

TECHNICAL EXHIBIT  
MINOR MODIFICATION OF CONSTRUCTION PERMIT  
STATION KABY-DT (FACILITY ID 48659)  
ABERDEEN, SOUTH DAKOTA

JULY 31, 2002

CH 28    54 KW (MAX-DA)    396 M

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Technical Narrative

This Technical Exhibit was prepared on behalf of digital television broadcast station KABY-DT at Aberdeen, South Dakota. Station KABY-DT is authorized for operation on channel 28 with a directional antenna maximum effective radiated power (ERP) of 704 kW and an antenna height above average terrain (HAAT) of 401 meters (BPCDT-19991025ACT). This “checklist” application proposes to reduce ERP and antenna HAAT and change to a directional antenna. There is no proposed change in site, channel (28) or city of license (Aberdeen).

Proposed Facilities

The proposed site coordinates remain (NAD27): 45-06-23 N, 97-53-57 W. A directional antenna maximum ERP of 54 kW and antenna HAAT of 396 meters are proposed. The FCC antenna structure registration number remains 1041932.

The FCC assigned an ERP of 672 kilowatts (kW) with a directional antenna (DA) envelope and an antenna height above average terrain (HAAT) of 427 meters for the KABY DTV allotment. The proposed ERP (54 kW-DA) will not exceed the allotted ERP in any azimuth and the proposed antenna HAAT is less than the allotted HAAT. Therefore, this

application is considered “checklist” and no allocation studies are necessary. The proposal would not be subject to environmental processing in accordance with Section 1.1306.

The proposed transmitter site is more than 400 kilometers from the closest point of the Canadian border. The site is more than 1,600 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Grand Island, Nebraska, more than 400 kilometers to the north. The closest point of the National Radio Quiet Zone (VA/WV) is more than 1,500 kilometers to the east-southeast. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 800 kilometers to the southwest. The closest radio astronomy site operating on TV channel 37 is at North Liberty Iowa, more than 600 kilometers to the southeast. These separations are sufficient to not be a concern for coordination purposes.

#### Nearby Broadcast Facilities

There are no AM stations within 16 kilometers of the proposed transmitter site. Other than KABY-TV, there are no other full service FM or TV stations within 16 kilometers of the proposed site. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

#### Radiofrequency Electromagnetic Field Exposure

The proposed KABY-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 proposed antenna is located 352.9 meters above ground level with a maximum ERP of 54 kW. A relative field value of 0.2 was assumed for the antenna's downward radiation (see Figure 2C). The calculated power density at a point 2 meters (6.6 feet) above ground level is  $0.0006 \text{ mW/cm}^2$ . This is less than 0.2% of the FCC's recommended limit of  $0.37 \text{ mW/cm}^2$  for channel 28 for an “uncontrolled” environment.

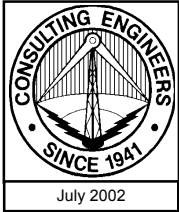
Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. 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 KABY-DT operation appears to be otherwise categorically excluded from environmental processing.



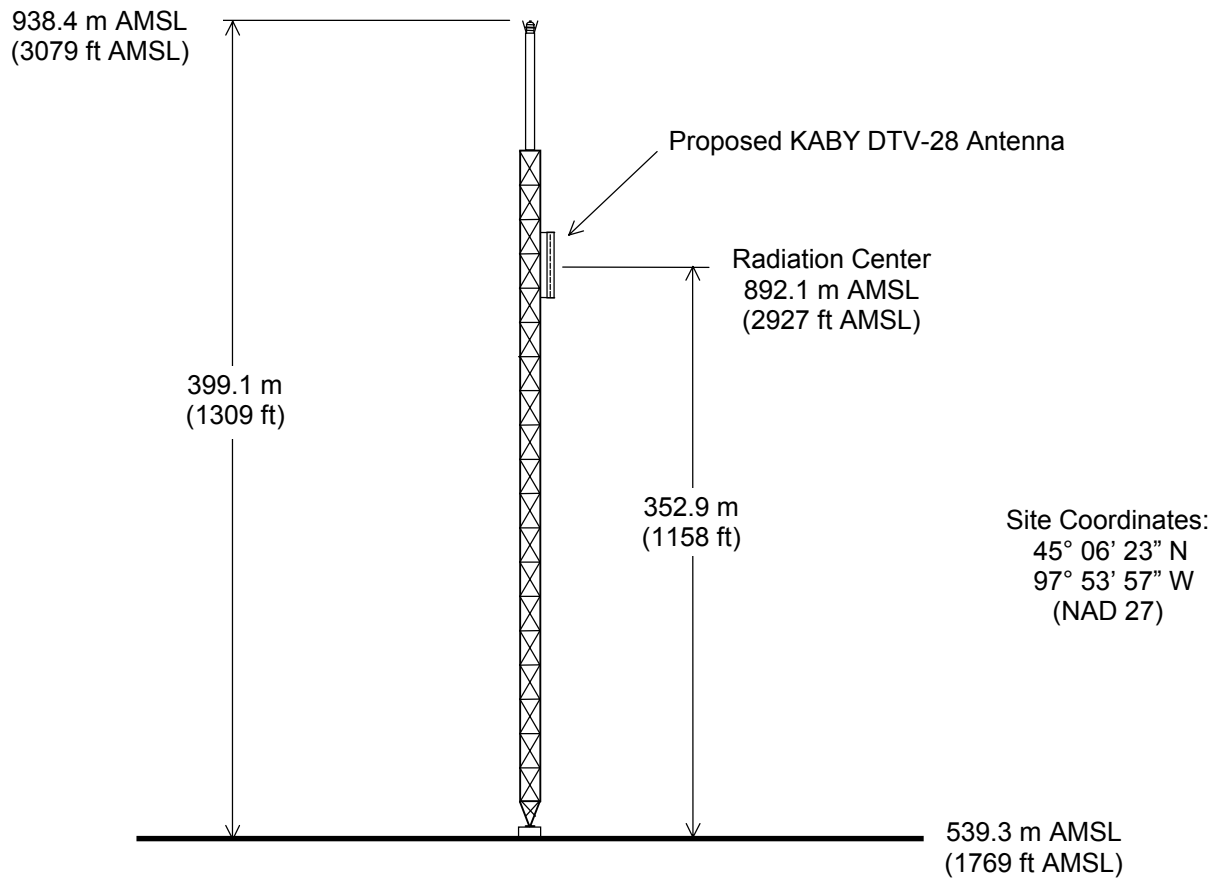
Jonathan N. Edwards

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

July 31, 2002



Tower Reg. No. 1041932



Not to Scale

## ANTENNA AND SUPPORTING STRUCTURE

STATION KABY-DT

ABERDEEN, SOUTH DAKOTA

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



Date	31 Jul 2002	
Call Letters	KABY-DT	Channel 28
Location	Aberdeen, SD	
Customer		
Antenna Type	TLP-24M (C)	

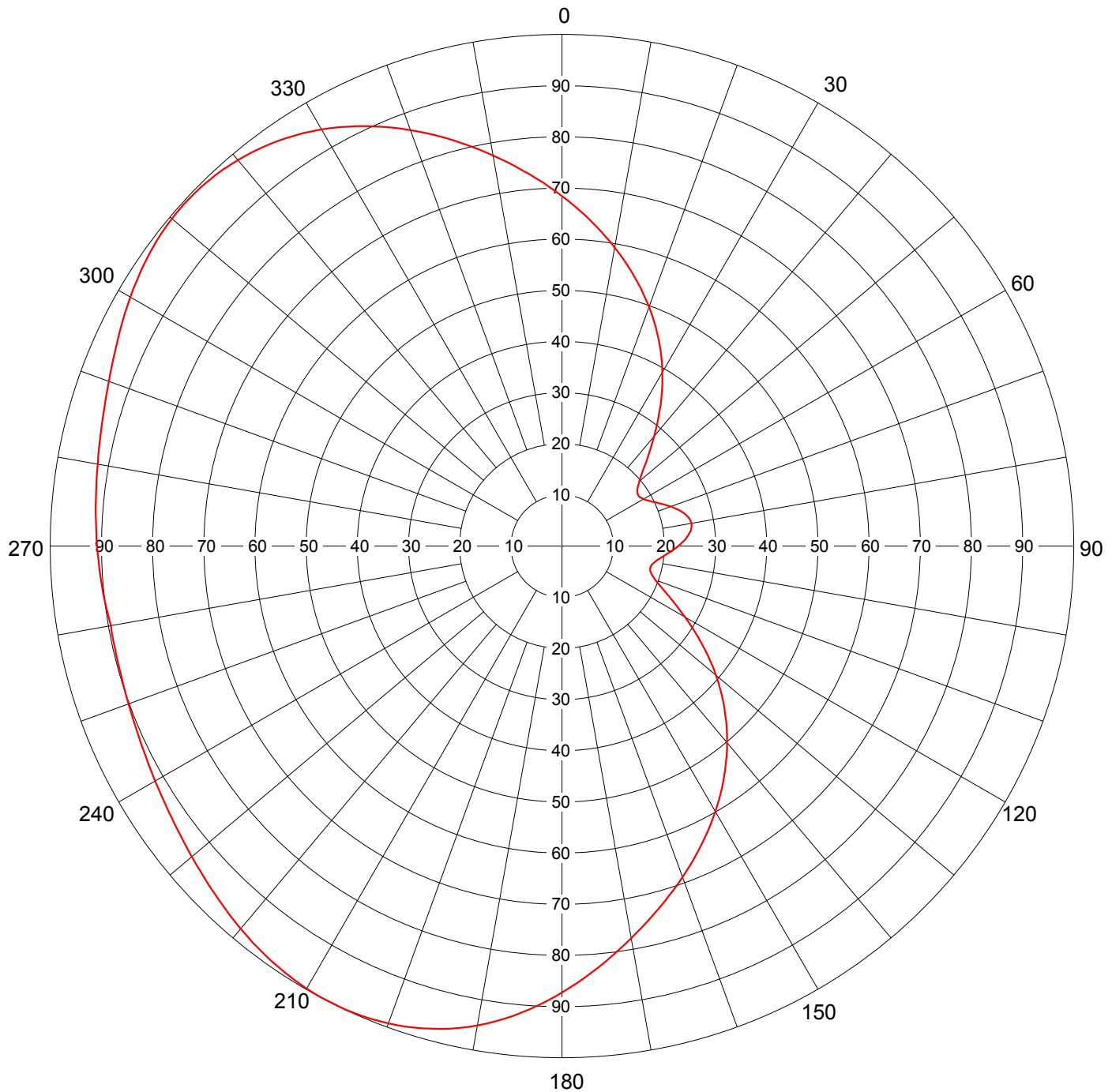
### AZIMUTH PATTERN

RMS Gain at Main Lobe  
Calculated / Measured

**1.90 (2.79 dB)**  
**Calculated**

Frequency  
Drawing #

**557 MHz**  
**TLP-M**



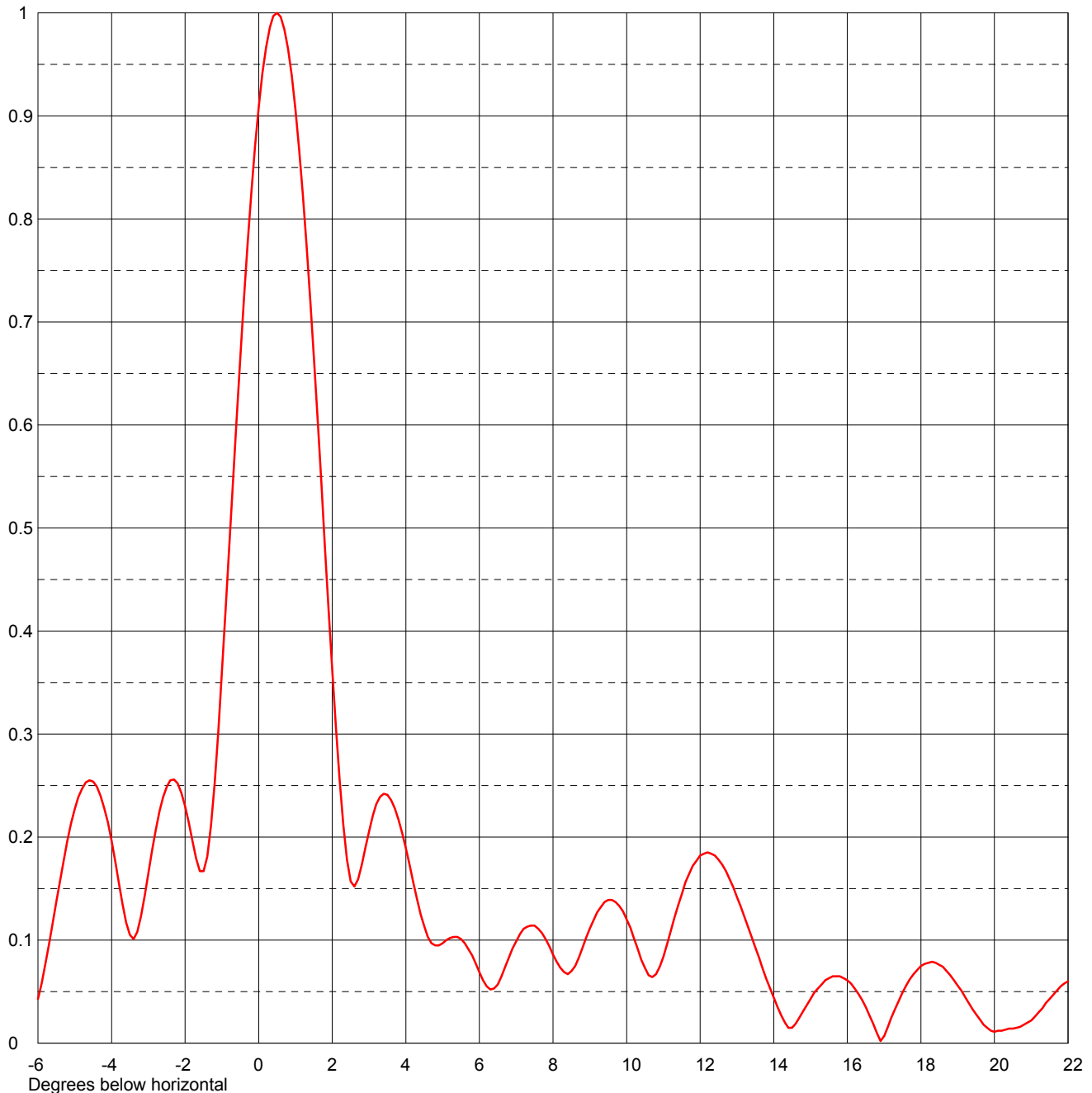
Remarks:



Date	31 Jul 2002	
Call Letters	KABY-DT	Channel 28
Location	Aberdeen, SD	
Customer		
Antenna Type	TLP-24M (C)	

### ELEVATION PATTERN

RMS Gain at Main Lobe	23.0 (13.62 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	19.0 (12.79 dB)	Frequency	557.00 MHz
Calculated / Measured	Calculated	Drawing #	24L230050



Remarks:

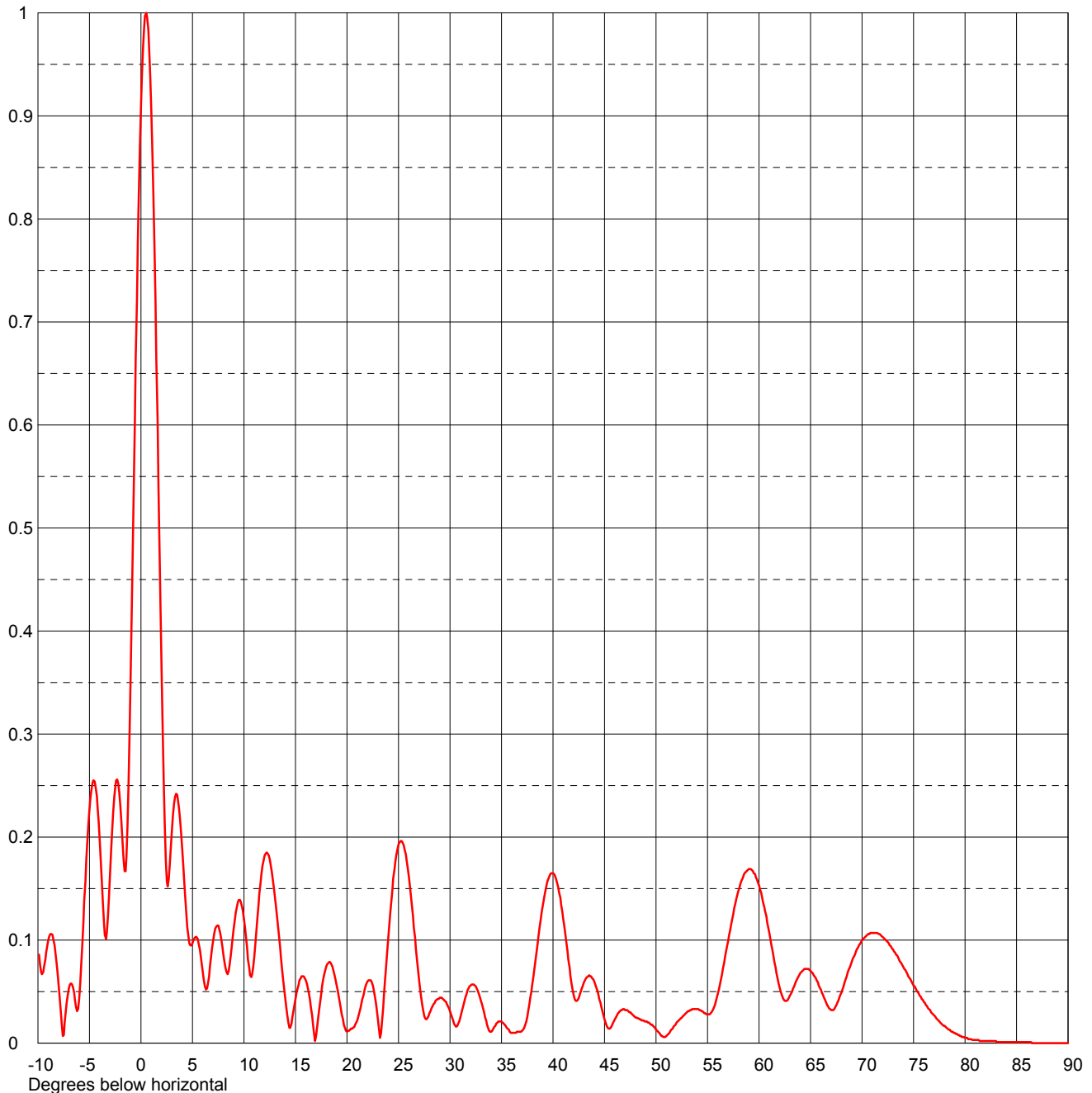




Date	31 Jul 2002	
Call Letters	KABY-DT	Channel 28
Location	Aberdeen, SD	
Customer		
Antenna Type	TLP-24M (C)	

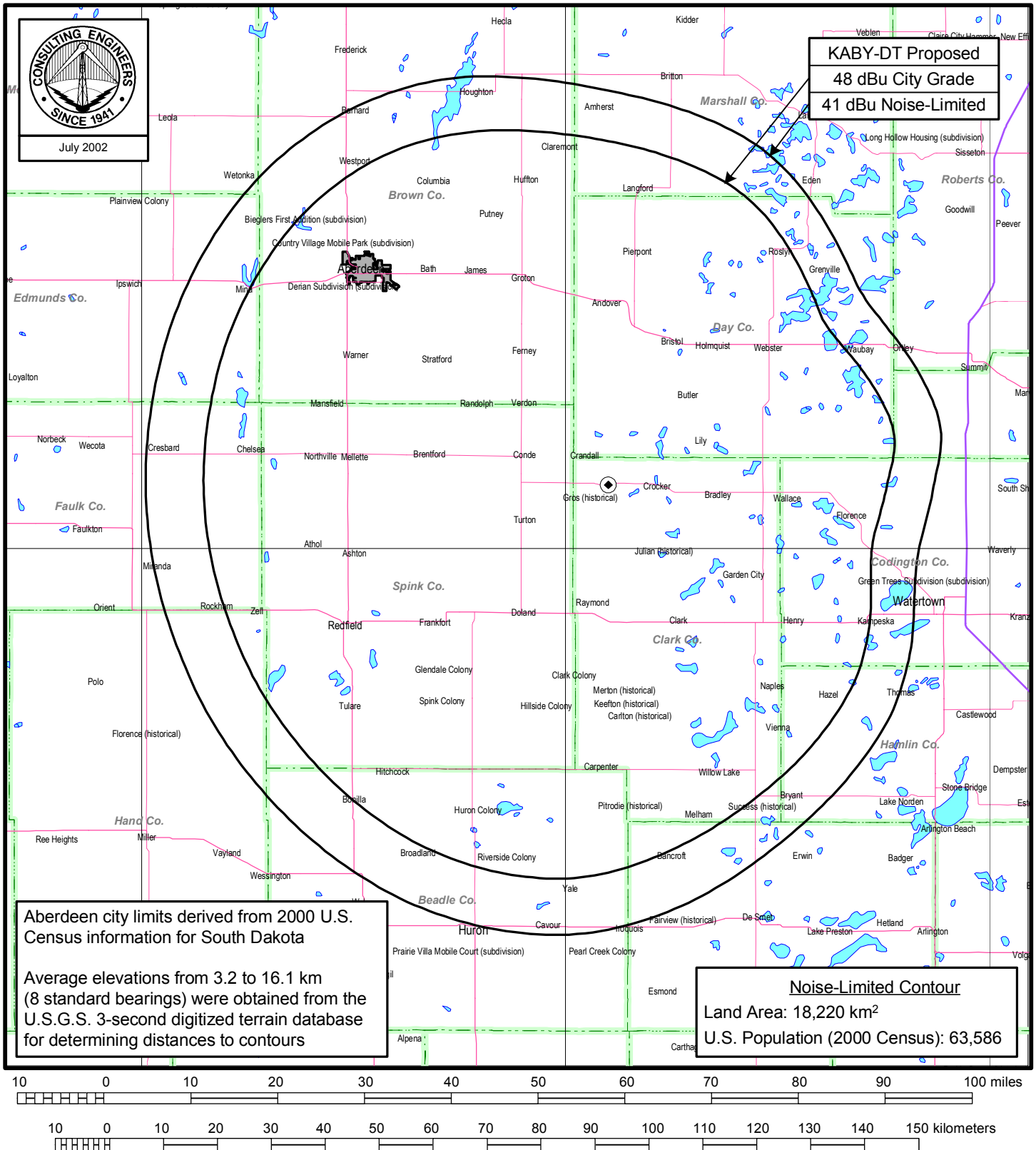
### ELEVATION PATTERN

RMS Gain at Main Lobe	23.0 (13.62 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	19.0 (12.79 dB)	Frequency	557.00 MHz
Calculated / Measured	Calculated	Drawing #	24L230050-90



Remarks:

Figure 3



## PREDICTED F(50,90) COVERAGE CONTOURS

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du Treil, Lundin & Rackley, Inc Sarasota, Florida