

**ENGINEERING EXHIBIT**  
**Application for License and**  
**Request for Program Test Authority**

prepared for  
**Lincoln Financial Media Company of California**

KSON(FM) San Diego, California  
Facility ID 30832  
Ch. 247B 0.65 kW 564 m

**Table of Contents**

FCC Form 302-FM, Section III

**Exhibit 7**

Statement A	Consolidated Engineering Statement
Attachment 1	Manufacturer's Proof of Performance
Attachment 2	Registered Surveyor's Certification
Attachment 3	Qualified Engineer's Certification
Table I	Antenna / Line System Gains and Losses

*This material supplies a "hard copy" of the engineering portions of this application as entered March 3, 2010 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.*

**SECTION III - PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name ROBERT J. CLINTON		Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature		Date 3/3/2010	
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7839 ASHTON AVENUE			
City MANASSAS	State or Country (if foreign address) VA		Zip Code 20109 - 2883
Telephone Number (include area code) 7033929090		E-Mail Address (if available) BCLINTON@CAVELLMERTZ.COM	

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 PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

**Section III - Engineering****TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

**TECH BOX**

1.	Channel: 247		
2.	a. Effective Radiated Power: 0.65 kW(H) 0.65 kW(V) b. Maximum Effective Radiated Power: kW(H) kW(V) (Beam-Tilt Antenna ONLY) <input checked="" type="checkbox"/> Not Applicable		
3.	Transmitter Power Output: 0.469 kW		
4.	Antenna Data		
	Manufacturer ERI	Model 1080-1CP-DA-SP	Number of Sections 1 Spacing Between Sections (wavelength) 1

**NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.**

**CERTIFICATION**

**All applicants must complete this section.**

5.	<b>Main Studio Location.</b> The main studio location complies with 47 C.F.R. Section 73.1125.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 6]
6.	<b>Transmitter Power Output.</b> The operating transmitter power output produces the authorized effective radiated power.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 7]

APPLICATIONS FILED TO COVER A CONSTRUCTION PERMIT

**APPLICATIONS FILED TO COVER A CONSTRUCTION PERMIT.**

Only applicants filing this application to cover a construction permit must complete the following section.

**NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.**

7.	<b>Constructed Facility .</b> The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 8]
8.	<b>Special Operating Conditions.</b> The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit.	<input checked="" type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 9]
	<b>An exhibit may be required.</b> Review the underlying construction permit.	[Exhibit 10]

**APPLICATIONS FILED PURSUANT TO 47 C.F.R. SECTIONS 73.1675(c) or 73.1690(c).**

Only applicants filing this application pursuant to 47 C.F.R. Sections 73.1675(c) or 73.1690(c) must complete the following section.

9.	<b>Changing transmitter power output.</b> Is this application being filed to authorize a change in transmitter power output caused by the replacement of omnidirectional antenna with another omnidirectional antenna or an alteration of the transmission line system? See 47 C.F.R. Sections 73.1690(c)(1) and (c)(10).	<input type="radio"/> Yes <input type="radio"/> No
10.	<b>Increasing effective radiated power.</b> Is this application being filed to authorize an increase in ERP for a station operating in the nonreserved band (Channels 221-300)? See 47 C.F.R. Sections 73.1690(c)(4), (c)(5) and (c)(7).	<input type="radio"/> Yes <input type="radio"/> No
If "Yes" to the above, the applicant certifies the following:		
a.	<b>Spacing Requirements.</b> The increase in ERP was authorized pursuant to MM Docket 88-375 (Class A stations) OR the facility complies with the spacing requirements of 47 C.F.R. Section 73.207.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 11]
b.	<b>International Coordination.</b> The transmitter site is greater than 320 km from the Canadian or Mexican borders OR coordination for the station's international class is complete.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 12]
c.	<b>Interference.</b> The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied OR are not applicable.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 13]
	<b>Exhibit required.</b> If the proposed facility must be notified to the entities set forth in 47 C.F.R. Section 73.1030, the applicant must provide a copy of the written approval for the ERP increase from the affected entity.	[Exhibit 14]
d.	<b>Multiple Ownership Showing.</b> The increase in ERP will not require the consideration of a multiple ownership showing pursuant to 47 C.F.R. Section 73.3555.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 15]
e.	<b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b>	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 16]
	By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	

<p>11. <b>Increasing vertically polarized effective radiated power.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(4) to authorize an increase in the vertically polarized ERP for a station operating in the reserved band (Channels 200-220)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>a. <b>TV Channel 6 Protection Requirements.</b> The facility complies with the spacing requirements of 47 C.F.R. Section 73.525(a)(1).</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 17]</p>
<p>b. <b>Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b></p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 18]</p>
<p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p>	
<p>12. <b>Decreasing effective radiated power (non-reserved channel).</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(8) to authorize a decrease in the ERP for a station operating in the nonreserved band (Channels 221-300)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>a. <b>Community Coverage .</b> The proposed facility complies with the community coverage requirements of 47 C.F.R. Section 73.315 where the distance to the 3.16 mV/m contour is predicted using the standard prediction method in 47 C.F.R. Section 73.313.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 19]</p>
<p>b. <b>Auxiliary Facilities.</b> The authorized or pending auxiliary facilities for this station comply with 47 C.F.R. Section 73.1675(a).</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 20]</p>
<p>c. <b>Multiple Ownership Showing.</b> The decrease in ERP is not requested or required to establish compliance with 47 C.F.R. Section 73.3555.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 21]</p>
<p>13. <b>Decreasing effective radiated power (reserved channel).</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(8) to authorize a decrease in the ERP for a station operating in the reserved band (Channels 200-220)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>a. <b>Community Coverage .</b> The proposed facility complies with the community coverage requirements of 47 C.F.R. Section 73.1690(c)(8)(i) where the distance to the 1 mV/m contour is predicted using the standard prediction method in 47 C.F.R. Section 73.313.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 22]</p>
<p>b. <b>Auxiliary Facilities.</b> The authorized or pending auxiliary facilities for this station comply with 47 C.F.R. Section 73.1675(a).</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 23]</p>
<p>14. <b>Replacing a directional antenna.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(2) to replace a directional antenna with another directional antenna?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>

	<b>a. Measurement of Directional Antenna.</b> The composite measured pattern and measurement procedures comply with 47 C.F.R. Section 73.1690(c)(2). <b>Exhibit required.</b>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 24]  [Exhibit 25]
	<b>b. Installation of Directional Antenna.</b> The installation of the directional antenna complies with 47 C.F.R. Section 73.1690(c)(2). <b>Exhibit required.</b>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 26]  [Exhibit 27]
15.	<b>Deleting contour protection status.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(6) to delete contour protection status (47 C.F.R. Section 73.215) for a station operating in the nonreserved band (Channels 221-300)?	<input type="radio"/> Yes <input type="radio"/> No
	If "Yes" to the above, the applicant certifies that the facility complies with the spacing requirements of 47 C.F.R. Section 73.207.	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 28]
16.	<b>Use a formerly licensed main facility as an auxiliary facility.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1675(c)(1) to request authorization to use a formerly licensed main facility as an auxiliary facility and/or change the ERP of the proposed auxiliary facility?  If "Yes" to the above, the applicant certifies the following:	<input type="radio"/> Yes <input type="radio"/> No
	<b>a. Auxiliary antenna service area.</b> The proposed auxiliary facility complies with 47 C.F.R. Section 73.1675(a).	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 29]
	<b>b. Environmental Protection Act.</b> The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1 306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b>	<input type="radio"/> Yes <input type="radio"/> No  See Explanation in [Exhibit 30]
	By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	
17.	<b>Change the license status.</b> Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(9) to change the license status from commercial to noncommercial or from noncommercial to commercial?	<input type="radio"/> Yes <input type="radio"/> No
	If "Yes" to the above, submit an exhibit providing full particulars. For applications changing license status from commercial to noncommercial, include Section II of FCC Form 340 as an exhibit to this application.	[Exhibit 31]
<b>PREPARERS CERIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.</b>		

## Exhibits

### Exhibit 7

**Description:** EXHIBIT 7 - STATEMENT A

EXHIBIT 7 - STATEMENT A - CONSOLIDATED ENGINEERING STATEMENT (WITH TABLE OF CONTENTS AND COPY OF FORM 301 FM SECTION III)

OF FORM 301-114, SECTION III)

**Attachment 7**

Description
<a href="#">EXHIBIT 7 - STATEMENT A</a>

**Exhibit 9****Description:** EXHIBIT 9 - SPECIAL CONDITIONS

PLEASE SEE EXHIBIT 7 - STATEMENT A FOR SPECIAL OPERATING CONDITIONS DISCUSSION.

**Attachment 9**

Exhibit 7 - Statement A  
**CONSOLIDATED ENGINEERING STATEMENT**  
prepared for  
**Lincoln Financial Media Company of California**  
KSON(FM) San Diego, California  
Facility ID 30832  
Ch. 247B 0.65 kW 564 m

*Lincoln Financial Media Company of California* (“*Lincoln*”) is the licensee of KSON(FM) (file number BLH-19820120AK) and permittee of a Construction Permit (“CP”) for a new auxiliary antenna system (see file number BXPB-20100112ABV). *Lincoln* has completed the necessary construction of the new auxiliary antenna system. This statement and associated exhibits are provided to demonstrate compliance with the Rules and policies of the Commission.

**Special Operating Conditions**

As described below, all relevant special operating conditions detailed in the CP have been met with one exception. *Lincoln* will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of the FCC guidelines, per Special Operating Condition one.

According to Special Operating Condition two, *Lincoln* understands that the authorization requires the use of a directional antenna. The directional antenna described below assures operation that will meet the required parameters established by the envelope pattern in the CP. A PDF copy of the antenna manufacturer’s proof of performance is provided in **Exhibit 7 – Attachment 1**. A licensed and registered surveyor has provided a certification (**Exhibit 7 – Attachment 2**) that the antenna has been oriented to 300 degrees True, as specified on page three in the Antenna Manufacturer’s installation instructions (**Exhibit 7 – Attachment 1**). A qualified engineer provides certification that the antenna has been installed in accordance with the manufacturer’s instructions (**Exhibit 7 – Attachment 3**). Thus, Special Operating Conditions two through four are met.

Per Special Operating Condition five, the composite pattern tabulation provided by the antenna manufacturer does not exceed the antenna pattern described in the CP authorization at any azimuth. The manufacturer’s Proof of Performance tabulation on page six (**Exhibit 7 – Attachment 1**) assumes an antenna input power of 1.752 kW, resulting in an effective radiated power (“ERP”) of 2.6 kW.

Exhibit 7 - Statement A  
**CONSOLIDATED ENGINEERING STATEMENT**  
(page 2 of 2)

However, the actual antenna's input power, calculated from the gain specified by the manufacturer is 0.438 kW to achieve the authorized ERP of 0.65 kW. The transmission line consists of 45.7 meters of 1-5/8 inch 50 ohm heliax. This line has an efficiency of 93.3 percent at the KSON(FM) operating frequency. As demonstrated in **Exhibit 7 – Table I**, a transmitter power output of 0.469 kW and an antenna gain of 1.484, results in an ERP of 0.65 kW (including transmission line losses), which corresponds to a relative field value of 1.000. Also, as required, the antenna manufacturer's composite tabulation specifies a value of 0.141 relative field or less at a bearing of 110 through 120 degrees True, corresponding to 0.013 kW ERP.

Special Operating Condition six specifies that spurious emission measurements be taken with all authorized stations operating into the proposed common auxiliary antenna. However, at the present time, *Lincoln* does not have the necessary combining equipment, or plans in the immediate future, to operate more than one auxiliary facility at a time into the antenna. Thus, spurious emissions due to combined operation will not be an issue. In the event that combined operation is considered in the future, *Lincoln* will conduct the necessary measurements to assure compliance with §§73.317(b) through 73.317(d) of the rules.



***Directional Antenna System  
for  
KSON, San Diego, California***

November 24, 2009

Electronics Research Inc. is providing an antenna system that is specially designed to meet the FCC requirements and the general needs of radio station KSON. KSON is to be triplexed with stations KIFM and KBZT.

The antenna is the ERI model 1081-1CP-DA-SP configuration. The circular polarized system consists of one bay using one driven circular polarized radiating element attached to an iris enclosure. The antenna was mounted on the North 270 degrees East tower face with bracketry to provide an antenna orientation of North 300 degrees East. The antenna was tested on a self-support tower, which is the structure the station plans to use to support the array. All tests were performed on a frequency of 97.3 megahertz, which is the center of the FM broadcast channel assigned to KSON.

Pattern measurements were made on a sixty-acre antenna pattern range that is owned and operated by Electronics Research, Inc. The tests were performed under the direction of Thomas B. Silliman, president of Electronics Research, Inc. Mr. Silliman has the Bachelor of Electrical Engineering and the Master of Electrical Engineering degrees from Cornell University and is a registered professional engineer in the states of Indiana, Maryland and Minnesota.



# Directional Antenna System Proposed For KSON, San Diego, California

(Continued)

## DESCRIPTION OF THE TEST PROCEDURE

The test antenna consisted of a full-scale model of the complete circular polarized system. The elements and brackets that were used in this test are electrically equivalent to those that will be supplied with the antenna.

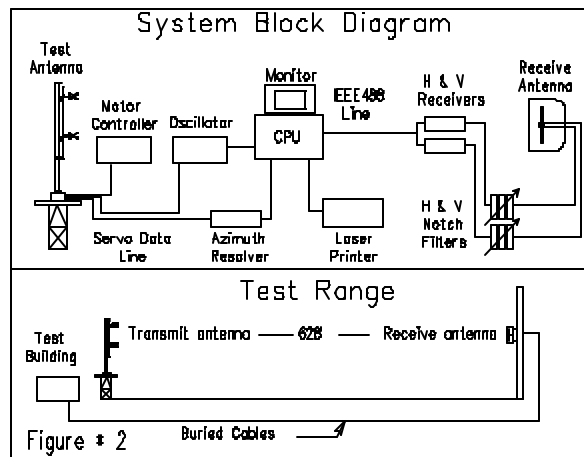
The power distribution and phase relationship to the antenna elements was adjusted in order to achieve the directional radiation patterns for both horizontal and vertical polarization components.

The proof-of-performance was accomplished using a self support tower with identical dimension and configuration including all braces, ladders, conduits, coaxial lines and other appurtenances that are included in the actual aperture at which the antenna will be installed. The structure was erected vertically on a turntable mounted on a non-metallic building with the antenna centered vertically on the structure, making the center of radiation of the test

approximately 30 feet above ground. The turntable is equipped with a motor drive and a US Digital angle position indicator. The resolution of this angle position indicator is one-hundredth of a degree.

The antenna under test was operated in the transmitting mode and fed from a HP8657D signal generator. The frequency of the signal source was set at 97.3 MHz and was constantly monitored by a Rohde & Schwarz ESVD measuring receiver.

A broadband horizontal and vertical dipole system, located approximately 628 feet from the test antenna, was used to receive the emitted test signals. The dipole system was mounted at the same height above terrain as the center of the antenna under test. The signals received by the dipole system were fed to the test building by way of two buried Heliax cables to a Rohde & Schwarz measuring receiver.



Directional Antenna System  
Proposed For  
KSON, San Diego, California

(Continued)

This data was interfaced to a laser jet printer by means of a computer system. Relative field strength was plotted as a function of azimuth.

The measurements were performed by rotating the test antenna in a counter-clockwise direction and plotting the received signal on polar coordinated graph paper in a clockwise direction. Both horizontal and vertical components were recorded separately.

### CONCLUSIONS

The circular polarized system consists of one bay using one driven circular polarized radiating element attached to an iris enclosure. The power distribution and phase relationship will be fixed when antenna is manufactured. Proper maintenance of the elements should be all that is required to maintain the pattern in adjustment.

The 1081-1CP-DA-SP array is to be mounted on the North 270 degrees East tower face of the self-support tower at a bearing of North 300 degrees East. Blue prints provided with the antenna will show the proper antenna orientation alignment. The antenna alignment procedure should be directed by a licensed surveyor as prescribed by the FCC.

Figure #1 represents the maximum value of either the horizontal or vertical component at any azimuth. The measured horizontal plane relative field pattern, for both the horizontal and vertical polarization components, is shown on Figure #2 attached. The actual measured pattern does not exceed the authorized FCC composite pattern at any azimuth. A calculated vertical plane relative field pattern is shown on Figure #3 attached. The power in the maximum will reach 2.600 kilowatts (4.150 dBk).

The RMS of the vertically polarized horizontal plane component does not exceed the RMS of the horizontally polarized horizontal plane component.

The composite horizontal and vertical maximum relative field pattern obtained from the measured data as shown on Figure #1 has an RMS that is greater than 85% of the filed composite pattern.

The clear vertical length of the structure required to support the antenna is 20 feet.

Directional Antenna System  
Proposed For  
KSON, San Diego, California

(Continued)

The directional antenna should not be mounted on the top of an antenna tower that includes a top-mounted platform larger than the cross-sectional area of the tower in the horizontal plane. No obstructions other than those that are specified by the blue prints supplied with the antenna are to be mounted within 75 ft. horizontally of the system. The vertical distance to the nearest obstruction should be a minimum of 10 ft. from the directional antenna. Metallic guy wires should be a minimum distance of forty feet horizontally from the antenna.

ELECTRONICS RESEARCH, INC.

A handwritten signature in black ink, appearing to read "Tom Schaefer". The signature is fluid and cursive, with a large initial "T" and a long, sweeping underline.

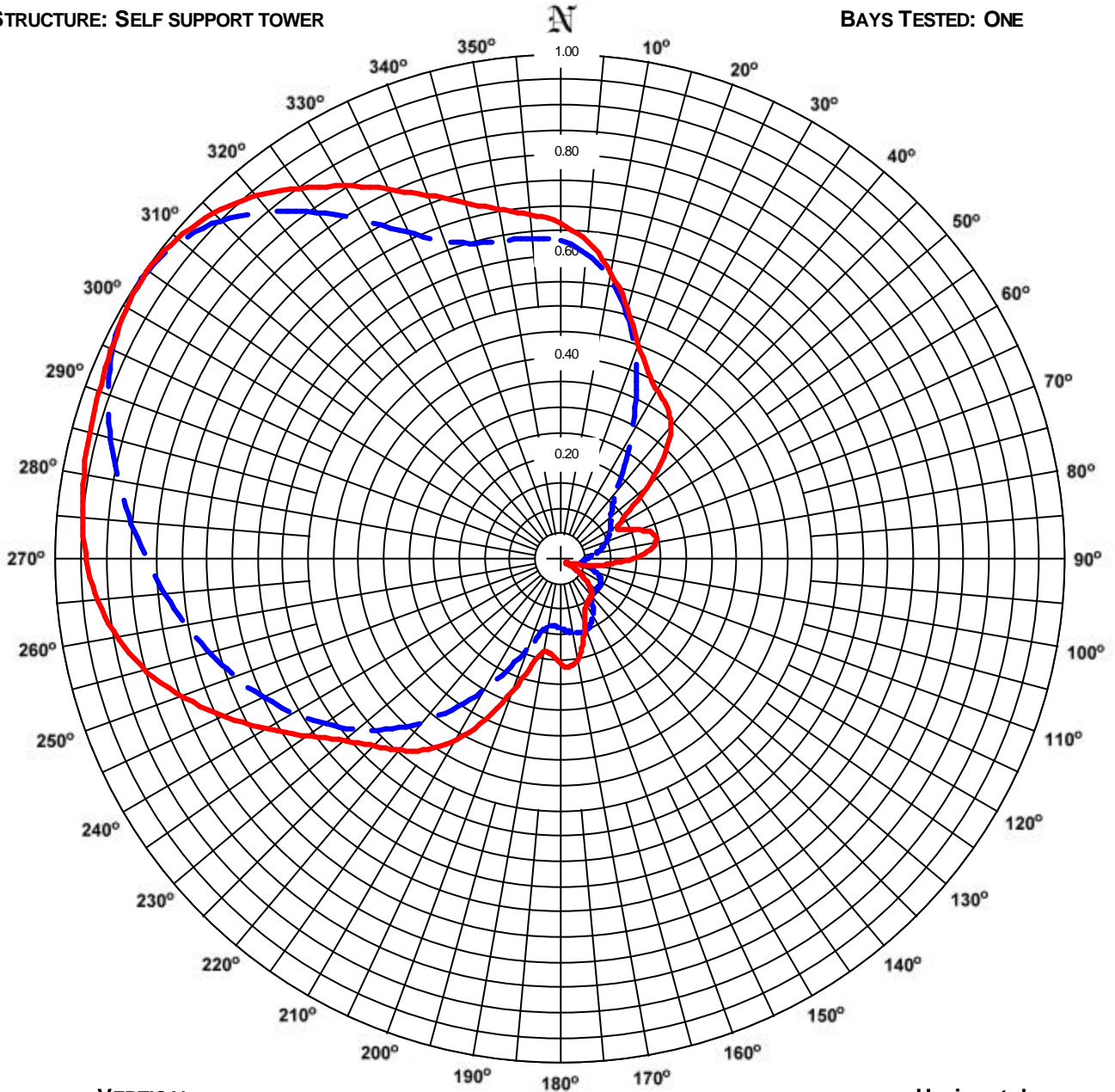
The Microsoft Word document on file electronically at Electronic Research, Inc. governs the specifications, scope, and configuration of the product described. All other representations whether verbal, printed, or electronic are subordinate to the master copy of this document on file at ERI.

# ERI<sup>®</sup> Horizontal Plane Relative Field Pattern

Electronics Research, Inc. 7777 Gardner Rd. Chandler, In 47610 Phone (812) 925-6000 Fax (812) 925-4030 <http://www.eriinc.com/>

FIGURE NO: 1  
STATION: KSON  
LOCATION: SAN DIEGO, CA  
ANTENNA: 1081-1CP-DA-SP  
STRUCTURE: SELF SUPPORT TOWER

DATE: 10/29/2009  
FREQUENCY: 97.3 MHz  
ORIENTATION: 300° TRUE  
MOUNTING: CUSTOM  
BAYS TESTED: ONE



VERTICAL

RMS: 0.521  
MAXIMUM: 1.000 @ 303° TRUE  
MINIMUM: 0.042 @ 92° TRUE

Horizontal

RMS: 0.570  
Maximum: 1.000 @ 305° True  
Minimum: 0.012 @ 107° True

COMMENTS: MEASURED PATTERNS OF THE HORIZONTAL AND VERTICAL COMPONENTS.

# ERI<sup>®</sup> *Horizontal Plane Relative Field List*

Electronics Research, Inc. 7777 Gardner Rd. Chandler, In 47610 Phone (812) 925-6000 Fax (812) 925-4030 <http://www.eriinc.com/>

**Station: KSON**  
**Location: San Diego, CA**  
**Frequency: 97.3 MHz**

**Antenna: 1081-1CP-DA-SP**  
**Orientation: 300° True**  
**Tower: Self support tower**

**Figure: 1**  
**Date: 10/29/2009**  
**Reference: kson1.fig**

Angle	Horizontal			Vertical			Angle	Horizontal			Vertical		
	Field	kW	dBk	Field	kW	dBk		Field	kW	dBk	Field	kW	dBk
0°	0.669	1.16	0.66	0.636	1.05	0.22	180°	0.204	0.11	-9.64	0.133	0.05	-13.36
5°	0.634	1.05	0.19	0.610	0.97	-0.14	185°	0.188	0.09	-10.37	0.130	0.04	-13.57
10°	0.581	0.88	-0.57	0.567	0.84	-0.77	190°	0.183	0.09	-10.60	0.133	0.05	-13.37
15°	0.517	0.69	-1.58	0.507	0.67	-1.75	195°	0.213	0.12	-9.28	0.149	0.06	-12.40
20°	0.455	0.54	-2.68	0.433	0.49	-3.11	200°	0.274	0.20	-7.08	0.182	0.09	-10.66
25°	0.412	0.44	-3.54	0.354	0.33	-4.87	205°	0.346	0.31	-5.07	0.231	0.14	-8.59
30°	0.388	0.39	-4.07	0.278	0.20	-6.96	210°	0.409	0.43	-3.62	0.290	0.22	-6.60
35°	0.370	0.36	-4.48	0.215	0.12	-9.18	215°	0.456	0.54	-2.68	0.353	0.32	-4.90
40°	0.341	0.30	-5.20	0.171	0.08	-11.17	220°	0.490	0.62	-2.06	0.414	0.45	-3.51
45°	0.289	0.22	-6.62	0.145	0.05	-12.61	225°	0.519	0.70	-1.54	0.470	0.57	-2.41
50°	0.223	0.13	-8.89	0.131	0.04	-13.51	230°	0.555	0.80	-0.97	0.520	0.70	-1.52
55°	0.159	0.07	-11.80	0.121	0.04	-14.17	235°	0.606	0.95	-0.20	0.566	0.83	-0.80
60°	0.131	0.04	-13.54	0.113	0.03	-14.81	240°	0.668	1.16	0.64	0.607	0.96	-0.19
65°	0.147	0.06	-12.53	0.103	0.03	-15.55	245°	0.731	1.39	1.43	0.645	1.08	0.34
70°	0.177	0.08	-10.91	0.093	0.02	-16.47	250°	0.793	1.64	2.14	0.681	1.21	0.82
75°	0.195	0.10	-10.06	0.081	0.02	-17.69	255°	0.848	1.87	2.72	0.716	1.33	1.25
80°	0.191	0.10	-10.22	0.067	0.01	-19.34	260°	0.890	2.06	3.13	0.750	1.46	1.66
85°	0.167	0.07	-11.38	0.053	0.01	-21.39	265°	0.920	2.20	3.42	0.784	1.60	2.04
90°	0.129	0.04	-13.62	0.043	0.00	-23.16	270°	0.939	2.29	3.60	0.819	1.74	2.41
95°	0.085	0.02	-17.22	0.044	0.00	-23.07	275°	0.951	2.35	3.72	0.854	1.89	2.77
100°	0.044	0.01	-22.93	0.054	0.01	-21.26	280°	0.959	2.39	3.79	0.889	2.05	3.13
105°	0.015	0.00	-32.16	0.068	0.01	-19.26	285°	0.966	2.42	3.85	0.923	2.21	3.45
110°	0.015	0.00	-32.45	0.080	0.02	-17.78	290°	0.974	2.47	3.92	0.955	2.37	3.75
115°	0.026	0.00	-27.47	0.088	0.02	-16.91	295°	0.983	2.51	4.00	0.980	2.50	3.98
120°	0.040	0.00	-23.75	0.092	0.02	-16.58	300°	0.994	2.57	4.10	0.996	2.58	4.12
125°	0.057	0.01	-20.74	0.091	0.02	-16.64	305°	1.000	2.60	4.15	0.999	2.60	4.14
130°	0.074	0.01	-18.52	0.090	0.02	-16.81	310°	0.993	2.56	4.09	0.985	2.52	4.02
135°	0.086	0.02	-17.12	0.091	0.02	-16.69	315°	0.974	2.47	3.92	0.953	2.36	3.74
140°	0.094	0.02	-16.41	0.098	0.03	-15.99	320°	0.944	2.32	3.65	0.904	2.13	3.28
145°	0.097	0.02	-16.09	0.112	0.03	-14.86	325°	0.901	2.11	3.25	0.844	1.85	2.67
150°	0.102	0.03	-15.65	0.128	0.04	-13.72	330°	0.858	1.92	2.82	0.778	1.57	1.97
155°	0.117	0.04	-14.52	0.141	0.05	-12.88	335°	0.814	1.72	2.36	0.719	1.34	1.28
160°	0.142	0.05	-12.84	0.148	0.06	-12.45	340°	0.771	1.55	1.90	0.675	1.19	0.74
165°	0.172	0.08	-11.15	0.149	0.06	-12.41	345°	0.736	1.41	1.48	0.652	1.11	0.43
170°	0.198	0.10	-9.90	0.145	0.05	-12.65	350°	0.708	1.30	1.15	0.644	1.08	0.33
175°	0.211	0.12	-9.38	0.139	0.05	-13.01	355°	0.689	1.23	0.92	0.642	1.07	0.30

<b>Polarization:</b>	<b>Horizontal</b>	<b>Vertical</b>
<b>Maximum Field:</b>	<b>1.000 @ 305° True</b>	<b>1.000 @ 303° True</b>
<b>Minimum Field:</b>	<b>0.012 @ 107° True</b>	<b>0.042 @ 92° True</b>
<b>RMS:</b>	<b>0.570</b>	<b>0.521</b>
<b>Maximum ERP:</b>	<b>2.600 kW</b>	<b>2.600 kW</b>
<b>Maximum Power Gain:</b>	<b>1.484 (1.714 dB)</b>	<b>1.484 (1.714 dB)</b>

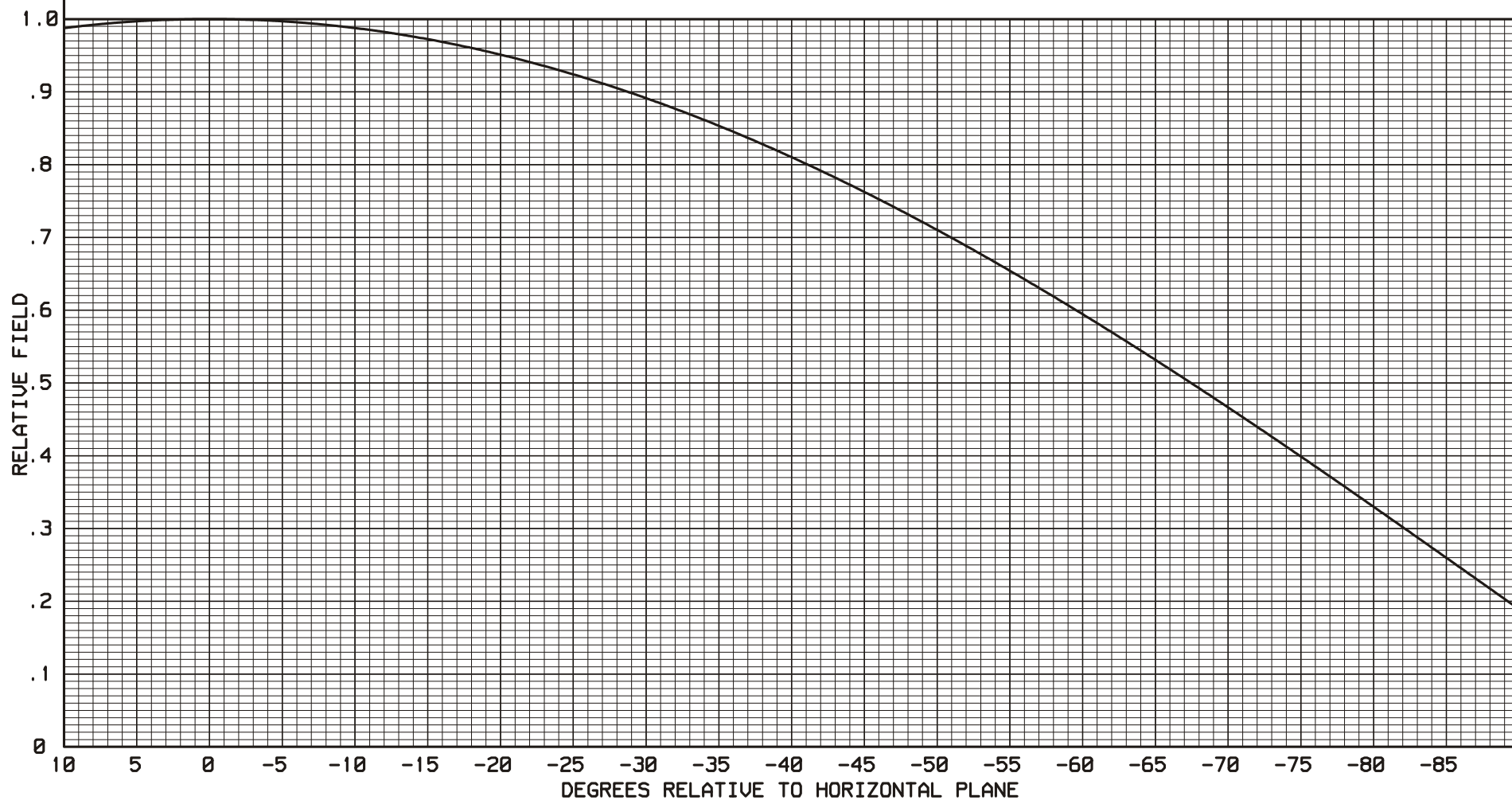
**Total Input Power: 1.752 kW**

ELECTRONICS RESEARCH, INC.  
7777 GARDNER ROAD  
CHANDLER, IN. 47610

FIGURE 3

----THEORETICAL----  
VERTICAL PLANE RELATIVE FIELD

ERI TYPE 1081-1CP-DA  
FM BROADCAST ANTENNA



Directional Antenna System  
for  
KSON, San Diego, California

(Continued)

ANTENNA SPECIFICATIONS

Antenna Type:	1081-1CP-DA-SP
Frequency:	97.3 MHz
Number of Bays:	One

MECHANICAL SPECIFICATIONS

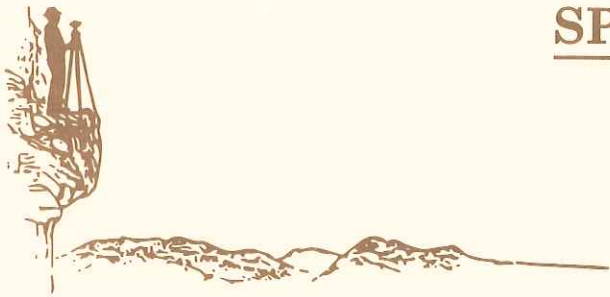
Mounting:	Custom
System length:	6 ft
Aperture length required:	20 ft
Orientation:	300° true

Input flange to the antenna 1 5/8 “ female.

ELECTRICAL SPECIFICATIONS  
(For directional use)

Maximum horizontal ERP:	2.600 kW (4.150 dBk)
Horizontal maximum power gain:	1.484 (1.714 dB)
Maximum vertical ERP:	2.600 kW (4.150 dBk)
Vertical maximum power gain:	1.484 (1.714 dB)
Total input power:	1.752 kW (2.435 dBk)





# SPEAR & ASSOCIATES, INC.

CIVIL ENGINEERING & LAND SURVEYING

475 PRODUCTION STREET  
SAN MARCOS, CA 92078  
(760) 736-2040 • FAX (760) 736-4866

FEBRUARY 24, 2010

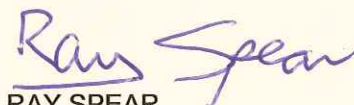
Attn: BILL EISENHAMER  
LINCOLN FINANCIAL MEDIA OF CALIFORNIA  
KSON/KIFM/KBZT/KSOQ

RE: KSON ANTENNA  
MT. MIGUEL  
SPRING VALLEY, CA 91977

SUBJECT: ANTENNA BASE AZIMUTH CERTIFICATION

THIS IS TO CERTIFY, THAT BY FIELD SURVEY ON FEBRUARY 11, 2010, MEASUREMENTS WERE TAKEN ON THE SUBJECT FACILITY REFERENCED ABOVE AND OBSERVED THE AZIMUTH OF THE APPARATUS OF INTEREST TO BE 300° 06"48", REFERENCED TO TRUE NORTH.

RESPECTFULLY SUBMITTED,

  
RAY SPEAR  
PLS 6404





**SPEAR & ASSOCIATES, INC.**

CIVIL ENGINEERING AND LAND SURVEYING

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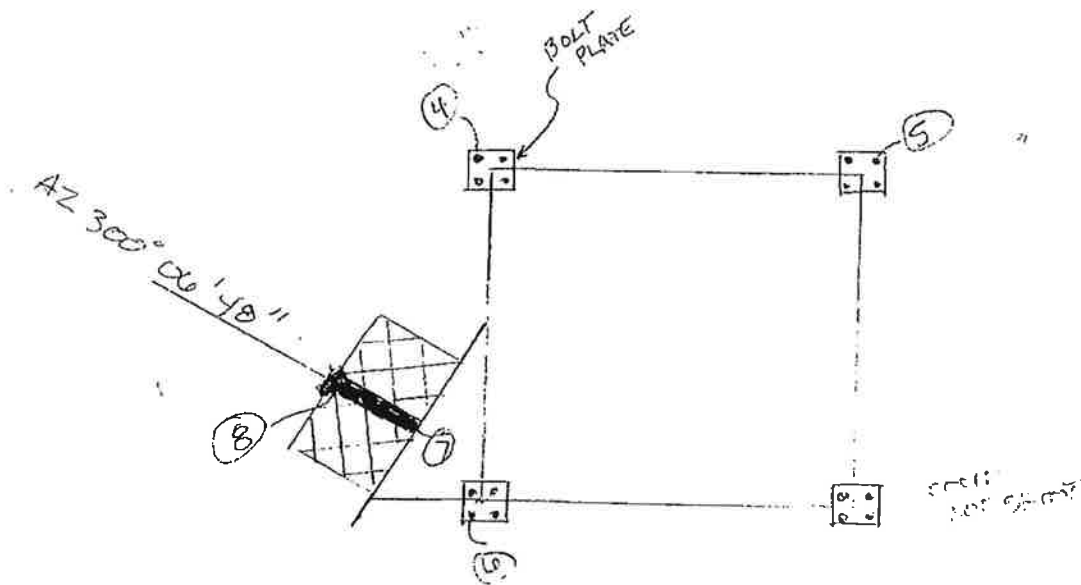
JOB NO. 10-100

CLIENT/JOB NAME KSON-MIT MISCELLANEOUS

DATE 2/11/10

CREW CHIEF BOB ALLMAN

CREW \_\_\_\_\_



KSON • FM 97.3

KBZT • FM 94.9

KIFM • FM 98.1

March 3, 2010

RE: KiFM, Facility I.D. # 34589, Permit # BXPB-20100112ABW  
KSON, Facility I.D. # 30832, Permit # BXPB-20100112ABV  
Affidavit Regarding Antenna Installation

The existing directional antenna proposed for use by KiFM and KSON as an auxiliary antenna (see file numbers BXPB-20100112ABW and BXPB-201000112ABV, respectively), is an existing antenna which has been used by radio station KBZT, channel 235, for many years. The existing antenna model and mounting configuration were provided to ERI for Proof of Performance for KIFM and KSON on Channel 251 (98.1 MHz) and Channel 247 (97.3 MHz), respectively. The resulting documentation provided by the antenna manufacturer corresponds with the "as-built" information provided.

Based on the review of the documentation and a physical inspection of the antenna, I certify the antenna was installed as specified in the manufacturer's instructions.

I have been a broadcast engineer for 21 years and a Chief Engineer at Noble Broadcasting, KEDJ/KGME, and Nationwide Communications prior to working for Lincoln Financial Media Company of CA. I have been involved in a couple 10-bay FM antenna installations, and a 4-bay lambda section antenna installation. I have also assisted in a 4-bay directional antenna move to accommodate a DTV antenna installation on a common tower.



R. William Eisenhamer, Jr.  
Chief Engineer  
Lincoln Financial Media Company of CA

Exhibit 7 - Table I  
**ANTENNA / LINE SYSTEM GAINS AND LOSSES**  
prepared for  
**Lincoln Financial Media Company of California**  
KSON(FM) San Diego, California  
Facility ID 30832  
Ch. 247B 0.65 kW 564 m

Construction Permit File Number: BXPB-20100112ABV

---

**Authorized Effective Radiated Power: 0.65 kW**

---

**Antenna System**

ERI 1081-1-CP-DA-SP      Power Gain:      1.484      1.71 dB

---

Antenna Input Power: 0.438 kW

---

**Line and Other Losses**

Transmission Line

1-5/8" Andrew HJ7-50A

Length 150 ft

Efficiency:      93.3 percent      0.3 dB

Other losses: none

---

**Required Transmitter Power Output      0.469 kW**