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JUL 25 2011

Federal Communications Commission
Office of the Secretary

July 25, 2011

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Entravision Holdings, LLC
Station KGOL(AM)
Humble, Texas
Facility ID No. 34473
File No. BMML-20110629CGP

Dear Ms. Dortch:

Transmitted herewith, in triplicate, on behalf of Entravision Holdings, LLC, the licensee of Station KGOL(AM), Humble, Texas, is an amendment to the above-referenced application for a license to cover its construction permit in File No. BP-19870331BS.

Should there be any questions concerning this matter, please communicate with the undersigned.

Respectfully submitted,

Barry A. Friedman

Enclosure
cc: Ms. Anne Gallagher, FCC Audio Division (By Hand)
Mr. Rick Hunt (For Public Inspection)

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File No. BMML-2011062?CG?

AMENDMENT

Entravision Holdings, LLC ("Entravision"), the licensee of Station KGOL(AM), Humbl , Texas (FIN: 34473), and the applicant in the above-referenced application for a license to cover the construction permit for the Station, in File No. BP-19870331BS, hereby amends its application to provide certain additional information in regard to the engineering showing contained in Section III of the application.

Walter F. Ulloa
Chief Executive Officer
Entravision Holdings, LLC

Dated: July 25, 2011

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
Amended July 22, 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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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 ± 5% in field ratio and ± 3° 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	Tor oid 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 t o 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:

$$ZO = ((R1^2 + X1^2)^{½} \times (R2^2 + X2^2)^{½})^{½}$$

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	1928.2	2.90 –j44.6	1377.3	3.95 +j54.5	49.42
Tower 2	1934.4	2.84 –j43.4	1381.6	4.03 +j56.2	49.51
Tower 3	1932.1	2.73 -j43.3	1379.9	4.53 +j56.1	49.39
Tower 4	1935.0	2.79 –j43.5	1382.0	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

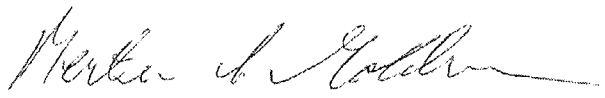
Common point impedance was measured with a Delta OIB-3 calibrated RF ammeter. The common point current was measured with a Delta TCA toroidal RF current meter permanently installed in the phasing cabinet.

Common point resistance was set to 50Ω ±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

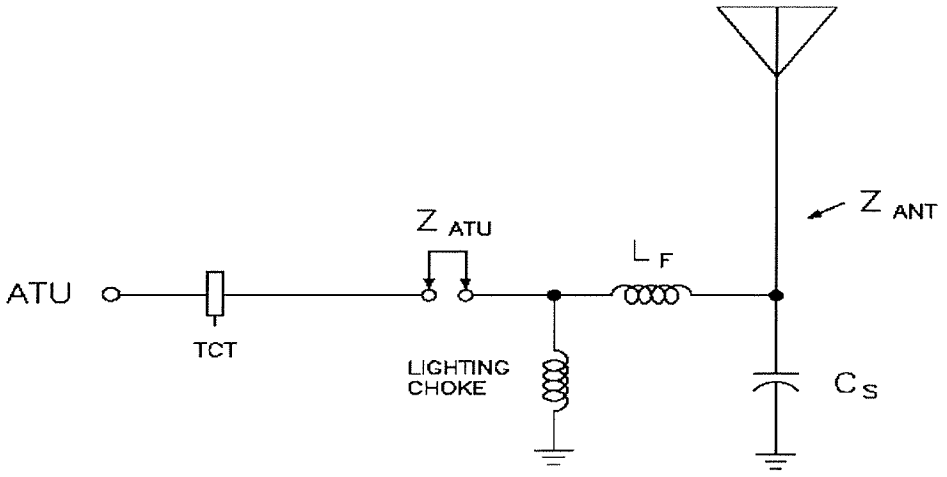
The impedance of each tower was measured at the J plug at the output of the T matching network at the base of each tower. All impedance measurements were obtained using a Delta OIB-3 operating impedance bridge with a Potomac Instruments SG-31/SD31 RF generator/ detector operating at 1180kHz. Measurements 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.

EXHIBTIT II

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	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°

[1]These 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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13:07:55

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 (MHz)	resist (ohms)	react (ohms)	imped (ohms)	phase (deg)	VSWR	S11 dB	S12 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	segment length (wavelengths)	
no.	lowest	step	steps	minimum	maximum
1	1.18	0	1	.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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13:12:32

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

Sources
source node    sector  magnitude      phase          type
 1      37      1       1.             0              voltage

Lumped loads
             resistance    reactance     inductance  capacitance passive
load  node   (ohms)        (ohms)        (mH)        (uF)        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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13:13:56

IMPEDANCE
   normalization = 50.
freq     resist   react    imped    phase    VSWR    S11      S12
(MHz)    (ohms)   (ohms)   (ohms)   (deg)            dB       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 node	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
             resistance    reactance     inductance  capacitance passive
load  node   (ohms)        (ohms)        (mH)        (uF)        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     resist   react    imped    phase    VSWR    S11      S12
(MHz)    (ohms)   (ohms)   (ohms)   (deg)            dB       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 no.	X	Y	Z	mag (amps)	phase (deg)	real (amps)	imaginary (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

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

VOLTAGES AND CURRENTS - rms

source node	voltage magnitude	phase (deg)	current 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	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	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

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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.

DAY56.5° 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,