

TECHNICAL SUMMARY
APPLICATION FOR CONSTRUCTION PERMIT
CLASS A STATION WTZT-CD
ATHENS, ALABAMA
CHANNEL 11 2.0 KW (ND)

1. Application Purpose: The instant application proposes to change the licensed WTZT-CD nondirectional antenna system from a Bogner model B4VO to a Jampro model JSL-4/11-SHO-V and increase the ERP from 1.11 kW (horizontal polarization) to 2.0 kW (horizontal polarization). There will also be a slight change in the geographic coordinates of the transmitter site to conform to the tower registration information (ASRN 1036633). No other changes are proposed.

2. Interference Compliance: As indicated in the attached *TVStudy* analysis summary, WTZT-CD's proposed 2.0 kW operation meets the FCC's interference protection requirements with respect to all protected facilities. A cell size of 2.0 km and a profile resolution of 1.0 km points/km were utilized for the *TVStudy* analysis.

3. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna will be located 146.3 meters above ground level. The total DTV ERP is 2 kW (horizontal polarization). A worst-case vertical plane relative field value of 1.0 is presumed for the antenna's downward radiation (-60° to -90° elevation). The calculated power density at a point 2 meters above ground level is 3.2 $\mu\text{W}/\text{cm}^2$ which is 1.6% of the FCC's recommended limit of 200 $\mu\text{W}/\text{cm}^2$ for channel 11 for an uncontrolled environment. Thus, it is believed that the proposed WTZT-CD facility is in compliance with the FCC's requirements with regard to RF radiation exposure.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, as this is a multi-user site, a protocol shall be in effect in the event that workers or other authorized personnel enter the restricted area or climb the supporting structure to ensure that appropriate measures will be taken to assure worker safety with respect to RF energy exposure.

WTZT-CD TVSTUDY ANALYSIS

tvstudy v2.2.5 (4uoc83)
Database: localhost, Study: WTZT-CD 2kWND RR, Model: Longley-Rice
Start: 2023.08.01 16:40:03

Study created: 2023.08.01 16:40:03

Study build station data: LMS TV 2023-07-31

Proposal: WTZT-CD D11 DC APP ATHENS, AL
File number: WTZT-CD 2kWND RR
Facility ID: 3086
Station data: User record
Record ID: 491
Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
Yes	WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	148.4 km
Yes	WBIQ	D10	DT	LIC	BIRMINGHAM, AL	BLEDT20140612ABA	148.4
No	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	250.5
Yes	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	147.4
No	WTVM	D11	DT	LIC	COLUMBUS, GA	BLCDT20131113BGN	331.0
No	WHAS-TV	D11	DT	LIC	LOUISVILLE, KY	BLANK0000197250	401.2
No	KFVS-TV	D11	DT	LIC	CAPE GIRARDEAU, MO	BLANK0000115816	381.9
Yes	WTVA	D11	DT	LIC	TUPELO, MS	BLANK0000117299	243.9
No	WSPA-TV	D11	DT	LIC	SPARTANBURG, SC	BLANK0000190462	406.8
No	DWETV-CD	D11+	DC	APP	MURFREESBORO, TN	BLANK0000004987	117.9
No	DWETV-CD	D11	DC	BL	MURFREESBORO, TN	DTVBL10324	117.9
Yes	WCIQ	D12	DT	LIC	MOUNT CHEAHA, AL	BLANK0000117443	171.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D11
Mask: Stringent
Latitude: 34 49 6.00 N (NAD83)
Longitude: 86 44 17.20 W
Height AMSL: 527.3 m
HAAT: 0.0 m
Peak ERP: 2.00 kW
Antenna: Omnidirectional
Elev Pattnr: Generic

48.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	2.00 kW	269.2 m	57.4 km
45.0	2.00	280.8	58.0
90.0	2.00	260.3	56.8
135.0	2.00	305.3	59.4
180.0	2.00	296.1	58.9
225.0	2.00	322.0	60.4
270.0	2.00	299.3	59.1
315.0	2.00	278.7	57.9

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 289 m

Distance to Canadian border: 840.3 km

Distance to Mexican border: 1383.9 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 119.3 degrees Distance: 213.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 295.4 degrees Distance: 1730.0 km

WTZT-CD TVSTUDY ANALYSIS

Study cell size: 2.00 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 BLANK0000207574 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	148.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	148.4
	WGWW	D9	DT	CP	ANNISTON, AL	BLANK0000036011	38.5
	WDIQ	D10	DT	LIC	DOZIER, AL	BLEDT20091006ADJ	218.0
	WALB	D10	DT	LIC	ALBANY, GA	BLANK0000210143	365.6
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	231.1
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	295.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
26082.5	1,559,711	24593.1	1,526,818	22352.4	1,454,794	22352.4 1,454,794	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WTZT-CD D11 DC BL	16.0 744	8.0 355	
WTZT-CD D11 DC APP	16.0 744	8.0 355	
WGWW D9 DT CP	1067.5 48,830	887.0 37,691	887.0 37,691
WDIQ D10 DT LIC	753.1 9,562	436.7 4,341	436.7 4,341
WALB D10 DT LIC	20.0 163	0.0 0	0.0 0
WXIA-TV D10 DT LIC	824.9 26,881	320.2 11,773	320.2 11,773
WSMV-TV D10 DT LIC	164.2 4,586	48.0 1,731	48.0 1,731

Interference to BLANK0000207574 CP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	148.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	148.4
	WGWW	D9	DT	LIC	ANNISTON, AL	BLCDT20050222ACG	38.5
	WDIQ	D10	DT	LIC	DOZIER, AL	BLEDT20091006ADJ	218.0
	WALB	D10	DT	LIC	ALBANY, GA	BLANK0000210143	365.6
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	231.1
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	295.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
26082.5	1,559,711	24593.1	1,526,818	22472.7	1,461,382	22472.7 1,461,382	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WTZT-CD D11 DC BL	16.0 744	8.0 355	
WTZT-CD D11 DC APP	16.0 744	8.0 355	
WGWW D9 DT LIC	927.1 41,662	766.7 31,103	766.7 31,103
WDIQ D10 DT LIC	753.1 9,562	436.7 4,341	436.7 4,341
WALB D10 DT LIC	20.0 163	0.0 0	0.0 0
WXIA-TV D10 DT LIC	824.9 26,881	336.2 12,228	336.2 12,228
WSMV-TV D10 DT LIC	164.2 4,586	48.0 1,731	48.0 1,731

Interference to BLEDT20140612ABA LIC scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WBIQ	D10	DT	LIC	BIRMINGHAM, AL	BLEDT20140612ABA	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	148.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	148.4
	WGWW	D9	DT	CP	ANNISTON, AL	BLANK0000036011	38.5
	WDIQ	D10	DT	LIC	DOZIER, AL	BLEDT20091006ADJ	218.0
	WALB	D10	DT	LIC	ALBANY, GA	BLANK0000210143	365.6
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	231.1
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	295.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
26206.6	1,563,080	24753.3	1,532,266	22556.5	1,460,965	22556.5 1,460,965	0.00 0.00

WTZT-CD TVSTUDY ANALYSIS

Undesired			Total IX	Unique IX, before	Unique IX, after		
WTZT-CD D11 DC BL	16.0		744	8.0	355		
WTZT-CD D11 DC APP	16.0		744			8.0	355
WGWW D9 DT CP	1011.4		45,545	842.9	35,464	842.9	35,464
WDIQ D10 DT LIC	757.2		11,109	452.8	7,519	452.8	7,519
WALB D10 DT LIC	16.0		123	0.0	0	0.0	0
WXIA-TV D10 DT LIC	805.0		25,305	324.2	11,623	324.2	11,623
WSMV-TV D10 DT LIC	152.2		4,120	60.1	1,652	60.1	1,652

Interference to BLEDT20140612ABA LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBIQ	D10	DT	LIC	BIRMINGHAM, AL	BLEDT20140612ABA	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	148.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	148.4
	WGWW	D9	DT	LIC	ANNISTON, AL	BLCDT20050222ACG	38.5
	WDIQ	D10	DT	LIC	DOZIER, AL	BLEDT20091006ADJ	218.0
	WALB	D10	DT	LIC	ALBANY, GA	BLANK0000210143	365.6
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	231.1
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	295.3
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
26206.6	1,563,080	24753.3	1,532,266	22680.8	1,467,460	22680.8	1,467,460
							0.00 0.00

Undesired			Total IX	Unique IX, before	Unique IX, after		
WTZT-CD D11 DC BL	16.0		744	8.0	355		
WTZT-CD D11 DC APP	16.0		744			8.0	355
WGWW D9 DT LIC	875.0		38,725	718.6	28,969	718.6	28,969
WDIQ D10 DT LIC	757.2		11,109	452.8	7,519	452.8	7,519
WALB D10 DT LIC	16.0		123	0.0	0	0.0	0
WXIA-TV D10 DT LIC	805.0		25,305	332.2	11,823	332.2	11,823
WSMV-TV D10 DT LIC	152.2		4,120	60.1	1,652	60.1	1,652

Interference to BLANK0000159733 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	147.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	147.4
	WTVC	D9	DT	LIC	CHATTANOOGA, TN	BLCDT20090914ABU	177.2
	WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	295.3
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	351.4
	WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLANK0000199121	347.8
	WBIR-TV	D10	DT	LIC	KNOXVILLE, TN	BLCDT20090619ADG	263.3
	DWETV-CD	D11+	DC	APP	MURFREESBORO, TN	BLANK0000004987	54.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
40317.7	2,447,769	37576.1	2,404,766	36841.5	2,376,111	36801.2	2,375,305
							0.11 0.03

Undesired			Total IX	Unique IX, before	Unique IX, after		
WTZT-CD D11 DC BL	140.2		1,835	120.3	1,386		
WTZT-CD D11 DC APP	184.6		2,708			160.6	2,192
WBIQ D10 DT CP	24.1		370	8.1	89	8.1	89
WXIA-TV D10 DT LIC	169.2		12,387	76.6	6,517	76.6	6,517
WTHI-TV D10 DT LIC	168.3		1,661	148.2	1,222	148.2	1,222
WBIR-TV D10 DT LIC	373.4		19,215	260.9	12,915	256.8	12,848

Interference to BLANK0000159733 LIC scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	147.4 km
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	147.4
	WTVC	D9	DT	LIC	CHATTANOOGA, TN	BLCDT20090914ABU	177.2
	WBIQ	D10	DT	LIC	BIRMINGHAM, AL	BLEDT20140612ABA	295.3
	WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	351.4
	WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLANK0000199121	347.8
	WBIR-TV	D10	DT	LIC	KNOXVILLE, TN	BLCDT20090619ADG	263.3
	DWETV-CD	D11+	DC	APP	MURFREESBORO, TN	BLANK0000004987	54.2

WTZT-CD TVSTUDY ANALYSIS

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX
40317.7 2,447,769	37576.1	2,404,766	36845.6	2,376,179	36805.3	2,375,373	0.11 0.03
Undesired	Total IX		Unique IX, before		Unique IX, after		
WTZT-CD D11 DC BL	140.2	1,835	120.3	1,386			
WTZT-CD D11 DC APP	184.6	2,708			160.6	2,192	
WBIQ D10 DT LIC	20.0	302	4.0	21	4.0	21	
WXIA-TV D10 DT LIC	169.2	12,387	76.6	6,517	76.6	6,517	
WTHI-TV D10 DT LIC	168.3	1,661	148.2	1,222	148.2	1,222	
WBIR-TV D10 DT LIC	373.4	19,215	260.9	12,915	256.8	12,848	

----- Interference to BLANK0000159733 LIC scenario 3

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	
Undesireds: WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	147.4 km
WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	147.4
WTVC	D9	DT	LIC	CHATTANOOGA, TN	BLCDT20090914ABU	177.2
WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	295.3
WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	351.4
WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLANK0000199121	347.8
WBIR-TV	D10	DT	LIC	KNOXVILLE, TN	BLCDT20090619ADG	263.3
DWETV-CD	D11	DC	BL	MURFREESBORO, TN	DTVBL10324	54.2

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX
40317.7 2,447,769	37576.1	2,404,766	36837.5	2,373,093	36797.2	2,372,287	0.11 0.03
Undesired	Total IX		Unique IX, before		Unique IX, after		
WTZT-CD D11 DC BL	140.2	1,835	120.3	1,386			
WTZT-CD D11 DC APP	184.6	2,708			160.6	2,192	
WBIQ D10 DT CP	24.1	370	8.1	89	8.1	89	
WXIA-TV D10 DT LIC	169.2	12,387	76.6	6,517	76.6	6,517	
WTHI-TV D10 DT LIC	168.3	1,661	148.2	1,222	148.2	1,222	
WBIR-TV D10 DT LIC	373.4	19,215	260.9	12,915	256.8	12,848	
DWETV-CD D11 DC BL	4.0	3,018	4.0	3,018	4.0	3,018	

----- Interference to BLANK0000159733 LIC scenario 4

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WSMV-TV	D10	DT	LIC	NASHVILLE, TN	BLANK0000159733	
Undesireds: WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	147.4 km
WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	147.4
WTVC	D9	DT	LIC	CHATTANOOGA, TN	BLCDT20090914ABU	177.2
WBIQ	D10	DT	LIC	BIRMINGHAM, AL	BLEDT20140612ABA	295.3
WXIA-TV	D10	DT	LIC	ATLANTA, GA	BLANK0000152840	351.4
WTHI-TV	D10	DT	LIC	TERRE HAUTE, IN	BLANK0000199121	347.8
WBIR-TV	D10	DT	LIC	KNOXVILLE, TN	BLCDT20090619ADG	263.3
DWETV-CD	D11	DC	BL	MURFREESBORO, TN	DTVBL10324	54.2

Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX
40317.7 2,447,769	37576.1	2,404,766	36841.5	2,373,161	36801.3	2,372,355	0.11 0.03
Undesired	Total IX		Unique IX, before		Unique IX, after		
WTZT-CD D11 DC BL	140.2	1,835	120.3	1,386			
WTZT-CD D11 DC APP	184.6	2,708			160.6	2,192	
WBIQ D10 DT LIC	20.0	302	4.0	21	4.0	21	
WXIA-TV D10 DT LIC	169.2	12,387	76.6	6,517	76.6	6,517	
WTHI-TV D10 DT LIC	168.3	1,661	148.2	1,222	148.2	1,222	
WBIR-TV D10 DT LIC	373.4	19,215	260.9	12,915	256.8	12,848	
DWETV-CD D11 DC BL	4.0	3,018	4.0	3,018	4.0	3,018	

----- Interference to BLANK0000117299 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WTVA	D11	DT	LIC	TUPELO, MS	BLANK0000117299	
Undesireds: WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	243.9 km
WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	243.9
WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	213.8
KMLU	D11	DT	LIC	COLUMBIA, LA	BLCDT20121106AAT	329.9
KFVS-TV	D11	DT	LIC	CAPE GIRARDEAU, MO	BLANK0000115816	405.8

WTZT-CD TVSTUDY ANALYSIS

DWETV-CD	D11+	DC	APP	MURFREESBORO, TN	BLANK0000004987	335.1		
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX
46834.7	823,492	45696.4	810,123	45180.9	804,130	45160.9	803,843	0.04 0.04
Undesired			Total IX	Unique IX, before		Unique IX, after		
WTZT-CD D11 DC BL		28.0	386	28.0	386			
WTZT-CD D11 DC APP		48.0	673			48.0	673	
KMLU D11 DT LIC		483.5	5,601	483.5	5,601	483.5	5,601	
KFVS-TV D11 DT LIC		4.0	6	4.0	6	4.0	6	

Interference to BLANK0000117443 LIC scenario 1

Desired:	Call WCIQ	Chan D12	Svc DT	Status LIC	City, State MOUNT CHEAHA, AL	File Number BLANK0000117443	Distance			
Undesireds:	WTZT-CD	D11	DC	BL	ATHENS, AL	DTVBL3086	171.1 km			
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	171.1			
	WTVM	D11	DT	LIC	COLUMBUS, GA	BLCDT20131113BGN	160.5			
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
50784.7	3,571,726	48285.0		3,383,118	47859.1	3,370,305	47847.1	3,370,049	0.02	0.01

Undesired			Total IX	Unique IX, before		Unique IX, after		
WTZT-CD D11 DC BL		19.9	375	19.9	375			
WTZT-CD D11 DC APP		31.9	631			31.9	631	
WTVM D11 DT LIC		406.0	12,438	406.0	12,438	406.0	12,438	

Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WTZT-CD	D11	DC	APP	ATHENS, AL	WTZT-CD 2kWND RR	
Undesireds:	WBIQ	D10	DT	CP	BIRMINGHAM, AL	BLANK0000207574	148.4 km
	WTVA	D11	DT	LIC	TUPELO, MS	BLANK0000117299	243.9
	DWETV-CD	D11+	DC	APP	MURFREESBORO, TN	BLANK0000004987	117.9
Service area		Terrain-limited		IX-free		Percent IX	
10741.6	656,739	10195.6	649,111	10171.7	648,660	0.23	0.07
Undesired			Total IX	Unique IX		Prcnt Unique IX	
WTVA D11 DT LIC		23.9	451	23.9	451	0.23	0.07