

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of WAPT HEARST-ARGYLE TELEVISION, INC., licensee of WAPT-DT, Channel 21 in Jackson, Mississippi, in support of its Application for Construction Permit to operate with a maximized DTV facility.

It is proposed to mount a standard Dielectric directional antenna at the 313-meter level of the existing 323-meter tower on which the present WAPT-DT antenna is mounted. The antenna will be elliptically polarized, with a horizontally polarized effective radiated power of 1000 kw and a vertical effective radiated power of 250 kw. Exhibit B provides elevation and azimuth patterns for the proposed antenna. Exhibit C is a map upon which the predicted service contours are plotted. As shown, the city of license is completely contained within the proposed 48 dBu service contour. An interference study is included in Exhibit D, and it is important to note that the study utilized a cell size of 1.0 kilometers and an increment spacing of 0.1 kilometers. A power density calculation is provided in Exhibit E.

It is not expected that the proposed facility would cause objectionable interference to any other broadcast or non-broadcast station authorized to operate at or near the WAPT-DT site. However, if such should occur, the owner of this station recognizes its obligation to take whatever corrective actions are necessary.

Since no change in overall height or location of the existing tower is proposed herein, the FAA has not been notified of this application. In addition, the FCC issued Antenna Structure Registration Number 1038230 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read 'K. T. Fisher', with a long horizontal stroke extending to the right.

KEVIN T. FISHER

November 6, 2009

Date **06 Aug 2009**

Call Letters

Channel **21**

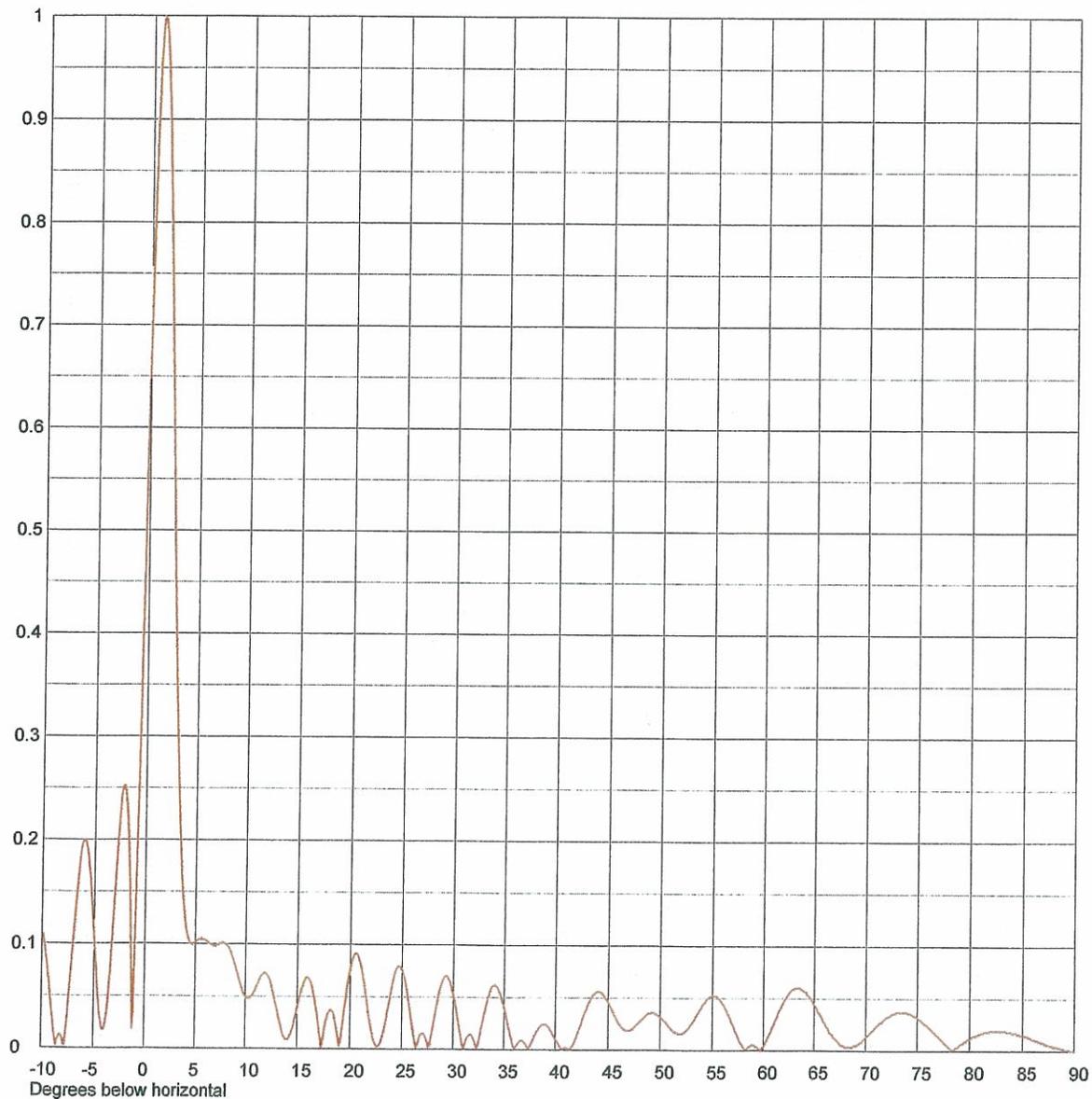
Location

Customer

Antenna Type **TFU-30GTH O4**

ELEVATION PATTERN

RMS Gain at Main Lobe	26.0 (14.15 dB)	Beam Tilt	1.00 Degrees
RMS Gain at Horizontal	12.9 (11.11 dB)	Frequency	515.00 MHz
Calculated / Measured	Calculated	Drawing #	30G260100-90



Remarks:

EXHIBIT B-1**ANTENNA ELEVATION PATTERN****PROPOSED WAPT-DT
CHANNEL 21 – JACKSON, MISSISSIPPI**

SMITH AND FISHER

Date **06 Aug 2009**

Call Letters

Channel **21**

Location

Customer

Antenna Type **TFU-30GTH O4**

AZIMUTH PATTERN

Gain

1.10 (0.41 dB)

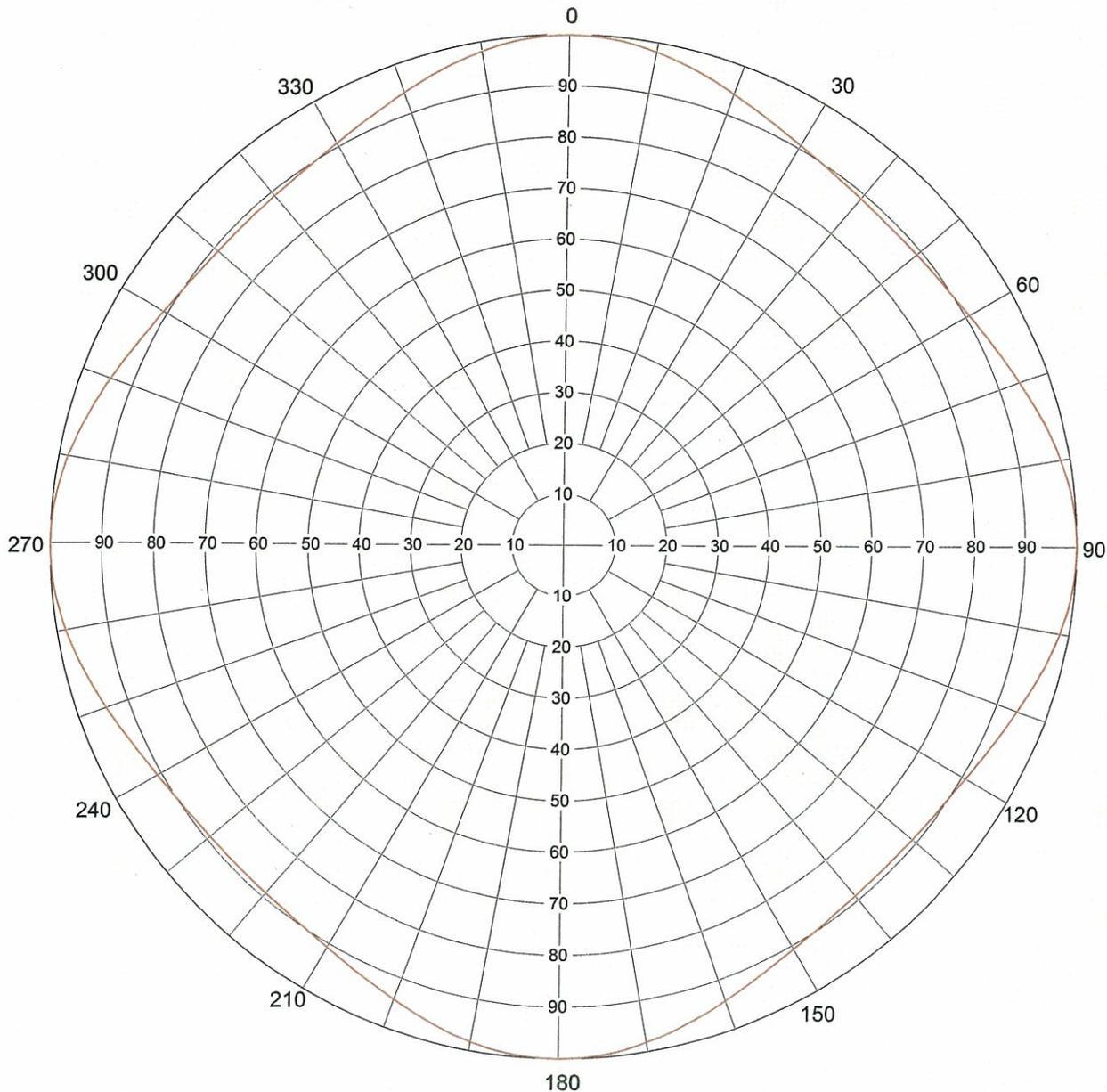
Frequency

515 MHz

Calculated / Measured

Calculated

Drawing #

TFU-O4

Remarks:

EXHIBIT B-2**ANTENNA AZIMUTH PATTERN****PROPOSED WAPT-DT
CHANNEL 21 – JACKSON, MISSISSIPPI**

SMITH AND FISHER



Date **06 Aug 2009**
 Call Letters Channel **21**
 Location
 Customer
 Antenna Type **TFU-30GTH O4**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **TFU-O4**

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	1000.0	30.00
10	0.983	966.3	29.85
20	0.943	889.2	29.49
30	0.908	824.5	29.16
40	0.891	793.9	29.00
50	0.891	793.9	29.00
60	0.908	824.5	29.16
70	0.943	889.2	29.49
80	0.983	966.3	29.85
90	1.000	1000.0	30.00
100	0.983	966.3	29.85
110	0.943	889.2	29.49
120	0.908	824.5	29.16
130	0.891	793.9	29.00
140	0.891	793.9	29.00
150	0.908	824.5	29.16
160	0.943	889.2	29.49
170	0.983	966.3	29.85
180	1.000	1000.0	30.00
190	0.983	966.3	29.85
200	0.943	889.2	29.49
210	0.908	824.5	29.16
220	0.891	793.9	29.00
230	0.891	793.9	29.00
240	0.908	824.5	29.16
250	0.943	889.2	29.49
260	0.983	966.3	29.85
270	1.000	1000.0	30.00
280	0.983	966.3	29.85
290	0.943	889.2	29.49
300	0.908	824.5	29.16
310	0.891	793.9	29.00
320	0.891	793.9	29.00
330	0.908	824.5	29.16
340	0.943	889.2	29.49
350	0.983	966.3	29.85

Maxima

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	1000.0	30.00
90	1.000	1000.0	30.00
180	1.000	1000.0	30.00
270	1.000	1000.0	30.00

Minima

Angle	Field	ERP (kW)	ERP (dBk)
45	0.889	790.3	28.98
135	0.889	790.3	28.98
225	0.889	790.3	28.98
315	0.889	790.3	28.98

Remarks:

EXHIBIT B-3

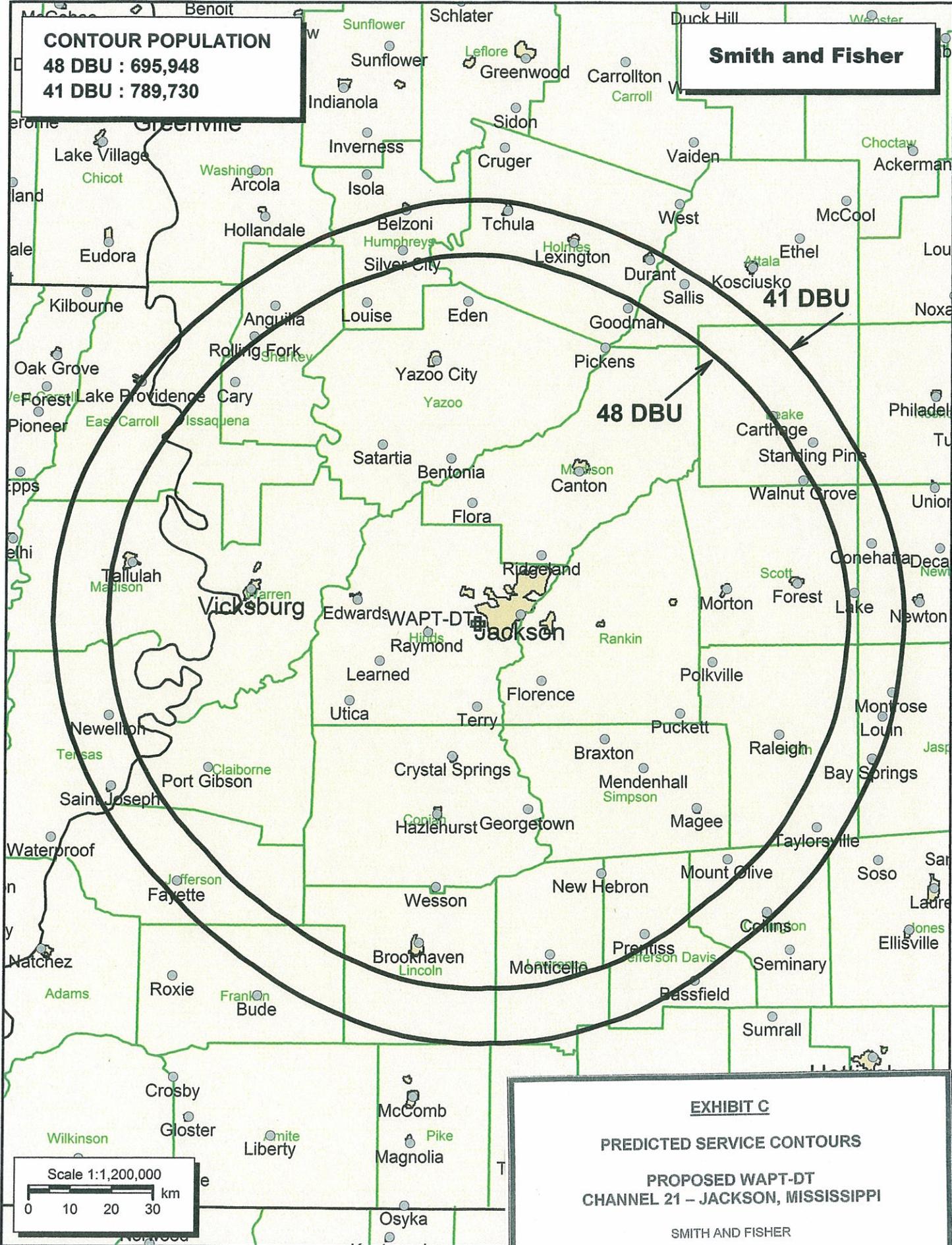
ANTENNA RELATIVE FIELD VALUES

PROPOSED WAPT-DT
CHANNEL 21 – JACKSON, MISSISSIPPI

SMITH AND FISHER

CONTOUR POPULATION
48 DBU : 695,948
41 DBU : 789,730

Smith and Fisher



INTERFERENCE STUDY
PROPOSED WAPT-DT
CHANNEL 21 – JACKSON, MISSISSIPPI

The instant application specifies an ERP of 1000 kw (directional) at 356 meters above average terrain, which we have determined to be allowable under the FCC's approved interference standards with respect to various post-transition digital television facilities as they have existed since June 12, 2009, the date by which all stations transitioned to the parameters adopted in the Commission's DTV Table of Allotments.

In evaluating the interference effect of this proposal, we have relied upon the V-Soft Communications "SunDTV" computer program, which duplicates the FCC's interference program. In conducting our study, we employed a cell size of 1.0 kilometer and an increment spacing of 0.1 kilometer along each radial. In addition, we utilized the 2000 U.S. Census. Changes in interference caused by proposed WAPT-DT to other pertinent stations are tabulated in Exhibit D-2.

As shown, the proposed WAPT-DT facility would not contribute more than 0.5% interference (beyond that which is caused by the allotted WAPT-DT facility) to the service population of any potentially affected post-transition DTV station.

A Longley-Rice interference study also reveals that the proposed WAPT-DT facility does not cause significant (0.5%) interference within the protected service contour of any potentially affected Class A low power television station.

Therefore, this proposal meets the FCC's *de minimis* interference standards for DTV operations.

WAPT_DT_summary.txt
Summary Study

Percent allowed new interference: 0.500
Percent allowed new interference to Class A: 0.500
Census data selected 2000
Post Transition Data Base Selected ./data_files/pt_tvdb.sff

TV INTERFERENCE and SPACING ANALYSIS PROGRAM

Date: 08-06-2009 Time: 06:03:07

Record Selected for Analysis

WAPT-D.C USERRECORD-01 JACKSON MS US
Channel 21 ERP 1000. kw HAAT 356. m RCAMSL 00449 m
Latitude 032-16-41 Longitude 0090-17-40
Status APP Zone 2 Border
Dir Antenna Make usr Model USRPAT01 Beam tilt N Ref Azimuth 0.
Last update Cutoff date Docket
Comments
Applicant

Cell Size for Service Analysis 1.0 km/side

Distance Increments for Longley-Rice Analysis 0.10 km

Facility meets maximum height/power limits

Azimuth (Deg)	ERP (kw)	HAAT (m)	41.0 dBu F(50,90) (km)
0.0	1000.000	362.3	102.8
45.0	793.881	349.5	99.7
90.0	1000.000	361.3	102.7
135.0	793.881	359.9	100.5
180.0	1000.000	350.7	101.8
225.0	793.881	340.3	98.9
270.0	1000.000	362.0	102.8
315.0	793.881	361.8	100.7

Evaluation toward Class A Stations

Contour overlap to Class A station
WBRL-CA 21 BATON ROUGE LA BLTTA 20030530ANC
Offset Proposed Offset Class A Z Required D/U ratio: 34.0

Class A Evaluation Complete

SPACING VIOLATION FOUND BETWEEN STATION

WAPT-D.C 21 JACKSON MS USERRECORD01

WAPT_DT_summary.txt

and station

SHORT TO: WAPT 21 JACKSON MS DTVPLN DTVP0766
32 -16-41 90 -17-40
Req. separation 223.7 Actual separation 0.0 Short 223.7 km

LANDMOBILE SPACING VIOLATIONS FOUND

NONE

- Proposed facility OK to FCC Monitoring Stations
Proposed facility OK toward West Virginia quiet zone
Proposed facility OK toward Table Mountain
Proposed facility is beyond the Canadian coordination distance
Proposed facility is beyond the Mexican coordination distance
Proposed station is OK toward AM broadcast stations

Start of Interference Analysis

Channel 21 Proposed Station Call WAPT-D.C City/State JACKSON MS ARN USERRECORD01

Stations Potentially Affected by Proposed Station

Table with 7 columns: Chan, Call, City/State, Dist(km), Status, Application, Ref. No. Rows include stations like WMPN-TV, WBRL-CA, KPXJ, WHNO, KFDM, WHLT.

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Study of this proposal found the following interference problem(s):

NONE.

POWER DENSITY CALCULATION
PROPOSED WAPT-DT
CHANNEL 21 – JACKSON, MISSISSIPPI

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Jackson facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 1000 kw (H) and 250 kw (V), an antenna radiation center located 313 meters above ground, and the elevation pattern of the proposed Dielectric antenna, maximum power density two meters above ground of 0.0012 mw/cm^2 is calculated to occur 158 meters from the base of the tower. Since this is only 0.4 percent of the 0.34 mw/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 21 (512-518 MHz), a grant of this proposal may be considered a minor environmental action with respect to public and occupational ground-level exposure to nonionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive nonionizing radiation.