 8.01667
radius	1 .24	1 .24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency		no. of		segment length (wavelengths)	
no. lowest	step	steps	minimum	maximum	
1 1.18	0	1	.0222222	.0222685	

Sources

source	node	sector	magnitude	phase	type
1	1	1	2,972.52	317.1	voltage
2	13	1	2,155.42	51.8	voltage

Lumped loads

load	node	resistance (ohms)	reactance (ohms)	inductance (mH)	capacitance (uF)	passive circuit
1	25	0	497.26	0	0	0
2	37	0	496.87	0	0	0

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IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.18	92.75	104.57	139.78	48.4	4.5314	-3.8978	-2.2738
source = 2; node 13, sector 1							
1.18	35.946	39.81	53.637	47.9	2.6083	-7.0187	-.96188

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CURRENT rms

Frequency = 1.18 MHz

Input power = 50,000. watts

Efficiency = 100. %

coordinates in degrees

current				mag	phase	real	imaginary
no.	X	Y	Z	(amps)	(deg)	(amps)	(amps)
GND	0	0	0	15.0379	268.7	-.348609	-15.0339
2	0	0	8.01667	16.157	264.9	-1.44164	-16.0926
3	0	0	16.0333	16.5818	262.7	-2.09822	-16.4485
4	0	0	24.05	16.5643	261.1	-2.55854	-16.3655
5	0	0	32.0667	16.1381	259.8	-2.85189	-15.8841
6	0	0	40.0833	15.3235	258.7	-2.99003	-15.0289
7	0	0	48.1	14.1399	257.8	-2.97998	-13.8223
8	0	0	56.1167	12.6088	257.	-2.82782	-12.2876
9	0	0	64.1333	10.7534	256.3	-2.53977	-10.4492
10	0	0	72.15	8.59622	255.7	-2.12184	-8.33023
11	0	0	80.1667	6.15163	255.1	-1.578	-5.94579
12	0	0	88.1833	3.40391	254.6	-.903857	-3.28172
END	0	0	96.2	0	0	0	0
GND	78.7158	-43.6329	0	28.4162	3.9	28.3511	1.92282
14	78.7158	-43.6329	8.	29.0635	2.3	29.0394	1.18469
15	78.7158	-43.6329	16.	28.9238	1.4	28.9154	.696064
16	78.7158	-43.6329	24.	28.1923	.6	28.1907	.300051
17	78.7158	-43.6329	32.	26.907	360.	26.907	-.0204817
18	78.7158	-43.6329	40.	25.0989	359.4	25.0974	-.270362
19	78.7158	-43.6329	48.	22.801	358.9	22.7965	-.450596
20	78.7158	-43.6329	56.	20.05	358.4	20.0422	-.561019
21	78.7158	-43.6329	64.	16.8849	358.	16.8742	-.601223
22	78.7158	-43.6329	72.	13.3422	357.5	13.33	-.570749
23	78.7158	-43.6329	80.	9.44591	357.2	9.43428	-.46859
24	78.7158	-43.6329	88.	5.17399	356.8	5.1658	-.290999
END	78.7158	-43.6329	96.	0	0	0	0
GND	142.705	-233.788	0	.590846	308.5	.367741	-.462456
26	142.705	-233.788	8.00833	.361141	308.6	.225075	-.282425
27	142.705	-233.788	16.0167	.210264	308.9	.132046	-.16363
28	142.705	-233.788	24.025	.0892104	310.6	.058045	-.0677442
29	142.705	-233.788	32.0333	9.5E-03	93.2	-5.28E-04	9.48E-03
30	142.705	-233.788	40.0417	.0826391	123.	-.0449805	.0693252
31	142.705	-233.788	48.05	.135439	124.1	-.0759595	.112133
32	142.705	-233.788	56.0583	.166934	124.3	-.0939567	.137982
33	142.705	-233.788	64.0667	.177398	124.1	-.0994695	.146887
34	142.705	-233.788	72.075	.167118	123.8	-.0930282	.138831
35	142.705	-233.788	80.0833	.136219	123.5	-.0751123	.113639
36	142.705	-233.788	88.0917	.0840139	123.	-.0458008	.0704316
END	142.705	-233.788	96.1	0	0	0	0
GND	57.079	-227.241	0	.741842	306.9	.445856	-.592909
38	57.079	-227.241	8.	.453804	307.	.273154	-.362388
39	57.079	-227.241	16.	.264518	307.4	.160586	-.210196
40	57.079	-227.241	24.	.112541	309.2	.0710732	-.0872587
41	57.079	-227.241	32.	.0118496	88.8	2.53E-04	.0118469
42	57.079	-227.241	40.	.103586	121.1	-.0534674	.0887204
43	57.079	-227.241	48.	.170099	122.3	-.0908856	.143783
44	57.079	-227.241	56.	.209872	122.5	-.112613	.177101
45	57.079	-227.241	64.	.223201	122.3	-.119274	.18866
46	57.079	-227.241	72.	.210412	122.	-.111538	.178417
47	57.079	-227.241	80.	.171621	121.6	-.0900173	.146118
48	57.079	-227.241	88.	.105918	121.2	-.054853	.0906077
END	57.079	-227.241	96.	0	0	0	0

(KGOLDA-NIGHT) Medium Wave Array Synthesis From Field Ratios

MEDIUM WAVE ARRAY SYNTHESIS FROM FIELD RATIOS

Frequency = 1.18 MHz

	field ratio	
tower	magnitude	phase (deg)
1	1.	0
2	1.	111.8
3	.745	107.6
4	.732	-19.

VOLTAGES AND CURRENTS - rms

source	voltage		current	
node	magnitude	phase (deg)	magnitude	phase (deg)
1	507.183	62.4	5.48576	4.9
13	249.473	195.	5.88407	112.5
25	183.506	177.9	4.40677	109.3
37	410.543	38.8	4.00196	347.3

Sum of square of source currents = 200.302

Total power = 3,000. watts

TOWER ADMITTANCE MATRIX

admittance	real (mhos)	imaginary (mhos)
Y(1, 1)	.00780073	-.00825471
Y(1, 2)	.00462429	.0032675
Y(1, 3)	.000371949	-.000613983
Y(1, 4)	.00148693	-.00161515
Y(2, 1)	.00462428	.00326752
Y(2, 2)	.0102189	-.00791463
Y(2, 3)	.00333751	-.00119985
Y(2, 4)	.00493206	-.000526812
Y(3, 1)	.000371948	-.000613982
Y(3, 2)	.00333751	-.00119986
Y(3, 3)	.00819679	-.00817831
Y(3, 4)	.00478849	.00398008
Y(4, 1)	.00148692	-.00161515
Y(4, 2)	.00493206	-.000526814
Y(4, 3)	.00478849	.00398009
Y(4, 4)	.00897052	-.00810871

TOWER IMPEDANCE MATRIX

impedance	real (ohms)	imaginary (ohms)
Z(1, 1)	50.1389	52.2211
Z(1, 2)	25.7749	-25.7258
Z(1, 3)	-13.5013	11.0602
Z(1, 4)	-18.0658	-.214263
Z(2, 1)	25.7748	-25.7258
Z(2, 2)	51.6567	51.939
Z(2, 3)	-16.3368	-11.2547
Z(2, 4)	-13.3874	-15.4629
Z(3, 1)	-13.5013	11.0602
Z(3, 2)	-16.3368	-11.2547
Z(3, 3)	50.561	51.7754
Z(3, 4)	27.6602	-24.1039
Z(4, 1)	-18.0657	-.214291
Z(4, 2)	-13.3875	-15.4629
Z(4, 3)	27.6602	-24.1039
Z(4, 4)	51.024	51.2146

KGOL

GEOMETRY

Wire coordinates in degrees; other dimensions in meters

Environment: perfect ground

wire	caps	Distance	Angle	Z	radius	segs
1	none	0	0	0	.24	12
		0	0	96.2		
2	none	90.	29.	0	.24	12
		90.	29.	96.		
3	none	273.9	58.6	0	.24	12
		273.9	58.6	96.1		
4	none	234.3	75.9	0	.24	12
		234.3	75.9	96.		

Number of wires = 4
current nodes = 48

	minimum		maximum	
Individual wires	wire	value	wire	value
segment length	2	8.	1	8.01667
radius	1	.24	1	.24

ELECTRICAL DESCRIPTION

Frequencies (MHz)

frequency		no. of steps	segment length (wavelengths)	
no.	lowest		minimum	maximum
1	1.18	0	.0222222	.0222685

Sources

source	node	sector	magnitude	phase	type
1	1	1	717.265	62.4	voltage
2	13	1	352.808	195.	voltage
3	25	1	259.517	177.9	voltage
4	37	1	580.596	38.8	voltage

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IMPEDANCE

normalization = 50.

freq (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 dB
source = 1; node 1, sector 1							
1.18	49.582	78.035	92.454	57.6	4.2194	-4.1969	-2.0793
source = 2; node 13, sector 1							
1.18	5.5107	42.038	42.398	82.5	15.533	-1.1199	-6.4338
source = 3; node 25, sector 1							
1.18	15.244	38.751	41.642	68.5	5.3689	-3.2738	-2.7618
source = 4; node 37, sector 1							
1.18	63.756	80.368	102.59	51.6	3.824	-4.6508	-1.8224

C:\Documents and Settings\KURT\Desktop\ENGINEER\KGOLMOM\KGOLNIGHT1 04-17-2011
13:18:44

CURRENT rms

Frequency = 1.18 MHz

Input power = 3,000. watts

Efficiency = 100. %

coordinates in degrees

current no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (amps)
GND	0	0	0	5.48576	4.9	5.46588	.466583
2	0	0	8.01667	5.77333	2.8	5.76638	.283259
3	0	0	16.0333	5.84667	1.6	5.84439	.163326
4	0	0	24.05	5.7778	.7	5.77741	.0675717
5	0	0	32.0667	5.57793	359.9	5.57792	-8.52E-03
6	0	0	40.0833	5.25448	359.3	5.25406	-.0664977
7	0	0	48.1	4.81468	358.7	4.81349	-.107046
8	0	0	56.1167	4.26634	358.2	4.26434	-.130636
9	0	0	64.1333	3.61773	357.8	3.61511	-.137735
10	0	0	72.15	2.87677	357.4	2.87388	-.12883
11	0	0	80.1667	2.04856	357.1	2.04591	-.104298
12	0	0	88.1833	1.12825	356.8	1.12644	-.0638975
END	0	0	96.2	0	0	0	0
GND	78.7158	-43.6329	0	5.88406	112.5	-2.2488	5.43738
14	78.7158	-43.6329	8.	6.02606	112.2	-2.27982	5.57816
15	78.7158	-43.6329	16.	5.99994	112.1	-2.25498	5.56006
16	78.7158	-43.6329	24.	5.84936	111.9	-2.18605	5.42551
17	78.7158	-43.6329	32.	5.58294	111.8	-2.07585	5.18267
18	78.7158	-43.6329	40.	5.20754	111.7	-1.92697	4.8379
19	78.7158	-43.6329	48.	4.73029	111.6	-1.74225	4.39775
20	78.7158	-43.6329	56.	4.159	111.5	-1.52483	3.86939
21	78.7158	-43.6329	64.	3.50188	111.4	-1.27807	3.26032
22	78.7158	-43.6329	72.	2.76667	111.3	-1.00512	2.57763
23	78.7158	-43.6329	80.	1.95839	111.2	-.708174	1.82586
24	78.7158	-43.6329	88.	1.07254	111.1	-.386002	1.00067
END	78.7158	-43.6329	96.	0	0	0	0
GND	142.705	-233.788	0	4.40677	109.3	-1.45841	4.15844
26	142.705	-233.788	8.00833	4.50228	108.7	-1.44112	4.26541
27	142.705	-233.788	16.0167	4.47618	108.3	-1.40204	4.25094
28	142.705	-233.788	24.025	4.35866	107.9	-1.34067	4.14735
29	142.705	-233.788	32.0333	4.15583	107.6	-1.25789	3.96089
30	142.705	-233.788	40.0417	3.87275	107.4	-1.15506	3.69649
31	142.705	-233.788	48.05	3.51472	107.1	-1.0339	3.35922
32	142.705	-233.788	56.0583	3.08761	106.9	-.89635	2.95464
33	142.705	-233.788	64.0667	2.59758	106.7	-.744513	2.4886
34	142.705	-233.788	72.075	2.0505	106.4	-.58039	1.96665
35	142.705	-233.788	80.0833	1.4502	106.2	-.405405	1.39239
36	142.705	-233.788	88.0917	.793508	106.	-.21906	.762671
END	142.705	-233.788	96.1	0	0	0	0
GND	57.079	-227.241	0	4.00197	347.3	3.90338	-.882794
38	57.079	-227.241	8.	4.22023	344.6	4.06883	-1.12026
39	57.079	-227.241	16.	4.28022	343.1	4.09444	-1.24733
40	57.079	-227.241	24.	4.23521	341.9	4.0249	-1.31801
41	57.079	-227.241	32.	4.0932	340.9	3.86787	-1.33935
42	57.079	-227.241	40.	3.85952	340.1	3.62872	-1.31467
43	57.079	-227.241	48.	3.5394	339.4	3.31269	-1.24638
44	57.079	-227.241	56.	3.13855	338.8	2.92542	-1.13684
45	57.079	-227.241	64.	2.66305	338.2	2.47282	-.988436
46	57.079	-227.241	72.	2.11877	337.7	1.9605	-.803506
47	57.079	-227.241	80.	1.50952	337.3	1.39214	-.583606
48	57.079	-227.241	88.	.831756	336.8	.764644	-.327319
END	57.079	-227.241	96.	0	0	0	0

EXHIBIT VII

Tower Base Circuit Analysis Model

Circuit analysis was performed on each tower of the KGOL model. "Phasetek" nodal circuit Analysis program was used to compute base model input/output voltages and currents. For the directional modes, the calculated Mininec tower base drive voltage was used to Determine the base network input current. This point is the location of the sampling TCT.

BASE NETWORK COMPUTATION
PHASETEK INC.
QUAKERTOWN PA

TOWER ANALYSIS - DAY

CUSTOMER : KGOL
NETWORK ID : TOWER 1 DAY

FREQUENCY : 1180.00 kHz
 ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 24.80 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
 TOWER IMPEDANCE (R,X) : 92.75, 104.57 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	94.79	104.79
1		2	0.00	24.80

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	2388.33	-36.95
2	2101.89	317.10

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	88.89	127.57	155.48	55.13
INPUT CURRENT (AMPS) :	-0.56	-15.35	15.36	-92.09
OUTPUT CURRENT (AMPS) :	-0.35	-15.03	15.04	-91.33

INPUT/OUTPUT CURRENT RATIO = 1.0215
 INPUT/OUTPUT PHASE = -0.76 DEGREES

CUSTOMER : KGOL
NETWORK ID : TOWER 2 DAY

FREQUENCY : 1180.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 28.30 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
TOWER IMPEDANCE (R,X) : 35.95, 39.81 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	36.25	39.84
1		2	0.00	28.30

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	2183.96	66.09
2	1524.11	51.80

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	35.04	67.31	75.89	62.50
INPUT CURRENT (AMPS) :	28.72	1.80	28.78	3.59
OUTPUT CURRENT (AMPS) :	28.35	1.92	28.41	3.88

INPUT/OUTPUT CURRENT RATIO = 1.0129
INPUT/OUTPUT PHASE = -0.30 DEGREES

BASE NETWORK COMPUTATION
PHASETEK INC.
QUAKERTOWN PA

TOWER ANALYSIS - NIGHT

CUSTOMER : KGOL
NETWORK ID : TOWER 1 NIGHT

FREQUENCY : 1180.00 kHz
 ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
 TOWER FEED IMPEDANCE (R,X) : 0.00, 24.80 OHMS
 TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
 TOWER IMPEDANCE (R,X) : 49.58, 78.04 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	50.39	78.42
1		2	0.00	24.80

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	624.97	69.10
2	507.18	62.40

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	47.88	101.21	111.96	64.68
INPUT CURRENT (AMPS) :	5.57	0.43	5.58	4.42
OUTPUT CURRENT (AMPS) :	5.47	0.46	5.49	4.83

INPUT/OUTPUT CURRENT RATIO = 1.0176
 INPUT/OUTPUT PHASE = -0.41 DEGREES

CUSTOMER : KGOL
NETWORK ID : TOWER 2 NIGHT

FREQUENCY : 1180.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 28.30 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
TOWER IMPEDANCE (R,X) : 5.51, 42.04 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	5.56	42.22
1		2	0.00	28.30

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	414.40	-162.01
2	249.47	195.00

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	5.37	69.31	69.51	85.57
INPUT CURRENT (AMPS) :	-2.27	5.51	5.96	112.42
OUTPUT CURRENT (AMPS) :	-2.25	5.44	5.88	112.47

INPUT/OUTPUT CURRENT RATIO = 1.0132
INPUT/OUTPUT PHASE = -0.05 DEGREES

CUSTOMER : KGOL
NETWORK ID : TOWER 3 NIGHT

FREQUENCY : 1180.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 25.50 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
TOWER IMPEDANCE (R,X) : 15.24, 38.75 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	15.36	38.88
1		2	0.00	25.50

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	290.54	-173.96
2	183.51	177.90

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	14.88	63.42	65.14	76.80
INPUT CURRENT (AMPS) :	-1.47	4.21	4.46	109.24
OUTPUT CURRENT (AMPS) :	-1.46	4.16	4.41	109.37

INPUT/OUTPUT CURRENT RATIO = 1.0120
INPUT/OUTPUT PHASE = -0.13 DEGREES

CUSTOMER : KGOL
NETWORK ID : TOWER 4 NIGHT

FREQUENCY : 1180.00 kHz
ATU SHUNT IMPEDANCE (R,X) : 0.00, 4000.00 OHMS
TOWER FEED IMPEDANCE (R,X) : 0.00, 26.50 OHMS
TOWER SHUNT IMPEDANCE (R,X) : 0.00, -9634.10 OHMS
TOWER IMPEDANCE (R,X) : 63.76, 80.37 OHMS

NODE	TO	NODE	IMPEDANCE (OHMS)	
			R	X
1		GROUND	0.00	4000.00
2		GROUND	64.83	80.61
1		2	0.00	26.50

NODE	VOLTAGE	
	MAGNITUDE	PHASE
1	496.88	46.42
2	410.54	38.80

	REAL	IMAGINARY	MAGNITUDE	PHASE
INPUT IMPEDANCE (OHMS) :	61.48	105.29	121.93	59.72
INPUT CURRENT (AMPS) :	3.97	-0.94	4.08	-13.30
OUTPUT CURRENT (AMPS) :	3.90	-0.88	4.00	-12.77

INPUT/OUTPUT CURRENT RATIO = 1.0184
INPUT/OUTPUT PHASE = -0.52 DEGREES

Reference Field Strength Measurements- KGOL

Reference field strength measurements were made using a Potomac Instruments FIM-41 of known calibration at three locations along radials at the azimuths with radiation values specified on the construction permit and, additionally, on the major lobe radial.

The measured field strengths, descriptions, and GPS coordinates for the reference measurement points are shown on the following pages. All locations indicated are listed using NAD 83 datum. All measurements were taken on June 2, 2011.

DAY 1.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	1.73	30° 09' 16"	95° 17' 23"	1129	117	18539 Rolling Hills Rd.
2	3.36	30° 10' 09"	95° 17' 21"	1105	110	Past Wal-Mart Distrib ctr W. of truck entrance on Gene Campbell Pkwy.
3	4.67	30° 10' 51"	95° 17' 20"	1116	56	End of Country Place Dr.

DAY 56.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	6.08	30° 10' 10"	95° 14' 24"	1058	78	FM1485 at Tri-Star driveway
2	7.21	30° 10' 29"	95° 13' 37"	1043	24	22194 Brooke Forest at mailbox
3	8.63	30° 10' 59"	95° 12' 49"	1026	23	Telco riser 21972 on Blazing Trail
4	11.04	30° 11' 38"	95° 11' 40"	1017	16	State Hwy. 242 at deer crossing sign

DAY 209.1° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	1.19	30° 07' 48"	95° 17' 46"	1135	2.2V	SE Corner Hollow Oaks, Woodmass
2	2.51	30° 07' 10"	95° 18' 10"	1149	950	300ft before end of Mersey Telco Riser F19407
3	3.03	30° 06' 55"	95° 18' 18"	1155	580	19358 Riverwalk across street.
4	3.78	30° 06' 33"	95° 18' 31"	1201	450	Lot 15 on Serpentine Dr.

NIGHT 40° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	4.45	30° 10' 11"	95° 15' 36"	1419	7.8	21405 Gene Campbell Pkwy
2	6.39	30° 11' 01"	95° 14' 50"	1426	7.4	FM1485 Telco riser 330 across st from red house
3	7.6	30° 11' 29"	95° 14' 20"	1433	2.8	W. Pine Dr. 300ft before Gardenia

NIGHT 103.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	2.39	30° 08' 04"	95° 15' 57"	1328	23	On Alyssa La. just No. of intersection at neighborhood watch sign
2	2.94	30° 07' 58"	95° 15' 37"	1333	17	1435 Furguson Rd.
3	6.75	30° 07' 28"	95° 13' 19"	1305	6	22216 Rt. 194, dentists office

NIGHT 164° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	2.47	30° 07' 04"	95° 16' 57"	1234	380	1909 Bernarder Riser F19095
2	2.75	30° 06' 45"	95° 10' 32"	1242	230	NE Corner Volga & Rio Grande
3	5.95	30° 06' 35"	95° 16' 48"	1246	190	19597 Desna Dr.

NIGHT 214° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	1.20	30° 07' 48"	95° 17' 49"	1344	270	Fire Hydrant Misty Moss & New Forest
2	2.89	30° 07' 03"	95° 18' 25"	1224	89	Serpentine Dr. Riser F18331
3	3.63	30° 06' 44"	95° 18' 31"	1220	55	SE Corner Elbe & Serpentine Dr.

NIGHT 250.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	7.95	30° 06' 55"	95° 22' 04"	1639	14	28427 Benders Landing Rd.
2	8.94	30° 06' 43"	95° 22' 39"	1629	8.5	On Birnham Woods Rd. parallel to goalpost at high school.
3	10.22	30° 06' 30"	95° 23' 24"	1615	5.3	Riley-Fuzzell @ Discovery Creek

NIGHT 250.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	7.95	30° 06' 55"	95° 22' 04"	1639	14	28427 Benders Landing Rd.
2	8.94	30° 06' 43"	95° 22' 39"	1629	8.5	On Birnham Woods Rd. parallel to goalpost at high school.
3	10.22	30° 06' 30"	95° 23' 24"	1615	5.3	Riley-Fuzzell @ Discovery Creek

NIGHT 338.5° Radial

Point No	Dist. Km.	Latitude	Longitude	Time	Field mV/m	Comments
1	1.80	30° 09' 15"	95° 17' 50"	1356	23	18074 Rolling Hills
2	3.16	30° 10' 00"	95° 18' 30"	1414	22	Gene Campbell Blvd. Yellow dot in street
3	6.24	30° 11' 29"	95° 18' 49"	1448	10	18309 Old Houston Rd,

