

ENGINEERING EXHIBIT

Application for Low Power Television Digital Companion Construction Permit

prepared for

Broadcasting Licenses, Limited Partnership

KMCW-LP Medford, OR
Ch. 35 (digital) 4.35 kW

Broadcasting Licenses, Limited Partnership (“*BLLP*”) is the licensee of Low Power Television station KMCW-LP, analog Channel 14, Medford, OR, Facility ID 129043 (BLTTL-20060417AFT). *BLLP* herein seeks a Construction Permit (“CP”) for a digital companion channel facility to be associated with KMCW-LP.

The proposed digital companion facility will operate on Channel 35 at the licensed KMCW-LP analog Channel 14 site. The proposed facility will employ an antenna system which will be side-mounted on the existing tower structure associated with the analog KMCW-LP. No change is proposed to the overall structure height. The structure is not registered as the overall structure height is less than 61 meters above ground and passes the FCC’s TOWAIR program for the tower location.

The proposed facility will operate with a directional antenna at 4.35 kW effective radiated power using a “full service” out of channel emission mask. The antenna is an ERI model AL12W-35-PL. Figure 1 depicts the coverage contour of the proposed facility as well as that of the KMCW-LP licensed analog Channel 14 facility. The use of the licensed analog site and the corresponding service area overlap complies with the requirements for a digital companion facility.

Detailed interference study per OET Bulletin 69¹ show that the proposal complies with the Commission’s interference protection requirements toward all digital television, television translator,

¹FCC 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

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) to any facility. Accordingly, the proposal complies with §74.793 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

The nearest FCC monitoring station is 515 km distant at Livermore, CA. 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 authorized AM stations within 3 kilometers of the site. The site location is beyond the border areas 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 10 percent field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $5 \mu\text{W}/\text{cm}^2$, which is 1.3 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.

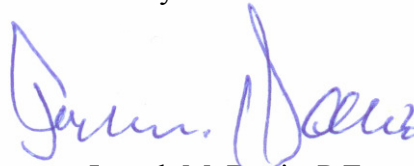
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power 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.

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 proposal involves installation of a side-mounted transmitting antenna on an existing antenna support structure which was constructed prior to March 16, 2001. 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.



Joseph M. Davis, P.E.
December 19, 2013

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 346	Saved Version of Engineering Sections from FCC Form at Time of Upload

This material was entered December 19, 2013 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.

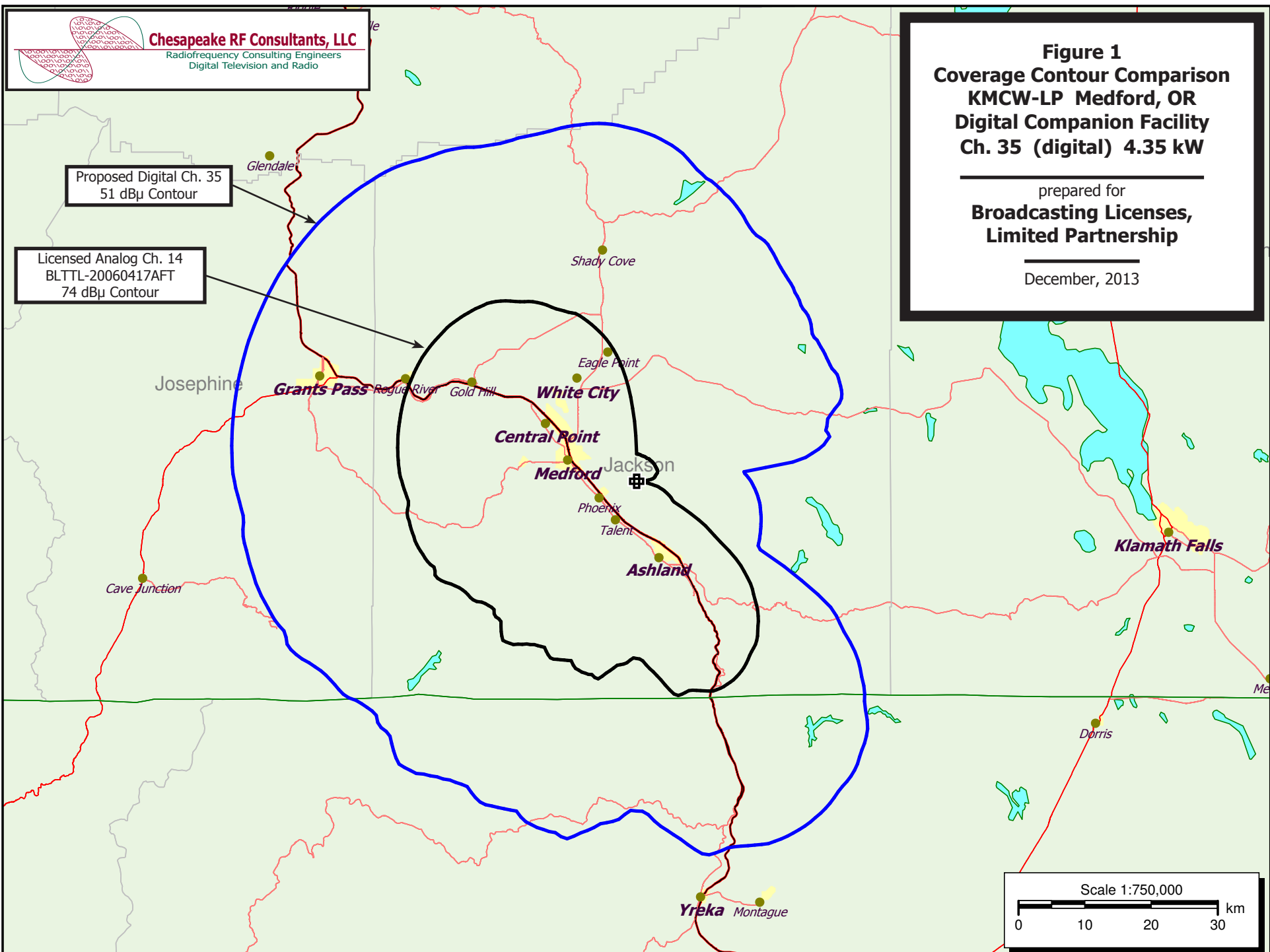


Table 1

Interference Analysis Results Summary

prepared for

Broadcasting Licenses, Limited Partnership

Ch. 35 (digital) 4.35 kW



KMCW-LD USERRECORD-01 MEDFORD OR US
 Channel 35 ERP 4.35 kW HAAT 425. m RCAMSL 01177 m FULL SERVICE MASK
 Latitude 042-17-54 Longitude 0122-44-57
 Dir Antenna Make usr Model AND_ALP-W Beam tilt N Ref Azimuth 230.

Ch.	Call	City/State	Dist	Status	Application Ref. No.	---Population (2000 Census)---	
			(km)			Baseline	New Interference
20	DK29GX-D	MERLIN OR	59.3	APP	BPTTL-20040108AKI	---	none
21	K21AI	CAMAS VALLEY OR	113.2	LIC	BLTT-19871124IB	---	none
27	K27BH	LAKE SHASTINA CA	92.4	LIC	BLTTL-19890516IK	---	none
31	K31GP	BROOKINGS, ETC. OR	129.1	LIC	BLTT-20051214ACA	---	none
33	K33DI	EAST WEED CA	102.3	LIC	BLTTL-19910206JJ	---	none
33	K33CP	GOLD BEACH OR	138.0	LIC	BLTT-19900329JJ	---	none
34	K34KJ-D	CRESCENT CITY, ETC. CA	124.0	LIC	BLDTL-20100802AZM	---	none
34	KRCR-TV	REDDING CA	188.6	LIC	BLCDDT-20100609ABL	---	none
34	KRCR-TV	REDDING CA	188.6	CP	BPCDDT-20131104ANT	---	none
34	K34BW	WILLOW CREEK CA	167.2	LIC	BLTTL-19890109IE	---	none
34	K34IC-D	GLIDE OR	122.2	LIC	BLDTL-20120605ABA	---	none
34	K34LG-D	HARRISBURG OR	191.5	CP	BNPDDL-20090825APQ	---	none
34	K34AI-D	LA PINE OR	202.2	LIC	BLDTT-20090821ABT	---	none
34	K34DJ	PHOENIX, ETC. OR	0.1	LIC	BLTT-19920408IC	---	none
34	K34KL-D	POWERS OR	128.6	LIC	BLDTT-20120503ADQ	---	none
35	K52FK	EUREKA CA	202.3	CP MOD	BMPDDL-20130417AAC	---	none
35	K35DO	HOPLAND CA	375.9	APP	BSTA-20130308ADP	---	none
35	K35DO	HOPLAND CA	354.8	CP	BDFCDTT-20090824AJS	---	none
35	K35DO	HOPLAND CA	375.9	LIC	BLTT-19940509JJ	---	none
35	K35LB-D	LAKESHORE CA	155.9	LIC	BLDTL-20120319AAY	---	none
35	K35JX-D	WESTWOOD CA	270.1	LIC	BLDTT-20100722HYE	---	none
35	NEW	RENO NV	390.3	APP	BNPDDL-20090825AOX	---	none
35	NEW	SUN VALLEY NV	390.3	APP	BNPDDL-20090825BER	---	none
35	K35HW-D	FLORENCE OR	213.4	LIC	BLDTT-20100114AEE	---	none
35	K35JH-D	LONDON SPRINGS OR	151.4	LIC	BLDTT-20091109AAY	---	none
35	K35LW-D	PHILOMATH OR	252.8	CP	BNPDDL-20100514AIO	---	none
35	KORK-CA	PORTLAND OR	358.4	CP	BDFCDTA-20120221ADL	---	none
35	KORK-CA	PORTLAND OR	378.4	APP	BSTA-20130215ABT	---	none
35	KORK-CA	PORTLAND OR	358.4	LIC	BLTTA-20070831ACZ	---	none
35	K35LD-D	PRINEVILLE OR	278.6	LIC	BLDTT-20120622AAT	---	none
35	K35CR-D	TILLAMOOK, ETC. OR	334.0	LIC	BLDTL-20130220AAR	---	none

Table 1**Interference Analysis Results Summary**

(page 2 of 2)



<u>Ch.</u>	<u>Call</u>	<u>City/State</u>	<u>Dist</u>	<u>Status</u>	<u>Application Ref. No.</u>	<u>---Population (2000 Census)---</u>	
			<u>(km)</u>			<u>Baseline</u>	<u>New Interference</u>
35	K35LQ-D	CENTERVILLE WA	403.5	CP	BNPDTL-20100513ADW	---	none
36	K36BT	BLUE LAKE CA	187.0	LIC	BLTTL-19940223IE	---	none
36	K36HM-D	FORT DICK CA	129.1	LIC	BLDTT-20090810ACY	---	none
36	KHSL-TV	REDDING CA	183.7	LIC	BLCDT-20091221AGI	---	none
36	K36KG-D	CHEMULT OR	140.1	CP	BDCCDTT-20061030ABI	---	none
36	K36BX-D	COOS BAY OR	165.7	LIC	BLDTL-20100402ACG	---	none
36	K36HL	GRANTS PASS OR	45.5	LIC	BLTT-20051110AED	---	none
36	K36KF-D	MEDFORD OR	30.1	CP	BNPDTL-20090825BFO	---	none
36	K36IB-D	MIDLAND, ETC. OR	68.4	LIC	BLDTT-20090921ACY	---	none
36	K36JZ-D	ROSEBURG OR	112.9	CP	BNPDTL-20090825BHJ	---	none
42	KQSX-LP	CAL - OREGON CA	117.7	LIC	BLTTL-20090819AHE	---	none

Section III - Engineering (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: 35																																																																																																										
2.	Translator Input Channel No. :																																																																																																										
3.	Primary station proposed to be rebroadcast:																																																																																																										
	Facility Identifier		Call Sign		City		State		Channel																																																																																																		
4.	Antenna Location Coordinates: (NAD 27) Latitude: Degrees 42 Minutes 17 Seconds 54 <input checked="" type="radio"/> North <input type="radio"/> South Longitude: Degrees 122 Minutes 44 Seconds 57 <input checked="" type="radio"/> West <input type="radio"/> East																																																																																																										
5.	Antenna Structure Registration Number: <input checked="" type="checkbox"/> Not Applicable [Exhibit 11] <input type="checkbox"/> Notification filed with FAA																																																																																																										
6.	Antenna Location Site Elevation Above Mean Sea Level: 1158 meters																																																																																																										
7.	Overall Tower Height Above Ground Level: 36 meters																																																																																																										
8.	Height of Radiation Center Above Ground Level: 19 meters																																																																																																										
9.	Maximum Effective Radiated Power (ERP): 4.35 kW																																																																																																										
10.	Transmitter Output Power: 0.25 kW																																																																																																										
11.	a. Transmitting Antenna: Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (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 Manufacturer ERI Model AL12W-35-PL b. Electrical Beam Tilt: 1.25 degrees <input type="checkbox"/> Not Applicable c. Mechanical Beam Tilt: degrees toward azimuth degrees True <input checked="" type="checkbox"/> Not Applicable d. Directional Antenna Relative Field Values: <input type="checkbox"/> N/A (Nondirectional or 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>0.605</td><td>10</td><td>0.51</td><td>20</td><td>0.397</td><td>30</td><td>0.302</td><td>40</td><td>0.253</td><td>50</td><td>0.241</td></tr><tr><td>60</td><td>0.253</td><td>70</td><td>0.302</td><td>80</td><td>0.397</td><td>90</td><td>0.51</td><td>100</td><td>0.605</td><td>110</td><td>0.68</td></tr><tr><td>120</td><td>0.758</td><td>130</td><td>0.845</td><td>140</td><td>0.922</td><td>150</td><td>0.975</td><td>160</td><td>0.997</td><td>170</td><td>0.99</td></tr><tr><td>180</td><td>0.959</td><td>190</td><td>0.929</td><td>200</td><td>0.925</td><td>210</td><td>0.951</td><td>220</td><td>0.985</td><td>230</td><td>1</td></tr><tr><td>240</td><td>0.985</td><td>250</td><td>0.951</td><td>260</td><td>0.925</td><td>270</td><td>0.929</td><td>280</td><td>0.959</td><td>290</td><td>0.99</td></tr><tr><td>300</td><td>0.997</td><td>310</td><td>0.975</td><td>320</td><td>0.922</td><td>330</td><td>0.845</td><td>340</td><td>0.758</td><td>350</td><td>0.68</td></tr><tr><td colspan="2">Additional Azimuths</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? <input type="radio"/> Yes <input checked="" type="radio"/> No <div style="text-align: right;">[Exhibit 12]</div> If Yes, attach an Exhibit (see instructions for details).											Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	0	0.605	10	0.51	20	0.397	30	0.302	40	0.253	50	0.241	60	0.253	70	0.302	80	0.397	90	0.51	100	0.605	110	0.68	120	0.758	130	0.845	140	0.922	150	0.975	160	0.997	170	0.99	180	0.959	190	0.929	200	0.925	210	0.951	220	0.985	230	1	240	0.985	250	0.951	260	0.925	270	0.929	280	0.959	290	0.99	300	0.997	310	0.975	320	0.922	330	0.845	340	0.758	350	0.68	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.	
12.	Out-of-channel Emission Mask: <input type="radio"/> Simple <input type="radio"/> Stringent <input checked="" type="radio"/> Full Service
CERTIFICATION	
13.	Interference : 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 <div style="text-align: right;">See Explanation in</div>

		[Exhibit 13]
14.	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 RF compliance, an Exhibit is required. 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.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 14]
15.	Channels 52-59. 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.	Channels 60-69. 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.	
PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.		

SECTION III PREPARER'S CERTIFICATION

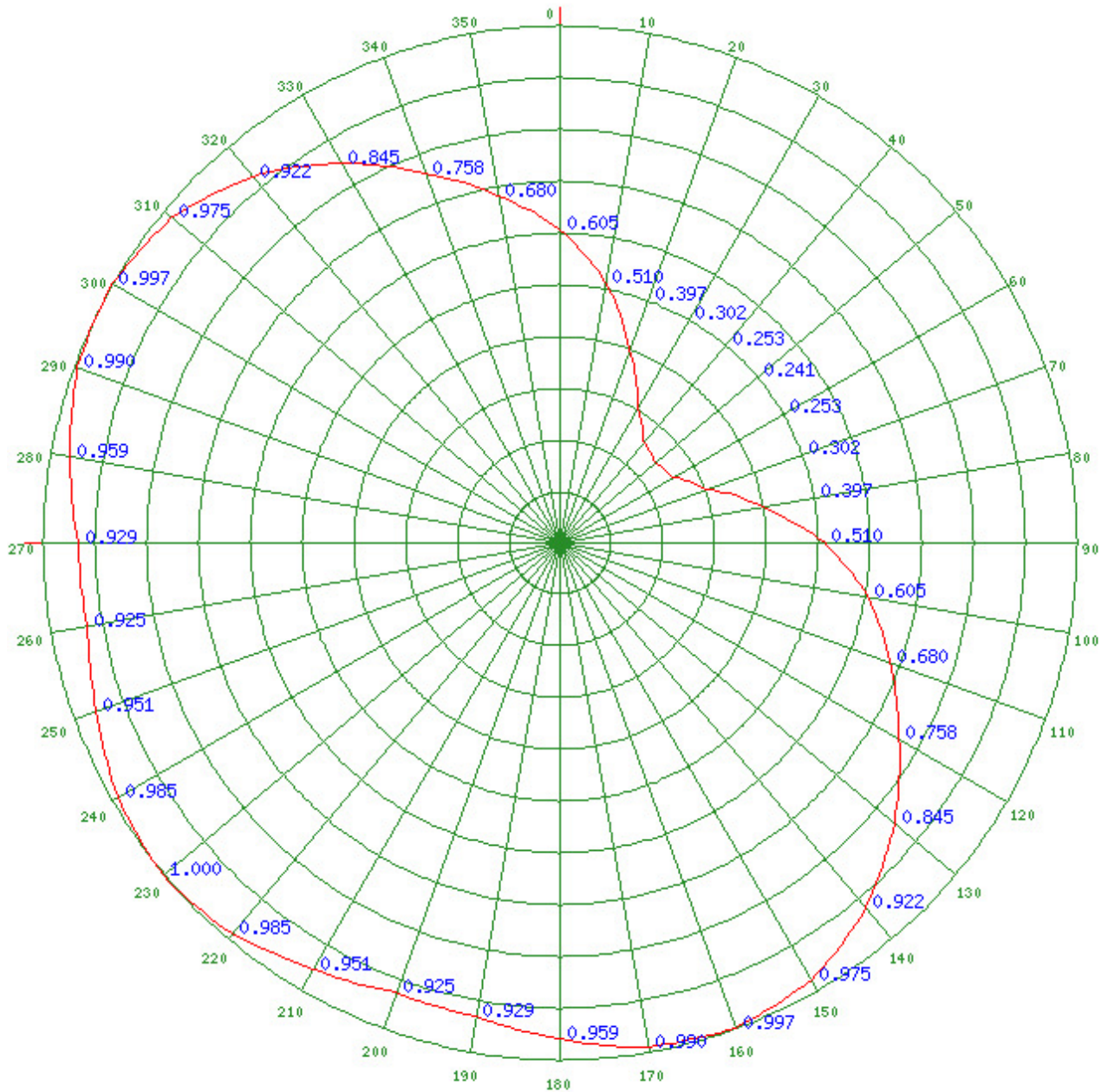
I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name JOSEPH M. DAVIS, P.E.		Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER	
Signature		Date 12/19/2013	
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	

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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