

ENGINEERING EXHIBIT

Displacement Application for Television Translator Digital Flash-Cut Construction Permit

prepared for

Bluestone License Holdings Inc.

K13LO Yreka, Etc., CA

Facility ID 8311

Ch. 23 (digital) 0.423 kW

Bluestone License Holdings Inc. (“*Bluestone*”) is the licensee of television translator station K13LO, analog Channel 13, Yreka, Etc., CA, Facility ID 8311 (BLTTV-19821122KB). The K13LO analog operation on Channel 13 is displaced pursuant to §73.3572(a)(4)(ii). *Bluestone* herein proposes herein to change K13LO to Channel 23 and flash-cut to digital operation.

The K13LO site is located 96.4 km from KOTI(DT) (Ch. 13, BLCDT-20060525AHY, Klamath Falls, OR), co-channel to K13LO. This full power digital station is within the 260 km distance specified in §73.3572(a)(4)(iv)(A) that triggers displacement relief qualification. Further, K13LO is predicted to cause interference to KOTI affecting 1.02 percent of the KOTI service population.¹

The proposed facility will operate on Channel 23 as digital at 0.423 kW effective radiated power using a “simple” out of channel emission mask. Corrected site coordinates and elevation data are provided herein. Figure 1 depicts the coverage contour of the proposed Channel 23 facility as well as that of the K13LO licensed analog Channel 13 facility. The use of the same transmitter site and the service area overlap shown demonstrate compliance with §73.3572 for a minor change.

The proposed Channel 23 antenna system (Scala model 4DR-4S) will be side-mounted on the existing antenna support structure associated with the licensed analog operation. The antenna

¹OET Bulletin 69 interference analysis using default settings shows that K13LO causes interference to 848 persons within the KOTI service area, which is 1.02 percent of the 83,450 persons that would otherwise receive interference-free service.

supporting structure does not have an FCC Antenna Structure Registration number since its overall height is less than 60 meters and there are no known landing areas within 8 km of the site. No change to the overall structure height is proposed.

A detailed interference study per OET Bulletin 69² shows that the proposal complies with the Commission's interference protection requirements toward all digital television, television translator, low power television, and Class A television 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).

The nearest FCC monitoring station is 454 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 3.2 kilometers of the site. The site location is beyond the border zones that would require 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 considering the antenna's theoretical elevation pattern, the maximum calculated signal density near the antenna structure at two meters above ground level attributable to the proposed facility is $14.8 \mu\text{W}/\text{cm}^2$, which is 4.2 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.

²FCC 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.

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

This exhibit is limited to the evaluation of exposure to RF electromagnetic field. The proposed transmitting antenna will be side-mounted on an 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.



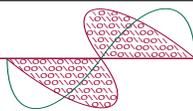
Joseph M. Davis, P.E.
August 12, 2011

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

This material was entered August 12, 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.



Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio

Figure 1
Coverage Contour Comparison
K13LO Yreka, Etc., CA
Facility ID 8311
Ch. 23 (digital) 0.423 kW

prepared for
Bluestone License Holdings Inc.

August, 2011

Licensed K13LO
Analog Ch. 13
68 dBu Contour

Proposed K13LO
Digital Flashcut Ch. 23
51 dBu Contour

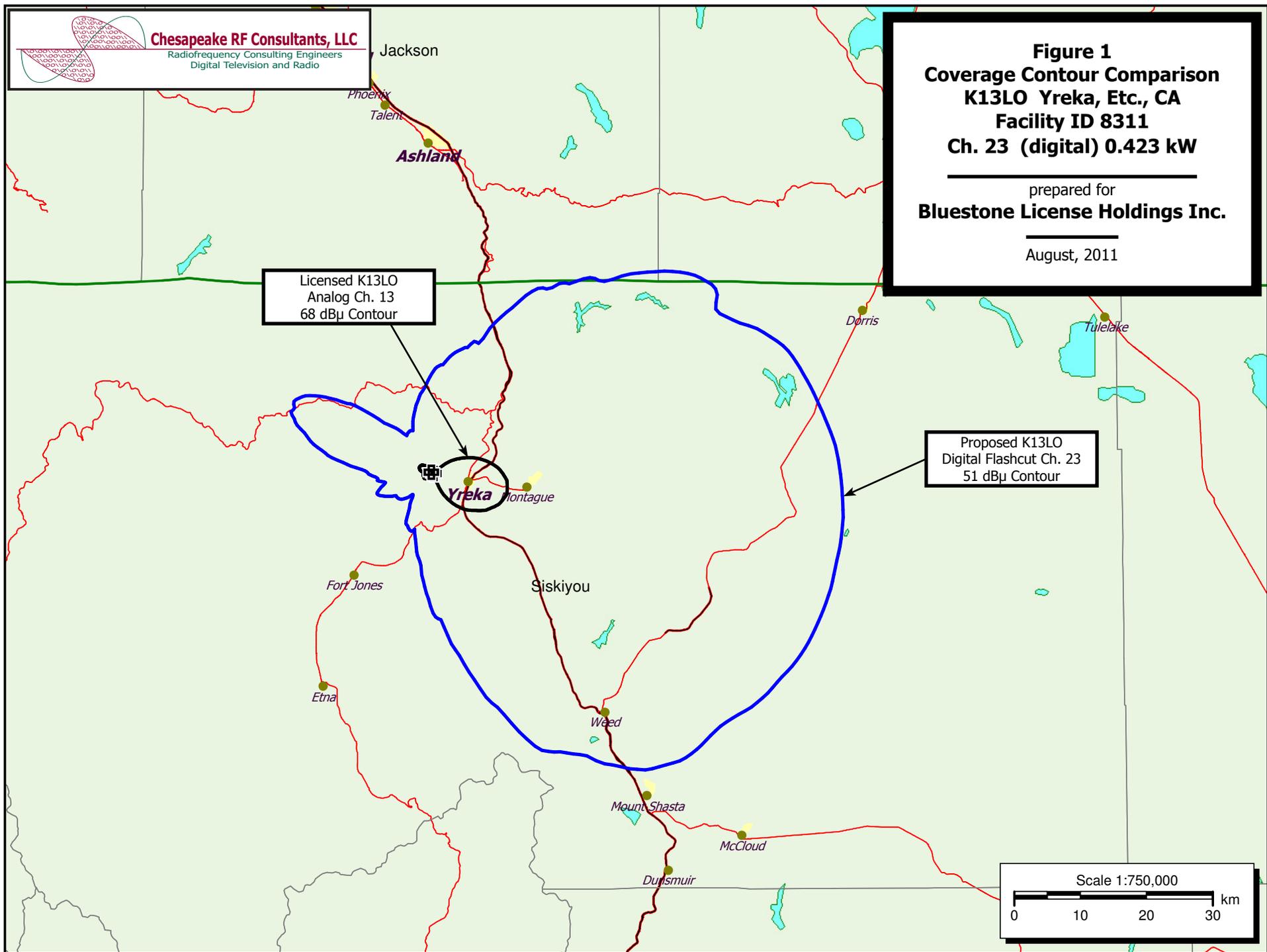
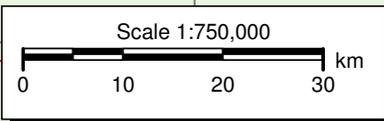


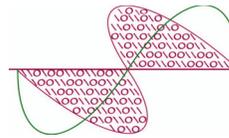
Table 1

Interference Analysis Results Summary

prepared for

Bluestone License Holdings Inc.

K13LO Yreka, Etc., CA



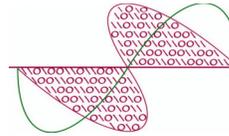
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Radiofrequency Consulting Engineers
Digital Television and Radio

K13LO-D USERRECORD-01 YREKA, ETC. CA US
 Channel 23 ERP 0.423 kW HAAT 558. m RCAMSL 01623 m SIMPLE MASK
 Latitude 041-44-54 Longitude 0122-42-02
 Dir Antenna Make CDB Model 00000000020748 Beam tilt N Ref Azimuth 105.

Ch.	Call	City/State	Dist (km)	Status	Application Ref. No.	---Population (2000 Census)---	
						Baseline	New Interference
16	K16CU	PHOENIX, TALENT OR	60.9	LIC	BLTT-19930608IC	---	none
20	K20DT	GRANTS PASS OR	92.3	LIC	BLTTL-19970818JD	---	none
20	K29GX-D	MERLIN OR	115.2	APP	BPTTL-20040108AKI	---	none
22	KAFF-TV	ARCATA CA	155.4	LIC	BLCDDT-20071012ASQ	---	none
22	K22JT-D	ASHLAND OR	36.6	CP	BNPDTL-20090825BFM	95,931	0 (0.00%)
22	K22JS-D	ASHLAND OR	36.6	CP	BNPDTL-20090825BFK	95,931	0 (0.00%)
22	K22IQ-D	CAVE JUNCTION OR	97.5	LIC	BLDTT-20080714ACE	---	none
22	K22FC	GRANTS PASS OR	87.8	LIC	BLTTL-19970707JI	---	none
22	K22FC	GRANTS PASS OR	87.8	CP	BDFCDTA-20101201AQF	---	none
22	K22GX	TRI CITY OR	149.6	LIC	BLTT-20060405AAH	---	none
23	KRCB	COTATI CA	378.0	LIC	BLEDT-20081107ACJ	---	none
23	KRCB	COTATI CA	378.0	CP	BPEDT-20080617AEI	---	none
23	KRDT-CA	REDDING CA	122.6	CP	BDISDTA-20100714ACC	---	none
23	KRDT-LD	REDDING CA	122.6	LIC	BLDTL-20090930ARE	---	none
23	KEZT-CA	SACRAMENTO CA	368.6	LIC	BLTTL-19970918JA	---	none
23	KEZT-CA	SACRAMENTO CA	368.6	CP	BDFCDTA-20080804AEU	---	none
23	K23DT-D	TAHOE CITY CA	360.6	LIC	BLDTT-20090925ABY	---	none
23	K23KD-D	COOS BAY, ETC. OR	217.2	LIC	BLDTT-20110524AGT	---	none
23	KEVU-CD	EUGENE OR	252.6	LIC	BLDTA-20101029ACH	---	none
23	NEW	GRANTS PASS OR	109.4	APP	BNPDTL-20090825BGN	---	none
23	NEW	LINCOLN CITY OR	370.7	APP	BNPDTL-20100324ACF	---	none
23	K23EX	MEDFORD OR	71.3	CP	BDFCDTA-20081205AFK	---	none
23	K23EX	MEDFORD OR	71.3	LIC	BLTTL-20000121AAZ	---	none
23	K23CU-D	PRINEVILLE OR	330.8	LIC	BLDTL-20091014AAG	---	none
23	K23FS	SUNRIVER, ETC. OR	255.6	LIC	BLTT-20040408AAW	---	none
23	K23JK-D	TILAMOOK OR	394.5	LIC	BLDTT-20100513ABI	---	none
23	K23JK-D	TILLAMOOK OR	394.5	CP	BDISTT-20061212ABH	---	none
24	KNVN	CHICO CA	173.3	CP	BPCDDT-20080307AAC	---	none
24	K24HS-D	FORT JONES, ETC. CA	22.4	CP MOD	BMPDPTT-20080528ACU	---	none
24	K24JM-D	FORTUNA CA	188.6	CP	BDCCDTL-20100326ABI	---	none

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>	<u>---Population (2000 Census)---</u>	
						<u>Baseline</u>	<u>New Interference</u>
24	K24HR-D	FORTUNA CA	188.6	CP	BDCCDTT-20061024AAH	---	none
24	K24BV	CAVE JUNCTION, ETC. OR	97.5	LIC	BLTT-19880527IC	---	none
24	K24FH-D	GLIDE, ETC. OR	182.9	LIC	BLDTT-20091125AAS	---	none
24	K24HT-D	KLAMATH FALLS, ETC. OR	97.4	CP MOD	BMPD TT-20080603AAB	---	none
25	K25CI	KLAMATH CA	103.3	LIC	BLTTL-19890623ID	---	none
26	KGEC-LP	REDDING CA	122.8	LIC	BLTTL-19971023JG	---	none
27	K27BH	LAKE SHASTINA CA	36.8	LIC	BLTTL-19890516IK	---	none
31	K31GP	BROOKINGS, ETC. OR	135.0	LIC	BLTT-20051214ACA	---	none

The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

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:

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.

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 agreement(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.

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 8/12/2011	
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).

Exhibits

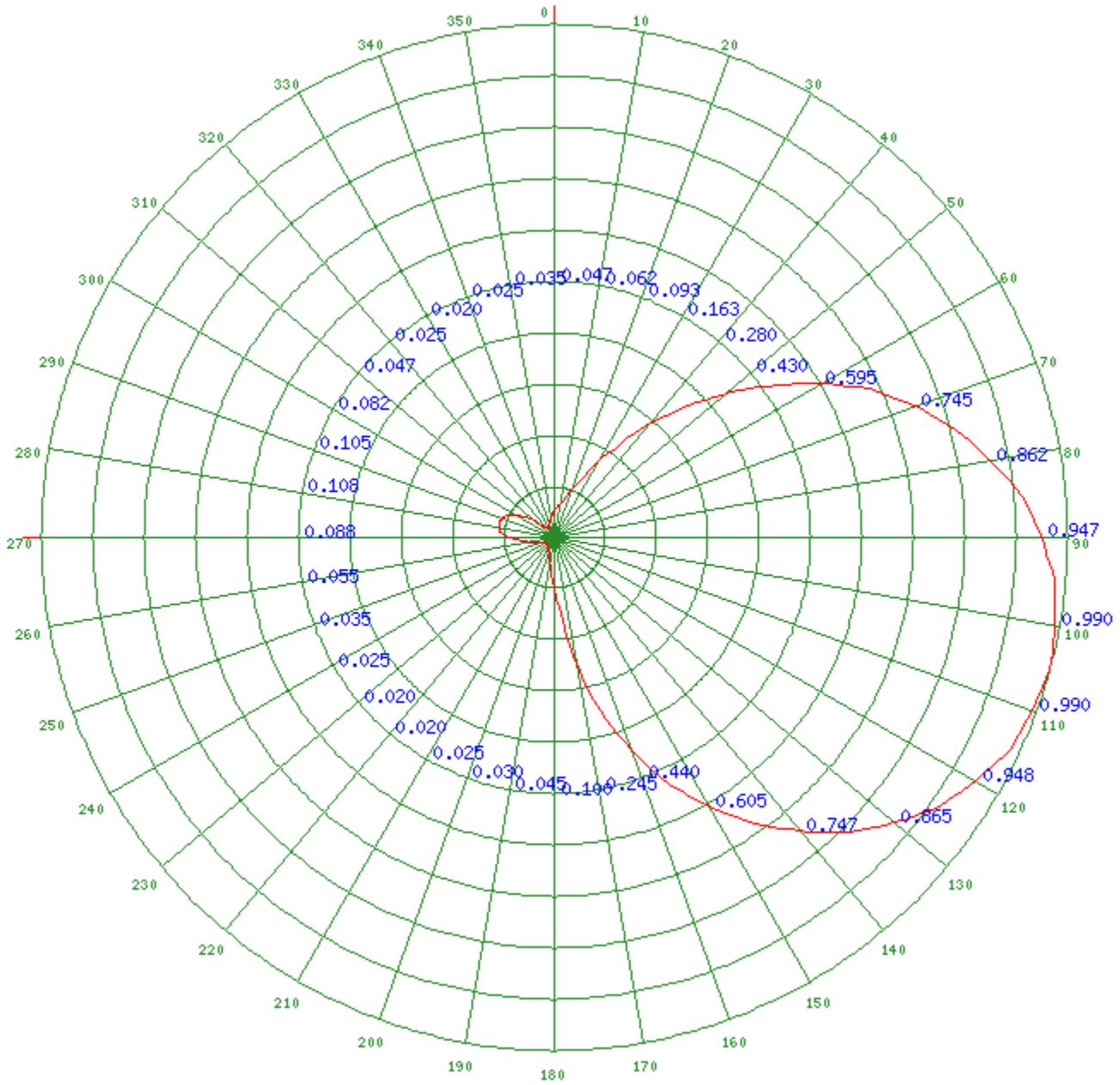
Exhibit 10

Description: SEE ENGINEERING EXHIBIT

Attachment 10

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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