

ENGINEERING EXHIBIT

Application for Modification of Digital Low Power Television Station Construction Permit

prepared for

KRCA License LLC, Debtor-In-Possession

W18EU-D Miami, FL

Facility ID 4332

Ch. 18 (digital) 15 kW

KRCA License LLC, Debtor-In-Possession (“KRCA”) is the licensee of digital Low Power Television station W17DG-D, Channel 17, Miami FL, Facility ID 4332 (BLDTL-20110113AAB). As a result of the Special Displacement Window,¹ a Construction Permit (“CP” file# 0000053955) authorizes W17DG-D to operate on Channel 18 with a new callsign of W18EU-D at 15 kW effective radiated power (“ERP”) and a directional antenna. *KRCA* proposes herein a minor modification of the displacement CP to employ a different transmitting site and to utilize a different directional antenna.

As proposed herein, W18EU-D will utilize the antenna supporting structure associated with FCC Antenna Structure Registration number 1224225, which is the licensed Channel 17 site and located 2.1 km from the site authorized in the Channel 18 CP. The proposed W18EU-D facility will employ a side-mounted antenna system and no change to the overall structure height is proposed.

The proposed W18EU-D facility will operate at 15 kW ERP with an elliptically polarized directional antenna and a “full service” out of channel emission mask. A plot of the directional antenna’s azimuthal pattern is supplied in Figures 1. Figure 2 depicts the 51 dB μ coverage contour of the licensed Channel 17 facility and that of the Channel 18 CP and proposed facilities, demonstrating compliance with §73.3572 for a minor change.

¹“*Incentive Auction Task Force and Media Bureau Announce Post-Incentive Auction Special Displacement Window April 10, 2018, through May 15, 2018, and Make Location and Channel Data Available,*” Public Notice, DA 18-124, released February 9, 2018.

Interference study per OET Bulletin 69² shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations (existing and post-auction). The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility. The interference analysis does not consider WTXI-LD's application for Channel 18 (file# 0000068071, Facility ID 168482, Miami FL) since WTXI-LD is a channel share guest facility of W18EU-D.

The existing W18EU-D CP contains a special condition that operation on Channel 18 may not commence until WPBT (Facility ID 13456, Miami FL) discontinues operation on Channel 18. Since WPBT has recently vacated Channel 18 and is now licensed on Channel 29 (license file# 0000067623, granted March 13, 2019), that contingency has been satisfied and the special condition is no longer necessary.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

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 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 $0.12 \mu\text{W}/\text{cm}^2$, which is less than 0.1 percent of the general population/uncontrolled maximum permitted exposure limit. This is well 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

²FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

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. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

List of Attachments

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

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	March 26, 2019	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



13-Feb-19

Micro Communications, Inc. (A Mega Industries Co)

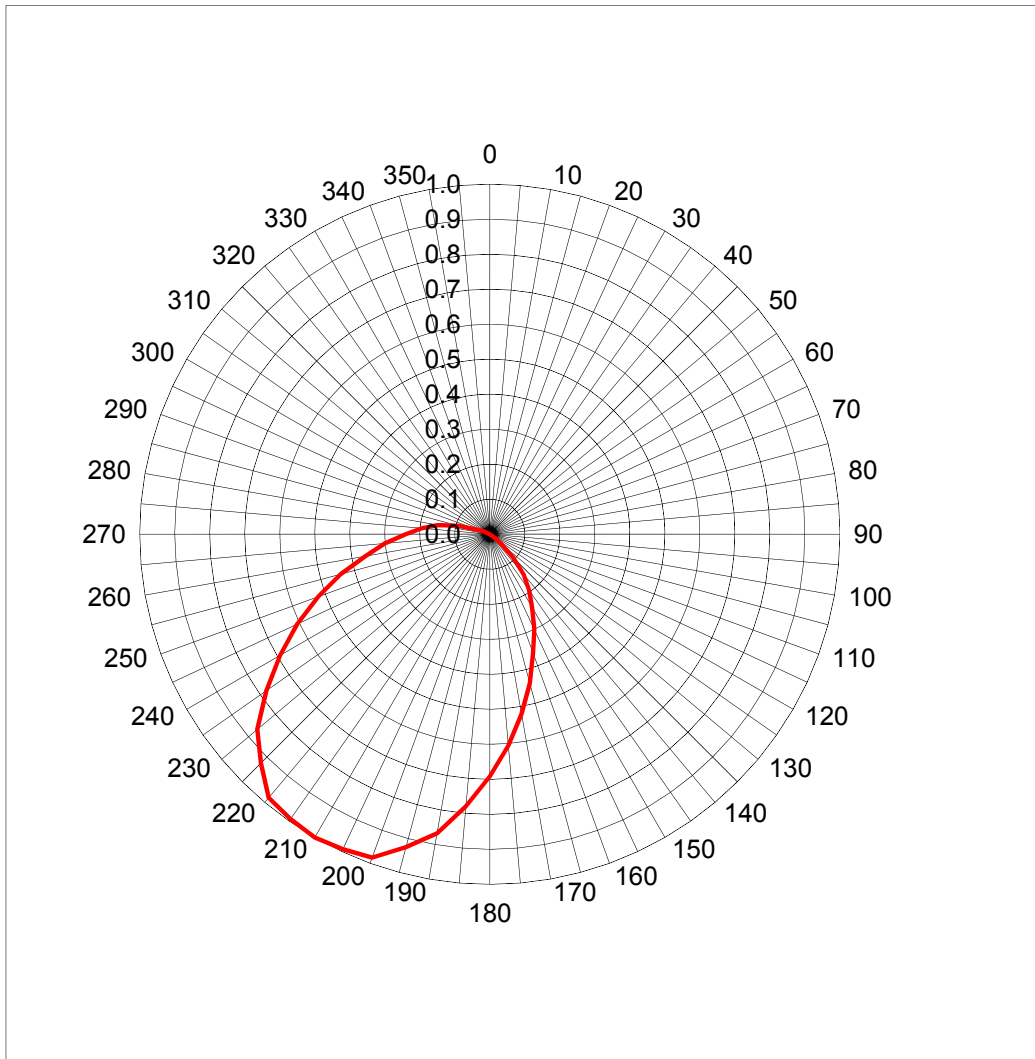


Figure 1
Antenna Azimuthal Pattern
W18EU-D Miami, FL
Facility ID 4332
Ch. 18 (digital) 15 kW

prepared for
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Debtor-In-Possession

March, 2019



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

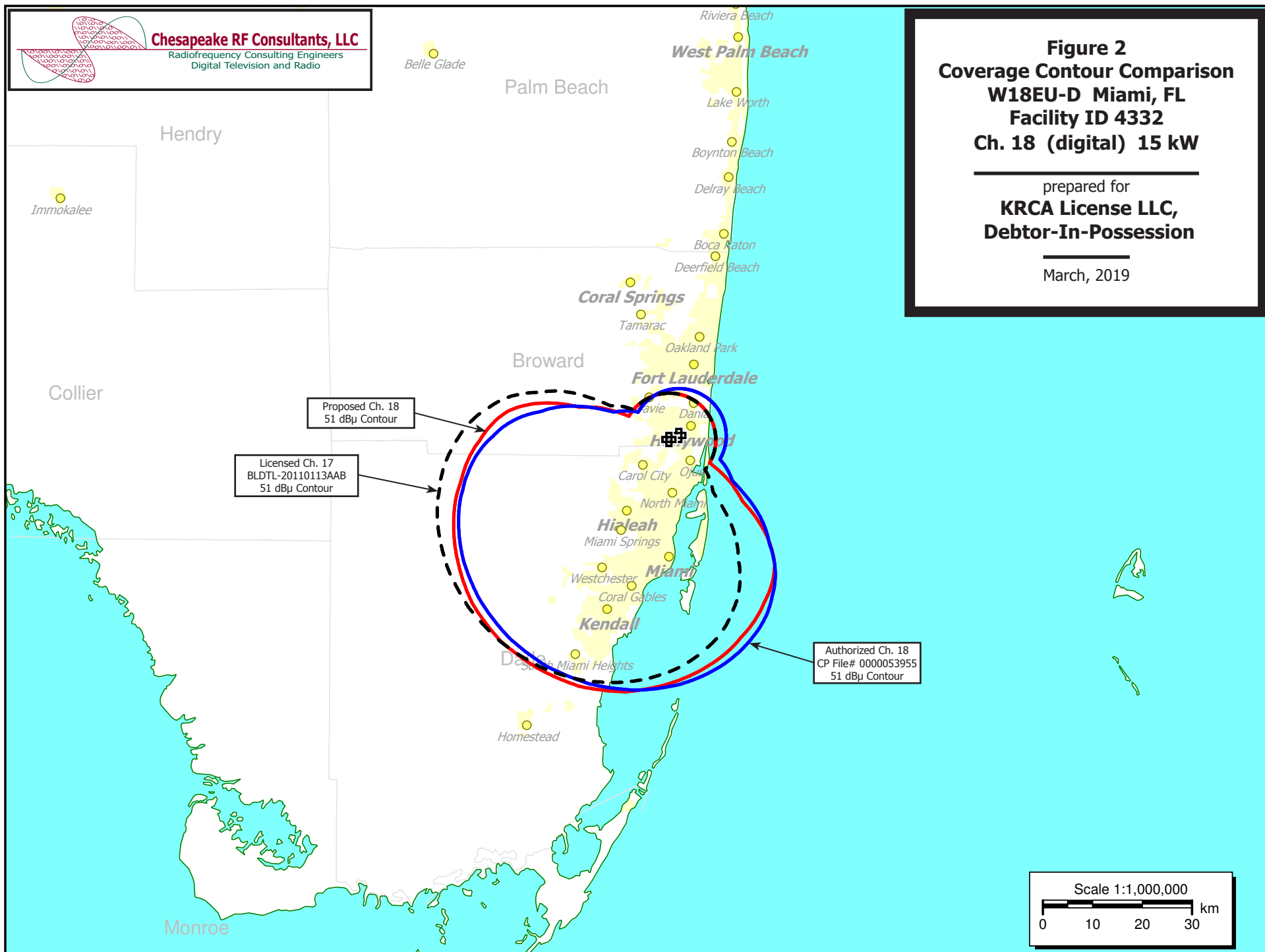


Figure 2
Coverage Contour Comparison
W18EU-D Miami, FL
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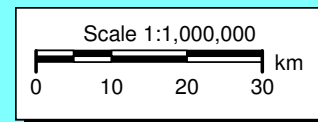


Table 1 W18EU-D TVStudy Analysis of Proposal (page 1 of 2)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: W17DG-D final site_prop, Model: Longley-Rice
Start: 2019.03.26 11:29:50

Study created: 2019.03.26 11:29:50

Study build station data: LMS TV 2019-03-25

Proposal: W17DG-D D18 LD APP MIAMI, FL
File number: W17DG-D final site 20190213
Facility ID: 4332
Station data: User record
Record ID: 2556
Country: U.S.

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Individual records excluded:
0000068071 WTXI-LD D18 LD APP *P MIAMI, FL BLANK0000068071

(Channel Share Partner)

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WBEH-CD	D17	DC	CP	MIAMI, FL	BLANK0000067589	3.4 km
No	WTCN-CA	D17	DC	CP	PALM BEACH, FL	BLANK0000033632	115.5
No	WESH	D18	LD	CP	DAYTONA BEACH, FL	BLANK0000059617	346.2
No	WESH	D18	LD	LIC	DAYTONA BEACH, FL	BLCDT20130722ABS	346.2
Yes	WTCE-TV	D18	DT	CP	FORT PIERCE, FL	BLANK0000034883	115.5
No	WMOR-TV	D18	DT	CP	LAKE LAND, FL	BLANK0000064337	289.0
No	W18DU-D	D18	LD	CP	MARATHON, FL	BNPDTL20090825BYR	156.3
No	WUVF-LD	D18	LD	LIC	NAPLES, FL	BLDTL20140313ABX	163.2
No	W18EA-D	D18	LD	CP	SEBASTIAN, FL	BNPDTL20100402ACV	198.5
No	WSVT-LD	D18	DC	LIC	TAMPA, FL	BLDTA20110413AAM	289.0
No	WSFL-TV	D19	DT	LIC	MIAMI, FL	BLCDT20070124ABF	3.4
No	WSBS-CD	D19	DC	CP	MIAMI, ETC., FL	BLANK0000034105	0.0
No	WBWP-LD	D19	LD	CP	WEST PALM BEACH, FL	BLANK0000053229	91.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D18
Mask: Full Service
Latitude: 25 59 10.00 N (NAD83)
Longitude: 80 11 36.30 W
Height AMSL: 249.4 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: MCI 955524-EP Ch-18 20190213 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

49.1 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.002 kW	247.7 m	10.3 km
45.0	0.002	248.4	10.3
90.0	0.002	248.8	10.3
135.0	0.135	248.9	30.1
180.0	7.14	247.5	50.8
225.0	12.8	247.8	53.9
270.0	0.864	248.0	39.8
315.0	0.002	247.8	10.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 248 m

Distance to Canadian border: 1755.7 km

Table 1 W18EU-D TVStudy Analysis of Proposal
(page 2 of 2)



Distance to Mexican border: 1670.6 km

Conditions at FCC monitoring station: Vero Beach FL
Bearing: 346.4 degrees Distance: 185.3 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 310.4 degrees Distance: 2795.8 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

Study cell size: 1.00 km
Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Interference to BLANK0000034883 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	WTCE-TV	D18	DT	CP	FORT PIERCE, FL	BLANK0000034883			
Undesireds:	W17DG-D	D18	LD	APP	MIAMI, FL	W17DG-D final site 201	115.5 km		
	WMOR-TV	D18	DT	CP	LAKELAND, FL	BLANK0000064337	223.6		
	WSBS-CD	D19	DC	CP	MIAMI, ETC., FL	BLANK0000034105	115.5		
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX		
24302.5	2,660,365	24302.5	2,660,365	24291.6	2,658,890	24291.6	2,658,890	0.00	0.00
Undesired				Total IX	Unique IX, before	Unique IX, after			
W17DG-D	D18	LD	APP	1.0	0	0.0		0	
WMOR-TV	D18	DT	CP	4.0	57	4.0		57	
WSBS-CD	D19	DC	CP	6.9	1,418	6.9		1,418	
						5.9		1,418	

Interference to proposal scenario 1
17.97% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	W17DG-D	D18	LD	APP	MIAMI, FL	W17DG-D final site 201			
Undesireds:	WBEH-CD	D17	DC	CP	MIAMI, FL	BLANK0000067589	3.4 km		
	WTCE-TV	D18	DT	CP	FORT PIERCE, FL	BLANK0000034883	115.5		
	WSBS-CD	D19	DC	CP	MIAMI, ETC., FL	BLANK0000034105	0.0		
Service area		Terrain-limited			IX-free	Percent IX			
3225.4	2,889,289	3225.4	2,889,289	2505.4	2,370,135	22.32	17.97		
Undesired				Total IX		Unique IX	Prct Unique IX		
WBEH-CD	D17	DC	CP	166.8	259,408	0.0	0	0.00	0.00
WTCE-TV	D18	DT	CP	178.6	272,497	0.0	0	0.00	0.00
WSBS-CD	D19	DC	CP	719.9	519,154	533.4	230,296	16.54	7.97

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	4332
	State	Florida
	City	MIAMI
	LPD Channel	18

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1224225
Coordinates (NAD83)	Latitude	25° 59' 10.0" N+
	Longitude	080° 11' 36.3" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	310.6 meters
	Support Structure Height	287.4 meters
	Ground Elevation (AMSL)	3.4 meters
Antenna Data	Height of Radiation Center Above Ground Level	246.0 meters
	Height of Radiation Center Above Mean Sea Level	249.4 meters
	Effective Radiated Power	15 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:	MCI
	Model	955514-EP
	Rotation	0 degrees
	Electrical Beam Tilt	1.0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
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:	Full Service

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	0.010	90	0.010	180	0.540	270	0.400
10	0.010	100	0.010	190	0.720	280	0.280
20	0.010	110	0.010	200	0.870	290	0.180
30	0.010	120	0.010	210	0.970	300	0.050
40	0.010	130	0.010	220	1.000	310	0.010
50	0.010	140	0.050	230	0.970	320	0.010
60	0.010	150	0.180	240	0.870	330	0.010
70	0.010	160	0.280	250	0.720	340	0.010
80	0.010	170	0.400	260	0.540	350	0.010

Additional Azimuths

Degree	V _A
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