

## **ENGINEERING EXHIBIT**

### **Application for Construction Permit Digital Class A Television Station**

prepared for

**Acadiana Cable Advertising, Inc.**  
KDCG-CD Opelousas, LA  
Facility ID 349  
Ch. 22 (digital) 15 kW

*Acadiana Cable Advertising, Inc.* (“*Acadiana*”) is licensee of digital Class A television station KDCG-CD, Facility ID 349, Opelousas, LA (BLDTA-20090610AAO). *Acadiana* herein seeks a Construction Permit to relocate KDCG-CD to a site located 21.2 km from the licensed transmitting location.

The proposed facility will continue to operate on Channel 22 using a “stringent” out of channel emission mask. The proposed KDCG-CD facility will employ an antenna system to be side-mounted on an existing tower structure associated with Antenna Structure Registration number 1251823. No change to the overall structure height is proposed. The maximum effective radiated power is 15 kW utilizing a directional antenna.

Figure 1 depicts the 51 dB $\mu$  coverage contour of the proposed facility as well as that of the licensed facility. The service area overlap demonstrates compliance with §73.3572 for a minor change.

Interference studies per OET Bulletin 69<sup>1</sup> show that the proposal complies with the Commission’s interference protection requirements toward all digital television, television

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<sup>1</sup>FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 (“OET-69”). The implementation of OET-69 for this study followed the

translator, LPTV, and Class A stations. The results, summarized in Table 1, show no interference is predicted to be caused to any facility and therefore the proposal complies with §§73.6017-6019.

The nearest FCC monitoring station is 661 km distant at Kingsville, TX. This exceeds the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with quiet zones specified in §73.1030(a) and (b). There are no AM stations within 3.2 kilometers of the site, based on information contained within the Commission's database. The site is not within a border area requiring international coordination.

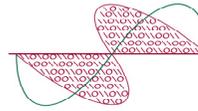
### **Human Exposure to Radiofrequency Electromagnetic Field**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10) and assuming 10 percent antenna relative field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $6.3 \mu\text{W}/\text{cm}^2$  which is 1.8 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

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guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.



This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposed transmitting antenna will be side-mounted on an existing antenna support structure. No change in structure height is proposed.

### **Certification**

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.

A handwritten signature in blue ink, appearing to read "Joseph M. Davis". The signature is fluid and cursive, with a large initial "J" and "D".

Joseph M. Davis, P.E.  
July 29, 2011

**Chesapeake RF Consultants, LLC**  
207 Old Dominion Road  
Yorktown, VA 23692  
703-650-9600

### List of Attachments

Figure 1 Coverage Contour Comparison  
Table 1 Interference Analysis Results Summary  
Form 301-CA Saved Version of Engineering Sections from FCC Form at Time of Upload

*This material was entered July 29, 2011 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's account number 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.*

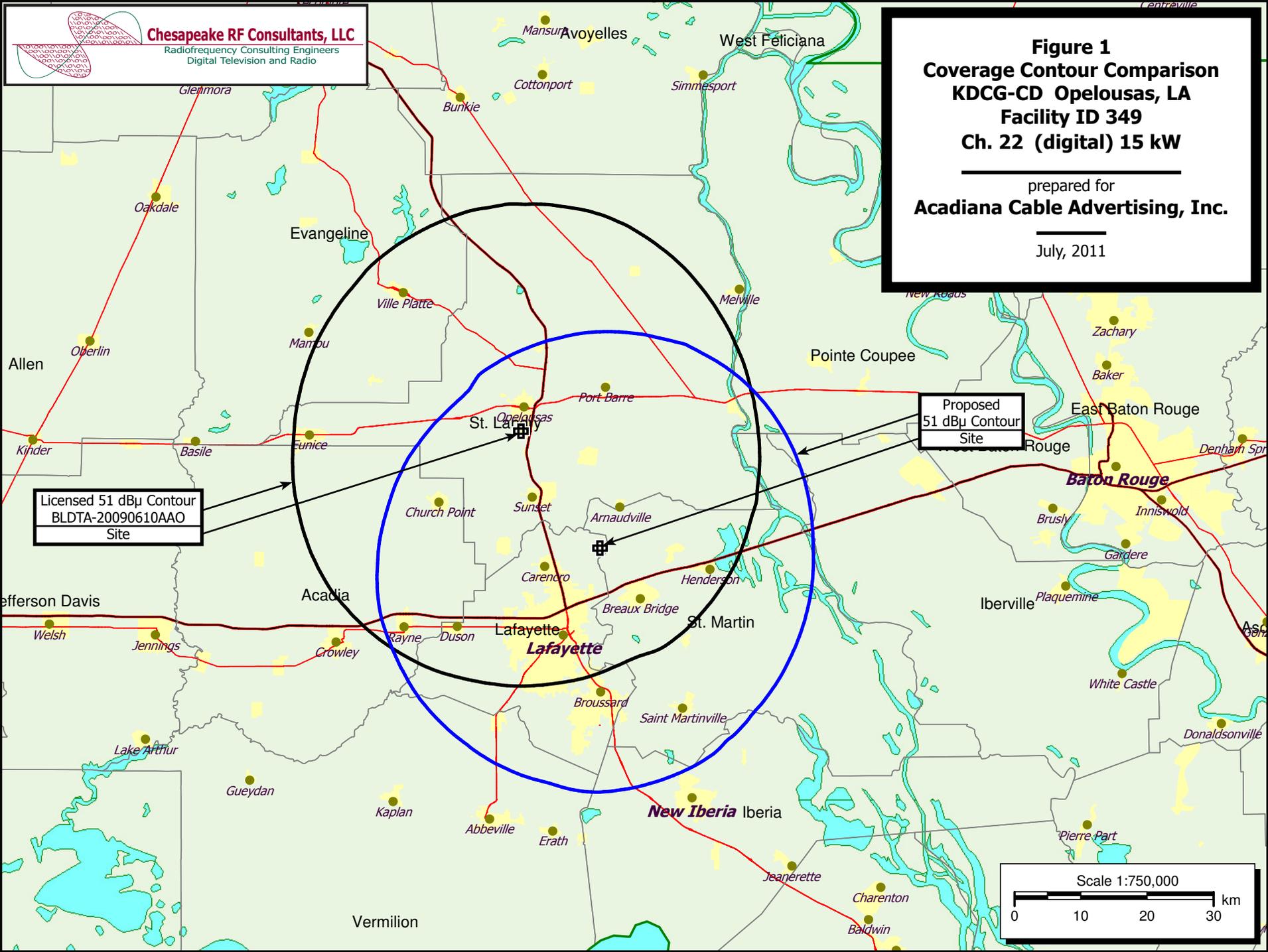
**Figure 1**  
**Coverage Contour Comparison**  
**KDCG-CD Opelousas, LA**  
**Facility ID 349**  
**Ch. 22 (digital) 15 kW**

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prepared for  
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July, 2011



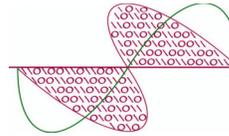
**Table 1**

**Interference Analysis Results Summary**

prepared for

**Acadiana Cable Advertising, Inc.**

**KDCG-CD Opelousas, LA**



**Chesapeake RF Consultants, LLC**

Radiofrequency Consulting Engineers  
Digital Television and Radio

KDCG-CD USERRECORD-01 OPELOUSAS LA US  
 Channel 22 ERP 15. kW HAAT 283. m RCAMSL 00291 m STRINGENT MASK  
 Latitude 030-20-32 Longitude 0091-57-46  
 Dir Antenna Make usr Model KDCG-CD AL8 Beam tilt N Ref Azimuth 210.

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (2000 Census)---	
						Baseline	New Interference
14	KFAM-LP	LAKE CHARLES LA	130.0	LIC	BLTTA-20050509ACM	---	none
19	K19FR	NEW IBERIA LA	37.5	LIC	BLTT-20060404AFT	---	none
21	K02QB	ALEXANDRIA LA	110.4	CP	BDISDTL-20090824AGJ	---	none
21	WBRL-CD	BATON ROUGE LA	65.8	LIC	BLDTA-20100908AAP	---	none
21	WHNO	NEW ORLEANS LA	192.1	LIC	BLCDDT-20050413AAK	---	none
22	K22GT	LAKE CHARLES LA	147.8	CP	BPTTL-20070706ACE	---	none
22	K22GT	LAKE CHARLES LA	147.8	LIC	BLTTL-20060103ABZ	---	none
22	KMNO-LP	MONROE LA	241.1	LIC	BLTTL-20040205AFS	---	none
22	KWBJ-CD	MORGAN CITY LA	100.4	CP	BDISTTA-20090204ACQ	---	none
22	KWBJ-CD	MORGAN CITY LA	100.4	LIC	BLDTA-20090512AAZ	---	none
22	KWBJ-LD	MORGAN CITY LA	100.4	LIC	BLDTL-20080911AAP	---	none
22	WTNO-LP	NEW ORLEANS LA	179.6	CP MOD	BMPPTA-20110519ADH	---	none
22	K22IB-D	VIDALIA LA	138.2	CP	BDCCDTT-20061024AFE	---	none
22	KMNO-LP	WEST MONORE LA	247.0	CP	BDFCDTL-20110322ABB	---	none
22	NEW	GREENVILLE MS	353.7	APP	BNPDTL-20101018ACV	---	none
22	W22DJ-D	GULFPORT MS	301.8	CP	BDCCDTL-20070510ABT	---	none
22	WHLT	HATTIESBURG MS	285.6	LIC	BLCDDT-20091216AAL	---	none
22	KUMY-LP	BEAUMONT TX	200.0	CP	BDFCDTL-20110114AAS	---	none
22	KUMY-LP	BEAUMONT-ORANGE TX	212.1	LIC	BLTTL-20020724AAM	---	none
22	KETK-TV	JACKSONVILLE TX	371.5	LIC	BLCDDT-20060621AAF	---	none
23	NEW	ALEXANDRIA LA	110.1	APP	BNPDTL-20100816ABA	---	none
23	WSTY-LP	HAMMOND LA	143.4	APP	BDFCDTL-20110401AAE	---	none
23	WSTY-LP	HAMMOND LA	143.3	LIC	BLTTL-19990104JE	---	none
23	KLPB-TV	LAFAYETTE LA	30.8	CP	BPEDT-20110309ABI	---	none
23	KLPB-TV	LAFAYETTE LA	30.8	LIC	BLEDT-20031117ACC	658,808	517 (0.08%)
23	W23EC-D	LAKE CHARLES LA	123.9	CP	BNPDTL-20100407ABO	---	none
23	NEW	BEAUMONT TX	194.9	APP	BNPDTL-20090825AYJ	---	none
30	WLFT-CA	BATON ROUGE LA	87.2	LIC	BLTTA-20070813AFZ	---	none
30	W30CC	NATCHEZ MS	138.2	CP	BPTTL-20070706ACK	---	none

**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 JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 7/29/2011	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 207 OLD DOMINION ROAD			
City YORKTOWN		State or Country (if foreign address) VA	Zip Code 23692-
Telephone Number (include area code) 7036509600		E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.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).

<b>SECTION III - Engineering (Digital)</b>																																																																																																											
<b>TECHNICAL SPECIFICATIONS</b>																																																																																																											
Ensure that the specifications below are accurate. All items must be completed. The response "on file" is not acceptable.																																																																																																											
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<b>TECH BOX</b>																																																																																																											
1.	Channel Number: 22																																																																																																										
2.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 30 Minutes 20 Seconds 32 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 91 Minutes 57 Seconds 46 <input checked="" type="radio"/> West <input type="radio"/> East																																																																																																										
3.	Antenna Structure Registration Number: 1251823 <input type="checkbox"/> Not Applicable [Exhibit 8] <input type="checkbox"/> Notification filed with FAA																																																																																																										
4.	Antenna Location Site Elevation Above Mean Sea Level: 7 meters																																																																																																										
5.	Overall Tower Height Above Ground Level: 312.7 meters																																																																																																										
6.	Height of Radiation Center Above Ground Level: 283.5 meters																																																																																																										
7.	Maximum Effective Radiated Power (ERP): 15 kW																																																																																																										
8.	Transmitter Output Power: 2.58 kW																																																																																																										
9.	<p>a. Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under <a href="http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm">CDBS Public Access</a> (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search. <input type="radio"/> Nondirectional <input type="radio"/> Directional "Off-the-shelf" <input checked="" type="radio"/> Directional composite</p> <p>Manufacturer ERI Model AL8-22</p> <p>b. Electrical Beam Tilt: 1.75 degrees <input type="checkbox"/> Not Applicable</p> <p>c. Directional Antenna Relative Field Values: <input type="checkbox"/> N/A (Nondirectional or Directional "Off-the-shelf") Rotation (Degrees): 210 <input type="checkbox"/> No Rotation</p> <table border="1"> <thead> <tr> <th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th><th>Degrees</th><th>Value</th> </tr> </thead> <tbody> <tr> <td>0</td><td>1</td><td>10</td><td>0.99</td><td>20</td><td>0.979</td><td>30</td><td>0.953</td><td>40</td><td>0.917</td><td>50</td><td>0.874</td> </tr> <tr> <td>60</td><td>0.826</td><td>70</td><td>0.775</td><td>80</td><td>0.725</td><td>90</td><td>0.680</td><td>100</td><td>0.649</td><td>110</td><td>0.630</td> </tr> <tr> <td>120</td><td>0.624</td><td>130</td><td>0.631</td><td>140</td><td>0.646</td><td>150</td><td>0.664</td><td>160</td><td>0.680</td><td>170</td><td>0.691</td> </tr> <tr> <td>180</td><td>0.695</td><td>190</td><td>0.691</td><td>200</td><td>0.680</td><td>210</td><td>0.664</td><td>220</td><td>0.646</td><td>230</td><td>0.631</td> </tr> <tr> <td>240</td><td>0.624</td><td>250</td><td>0.630</td><td>260</td><td>0.649</td><td>270</td><td>0.682</td><td>280</td><td>0.725</td><td>290</td><td>0.775</td> </tr> <tr> <td>300</td><td>0.826</td><td>310</td><td>0.874</td><td>320</td><td>0.917</td><td>330</td><td>0.953</td><td>340</td><td>0.979</td><td>350</td><td>0.995</td> </tr> <tr> <td>Additional Azimuths</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>											Degrees	Value	0	1	10	0.99	20	0.979	30	0.953	40	0.917	50	0.874	60	0.826	70	0.775	80	0.725	90	0.680	100	0.649	110	0.630	120	0.624	130	0.631	140	0.646	150	0.664	160	0.680	170	0.691	180	0.695	190	0.691	200	0.680	210	0.664	220	0.646	230	0.631	240	0.624	250	0.630	260	0.649	270	0.682	280	0.725	290	0.775	300	0.826	310	0.874	320	0.917	330	0.953	340	0.979	350	0.995	Additional Azimuths																					
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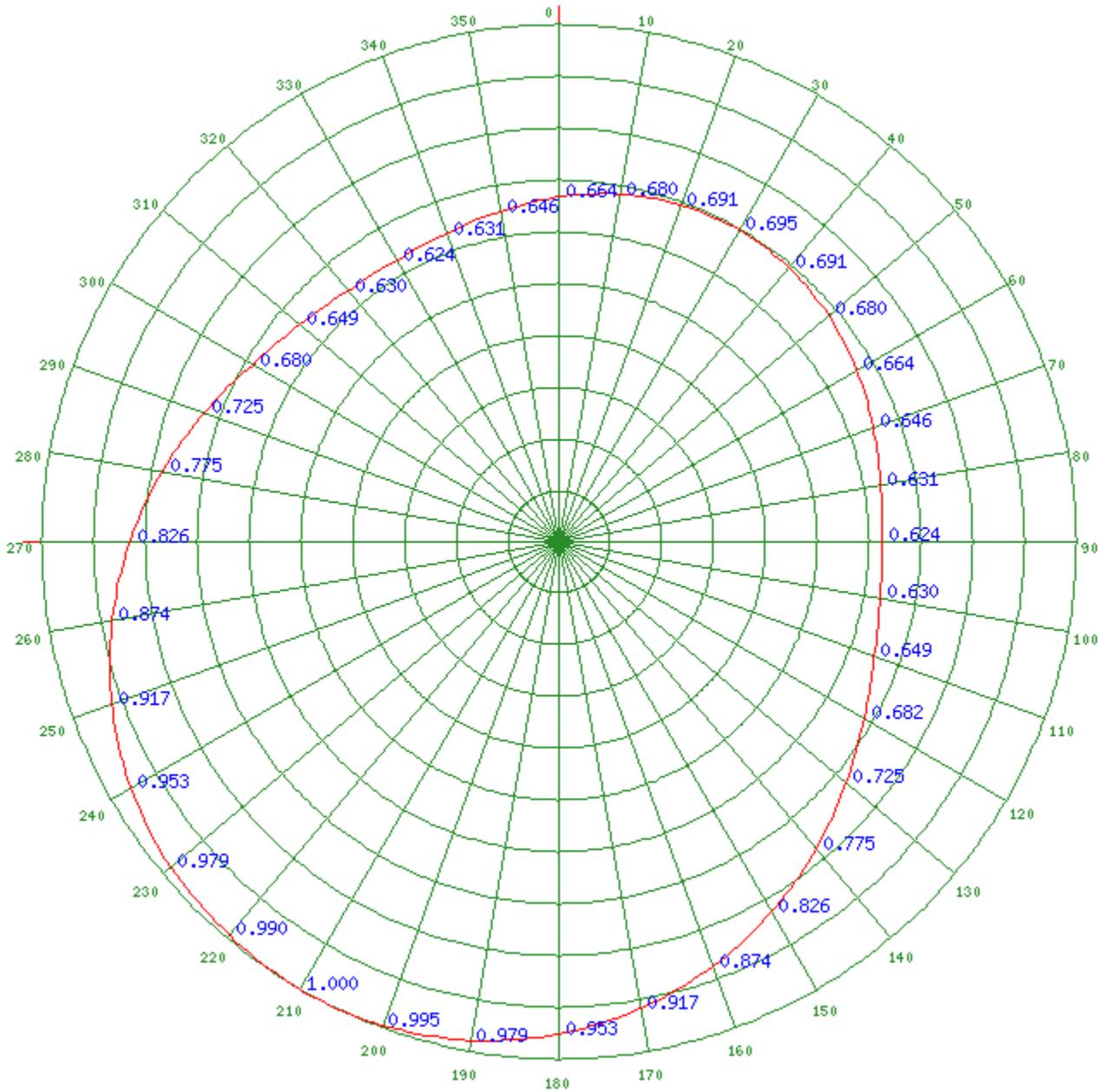
Relative Field Polar Plot

**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.**

10.	<b>Out-of-channel Emission Mask:</b> <input type="radio"/> Simple <input checked="" type="radio"/> Stringent
<b>CERTIFICATION</b>	
11.	<p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 73.6016, 73.6017, 73.6018, 73.6019, 73.6020, 73.6027 and 74.794(b).</p> <p style="text-align: right;"><input checked="" type="radio"/> Yes   <input type="radio"/> No</p> <p style="text-align: right;">See Explanation in [Exhibit 9]</p>
12.	<p><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 RF compliance, an <b>Exhibit is required.</b></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 style="text-align: right;"><input checked="" type="radio"/> Yes   <input type="radio"/> No</p> <p style="text-align: right;">See Explanation in [Exhibit 10]</p>
13.	<p><b>Channels 52-59.</b> If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:</p> <p><input type="checkbox"/> The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.</p> <p><input type="checkbox"/> Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.</p>

Any specified rotation has already been applied to the plotted pattern.  
 Field strength values shown on a rotated pattern may differ from the listed values  
 because intermediate azimuths are interpolated between entered azimuths.

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