

TECHNICAL EXHIBIT
APPLICATION FOR MINOR MODIFICATION
OF CONSTRUCTION PERMIT
STATION WIAT-DT (FACILITY ID 5360)
BIRMINGHAM, ALABAMA

DECEMBER 14, 2001

CH 30 1000 KW (MAX-DA) 426 M

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Technical Narrative

This Technical Exhibit supports a minor modification of construction permit (CP) for digital television (DTV) station WIAT-DT on channel 30 at Birmingham, Alabama. Station WIAT-DT is authorized to operate with a directional antenna (DA) system (BPCDT-19991025ADL). The maximum effective radiated power (ERP) is 1000 kilowatts (kW) and the antenna height above average terrain (HAAT) is 364 meters. The transmitter site coordinates are 33-29-02, 86-48-21.

Proposed Facilities

This minor modification proposes to change transmitter site, increase HAAT and change the directional antenna pattern. It is proposed to relocate to the nearby American Tower Corporation (ATC) tower, approximately 0.14 kilometer (0.09 mile) northwest of the WIAT-DT CP site. The coordinates of the ATC tower are 33-29-04, 86-48-25, and the FCC antenna registration number is 1226663. It is proposed to mount a Dielectric TFU-30GTH-R-4C200 directional antenna on the structure with the radiation center located 326.4 meters above ground level (AGL), 615.1 meters above mean sea level (AMSL). The antenna HAAT will be 426 meters. There is no proposed change in channel (30), maximum ERP (1000 kW-DA) or city of license (Birmingham, AL).

The proposed WIAT-DT transmitter site is more than 900 kilometers from the closest point of the Canadian border. The site is more than 1,300 kilometers from the closest point of the Mexican border. The closest FCC monitoring station is at Powder Springs, Georgia, approximately 197 kilometers to the east. The closest point of the National Radio Quiet Zone (VA/WV) is approximately 720 kilometers to the northeast. The closest point of the Table Mountain Radio Quiet Zone (CO) is more than 1,700 kilometers to the west-northwest. The closest radio astronomy site operating on TV channel 37 is at Green Bank, West Virginia, approximately 833 kilometers to the northeast. These separations are considered sufficient to not be a concern for coordination purposes.

Nearby Broadcast Facilities

There are no known authorized full service AM stations within 3.2 kilometers (2 miles) of the proposed WIAT-DT transmitter site. There are a number of authorized FM stations (14) and TV/DTV stations (13) within 16 kilometers (10 miles) of the proposed WIAT-DT site. Although no adverse electromagnetic impact is expected, the applicant recognizes its responsibility to correct problems that may result from its proposed operation.

Allocation Study

Interference calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid. The proposed WIAT-DT operation does not cause excessive (greater than 2%, up to 10% total) calculated interference to any analog (NTSC) or DTV assignment and therefore complies with the FCC's 2%/10% interference standard.

Class A Consideration

The FCC's list of low power television (LPTV) assignments eligible for Class A status and the FCC CDBS system have been reviewed for potential Class A impact. The only assignment requiring consideration is Class A station W27CM on channel 27 at Birmingham, Alabama (BLTTA-20010712ADY). Using the procedures outlined in the FCC's OET-69 Bulletin, the proposed WIAT-DT operation causes no interference (ie, 0 people) to the W27CM service area. If necessary, a waiver of the FCC rules is respectfully requested based on use of the OET-69 interference procedures.

Radiofrequency Electromagnetic Field Exposure

The proposed WIAT-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 DTV antenna is located 326.4 meters above ground level. The maximum DTV ERP is 1000 kW. A conservative relative field of 0.1 was used for the calculation (see Figure 2). The "worst-case" calculated power density at a point 2 meters (6.6 feet) above ground level is 0.0032 mW/cm^2 . This is less than 1% of the FCC's recommended limit of 0.38 mW/cm^2 for channel 30 in 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. 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 WIAT-DT operation appears to be otherwise categorically excluded from environmental processing.

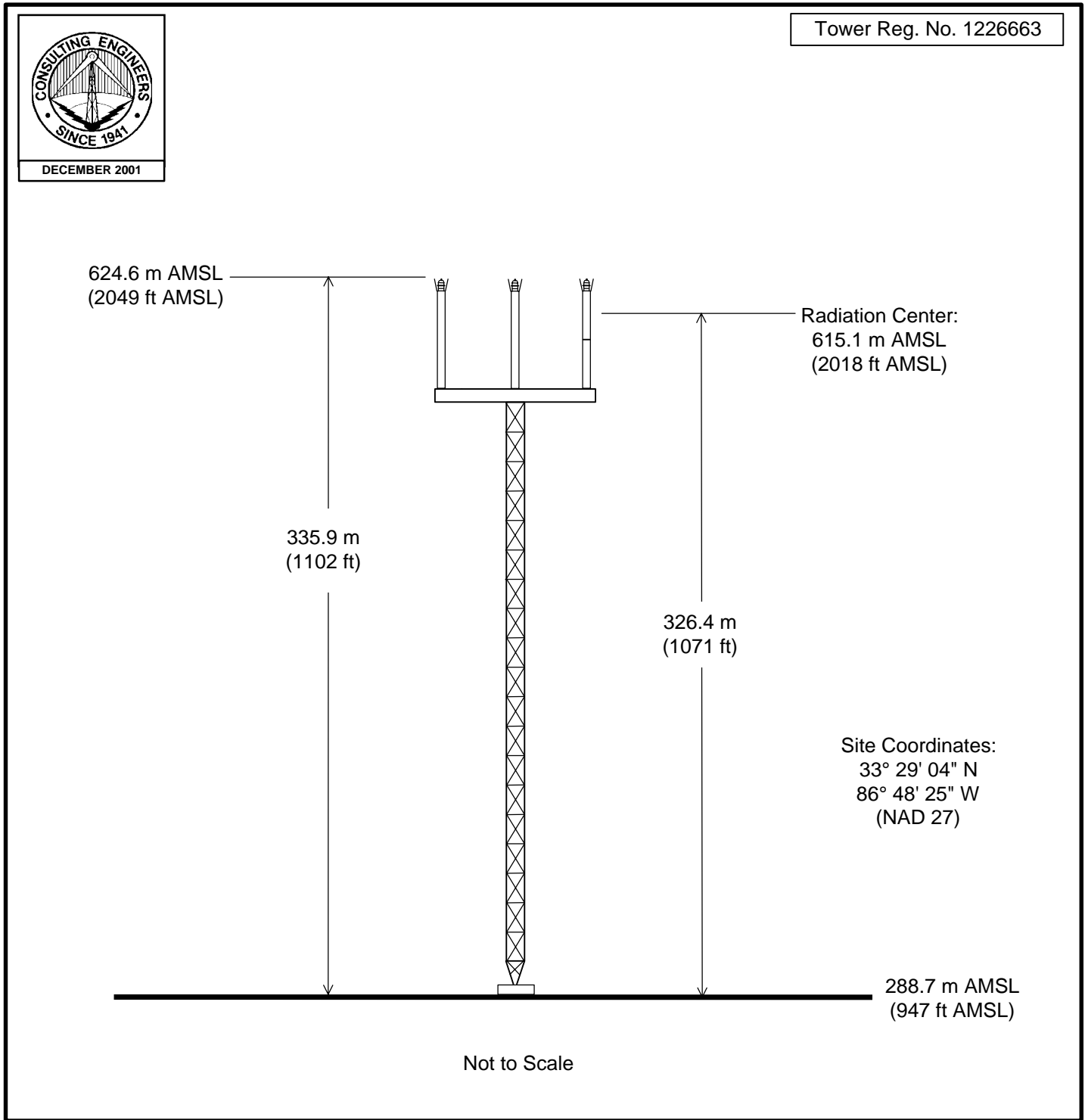
If there are questions concerning the technical portion of this application, please contact the office of the undersigned.

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Figure 1



PROPOSED ANTENNA AND SUPPORTING STRUCTURE

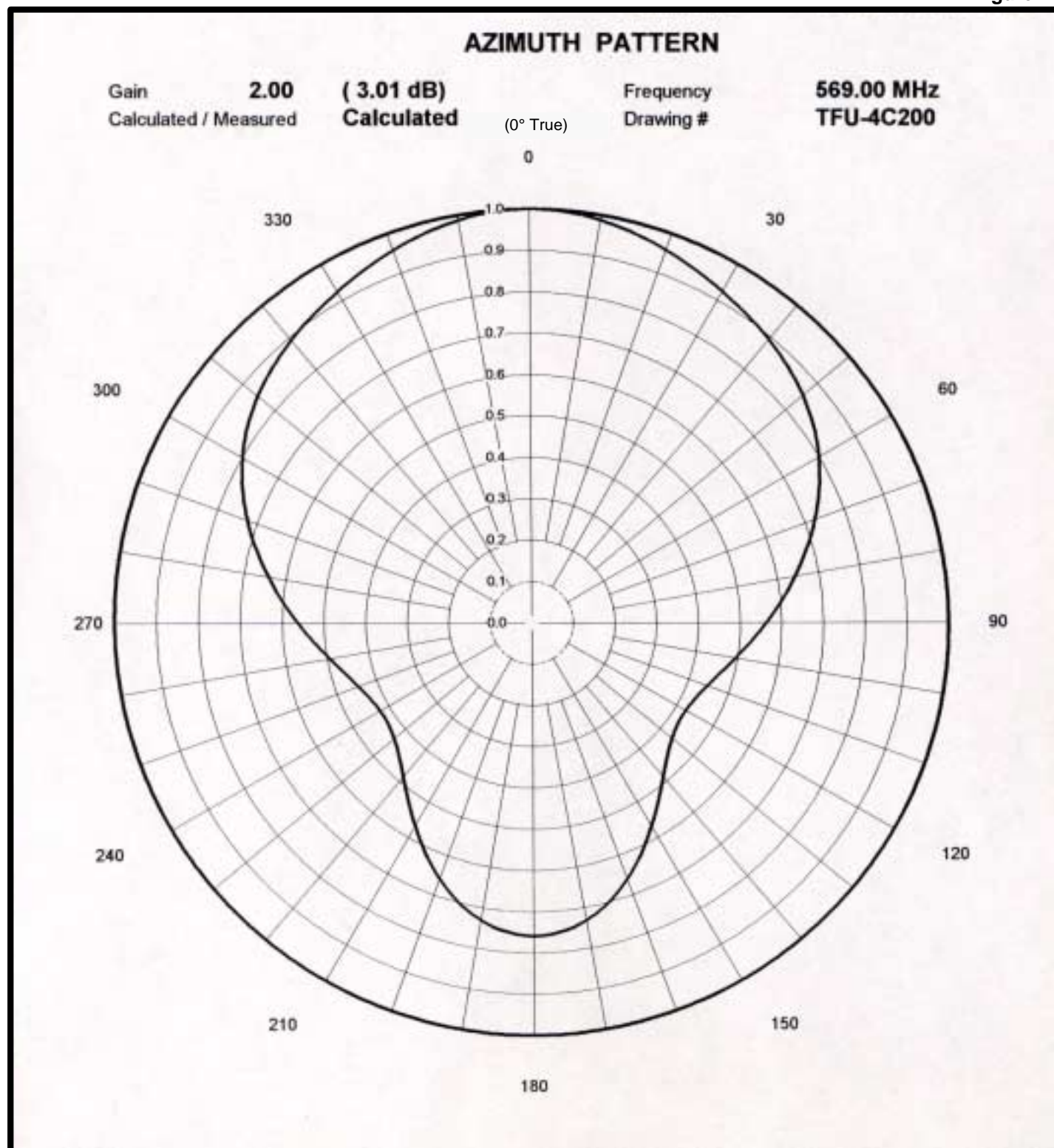
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Figure 2A



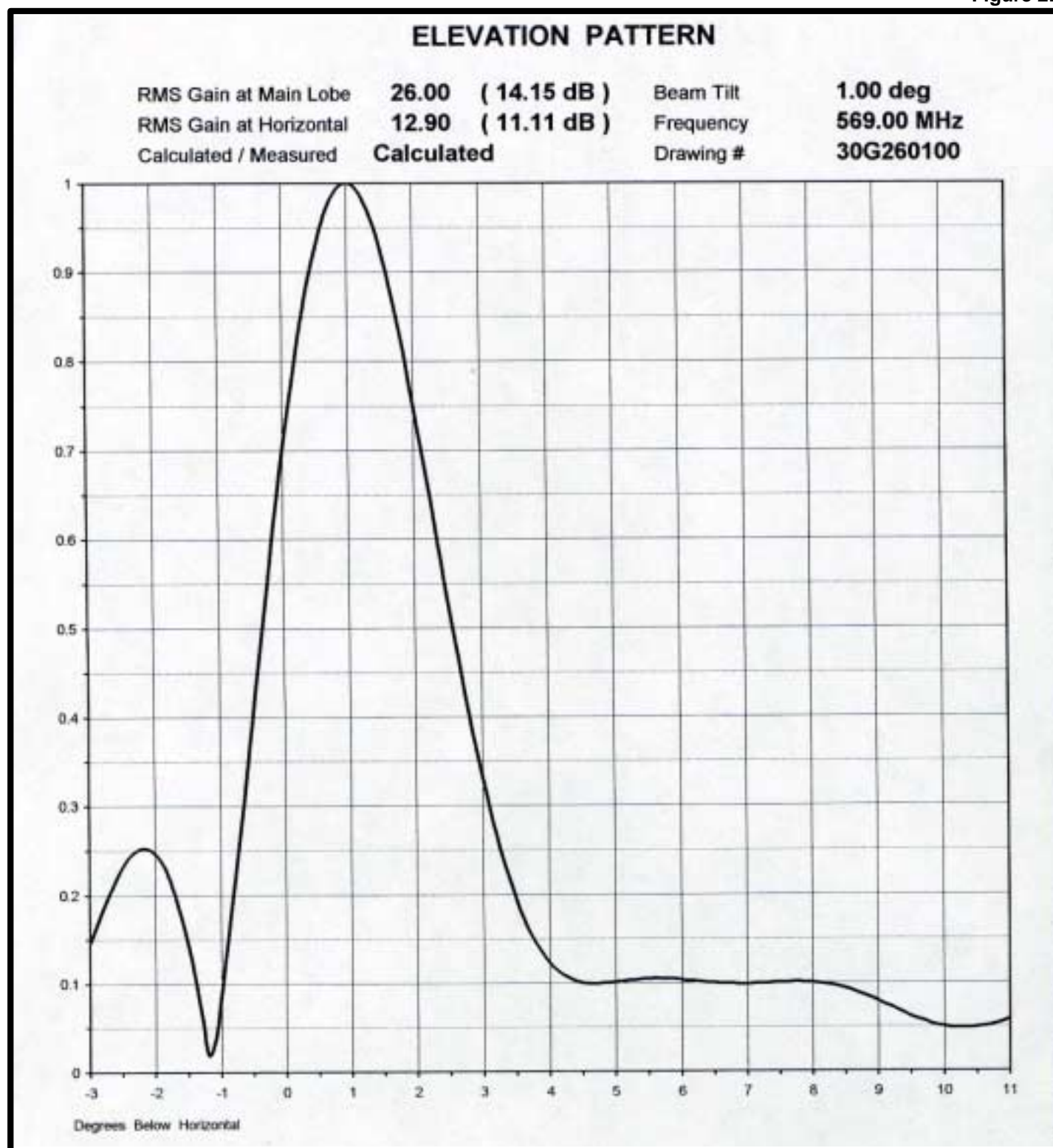
DIRECTIONAL ANTENNA HORIZONTAL PLANE PATTERN

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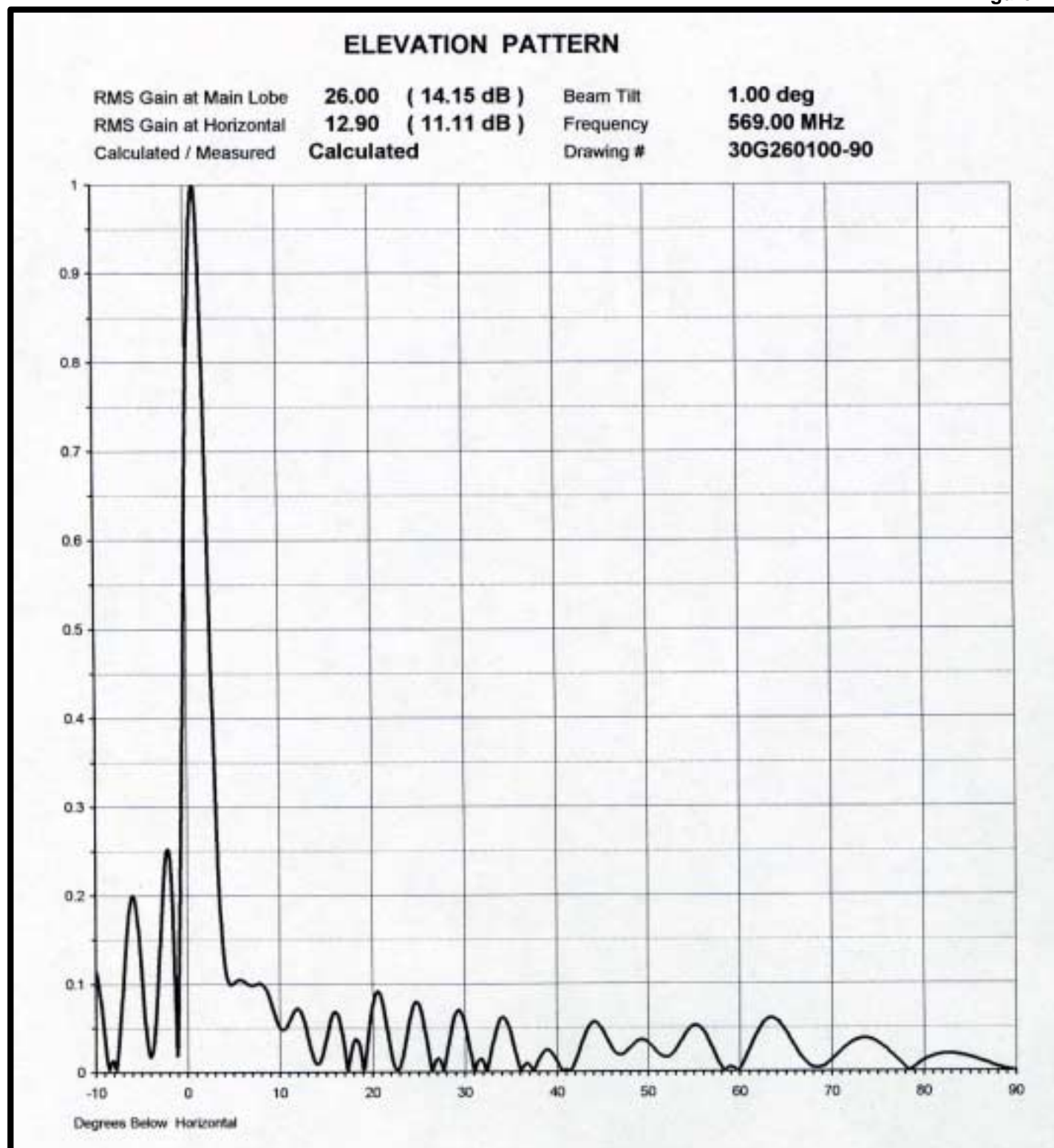
DIRECTIONAL ANTENNA VERTICAL PLANE PATTERN

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DIRECTIONAL ANTENNA VERTICAL PLANE PATTERN

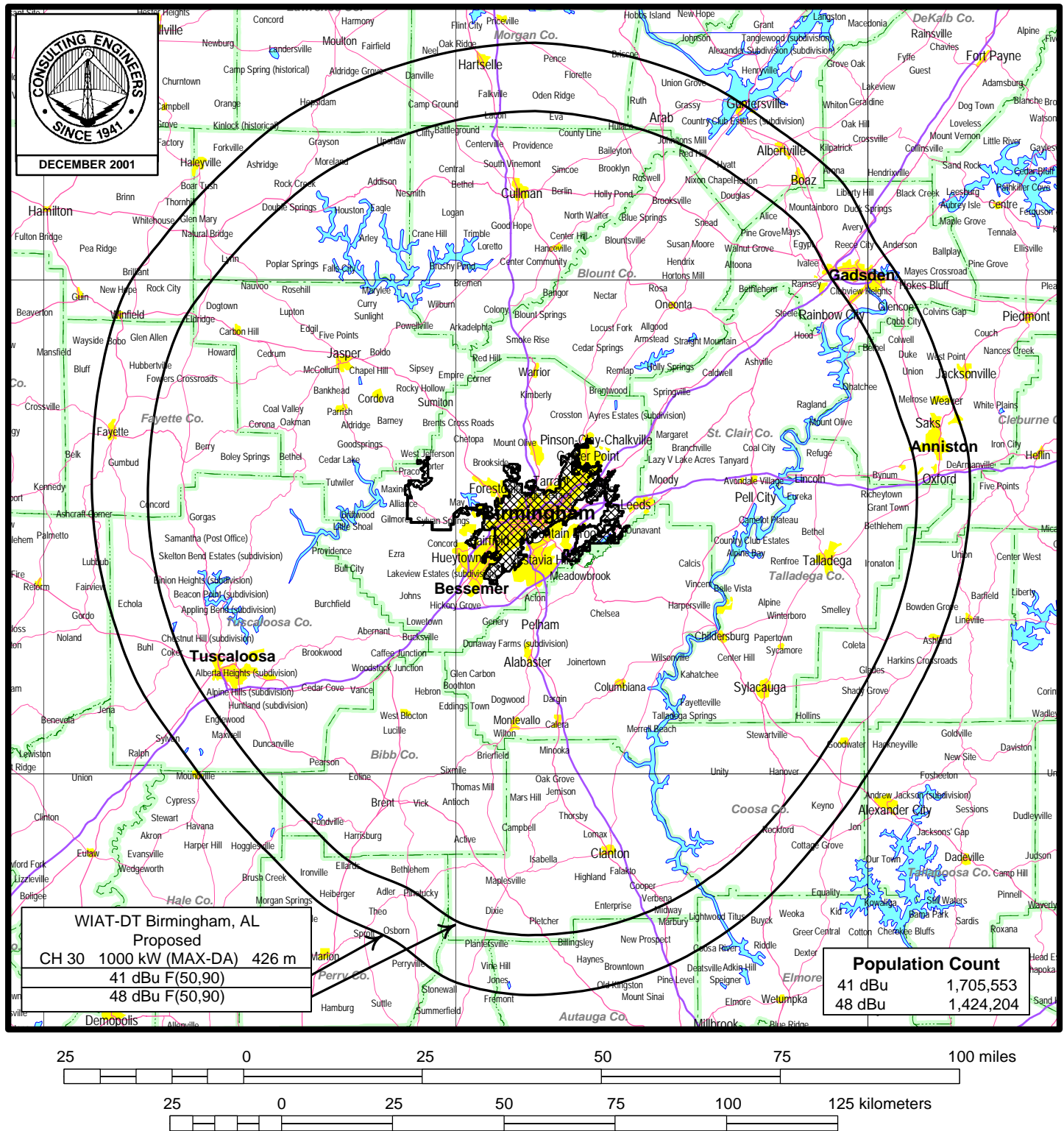
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Figure 3



PREDICTED COVERAGE CONTOURS

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