

FCC FORM 302-FM

APPLICATION FOR A STATION LICENSE TO COVER CONSTRUCTION PERMIT

BPED-20151216ASJ

>12kw DA at Inskip<

KFOI, Red Bluff, CA

Prepared by Brown Broadcast Services, Inc.
Filed January 25, 2018

BROWN BROADCAST SERVICES
INCORPORATED

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Federal Communications Commission

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Application Reference Number: 20180125ABF

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Federal Communications Commission Washington, D.C. 20554	Approved by OMB 3060-0506 (June 2002)	FOR FCC USE ONLY
FCC 302-FM		
APPLICATION FOR FM BROADCAST STATION LICENSE		FOR COMMISSION USE ONLY FILE NO. - 20180125ABF
Read INSTRUCTIONS Before Filling Out Form		

Section I - General Information

1.	Legal Name of the Applicant ALTA CALIFORNIA COMMUNITY MEDIA, INC.		
	Mailing Address PO BOX 991046		
	City REDDING	State or Country (if foreign address) CA	ZIP Code 96099 - 1046
	Telephone Number (include area code) 5302558575	E-Mail Address (if available) INFO@KFOIRADIO.ORG	
	FCC Registration Number: 0026032409	Call Sign KFOI	Facility Identifier 77121
2.	Contact Representative (if other than Applicant) ALTA CALIFORNIA COMMUNITY MEDIA, INC.		Firm or Company Name ALTA CALIFORNIA COMMUNITY MEDIA, INC.
	Telephone Number (include area code) 5302558575	E-Mail Address (if available) INFO@KFOIRADIO.ORG	
3.	If this application has been submitted without a fee, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114): <input type="radio"/> Governmental Entity <input checked="" type="radio"/> Noncommercial Educational Licensee/Permittee <input type="radio"/> Other <input type="radio"/> N/A (Fee Required)		
4.	Facility Information:		
	a. <input type="radio"/> Commercial	<input checked="" type="radio"/> Noncommercial	
	b. <input checked="" type="radio"/> Directional	<input type="radio"/> Nondirectional	
	c. Community of License:		
	City: RED BLUFF	State: CA	
5.	Program Test Authority:		
	<input checked="" type="radio"/> Requesting program test authority.		
	<input type="radio"/> Station operating pursuant to automatic program test authority (47 C.F.R. Section 73.1620(a)(1)).		
6.	Purpose of Application:		
	<input checked="" type="radio"/> Cover construction permit (list most recent construction permit file number -- starts with the prefix BPH, BNPH, BMPH, BPED, BMPED, or BMPED):	BPED-20151216ASJ	
	<input type="radio"/> Modify an authorized license (list license file number -- starts with the prefix BLH, BMLH, BLED, or BMLED):	-	
	<input type="radio"/> Amend a pending application If an amendment, submit as an Exhibit a listing by Section and Question Number the portions of the pending application that are being revised.	[Exhibit 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.

Section II - Legal and Financial

1.	Certification. Applicant certifies that it has answered each question in this application based on its review of the application instructions and worksheets. Applicant further certifies that where it has made an affirmative certification below, this certification constitutes its representation that the application satisfies each of the pertinent standards and criteria set forth in the application instructions and worksheets.	<input checked="" type="radio"/> Yes <input type="radio"/> No
2.	Licensee/Permittee certifies that all terms, conditions, and obligations set forth in the underlying construction permit have been fully met.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 2]
3.	Licensee/Permittee certifies that, apart from changes already reported, no cause or circumstance has 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.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 3]
4.	Character Issues. Applicant certifies that neither licensee/permittee nor any party to the application has or has had any interest in, or connection with: a. any broadcast application in any proceeding where character issues were left unresolved or were resolved adversely against the applicant or party to the application; or b. any pending broadcast application in which character issues have been raised.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 4]
5.	Adverse Findings. Applicant certifies that, with respect to the applicant and any party to the application, no adverse finding has been made, nor has an adverse final action been taken related to the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 5]
6.	Anti-Drug Abuse Act Certification. Applicant certifies that neither licensee/permittee nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.	<input checked="" type="radio"/> Yes <input type="radio"/> No

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. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing DARRYLL ALVEY	Typed or Printed Title of Person Signing DIRECTOR, CHAIR
Signature	Date 1/24/2018

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 MICHAEL D. BROWN	Relationship to Applicant (e.g., Consulting Engineer) ENGINEERING CONSULTANT	
Signature	Date 1/24/2018	
Mailing Address 3740 SW COMUS ST		
City PORTLAND	State or Country (if foreign address) OR	Zip Code 97219 - 7418
Telephone Number (include area code) 5032456065	E-Mail Address (if available) MIKE@BROWNBROADCAST.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: 215		
2.	a. Effective Radiated Power:	12 kW(H) 6.2 kW(V)	
	b. Maximum Effective Radiated Power: (Beam-Tilt Antenna ONLY) <input checked="" type="checkbox"/> Not Applicable	kW(H) kW(V)	
3.	Transmitter Power Output: 1.824 kW		
4.	Antenna Data		
	Manufacturer	Model	Number of Sections
	SHI	6025-2SS	2
			Spacing Between Sections (wavelength)
			0.75

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.	Main Studio Location. 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.	Transmitter Power Output. 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.

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.	Constructed Facility . 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.	Special Operating Conditions. 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]
	An exhibit may be required. 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. Changing transmitter power output. 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. Increasing effective radiated power. 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). If "Yes" to the above, the applicant certifies the following:	<input type="radio"/> Yes <input type="radio"/> No
a. Spacing Requirements. 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. International Coordination. 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. Interference. 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]
Exhibit required. 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. Multiple Ownership Showing. 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. Environmental Protection Act. 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 Exhibit is required.	<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.	
11. Increasing vertically polarized effective radiated power. 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)?	<input type="radio"/> Yes <input type="radio"/> No
If "Yes" to the above, the applicant certifies the following:	
a. TV Channel 6 Protection Requirements. The facility complies with the spacing requirements of 47 C.F.R. Section 73.525(a)(1).	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 17]
b. Environmental Protection Act. 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	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 18]

<p>controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an Exhibit is required.</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. Decreasing effective radiated power (non-reserved channel). 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. Community Coverage . 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. Auxiliary Facilities. 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. Multiple Ownership Showing. 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. Decreasing effective radiated power (reserved channel). 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. Community Coverage . 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. Auxiliary Facilities. 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. Replacing a directional antenna. 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>
<p>a. Measurement of Directional Antenna. The composite measured pattern and measurement procedures comply with 47 C.F.R. Section 73.1690(c)(2). Exhibit required.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 24]</p> <p>[Exhibit 25]</p>
<p>b. Installation of Directional Antenna. The installation of the directional antenna complies with 47 C.F.R. Section 73.1690(c)(2). Exhibit required.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 26]</p> <p>[Exhibit 27]</p>

15.	Deleting contour protection status. 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.	Use a formerly licensed main facility as an auxiliary facility. 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
	a. Auxiliary antenna service area. 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. Environmental Protection Act. 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 Exhibit is required.	<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.	Change the license status. 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]
PREPARERS CERIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.		

Exhibits

Exhibit 1

Description: PROGRAM TEST APPROVAL REQUESTED BY FEBRUARY 1

THE APPLICANT RESPECTFULLY REQUESTS APPROVAL OF PROGRAM TESTS ON OR BEFORE FEBRUARY 1, 2018. THE APPLICANT HAS PUBLICLY ANNOUNCED ITS COMMENCEMENT OF OPERATIONS WITH THIS FACILITY, TO BE ON THAT DATE.

Attachment 1

Exhibit 9

Description: SPECIAL OPERATING CONDITIONS OR RESTRICTIONS

1. ANTENNA PROOF OF PERFORMANCE - SEE ATTACHMENT 9A

2. ENGINEER'S AFFIDAVIT - SEE ATTACHMENT 9B
3. SURVEYOR'S CERTIFICATION - SEE ATTACHMENT 9C
4. PATTERN COMPLIES WITH COMMUNITY COVERAGE REQUIREMENTS - SEE ATTACHMENT 9D
5. RMS OF MEASURED COMPOSITE PATTERN FILLS OUT APPROVED FCC PATTERN BY 90.4%, WHICH EXCEEDS THE REQUIRED 85% - SEE EXHIBIT 9A
6. APPLICANT RECOGNIZES THAT THAT AUTOMATIC PROGRAM TEST PROVISIONS DO NOT APPLY, AND HEREBY FORMALLY REQUESTS PROGRAM TEST AUTHORITY.
7. RF EXPOSURE MEASUREMENTS SHOW NO AREAS WHICH EXCEED FCC GUIDELINES - SEE EXHIBIT 9E
8. DOCUMENTATION DEMONSTRATING COMPLIANCE WITH THE SPECIAL OPERATING CONDITIONS OF THE UNDERLYING CP ARE INCLUDED IN THIS FILING.
9. THE APPLICANT AGREES THAT, IN COORDINATION WITH OTHER USERS OF THE SITE, THAT IT 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 FCC GUIDELINES.
10. THE APPLICANT RECOGNIZES THAT THE UNDERLYING CP WAS GRANTED UNDER A WAIVER OF 2ND-ADJACENT OVERLAP-RECEIVED FROM KARQ, REDDING, AND THAT FURTHER MODIFICATION OF KARQ WILL NOT BE CONSTRUED AS A 'PER SE' MODIFICATION OF KFOI.

Attachment 9

Description
EXHIBIT 9A -- DIRECTIONAL ANTENNA PROOF OF PERFORMACE
EXHIBIT 9B -- ENGINEER'S AFFIDAVIT
EXHIBIT 9C -- SURVEYOR'S CERTIFICATION
EXHIBIT 9D -- COMMUNITY COVERAGE MAP USING MEASURED PATTERN
EXHIBIT 9E -- RF EXPOSURE MEASUREMENT REPORT

EXHIBIT 9a
DIRECTIONAL ANTENNA PROOF



P. O. Box 389, 188 Harrison Rd.
Bridgton, Maine 04009 USA

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S.O. 34717

Report of Test 6025-2-SS(.75)-(ROTATION 55°)-DA

for

ALTA CALIFORNIA COMMUNITY MEDIA, INC.

KFOI 90.9 MHz RED BLUFF, CA.

OBJECTIVE:

The objective of this test was to demonstrate the directional characteristics of a 6025-2-SS(.75)-(ROTATION 55°)-DA to meet the needs of KFOI and to comply with the requirements of the FCC construction permit, file number BPED-20151216ASJ. This test characterizes only the radiation characteristics of the antenna when mounted on the tower as described. It does not represent or imply any guarantee of specific coverage which can be influenced by factors beyond the scope of this test.

RESULTS:

The following Figures are the results of the measurements from our pattern range:

- Figure 1A - Measured Azimuth Pattern with the FCC Composite
- Figure 1B - Measured Composite Azimuth Pattern with the FCC Composite
- Figure 1C - Tabulation of the Horizontal Polarization for the Measured Azimuth Pattern
- Figure 1D - Tabulation of the Vertical Polarization for the Measured Azimuth Pattern
- Figure 1E - Tabulation of the Measured Composite Azimuth Pattern
- Figure 1F - Tabulation of the FCC Composite

The calculated elevation pattern of the antenna is shown in Figure 3.

Construction permit file number BPED-20151216ASJ indicates that the Horizontal radiation component shall not exceed 12.0 kW at any azimuth and is restricted to the following values at the azimuths specified:

40 – 190 Degrees True: 0.380 kilowatts

MEMBER:



From Figure 1A, the maximum radiation of the Horizontal component occurs at 284 Degrees True to 288 Degrees True. At the restricted azimuth of 40 to 190 Degrees True the Horizontal component is 19.66 dB down from the maximum of 12 kW, or 0.13 kW.

The R.M.S. of the Horizontal component is 0.413. The total Horizontal power gain is 7.168. The R.M.S. of the Vertical component is 0.342. The total Vertical power gain is 3.695. See Figure 4 for calculations. The R.M.S. of the FCC composite pattern is 0.490. The R.M.S. of the measured composite pattern is 0.423. Eighty-five percent (85%) of the original authorized FCC composite pattern is 0.416. Therefore this pattern complies with the FCC requirement of 73.316(c)(2)(ix)(A).

METHOD OF DIRECTIONALIZATION:

One level of the 6025-2-SS(.75)-ROTATION 55°-DA was mounted to an offset 2-in pipe, positioned off the 18-inch face tower of precise scale (customer drawing) at the KFOI site. The spacing of the 2-in. pole to the tower was varied and the 6025-2-SS-(ROTATION 55°)-DA was slanted to 55-degrees (from vertical) to achieve the horizontal and vertical pattern shown in Figure 1A. See Figure 2 for mechanical details.

METHOD OF MEASUREMENT:

As allowed by the construction permit, file number BPED-20151216ASJ, a single level of the 6025-2-SS(.75)-(ROTATION 55°)-DA was set up on the Shively Labs scale model antenna pattern measuring range. A scale of 4.5:1 was used.

EQUIPMENT:

The 4.5:1 scale model pattern range consists of a wooden rotating pedestal equipped with a position indicator. The scale model bay is placed on the top of this pedestal and is used in the transmission mode at approximately 20 feet above ground level. The receiving corner reflector is spaced 50 feet away from the rotating pedestal at the same level above ground as the transmitting model. The transmitting and receiving signals are carried to a control building by means of RG-9/U double shielded coax cable.

Test Report 6025-2-SS(.75)-(ROTATION 55°)-DA

KFOI

Page Three

The control building is equipped with:

Hewlett Packard Model 4395-A Network Analyzer

PC Based Controller


Output Standard Printer or 'pdf'

All testing is carried out in strict accordance with approved procedures under our ISO9001:2008.

TEST PROCEDURES:

The receiving antenna system is mounted so that the horizontal and vertical azimuth patterns are measured independently. The network analyzer was set to 409.05 MHz Calibrated pads are used to check the linearity of the measuring system. For example, 6 dB padding yields a scale reading of 50 from an unpadding reading of 100 in voltage. From the recorded patterns, the R.M.S. values are calculated and recorded as shown in Figure 1A.

Respectfully submitted by:

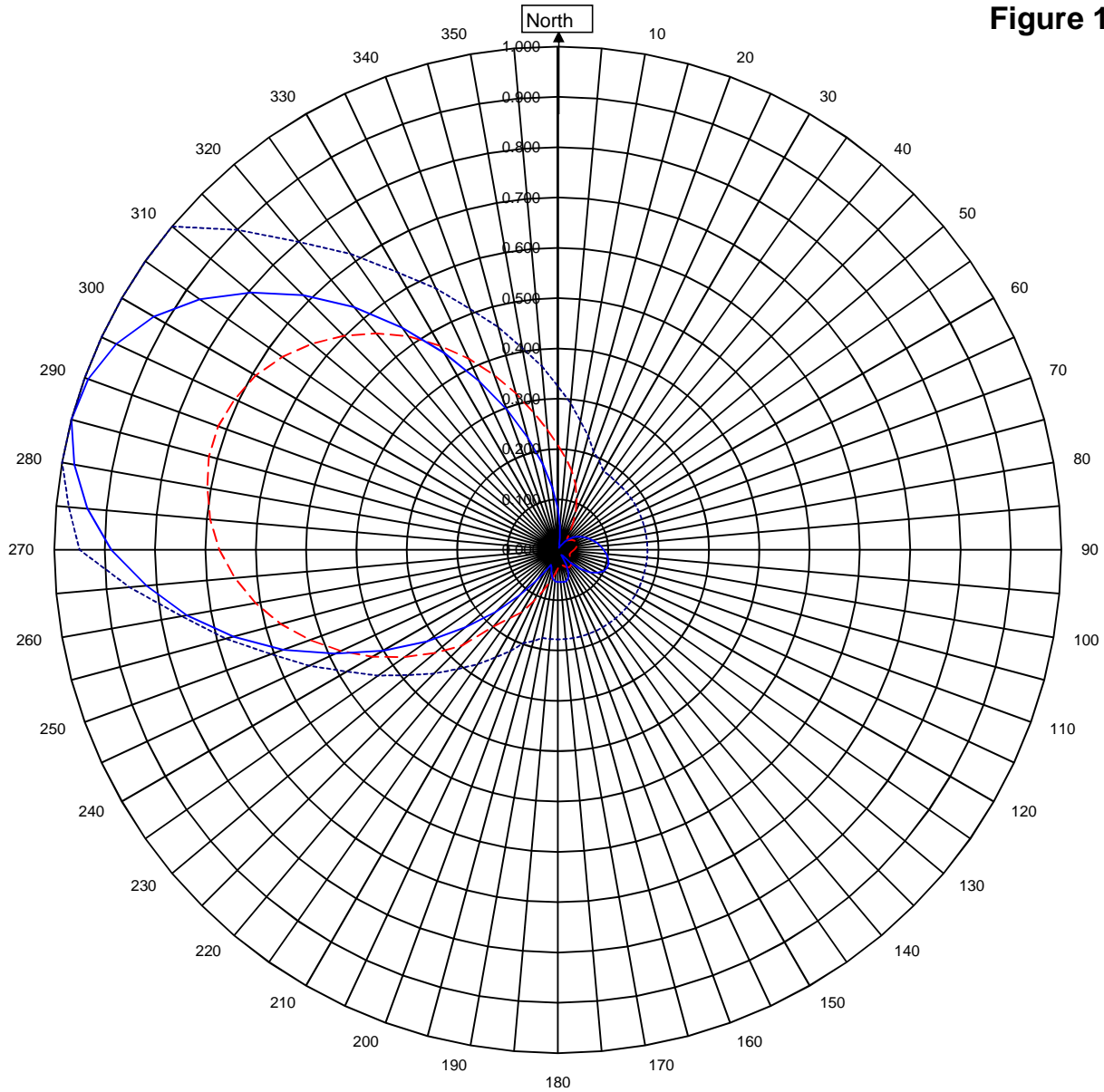


John M. Bliss
Vice President, Operations
S/O 34717
Date June 30, 2017

Shively Labs

Shively Labs, a division of Howell Laboratories, Inc. Bridgton, ME (207)647-3327

Figure 1A



KFOI RED BLUFF, CA.

34717
June 30, 2017

— Horizontal RMS	0.413
- - - Vertical RMS	0.342
— H/V Composite RMS	0.423
..... FCC Composite RMS	0.490

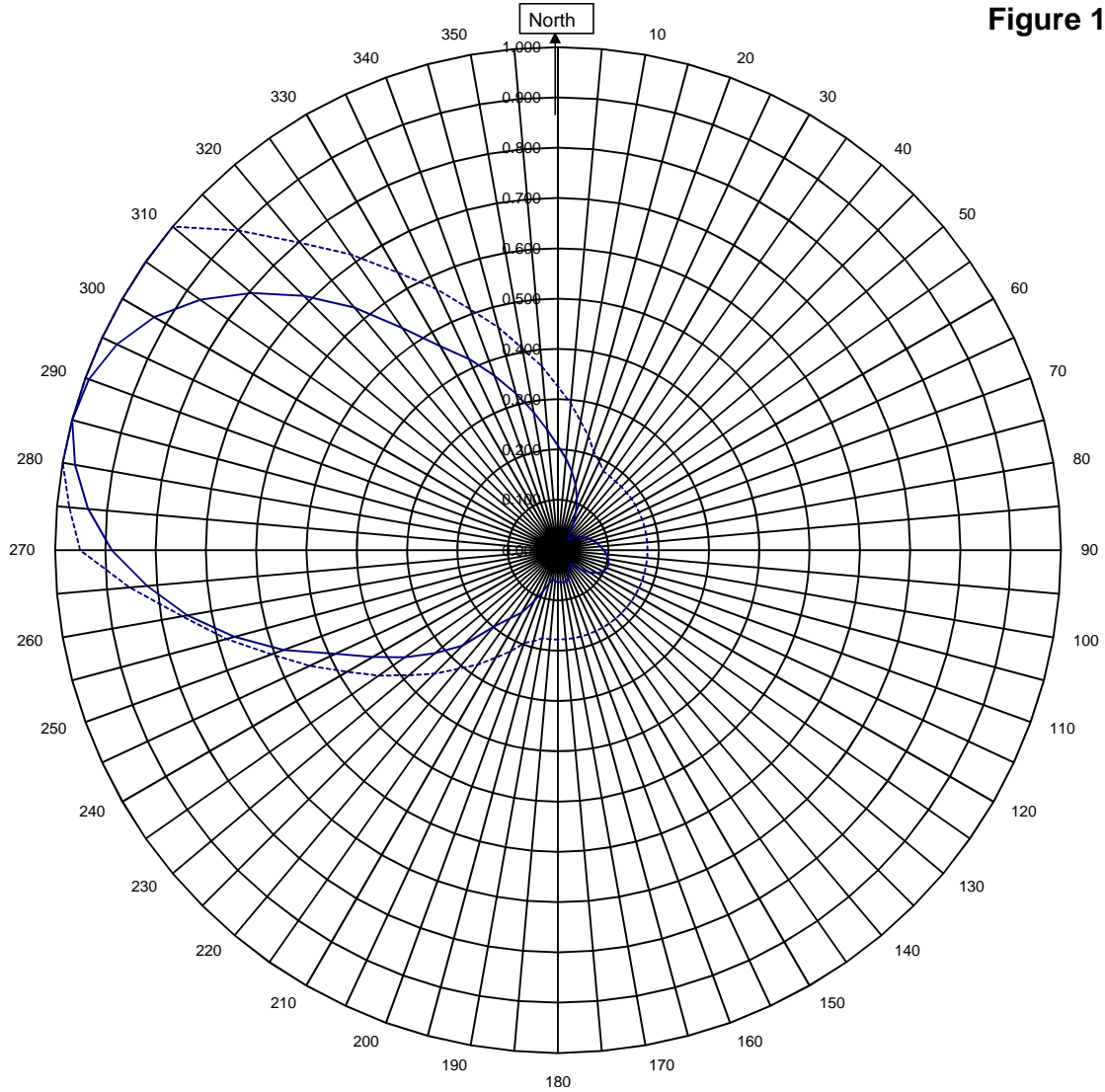
Frequency	90.9 / 409.05 MHz
Plot	Relative Field
Scale	4.5 : 1
	See Figure 2 for Mechanical Details

Antenna Model	6025-2-SS(0.75)-(ROTATION 55°)-DA
Pattern Type	Directional Azimuth

Shively Labs

Shively Labs, a division of Howell Laboratories, Inc. Bridgton, ME (207)647-3327

Figure 1B



KFOI RED BLUFF, CA.

34717
June 30, 2017

—————H/V Composite RMS	0.423
.....FCC Composite RMS	0.490

Frequency	90.9 / 409.05 MHz
Plot	Relative Field
Scale	4.5 : 1
See Figure 2 for Mechanical Details	

Antenna Model	6025-2-SS(0.75)-(ROTATION 55°)-DA
Pattern Type	Directional H/V Composite

Figure 1C

Tabulation of Horizontal Azimuth Pattern
KFOI RED BLUFF, CA.

Azimuth	Rel Field	Azimuth	Rel Field	
0	0.082	180	0.064	
10	0.025	190	0.058	
20	0.010	200	0.037	
30	0.005	210	0.046	
40	0.020	220	0.118	
45	0.030	225	0.173	
50	0.039	230	0.239	
60	0.052	240	0.400	
70	0.065	250	0.580	
80	0.079	260	0.748	
90	0.091	270	0.887	
100	0.101	280	0.975	Additional
110	0.104	290	0.992	Azimuth
120	0.091	300	0.927	285 1.000
130	0.059	310	0.795	
135	0.036	315	0.715	
140	0.015	320	0.630	
150	0.034	330	0.452	
160	0.060	340	0.297	
170	0.065	350	0.173	

Figure 1D

Tabulation of Vertical Azimuth Pattern
KFOI RED BLUFF, CA.

Azimuth	Rel Field	Azimuth	Rel Field
0	0.208	180	0.037
10	0.159	190	0.056
20	0.109	200	0.087
30	0.060	210	0.143
40	0.029	220	0.199
45	0.027	225	0.269
50	0.030	230	0.319
60	0.037	240	0.425
70	0.040	250	0.524
80	0.038	260	0.610
90	0.032	270	0.672
100	0.027	280	0.707
110	0.025	290	0.718
120	0.028	300	0.693
130	0.035	310	0.637
135	0.038	315	0.601
140	0.041	320	0.561
150	0.040	330	0.469
160	0.034	340	0.369
170	0.030	350	0.278

Figure 1E

Tabulation of Composite Azimuth Pattern
KFOI RED BLUFF, CA.

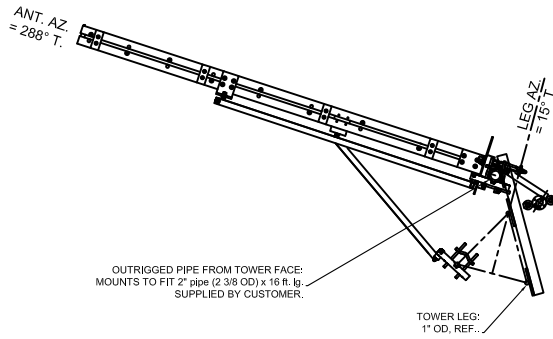
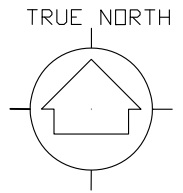
Azimuth	Rel Field	Azimuth	Rel Field	
0	0.208	180	0.064	
10	0.159	190	0.058	
20	0.109	200	0.087	
30	0.060	210	0.143	
40	0.029	220	0.199	
45	0.030	225	0.269	
50	0.039	230	0.319	
60	0.052	240	0.425	
70	0.065	250	0.580	
80	0.079	260	0.748	
90	0.091	270	0.887	
100	0.101	280	0.975	Additional
110	0.104	290	0.992	Azimuth
120	0.091	300	0.927	285 1.000
130	0.059	310	0.795	
135	0.038	315	0.715	
140	0.041	320	0.630	
150	0.040	330	0.469	
160	0.060	340	0.369	
170	0.065	350	0.278	

Figure 1F

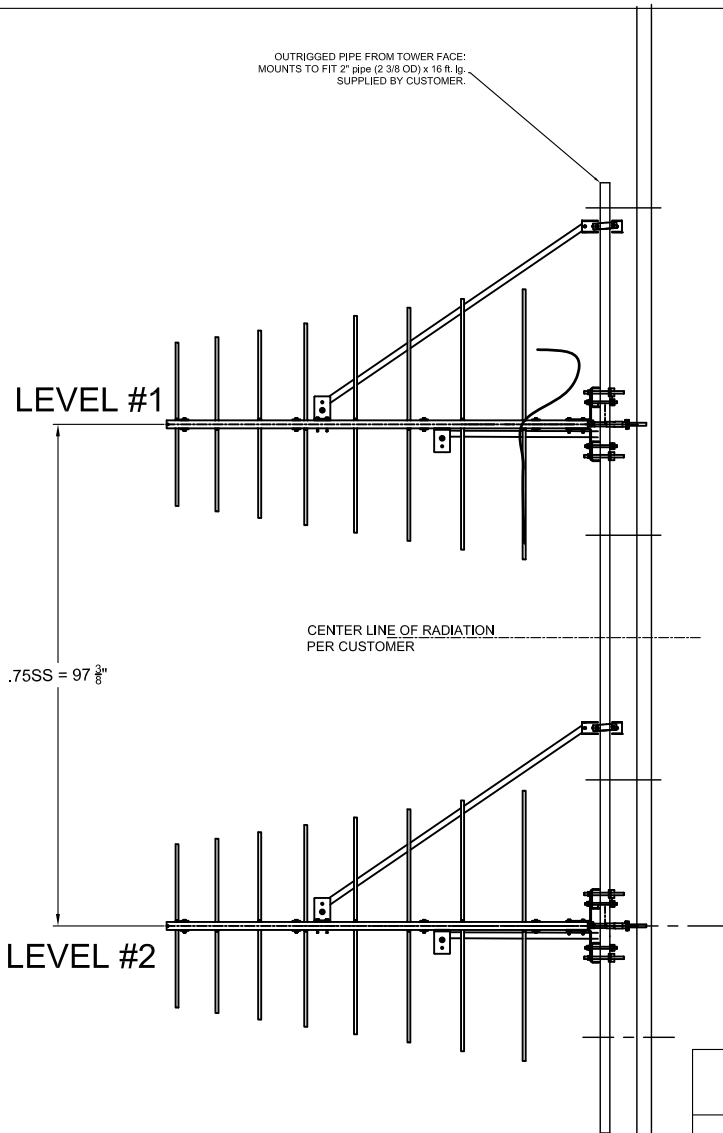
Tabulation of FCC Directional Composite
KFOI RED BLUFF, CA.

Azimuth	Rel Field	Azimuth	Rel Field
0	0.325	180	0.178
10	0.260	190	0.178
20	0.208	200	0.197
30	0.181	210	0.247
40	0.178	220	0.309
50	0.178	230	0.387
60	0.178	240	0.484
70	0.178	250	0.606
80	0.178	260	0.759
90	0.178	270	0.950
100	0.178	280	1.000
110	0.178	290	1.000
120	0.178	300	1.000
130	0.178	310	1.000
140	0.178	320	0.798
150	0.178	330	0.637
160	0.178	340	0.509
170	0.178	350	0.407

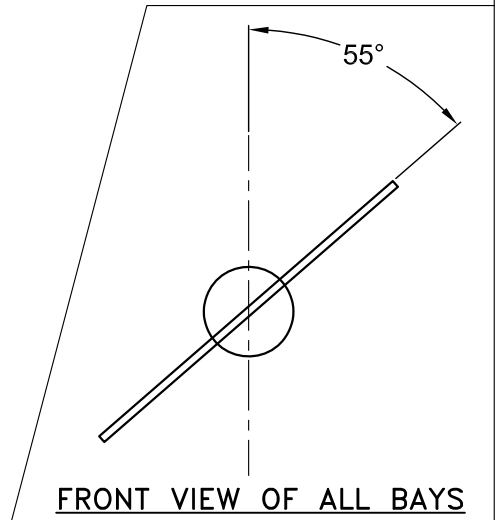
THE DESIGNS, CONSTRUCTIONS, ARRANGEMENTS, DISCLOSURES AND DEVICES SHOWN OR DESCRIBED IN THE PROPOSALS, DRAWINGS, OR SKETCHES BEARING THIS LEGEND ARE THE PROPERTY OF HOWELL LABORATORIES, INC./SHIVELY LABS AND ARE SUBMITTED IN CONFIDENCE WITH THE UNDERSTANDING THAT SUCH DESIGNS, CONSTRUCTIONS, ARRANGEMENTS, DISCLOSURES, AND DEVICES SHALL NOT BE UTILIZED IN WHOLE OR IN PART BY ANY PERSON, FIRM, CORPORATION, OR DISCLOSED TO ANYONE OTHER THAN THE SUBMITTEE, WITHOUT THE PRIOR WRITTEN PERMISSION OF HOWELL LABORATORIES, INC.



TOP VIEW



ELEVATION VIEW



FRONT VIEW OF ALL BAYS

SHIVELY LABS [®]			
A DIVISION OF HOWELL LABORATORIES INC., BRIDGTON, MAINE			
SHOP ORDER:	FREQUENCY:	SCALE:	DRAWN BY:
34717	90.9	N.T.S.	ASP
			APPROVED BY:
			DAB
TITLE:			
FIGURE 2, KFOI, 90.9 MHz MODEL 6025-2/1-SLANT(55°)-DA			
DATE:			
7-6-17		FIGURE 2	

Antenna Mfg.: Shively Labs
Antenna Type: 6025-2SS(.75)-(ROTATION 55°)-DA

Date: 7/5/2017

Station: KFOI

Beam Tilt 0

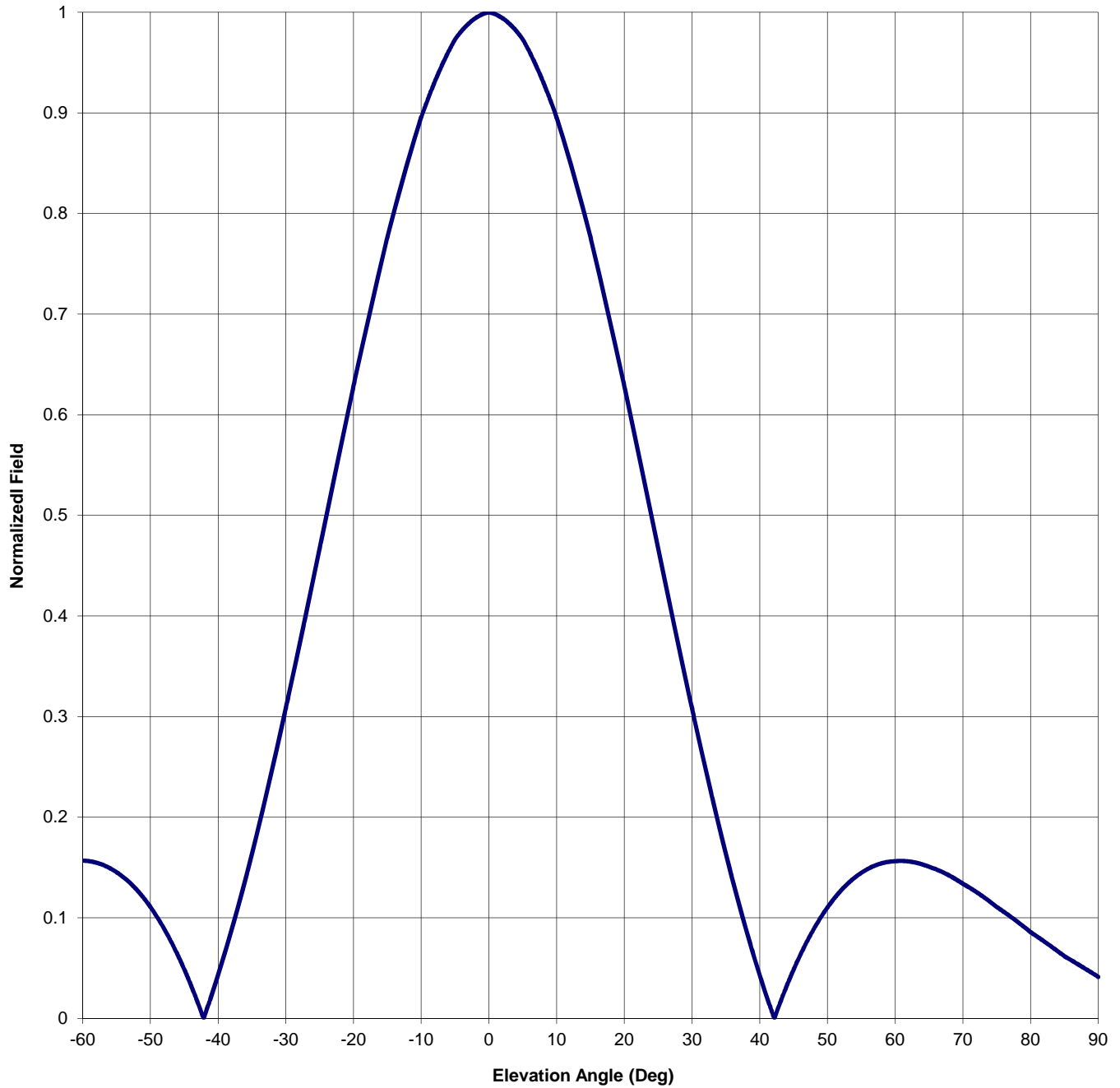
Frequency: 90.9

Gain (Max) 7.168 8.554 dB

Channel #: 215

Gain (Horizon) 7.168 8.554 dB

Figure: 3



VALIDATION OF TOTAL POWER GAIN CALCULATION

KFOI RED BLUFF, CA.

MODEL 6025-2-SS(0.75)-(ROTATION 55°)-DA

Elevation Gain of Antenna

1.012

Horizontal RMS value divided by the Vertical RMS value equals the Horiz. - Vert. Ratio

H RMS 0.413149 V RMS 0.341722 H/V Ratio 1.209

Elevation Gain of Horizontal Component 1.224

Elevation Gain of Vertical Component 0.837

Horizontal Azimuth Gain equals $1/(\text{RMS})^2$. 5.859Vertical Azimuth Gain equals $1/(\text{RMS}/\text{Max Vert})^2$. 4.415

Max. Vertical 0.718

***Total Horizontal Power Gain is the Elevation Gain Times the Azimuth Gain**

Total Horizontal Power Gain = 7.168

***Total Vertical Power Gain is the Elevation Gain Times the Azimuth Gain**

Total Vertical Power Gain = 3.695

ERP divided by Horizontal Power Gain equals Antenna Input Power

12 kW ERP Divided by H Gain 7.168 equals 1.674 kW H Antenna Input Power

Antenna Input Power times Vertical Power Gain equals Vertical ERP

1.674 kW Times V Gain 3.695 equals 6.186 kW V ERP

Maximum Value of the Vertical Component squared times the Maximum ERP equals the Vertical ERP

 $(0.718)^2$ Times 12.00 Equals 6.186 kW Vertical ERP

NOTE: Calculating the ERP of the Vertical Component by two methods validates the total power gain calculations

EXHIBIT 9b
ENGINEER'S CERTIFICATION
of Proper Directional Antenna Installation
KFOI (FM), Red Bluff, CA
BPED-20151216ASJ - FID: 77121

I, Michael D. Brown, hereby certify that the Shively 6025-2-SS(.75)-DA directional antenna for KFOI has been installed pursuant to the manufacturer's instructions. Also, the directional antenna was oriented per the manufacturer's instructions, and has been confirmed on-site by a licensed surveyor.

I supervised the entire installation. Supervising such projects is well within the scope of my understanding, experience, and expertise. I am a qualified radio broadcast engineer of over 40 years experience. I am FCC licensed (FCC General/First Class), I am certified as a Senior Radio Broadcast Engineer by the Society of Broadcast Engineers, and I am an Associate Member in good standing with the Association of Federal Communications Consulting Engineers.



Michael D. Brown
Owner/President - Brown Broadcast Services, Portland, Oregon

BROWN BROADCAST SERVICES
INCORPORATED

Michael D. Brown 3740 S.W. Comus St. Portland, Oregon 97219-7418 503-245-6065 mike@brownbroadcast.com



SHARRAH DUNLAP SAWYER, INC.

Civil Engineering | Structural Design | Landscape Architecture | Planning | Surveying | Presentation Graphics

6590 Lockheed Drive Redding, CA 96002 530.221.1792 voice 530.221.8369 fax info@sdsengineering.com

November 8, 2017

Alta California Community Media
PO Box 991046
Redding, CA 96099-1046
RE: Broadcast Station/KFOI

To Whom It May Concern:

Sharrah Dunlap Sawyer Inc, on November 7, 2017, established a Geodetic Azimuth baseline at the Communication Site on In-Skip Hill, California, using two Trimble R8 GPS units. From this baseline a true bearing was established to determine the azimuth of 2 Shively 6025 panel antenna to be 288 degrees from true north (+/- 30 minutes).

Regards,

Josh Martin, P.L.S.



EXHIBIT 9d

Coverage Using Measured Directional Pattern

Brown Broadcast Services, Inc.
Job: KFOI.fmj
Master Database: 2018_Jan_24.fmd
Lat: N40:20:41 Lon: W121:56:48 NAD-27
Scale: 1:770000
Channel: 215 Class: C1

rfInvestigator Version 3.8.16
by rfSoftware, Inc.
Date: 1/24/2018 11:23:56 PM

60dBu contour with measured pattern covers 100% of the Community of License

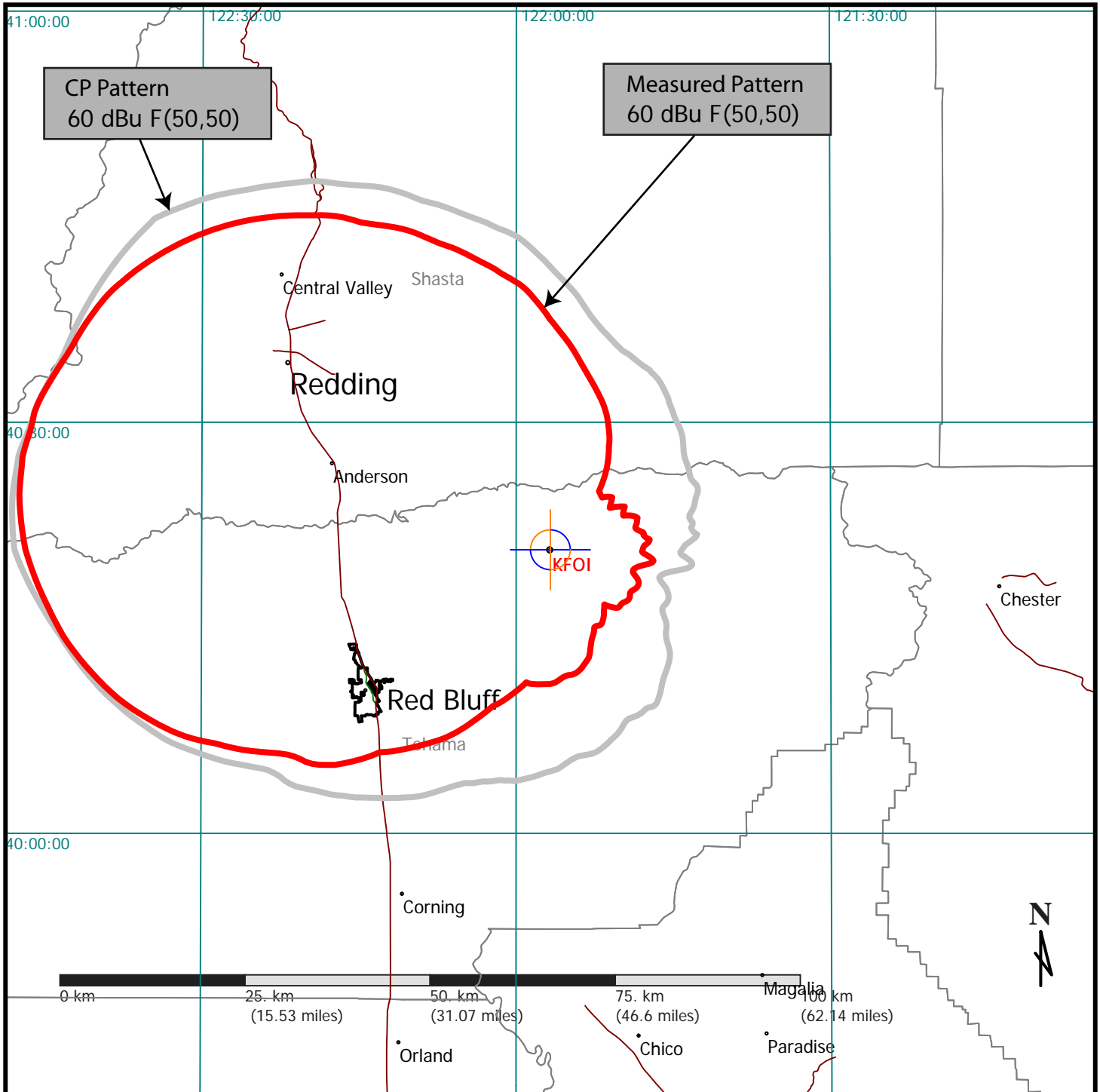


EXHIBIT 9e
RADIOFREQUENCY ELECTROMAGNETIC
POWER DENSITY MEASUREMENTS
KFOI, Red Bluff, CA
Measurements Completed January 3, 2018

SUMMARY OF RESULTS:

Contained herein are RF power density measurements in response to Condition #7 of FCC Construction Permit BPED-2051216ASJ, for KFOI (FM), Red Bluff, CA. Brown Broadcast Services was retained by the permittee, to perform these measurements. KFOI was found to be fully compliant. All locations were found to be well below the Maximum Permissible Exposure (MPE) standards for Uncontrolled/Public Access areas.

MEASUREMENT PROCEDURE:

Measurements were conducted using a Narda 8718B (SN: 04100) Electromagnetic Radiation Survey Meter, mated with a Narda A8722D (SN: 06009) E-Field Probe. This probe has a shaped response that provides a direct percentage reading of the ANSI C95.1-1991 Occupational/Controlled MPE standard, over a 300kHz to 50GHz range. To convert to the Uncontrolled/Public Access standard, the readings were multiplied by a factor of 5. KFOI was operating at the approved ERP with the approved antenna system, at the time of the measurements

The Narda system was first electronically zeroed in a low RF field area, and with the probe shielded by a Narda 8713B Electric Field Attenuator “sock”. The entire area was then meticulously scanned for possible “warm” spots, at 20cm to 2 meters above ground. Any such spots were then measured with the Narda meter, using the instrument’s built-in Spatial Averaging mode.

At each identified “warm spot”, the operator stood facing the antenna, with the probe held at arm’s length directly over the spot. The probe was moved vertically with a uniform speed from 20cm, up to 2 meters above the ground, to simulate the full body exposure of a standing human. The instrument’s Spatial Averaging mode was employed during each vertical sweep. This mode records one measurement per second, generating a running average until the

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mode is halted. Typically, 6 measurement samples were averaged by the instrument during each sweep.

To average out the body effects of the operator, three more groups of measurements were taken, with the operator circling clockwise around the spot by 90 degrees. Thus, a total of four spatially-averaged sweeps, consisting of approximately 24 measurement samples, were taken to define the exposure level at a given location. The probe was kept at least 20cm away from metal surfaces.

MEASURED FIELDS:

Nearly all of the areas around the tower were found to have less than 12% of the MPE for uncontrolled/public environments. (This corresponds to 2.4% on the instrument.) The absolute maximum single point found was at 28.8% of the uncontrolled/public standard.

All identified “warm spots” are listed below:

POINT	LOC	COORD (NAD 27)	SPATIALLY AVERAGED EXPOSURE (% PUBLIC)
1	≈60FT NW of twr	40:20:40.4N, 121:56:47.7W	18.5%
2	≈130FT WSW of twr	40:20:41.4N, 121:56:48.5W	17.6%

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AFFIRMATION

I, Michael D. Brown hereby affirm that:

I have been the Owner/President of Brown Broadcast Services, Inc., since 1987.

I have over 40 years experience as a radio broadcast engineer; FCC licensed and Society of Broadcast Engineers (SBE) certified – Senior Radio Broadcast Engineer

I have prepared and/or participated in hundreds of filings and reports before the FCC during that time period.

I have the knowledge and experience to perform RF exposure measurements.

The measurements contained herein were conducted directly by me, and I believe them to be an accurate representation of the conditions that existed at the time of the measurements.

A handwritten signature in black ink that reads "Michael D. Brown". The signature is written in a cursive style and ends with a long horizontal flourish.

Michael D. Brown - Brown Broadcast Services, Inc.
January 23, 2018

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