

## **ENGINEERING EXHIBIT**

### **Application for Low Power Television Digital Flash-Cut Construction Permit**

prepared for

**KRCA License LLC**  
KVPA-LD Phoenix, AZ  
Facility ID 33773  
Ch. 42 (digital) 15 kW

*KRCA License LLC (“KRCA”)* is the licensee of Low Power Television station KVPA-LP, analog Channel 42, Phoenix, AZ, Facility ID 33773 (BLTTL-20060517ABG). *KRCA* herein proposes herein to flash-cut KVPA-LP to digital operation on Channel 42 using the presently licensed transmitting location.

The proposed facility will operate on Channel 42 using a “stringent” out of channel emission mask. **Figure 1** depicts the 51 dBμ coverage contour of the proposed facility, as well as the 74 dBμ contour of the licensed KVPA-LP analog Channel 42 facility. The use of the same transmitter site and the service area overlap shown demonstrates compliance with §73.3572 for a minor change.

The proposed antenna is an ERI model ALP8M8-CSW-42 and will employ circular polarization. The antenna will be side-mounted on the existing antenna support structure in place of the licensed KVPA-LP antenna. The tower structure is not presently registered with the FCC, as it is an existing structure of less than 61 meters overall height above ground and there are no known landing areas within 8 km according to the FCC’s “TOWAIR” slope test program. No marking or lighting specifications are presently required. Since no change to the structure’s overall height is proposed, FAA notification and commensurate FCC registration are not necessary.

A detailed interference study per OET Bulletin 69<sup>1</sup> shows that the proposal complies with the Commission's interference protection requirements toward all authorized NTSC, DTV, television translator, LPTV, and Class A stations. The results, summarized in **Table 1**, show that any new interference does not exceed the Commission's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) towards any presently authorized station.

It is noted that 6.57 percent interference would be caused to BPET-19960710LC, an application for a new analog Channel 43 full power facility at Coolidge, AZ. The proposed 6.57 percent interference caused to the original analog application is moot as the FCC is not expected to grant authorization for any more full power analog stations given the upcoming full power station transition date (February 18, 2009) when analog broadcasting must cease. Further, the Coolidge analog application was amended November 27, 2007 to specify digital operation (see BPEDT-19960710LC). The KVPA-LD proposal would cause 0.0 percent interference to the Coolidge application as amended to specify digital operation.

The nearest FCC monitoring station is 305 km distant at Douglas, AZ. This exceeds by a large margin 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 proposed facility is located 174 km from the nearest point along the U.S. - Mexican border. This is within the 320 km coordination distance for analog television stations and analog low power television stations, and is also within the 275 km coordination distance for full-power digital television stations. There are no known Mexican co-channel analog or digital allotments within 320 km of the proposed site, and distance to the border (174 km) precludes consideration of

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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 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.

any first-adjacent or taboo channel stations in Mexico. Thus it is believed that the instant proposal complies with all international agreements at this time.

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed transmitting antenna will be installed on an existing antenna support structure. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

The transmitting location is a mountaintop site on the South Mountain antenna farm overlooking Phoenix. There are numerous other transmitting facilities located at this site area situated on various antenna supporting structures. *KRCA* will participate in a radiofrequency ("RF") electromagnetic field exposure safety program, along with other broadcasters and FCC licensees that utilize the mountaintop antenna site area. Following construction of the proposed facility, *KRCA* will conduct RF exposure measurements (and/or detailed calculations) to evaluate the level of RF exposure resulting from the KVPA-LD digital facility. As necessary, based on these results and considering all emitters, appropriate exposure abatement procedures will be established and followed, in order to comply with the Commission's exposure limits. Such abatement procedures may involve the restriction of access to certain areas and/or facility modifications to reduce RF levels.

Considering the post-construction measurement and an appropriate abatement program, the general public and workers will not be exposed to RF levels in excess of the Commission's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, authorized personnel will be trained and/or supervised as necessary for access to any "controlled" areas. *KRCA* will coordinate exposure procedures with all pertinent stations.

### **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.



Joseph M. Davis, P.E.  
December 9, 2008

**Chesapeake RF Consultants, LLC**  
11993 Kahns Road  
Manassas, VA 20112  
703-650-9600

### List of Attachments

Figure 1	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 346	Saved Version of Engineering Sections from FCC Form at Time of Upload

*This material was entered December 9, 2008 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.*

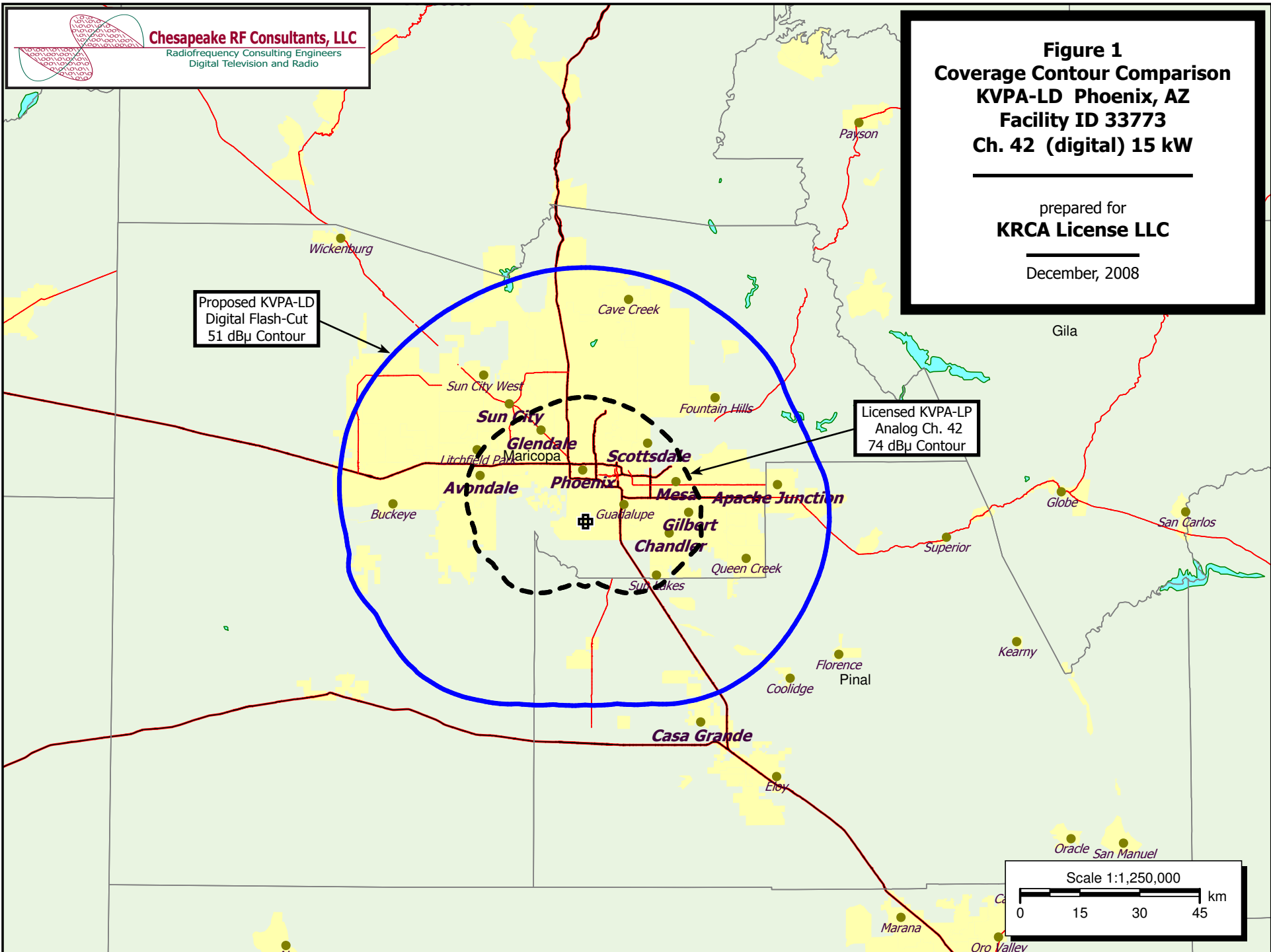


Table 1

**Interference Analysis Results Summary**

prepared for

**KRCA License LLC**

KVPA-LP Digital Ch. 42 Phoenix, AZ



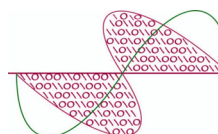
Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (1990 Census)---	
						Baseline	New Interference
28	KCAB-LP	CASA GRANDE AZ	59.3	LIC	BLTTL-20051007ABP	---	none
28	KCOS-LP	PHOENIX AZ	43.3	LIC	BLTTL-19990325JD	---	none
28	KQBN-LP	PRESCOTT AZ	103.9	LIC	BLTTL-19970918JQ	---	none
28	KQBN-LP	PRESCOTT AZ	52.7	CP	BPTTL-20040712AAP	---	none
35	KFPH-CA	PHOENIX AZ	0.3	APP	BPTTA-20030227AAW	---	none
35	KFPH-CA	PHOENIX AZ	0.3	LIC	BLTTA-20030122ADP	---	none
38	NEW	BUCKEYE AZ	131.0	APP	BNPTTL-20000831AXO	---	none
38	NEW	GLOBE AZ	121.6	APP	BNPTTL-20000831ANT	---	none
38	NEW	GLOBE-MIAMI AZ	110.9	APP	BNPTT-20000823ABB	---	none
39	KDTP	PHOENIX AZ	0.3	LIC	BLET-20010205ABS	---	none
39	KTAZ	PHOENIX AZ	0.5	LIC	BLCT-20060809ABN	---	none
41	K41ER	GLOBE/MIAMI AZ	110.9	LIC	BLTT-19990706JF	---	none
41	NEW	ORO VALLEY/TUCSON AZ	151.7	APP	BSFDTT-20060630CWO	---	none
41	KPDF-CA	PHOENIX AZ	0.5	APP	BPTTA-20040726ADX	2,109,464	5,929 (0.28%)
41	KPDF-CA	PHOENIX AZ	0.3	LIC	BLTTA-20020104AAJ	2,001,284	704 (0.04%)
41	KPDT-LP	PRESCOTT AZ	152.2	CP	BNPTTL-20000831CLN	---	none
41	NEW	TUCSON AZ	149.6	APP	BDCCDTL-20070418ABC	---	none
42	K42CQ	CHLORIDE AZ	299.9	LIC	BLTT-19931213JD	---	none
42	K42AC	COTTONWOOD, ETC. AZ	150.6	LIC	BLTT-19890731IM	42,701	-37 (-0.09%)
42	K42IQ-D	FLAGSTAFF AZ	216.2	CP	BDISDTL-20080605AAU	---	none
42	K42CP	PEACH SPRINGS AZ	275.0	LIC	BLTT-19900523ID	---	none
42	K42EU	TOPOCK, ETC. AZ	284.2	LIC	BLTT-20011113ABJ	---	none
42	KHRR	TUCSON AZ	149.6	LIC	BLCDT-20060711ABJ	671,980	990 (0.15%)
42	K42HC	SILVER CITY NM	360.0	CP MOD	BMPPT-20060216AFN	---	none
43	K43CO	CASA GRANDE AZ	51.8	LIC	BLTT-19940105IB	---	none
43	960710LC	COOLIDGE AZ	51.8	APP	BPET-19960710LC	2,157,493	141,788 (6.57%) *
43	960710LC	COOLIDGE AZ	0.0	APP	BPEDT-19960710LC	---	none *
43	K43IB	GLOBE-MIAMI AZ	110.9	LIC	BLTT-20060216AFG	1,261,510	862 (0.07%)
43	KEJR-LP	PHOENIX AZ	0.4	LIC	BLTT-20051020AFW	---	none
43	K55DB	PRESCOTT, ETC. AZ	135.7	CP	BDISTT-20051215AAP	---	none
44	KPHE-LP	PHOENIX AZ	0.4	LIC	BLTTL-20060310AEJ	---	none

\* BPET-19960710LC is for a new analog Channel 43 full power facility at Coolidge, AZ. The proposed 6.57 percent interference caused to the original analog application is moot as the FCC will not be granting authorization for any more full power analog stations. The analog application was amended November 27, 2007 to specify digital operation (see BPEDT-19960710LC). The KVPA-LD proposal would cause 0.0 percent interference to the Coolidge application as amended to specify digital operation.

Table 1

**Interference Analysis Results Summary**

(page 2 of 2)



**Chesapeake RF Consultants, LLC**

Radiofrequency Consulting Engineers  
Digital Television and Radio

<u>Ch.</u>	<u>Call</u>	<u>City/State</u>	<u>Dist</u> <u>(km)</u>	<u>Status</u>	<u>Application Ref. No.</u>	---Population (1990 Census)---	
						<u>Baseline</u>	<u>New Interference</u>
45	KUTP	PHOENIX AZ	0.7	LIC	BLCT-19860102KF	---	none
49	K49HP	CAMP VERDE, ETC. AZ	127.7	LIC	BLTT-20030930API	---	none
50	K30ES	GLOBE AZ	0.0	CP	BDISTTL-20080801AMB	---	none
50	KDOS-LP	GLOBE AZ	115.0	LIC	BLTTL-20070208AAB	---	none
50	KPVY-LP	PRESCOTT AZ	135.7	CP MOD	BMPTTL-20080214ABB	---	none

**SECTION III - ENGINEERING DATA (Digital)****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 Number: 42																																																																																				
2.	Translator Input Channel No. :																																																																																				
3.	Primary station proposed to be rebroadcast: <table border="1"><tr><td>Facility Identifier</td><td>Call Sign</td><td>City</td><td>State</td><td>Channel</td></tr></table>	Facility Identifier	Call Sign	City	State	Channel																																																																															
Facility Identifier	Call Sign	City	State	Channel																																																																																	
4.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 33 Minutes 19 Seconds 57 <input checked="" type="radio"/> North <input type="radio"/> South  Longitude: Degrees 112 Minutes 3 Seconds 57 <input checked="" type="radio"/> West <input type="radio"/> East																																																																																				
5.	Antenna Structure Registration Number: <input checked="" type="checkbox"/> Not Applicable [Exhibit 10] <input type="checkbox"/> Notification filed with FAA																																																																																				
6.	Antenna Location Site Elevation Above Mean Sea Level: 801 meters																																																																																				
7.	Overall Tower Height Above Ground Level: 37 meters																																																																																				
8.	Height of Radiation Center Above Ground Level: 20 meters																																																																																				
9.	Maximum Effective Radiated Power (ERP): 15 kW																																																																																				
10.	Transmitter Output Power: 2.5 kW																																																																																				
11.	a. Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under <a href="http://fjallfoss.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm">CDBS Public Access</a> (http://fjallfoss.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  Manufacturer ERI Model ALP8M8-CSW-42 CIRCULARLY POLARIZED  b. Electrical Beam Tilt: 2 degrees <input type="checkbox"/> Not Applicable  c. Directional Antenna Relative Field Values: <input type="checkbox"/> N/A (Nondirectional or Directional "Off-the-shelf") Rotation (Degrees): <input checked="" type="checkbox"/> No Rotation <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>0.985</td><td>20</td><td>0.951</td><td>30</td><td>0.925</td><td>40</td><td>0.929</td><td>50</td><td>0.959</td></tr><tr><td>60</td><td>0.99</td><td>70</td><td>0.997</td><td>80</td><td>0.975</td><td>90</td><td>0.922</td><td>100</td><td>0.845</td><td>110</td><td>0.758</td></tr><tr><td>120</td><td>0.68</td><td>130</td><td>0.605</td><td>140</td><td>0.51</td><td>150</td><td>0.397</td><td>160</td><td>0.302</td><td>170</td><td>0.253</td></tr><tr><td>180</td><td>0.241</td><td>190</td><td>0.253</td><td>200</td><td>0.302</td><td>210</td><td>0.397</td><td>220</td><td>0.51</td><td>230</td><td>0.605</td></tr><tr><td>240</td><td>0.68</td><td>250</td><td>0.758</td><td>260</td><td>0.845</td><td>270</td><td>0.922</td><td>280</td><td>0.975</td><td>290</td><td>0.997</td></tr><tr><td>300</td><td>0.99</td><td>310</td><td>0.959</td><td>320</td><td>0.929</td><td>330</td><td>0.925</td><td>340</td><td>0.951</td><td>350</td><td>0.985</td></tr></tbody></table> Additional Azimuths	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	0	1	10	0.985	20	0.951	30	0.925	40	0.929	50	0.959	60	0.99	70	0.997	80	0.975	90	0.922	100	0.845	110	0.758	120	0.68	130	0.605	140	0.51	150	0.397	160	0.302	170	0.253	180	0.241	190	0.253	200	0.302	210	0.397	220	0.51	230	0.605	240	0.68	250	0.758	260	0.845	270	0.922	280	0.975	290	0.997	300	0.99	310	0.959	320	0.929	330	0.925	340	0.951	350	0.985
Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value																																																																										
0	1	10	0.985	20	0.951	30	0.925	40	0.929	50	0.959																																																																										
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120	0.68	130	0.605	140	0.51	150	0.397	160	0.302	170	0.253																																																																										
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**Relative Field Polar Plot**

	<b>NOTE:</b> 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.
12.	<b>Out-of-channel Emission Mask:</b> <input type="radio"/> Simple <input checked="" type="radio"/> Stringent
<b>CERTIFICATION</b>	
13.	<b>Interference :</b> The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. <input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 11]
14.	<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> <input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 12]  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.
15.	<b>Channels 52-59.</b> If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:



<input type="checkbox"/> The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.
<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.
16. <b>Channels 60-69.</b> If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:
<input type="checkbox"/> Pursuant to Section 74.786(e), 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.
<input type="checkbox"/> Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.
<input type="checkbox"/> Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.
<b>PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.</b>

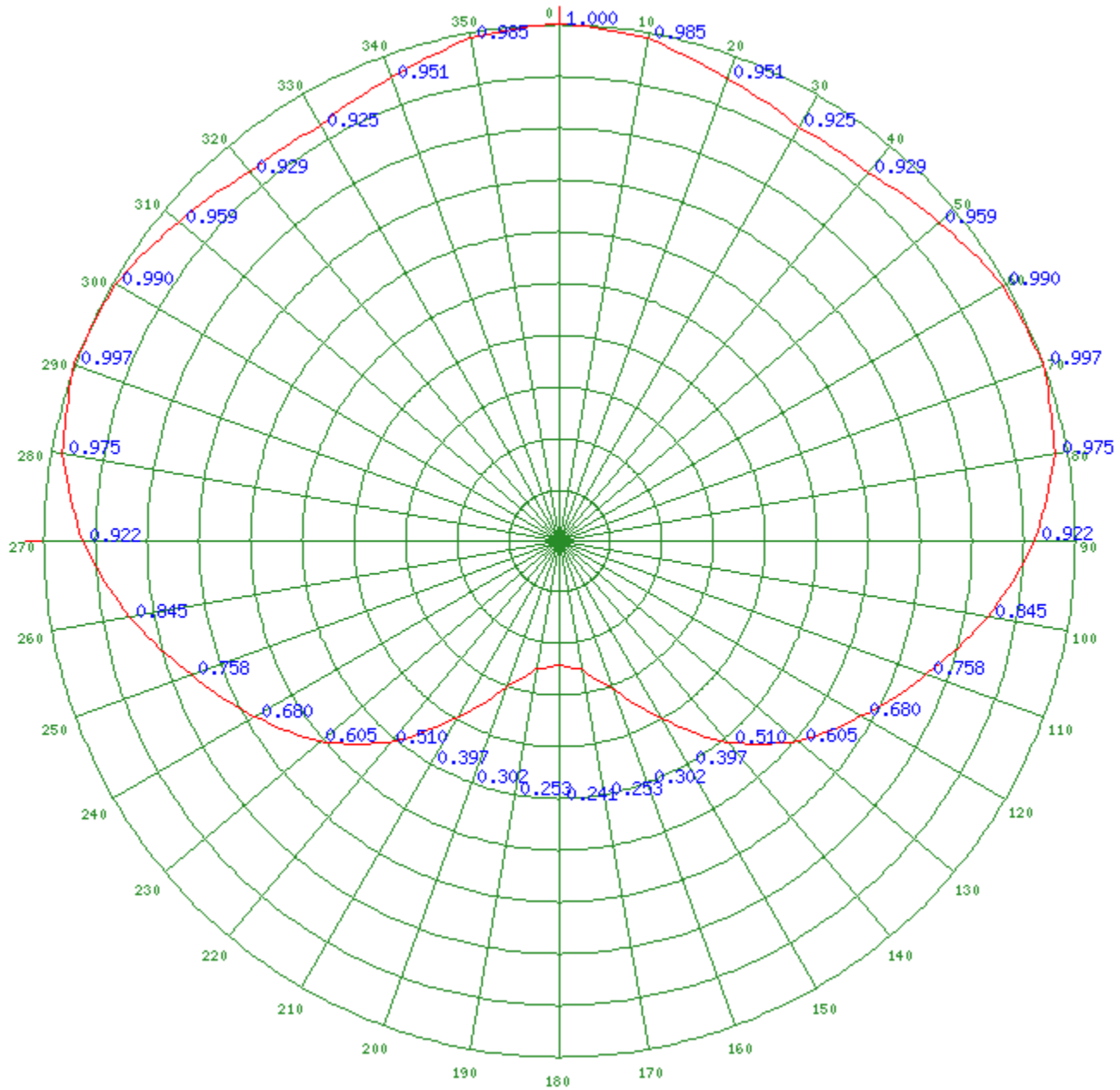
### SECTION III PREPARER'S CERTIFICATION

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 12/9/2008	
Mailing Address CHESAPEAKE RF CONSULTANTS, LLC 11993 KAHNS ROAD		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20112 -
Telephone Number (include area code) 7036509600	E-Mail Address (if available) JOSEPH.DAVIS@RF-CONSULTANTS.COM	

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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