

ENGINEERING STATEMENT
RE REQUEST FOR SPECIAL TEMPORARY AUTHORITY
TO OPERATE POST-TRANSITION
DTV STATION AT REDUCED POWER
KWTV-DT, OKLAHOMA CITY, OKLAHOMA
CHANNEL 9 32 KW ERP 465 METERS HAAT

OCTOBER 2008

COHEN, DIPPELL AND EVERIST, P. C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D. C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

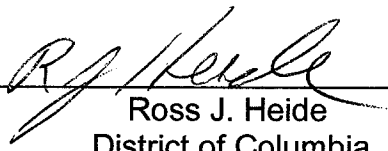
Ross J. Heide, being duly sworn upon his oath, deposes and states that:

He is a graduate of the Massachusetts Institute of Technology in Operations Research and Management Science, a Registered Professional Engineer in the District of Columbia, and employed by Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That the attached engineering report was prepared by him or under his supervision and direction and

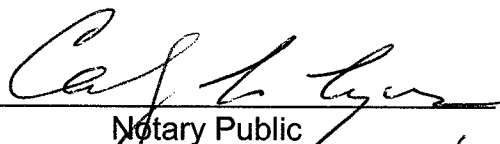
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.





Ross J. Heide
District of Columbia
Professional Engineer
Registration No. PE900748

Subscribed and sworn to before me this 22nd day of October, 2008.



Notary Public

My Commission Expires: 2/28/2013



Introduction

This engineering statement has been prepared on behalf of Griffin OKC Licensing, L.L.C., ("KWTB") licensee of TV station KWTB(TV), Oklahoma City, Oklahoma, as part of its request for Special Temporary Authority (STA) to operate its post-transition DTV station at reduced power immediately following the transition. At present, KWTB operates on DTV Channel 39 (620-626 MHz) with 530 kW effective radiated power ("ERP") directional and 478 meters antenna height above average terrain ("HAAT").

Station KWTB-DT has been allotted its current analog Channel 9 (186-192 MHz) for its permanent, post-transition digital TV operation and been authorized to construct a facility (BPCDT-20080317AFP) with 40 kW non-directional ERP and 465 meters HAAT. From February 18 to about March 31, 2009, KWTB-DT will operate the DTV Channel 9 station from the authorized antenna on the existing tower with 32 kW non-directional ERP (about 80% power) at the authorized HAAT in order to complete construction of the Channel 9 post-transition facilities. This final phase of construction for the Channel 9 DTV facilities can be carried out only after DTV Channel 39 and analog Channel 9 go permanently silent on February 17, 2009. This filing is in accordance with Paragraph 133 of the Third Periodic Review¹.

¹"In the Matter of Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television", MB Docket No. 07-91, Report & Order (FCC 07-228), Released December 31, 2007.

Antenna Site

There is no change in the proposed antenna site. The authorized DTV Channel 9 antenna is top-mounted on the tower (Exhibit E-1) with its center of radiation ("C/R") at 466.4 meters above ground level. The KWTB antenna site is located at 7401 North Kelley Avenue, Oklahoma City, Oklahoma. The KWTB antenna structure registration number is 1010943.

The geographic coordinates of the existing tower are as follows:

North Latitude: 35° 32' 58"

West Longitude: 97° 29' 49"

NAD-27

The following data shows the pertinent information concerning the proposed reduced-power operation.

Power Data

STA Transmitter Output	4.28 kW	6.31 dBk
Transmission Line Efficiency/Loss	77.1%	-1.13 dB
Input Power to Antenna	3.3 kW	5.18 dBk
Antenna Power Gain	9.7	9.87 dB
Effective Radiated Power	32 kW	15.05 dBk

Antenna Data

Antenna: Harris, TAB-12H (or equivalent) with 0.75 degrees electrical beamtilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are included herein as Exhibit E-3.

Transmission Line: 518 meters (1700 ft) of Mayat, Type 601-001, 6-1/8" coaxial, 50 ohm line (or equivalent)

Elevation Data

Vertical dimension for Channel 9 antenna	23.8 meters 78.0 feet
Elevation of the site above mean sea level:	353.6 meters 1160.1 feet
Elevation of the top of existing supporting structure above ground including appurtenances	480.5 meters 1576.4 feet
Elevation of the top of supporting structure above mean sea level including appurtenances	834.1 meters 2736.5 feet
Height of Ch.9 antenna radiation center meters above ground	466.4 meters 1530.2 feet
Height of Ch.9 antenna radiation center above mean sea level	820.0 meters 2690.3 feet
Height of Ch.9 antenna radiation center above average terrain	465.0 meters 1525.6 feet

Effective Radiated Power

The ERP authorized for DTV Channel 9 operation is 40 kW at 465 meters HAAT. Station KWTB-DT is proposing to operate its DTV facility with an ERP of 32 kW non-directional at the same height. This power and height will ensure that the STA operation does not extend the predicted 36 dBu F(50,90) noise-limited contour in any direction beyond that

authorized in the CP. The attached map (Exhibit E-2) shows the computed F(50,90) 36 dBu contours predicted according to Section 73.625(b) of the Commission's rules based on the DTV facilities authorized in the current CP and the reduced-power facilities of 32 kW ERP proposed for the STA.

Principal Community Coverage

The Commission requires DTV stations to place a stronger signal over the principal community. The proposed STA operation of Station KWTB Channel 9 places a predicted 43 dBu contour over the community of license as shown in Exhibit E-2.

Topographic Data

The average elevation data of the eight cardinal radials from 3.2 to 16.1 kilometers, are based on the NGDC 3-second computerized terrain database.

Contour Data

Utilizing the formula in Section 73.625(b)(2) for the effective heights shown on the attached tabulation, the depression angle A_h , for each azimuth has been calculated. The maximum radiation value has been used to calculate ERP where the vertical radiation pattern at these angles is greater than 90% of the maximum.

Table I provides the distances along the eight cardinal radials to the predicted F(50,90) 36 dBu and 43 dBu contours, the average elevations, and the effective antenna heights. The distances along each radial to the limits of F(50,90) 36 dBu and 43 dBu contours were determined as specified in Section 73.625(b) by reference to the propagation data for Channels 7-13, as published by the Commission in Figures 10 and 10a, Section 73.699 of its rules.

Population Coverage

The population coverage of the proposed 80% power STA operation relative to the operation authorized in the CP is shown in the following table.

Longley-Rice Predicted Service

	<u>FCC Defined²</u>		<u>Total Longley-Rice³</u>	
	<u>Population</u>	<u>Area</u> (sq. km)	<u>Population</u>	<u>Area</u> (sq. km)
40 kW CP	1,506,600	42,200	1,570,700	50,390
32 kW STA	1,492,200	40,670	1,552,600	48,860
32 kW STA as % of CP	99.0%	96.4%	98.8%	96.7%

As with its operation authorized in the CP, KWTB DTV Channel 9 at reduced power will remain in compliance with radio frequency field (“RFF”) safety guidelines, FAA requirements, and environmental statutes. The total percentage of RFF levels was calculated by combining the percentage contribution of each station.

The total “worst-case” post-transition RFF contribution of all stations two meters above the ground near the base of the KWTB-DT tower is no more than 1.0% of the FCC guidelines for an uncontrolled environment and no more than 0.2% of the FCC guidelines for a controlled environment.

Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or

²OET Bulletin 69 service area.

³OET Bulletin 69 method, except not limited to inside the noise-limited contour of §73.625.

terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

ABOVE GROUND

ABOVE MEAN SEA LEVEL

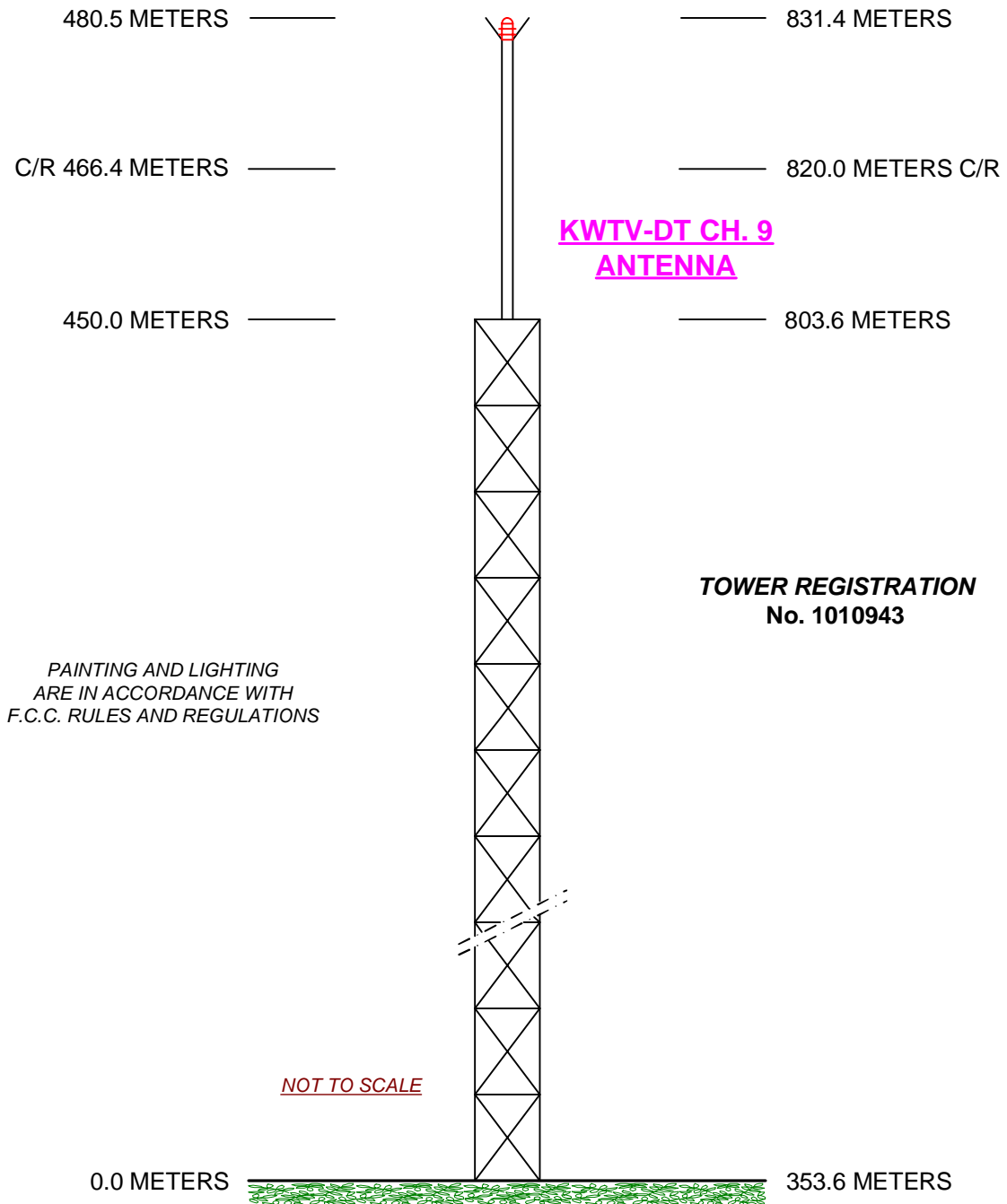


EXHIBIT E-1
VERTICAL SKETCH
FOR THE PROPOSED DTV STA OPERATION OF
KWTB-DT, OKLAHOMA CITY, OKLAHOMA
ON EXISTING CHANNEL 9 ANALOG ANTENNA
OCTOBER 2008

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I
COMPUTED COVERAGE DATA
FOR THE PROPOSED DTV OPERATION OF
KWTV-DT, OKLAHOMA CITY, OKLAHOMA
CHANNEL 9 32 KW 465 METERS HAAT
OCTOBER 2008

<u>Radial</u> <u>Bearing</u> N°E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> meters	<u>Effective</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u>	<u>ERP At</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
					<u>43 dBu</u> <u>City Grade</u> km	<u>36 dBu</u> <u>Noise-Limited</u> km
0	349.6	470.4	0.601	32	100.7	115.5
45	323.1	496.9	0.617	32	102.8	117.0
90	353.4	466.6	0.598	32	100.4	115.2
135	360.1	459.9	0.594	32	99.9	114.7
180	368.3	451.7	0.589	32	99.3	114.0
225	362.8	457.2	0.592	32	99.7	114.5
270	375.4	444.6	0.584	32	98.8	113.3
315	347.2	472.8	0.602	32	100.9	115.7

*Based on data from FCC 3-second data base

DTV Channel 9 (186-192 MHz)
Average Elevation 3.2 to 16.1 km 355 meters AMSL
Center of Radiation 820 meters AMSL
Antenna Height Above Average Terrain 465 meters
Effective Radiated Power 32 kW (15.05 dBk) Max.

North Latitude: 35° 32' 58"
West Longitude: 97° 29' 49"

(NAD-27)

COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.

KWTV-DT PROPOSED STA
43 dBu F(50,90)

KWTV-DT PROPOSED STA
36 dBu F(50,90)

KWTV-DT 36 dBu
CHANNEL 9 CP
(FOR COMPARISON)

EXHIBIT E-2
LONGLEY-RICE COVERAGE (UNBOUNDED)
AND F.C.C. SERVICE CONTOURS
FOR THE PROPOSED STA OPERATION OF
KWTV-DT, OKLAHOMA CITY, OKLAHOMA
CHANNEL 9 32 kW ERP 465 METERS HAAT
OCTOBER 2008

MAP KEY

● KWTV-DT STA COVERAGE

⊙ KWTV-DT STA SITE

0 20 40 60

Kilometers

CREATED WITH MAPTITUDE® GIS FOR WINDOWS FROM CALIPER CORPORATION

EXHIBIT E-3



HARRIS CORPORATION
1111 WEST 10TH AVENUE, SUITE 1000, DENVER, CO 80202

CALCULATED ELEVATION PATTERN

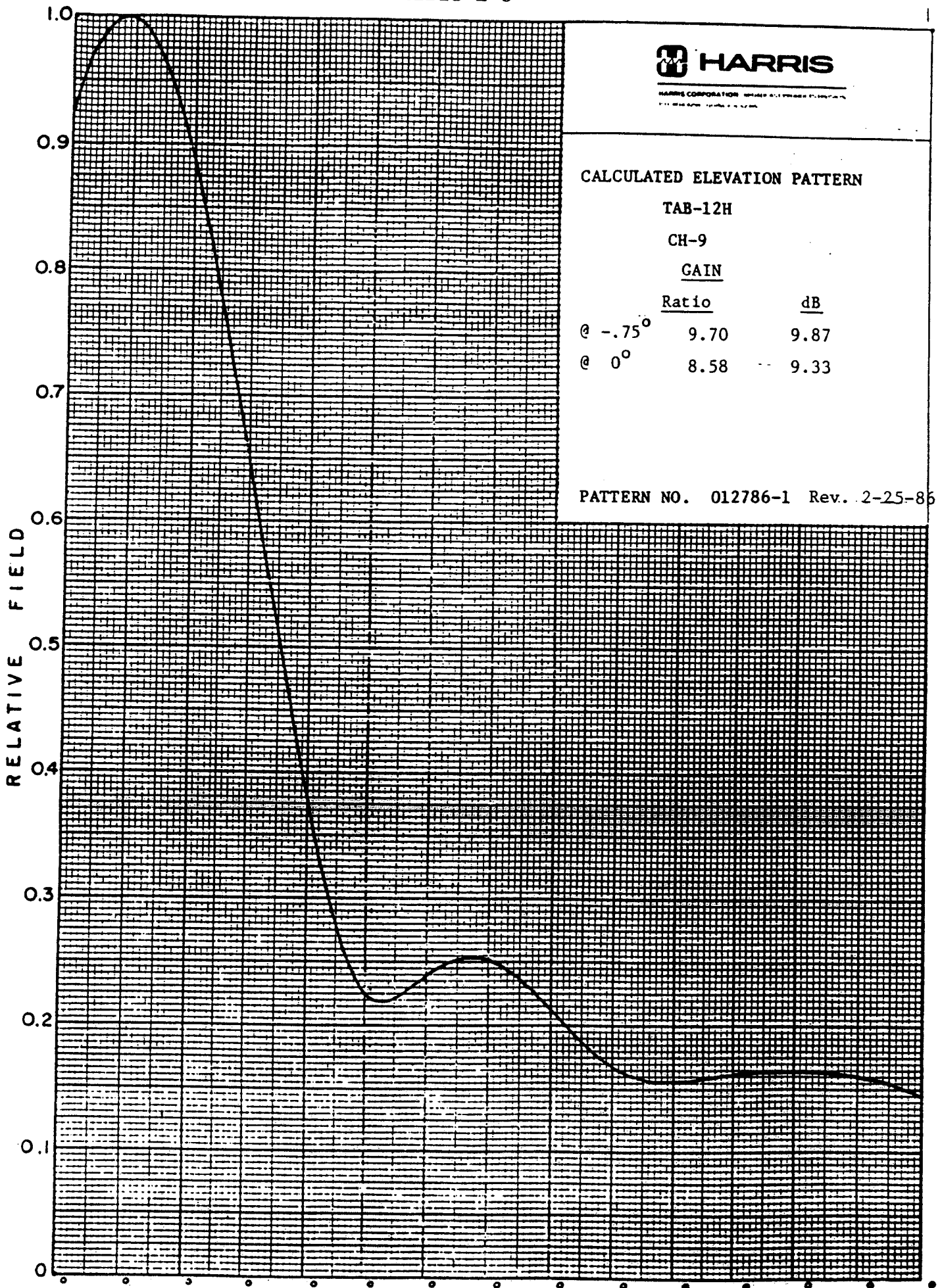
TAB-12H

CH-9

GAIN

	<u>Ratio</u>	<u>dB</u>
@ -0.75°	9.70	9.87
@ 0°	8.58	9.33

PATTERN NO. 012786-1 Rev. 2-25-85



SECTION III - D DTV Engineering

TECHNICAL SPECIFICATIONS Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel Number: DTV _____ Analog TV, if any _____
2. Zone: ☐ I ☐ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- _____ ° _____ ' _____ " ☐ N ☐ S Latitude
_____ ° _____ ' _____ " ☐ E ☐ W Longitude
4. Antenna Structure Registration Number: _____
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: _____ meters
6. Overall Tower Height Above Ground Level: _____ meters
7. Height of Radiation Center Above Ground Level: _____ meters
8. Height of Radiation Center Above Average Terrain: _____ meters
9. Maximum Effective Radiated Power (average power): _____ kW
10. Antenna Specifications:
- a.

Manufacturer	Model
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- b. Electrical Beam Tilt: _____ degrees ☐ Not Applicable
- c. Mechanical Beam Tilt: _____ degrees toward azimuth _____ degrees True ☐ Not Applicable
- Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c).

Exhibit No.

- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical