

FEB 28 2017 FCC

1703019089802001

READ INSTRUCTIONS CAREFULLY
BEFORE PROCEEDINGFEDERAL COMMUNICATIONS COMMISSION
REMITTANCE ADVICE
FORM 159Approved by OMB
3060-0589
Page No. 1 of 1

| | | | | | |
|--|---------------------------------------|--------------------|---|-------------------------------|--|
| (1) LOCKBOX # 979089 | | 2017 MAR -3 P 2:31 | | SPECIAL USE ONLY | |
| | | | | FCC USE ONLY | |
| SECTION A - PAYER INFORMATION | | | | | |
| (2) PAYER NAME (if paying by credit card enter name exactly as it appears on the card) Howard M. Libermen | | | (3) TOTAL AMOUNT PAID (U.S. Dollars and cents) \$1,505.00 | | |
| (4) STREET ADDRESS LINE NO. 1 1800 M Street, NW | | | | | |
| (5) STREET ADDRESS LINE NO. 2 Suite 800N | | | | | |
| (6) CITY Washington | | | (7) STATE DC | (8) ZIP CODE 20036 | |
| (9) DAYTIME TELEPHONE NUMBER (include area code) 202-383-3373 | | | (10) COUNTRY CODE (if not in U.S.A.) | | |
| FCC REGISTRATION NUMBER (FRN) REQUIRED | | | | | |
| (11) PAYER (FRN) 0017014556 | | | (12) FCC USE ONLY | | |
| IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C) COMPLETE SECTION BELOW FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET | | | | | |
| (13) APPLICANT NAME CCR-St. George IV, LLC | | | | | |
| (14) STREET ADDRESS LINE NO. 1 7400 E. Orchard Road | | | | | |
| (15) STREET ADDRESS LINE NO. 2 Suite 800N | | | | | |
| (16) CITY Greenwood Villiage | | | (17) STATE CO | (18) ZIP CODE 80111 | |
| (19) DAYTIME TELEPHONE NUMBER (include area code) 303-468-6500 | | | (20) COUNTRY CODE (if not in U.S.A.) | | |
| FCC REGISTRATION NUMBER (FRN) REQUIRED | | | | | |
| (21) APPLICANT (FRN) 0014156780 | | | (22) FCC USE ONLY | | |
| COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET | | | | | |
| (23A) CALL SIGN/OTHER ID KDXU KHRR | (24A) PAYMENT TYPE CODE MMR | | (25A) QUANTITY 1 | | |
| (26A) FEE DUE FOR (PTC) \$700.00 | (27A) TOTAL FEE \$700.00 | | FCC USE ONLY | | |
| (28A) FCC CODE 1 | | (29A) FCC CODE 2 | | | |
| (23B) CALL SIGN/OTHER ID KDXU | (24B) PAYMENT TYPE CODE MOR | | (25B) QUANTITY 1 | | |
| (26B) FEE DUE FOR (PTC) \$805.00 | (27B) TOTAL FEE \$805.00 | | FCC USE ONLY | | |
| (28B) FCC CODE 1 | | (29B) FCC CODE 2 | | | |
| SECTION D - CERTIFICATION | | | | | |
| CERTIFICATION STATEMENT I, <u>Howard M. Liberman</u> , certify under penalty of perjury that the foregoing and supporting information is true and correct to the best of my knowledge, information and belief. | | | | | |
| SIGNATURE <u>Howard M. Liberman</u> | | | DATE <u>2/27/2017</u> | | |

PAID BY CREDIT CARD

Plastic Card Sale Transaction

Thank you.

Your transaction has been successfully completed.

Plastic Card Sale Confirmation

Transaction Information

Agency Application Name: FMS U.S. Bank Lockbox for Federal Communications Commission (FCC)
Pay.gov Tracking ID: 260V2P7K
Agency Tracking ID: 75194524838
Account Holder Name: HOWARD M LIBERMAN
Transaction Type: Plastic Card Sale
Billing Address: 1005C
Billing Address 2:
City:
State/Province:
ZIP/Postal Code:
Country: USA
Email:
Phone:
Card Type: AmericanExpress
Plastic Card Number: *****6004
Payment Amount: \$1,505.00
Current Date and Time: 02/28/2017 13:47 EST
Order ID:
Order Tax Amount:
Level 3 Data:
Agency Memo:

Note: Please avoid navigating the site using your browser's Back Button - this may lead to incomplete data being transmitted and pages being loaded incorrectly. Please use the links provided whenever possible.

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.

Bmmk-20172303AB4

SECTION I - APPLICANT FEE INFORMATION

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

CCR-St. George IV, LLC

MAILING ADDRESS (Line 1) (Maximum 35 characters)

7400 E. Orchard Road

MAILING ADDRESS (Line 2) (Maximum 35 characters)

Suite 2800N

CITY

Greenwood Villiage

STATE OR COUNTRY (if foreign address)

CO

ZIP CODE

80111

TELEPHONE NUMBER (include area code)

303-468-6500

CALL LETTERS

KDXU

OTHER FCC IDENTIFIER (If applicable)

60454

2. A. Is a fee submitted with this application?



Yes



No

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



Governmental Entity



Noncommercial educational licensee



Other (Please explain):

C. If Yes, provide the following information:

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

(A)

| FEE TYPE CODE | | |
|------------------|---|---|
| M | M | R |

(B)

| FEE MULTIPLE | | | |
|--------------|---|---|---|
| 0 | 0 | 0 | 1 |

(C)

| FEE DUE FOR FEE TYPE CODE IN COLUMN (A) |
|---|
| \$ 700 |

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)

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

(B)

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 1 |
|---|---|---|---|

(C)

| |
|--------|
| \$ 805 |
|--------|

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

\$ 1505

FOR FCC USE ONLY

| | | |
|--|-------------|-------------------|
| SECTION II - APPLICANT INFORMATION | | |
| 1. NAME OF APPLICANT CCR-St. George IV, LLC | | |
| MAILING ADDRESS 7400 E. Orchard Road, Suite 2800N | | |
| CITY Greenwood Villiage | STATE CO | ZIP CODE 80111 |

2. This application is for:

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

| | | | | |
|----------------------|------------------------------------|--------------------------------------|---|---|
| Call letters KDXU | Community of License St. George | Construction Permit File No. Utah | Modification of Construction Permit File No(s). N/A | Expiration Date of Last Construction Permit N/A |
|----------------------|------------------------------------|--------------------------------------|---|---|

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.
N/A

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

☐ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.
N/A

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

☐ Yes ☐ No

If Yes, explain in an Exhibit.

Exhibit No.
N/A

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

☐ Yes ☐ No

☒ Does not apply

If No, explain in an Exhibit.

Exhibit No.

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

☐ Yes ☒ No

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

Exhibit No.

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

☐ Yes ☒ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

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


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

CERTIFICATION

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

☒ Yes ☐ No

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

| | | |
|---------------------------|---|----------------------------------|
| Name Jonathan Brewster | Signature  | |
| Title CEO of Manager | Date 2/16/2017 | Telephone Number 303-468-6500 |

**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

CCR-ST. GEORGE IV, 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 |
| KHCR | BP-20130729AAX | 1210 | UNLIMITED | 0.231 | 10 |

2. Station location

| | |
|----------------------|--|
| State UTAH | City or Town ST. GEORGE ST. GEORGE |
|----------------------|--|

3. Transmitter location

| | | | |
|----------------------|-----------------------------|-----------------------------------|---|
| State UTAH | County WASHINGTON | City or Town ST. GEORGE | Street address (or other identification) 2450 SOUTH 3000 EAST |
|----------------------|-----------------------------|-----------------------------------|---|

4. Main studio location

| | | | |
|----------------------|-----------------------------|-----------------------------------|--|
| State UTAH | County WASHINGTON | City or Town ST. GEORGE | Street address (or other identification) 750 W. RIDGE VIEW DR. |
|----------------------|-----------------------------|-----------------------------------|--|

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

| | | | |
|----------------------|-----------------------------|-----------------------------------|--|
| State UTAH | County WASHINGTON | City or Town ST. GEORGE | Street address (or other identification) 750 W. RIDGE VIEW DR. |
|----------------------|-----------------------------|-----------------------------------|--|

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 1.28 AMPS14.2 AMPS | | RF common point or antenna current (in amperes) without modulation for day system 8.45 AMPS14.15 AMPS | |
| Measured antenna or common point resistance (in ohms) at operating frequency Night10152Day14050 | | Measured antenna or common point reactance (in ohms) at operating frequency NightDay | |

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 | -88.5 | N/A | 0.489 | N/A | | |
| #2 | 0.0 | | 1.000 | | | |
| #3 | 87.0 | | 0.518 | | | |
| | | | | | | |
| | | | | | | |

Manufacturer and type of antenna monitor: N/A

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 VERTICAL UNIFORM GUYED | Overall height in meters of radiator above base insulator, or above base, if grounded. 76.4 M | Overall height in meters above ground (without obstruction lighting) 78.1 M | Overall height in meters above ground (include obstruction lighting) 78.6 M | If antenna is either top loaded or sectionalized, describe fully in an Exhibit. <div>Exhibit No. N/A</div> |
|---|---|---|---|---|

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 37 ° 04 ' 06 " | West Longitude 113 ° 31 ' 04 " |
|--|---|

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits.

Exhibit No.
SEE ENGINEERING

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

Exhibit No.
PER CP


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

PLEASE SEE ENGINEERING STATEMENT

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

N/A

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

| | |
|--|--|
| Name (Please Print or Type) Clarence M. Beverage | Signature (check appropriate box below)  |
| Address (include ZIP Code) Communications Technologies, Inc. P.O. Box 1130 Marlton, NJ 08053 | Date Telephone No. (Include Area Code) 609-451-5296 |



Technical Director



Registered Professional Engineer



Chief Operator



Technical Consultant



Other (specify)

Broadcast Engineering Consultant

ENGINEERING STATEMENT
APPLICATION FOR MOMENT METHOD MODELING
LICENSED OPERATION

KDXU(AM) 890 kHz

10 kW DA-N

ST GEORGE, UTAH

FEBRUARY, 2017

ENGINEERING STATEMENT
APPLICATION FOR MOMENT METHOD MODELING LICENSED OPERATION
KDXU(AM) 890 kHz
10 kW DA-N
ST GEORGE, UTAH
TABLE OF CONTENTS
FEBRUARY, 2017

ENGINEERING STATEMENT

FORMS: FCC FORM 302-AM, SECTION III

EXHIBITS:

- I. MoM detail for towers driven individually.
- II. Derivation of full-time DA-N directional operating parameters.

TABLES:

- 1. Wire Model Data.
- 2. Measured and calculated tower self-impedance data.
- 3. DA-Night Current and Phase Calculations.
- 4. Common point and power values.
- 5. Sampling system description.
- 6. Sample line lengths.
- 7. Sample line characteristic impedance.

FIGURES:

- 1 - 3. Circuit Models for Towers 1,2 & 3 Base – other towers floating.
- 4 - 6. Circuit Model for Towers 1, 2, & 3 Base – DA-N directional.

APPENDIX:

- 1. Reference Field Strength Measurements
- 2. Spurious Emission Measurements

ENGINEERING STATEMENT
APPLICATION FOR MOMENT METHOD MODELING LICENSED OPERATION
KDXU(AM) 890 kHz
10 kW DA-N
ST GEORGE, UTAH
FEBRUARY, 2017

SUMMARY

The following engineering statement has been prepared on behalf of **CCR-St. George IV, LLC** ("CCR") licensee of standard broadcast station KDXU. The KDXU facilities described herein are currently licensed under FCC File Number BL-20060216AMX. This document includes MOM based performance verification for the DA-N directional antenna system operation. KDXU is currently operating under STA, file number 20161220ABO, due to construction of a duplex system for sister station KHKR. The STA request indicated that a MoM license would be filed.

The applicant requests authorization to operate the KDXU antenna system using computer modeling and sample system verification as provided for in the Second Report and Order in MM Docket No. 93-177 released September 26, 2008 pending grant of the license application submitted herein. The rules specify that the directional antenna parameters be set to the operating parameters determined by the moment method without deviation. That operation has been completed and this statement is being submitted, along with Section III of FCC Form 302-AM, specifying the calculated MoM parameters for licensed operation.

METHOD OF MOMENTS MODEL – SELF IMPEDANCE ANALYSIS

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

In the Night directional mode KDXU uses three uniform cross section guyed towers, each 76.35M (81.6°) of steel, 78.2M overall height above ground, 18" (.457M) face width, .2183M effective radius. ASR numbers 1043860, 1043859, and 1043858.

The choice of calculating engine and software implementation chosen for this filing is the ACSModel Version 1.024 employing MININEC3. The circuit analysis software employed is WCAP Professional Version 1.1.10.

The wire model data is compiled in Table 1. The values comply with the 73.151 requirements that the radius of the wire model cylinder be within 80 and 150 percent of the radius of a circle with a circumference equal to the sum of the faces, that the height be between 75 and 125 percent of the physical length and that no segment be greater than 10 electrical degrees in length.

Table 2 is a summary of measured and calculated self-impedance, circuit model data and calculated tolerances. The tower measured base self-impedances, with all other towers floating, as measured at the J plug, are listed in Table 2. The Mininec tower models for self-impedance determination, with all other towers floating, may be found in Exhibit I. A circuit model has been constructed for each tower to account for shunt and series reactance across the tower base. All calculations have been made employing WCAP Professional version 1.1.10 as seen in Figures 1, 2, & 3 for self-impedance. The measured and calculated self-impedance values are well within the tolerance specified in 73.151(c)(2)(ii) as seen in Table 2.

METHOD OF MOMENTS MODEL – BASE OPERATING PARAMETERS

The modeled tower array was employed, as constructed for the derivation of self-impedance, for the determination of DA-1 directional operating parameters. The FCC theoretical values were converted to base excitation values. The base driving point parameters for the DA-N directional array are on Exhibit II page 3.

The calculated base operating parameters and the phase monitor parameters as adjusted and reflected on Form 302-AM, attached, are found on Table 3. The calculated MoM base operating parameters are found on Exhibit II for the DA-N directional operation.

DIRECT MEASUREMENT OF POWER

Common point impedance as measured, and common point currents, are listed in Table 4. This data is found on Section III FCC Form 302-AM attached.

SAMPLING SYSTEM

The sampling system equipment is summarized in Table 5. Delta TCT-3 toroids were tested for accuracy by removing the units from the tuning units at the base of each tower and placing the devices in series on the same conductor in the transmitter building. The sample devices were then measured when connected to the phase monitor with coax jumpers having exact equal electrical length. Sampling system impedance was measured with each of the sampling lines terminated in its respective toroid sampling device. Impedance was measured by connecting each sample line directly to the measurement device. The results are found in the last column in Table 5.

The sampling device accuracy is well within the manufacturer tolerance of $\pm 2\%$ in magnitude and ± 3 degrees in phase. Phase monitor accuracy was confirmed by feeding the tower inputs through a splitter and equal length jumpers to confirm equal magnitude and phase on each tower. There were no observable errors.

Impedance and electrical length for each of the three sample lines were measured. The measurement was made at the transmitter building with the sample lines unterminated on the tuning unit end. The results are in Table 6.

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

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

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

The measured data and the results are found in Table 7. The characteristic impedance of the transmission lines is within the allowable tolerance of 2 ohms.

GROUND SYSTEM

The ground system consists of 120 equally-spaced, buried, copper wire radials, around the base of each tower, each 85 meters in length except where foreshortened where intersecting radials are shortened and bonded to a transverse copper strap midway between adjacent towers. In addition, 120 radials each 23 meters in length are interspersed with the longer radials.

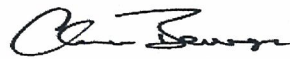
REFERENCE FIELD STRENGTH MEASUREMENTS

Reference field strength measurements were taken by Gary A. Smith, using a Potomac Instruments FIM-21, serial number 1107. This meter was compared with others of recent calibration. The measurement data appears in Appendix 1.

CONCLUSION

All adjustments, measurements and field work were undertaken under the direction of the affiant by Gary A. Smith Director of Engineering for the CCR Utah Market.

The foregoing was prepared on behalf of **CCR-St. George IV, LLC** by Clarence M. Beverage of *Communications Technologies, Inc.*, Marlton, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



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

February 14, 2017

FEB 28 2017

FCC

ORIGIN ID: BZSA (202) 783-4141
 KARLA HUFF-STICKLER
 WILKINSON BARKER KNAUER, LLP
 1800 M STREET, NW
 SUITE 800N
 WASHINGTON, DC 20036
 UNITED STATES US

SHIP DATE: 27FEB17
 ACTWGT: 1.00 LB
 CAD: 5902027/INLT3850
 BILL SENDER

TO FCC GOVERNMENT LOCKBOX 979089

FEDERAL COMMUN. COMM. CO US BANK

1005 CONVENTION PLZ

SL-MO-C2-GL

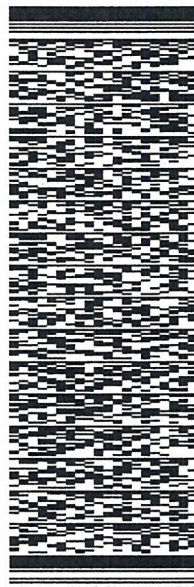
SAINT LOUIS MO 63101

(202) 628-9589

REF: GRV000

PO:

DEPT:



J171117821401uv

546J3/1ADB53C1

TRK#
 0201 7785 2135 0516

TUE - 28 FEB 10:30A
 PRIORITY OVERNIGHT

XX CPSA

MO-US
 63101
 STL

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

EXHIBIT I

 ACSModel
 (MININEC 3.1 Core)
 01-31-2017 18:54:18

KDXU
 TOWER #1 ND

Frequency = 0.890 MHz Wavelength = 336.85394 Meters

No. of Wires: 3

| Wire No. | Coordinates | Z | Radius | End Connection | No. of Segments |
|----------|-------------|----------|--------|----------------|-----------------|
| 1 | X Y | | | | |
| 0 | 0 | 0 | 0.2183 | -1 | |
| 0 | 0 | 77.94426 | 0.2183 | 0 | 20 |
| 2 | X Y | Z | Radius | End Connection | No. of Segments |
| 32.00301 | 87.92754 | 0 | 0.2183 | -2 | |
| 32.00301 | 87.92754 | 79.53496 | 0.2183 | 0 | 20 |
| 3 | X Y | Z | Radius | End Connection | No. of Segments |
| 64.00602 | 175.8551 | 0 | 0.2183 | -3 | |
| 64.00602 | 175.8551 | 79.53496 | 0.2183 | 0 \ | 20 |

**** ANTENNA GEOMETRY ****

| Wire No. | Coordinates | Z | Radius | Connection | Pulse |
|----------|-------------|----------|--------|------------|-------|
| X | Y | | | End1 End2 | No. |
| 0 | 0 | 0. | 0.2183 | -1 1 | 1 |
| 0 | 0 | 3.897213 | 0.2183 | 1 1 | 2 |
| 0 | 0 | 7.794426 | 0.2183 | 1 1 | 3 |
| 0 | 0 | 11.69164 | 0.2183 | 1 1 | 4 |
| 0 | 0 | 15.58885 | 0.2183 | 1 1 | 5 |
| 0 | 0 | 19.48606 | 0.2183 | 1 1 | 6 |
| 0 | 0 | 23.38328 | 0.2183 | 1 1 | 7 |
| 0 | 0 | 27.28049 | 0.2183 | 1 1 | 8 |
| 0 | 0 | 31.1777 | 0.2183 | 1 1 | 9 |
| 0 | 0 | 35.07492 | 0.2183 | 1 1 | 10 |
| 0 | 0 | 38.97213 | 0.2183 | 1 1 | 11 |
| 0 | 0 | 42.86934 | 0.2183 | 1 1 | 12 |
| 0 | 0 | 46.76656 | 0.2183 | 1 1 | 13 |
| 0 | 0 | 50.66377 | 0.2183 | 1 1 | 14 |
| 0 | 0 | 54.56098 | 0.2183 | 1 1 | 15 |
| 0 | 0 | 58.4582 | 0.2183 | 1 1 | 16 |
| 0 | 0 | 62.35541 | 0.2183 | 1 1 | 17 |
| 0 | 0 | 66.25262 | 0.2183 | 1 1 | 18 |
| 0 | 0 | 70.14983 | 0.2183 | 1 1 | 19 |
| 0 | 0 | 74.04704 | 0.2183 | 1 0 | 20 |
| 2 | X Y | Z | Radius | Connection | Pulse |
| 32.00301 | 87.92754 | 0 | 0.2183 | -2 2 | 21 |
| 32.00301 | 87.92754 | 3.976748 | 0.2183 | 2 2 | 22 |
| 32.00301 | 87.92754 | 7.953496 | 0.2183 | 2 2 | 23 |
| 32.00301 | 87.92754 | 11.93024 | 0.2183 | 2 2 | 24 |
| 32.00301 | 87.92754 | 15.90699 | 0.2183 | 2 2 | 25 |
| 32.00301 | 87.92754 | 19.88374 | 0.2183 | 2 2 | 26 |
| 32.00301 | 87.92754 | 23.86049 | 0.2183 | 2 2 | 27 |
| 32.00301 | 87.92754 | 27.83723 | 0.2183 | 2 2 | 28 |
| 32.00301 | 87.92754 | 31.81398 | 0.2183 | 2 2 | 29 |
| 32.00301 | 87.92754 | 35.79073 | 0.2183 | 2 2 | 30 |
| 32.00301 | 87.92754 | 39.76748 | 0.2183 | 2 2 | 31 |
| 32.00301 | 87.92754 | 43.74422 | 0.2183 | 2 2 | 32 |

| | | | | | | |
|----------|----------|----------|--------|---|---|----|
| 32.00301 | 87.92754 | 47.72097 | 0.2183 | 2 | 2 | 33 |
| 32.00301 | 87.92754 | 51.69772 | 0.2183 | 2 | 2 | 34 |
| 32.00301 | 87.92754 | 55.67447 | 0.2183 | 2 | 2 | 35 |
| 32.00301 | 87.92754 | 59.65122 | 0.2183 | 2 | 2 | 36 |
| 32.00301 | 87.92754 | 63.62797 | 0.2183 | 2 | 2 | 37 |
| 32.00301 | 87.92754 | 67.60471 | 0.2183 | 2 | 2 | 38 |
| 32.00301 | 87.92754 | 71.58147 | 0.2183 | 2 | 2 | 39 |
| 32.00301 | 87.92754 | 75.55821 | 0.2183 | 2 | 0 | 40 |

| Wire No. | 3 | Coordinates | | | Connection | | Pulse |
|----------|----------|-------------|--------|------|------------|-----|-------|
| X | Y | Z | Radius | End1 | End2 | No. | |
| 64.00602 | 175.8551 | 0 | 0.2183 | -3 | 3 | 41 | |
| 64.00602 | 175.8551 | 3.976748 | 0.2183 | 3 | 3 | 42 | |
| 64.00602 | 175.8551 | 7.953496 | 0.2183 | 3 | 3 | 43 | |
| 64.00602 | 175.8551 | 11.93024 | 0.2183 | 3 | 3 | 44 | |
| 64.00602 | 175.8551 | 15.90699 | 0.2183 | 3 | 3 | 45 | |
| 64.00602 | 175.8551 | 19.88374 | 0.2183 | 3 | 3 | 46 | |
| 64.00602 | 175.8551 | 23.86049 | 0.2183 | 3 | 3 | 47 | |
| 64.00602 | 175.8551 | 27.83723 | 0.2183 | 3 | 3 | 48 | |
| 64.00602 | 175.8551 | 31.81398 | 0.2183 | 3 | 3 | 49 | |
| 64.00602 | 175.8551 | 35.79073 | 0.2183 | 3 | 3 | 50 | |
| 64.00602 | 175.8551 | 39.76748 | 0.2183 | 3 | 3 | 51 | |
| 64.00602 | 175.8551 | 43.74422 | 0.2183 | 3 | 3 | 52 | |
| 64.00602 | 175.8551 | 47.72097 | 0.2183 | 3 | 3 | 53 | |
| 64.00602 | 175.8551 | 51.69772 | 0.2183 | 3 | 3 | 54 | |
| 64.00602 | 175.8551 | 55.67447 | 0.2183 | 3 | 3 | 55 | |
| 64.00602 | 175.8551 | 59.65122 | 0.2183 | 3 | 3 | 56 | |
| 64.00602 | 175.8551 | 63.62797 | 0.2183 | 3 | 3 | 57 | |
| 64.00602 | 175.8551 | 67.60471 | 0.2183 | 3 | 3 | 58 | |
| 64.00602 | 175.8551 | 71.58147 | 0.2183 | 3 | 3 | 59 | |
| 64.00602 | 175.8551 | 75.55821 | 0.2183 | 3 | 0 | 60 | |

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 1, 632.4, -23.6

Number of Loads: 2

Pulse No., Resistance, Reactance: 21, 0.1, -10000

Pulse No., Resistance, Reactance: 41, 0.1, -10000

***** SOURCE DATA *****

Pulse 1 Voltage = (579.6797, -252.8188j)
 Current = (17.7138, 1.0613j)
 Impedance = (31.756, -16.175j)
 Power = 5000.0 Watts

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

Wire No. 1 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 1 | 17.7138 | 1.0613 | 17.7455 | 3.4286 |
| 2 | 17.5526 | 0.8009 | 17.5709 | 2.6126 |
| 3 | 17.3353 | 0.6293 | 17.3467 | 2.0789 |
| 4 | 17.0348 | 0.4833 | 17.0417 | 1.625 |
| 5 | 16.6489 | 0.3551 | 16.6527 | 1.222 |
| 6 | 16.1776 | 0.2417 | 16.1794 | 0.8558 |
| 7 | 15.6219 | 0.1414 | 15.6226 | 0.5186 |
| 8 | 14.9839 | 0.0536 | 14.984 | 0.2049 |
| 9 | 14.2658 | -0.0222 | 14.2658 | -0.0892 |
| 10 | 13.4703 | -0.0861 | 13.4705 | -0.3664 |
| 11 | 12.6003 | -0.1384 | 12.6011 | -0.6292 |
| 12 | 11.6591 | -0.179 | 11.6605 | -0.8795 |
| 13 | 10.6499 | -0.208 | 10.6519 | -1.1189 |
| 14 | 9.5758 | -0.2255 | 9.5785 | -1.3487 |
| 15 | 8.4398 | -0.2314 | 8.443 | -1.5702 |
| 16 | 7.2439 | -0.2257 | 7.2475 | -1.7844 |
| 17 | 5.9891 | -0.2083 | 5.9927 | -1.9923 |
| 18 | 4.6732 | -0.1791 | 4.6766 | -2.195 |
| 19 | 3.2874 | -0.1374 | 3.2903 | -2.3938 |
| 20 | 1.8052 | -0.0817 | 1.807 | -2.5917 |

| | | | | |
|---|-----|-----|-----|-----|
| E | 0.0 | 0.0 | 0.0 | 0.0 |
|---|-----|-----|-----|-----|

Wire No. 2 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 21 | -0.0266 | -0.0265 | 0.0376 | -135.0996 |
| 22 | -0.1461 | -0.1457 | 0.2063 | -135.0687 |
| 23 | -0.2213 | -0.2211 | 0.3128 | -135.0197 |
| 24 | -0.2813 | -0.2817 | 0.3981 | -134.9609 |
| 25 | -0.3299 | -0.3311 | 0.4674 | -134.8946 |
| 26 | -0.3685 | -0.3708 | 0.5228 | -134.822 |
| 27 | -0.3981 | -0.4017 | 0.5655 | -134.7437 |
| 28 | -0.419 | -0.424 | 0.5961 | -134.6605 |
| 29 | -0.4317 | -0.4382 | 0.6151 | -134.5729 |
| 30 | -0.4363 | -0.4443 | 0.6227 | -134.4816 |
| 31 | -0.4332 | -0.4426 | 0.6193 | -134.387 |
| 32 | -0.4225 | -0.4331 | 0.6051 | -134.2898 |
| 33 | -0.4046 | -0.4162 | 0.5805 | -134.1906 |
| 34 | -0.3796 | -0.3919 | 0.5456 | -134.0899 |
| 35 | -0.3477 | -0.3602 | 0.5007 | -133.9883 |
| 36 | -0.3092 | -0.3214 | 0.446 | -133.8866 |
| 37 | -0.2641 | -0.2755 | 0.3816 | -133.7853 |
| 38 | -0.2124 | -0.2223 | 0.3074 | -133.6851 |
| 39 | -0.1536 | -0.1614 | 0.2228 | -133.5864 |
| 40 | -0.0866 | -0.0913 | 0.1259 | -133.4889 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 3 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 41 | -0.0174 | 0.0181 | 0.0251 | 133.8541 |
| 42 | -0.0956 | 0.0996 | 0.138 | 133.826 |
| 43 | -0.145 | 0.1513 | 0.2096 | 133.7799 |
| 44 | -0.1847 | 0.1931 | 0.2672 | 133.7246 |
| 45 | -0.217 | 0.2273 | 0.3142 | 133.6619 |
| 46 | -0.2429 | 0.2551 | 0.3523 | 133.5927 |
| 47 | -0.2629 | 0.2769 | 0.3819 | 133.5175 |
| 48 | -0.2774 | 0.293 | 0.4035 | 133.4368 |
| 49 | -0.2865 | 0.3035 | 0.4173 | 133.3506 |
| 50 | -0.2903 | 0.3085 | 0.4236 | 133.2591 |
| 51 | -0.289 | 0.3081 | 0.4224 | 133.1625 |
| 52 | -0.2826 | 0.3024 | 0.4139 | 133.0607 |
| 53 | -0.2714 | 0.2915 | 0.3982 | 132.9538 |
| 54 | -0.2553 | 0.2753 | 0.3754 | 132.8417 |
| 55 | -0.2345 | 0.2539 | 0.3456 | 132.7243 |
| 56 | -0.209 | 0.2273 | 0.3088 | 132.6014 |
| 57 | -0.179 | 0.1955 | 0.2651 | 132.4729 |
| 58 | -0.1443 | 0.1584 | 0.2143 | 132.3383 |
| 59 | -0.1047 | 0.1154 | 0.1558 | 132.197 |
| 60 | -0.0591 | 0.0656 | 0.0883 | 132.0466 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

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

| Twr. | Ratio | Phase |
|------|-------|--------|
| 1 | 1.000 | 0.0 |
| 2 | 0.002 | -138.5 |
| 3 | 0.001 | 130.4 |

 ACSModel
 (MININEC 3.1 Core)
 01-31-2017 19:23:53

KDXU
 TOWER #2 ND

Frequency = 0.890 MHz Wavelength = 336.85394 Meters

No. of Wires: 3

| Wire No. 1 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 0 | 0 | 0 | | -1 | | |
| 0 | 0 | 77.94426 | 0.2183 | 0 | 20 | |

| Wire No. 2 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 32.00301 | 87.92754 | 0 | | -2 | | |
| 32.00301 | 87.92754 | 79.53496 | 0.2183 | 0 | 20 | |

| Wire No. 3 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 64.00602 | 175.8551 | 0 | | -3 | | |
| 64.00602 | 175.8551 | 79.53496 | 0.2183 | 0 | 20 | |

**** ANTENNA GEOMETRY ****

| Wire No. 1 | Coordinates | | | Radius | Connection Pulse | | |
|------------|-------------|----------|--------|--------|------------------|-----|--|
| X | Y | Z | | End1 | End2 | No. | |
| 0 | 0 | 0 | 0.2183 | -1 | 1 | 1 | |
| 0 | 0 | 3.897213 | 0.2183 | 1 | 1 | 2 | |
| 0 | 0 | 7.794426 | 0.2183 | 1 | 1 | 3 | |
| 0 | 0 | 11.69164 | 0.2183 | 1 | 1 | 4 | |
| 0 | 0 | 15.58885 | 0.2183 | 1 | 1 | 5 | |
| 0 | 0 | 19.48606 | 0.2183 | 1 | 1 | 6 | |
| 0 | 0 | 23.38328 | 0.2183 | 1 | 1 | 7 | |
| 0 | 0 | 27.28049 | 0.2183 | 1 | 1 | 8 | |
| 0 | 0 | 31.1777 | 0.2183 | 1 | 1 | 9 | |
| 0 | 0 | 35.07492 | 0.2183 | 1 | 1 | 10 | |
| 0 | 0 | 38.97213 | 0.2183 | 1 | 1 | 11 | |
| 0 | 0 | 42.86934 | 0.2183 | 1 | 1 | 12 | |
| 0 | 0 | 46.76656 | 0.2183 | 1 | 1 | 13 | |
| 0 | 0 | 50.66377 | 0.2183 | 1 | 1 | 14 | |
| 0 | 0 | 54.56098 | 0.2183 | 1 | 1 | 15 | |
| 0 | 0 | 58.4582 | 0.2183 | 1 | 1 | 16 | |
| 0 | 0 | 62.35541 | 0.2183 | 1 | 1 | 17 | |
| 0 | 0 | 66.25262 | 0.2183 | 1 | 1 | 18 | |
| 0 | 0 | 70.14983 | 0.2183 | 1 | 1 | 19 | |
| 0 | 0 | 74.04704 | 0.2183 | 1 | 0 | 20 | |

| Wire No. 2 | Coordinates | | | Radius | Connection Pulse | | |
|------------|-------------|----------|--------|--------|------------------|-----|--|
| X | Y | Z | | End1 | End2 | No. | |
| 32.00301 | 87.92754 | 0 | 0.2183 | -2 | 2 | 21 | |
| 32.00301 | 87.92754 | 3.976748 | 0.2183 | 2 | 2 | 22 | |
| 32.00301 | 87.92754 | 7.953496 | 0.2183 | 2 | 2 | 23 | |
| 32.00301 | 87.92754 | 11.93024 | 0.2183 | 2 | 2 | 24 | |
| 32.00301 | 87.92754 | 15.90699 | 0.2183 | 2 | 2 | 25 | |
| 32.00301 | 87.92754 | 19.88374 | 0.2183 | 2 | 2 | 26 | |
| 32.00301 | 87.92754 | 23.86049 | 0.2183 | 2 | 2 | 27 | |
| 32.00301 | 87.92754 | 27.83723 | 0.2183 | 2 | 2 | 28 | |
| 32.00301 | 87.92754 | 31.81398 | 0.2183 | 2 | 2 | 29 | |
| 32.00301 | 87.92754 | 35.79073 | 0.2183 | 2 | 2 | 30 | |
| 32.00301 | 87.92754 | 39.76748 | 0.2183 | 2 | 2 | 31 | |
| 32.00301 | 87.92754 | 43.74422 | 0.2183 | 2 | 2 | 32 | |
| 32.00301 | 87.92754 | 47.72097 | 0.2183 | 2 | 2 | 33 | |
| 32.00301 | 87.92754 | 51.69772 | 0.2183 | 2 | 2 | 34 | |
| 32.00301 | 87.92754 | 55.67447 | 0.2183 | 2 | 2 | 35 | |

| | | | | | | |
|----------|----------|----------|--------|---|---|----|
| 32.00301 | 87.92754 | 59.65122 | 0.2183 | 2 | 2 | 36 |
| 32.00301 | 87.92754 | 63.62797 | 0.2183 | 2 | 2 | 37 |
| 32.00301 | 87.92754 | 67.60471 | 0.2183 | 2 | 2 | 38 |
| 32.00301 | 87.92754 | 71.58147 | 0.2183 | 2 | 2 | 39 |
| 32.00301 | 87.92754 | 75.55821 | 0.2183 | 2 | 0 | 40 |

| Wire No. | 3 | Coordinates | | | Connection | | Pulse |
|----------|----------|-------------|--------|------|------------|-----|-------|
| X | Y | Z | Radius | End1 | End2 | No. | |
| 64.00602 | 175.8551 | 0 | 0.2183 | -3 | 3 | 41 | |
| 64.00602 | 175.8551 | 3.976748 | 0.2183 | 3 | 3 | 42 | |
| 64.00602 | 175.8551 | 7.953496 | 0.2183 | 3 | 3 | 43 | |
| 64.00602 | 175.8551 | 11.93024 | 0.2183 | 3 | 3 | 44 | |
| 64.00602 | 175.8551 | 15.90699 | 0.2183 | 3 | 3 | 45 | |
| 64.00602 | 175.8551 | 19.88374 | 0.2183 | 3 | 3 | 46 | |
| 64.00602 | 175.8551 | 23.86049 | 0.2183 | 3 | 3 | 47 | |
| 64.00602 | 175.8551 | 27.83723 | 0.2183 | 3 | 3 | 48 | |
| 64.00602 | 175.8551 | 31.81398 | 0.2183 | 3 | 3 | 49 | |
| 64.00602 | 175.8551 | 35.79073 | 0.2183 | 3 | 3 | 50 | |
| 64.00602 | 175.8551 | 39.76748 | 0.2183 | 3 | 3 | 51 | |
| 64.00602 | 175.8551 | 43.74422 | 0.2183 | 3 | 3 | 52 | |
| 64.00602 | 175.8551 | 47.72097 | 0.2183 | 3 | 3 | 53 | |
| 64.00602 | 175.8551 | 51.69772 | 0.2183 | 3 | 3 | 54 | |
| 64.00602 | 175.8551 | 55.67447 | 0.2183 | 3 | 3 | 55 | |
| 64.00602 | 175.8551 | 59.65122 | 0.2183 | 3 | 3 | 56 | |
| 64.00602 | 175.8551 | 63.62797 | 0.2183 | 3 | 3 | 57 | |
| 64.00602 | 175.8551 | 67.60471 | 0.2183 | 3 | 3 | 58 | |
| 64.00602 | 175.8551 | 71.58147 | 0.2183 | 3 | 3 | 59 | |
| 64.00602 | 175.8551 | 75.55821 | 0.2183 | 3 | 0 | 60 | |

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 21, 583.9, -7.8

Number of Loads: 2

Pulse No., Resistance, Reactance: 1, 0.1, -10000

Pulse No., Resistance, Reactance: 41, 0.1, -10000

***** SOURCE DATA *****

Pulse 21 Voltage = (578.5678, -78.9359j)
 Current = (17.4379, 1.1273j)
 Impedance = (32.749, -6.644j)
 Power = 5000.0 Watts

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

Wire No. 1 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 1 | -0.0261 | -0.0262 | 0.037 | -134.8235 |
| 2 | -0.1416 | -0.1426 | 0.2009 | -134.7952 |
| 3 | -0.2141 | -0.2159 | 0.3041 | -134.7501 |
| 4 | -0.2719 | -0.2748 | 0.3866 | -134.6959 |
| 5 | -0.3188 | -0.3229 | 0.4537 | -134.6347 |
| 6 | -0.3561 | -0.3615 | 0.5074 | -134.5674 |
| 7 | -0.3846 | -0.3915 | 0.5488 | -134.4946 |
| 8 | -0.4049 | -0.4132 | 0.5785 | -134.417 |
| 9 | -0.4171 | -0.4269 | 0.5969 | -134.3351 |
| 10 | -0.4217 | -0.4329 | 0.6043 | -134.2492 |
| 11 | -0.4188 | -0.4313 | 0.6012 | -134.1598 |
| 12 | -0.4087 | -0.4222 | 0.5876 | -134.0674 |
| 13 | -0.3915 | -0.4058 | 0.5638 | -133.9725 |
| 14 | -0.3674 | -0.3821 | 0.5301 | -133.8756 |
| 15 | -0.3368 | -0.3514 | 0.4867 | -133.7772 |
| 16 | -0.2996 | -0.3138 | 0.4338 | -133.6779 |
| 17 | -0.256 | -0.2691 | 0.3714 | -133.5782 |
| 18 | -0.206 | -0.2173 | 0.2994 | -133.4785 |
| 19 | -0.1492 | -0.1579 | 0.2172 | -133.3795 |
| 20 | -0.0842 | -0.0894 | 0.1228 | -133.2804 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 2 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 21 | 17.4379 | 1.1273 | 17.4743 | 3.6988 |
| 22 | 17.3539 | 0.864 | 17.3754 | 2.8502 |
| 23 | 17.1862 | 0.6894 | 17.2 | 2.2972 |
| 24 | 16.9268 | 0.5405 | 16.9355 | 1.8288 |
| 25 | 16.5758 | 0.4092 | 16.5808 | 1.4142 |
| 26 | 16.1341 | 0.2926 | 16.1368 | 1.0388 |
| 27 | 15.6036 | 0.189 | 15.6048 | 0.6939 |
| 28 | 14.9865 | 0.0978 | 14.9868 | 0.3738 |
| 29 | 14.2852 | 0.0186 | 14.2852 | 0.0745 |
| 30 | 13.5028 | -0.0488 | 13.5029 | -0.2072 |
| 31 | 12.6425 | -0.1046 | 12.6429 | -0.4739 |
| 32 | 11.7076 | -0.1486 | 11.7085 | -0.7274 |
| 33 | 10.7016 | -0.1811 | 10.7031 | -0.9695 |
| 34 | 9.628 | -0.2019 | 9.6301 | -1.2016 |
| 35 | 8.4898 | -0.2112 | 8.4924 | -1.4251 |
| 36 | 7.2895 | -0.2088 | 7.2925 | -1.641 |
| 37 | 6.0283 | -0.1947 | 6.0314 | -1.8504 |
| 38 | 4.7043 | -0.1687 | 4.7073 | -2.0543 |
| 39 | 3.3091 | -0.1303 | 3.3117 | -2.2542 |
| 40 | 1.8162 | -0.0778 | 1.8178 | -2.4531 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 3 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 41 | -0.027 | -0.027 | 0.0382 | -135.0476 |
| 42 | -0.1484 | -0.1483 | 0.2098 | -135.0188 |
| 43 | -0.2248 | -0.225 | 0.3181 | -134.9729 |
| 44 | -0.2859 | -0.2867 | 0.4049 | -134.9179 |
| 45 | -0.3353 | -0.337 | 0.4754 | -134.8558 |
| 46 | -0.3747 | -0.3775 | 0.5318 | -134.7876 |
| 47 | -0.4048 | -0.4089 | 0.5754 | -134.7139 |
| 48 | -0.4262 | -0.4316 | 0.6066 | -134.6355 |
| 49 | -0.4391 | -0.446 | 0.6259 | -134.5527 |
| 50 | -0.4439 | -0.4523 | 0.6337 | -134.4661 |
| 51 | -0.4408 | -0.4506 | 0.6303 | -134.3761 |
| 52 | -0.4301 | -0.441 | 0.616 | -134.2833 |
| 53 | -0.4119 | -0.4238 | 0.591 | -134.1882 |
| 54 | -0.3865 | -0.399 | 0.5555 | -134.0912 |
| 55 | -0.3542 | -0.3668 | 0.5099 | -133.9931 |
| 56 | -0.315 | -0.3274 | 0.4543 | -133.8942 |
| 57 | -0.2691 | -0.2806 | 0.3888 | -133.7954 |
| 58 | -0.2164 | -0.2265 | 0.3132 | -133.697 |
| 59 | -0.1566 | -0.1644 | 0.2271 | -133.5997 |
| 60 | -0.0883 | -0.093 | 0.1283 | -133.5028 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

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

| Twr. | Ratio | Phase |
|------|-------|--------|
| 1 | 0.002 | -138.5 |
| 2 | 1.000 | 0.0 |
| 3 | 0.002 | -138.7 |

 ACSModel
 (MININEC 3.1 Core)
 01-31-2017 19:37:14

KDXU
 TOWER #3 ND

Frequency = 0.890 MHz Wavelength = 336.85394 Meters

No. of Wires: 3

| Wire No. | Coordinates | Radius | End Connection | No. of Segments |
|------------|-------------|----------|----------------|-----------------|
| X | Y | Z | | |
| 0 | 0 | 0 | -1 | |
| 0 | 0 | 77.94426 | 0 | 20 |
| Wire No. 2 | Coordinates | Radius | End Connection | No. of Segments |
| X | Y | Z | | |
| 32.00301 | 87.92754 | 0 | -2 | |
| 32.00301 | 87.92754 | 79.53496 | 0 | 20 |
| Wire No. 3 | Coordinates | Radius | End Connection | No. of Segments |
| X | Y | Z | | |
| 64.00602 | 175.8551 | 0 | -3 | |
| 64.00602 | 175.8551 | 79.53496 | 0 | 20 |

**** ANTENNA GEOMETRY ****

| Wire No. | Coordinates | Radius | Connection | Pulse |
|------------|-------------|----------|------------|-------|
| X | Y | Z | End1 End2 | No. |
| 0 | 0 | 0 | -1 1 | 1 |
| 0 | 0 | 3.897213 | 1 1 | 2 |
| 0 | 0 | 7.794426 | 1 1 | 3 |
| 0 | 0 | 11.69164 | 1 1 | 4 |
| 0 | 0 | 15.58885 | 1 1 | 5 |
| 0 | 0 | 19.48606 | 1 1 | 6 |
| 0 | 0 | 23.38328 | 1 1 | 7 |
| 0 | 0 | 27.28049 | 1 1 | 8 |
| 0 | 0 | 31.1777 | 1 1 | 9 |
| 0 | 0 | 35.07492 | 1 1 | 10 |
| 0 | 0 | 38.97213 | 1 1 | 11 |
| 0 | 0 | 42.86934 | 1 1 | 12 |
| 0 | 0 | 46.76656 | 1 1 | 13 |
| 0 | 0 | 50.66377 | 1 1 | 14 |
| 0 | 0 | 54.56098 | 1 1 | 15 |
| 0 | 0 | 58.4582 | 1 1 | 16 |
| 0 | 0 | 62.35541 | 1 1 | 17 |
| 0 | 0 | 66.25262 | 1 1 | 18 |
| 0 | 0 | 70.14983 | 1 1 | 19 |
| 0 | 0 | 74.04704 | 1 0 | 20 |
| Wire No. 2 | Coordinates | Radius | Connection | Pulse |
| X | Y | Z | End1 End2 | No. |
| 32.00301 | 87.92754 | 0 | -2 2 | 21 |
| 32.00301 | 87.92754 | 3.976748 | 2 2 | 22 |
| 32.00301 | 87.92754 | 7.953496 | 2 2 | 23 |
| 32.00301 | 87.92754 | 11.93024 | 2 2 | 24 |
| 32.00301 | 87.92754 | 15.90699 | 2 2 | 25 |
| 32.00301 | 87.92754 | 19.88374 | 2 2 | 26 |
| 32.00301 | 87.92754 | 23.86049 | 2 2 | 27 |
| 32.00301 | 87.92754 | 27.83723 | 2 2 | 28 |
| 32.00301 | 87.92754 | 31.81398 | 2 2 | 29 |
| 32.00301 | 87.92754 | 35.79073 | 2 2 | 30 |
| 32.00301 | 87.92754 | 39.76748 | 2 2 | 31 |
| 32.00301 | 87.92754 | 43.74422 | 2 2 | 32 |
| 32.00301 | 87.92754 | 47.72097 | 2 2 | 33 |
| 32.00301 | 87.92754 | 51.69772 | 2 2 | 34 |
| 32.00301 | 87.92754 | 55.67447 | 2 2 | 35 |

| | | | | | | |
|----------|----------|----------|--------|---|---|----|
| 32.00301 | 87.92754 | 59.65122 | 0.2183 | 2 | 2 | 36 |
| 32.00301 | 87.92754 | 63.62797 | 0.2183 | 2 | 2 | 37 |
| 32.00301 | 87.92754 | 67.60471 | 0.2183 | 2 | 2 | 38 |
| 32.00301 | 87.92754 | 71.58147 | 0.2183 | 2 | 2 | 39 |
| 32.00301 | 87.92754 | 75.55821 | 0.2183 | 2 | 0 | 40 |

| Wire No. | 3 | Coordinates | | Connection | Pulse |
|----------|----------|-------------|--------|------------|----------|
| X | Y | Z | Radius | End1 | End2 No. |
| 64.00602 | 175.8551 | 0 | 0.2183 | -3 | 3 41 |
| 64.00602 | 175.8551 | 3.976748 | 0.2183 | 3 | 3 42 |
| 64.00602 | 175.8551 | 7.953496 | 0.2183 | 3 | 3 43 |
| 64.00602 | 175.8551 | 11.93024 | 0.2183 | 3 | 3 44 |
| 64.00602 | 175.8551 | 15.90699 | 0.2183 | 3 | 3 45 |
| 64.00602 | 175.8551 | 19.88374 | 0.2183 | 3 | 3 46 |
| 64.00602 | 175.8551 | 23.86049 | 0.2183 | 3 | 3 47 |
| 64.00602 | 175.8551 | 27.83723 | 0.2183 | 3 | 3 48 |
| 64.00602 | 175.8551 | 31.81398 | 0.2183 | 3 | 3 49 |
| 64.00602 | 175.8551 | 35.79073 | 0.2183 | 3 | 3 50 |
| 64.00602 | 175.8551 | 39.76748 | 0.2183 | 3 | 3 51 |
| 64.00602 | 175.8551 | 43.74422 | 0.2183 | 3 | 3 52 |
| 64.00602 | 175.8551 | 47.72097 | 0.2183 | 3 | 3 53 |
| 64.00602 | 175.8551 | 51.69772 | 0.2183 | 3 | 3 54 |
| 64.00602 | 175.8551 | 55.67447 | 0.2183 | 3 | 3 55 |
| 64.00602 | 175.8551 | 59.65122 | 0.2183 | 3 | 3 56 |
| 64.00602 | 175.8551 | 63.62797 | 0.2183 | 3 | 3 57 |
| 64.00602 | 175.8551 | 67.60471 | 0.2183 | 3 | 3 58 |
| 64.00602 | 175.8551 | 71.58147 | 0.2183 | 3 | 3 59 |
| 64.00602 | 175.8551 | 75.55821 | 0.2183 | 3 | 0 60 |

Sources: 1

Pulse No., Voltage Magnitude, Phase (Degrees): 41, 593.3, -7.8

Number of Loads: 2

Pulse No., Resistance, Reactance: 1, 0.1, -10000

Pulse No., Resistance, Reactance: 21, 0.1, -10000

***** SOURCE DATA *****

Pulse 41 Voltage = (587.8719, -80.2487j)
 Current = (17.1518, 1.0353j)
 Impedance = (33.869, -6.723j)
 Power = 5000.0 Watts

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

Wire No. 1 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 1 | -0.0169 | 0.0175 | 0.0243 | 133.8919 |
| 2 | -0.0916 | 0.0953 | 0.1322 | 133.865 |
| 3 | -0.1387 | 0.1445 | 0.2003 | 133.8207 |
| 4 | -0.1765 | 0.1842 | 0.2551 | 133.7674 |
| 5 | -0.2072 | 0.2168 | 0.2999 | 133.7071 |
| 6 | -0.2319 | 0.2431 | 0.336 | 133.6404 |
| 7 | -0.251 | 0.2638 | 0.3641 | 133.5679 |
| 8 | -0.2647 | 0.2791 | 0.3846 | 133.49 |
| 9 | -0.2734 | 0.289 | 0.3978 | 133.4068 |
| 10 | -0.277 | 0.2938 | 0.4038 | 133.3185 |
| 11 | -0.2758 | 0.2934 | 0.4027 | 133.2251 |
| 12 | -0.2697 | 0.288 | 0.3946 | 133.1268 |
| 13 | -0.2591 | 0.2776 | 0.3797 | 133.0234 |
| 14 | -0.2438 | 0.2622 | 0.358 | 132.915 |
| 15 | -0.224 | 0.2419 | 0.3297 | 132.8015 |
| 16 | -0.1998 | 0.2166 | 0.2947 | 132.6827 |
| 17 | -0.1712 | 0.1864 | 0.2531 | 132.5584 |
| 18 | -0.1381 | 0.1511 | 0.2047 | 132.4282 |
| 19 | -0.1002 | 0.1102 | 0.1489 | 132.2915 |
| 20 | -0.0567 | 0.0626 | 0.0845 | 132.146 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 2 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 21 | -0.0267 | -0.0264 | 0.0376 | -135.2859 |
| 22 | -0.1465 | -0.1452 | 0.2063 | -135.2576 |
| 23 | -0.222 | -0.2204 | 0.3128 | -135.2127 |
| 24 | -0.2823 | -0.2807 | 0.3981 | -135.1589 |
| 25 | -0.3311 | -0.33 | 0.4675 | -135.0981 |
| 26 | -0.37 | -0.3696 | 0.523 | -135.0314 |
| 27 | -0.3998 | -0.4003 | 0.5657 | -134.9596 |
| 28 | -0.4209 | -0.4226 | 0.5964 | -134.8832 |
| 29 | -0.4337 | -0.4367 | 0.6155 | -134.8027 |
| 30 | -0.4385 | -0.4428 | 0.6231 | -134.7186 |
| 31 | -0.4354 | -0.4411 | 0.6198 | -134.6314 |
| 32 | -0.4248 | -0.4317 | 0.6057 | -134.5416 |
| 33 | -0.4069 | -0.4148 | 0.5811 | -134.4499 |
| 34 | -0.3819 | -0.3905 | 0.5462 | -134.3566 |
| 35 | -0.3499 | -0.359 | 0.5013 | -134.2624 |
| 36 | -0.3112 | -0.3204 | 0.4466 | -134.1678 |
| 37 | -0.2659 | -0.2746 | 0.3822 | -134.0735 |
| 38 | -0.2138 | -0.2216 | 0.3079 | -133.9801 |
| 39 | -0.1548 | -0.1609 | 0.2232 | -133.8879 |
| 40 | -0.0873 | -0.091 | 0.1261 | -133.7967 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 3 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 41 | 17.1518 | 1.0353 | 17.183 | 3.4541 |
| 42 | 17.0681 | 0.7681 | 17.0854 | 2.5766 |
| 43 | 16.9024 | 0.5916 | 16.9127 | 2.0046 |
| 44 | 16.6467 | 0.4418 | 16.6525 | 1.5201 |
| 45 | 16.3009 | 0.3106 | 16.3038 | 1.0914 |
| 46 | 15.8661 | 0.1947 | 15.8672 | 0.7032 |
| 47 | 15.3439 | 0.0928 | 15.3442 | 0.3465 |
| 48 | 14.7366 | 0.004 | 14.7366 | 0.0155 |
| 49 | 14.0467 | -0.0721 | 14.0469 | -0.294 |
| 50 | 13.2771 | -0.1356 | 13.2778 | -0.5852 |
| 51 | 12.4308 | -0.1868 | 12.4322 | -0.8608 |
| 52 | 11.5113 | -0.2256 | 11.5135 | -1.1229 |
| 53 | 10.522 | -0.2522 | 10.525 | -1.3731 |
| 54 | 9.4662 | -0.2666 | 9.4699 | -1.6129 |
| 55 | 8.3469 | -0.2687 | 8.3513 | -1.8438 |
| 56 | 7.1668 | -0.2586 | 7.1714 | -2.0668 |
| 57 | 5.9267 | -0.2363 | 5.9314 | -2.283 |
| 58 | 4.6249 | -0.2014 | 4.6293 | -2.4936 |
| 59 | 3.2532 | -0.1534 | 3.2568 | -2.7 |
| 60 | 1.7855 | -0.0906 | 1.7878 | -2.9053 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

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

| Twr. | Ratio | Phase |
|------|-------|--------|
| 1 | 0.001 | 130.4 |
| 2 | 0.002 | -138.7 |
| 3 | 1.000 | 0.0 |

EXHIBIT II

 ACSModel
 (MININEC 3.1 Core)
 12-18-2016 12:22:56

KDXU
 DA NIGHT
 CONFIGURATION FROM ND WIRE MODELS

Frequency = 0.890 MHz Wavelength = 336.85394 Meters

No. of Wires: 3

| Wire No. 1 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 0 | 0 | 0 | | -1 | | |
| 0 | 0 | 77.94426 | 0.2183 | 0 | | 20 |

| Wire No. 2 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 32.00301 | 87.92754 | 0 | | -2 | | |
| 32.00301 | 87.92754 | 79.53496 | 0.2183 | 0 | | 20 |

| Wire No. 3 | Coordinates | | | Radius | End Connection | No. of Segments |
|------------|-------------|----------|--------|--------|----------------|-----------------|
| X | Y | Z | | | | |
| 64.00602 | 175.8551 | 0 | | -3 | | |
| 64.00602 | 175.8551 | 79.53496 | 0.2183 | 0 | | 20 |

**** ANTENNA GEOMETRY ****

| Wire No. 1 | Coordinates | | | Radius | Connection | | Pulse |
|------------|-------------|----------|--------|--------|------------|-----|-------|
| X | Y | Z | | End1 | End2 | No. | |
| 0 | 0 | 0 | 0.2183 | -1 | 1 | 1 | |
| 0 | 0 | 3.897213 | 0.2183 | 1 | 1 | 2 | |
| 0 | 0 | 7.794426 | 0.2183 | 1 | 1 | 3 | |
| 0 | 0 | 11.69164 | 0.2183 | 1 | 1 | 4 | |
| 0 | 0 | 15.58885 | 0.2183 | 1 | 1 | 5 | |
| 0 | 0 | 19.48606 | 0.2183 | 1 | 1 | 6 | |
| 0 | 0 | 23.38328 | 0.2183 | 1 | 1 | 7 | |
| 0 | 0 | 27.28049 | 0.2183 | 1 | 1 | 8 | |
| 0 | 0 | 31.1777 | 0.2183 | 1 | 1 | 9 | |
| 0 | 0 | 35.07492 | 0.2183 | 1 | 1 | 10 | |
| 0 | 0 | 38.97213 | 0.2183 | 1 | 1 | 11 | |
| 0 | 0 | 42.86934 | 0.2183 | 1 | 1 | 12 | |
| 0 | 0 | 46.76656 | 0.2183 | 1 | 1 | 13 | |
| 0 | 0 | 50.66377 | 0.2183 | 1 | 1 | 14 | |
| 0 | 0 | 54.56098 | 0.2183 | 1 | 1 | 15 | |
| 0 | 0 | 58.4582 | 0.2183 | 1 | 1 | 16 | |
| 0 | 0 | 62.35541 | 0.2183 | 1 | 1 | 17 | |
| 0 | 0 | 66.25262 | 0.2183 | 1 | 1 | 18 | |
| 0 | 0 | 70.14983 | 0.2183 | 1 | 1 | 19 | |
| 0 | 0 | 74.04704 | 0.2183 | 1 | 0 | 20 | |

| Wire No. 2 | Coordinates | | | Radius | Connection | | Pulse |
|------------|-------------|----------|--------|--------|------------|-----|-------|
| X | Y | Z | | End1 | End2 | No. | |
| 32.00301 | 87.92754 | 0 | 0.2183 | -2 | 2 | 21 | |
| 32.00301 | 87.92754 | 3.976748 | 0.2183 | 2 | 2 | 22 | |
| 32.00301 | 87.92754 | 7.953496 | 0.2183 | 2 | 2 | 23 | |
| 32.00301 | 87.92754 | 11.93024 | 0.2183 | 2 | 2 | 24 | |
| 32.00301 | 87.92754 | 15.90699 | 0.2183 | 2 | 2 | 25 | |
| 32.00301 | 87.92754 | 19.88374 | 0.2183 | 2 | 2 | 26 | |
| 32.00301 | 87.92754 | 23.86049 | 0.2183 | 2 | 2 | 27 | |
| 32.00301 | 87.92754 | 27.83723 | 0.2183 | 2 | 2 | 28 | |
| 32.00301 | 87.92754 | 31.81398 | 0.2183 | 2 | 2 | 29 | |
| 32.00301 | 87.92754 | 35.79073 | 0.2183 | 2 | 2 | 30 | |
| 32.00301 | 87.92754 | 39.76748 | 0.2183 | 2 | 2 | 31 | |
| 32.00301 | 87.92754 | 43.74422 | 0.2183 | 2 | 2 | 32 | |

| | | | | | | |
|----------|----------|----------|--------|---|---|----|
| 32.00301 | 87.92754 | 47.72097 | 0.2183 | 2 | 2 | 33 |
| 32.00301 | 87.92754 | 51.69772 | 0.2183 | 2 | 2 | 34 |
| 32.00301 | 87.92754 | 55.67447 | 0.2183 | 2 | 2 | 35 |
| 32.00301 | 87.92754 | 59.65122 | 0.2183 | 2 | 2 | 36 |
| 32.00301 | 87.92754 | 63.62797 | 0.2183 | 2 | 2 | 37 |
| 32.00301 | 87.92754 | 67.60471 | 0.2183 | 2 | 2 | 38 |
| 32.00301 | 87.92754 | 71.58147 | 0.2183 | 2 | 2 | 39 |
| 32.00301 | 87.92754 | 75.55821 | 0.2183 | 2 | 0 | 40 |

| Wire No. | 3 | Coordinates | | | Connection Pulse | | |
|----------|----------|-------------|--------|------|------------------|-----|--|
| X | Y | Z | Radius | End1 | End2 | No. | |
| 64.00602 | 175.8551 | 0 | 0.2183 | -3 | 3 | 41 | |
| 64.00602 | 175.8551 | 3.976748 | 0.2183 | 3 | 3 | 42 | |
| 64.00602 | 175.8551 | 7.953496 | 0.2183 | 3 | 3 | 43 | |
| 64.00602 | 175.8551 | 11.93024 | 0.2183 | 3 | 3 | 44 | |
| 64.00602 | 175.8551 | 15.90699 | 0.2183 | 3 | 3 | 45 | |
| 64.00602 | 175.8551 | 19.88374 | 0.2183 | 3 | 3 | 46 | |
| 64.00602 | 175.8551 | 23.86049 | 0.2183 | 3 | 3 | 47 | |
| 64.00602 | 175.8551 | 27.83723 | 0.2183 | 3 | 3 | 48 | |
| 64.00602 | 175.8551 | 31.81398 | 0.2183 | 3 | 3 | 49 | |
| 64.00602 | 175.8551 | 35.79073 | 0.2183 | 3 | 3 | 50 | |
| 64.00602 | 175.8551 | 39.76748 | 0.2183 | 3 | 3 | 51 | |
| 64.00602 | 175.8551 | 43.74422 | 0.2183 | 3 | 3 | 52 | |
| 64.00602 | 175.8551 | 47.72097 | 0.2183 | 3 | 3 | 53 | |
| 64.00602 | 175.8551 | 51.69772 | 0.2183 | 3 | 3 | 54 | |
| 64.00602 | 175.8551 | 55.67447 | 0.2183 | 3 | 3 | 55 | |
| 64.00602 | 175.8551 | 59.65122 | 0.2183 | 3 | 3 | 56 | |
| 64.00602 | 175.8551 | 63.62797 | 0.2183 | 3 | 3 | 57 | |
| 64.00602 | 175.8551 | 67.60471 | 0.2183 | 3 | 3 | 58 | |
| 64.00602 | 175.8551 | 71.58147 | 0.2183 | 3 | 3 | 59 | |
| 64.00602 | 175.8551 | 75.55821 | 0.2183 | 3 | 0 | 60 | |

Sources: 3

Pulse No., Voltage Magnitude, Phase (Degrees): 1, 737.1, -69.9

Pulse No., Voltage Magnitude, Phase (Degrees): 21, 659.6, -7.8

Pulse No., Voltage Magnitude, Phase (Degrees): 41, 292.9, 26.2

Number of Loads: 0

***** SOURCE DATA *****

Pulse 1 Voltage = (253.0385, -692.3569j)
Current = (0.8859, -9.1325j)
Impedance = (77.768, 20.164j)
Power = 3273.55 Watts

Pulse 21 Voltage = (653.4745, -89.5516j)
Current = (18.7908, 1.1019j)
Impedance = (34.379, -6.782j)
Power = 6090.31 Watts

Pulse 41 Voltage = (262.8123, 129.3789j)
Current = (0.0094, 9.8145j)
Impedance = (13.208, -26.765j)
Power = 636.13 Watts

Total Power = 10000.000 Watts

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

Wire No. 1 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 1 | 0.8859 | -9.1325 | 9.1754 | -84.4594 |
| 2 | 0.5762 | -9.2196 | 9.2376 | -86.424 |
| 3 | 0.3748 | -9.2151 | 9.2227 | -87.671 |
| 4 | 0.2065 | -9.1468 | 9.1491 | -88.7069 |
| 5 | 0.0618 | -9.0187 | 9.0189 | -89.6073 |
| 6 | -0.063 | -8.833 | 8.8332 | -90.409 |
| 7 | -0.17 | -8.5913 | 8.593 | -91.1333 |
| 8 | -0.2599 | -8.2954 | 8.2995 | -91.7948 |
| 9 | -0.3336 | -7.9467 | 7.9537 | -92.4038 |

| | | | | |
|----|---------|---------|--------|----------|
| 10 | -0.3913 | -7.5469 | 7.557 | -92.9683 |
| 11 | -0.4334 | -7.0977 | 7.111 | -93.4944 |
| 12 | -0.4601 | -6.6012 | 6.6172 | -93.9873 |
| 13 | -0.4717 | -6.059 | 6.0773 | -94.4512 |
| 14 | -0.4682 | -5.473 | 5.493 | -94.8898 |
| 15 | -0.45 | -4.8449 | 4.8658 | -95.3062 |
| 16 | -0.417 | -4.176 | 4.1967 | -95.7031 |
| 17 | -0.3694 | -3.4666 | 3.4862 | -96.0831 |
| 18 | -0.3069 | -2.7155 | 2.7328 | -96.4488 |
| 19 | -0.2287 | -1.9175 | 1.9311 | -96.8029 |
| 20 | -0.1326 | -1.0569 | 1.0652 | -97.1514 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 2 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 21 | 18.7908 | 1.1019 | 18.8231 | 3.3561 |
| 22 | 18.6983 | 0.8051 | 18.7156 | 2.4653 |
| 23 | 18.5164 | 0.6093 | 18.5264 | 1.8848 |
| 24 | 18.2359 | 0.4435 | 18.2413 | 1.3931 |
| 25 | 17.8568 | 0.2986 | 17.8593 | 0.958 |
| 26 | 17.3803 | 0.1711 | 17.3811 | 0.564 |
| 27 | 16.8081 | 0.0593 | 16.8082 | 0.2021 |
| 28 | 16.1428 | -0.0377 | 16.1428 | -0.1337 |
| 29 | 15.3869 | -0.1202 | 15.3874 | -0.4476 |
| 30 | 14.5438 | -0.1886 | 14.545 | -0.743 |
| 31 | 13.6168 | -0.243 | 13.6189 | -1.0224 |
| 32 | 12.6095 | -0.2835 | 12.6127 | -1.2881 |
| 33 | 11.5258 | -0.3102 | 11.53 | -1.5417 |
| 34 | 10.3693 | -0.3231 | 10.3743 | -1.7847 |
| 35 | 9.1433 | -0.3223 | 9.149 | -2.0186 |
| 36 | 7.8505 | -0.3077 | 7.8565 | -2.2445 |
| 37 | 6.4921 | -0.2793 | 6.4981 | -2.4635 |
| 38 | 5.0662 | -0.2369 | 5.0717 | -2.6768 |
| 39 | 3.5636 | -0.1796 | 3.5681 | -2.8856 |
| 40 | 1.9558 | -0.1057 | 1.9587 | -3.0934 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

Wire No. 3 :

| Pulse No. | Real (Amps) | Imaginary (Amps) | Magnitude (Amps) | Phase (Degrees) |
|-----------|-------------|------------------|------------------|-----------------|
| 41 | 0.0094 | 9.8145 | 9.8145 | 89.9452 |
| 42 | 0.0678 | 9.6691 | 9.6694 | 89.5984 |
| 43 | 0.1053 | 9.5124 | 9.513 | 89.3656 |
| 44 | 0.1361 | 9.3162 | 9.3172 | 89.1628 |
| 45 | 0.162 | 9.0775 | 9.0789 | 88.9778 |
| 46 | 0.1835 | 8.7955 | 8.7974 | 88.8051 |
| 47 | 0.2009 | 8.4707 | 8.4731 | 88.6413 |
| 48 | 0.2144 | 8.1041 | 8.1069 | 88.4843 |
| 49 | 0.2241 | 7.6967 | 7.7 | 88.3324 |
| 50 | 0.2298 | 7.2502 | 7.2538 | 88.1847 |
| 51 | 0.2315 | 6.7661 | 6.7701 | 88.0401 |
| 52 | 0.2293 | 6.2464 | 6.2506 | 87.898 |
| 53 | 0.2229 | 5.6927 | 5.6971 | 87.7577 |
| 54 | 0.2124 | 5.107 | 5.1115 | 87.6188 |
| 55 | 0.1976 | 4.491 | 4.4953 | 87.4808 |
| 56 | 0.1784 | 3.8459 | 3.85 | 87.3434 |
| 57 | 0.1548 | 3.1723 | 3.1761 | 87.2063 |
| 58 | 0.1264 | 2.4694 | 2.4726 | 87.069 |
| 59 | 0.0929 | 1.7328 | 1.7353 | 86.9309 |
| 60 | 0.0532 | 0.9487 | 0.9502 | 86.79 |
| E | 0.0 | 0.0 | 0.0 | 0.0 |

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

| Twr. | Ratio | Phase |
|------|-------|-------|
| 1 | 0.487 | -87.8 |
| 2 | 1.000 | 0.0 |
| 3 | 0.521 | 86.6 |

Table 1: Wire Model Data

| Tower | 1 | 2 | 3 |
|-----------------------------|--------|--------|--------|
| Actual Radius, Meters | 0.2183 | 0.2183 | 0.2183 |
| Model Radius, Meters | 0.2183 | 0.2183 | 0.2183 |
| Percentage of Actual radius | 100.0% | 100.0% | 100.0% |
| FCC Height, Meters | 76.35 | 76.35 | 76.35 |
| Model Height, Meters | 77.944 | 79.534 | 79.534 |
| Percentage of Actual Height | 102.1% | 104.2% | 104.2% |
| Number of Segments | 20 | 20 | 20 |

Table 2: Measured and Calculated Self Impedances

| Tower | 1 | 2 | 3 |
|-----------------------------------|--------|--------|--------|
| Measured self impedance R at ATU | 29.879 | 32.691 | 32.766 |
| Measured self impedance X at ATU | 29.426 | 23.089 | 39.795 |
| Shunt capacitance pf | 16 | 16 | 16 |
| Series Inductance uh | 8.2 | 5.3 | 8.4 |
| Shunt Inductance uh | 465 | 465 | 465 |
| Shunt capacitance pf | -- | -- | 8 |
| Modeled self impedance R at ATU | 30.96 | 32.15 | 32.79 |
| Modeled self impedance X at ATU | 29.653 | 23.13 | 39.914 |
| Resistance Tolerance, ohms, \pm | 3.20 | 3.31 | 3.31 |
| Reactance Tolerance, ohms, \pm | 3.18 | 2.92 | 3.59 |

Table 3: DA-Night Current and Phase Calculations

| | Circuit Model | | Corrections to Modeled Values to Derive Antenna Monitor Values | | Modeled Base | | Antenna Monitor | |
|---|---------------|-------|---|--------|--------------|-------|-----------------|-------|
| | Ratio | Phase | Ratio | Phase | Ratio | Phase | Ratio | Phase |
| 1 | 9.77 | 1.278 | 1.0235415 | -1.278 | 0.487 | -87.8 | 0.489 | -88.5 |
| 2 | 9.91 | 0.574 | 1.0090817 | -0.574 | 1.000 | 0.0 | 1.000 | 0.0 |
| 3 | 9.89 | 0.186 | 1.0111223 | -0.186 | 0.521 | 86.6 | 0.518 | 87.0 |

Table 4: Common Point

| | |
|--------------------------------------|---------------------------|
| Common Point Impedance Measured with | Delta OIB-1 SN 231 |
| Common Point Current Measured with | Delta TCT-1 SN 4354 |
| Measured Common Point Day | 50 +j0 |
| Measured Common Point Night | 52 +j0 |
| DA Power, KW Day / Night | 10.53 kW |
| DA Common Point Current,, Amperes | 14.15A Day / 14.2 A Night |

Table 5: Sample System Devices

| Tower | Device | Serial | Ratio | Phase | Impedance at Sample Port | Impedance Through Sample Line |
|-------------------|--------|------------------------------|-------|-------|--------------------------|-------------------------------|
| 1 | TCT-3 | 1758 | 1.004 | -0.01 | 50.255 +j1.0 | 50.44 -j3.19 |
| 2 | TCT-3 | 17577 | 1 | -0.01 | 50.187 +j2.1 | 51.37 -j1.48 |
| 3 | TCT-3 | 17578 | 0.998 | -0.01 | 50.299 +j2.21 | 51.56 -j3.14 |
| Sample Lines are: | | Cablewave FCC-38 50 | | | | |
| Phase Monitor is: | | Potomac 1903/1902 SN 189/112 | | | | |

Table 6: Sample Line Lengths

| | | | |
|--|--------|--------|--------|
| Carrier Frequency, KHz | 890 | | |
| Velocity Factor | 0.81 | | |
| Tower | 1 | 2 | 3 |
| Odd Quarter Wave Below Carrier | 0.25 | 0.25 | 0.25 |
| Open Circuit Resonant Frequency, KHz | 307 | 309 | 307 |
| Resultant Length, Feet | 648.74 | 644.54 | 648.74 |
| Resultant Length, Degrees at Carrier | 260.9 | 259.2 | 260.9 |
| Odd Quarter Wave Above Carrier | 0.75 | 0.75 | 0.75 |
| Open Circuit Resonant Frequency, KHz | 931 | 933 | 931 |
| Resultant Length, Feet | 641.77 | 640.39 | 641.77 |
| Resultant Length, Degrees closest to Carrier | 258.1 | 257.6 | 258.1 |

Table 7: Sample Line Characteristic Impedance

| Tower | +1/8 from 5/4 Wave, Frequency, kHz | Measured Resistance | Measured Reactance | -1/8 from 5/4 wave, Frequency, kHz | Measured Resistance | Measured Reactance | Calculated Impedance by Formula |
|-------|------------------------------------|---------------------|--------------------|------------------------------------|---------------------|--------------------|---------------------------------|
| 1 | 1085 | 8.07 | 48.14 | 775 | 5.69 | -49.46 | 49.30 |
| 2 | 1087 | 8.02 | 47.3 | 777 | 6.15 | -50.48 | 49.39 |
| 3 | 1085 | 8.31 | 48.55 | 775 | 5.88 | -50.26 | 49.92 |

FIGURE 1

WCAP - KDXU TOWER #1 ND
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

| | | | | | |
|-------|---|----------|---|-----------|---|
| Node: | 1 | 351.8319 | ∠ | -26.4647° | V |
| Node: | 2 | 428.7698 | ∠ | 43.7549° | V |
| Node: | 3 | 351.8319 | ∠ | -26.4647° | V |
| Node: | 4 | 351.9199 | ∠ | -26.4573° | V |
| Node: | 5 | 428.6976 | ∠ | 43.7642° | V |

| WCAP PART | | | CURRENT IN BRANCH VOLTAGE | | CURRENT OUT BRANCH CURRENT | |
|-----------|-----|--------------|------------------------------|--------------|-------------------------------|--------------|
| R | 2-5 | 0.01000000 | 0.10 | ∠ 0.000° V | 10.00 | ∠ 0.000° A |
| L | 5-4 | 8.20000000 | 453.35 | ∠ 90.690° V | 9.89 | ∠ 0.690° A |
| R | 4-1 | 0.01000000 | 0.10 | ∠ 0.690° V | 9.89 | ∠ 0.690° A |
| C | 3-0 | 0.00001600 | 351.83 | ∠ -26.465° V | 0.03 | ∠ 63.535° A |
| R | 1-0 | 31.75600000 | 351.83 | ∠ -26.465° V | 9.87 | ∠ 0.527° A |
| R | 1-3 | 0.01000000 | 0.00 | ∠ 63.535° V | 0.03 | ∠ 63.535° A |
| L | 5-0 | 465.00000000 | 428.70 | ∠ 43.764° V | 0.16 | ∠ -46.236° A |

| WCAP PART | | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|--------------|----------------|-----------|--------------|-----------|
| R | 2-5 | 0.01000000 | 30.97 + j | 29.653 | 30.96 + j | 29.653 |
| L | 5-4 | 8.20000000 | 31.67 + j | 29.613 | 31.67 - j | 16.241 |
| R | 4-1 | 0.01000000 | 31.67 - j | 16.241 | 31.66 - j | 16.241 |
| C | 3-0 | 0.00001600 | 0.00 - j | 11176.611 | 0.00 + j | 0.000 |
| R | 1-0 | 31.75600000 | 31.76 - j | 16.175 | 0.00 + j | 0.000 |
| R | 1-3 | 0.01000000 | 0.01 - j | 11176.611 | 0.00 - j | 11176.611 |
| L | 5-0 | 465.00000000 | 0.00 + j | 2600.296 | 0.00 + j | 0.000 |

WCAP INPUT DATA:

| | | | | |
|---|--------------|------------|---|--------------|
| | 0.8900 | 0.00000000 | 0 | |
| I | 10.00000000 | 0 | 2 | 0.00000000 |
| R | 0.01000000 | 2 | 5 | 0.00000000 |
| L | 8.20000000 | 5 | 4 | 0.00000000 |
| R | 0.01000000 | 4 | 1 | 0.00000000 |
| C | 0.00001600 | 3 | 0 | |
| R | 31.75600000 | 1 | 0 | -16.17500000 |
| R | 0.01000000 | 1 | 3 | 0.00000000 |
| L | 465.00000000 | 5 | 0 | 0.00000000 |

Center Frequency: 0.89 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz

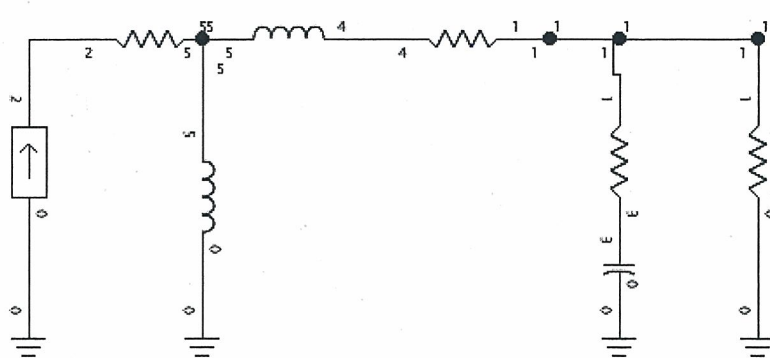


FIGURE 2

WCAP - KDXU TOWER #2 ND
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

```
Node:  1    331.0202  4  -10.9215° V
Node:  2    395.9488  4  35.6959° V
Node:  3    331.0202  4  -10.9215° V
Node:  4    331.1173  4  -10.9180° V
Node:  5    395.8676  4  35.7044° V
```

| WCAP PART | | | CURRENT IN BRANCH VOLTAGE | | CURRENT OUT BRANCH CURRENT | |
|-----------|-----|--------------|------------------------------|------------|-------------------------------|------------|
| R | 2→5 | 0.01000000 | 0.10 4 | 0.000° V | 10.00 4 | 0.000° A |
| L | 5→4 | 5.30000000 | 293.77 4 | 90.715° V | 9.91 4 | 0.715° A |
| R | 4→1 | 0.01000000 | 0.10 4 | 0.715° V | 9.91 4 | 0.715° A |
| C | 3→0 | 0.00001600 | 331.02 4 | -10.922° V | 0.03 4 | 79.078° A |
| R | 1→0 | 32.74900000 | 331.02 4 | -10.921° V | 9.91 4 | 0.547° A |
| R | 1→3 | 0.01000000 | 0.00 4 | 79.078° V | 0.03 4 | 79.078° A |
| L | 5→0 | 465.00000000 | 395.87 4 | 35.704° V | 0.15 4 | -54.296° A |

| WCAP PART | | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|--------------|----------------|-----------|--------------|-----------|
| R | 2→5 | 0.01000000 | 32.16 + j | 23.103 | 32.15 + j | 23.103 |
| L | 5→4 | 5.30000000 | 32.72 + j | 22.902 | 32.72 - j | 6.736 |
| R | 4→1 | 0.01000000 | 32.72 - j | 6.736 | 32.71 - j | 6.736 |
| C | 3→0 | 0.00001600 | -0.00 - j | 11176.611 | 0.00 + j | 0.000 |
| R | 1→0 | 32.74900000 | 32.75 - j | 6.644 | 0.00 + j | 0.000 |
| R | 1→3 | 0.01000000 | 0.01 - j | 11176.611 | 0.01 - j | 11176.611 |
| L | 5→0 | 465.00000000 | 0.00 + j | 2600.296 | 0.00 + j | 0.000 |

WCAP INPUT DATA:

```
0.8900    0.00000000    0
I    10.00000000    0    2    0.00000000
R    0.01000000    2    5    0.00000000
L    5.30000000    5    4    0.00000000
R    0.01000000    4    1    0.00000000
C    0.00001600    3    0
R    32.74900000    1    0    -6.64400000
R    0.01000000    1    3    0.00000000
L    465.00000000    5    0    0.00000000
```

Center Frequency: 0.89 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz

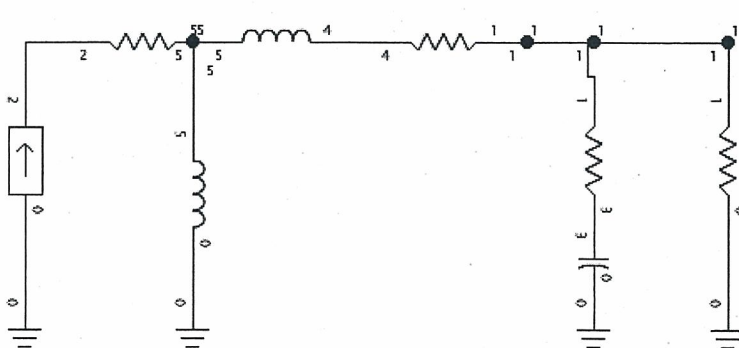


FIGURE 3

WCAP - KDXU TOWER #3 ND
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

Node: 1 339.7158 \angle -10.7537° V
Node: 2 516.6324 \angle 50.5853° V
Node: 3 339.7158 \angle -10.7537° V
Node: 4 339.8123 \angle -10.7504° V
Node: 5 516.5689 \angle 50.5939° V

| WCAP PART | | | CURRENT IN | | CURRENT OUT | |
|-----------|-----|--------------|-----------------|------------|----------------|------------|
| WCAP PART | | | BRANCH VOLTAGE | | BRANCH CURRENT | |
| R | 2→5 | 0.01000000 | 0.10 \angle | 0.000° V | 10.00 \angle | 0.000° A |
| L | 5→4 | 8.40000000 | 462.56 \angle | 90.734° V | 9.85 \angle | 0.734° A |
| R | 4→1 | 0.01000000 | 0.10 \angle | 0.734° V | 9.85 \angle | 0.734° A |
| C | 3→0 | 0.00001600 | 339.72 \angle | -10.754° V | 0.03 \angle | 79.246° A |
| R | 1→0 | 33.86900000 | 339.72 \angle | -10.754° V | 9.84 \angle | 0.474° A |
| R | 1→3 | 0.01000000 | 0.00 \angle | 79.246° V | 0.03 \angle | 79.246° A |
| C | 1→0 | 0.00000800 | 339.72 \angle | -10.754° V | 0.02 \angle | 79.246° A |
| L | 5→0 | 465.00000000 | 516.57 \angle | 50.594° V | 0.20 \angle | -39.406° A |

| WCAP PART | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|----------------|--------------------|--------------|-----------|
| R | 2→5 | 0.01000000 | 32.80 + j 39.914 | 32.79 + j | 39.914 |
| L | 5→4 | 8.40000000 | 33.82 + j 40.103 | 33.82 - j | 6.870 |
| R | 4→1 | 0.01000000 | 33.82 - j 6.870 | 33.81 - j | 6.870 |
| C | 3→0 | 0.00001600 | 0.00 - j 11176.611 | 0.00 + j | 0.000 |
| R | 1→0 | 33.86900000 | 33.87 - j 6.723 | 0.00 + j | 0.000 |
| R | 1→3 | 0.01000000 | 0.01 - j 11176.611 | 0.01 - j | 11176.611 |
| C | 1→0 | 0.00000800 | 0.00 - j 22353.222 | 0.00 + j | 0.000 |
| L | 5→0 | 465.00000000 | 0.00 + j 2600.296 | 0.00 + j | 0.000 |

WCAP INPUT DATA:

| | 0.8900 | 0.00000000 | 0 |
|---|--------------|------------|---|
| I | 10.00000000 | 0 | 2 |
| R | 0.01000000 | 2 | 5 |
| L | 8.40000000 | 5 | 4 |
| R | 0.01000000 | 4 | 1 |
| C | 0.00001600 | 3 | 0 |
| R | 33.86900000 | 1 | 0 |
| R | 0.01000000 | 1 | 3 |
| C | 0.00000800 | 1 | 0 |
| L | 465.00000000 | 5 | 0 |

Center Frequency: 0.89 MHz

Frequency Range: ± 0 kHz

Frequency Step: 0 kHz

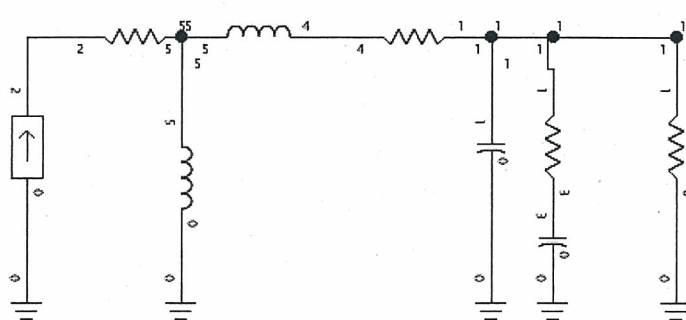


FIGURE 4

WCAP - KDXU TOWER #1 DA-N
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

| | | | | | |
|-------|---|----------|---|----------|---|
| Node: | 1 | 784.7137 | ✗ | 15.8136° | V |
| Node: | 2 | 993.6441 | ✗ | 41.6797° | V |
| Node: | 3 | 784.7137 | ✗ | 15.8135° | V |
| Node: | 4 | 784.8082 | ✗ | 15.8118° | V |
| Node: | 5 | 993.5694 | ✗ | 41.6835° | V |

| | WCAP | PART | CURRENT IN | | CURRENT OUT | |
|---|------|--------------|----------------|------------|----------------|------------|
| | WCAP | PART | BRANCH VOLTAGE | | BRANCH CURRENT | |
| R | 2→5 | 0.01000000 | 0.10 ∅ | 0.000° V | 10.00 ∅ | 0.000° A |
| L | 5→4 | 8.20000000 | 447.09 ∅ | 91.677° V | 9.75 ∅ | 1.677° A |
| R | 4→1 | 0.01000000 | 0.10 ∅ | 1.677° V | 9.75 ∅ | 1.677° A |
| C | 3→0 | 0.00001600 | 784.71 ∅ | 15.814° V | 0.07 ∅ | 105.814° A |
| R | 1→0 | 77.76800000 | 784.71 ∅ | 15.814° V | 9.77 ∅ | 1.278° A |
| R | 1→3 | 0.01000000 | 0.01 ∅ | 105.814° V | 0.07 ∅ | 105.814° A |
| L | 5→0 | 465.00000000 | 993.57 ∅ | 41.683° V | 0.38 ∅ | -48.317° A |

| WCAP PART | | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|--------------|----------------|-----------|--------------|-----------|
| R | 2→5 | 0.01000000 | 74.21 + j | 66.074 | 74.20 + j | 66.074 |
| L | 5→4 | 8.20000000 | 78.06 + j | 65.511 | 78.06 + j | 19.656 |
| R | 4→1 | 0.01000000 | 78.06 + j | 19.656 | 78.05 + j | 19.656 |
| C | 3→0 | 0.00001600 | 0.00 - j | 11176.611 | 0.00 + j | 0.000 |
| R | 1→0 | 77.76800000 | 77.77 + j | 20.164 | 0.00 + j | 0.000 |
| R | 1→3 | 0.01000000 | 0.01 - j | 11176.611 | -0.00 - j | 11176.611 |
| L | 5→0 | 465.00000000 | 0.00 + j | 2600.296 | 0.00 + j | 0.000 |

WCAP INPUT DATA:

| | | | | |
|---|--------------|------------|---|-------------|
| | 0.8900 | 0.00000000 | 0 | |
| I | 10.00000000 | 0 | 2 | 0.00000000 |
| R | 0.01000000 | 2 | 5 | 0.00000000 |
| L | 8.20000000 | 5 | 4 | 0.00000000 |
| R | 0.01000000 | 4 | 1 | 0.00000000 |
| C | 0.00001600 | 3 | 0 | |
| R | 77.76800000 | 1 | 0 | 20.16400000 |
| R | 0.01000000 | 1 | 3 | 0.00000000 |
| L | 465.00000000 | 5 | 0 | 0.00000000 |

Center Frequency: 0.89 MHz

Frequency Range: ± 0 kHz

Frequency Step: 0 kHz

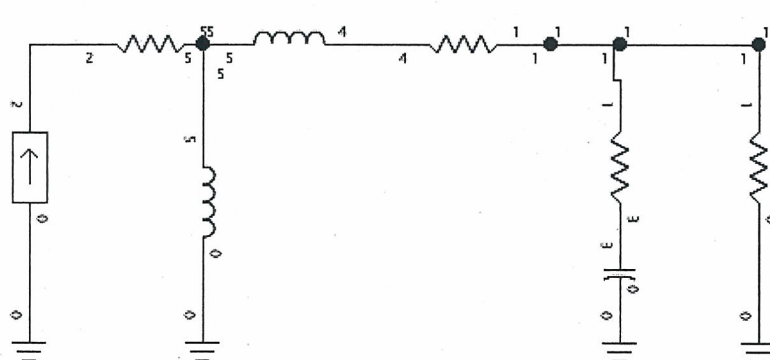


FIGURE 5

WCAP - KDXU TOWER #2 DA-N
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

Node: 1 347.1338 \angle -10.5855° V
Node: 2 408.4779 \angle 34.2662° V
Node: 3 347.1338 \angle -10.5855° V
Node: 4 347.2310 \angle -10.5823° V
Node: 5 408.3953 \angle 34.2741° V

| WCAP PART | | | CURRENT IN | | CURRENT OUT | |
|-----------|-----|--------------|-----------------|------------|----------------|------------|
| WCAP PART | | | BRANCH VOLTAGE | | BRANCH CURRENT | |
| R | 2-5 | 0.01000000 | 0.10 \angle | 0.000° V | 10.00 \angle | 0.000° A |
| L | 5-4 | 5.30000000 | 293.78 \angle | 90.750° V | 9.91 \angle | 0.750° A |
| R | 4-1 | 0.01000000 | 0.10 \angle | 0.750° V | 9.91 \angle | 0.750° A |
| C | 3-0 | 0.00001600 | 347.13 \angle | -10.586° V | 0.03 \angle | 79.414° A |
| R | 1-0 | 34.37900000 | 347.13 \angle | -10.585° V | 9.91 \angle | 0.574° A |
| R | 1-3 | 0.01000000 | 0.00 \angle | 79.414° V | 0.03 \angle | 79.414° A |
| L | 5-0 | 465.00000000 | 408.40 \angle | 34.274° V | 0.16 \angle | -55.726° A |

| WCAP PART | | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|--------------|----------------|-----------|--------------|-----------|
| R | 2-5 | 0.01000000 | 33.76 + j | 22.999 | 33.75 + j | 22.999 |
| L | 5-4 | 5.30000000 | 34.35 + j | 22.754 | 34.35 - j | 6.883 |
| R | 4-1 | 0.01000000 | 34.35 - j | 6.883 | 34.34 - j | 6.883 |
| C | 3-0 | 0.00001600 | 0.00 - j | 11176.611 | 0.00 + j | 0.000 |
| R | 1-0 | 34.37900000 | 34.38 - j | 6.782 | 0.00 + j | 0.000 |
| R | 1-3 | 0.01000000 | 0.01 - j | 11176.611 | -0.00 - j | 11176.611 |
| L | 5-0 | 465.00000000 | 0.00 + j | 2600.296 | 0.00 + j | 0.000 |

WCAP INPUT DATA:

| | 0.8900 | 0.00000000 | 0 |
|---|--------------|------------|---|
| I | 10.00000000 | 0 | 2 |
| R | 0.01000000 | 2 | 5 |
| L | 5.30000000 | 5 | 4 |
| R | 0.01000000 | 4 | 1 |
| C | 0.00001600 | 3 | 0 |
| R | 34.37900000 | 1 | 0 |
| R | 0.01000000 | 1 | 3 |
| L | 465.00000000 | 5 | 0 |

Center Frequency: 0.89 MHz

Frequency Range: ± 0 kHz

Frequency Step: 0 kHz

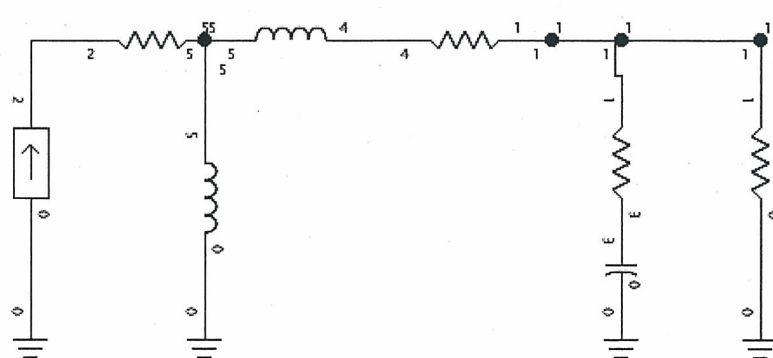


FIGURE 6

WCAP - KDXU TOWER #3 DA-N
WCAP OUTPUT AT FREQUENCY: 0.890 MHz

NODE VOLTAGES

| | | | | | |
|-------|---|----------|---|-----------|---|
| Node: | 1 | 295.0915 | ∠ | -63.5488° | V |
| Node: | 2 | 239.7464 | ∠ | 57.3601° | V |
| Node: | 3 | 295.0915 | ∠ | -63.5489° | V |
| Node: | 4 | 295.1352 | ∠ | -63.5316° | V |
| Node: | 5 | 239.6925 | ∠ | 57.3802° | V |

| WCAP PART | | CURRENT IN | | CURRENT OUT | |
|-----------|-----|----------------|---------------------|----------------|------------|
| WCAP PART | | BRANCH VOLTAGE | | BRANCH CURRENT | |
| R | 2-5 | 0.01000000 | 0.10 ∠ 0.000° V | 10.00 ∠ | 0.000° A |
| L | 5-4 | 8.40000000 | 466.09 ∠ 90.287° V | 9.92 ∠ | 0.287° A |
| R | 4-1 | 0.01000000 | 0.10 ∠ 0.287° V | 9.92 ∠ | 0.287° A |
| C | 3-0 | 0.00001600 | 295.09 ∠ -63.549° V | 0.03 ∠ | 26.451° A |
| R | 1-0 | 13.20800000 | 295.09 ∠ -63.549° V | 9.89 ∠ | 0.186° A |
| R | 1-3 | 0.01000000 | 0.00 ∠ 26.451° V | 0.03 ∠ | 26.451° A |
| C | 1-0 | 0.00000800 | 295.09 ∠ -63.549° V | 0.01 ∠ | 26.451° A |
| L | 5-0 | 465.00000000 | 239.69 ∠ 57.380° V | 0.09 ∠ | -32.620° A |

| WCAP PART | | FROM IMPEDANCE | | TO IMPEDANCE | |
|-----------|-----|----------------|--------------------|--------------|-----------|
| R | 2-5 | 0.01000000 | 12.93 + j 20.188 | 12.92 + j | 20.188 |
| L | 5-4 | 8.40000000 | 13.12 + j 20.281 | 13.12 - j | 26.692 |
| R | 4-1 | 0.01000000 | 13.12 - j 26.692 | 13.11 - j | 26.692 |
| C | 3-0 | 0.00001600 | 0.00 - j 11176.611 | 0.00 + j | 0.000 |
| R | 1-0 | 13.20800000 | 13.21 - j 26.765 | 0.00 + j | 0.000 |
| R | 1-3 | 0.01000000 | 0.01 - j 11176.611 | 0.01 - j | 11176.611 |
| C | 1-0 | 0.00000800 | 0.00 - j 22353.222 | 0.00 + j | 0.000 |
| L | 5-0 | 465.00000000 | 0.00 + j 2600.296 | 0.00 + j | 0.000 |

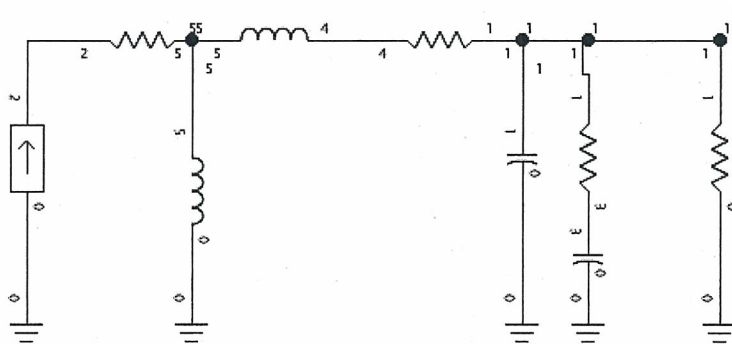
WCAP INPUT DATA:

| | | | |
|---|--------------|------------|---|
| | 0.8900 | 0.00000000 | 0 |
| I | 10.00000000 | 0 | 2 |
| R | 0.01000000 | 2 | 5 |
| L | 8.40000000 | 5 | 4 |
| R | 0.01000000 | 4 | 1 |
| C | 0.00001600 | 3 | 0 |
| R | 13.20800000 | 1 | 0 |
| R | 0.01000000 | 1 | 3 |
| C | 0.00000800 | 1 | 0 |
| L | 465.00000000 | 5 | 0 |

Center Frequency: 0.89 MHz

Frequency Range: ±0 kHz

Frequency Step: 0 kHz



Appendix 1

KDXU Night Reference Point Readings

January 5, 2017

#####

| Description | Coordinates NAD 83 | Field Strength | Distance | Notes |
|-------------------|------------------------------|----------------|-----------|--|
| KDXU Center Tower | 37° 4'4.77"N 113°31'11.54"W | | | Center Tower |
| 37° pt 1 | 37° 4'53.30"N 113°30'25.69"W | 7.8 mv/m | 1.2 mile | 3650 South behind border of 101 and 131 Stonehedge Dr |
| 37° pt 2 | 37° 6'0.70"N 113°29'22.03"W | 6.2 mv/m | 2.81 mile | 1188 East High Ridge at hydrant |
| 37° pt 3 | 37° 6'52.75"N 113°28'32.85"W | 5.8 mv/m | 4.06 mile | 1880 East and 1150 South on SE corner |
| 54° pt 1 | 37° 4'37.16"N 113°30'15.50"W | 7.4 mv/m | 1.09 mile | 3992 South Medallion across from walkway |
| 54° pt 2 | 37° 4'56.59"N 113°29'41.85"W | 6.2 mv/m | 1.73 mile | 3585 El Camino at hydrant |
| 54° pt 3 | 37° 5'15.70"N 113°29'8.73"W | 5.2 mv/m | 2.35 mile | 1386 East 3090 South East side of driveway at sidewalk |
| 86° pt 1 | 37° 4'8.04"N 113°30'15.60"W | 8.8 mv/m | 0.9 mile | At well head east side of road at 3870 East Washington |
| 86° pt 2 | 37° 4'10.26"N 113°29'35.08"W | 8.0 mv/m | 1.52 mile | 4559 Cat Tail Way at Telephone Pedastle |
| 86° pt 3 | 37° 4'11.78"N 113°29'8.29"W | 7.2 mv/m | 1.43 mile | East Side of Southern Parkway at coordinates |
| 103° pt 1 | 37° 3'54.96"N 113°30'18.09"W | 8 mv/m | 0.89 mile | At curve in road South side at irrigation manhole |
| 103° pt 2 | 37° 3'45.08"N 113°29'24.49"W | 4.8 mv/m | 1.72 mile | Turf Farm 5400 South Washington Fields Road at storm drain |
| 103° pt 3 | 37° 3'41.85"N 113°29'6.95"W | 5.4 mv/m | 1.96 mile | East Side of Southern Parkway at Warner on ramp at tip of gore point |
| 250° pt 1 | 37° 3'50.53"N 113°32'0.77"W | 490 mv/m | 0.76 mile | 2624 Little Valley Road at walking path |
| 250° pt 2 | 37° 3'35.73"N 113°32'51.93"W | 380 mv/m | 1.6 mile | 2878 Evergreen across street from driveway |
| 250° pt 3 | 37° 3'20.54"N 113°33'44.24"W | 300 mv/m | 2.45 mile | 3014 Beech Street at cluster box |

Intermodulation Measurements on co-located KDXU and KHKR

| Frequency, kHz | Day | | | Night | | |
|-------------------|---------------|----------|----------|---------|----------|----------|
| | uV/m | KDXU dBc | KHKR dBc | uV/m | KDXU dBc | KHKR dBc |
| 890 | 1,400,000,000 | | | 520,000 | | |
| 1210 | 1,350,000,000 | | | 240,000 | | |
| 320 | * | | | * | | |
| 570 | 50 | -149 | -149 | * | | |
| 640 | 50 | -149 | -149 | 50 | -80 | -74 |
| 960 | 55 | -148 | -148 | 28 | -85 | -79 |
| 1460 | 35 | -152 | -152 | 25 | -86 | -80 |
| 1530 | 35 | -152 | -152 | 30 | -85 | -78 |
| 1780 | 100 | -143 | -143 | 55 | -80 | -73 |
| 1850 | 70 | -146 | -146 | 48 | -81 | -74 |
| 2100 | 54 | -148 | -148 | 50 | -80 | -74 |
| 2420 | 120 | -141 | -141 | * | | |
| 2670 | 100 | -143 | -143 | 90 | -75 | -69 |
| 2740 | 80 | -145 | -145 | * | | |
| 2990 | 35 | -152 | -152 | * | | |
| 3310 | 65 | -147 | -146 | * | | |
| 3630 | 80 | -145 | -145 | * | | |
| 3880 | 50 | -149 | -149 | 45 | -81 | -75 |
| 4200 | 11 | -162 | -162 | 11 | -93 | -87 |
| 4520 | 50 | -149 | -149 | 19 | -89 | -82 |
| 5090 | 11 | -162 | -162 | 15 | -91 | -84 |
| 5410 | * | | | * | | |
| 6300 | * | | | * | | |

Note: All readings must be 80 dB below KDXU carrier day and night
All reading must be 80 dB below KHKR carrier day, 67 dB below KHKR carrier night
Reading made using Potomac Instruments FIM41 SN 1918, calibrated 9/27/15
Readings done 1/30/2017 by Gary A. Smith.
* indicates none observed on lowest scale