ENGINEERING EXHIBIT

Application for Low Power Television
Digital Flashcut Construction Permit

prepared for

Broadcasting Licenses, L.P.
K31GP Brookings, OR
Facility ID 130825
Ch. 31 (digital) 0.4 kW

Broadcasting Licenses, L.P. ("BLLP") is the licensee of Low Power Television ("LPTV") station K31GP, analog Channel 31, Brookings, OR, Facility ID 130825 (BLTT-20051214ACA). *BLLP* proposes herein to flashcut 31GP to digital operation using its presently licensed antenna.

The effective radiated power will be 0.40 kW utilizing a "stringent" out of channel emission mask. Continued use of the existing K31GP analog Channel 31 antenna is proposed, with minor adjustments to the azimuthal pattern. Figure 1 provides a plot of the directional antenna's azimuthal pattern.

The K31GP transmitting antenna is situated on a rooftop mast atop a one-story commercial building in downtown Brookings. The rooftop mast and transmitting antenna's overall height is 8.5 meters above ground level ("AGL"). FCC Antenna Structure Registration and notification to the FAA are not required since the overall height does not exceed 61 meters AGL and the structure passes the FCC's "TOWAIR" slope test program. No change to the structure's overall height is proposed. The site's geographic coordinates are corrected herein by 2 seconds latitude.

Figure 2 depicts the 51 dBµ coverage contour of the proposed digital facility with the 74 dBµ coverage contour of the licensed analog facility. The use of the same site and corresponding service area overlap demonstrate compliance with §73.3572 for a minor change.

Detailed interference study per OET Bulletin 69[1] show that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations. The results, summarized in Table 1, show that no new interference will be caused to any facility requiring protection. 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 527 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 3.0 km of the site. The site 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 FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering 30 percent antenna relative field in downward elevations (from the antenna manufacturer's elevation pattern), the calculated signal density near the building at two meters above ground level attributable to the proposed facility is 32.3 $\mu W/cm^2$, which is 8.4 percent of the general population/uncontrolled maximum permitted exposure limit. RF levels inside the building will be even lower due to the RF signal attenuation provided by the building's construction materials. No other known nonexcluded emitters within 3 km of the site are significant contributors to RF exposure at the site.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. Access to the rooftop shall be restricted. RF exposure warning signs will be

[1]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.

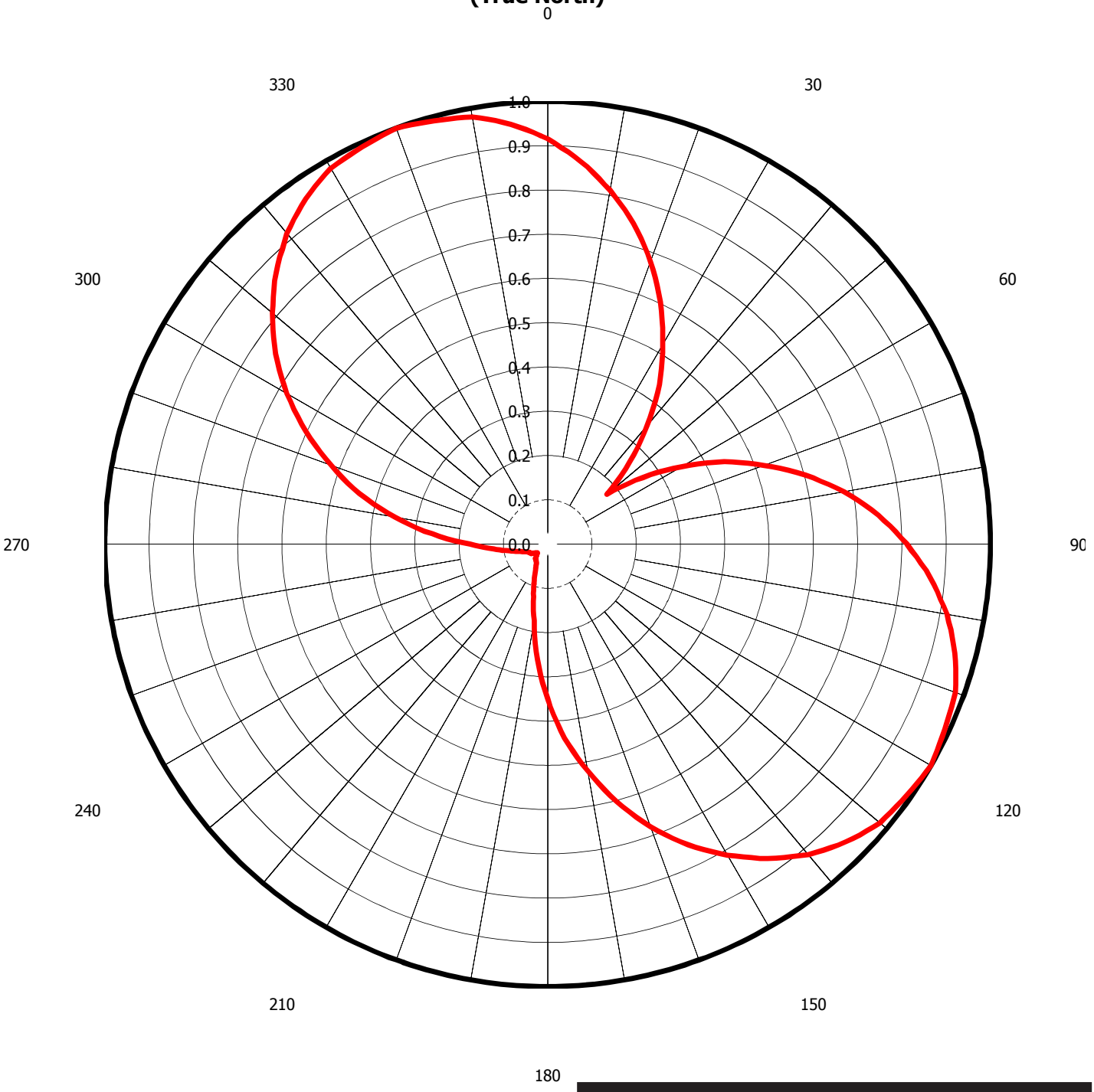
posted at all rooftop access locations and near the antenna mast. With respect to worker safety, K31GP will cease operation as necessary to protect persons having access to the rooftop or antenna mast from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Coverage Contour Comparison
Table 1	Interference Analysis Results Summary
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC
Joseph M. Davis, P.E. March 31, 2016
207 Old Dominion Road Yorktown, VA 23692 703-650-9600

Azimuth Pattern - Relative Field
(True North)



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

Figure 1
Antenna Azimuthal Pattern
K31GP Brookings, OR
Facility ID 130825
Ch. 31 (digital) 0.4 kW

prepared for
Broadcasting Licenses, L.P.

March, 2016

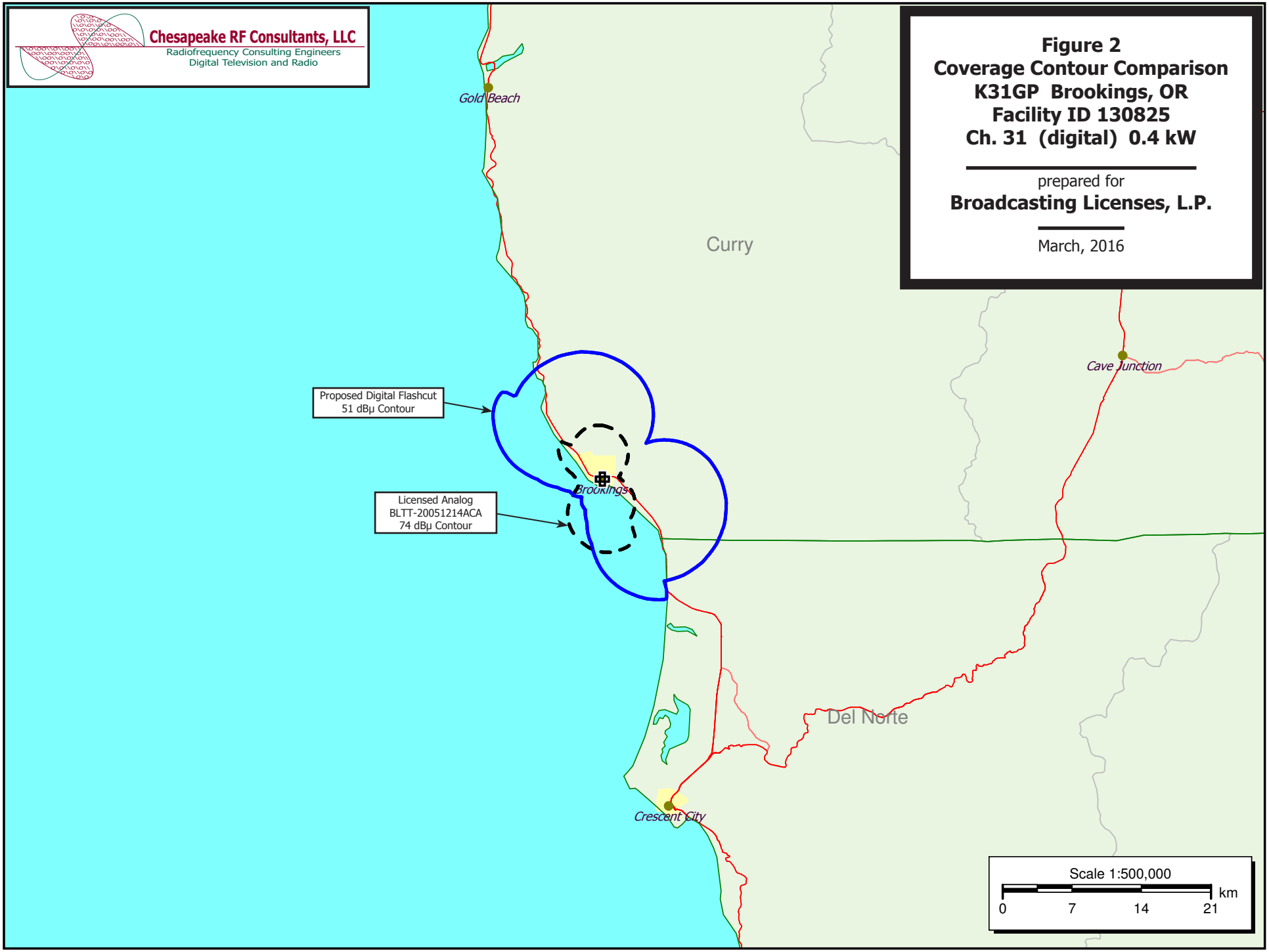

Chesapeake RF Consultants, LLC
Radiofrequency Consulting Engineers
Digital Television and Radio
Figure 2
Coverage Contour Comparison
K31GP Brookings, OR
Facility ID 130825
Ch. 31 (digital) 0.4 kW
prepared for
Broadcasting Licenses, L.P.
March, 2016
Gold Beach
Curry
Cave Junction
Proposed Digital Flashcut
51 dBµ Contour
Licensed Analog
BLTT-20051214ACA
74 dBµ Contour
Brookings
Del Norte
Crescent City
Scale 1:500,000
0
7
14
21
km

Table 1

Interference Analysis Results Summary

prepared for

Broadcasting Licenses, L.P.

K31GP Brookings, OR

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

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K31GP-D  USERRECORD-01                BROOKINGS, ETC.      OR US
Channel 31 ERP 0.4    kW   HAAT   41. m  RCAMSL 00056 m STRINGENT MASK
Latitude 042-03-08  Longitude 0124-16-49
Dir Antenna Make usr  Model K31GP_SCA       Beam tilt N  Ref Azimuth 0.
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The LMS application requires NAD-83 coordinates. FCC internal systems then convert to NAD-27 and port over to CDBS for processing. This interference analysis utilizes truncated NAD-27 coordinates to replicate FCC processing.

			Dist			---Population (2000 Census)----	
Ch.	Call	City/State	(km)	Status	Application Ref. No.	Baseline	New Interference
30	K30JS-D	YREKA CA	145.7	CP	BPDTT-20120411ABT	---	none
30	K30JS-D	YREKA CA	145.7	LIC	BLDTT-20091118ABZ	---	none
30	K30BN-D	COOS BAY OR	149.5	LIC	BLDTL-20101122ADU	---	none
30	KBLN-TV	GRANTS PASS OR	90.5	LIC	BLCDT-20090224AAX	---	none
30	K30LH-D	ROSEBURG OR	147.6	CP	BNPDTL-20090825BHI	---	none
31	NEW	CHICO CA	313.0	APP	BNPDTL-20090825APB	---	none
31	NEW	CHICO CA	317.6	APP	BNPDTL-20090825BPI	---	none
31	KEUV-LP	EUREKA CA	149.5	CP	BDFCDTL-20110404AEZ	---	none
31	KEUV-LP	EUREKA CA	149.5	LIC	BLTTL-20050729AMX	---	none
31	NEW	REDDING CA	225.3	APP	BNPDTL-20090825ATG	---	none
31	NEW	REDDING CA	213.8	APP	BNPDTL-20090825BPH	---	none
31	K31IE-D	SUSANVILLE, ETC CA	373.2	LIC	BLDTT-20101207AFO	---	none
31	K31GK-D	UKIAH CA	341.3	LIC	BLDTL-20120509AFQ	---	none
31	KLSR-TV	EUGENE OR	236.5	LIC	BLCDT-20070104ADQ	---	none
31	K31KZ-D	LAKEVIEW OR	324.3	LIC	BLDTL-20120604AEA	---	none
31	K31AE-D	SUTHERLIN OR	177.2	LIC	BLDTT-20121203BGY	---	none
32	K32LQ-D	YREKA CA	141.7	CP	BDCCDTT-20141201AGE	---	none
32	K32LQ-D	YREKA CA	141.7	APP	BLANK-0000008393	---	none
32	K32JR-D	GRANTS PASS OR	95.7	CP	BNPDTL-20090825BGO	---	none
32	K32DY-D	MEDFORD` OR	129.1	LIC	BLDTA-20150213ADA	---	none
32	K32JL-D	POWERS OR	97.5	LIC	BLDTT-20121203AHO	---	none
32	K32FI-D	YONCALLA OR	192.7	LIC	BLDTL-20110228AFN	---	none
33	K33CP	GOLD BEACH OR	44.0	LIC	BLTT-19900329JJ	---	none
34	K34DJ	PHOENIX, ETC. OR	129.0	LIC	BLTT-19920408IC	---	none

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	130825
	State	Oregon
	City	BROOKINGS, ETC.
	LPT Channel	31

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	No
	ASR Number	
Coordinates (NAD83)	Latitude	42° 03' 08.1" N+
	Longitude	124° 16' 53.3" W-
	Structure Type	BMAST-Building with MAST /ANTENNA on top
	Overall Structure Height	8.5 meters
	Support Structure Height	6.1 meters
	Ground Elevation (AMSL)	47.4 meters
Antenna Data	Height of Radiation Center Above Ground Level	8.1 meters
	Height of Radiation Center Above Mean Sea Level	55.5 m
	Effective Radiated Power	0.4 kW

Antenna Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	SCA
	Model	2X4DR-4S Custom
	Rotation	0 degrees
	Electrical Beam Tilt	Not Applicable
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Horizontal
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Stringent

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	V_A (Authorized Value)	Degree	V_A (Authorized Value)	Degree	V_A (Authorized Value)	Degree	V_A (Authorized Value)
0	0.916	**90**	0.812	**180**	0.350	**270**	0.175
10	0.812	**100**	0.916	**190**	0.175	**280**	0.350
20	0.680	**110**	0.980	**200**	0.087	**290**	0.520
30	0.520	**120**	1.0	**210**	0.050	**300**	0.680
40	0.350	**130**	0.98	**220**	0.043	**310**	0.812
50	0.175	**140**	0.916	**230**	0.030	**320**	0.916
60	0.350	**150**	0.812	**240**	0.043	**330**	0.980
70	0.520	**160**	0.680	**250**	0.050	**340**	1.0
80	0.680	**170**	0.520	**260**	0.087	**350**	0.98

Additional Azimuths

Degree	V_A