

***APPLICATION FOR MODIFICATION OF
CONSTRUCTION PERMIT***

**W22EF – LAKE CITY, FLORIDA
FACILITY ID: 189670**

DIGITAL NETWORKS—SOUTHEAST, LLC

MARCH 2020

APPLICATION FOR MODIFICATION OF CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Digital Networks-Southeast, LLC** ("Southeast"), licensee of low power television station W23AQ at Lake City, Florida, and permittee of digital companion channel facility W22EF also at Lake City, Florida.¹ This application proposes a relocation of the existing construction permit for W22EF. This permit has been assigned FCC File No. BMPDTL-20120316ADB.

The existing construction permit for the digital companion channel authorizes operation on television channel 22 with a maximum effective radiated power of 1.0 kW at a center of radiation of 123 meters above mean sea level, 100 meters above ground level, utilizing a composite directional antenna. The proposed facility would also operate on channel 22, but with an increased maximum effective radiated power of 2.0 kW. The proposed center of radiation is 48.2 meters above mean sea level, 30 meters above ground, also using a composite directional antenna. The proposed array consists of two Kathrein-Scala PR-TV antennas utilizing equal power division. One antenna is to be oriented at 135 degrees true, and the other at 335 degrees true.

The proposed technical parameters represent a minor change to the authorized digital companion channel facility. Exhibit E-1 illustrates that the proposed 51 dBu F(50,90) contour overlaps both the authorized 51 dBu F(50,90) contour and the licensed 74 dBu F(50,50) contour. Additionally, the proposed transmitter site is located within 30 miles of both the licensed and authorized transmitter sites.

¹ The Facility ID for W23AQ at Lake City, Florida is 68000. The Facility ID for W22EF at Lake City, Florida is 189670.

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Exhibit E-2 is the study output from *TVStudy* for the proposed facility. This study demonstrates that there are no outgoing interference check failures to any proposed or authorized facilities. This study was performed at a cell size resolution of 1.0 km, and a profile spacing increment of 1.0 km.

The proposed facility would not constitute a significant environmental impact, and is exempt from environmental processing. The proposed antenna array would be mounted to an existing tower that is registered with the Commission. The addition of the antenna system to this tower would not increase the already existing environmental impact present from the structure.

In addition, the proposed facility would not result in human exposure at ground level to radiofrequency radiation in excess of the Commission's safety standards. Using the equations in Supplement A of *OET Bulletin 65*, the calculated worst-case power density at ground level assuming a downward radiation relative field of 0.3 is $7.67 \mu\text{W}/\text{cm}^2$. This value is substantially below the upper limit of the uncontrolled environment condition. Southeast certifies it will coordinate with all other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

The proposed facility complies with the provisions of Section 74.709 of the Commission's Rules. No land mobile protection issues have been identified based on the tables in that section of

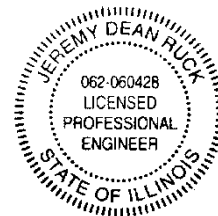
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the rules, or on the output of *TVStudy*. The proposed facility also complies with Sections 74.793(e)-(h) of the Commission's Rules,

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2021

Jeremy D. Ruck, PE
March 24, 2020

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W22EF-D.X

PROPOSED

Latitude: 29-51-34 N

Longitude: 082-34-28 W

ERP: 2.00 kW

Channel: 22

AMSL Height: 48.2 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

W22EF-D.C

BMPDTL20120316ADB

Latitude: 29-48-42.85 N

Longitude: 082-42-33.43 W

ERP: 1.00 kW

Channel: 22

AMSL Height: 123.0 m

Horiz. Pattern: Directional

Prop Model: FCC Contour

W23AQ

BLTT-19931215JE

Latitude: 30-09-52.80 N

Longitude: 082-44-54.40 W

ERP: 38.60 kW

Channel: 23-

AMSL Height: 109.0 m

Horiz. Pattern: Omni

Prop Model: FCC Contour

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- Proposed 51 dBu F(50,90)
- Authorized 51 dBu F(50,90)
- Licensed 74 dBu F(50,50)
- Proposed Site 30-mile Site Radius

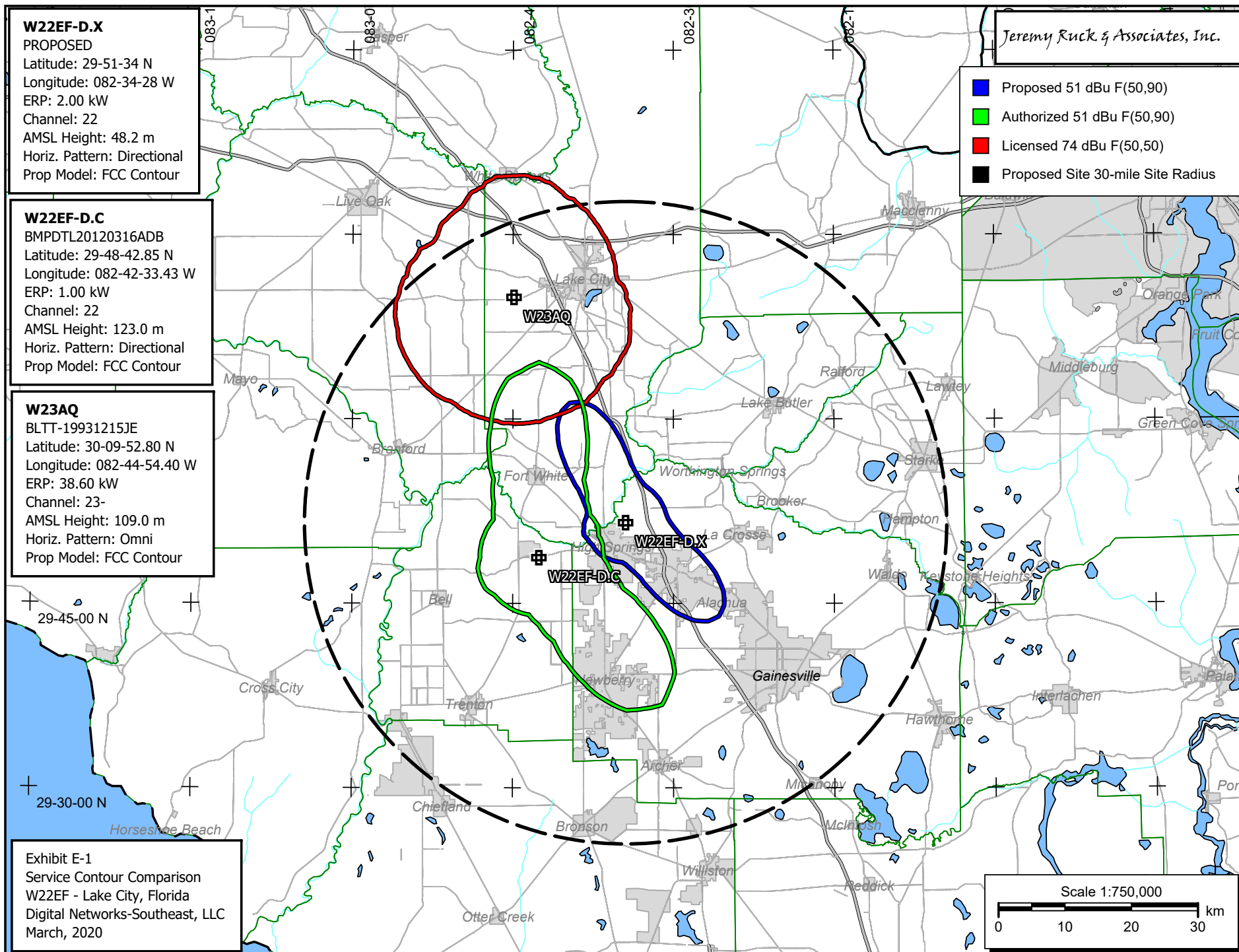


Exhibit E-1

Service Contour Comparison

W22EF - Lake City, Florida

Digital Networks-Southeast, LLC

March, 2020

Exhibit E-2 - TVStudy Interference Study

tvstudy v2.2.5 (4uoc83)

Database: 127.0.0.1, Study: W22EF Ch 22 ASRN 1021690 2 kW ERP 48.2 m AMSL PR-TV x2 1@135 1@335, Model: Longley-Rice
Start: 2020.03.24 12:39:57

Study created: 2020.03.24 12:39:57

Study build station data: LMS TV 2020-03-21

Proposal: W22EF-D D22 LD APP LAKE CITY, FL
File number: BMPDTL20120316ADB
Facility ID: 189670
Station data: User record
Record ID: 124
Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WCLF	D21	DT	APP	CLEARWATER, FL	BLANK0000036056	228.8 km
No	WCLF	D21	DT	LIC	CLEARWATER, FL	BLCDT20060627AAQ	228.8
No	WDYB-CD	D21	DC	LIC	DAYTONA BEACH, FL	BLANK0000106571	160.3
No	W21DN-D	D21	LD	CP	GREENVILLE, FL	BNPDTL20100513ALK	113.1
No	WJEB-TV	D21	DT	LIC	JACKSONVILLE, FL	BLANK0000105949	107.7
No	WKME-CD	D21	DC	LIC	KISSIMMEE, FL	BLANK0000090448	196.0
No	W21DX-D	D21	LD	LIC	OCALA, FL	BLANK0000087100	81.2
No	W21AU-D	N21+	TX	LIC	ORLANDO, FL	BLTTL19920715IB	176.5
No	W21AU-D	D21	LD	LIC	ORLANDO, FL	BLANK0000025170	202.4
No	WCOV-TV	D22	DT	CP	MONTGOMERY, AL	BLANK0000072324	415.1
No	WGCU	D22	DT	LIC	FORT MYERS, FL	BLANK0000107706	347.6
No	WGPS-LP	D22	LD	LIC	FORT MYERS, FL	BLDTL20140626ACN	386.3
No	WUBF-LD	D22	LD	LIC	JACKSONVILLE, FL	BLANK0000068178	101.4
No	WVEN-TV	D22	DT	LIC	MELBOURNE, FL	BLANK0000100080	202.4
No	WOFI	D22	DT	LIC	ORLANDO, FL	BLCDT20110708AAV	200.8
No	WPFN-CD	D22	DC	LIC	PANAMA CITY, FL	BLANK0000062893	310.6
Yes	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	162.3
No	WARP-CD	D22	DC	CP	TAMPA-ST. PETERSBURG, FL	BLANK0000034453	221.5
No	W22EA-D	D22	LD	CP	COLUMBUS, GA	BNPDTL20100423ACH	377.7
No	W22EJ-D	D22	LD	CP	MACON, GA	BMPDTL20130515ACS	335.1
No	WHSG-TV	D22	DT	LIC	MONROE, GA	BLANK0000081582	463.6
No	WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	271.3
No	W22ER-D	D22	LD	CP	VALDOSTA, GA	BNPDTL20100510ACB	125.7
No	WKCF	D23	DT	CP	CLERMONT, FL	BLANK0000034532	202.4
Yes	WUOF-LD	D23	LD	CP	GAINESVILLE, FL	BLANK0000021138	22.6
Yes	WUOF-LD	D23	LD	LIC	GAINESVILLE, FL	BLDTL20111207AAM	22.6
No	W23AQ	N23-	TX	LIC	LAKE CITY, FL	BLTT19931215JE	37.8
No	WKBJ-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	107.7
No	WKBJ-LD	D23	LD	LIC	LIVE OAK, FL	BLANK0000108066	107.7
No	NEW	D23	LD	APP	MADISON, FL	BNPDTL20090825AHQ	113.1
No	WTBZ-LP	N29z	TX	LIC	GAINESVILLE, FL	BLTTL20050907ABX	49.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D22
Mask: Full Service
Latitude: 29 51 34.00 N (NAD83)
Longitude: 82 34 28.00 W
Height AMSL: 48.2 m
HAAT: 20.5 m
Peak ERP: 2.00 kW
Antenna: PR-TV x2 Array 1@135 1@315 0.0 deg
Elev Pattern: Generic

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Exhibit E-2 - TVStudy Interference Study

49.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	0.181 kW	25.8 m	11.8 km
45.0	0.018	14.7	6.7
90.0	0.026	3.3	7.3
135.0	2.00	19.0	21.6
180.0	0.018	21.3	6.8
225.0	0.017	25.3	6.6
270.0	0.015	32.6	6.7
315.0	0.391	22.3	14.4

Database HAAT does not agree with computed HAAT

Database HAAT: 20 m Computed HAAT: 21 m

Distance to Canadian border: 1313.5 km

Distance to Mexican border: 1472.8 km

Conditions at FCC monitoring station: Vero Beach FL

Bearing: 142.5 degrees Distance: 313.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 305.2 degrees Distance: 2346.9 km

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 BLANK0000034393 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	
Undesireds:	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	162.3 km
	WDHN	D21	DT	LIC	DOTHAN, AL	BLCDDT20090303ACR	142.0
	WCOV-TV	D22	DT	CP	MONTGOMERY, AL	BLANK0000072324	252.8
	WDES-CD	D22	DC	LIC	DESTIN, FL	BLANK0000059931	244.7
	WVEN-TV	D22	DT	LIC	MELBOURNE, FL	BLANK0000100080	363.4
	WPFN-CD	D22	DC	LIC	PANAMA CITY, FL	BLANK0000062893	181.9
	WARP-CD	D22	DC	CP	TAMPA-ST. PETERSBURG, FL	BLANK0000034453	338.9
	WHSG-TV	D22	DT	LIC	MONROE, GA	BLANK0000081582	342.5
	WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	293.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
43832.2 1,060,572	43816.3 1,060,494	43415.1 1,057,450	43415.1 1,057,450	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W22EF-D D22 LD APP	1.0	0	0.0
WDHN D21 DT LIC	325.9	2,579	315.7
WCOV-TV D22 DT CP	52.3	176	11.0
WDES-CD D22 DC LIC	1.0	0	0.0
WVEN-TV D22 DT LIC	1.0	0	0.0
WPFN-CD D22 DC LIC	43.0	362	18.0
WHSG-TV D22 DT LIC	4.1	6	0.0
WJCL D22 DT LIC	23.3	41	13.2

Interference to BLANK0000034393 CP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	
Undesireds:	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	162.3 km

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Exhibit E-2 - TVStudy Interference Study

WDHN	D21	DT	LIC	DOTHAN, AL	BLCDDT20090303ACR	142.0
WCOV-TV	D22	DT	BL	MONTGOMERY, AL	DTVBL73642	252.8
WDES-CD	D22	DC	LIC	DESTIN, FL	BLANK0000059931	244.7
WVEN-TV	D22	DT	LIC	MELBOURNE, FL	BLANK0000100080	363.4
WPFN-CD	D22	DC	LIC	PANAMA CITY, FL	BLANK0000062893	181.9
WARP-CD	D22	DC	CP	TAMPA-ST. PETERSBURG, FL	BLANK0000034453	338.9
WHSG-TV	D22	DT	LIC	MONROE, GA	BLANK0000081582	342.5
WJCL	D22	DT	LIC	SAVANNAH, GA	BLANK0000029019	293.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
43832.2 1,060,572	43816.3 1,060,494	43421.1 1,057,495	43421.1 1,057,495	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W22EF-D D22 LD APP	1.0 0	0.0 0	0.0 0
WDHN D21 DT LIC	325.9 2,579	320.8 2,567	320.8 2,567
WCOV-TV D22 DT BL	32.1 90	5.0 17	5.0 17
WDES-CD D22 DC LIC	1.0 0	0.0 0	0.0 0
WVEN-TV D22 DT LIC	1.0 0	0.0 0	0.0 0
WPFN-CD D22 DC LIC	43.0 362	24.0 327	24.0 327
WHSG-TV D22 DT LIC	4.1 6	0.0 0	0.0 0
WJCL D22 DT LIC	23.3 41	16.2 15	16.2 15

Interference to BLANK0000021138 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUOF-LD	D23	LD	CP	GAINESVILLE, FL	BLANK0000021138	
Undesireds:	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	22.6 km
	WKCF	D23	DT	CP	CLERMONT, FL	BLANK0000034532	180.0
	W23AQ	N23-	TX	LIC	LAKE CITY, FL	BLTT19931215JE	58.8
	WKBK-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	99.0
	WQDU-LD	D23	LD	CP	ALBANY, GA	BLANK0000036643	279.6
	W24DM-D	D24	LD	CP	GAINESVILLE, FL	BPDTL20140612ADK	39.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
1379.0 213,709	1379.0 213,709	1238.3 207,388	1238.3 207,388	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W22EF-D D22 LD APP	11.1 761	0.0 0	0.0 0
WKCF D23 DT CP	113.6 4,985	22.1 422	20.1 302
W23AQ N23- TX LIC	118.6 5,899	27.1 1,336	27.1 1,336

Interference to BLDLTL20111207AAM LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUOF-LD	D23	LD	LIC	GAINESVILLE, FL	BLDTL20111207AAM	
Undesireds:	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	22.6 km
	WKCF	D23	DT	CP	CLERMONT, FL	BLANK0000034532	180.0
	W23AQ	N23-	TX	LIC	LAKE CITY, FL	BLTT19931215JE	58.8
	WKBK-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	99.0
	WQDU-LD	D23	LD	CP	ALBANY, GA	BLANK0000036643	279.6
	W24DM-D	D24	LD	CP	GAINESVILLE, FL	BPDTL20140612ADK	39.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
4125.9 296,691	4125.9 296,691	3909.9 292,239	3908.9 292,239	0.03 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W22EF-D D22 LD APP	1.0 0	1.0 0	1.0 0
WKCF D23 DT CP	30.1 735	3.0 64	3.0 64
W23AQ N23- TX LIC	213.0 4,388	185.8 3,717	185.8 3,717

Interference to proposal scenario 1
4.12% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	

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Exhibit E-2 - TVStudy Interference Study

Undesireds:	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	162.3 km
	WUOF-LD	D23	LD	CP	GAINESVILLE, FL	BLANK0000021138	22.6
	WKBJ-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	107.7

Service area	Terrain-limited	IX-free	Percent IX
409.1 20,629	409.1 20,629	399.1 19,780	2.46 4.12

Undesired	Total IX	Unique IX	Prct Unique IX
WTWC-TV D22 DT CP	10.1 849	10.1 849	2.46 4.12

Interference to proposal scenario 2
11.63% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	W22EF-D	D22	LD	APP	LAKE CITY, FL	BMPDTL20120316ADB	
Undesireds:	WTWC-TV	D22	DT	CP	TALLAHASSEE, FL	BLANK0000034393	162.3 km
	WUOF-LD	D23	LD	LIC	GAINESVILLE, FL	BLDTL20111207AAM	22.6
	WKBJ-LD	D23	LD	CP	LIVE OAK, FL	BLANK0000051650	107.7

Service area	Terrain-limited	IX-free	Percent IX
409.1 20,629	409.1 20,629	378.0 18,230	7.62 11.63

Undesired	Total IX	Unique IX	Prct Unique IX
WTWC-TV D22 DT CP	10.1 849	4.0 150	0.98 0.73
WUOF-LD D23 LD LIC	27.2 2,249	21.1 1,550	5.17 7.51

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