TECHNICAL EXHIBIT
AMENDMENT TO
APPLICATION FOR DTV CONSTRUCTION PERMIT
FCC FILE NO. BMPCDT-20010703ABD
STATION KCEN-DT
FACILITY ID: 130518
TEMPLE, TEXAS
CH 9 25 KW (MAX-DA) 527 M

Technical Narrative

This Technical Exhibit supports an amendment to the pending application for television (TV) station KCEN-TV on DTV channel 9 at Temple, Texas, FCC File No. BMPCDT-20010703ABD. The pending application proposes DTV operation on channel 9 at Temple with a directional antenna (DA) maximum effective radiated power (ERP) of 26 kW and an antenna height above average terrain (HAAT) of 527 meters. This instant amendment proposes to change the DA system and reduce the effective radiated power (ERP). No other changes are proposed. The technical data set forth herein supersedes in its entirety the technical data currently on file with BMPCDT-20010703ABD.

Station KCEN-TV proposes to operate DTV channel 9 at its allotted DTV site (31-16-24 N, 97-13-14 W). It is proposed to operate with an Andrew ATW6V3-HSCX-9 “cardioid” type directional antenna with a maximum ERP of 25 kilowatts and an HAAT of 527 meters. These facilities exceed those proposed in the KCEN-TV Digital Rulemaking Petition, therefore the application is not considered a “checklist application”.[1]

A site map is not being submitted since this information is already on file for the KCEN-TV analog operation (BLCT-19811231KH). A sketch of antenna and pertinent elevations are included as Figure 1. The FCC antenna registration number for the existing tower is 1047306.

[1] In MM Docket No. 01-46, RM-10046, the FCC allotted channel 9 for KCEN-TV’s DTV operation in place of channel 50. The FCC assigned a directional effective radiated power (ERP) of 7.5 kilowatts (kW) and an antenna radiation center height above average terrain (HAAT) of 573 meters for the DTV allotment.

Figure 2 is data for the proposed Andrew ATW6V3-HSCX-9 directional antenna. Graphs of both the horizontal and vertical antenna patterns are included.

There are no known authorized full service AM stations within 5 kilometers (3 miles) of the KCEN-DT transmitter site. The following is a list of those authorized FM and full service TV stations within 16 kilometers (10 miles) of the proposed DTV site. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems which are a result of its proposed DTV operation.

Station	Channel	Bearing(°True)	Distance(km)
KWTX-FM, Waco, TX	248C	301	10.6
WACO-FM, Waco, TX	260C	310	11.1
KBDE(FM), Temple, TX	210C2	268	13.3
KLRK(FM), Marlin, TX	225C2	3	15.5
KCEN-TV, Temple, TX	6	0	0.0
KWTX-TV, Waco, TX	10	301	10.6
KAKW(TV), Killeen, TX	23	294	11.1
KWKT(TV), Waco, TX	44	294	11.1
KXXV(TV), Waco, TX	25	310	11.1
KCTF(TV), Waco, TX	34	294	12.9

The proposed transmitter site is over 1700 kilometers from the closest point of the Canadian border. Therefore, coordination with respect to Canada is not required.

The proposed DTV site is more than 415 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Kingsville, Texas, approximately 431 kilometers to the south. The proposed DTV site is outside the National Radio Quiet Zone (VA/WVA), the closest point being more than 1600 kilometers to the east. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 1200 kilometers to the northwest. The closest radio astronomy site operating on TV channel 37 is at Fort Davis, Texas, over 600 kilometers to the west. These separations are sufficient to not be a concern for coordination purposes.

Figure 3 is a map showing the DTV predicted coverage contours. The map provides the predicted 36 dBu f(50,90) noise limited contour and the 43 dBu f(50,90) city coverage contour. The extent of the contours has been calculated using the normal FCC prediction method. The Temple city limits were derived from information contained in the 1990 U.S. Census for Texas. As shown, the 43 dBu contour encompasses the entire city limits of Temple.

An interference analysis has been conducted using the procedures outlined in the FCC's OET-69 bulletin and employing a 1 kilometer grid. Results of the analysis indicate that the proposal complies with the interference protection provisions of Section 73.623(c)(2).[2] Interference calculations for the proposed KCEN-DT operation are summarized below. It is noted that the summary only includes stations with which interference is calculated.

Station	Channel	FCC Service Population	Prop. DTV Interference Population
WFAA-TV, Dallas, TX	DTV-8	4,235,133	482 (0.01%)
KRBC-TV, Abilene, TX	NTSC-9	225,102	607 (0.27%)
WFAA-DT, Dallas, TX	DTV-9	4,201,029	73,722 (1.76%)
WFAA-DT, Dallas, TX	DTV-9	4,201,029	67,752 (1.61%)
KUHT-DT, Houston, TX	DTV-9	3,852,996	3,108 (0.08%)
KUHT-DT, Houston, TX	DTV-9	3,852,996	3,022 (0.08%)
KTRE(TV), Lufkin, TX	NTSC-9	224,767	252 (0.11%)
KLRN(TV), San Antonio, TX	DTV-9	1,524,382	27,160 (1.78%)
KXTX-TV, Waco, TX	NTSC-10	895,633	22 (0.00%)

From the above, it is apparent that the proposed KCEN-DT DTV operation on channel 9 complies with the FCC's 2%/10%

[2] The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. **A nominal grid size resolution of 1 km was employed**. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin No. 69.

interference standard toward all authorized analog and DTV assignments.

The proposed KCEN-DT operation was also studied to determine its potential impact on Class A LPTV stations. Based on our analysis the proposed operation will not adversely affect any Class A LPTV stations.

The proposed KCEN-DT facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the KCEN-DT antenna is located 526 meters above ground level. The maximum DTV ERP is 25 kW. A relative field value of 0.16 is presumed for the antenna's downward radiation (see Sheet 2 of Figure 2). The calculated power density at two meters above ground level is 0.0001 mW/cm^2. This is 0.05% of the FCC's recommended limit of 0.2 mW/cm^2 for channel 9 for an “uncontrolled” environment.

Access to the transmitting site will be restricted and appropriately marked with warning signs. As this is a multi-user site, an agreement will control access to the site. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling

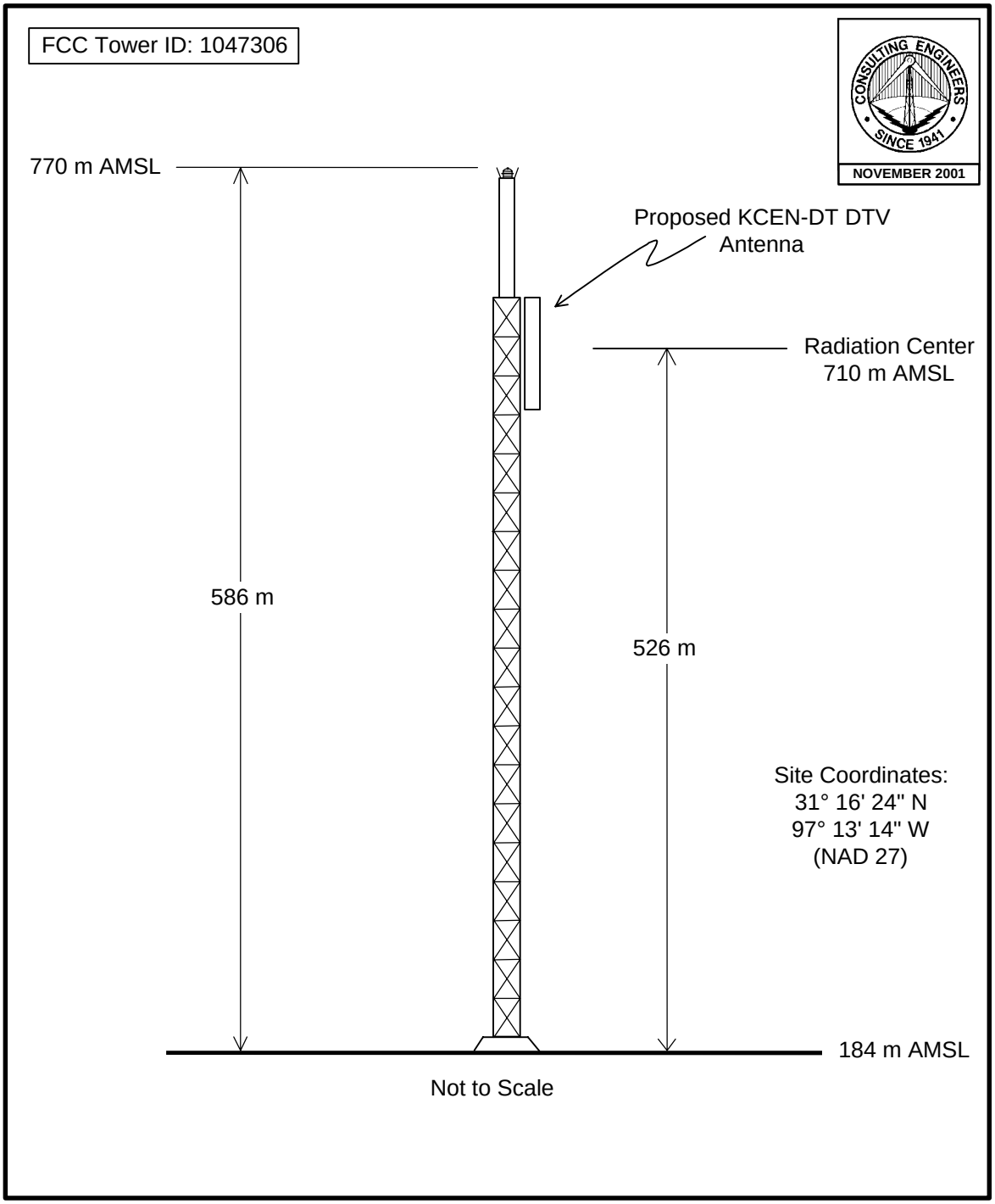
work when the stations are at reduced power or shut down. The proposed KCEN-TV DTV operation appears to be otherwise categorically excluded from environmental processing.

W. Jeffrey Reynolds

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941)329-6000
JEFF@DLR.COM

November 12, 2001

Figure 1



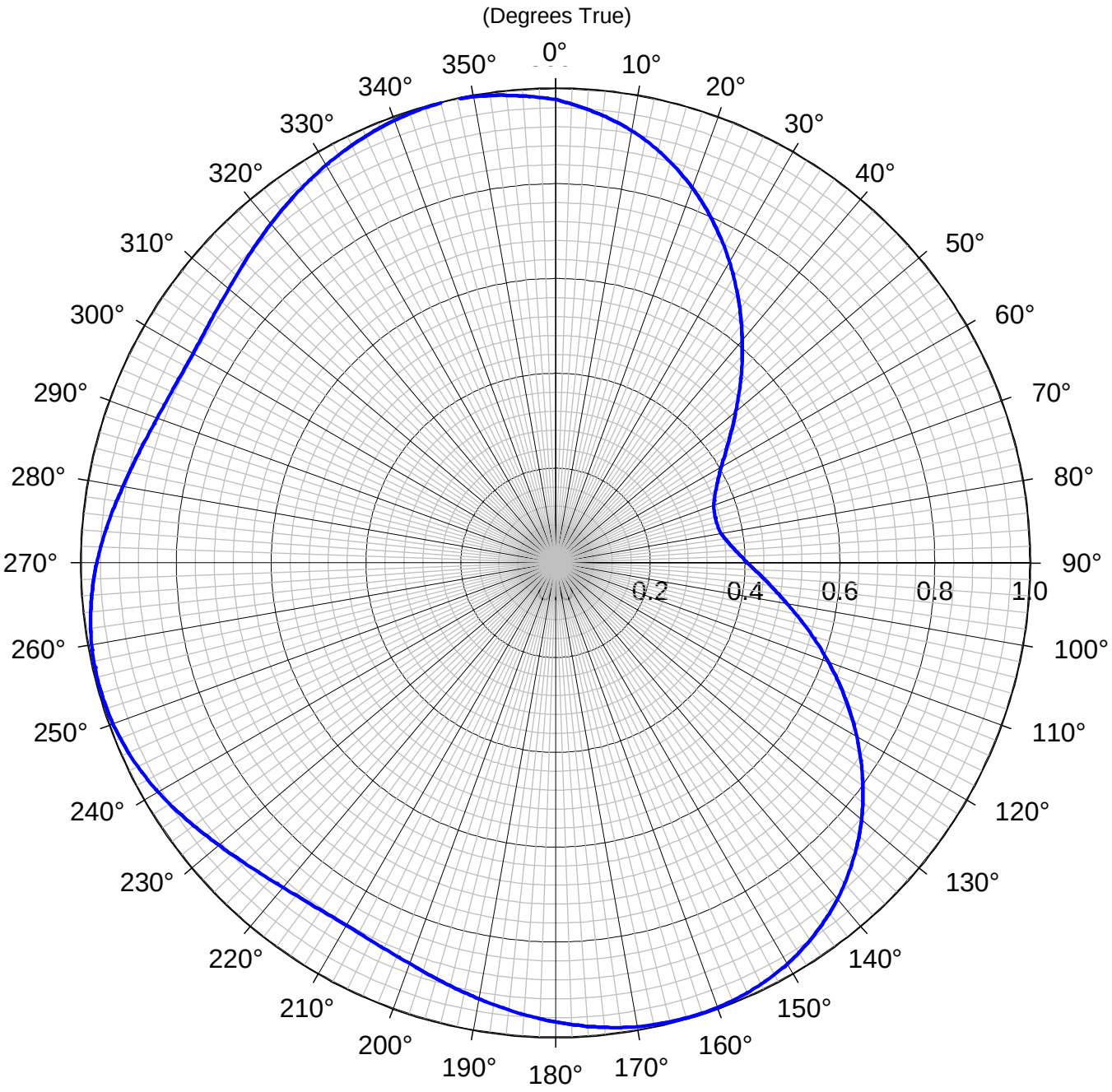
PROPOSED ANTENNA AND SUPPORTING STRUCTURE

STATION KCEN-DT

TEMPLE, TEXAS

CH 9 25 KW (MAX-DA) 527 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



DIRECTIONAL ANTENNA RADIATION PATTERN

(RELATIVE FIELD)

STATION KCEN-DT

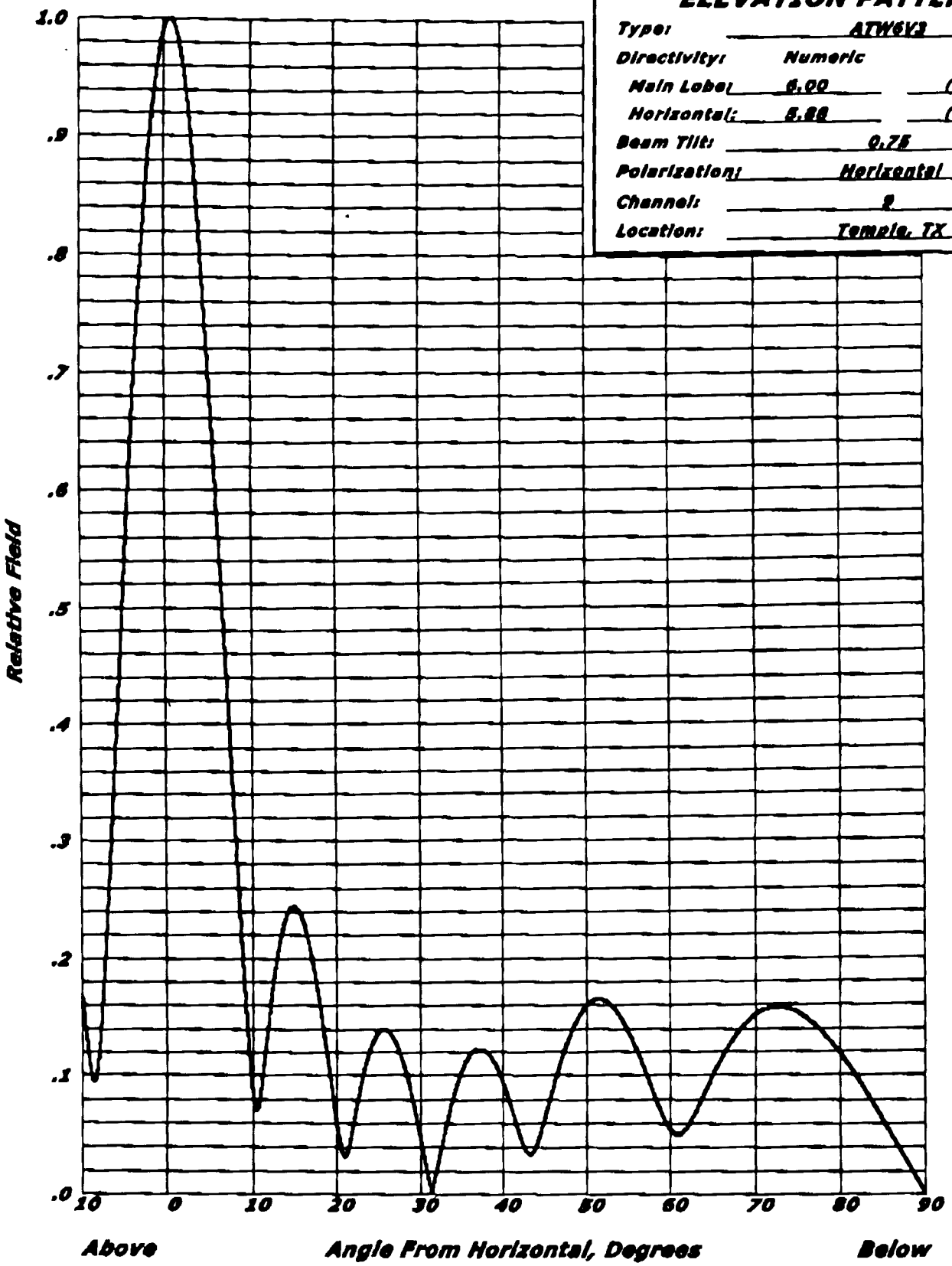
TEMPLE, TEXAS

CH 9 25 KW (MAX-DA) 527 M

ANDREW

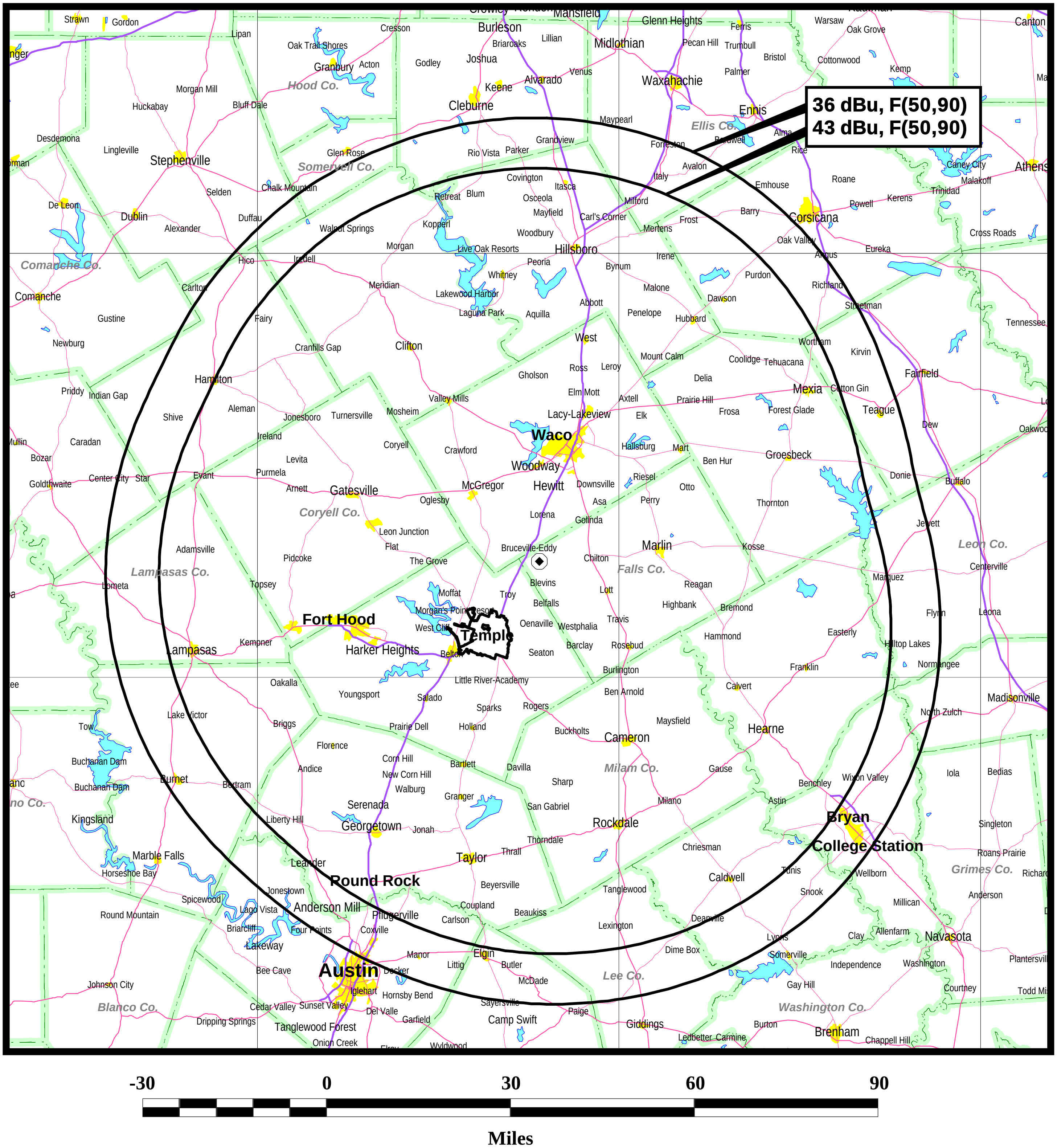
ELEVATION PATTERN

Type:	ATW6V2	
Directivity:	Numeric	dBd
Main Lobe:	6.00	(7.78)
Horizontal:	5.88	(7.69)
Beam Tilt:	0.75	
Polarization:	Horizontal	
Channel:	8	
Location:	Temple, TX	



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

Figure 3



PREDICTED COVERAGE CONTOURS

STATION KCEN-DT
TEMPLE, TEXAS
CH 9   25 KW (MAX-DA)   527 M

du Treil, Lundin & Rackley, Inc. Sarasota, FL