

ENGINEERING EXHIBIT

Digital Low Power Television Station Application for Minor Modification of Licensed Facility prepared for

Gray Television Licensee, LLC
W20EQ-D Athens, GA
Facility ID 182462
Ch. 20 15 kW Nondirectional

Gray Television Licensee, LLC (“Gray”) is the licensee of digital Low Power Television station W20EQ-D, Channel 20, Facility ID 182462, Athens GA. W20EQ-D is licensed to operate at 0.2 kW effective radiated power (“ERP”) with a directional antenna (file# 0000211127). *Gray* herein seeks a minor modification Construction Permit to relocate W20EQ-D and to utilize a nondirectional antenna at increased power and antenna height.

The proposed facility will employ a new side-mounted antenna on the tower structure associated with FCC Antenna Structure Registration number 1235965, located 20.5 km (12.7 miles) from the licensed site. No change to the overall structure height is proposed.

The proposed antenna is a Dielectric model TLP-12A/VP-R having elliptical polarization. The proposed ERP is 15 kW horizontally polarized and 4.5 kW vertically polarized using a “full service” out of channel emission mask.

Figure 1 depicts the coverage contour of the proposed facility as well as that of the licensed facility, demonstrating compliance with §73.3572 for a minor change. Since the proposed 51 dBμ contour encompasses that of the licensed facility, no service loss area will be created. The population within the 51 dBμ contour increases considerably to 154,740 persons (2010 census), a 165-fold increase beyond the 937 persons within the licensed W20EO-D facility’s 51 dBμ contour.

Interference study per OET Bulletin 69¹ shows 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 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.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed facility 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 20 percent antenna relative field in downward elevations (pattern data shows 20 percent or less relative field at angles 10 to 90 degrees below the antenna), the calculated power density attributable to the proposed facility at locations near the transmitter site at a height of two meters above ground level is $1.4 \mu\text{W}/\text{cm}^2$, which is 0.4 percent of the general population / uncontrolled maximum permissible 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 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.

¹FCC 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, 1.0 km cell size, and 1.0 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.

Engineering Exhibit
Gray Television Licensee, LLC (W20EQ-D)
(page 3 of 3)

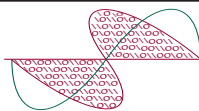


List of Attachments

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

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	March 2, 2023	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



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

Figure 1
Coverage Contour Comparison
W20EQ-D Athens, GA
Facility ID 182462
Ch. 20 15 kW Nondirectional

prepared for
Gray Television Licensee, LLC

March, 2023

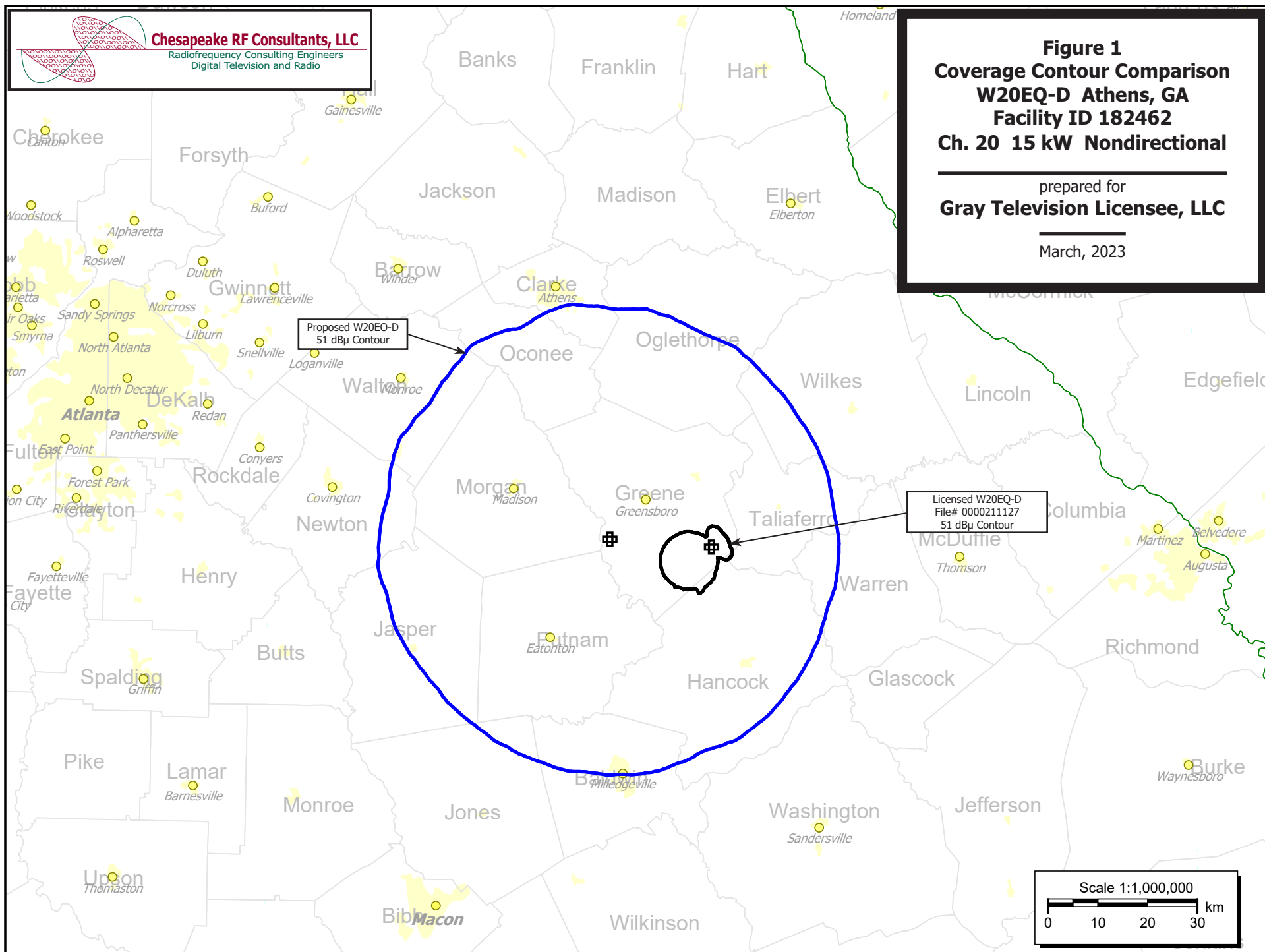


Table 1 W20EQ-D TVStudy Analysis of Proposal (page 1 of 6)



tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: W20EQ-D 1235965 prop, Model: Longley-Rice
Start: 2023.03.02 13:58:47

Study created: 2023.03.02 13:58:47

Study build station data: LMS TV 2023-03-02

Proposal: W20EQ-D D20 LD APP ATHENS, GA
File number: W20EQ-D 1235965 prop
Facility ID: 182462
Station data: User record
Record ID: 4897
Country: U.S.

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

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WANF	D19	DT	LIC	ATLANTA, GA	BLANK0000205000	105.4 km
No	WBPI-CD	D19	DC	LIC	AUGUSTA, GA	BLANK0000059661	122.4
No	W19DN-D	D19	LD	LIC	MACON, GA	BLANK0000179078	88.4
No	WABM	D20	DT	LIC	BIRMINGHAM, AL	BLANK0000192391	328.8
No	WJJN-LD	D20	LD	LIC	DOTHAN, AL	BLANK0000122171	320.6
Yes	WCGZ-LD	D20	LD	LIC	LANETT, AL	BLANK0000190010	172.5
No	W20DF-D	D20	LD	LIC	RUSSELLVILLE, AL	BLANK0000004499	428.2
No	WCWJ	D20	DT	LIC	JACKSONVILLE, FL	BLANK0000097952	393.5
No	W20ET-D	D20	LD	CP	MADISON, FL	BNPDTL20090825AHV	343.7
Yes	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	105.4
Yes	W20EW-D	D20	LD	LIC	AUGUSTA, GA	BLANK0000194478	109.2
No	WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	211.7
No	W20DL-D	D20	LD	LIC	MACON, GA	BLANK0000197999	83.0
No	WHDS-LD	D20	LD	LIC	SAVANNAH, GA	BLANK0000101192	257.3
No	WCTV	D20	DT	LIC	THOMASVILLE, GA	BLANK0000121784	321.4
No	DW20CY	D20	LD	APP	TIFTON, GA	BDFCDTL20091118AGP	230.2
No	WYMT-TV	D20	DT	CP	HAZARD, KY	BLANK0000185947	410.2
Yes	W20EK-D	D20	LD	LIC	ANDREWS, ETC, NC	BLANK0000120275	201.0
Yes	WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	201.8
No	WUNC-TV	D20	DT	LIC	CHAPEL HILL, NC	BLANK0000138116	457.0
No	WDMC-LD	D20	LD	LIC	CHARLOTTE, NC	BLANK0000164588	305.7
No	WCBF-TV	D20	DT	LIC	CHARLESTON, SC	BLANK0000184909	337.3
No	WZTV	D20	DT	LIC	NASHVILLE, TN	BLANK0000115725	444.8
Yes	WABE-TV	D21	DT	LIC	ATLANTA, GA	BLANK0000143418	103.5
No	DWANX-LP	D21+	LD	APP	COLUMBUS, GA	BLANK0000071786	198.5
No	WTMH-LD	D21	LD	LIC	MACON, GA	BLANK0000205957	88.1
No	W21DV-D	D21	LD	LIC	BRYSON CITY, NC	BLANK0000080638	209.2
No	WEBA-TV	D21	DT	LIC	ALLENDALE, SC	BLANK0000145391	176.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D20
Mask: Full Service
Latitude: 33 30 14.00 N (NAD83)
Longitude: 83 15 35.70 W
Height AMSL: 303.4 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: Omnidirectional
Elev Pattn: Generic
Elec Tilt: 0.50

49.4 dBu contour:
Azimuth ERP HAAT Distance
0.0 deg 15.0 kW 144.5 m 48.3 km

Table 1 W20EQ-D TVStudy Analysis of Proposal
(page 2 of 6)



45.0	15.0	126.9	47.0
90.0	15.0	138.2	47.8
135.0	15.0	157.8	49.2
180.0	15.0	158.2	49.2
225.0	15.0	142.5	48.1
270.0	15.0	144.5	48.3
315.0	15.0	142.5	48.1

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 144 m

Distance to Canadian border: 909.8 km

Distance to Mexican border: 1559.6 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 286.8 degrees Distance: 141.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 297.0 degrees Distance: 2081.6 km

No land mobile station failures found

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 BLANK0000205000 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WANF	D19	DT	LIC	ATLANTA, GA	BLANK0000205000	
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	105.4 km
	WIIQ	D19	DT	LIC	DEMOPOLIS, AL	BLEDT20090511AHE	366.3
	WHNT-TV	D19	DT	CP	HUNTSVILLE, AL	BLANK0000127591	226.5
	WIYC	D19	DT	LIC	TROY, AL	BLANK0000120197	245.6
	WBPI-CD	D19	DC	LIC	AUGUSTA, GA	BLANK0000059661	224.4
	WTLH	D19	DT	LIC	BAINBRIDGE, GA	BLANK0000119592	349.2
	WSOC-TV	D19	DT	LIC	CHARLOTTE, NC	BLANK0000146857	368.1
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	341.6
	WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	120.3

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	33607.3 6,027,808	32178.4	5,976,478	30575.6	5,882,804	30351.5 5,879,817	0.73 0.05
Undesired			Total IX	Unique IX, before		Unique IX, after	
W20EQ-D D20 LD APP	246.9		3,078			224.1	2,987
WIIQ D19 DT LIC	3.0		49	0.0		0.0	0
WHNT-TV D19 DT CP	988.1		49,909	561.4		561.4	26,256
WIYC D19 DT LIC	348.7		18,866	109.5		109.5	4,037
WBPI-CD D19 DC LIC	53.9		4,407	17.9		11.0	1,042
WTLH D19 DT LIC	141.8		11,389	45.9		45.9	2,091
WSOC-TV D19 DT LIC	102.0		6,116	57.0		46.1	1,975
WDNN-CD D20 DC LIC	525.9		40,085	289.6		289.6	23,834

Interference to BLANK0000205000 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WANF	D19	DT	LIC	ATLANTA, GA	BLANK0000205000	
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	105.4 km
	WIIQ	D19	DT	LIC	DEMOPOLIS, AL	BLEDT20090511AHE	366.3
	WHNT-TV	D19	DT	LIC	HUNTSVILLE, AL	BLCDT20111118COZ	226.5
	WIYC	D19	DT	LIC	TROY, AL	BLANK0000120197	245.6
	WBPI-CD	D19	DC	LIC	AUGUSTA, GA	BLANK0000059661	224.4

Table 1 W20EQ-D TVStudy Analysis of Proposal
(page 3 of 6)



WTLH	D19	DT	LIC	BAINBRIDGE, GA	BLANK0000119592	349.2
WSOC-TV	D19	DT	LIC	CHARLOTTE, NC	BLANK0000146857	368.1
WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	341.6
WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	120.3

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
33607.3 6,027,808	32178.4 5,976,478	30802.4 5,892,722	30578.3 5,889,735	0.73 0.05

Undesired	Total IX	Unique IX, before	Unique IX, after
W20EQ-D D20 LD APP	246.9 3,078	224.1 2,987	
WIIQ D19 DT LIC	3.0 49	0.0 0	
WHNT-TV D19 DT LIC	627.9 31,473	334.6 16,338	
WIYC D19 DT LIC	348.7 18,866	141.4 5,147	
WBPI-CD D19 DC LIC	53.9 4,407	17.9 1,075	
WTLH D19 DT LIC	141.8 11,389	46.9 2,148	
WSOC-TV D19 DT LIC	102.0 6,116	66.0 2,314	
WDNN-CD D20 DC LIC	525.9 40,085	376.1 30,429	

Interference to BLANK0000190010 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WCGZ-LD	D20	LD	LIC	LANETT, AL	BLANK0000190010	
Undesireds: W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	172.5 km
WANF	D19	DT	LIC	ATLANTA, GA	BLANK0000205000	107.0
WABM	D20	DT	LIC	BIRMINGHAM, AL	BLANK0000192391	172.4
WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	107.0
WCTV	D20	DT	LIC	THOMASVILLE, GA	BLANK0000121784	282.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
5435.6 169,342	5252.7 166,269	4938.6 159,386	4938.6 159,386	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
W20EQ-D D20 LD APP	1.0 0	0.0 0	
WANF D19 DT LIC	1.0 0	0.0 0	
WABM D20 DT LIC	181.7 3,077	130.8 1,879	
WANN-CD D20 DC LIC	155.3 3,613	121.3 3,176	
WCTV D20 DT LIC	30.0 1,407	11.0 630	

Interference to BLANK0000092680 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	
Undesireds: W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	105.4 km
WABM	D20	DT	LIC	BIRMINGHAM, AL	BLANK0000192391	231.1
WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	120.3
WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	227.2
WABE-TV	D21	DT	LIC	ATLANTA, GA	BLANK0000143418	5.4

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
9991.9 4,601,126	9863.5 4,581,542	9615.9 4,514,896	9538.7 4,504,604	0.80 0.23

Undesired	Total IX	Unique IX, before	Unique IX, after
W20EQ-D D20 LD APP	118.7 14,244	77.2 10,292	
WABM D20 DT LIC	52.5 11,322	30.7 6,464	
WDNN-CD D20 DC LIC	64.2 16,625	50.3 12,533	
WUNF-TV D20 DD LIC	37.5 8,086	29.6 7,090	
WABE-TV D21 DT LIC	117.1 35,749	114.1 35,470	

Interference to BLANK0000194478 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: W20EW-D	D20	LD	LIC	AUGUSTA, GA	BLANK0000194478	
Undesireds: W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	109.2 km
WBPI-CD	D19	DC	LIC	AUGUSTA, GA	BLANK0000059661	23.8
WHDS-LD	D20	LD	LIC	SAVANNAH, GA	BLANK0000101192	171.1
WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	212.5
WCBD-TV	D20	DT	LIC	CHARLESTON, SC	BLANK0000184909	228.1

Table 1 W20EQ-D TVStudy Analysis of Proposal
(page 4 of 6)



WEBA-TV	D21	DT	LIC	ALLENDALE, SC	BLANK0000145391	67.5
Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
297.9	150,405	220.5	91,495	147.0	55,973	0.00 0.00
Undesired	Total IX		Unique IX, before		Unique IX, after	
W20EQ-D D20 LD APP	2.0	1,954			0.0	0
WBPI-CD D19 DC LIC	62.6	31,742	19.9	8,616	19.9	8,616
WHDS-LD D20 LD LIC	5.0	942	0.0	0	0.0	0
WUNF-TV D20 DD LIC	46.7	24,398	7.0	2,164	7.0	2,164
WCBD-TV D20 DT LIC	17.9	9,325	3.0	1,481	3.0	1,481
WEBA-TV D21 DT LIC	4.0	1,990	0.0	0	0.0	0

Interference to BLANK0000120275 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance		
Desired:	W20EK-D	D20	LD	LIC	ANDREWS, ETC, NC	BLANK0000120275			
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	201.0 km		
	W19DB-D	D19	LD	LIC	FRANKLIN, NC	BLANK0000144222	21.6		
	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	168.7		
	WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	125.6		
	WYMT-TV	D20	DT	CP	HAZARD, KY	BLANK0000185947	222.2		
	WESL-LP	D20z	LD	CP	JAMESTOWN, KY	BLANK0000157496	244.5		
	WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	113.2		
	WZTV	D20	DT	LIC	NASHVILLE, TN	BLANK0000115725	292.7		
	W21DV-D	D21	LD	LIC	BRYSON CITY, NC	BLANK0000080638	37.2		
	WKNX-TV	D21	DT	APP	KNOXVILLE, TN	BLANK0000210505	84.6		
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX		
13785.2	415,692	7891.9	148,489	7575.8	136,008	7575.8	136,008	0.00	0.00

Interference to BLANK0000093577 LIC scenario 1

Desired:	Call WUNF-TV	Chan D20	Svc DD	Status LIC	City, State ASHEVILLE, NC	File Number BLANK0000093577	Distance
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	201.8 km
	WSOC-TV	D19	DT	LIC	CHARLOTTE, NC	BLANK0000146857	165.5
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001584	145.1
	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	227.2
	WYMT-TV	D20	DT	CP	HAZARD, KY	BLANK0000185947	226.4
	WUNC-TV	D20	DT	LIC	CHAPEL HILL, NC	BLANK0000138116	314.2
	WCBD-TV	D20	DT	LIC	CHARLESTON, SC	BLANK0000184909	365.1
	WUNG-TV	D21	DT	LIC	CONCORD, NC	BLANK0000113063	176.6
	WKNX-TV	D21	DT	APP	KNOXVILLE, TN	BLANK0000210505	152.6
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
40177.6	2,627,725	34104.2	2,333,181	33341.2	2,287,538	33245.2 2,285,828	0.29 0.07
Undesired				Total IX	Unique IX, before		Unique IX, after
W20EQ-D	D20	LD	APP	127.0	1,998	96.0	1,710
WSOC-TV	D19	DT	LIC	167.0	15,377	61.7	4,162
WKPZ-CD	D19	DC	LIC	25.3	1,440	2.0	0
WANN-CD	D20	DC	LIC	42.0	285	38.0	285
WYMT-TV	D20	DT	CP	171.6	4,398	126.3	2,588
WUNC-TV	D20	DT	LIC	478.0	35,877	341.7	23,206
WCBD-TV	D20	DT	LIC	10.0	142	2.0	0
WUNG-TV	D21	DT	LIC	93.4	9,327	7.9	335
WKNX-TV	D21	DT	APP	16.0	0	6.0	0

Table 1 W20EQ-D TVStudy Analysis of Proposal
(page 5 of 6)



Interference to BLANK0000093577 LIC scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	201.8 km
	WSOC-TV	D19	DT	LIC	CHARLOTTE, NC	BLANK00000146857	165.5
	WKPZ-CD	D19	DC	LIC	KINGSPORT, TN	BLANK0000001597	145.1
	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	227.2
	WYMT-TV	D20	DT	CP	HAZARD, KY	BLANK00000185947	226.4
	WUNC-TV	D20	DT	LIC	CHAPEL HILL, NC	BLANK00000138116	314.2
	WCBF-TV	D20	DT	LIC	CHARLESTON, SC	BLANK00000184909	365.1
	WUNG-TV	D21	DT	LIC	CONCORD, NC	BLANK00000113063	176.6
	WKNX-TV	D21	DT	APP	KNOXVILLE, TN	BLANK00000210505	152.6

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	40177.6	2,627,725	34104.2	2,333,181	33341.2	2,287,538	33245.2 2,285,828 0.29 0.07

Undesired			Total IX	Unique IX, before		Unique IX, after	
W20EQ-D D20 LD APP			127.0	1,998		96.0 1,710	
WSOC-TV D19 DT LIC			167.0	15,377		61.7 4,162	
WKPZ-CD D19 DC LIC			25.3	1,440		2.0 0	
WANN-CD D20 DC LIC			42.0	285		13.0 78	
WYMT-TV D20 DT CP			171.6	4,398		123.3 2,588	
WUNC-TV D20 DT LIC			478.0	35,877		340.7 23,125	
WCBF-TV D20 DT LIC			10.0	142		2.0 0	
WUNG-TV D21 DT LIC			93.4	9,327		7.9 335	
WKNX-TV D21 DT APP			16.0	0		6.0 0	

Interference to BLANK0000143418 LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WABE-TV	D21	DT	LIC	ATLANTA, GA	BLANK00000143418	
Undesireds:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	103.5 km
	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	5.4
	WDNN-CD	D20	DC	LIC	DALTON, GA	BLANK0000098043	125.1
	WDHN	D21	DT	LIC	DOTHAN, AL	BLCDT20090303ACR	294.5
	WTTO	D21	DT	LIC	HOMESWOOD, AL	BLANK00000192390	230.8
	WEBA-TV	D21	DT	LIC	ALLENTOWN, PA	BLANK00000145391	279.7
	WKNX-TV	D21	DT	APP	KNOXVILLE, TN	BLANK00000210505	252.9
	WUXP-TV	D21	DT	LIC	NASHVILLE, TN	BLANK00000159943	357.2
	WHSG-TV	D22	DT	LIC	MONROE, LA	BLANK0000081582	2.8

	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	18936.3	5,310,713	18631.1	5,293,473	16890.0	5,045,308	16890.0 5,045,308 0.00 0.00

Undesired			Total IX	Unique IX, before		Unique IX, after	
W20EQ-D D20 LD APP			5.0	9		0.0 0	
WANN-CD D20 DC LIC			556.7	94,097		260.3 47,701	
WDNN-CD D20 DC LIC			23.2	824		6.0 203	
WDHN D21 DT LIC			57.7	2,886		11.9 171	
WTTO D21 DT LIC			517.3	51,326		315.0 31,687	
WEBA-TV D21 DT LIC			68.6	2,485		23.8 503	
WKNX-TV D21 DT APP			4.0	54		0.0 0	
WUXP-TV D21 DT LIC			26.0	3,214		2.0 92	
WHSG-TV D22 DT LIC			1035.3	164,684		662.2 107,268	

Interference to proposal scenario 1
10.79% interference received

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	W20EQ-D	D20	LD	APP	ATHENS, GA	W20EQ-D 1235965 prop	
Undesireds:	WANF	D19	DT	LIC	ATLANTA, GA	BLANK00000205000	105.4 km
	WANN-CD	D20	DC	LIC	ATLANTA, GA	BLANK0000092680	105.4
	WUNF-TV	D20	DD	LIC	ASHEVILLE, NC	BLANK0000093577	201.8

	Service area	Terrain-limited		IX-free		Percent IX	

Table 1 W20EQ-D TVStudy Analysis of Proposal
(page 6 of 6)



7321.6	188,466	7278.9	187,654	6646.6	167,399	8.69	10.79
Undesired			Total IX		Unique IX	Prcnt Unique IX	
WANF D19 DT LIC	7.9		303	0.0	0	0.00	0.00
WANN-CD D20 DC LIC	173.5		8,268	154.7	7,697	2.13	4.10
WUNF-TV D20 DD LIC	470.6		12,255	458.7	11,987	6.30	6.39

**Channel and
Facility
Information**

Section	Question	Response
Facility ID	182462	
State	Georgia	
City	ATHENS	
LPD Channel	20	

Antenna Location
Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1235965
Coordinates (NAD83)	Latitude	33° 30' 14.0" N+
	Longitude	083° 15' 35.7" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	184.4 meters
	Support Structure Height	184.4 meters
	Ground Elevation (AMSL)	164.3 meters
Antenna Data	Height of Radiation Center Above Ground Level	139.1 meters
	Height of Radiation Center Above Mean Sea Level	303.4 meters
	Effective Radiated Power	15 kW

Antenna
Technical Data

Section	Question	Response
Antenna Type	Antenna Type	Non-Directional
	Do you have an Antenna ID?	
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	Dielectric
	Model	TLP-12A/VP-R
	Rotation	
	Electrical Beam Tilt	0.5
	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