

**Modify W261DL FM Translator Station
CH 261D (100.1 MHz) - 0.099 kW East Point, GA**

Proposed CH261D (100.1 MHz) - 0.250 kW East Point, GA

April 21, 2022

TECHNICAL NARRATIVE

This Technical Narrative and attached exhibits were prepared on behalf of North Georgia Broadcasting, (“NGB”), licensee of FM translator station W261DL, Channel 261D, Facility ID No. 200345, East Point, GA. NGB herein proposes to modify W261DL by relocating to a new tower site. The modified W261DL will be used as a fill-in translator for WMDG, 1260 kHz, Facility ID No. 19541, licensed to East Point, GA. NGB is the licensee of WMDG so written consent to retransmit WDMG is not required. An exhibit demonstrating FCC Section 74.1201(g) “Fill-In Translator” is included with this application.

The application site is an existing self-supporting tower, 133 meters in overall height. The tower does not have an Antenna Structure Registration (“ASR”) number. There is another identical height self supporting tower less than 50 feet from the tower registered with ASR number 1209987. The presence of this tower likely explains the lack of a tower registration. The application site coordinates are 33° 41' 20.4" N. Latitude and 84° 30' 37.7" W. Longitude. The proposed W261DL facility would operate with 250 watts ERP directional with circular polarization at 131 meters above ground and 148.35 meters HAAT.

A channel study using Section 73.207 separation distances for Class A FM stations is included as an exhibit. This channel study is provided as a courtesy to FCC staff to help identify potential

contour overlap issues. Exhibits demonstrating Section 74.1204 contour protection are included for second adjacent full power FM stations WWWQ, Channel 259CO, Atlanta, GA and WNNX, Channel 263C2, College Park GA, co-channel FM translator W239AY, Channel 261D, Atlanta, GA, co-channel full power FM stations WNSY, Channel 261C3, Talking Rock, GA, WRPB, Channel 261C3, Anniston, AL, WQMJ, Channel 261A, Forsyth, GA and WPUP, Channel 261A, Watkinsville, GA.

Also note two other references on the Class A FM channel study. FM translator W261BG, Channel 261D, Morrow, GA has a pending minor modification application with LMS file No. 0000130311 to change frequency to Channel 292D (106.3 MHz). NGB understands the Commission will withhold processing of this application until the W261BG application has been granted and the license application has been filed. The Class A FM channel study also shows a 0.9 km short-spacing to IF spaced full power FM station WRFG, Channel 207C1, Atlanta, GA. The channel study was done specifying a 6.0 kW Class A FM station. A recent FCC policy change allows FM translator to use 3.0 kW Class A FM station spacings. The 6.0 Class A to Class C1 minimum spacing is 21.5 km. The 3.0 kW Class FM spacing is 20.5 km. Included as an exhibit is Table C - Minimum Distance Separation Requirements in Kilometers from FCC 97-272. Highlighted in yellow from this table is the Class A to Class C1 minimum spacings. The 10.6 or 10.8 MHz (I.F.) minimum distance for Class A to Class C1 is 21 km. The FCC allows rounding to the nearest 0.5 km. which makes the minimum spacing 20.5 km. The spacing between the proposed W261DL facility and WRFG is 20.6. Therefore, NGB is requesting a 250 watt construction permit for W261DL.

An exhibit demonstrating compliance with Section 74.1233(a) “Common Overlap” is included.

A study has been undertaken to show the proposed W261DL facility is in compliance with the Commission’s radio frequency emission limits and are attached as exhibits.

W261DL App.

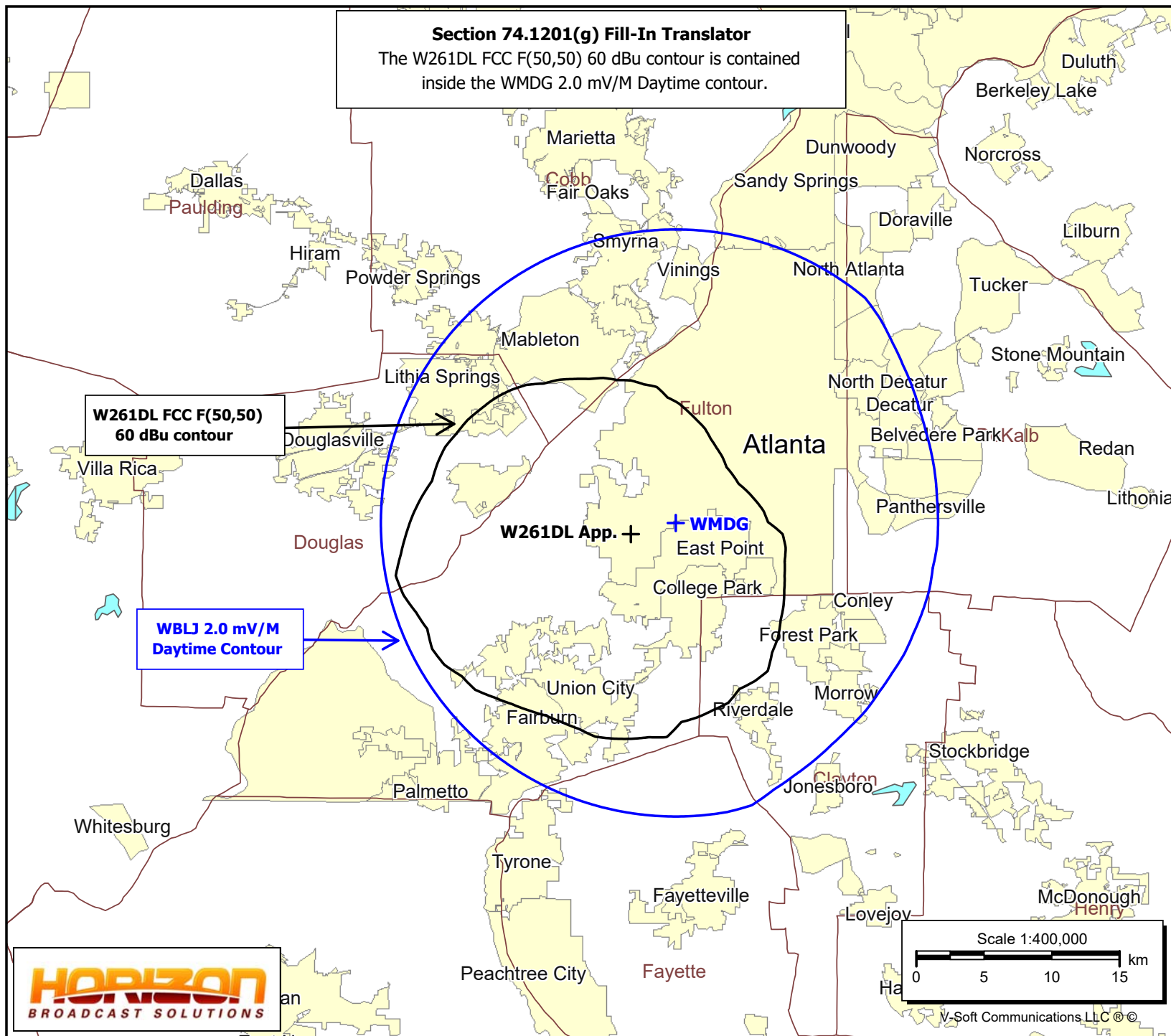
East Point, GA
Latitude: 33-41-20.40 N
Longitude: 084-30-37.70 W
ERP: 0.25 kW
HAAT: 148.35
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 421.0 m
Elevation: 290.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WMDG

East Point, GA
Type: AM
Freq: 1260
Power: 5.1. kW Daytime
Latitude: 33-41-47 N
Longitude: 084-28-29 W

Section 74.1201(g) Fill-In Translator

The W261DL FCC F(50,50) 60 dBu contour is contained inside the WMDG 2.0 mV/M Daytime contour.



W261DL Mod to Radio One Tower

REFERENCE		CLASS = A Int = A		DISPLAY DATES		
33 41 20.4 N.		Current Spacings to 3rd Adj.		DATA 04-20-22		
84 30 37.7 W.		Channel 261 - 100.1 MHz		SEARCH 04-20-22		
Call	Channel	Location	Azi	Dist	FCC	Margin
Lat.	Lng.	Ant	Power	HAAT		
W261DL	LIC-D 261D	East Point	GA 75.7	3.5	84.5	-81.0
33 41 48.3	84 28 25.7	DCN	0.099 kW	0 M		
		Northwest Georgia Broadcas	0000130311			
WWWQ	LIC 259C0	Atlanta	GA 50.2	20.6	85.5	-64.9
33 48 26.4	84 20 21.7	CN	100.000 kW	340 M		
		Radio License Holding Src	BLH20030514ABW			
Note: See Section 74.1204 contour protection - WWWQ & WNNX						
W261BG	LIC 261D	Morrow	GA 131.8	21.1	84.5	-63.4
33 33 45.4	84 20 27.7	CN	0.005 kW	134 M		
		Radio Training Network, In	BLFT20080505ABM			
Note: W261BG has pending LMS application No. 0000130311 for Channel 292D.						
W239AY	LIC-D 261D	Atlanta	GA 48.3	38.2	84.5	-46.3
33 55 01.7	84 12 05.6	DCN	0.099 kW	0 M		
		Prieto Broadcasting, Inc.	BLFT20190717AAB			
Note: See Section 74.1204 contour protection - W239AY						
WNNX	LIC-Z 263C2	College Park	GA 55.1	13.7	54.5	-40.8
33 45 34.4	84 23 18.7	ZCN	13.500 kW	293 M		
		Radio License Holding Src	BLH20150310AIY			
Note: See Section 74.1204 contour protection - WWWQ & WNNX						
WNSY	LIC 261C3	Talking Rock	GA 1.0	104.5	141.5	-37.0
34 37 50.3	84 29 28.7	CN	7.000 kW	188 M		
		Davis Broadcasting Of Atla	BLH20020128AAS			
Note: See Section 74.1204 contour protection - WNSY, WRPB, WQMJ & WPUP						
WRPH	LIC-Z 261C3	Anniston	AL 270.0	121.0	141.5	-20.5
33 40 53.4	85 48 56.9	ZCN	5.400 kW	216 M		
		Anniston Seventh-Day Adven	BLED20180508ACQ			
Note: See Section 74.1204 contour protection - WNSY, WRPB, WQMJ & WPUP						
WQMJ	LIC 261A	Forsyth	GA 142.9	99.4	114.5	-15.2
32 58 27.4	83 52 01.6	CN	3.000 kW	91 M		
		Roberts Communications, In	BLH6007			
Note: See Section 74.1204 contour protection - WNSY, WRPB, WQMJ & WPUP						
WPUP	LIC-N 261A	Watkinsville	GA 74.4	106.7	114.5	-7.8
33 56 28.4	83 23 54.6	NCN	4.300 kW	88 M		
		Cox Radio, LLC	BLH20080626ABC			
Note: See Section 74.1204 contour protection - WNSY, WRPB, WQMJ & WPUP						
WRFG	LIC-D 207C1	Atlanta	GA 50.2	20.6	21.5	-0.9
33 48 26.4	84 20 21.7	DCN	65.000 kW	148 M		
		Radio Free Georgia Broadca	BLED20071001DQH			
Note: Licensee requests a 250 watt CP with IF spacing for 3.0 kW Class A with minimum spacing of 20.5 km. to Class C1. This site is 20.6 km from WRFG. This channel study shows 22 km spacing for a 6.0 kW Class A facility.						
WGSY	LIC 261A	Phenix City	AL 199.8	138.7	114.5	24.2
32 30 42.5	85 00 40.7	CN	6.000 kW	100 M		
		Ihm Licenses, LLC	BMLH19900403KA			

Table C -- Minimum Distance Separation Requirements in Kilometers

Relation	Co-channel	200 kHz	400 kHz or 600 kHz	10.6 or 10.8 MHz (I.F.)
A to A	100	61	25	8
A to AA	111	68	31	9
A to B1	138	88	48	11
A to B	163	105	65	14
A to C1	196	129	74	21
A to C	210	161	94	28
AA to AA	115	72	31	10
AA to B1	143	96	48	12
AA to B	178	125	69	15
AA to C1	200	133	75	22
AA to C	226	165	95	29
B1 to B1	175	114	50	14
B1 to B	211	145	71	17
B1 to C1	233	161	77	24
B1 to C	259	193	96	31
B to B	237	164	65	20
B to C1	270	195	79	27
B to C	270	215	98	35
C1 to C1	245	177	82	34
C1 to C	270	209	102	41
C to C	290	228	105	48

(c) *****

Section 74.1204

Contour Protection to WWWQ & WNNX

This comprehensive exhibit has been prepared to demonstrate that the proposed modification to W261DL will not cause prohibited interference to second adjacent full power FM stations WWWQ, Channel 259C0, Atlanta, Georgia and WNNX, Channel 263C2, College Park, Georgia. This statement demonstrates that a lack of population and/or other factors allow this proposal to be compliant with Section 74.1204. The process commonly called “Living Way,” allows for the use of U/D Analysis, also known as “signal strength ratio methodology.” In this instant case the facilities to be protected are second adjacent and are to be afforded protection from signals 40 dB stronger than they present in the location of the proposed antenna location.

The WWWQ F(50,50) protected contour at the proposed W261DL application site is 88.1 dBμ. The WNNX F(50,50) protected contour at the proposed W261DL application site is 85.5 dBμ. Therefore, the interfering contour to WNNX will cause the greatest interference and will be used to determine Section 74.1204 contour protection compliance. The proposed W261DL F(50,10) interfering contour with respect to WNNX is the 125.5 dBμ contour. Using the FCC's FM propagation curves program (see attached), the 125.5 dBμ contour was calculated to extend only 59 meters from the antenna. The interfering contour will come no closer than 72 meters from ground level. There are no high rise buildings in the area around the tower.

The proposed W261DL transmit antenna will be located 131 meters above ground level. Therefore, it is believed that the proposed W261DL facility will not cause prohibited interference to WWWQ or WNNX as the predicted interfering contour with respect to both stations does not reach the ground or any buildings in the area.

W261DL

East Point, GA
Latitude: 33-41-20.40 N
Longitude: 084-30-37.70 W
ERP: 0.25 kW
HAAT: 148.35
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 421.0 m
Elevation: 290.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WWWQ

Atlanta, GA
BLH20030514ABW
Latitude: 33-48-26.40 N
Longitude: 084-20-21.70 W
ERP: 100.00 kW
HAAT: 340.0
Channel: 259
Frequency: 99.7 MHz
AMSL Height: 612.0 m
Elevation: 264.0 m
Horiz. Pattern: Omni
Vert. Pattern: No

WNNX

College Park, GA
BLH20150310AIY
Latitude: 33-45-34.40 N
Longitude: 084-23-18.70 W
ERP: 13.50 kW
HAAT: 293.0
Channel: 263
Frequency: 100.5 MHz
AMSL Height: 576.0 m
Elevation: 326.0 m
Horiz. Pattern: Directional
Vert. Pattern: No

Section 74.1204 Contour Protection

WWWQ Channel 259C0 Atlanta, Georgia
WNNX Channel 263C2 College Park, Georgia

WWWQ FCC F(50,50)
88.1 dBu contour

WNNX FCC F(50,50)
85.5 dBu contour

+ W261DL

East Point

College Park

Scale 1:82,031

0 1 2 3 km

V-Soft Communications LLC ©

FM and TV Propagation Curves

Databases & Searches

AM Query

Antenna Height Above Average
Terrain (HAA1) Calculator

Antenna Structure Registration
(ASRN) Records Within A Radius

Broadcast Station Mailing
Address Search

Call Sign Reservation and
Authorization System (CSRS)

CDBS Database Public Files

Children's Educational
Television Reporting - Form
2100, Schedule H

Children's Programming Query

COLORIT HTML Color Generator

Degrees Minutes Seconds
to/from Decimal Degrees

Distance and Azimuths
Between Two Sets of
Coordinates

Electioneering Communications
Database

EEO Filing Search

Filing Systems and Databases

Find Community Coordinates

Find Terminal Coordinates

This javascript calculator uses the FM or TV propagation curves to find the distance to a service or interfering contour, or the corresponding field strength at a given contour distance. [More after the form.](#)

Select Contour Type:	<input type="radio"/> F(50,50) Service Contour -- FM and NTSC (analog) TV <input checked="" type="radio"/> F(50,10) Interfering Contour <input type="radio"/> F(50,90) Digital TV Service Contour
Select Channel Range: (not TV Virtual Channel)	<input checked="" type="radio"/> FM Radio or TV Transmit Channels 2-6 <input type="radio"/> TV Transmit Channels 7-13 <input type="radio"/> TV Transmit Channels 14-69
Find This:	<input type="radio"/> Field Strength, given a Distance (in km) <input checked="" type="radio"/> Distance, Given a Field Strength (in dBu) <input type="radio"/> FM ERP, given Distance and Field Strength [F(50,50) Service Contour]
<input type="text" value="25"/> ERP (kW)	<input type="text"/> Distance (km)
<input type="text" value="148.35"/> HAAT (meters)	<input type="text" value="125.5"/> Field (dBu)
<input type="button" value="Find Result"/>	<input type="button" value="Clear Form"/>

Results:

Calculated Distance = 0.059 km

Free Space equation used to compute distance.

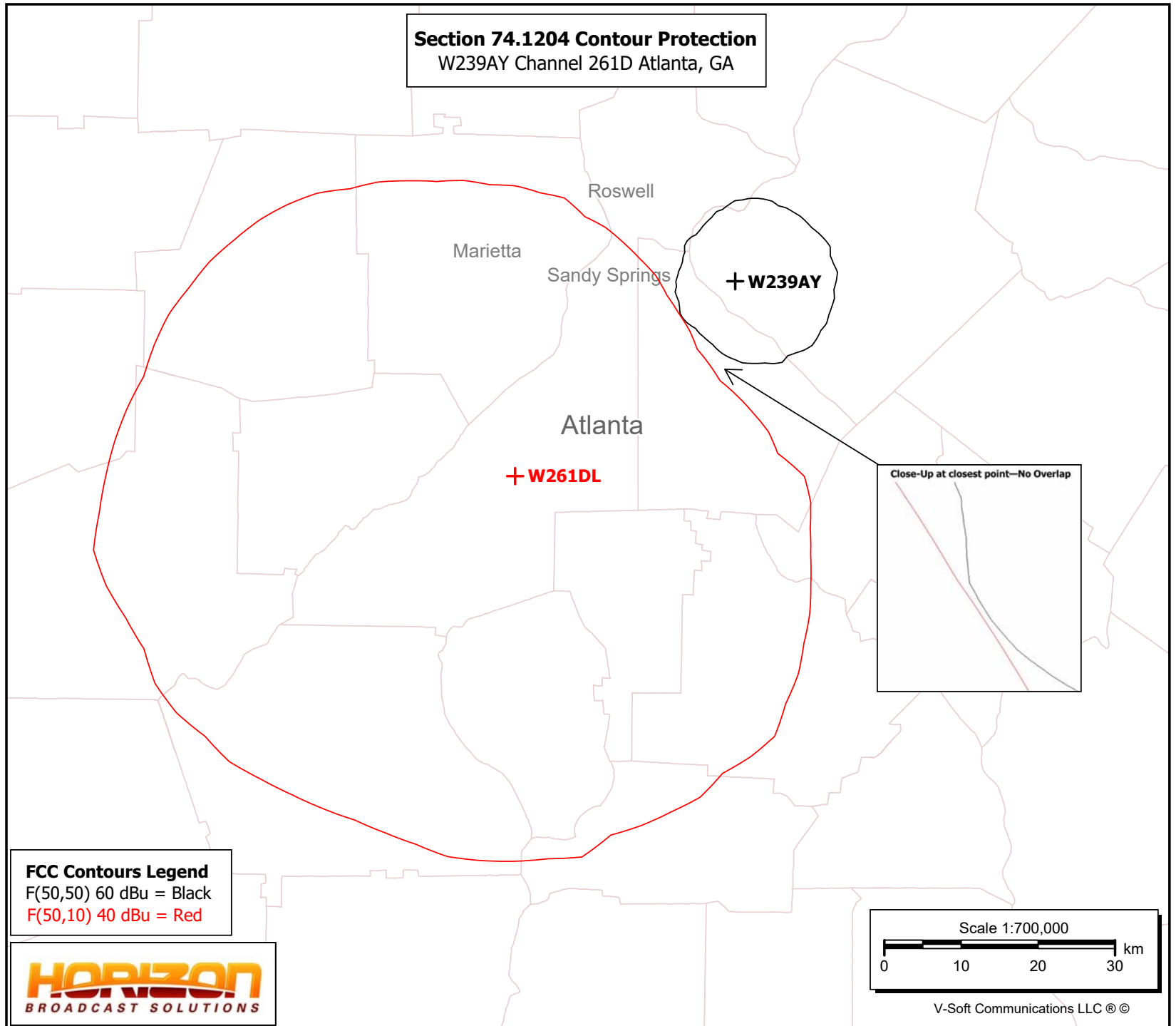
This function uses the FCC's CURVES program to make calculations of the F(50,50) FM and NTSC (analog) TV service curves, the F(50,10) interfering signal curves, and the F(50,90) digital TV service curves. Printable copies of these propagation curves are available at [FM and TV Propagation Curves Graphs](#).

W261DL

East Point, GA
Latitude: 33-41-20.40 N
Longitude: 084-30-37.70 W
ERP: 0.25 kW
HAAT: 148.35
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 421.0 m
Elevation: 290.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

W239AY

Atlanta, GA
BLFT20190717AAB
Latitude: 33-55-01.70 N
Longitude: 084-12-05.60 W
ERP: 0.099 kW
HAAT: 148.0
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 443.0 m
Elevation: 332.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

Section 74.1204 Contour Protection
W239AY Channel 261D Atlanta, GA

W261DL
East Point, GA
Latitude: 33-41-20.40 N
Longitude: 084-30-37.70 W
ERP: 0.25 kW
HAAT: 148.35
Channel: 261
Frequency: 100.1 MHz

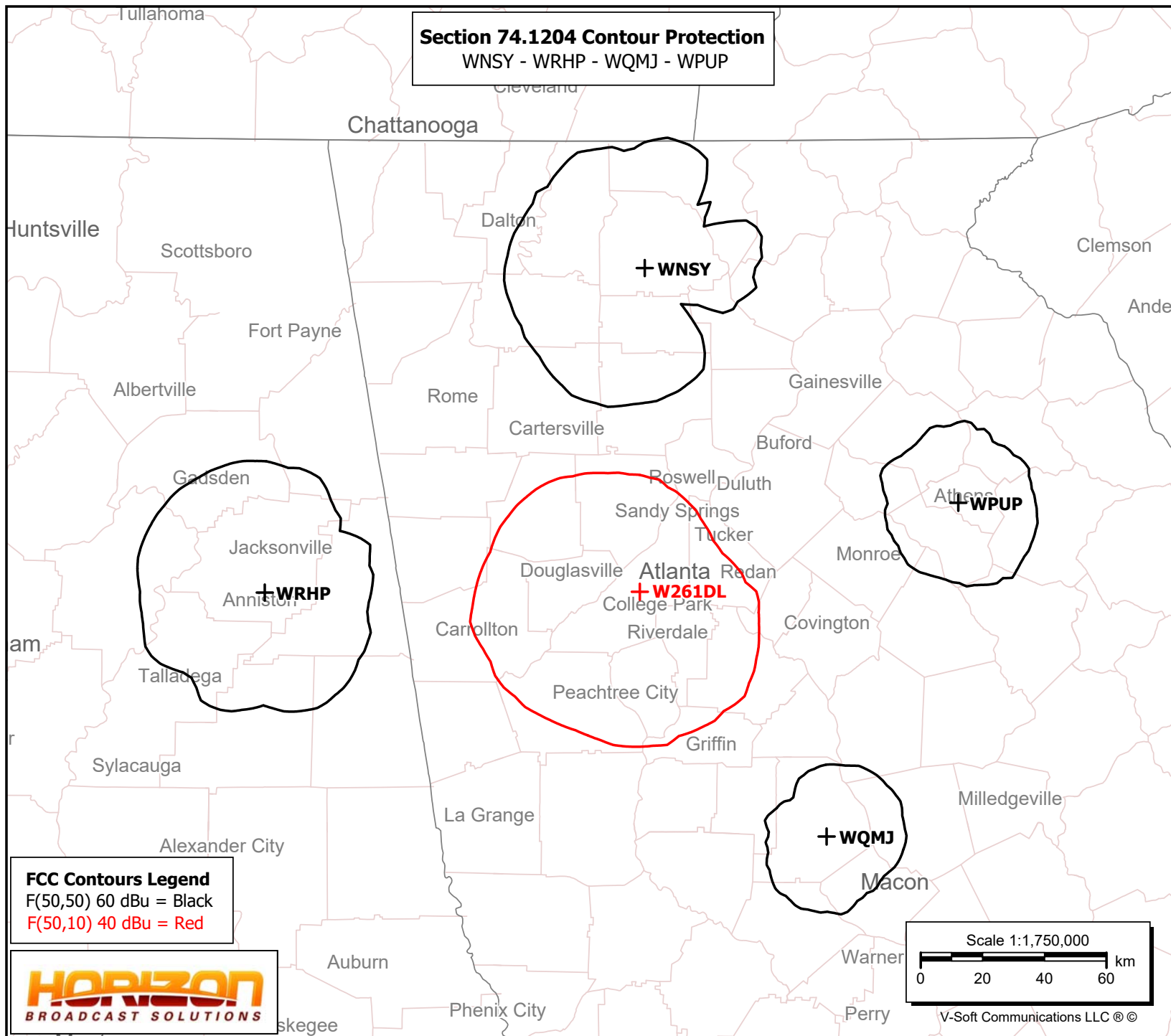
WNSY
Talking Rock, GA
BLH20020128AAS
Latitude: 34-37-50.30 N
Longitude: 084-29-28.70 W
ERP: 7.00 kW
HAAT: 188.0
Channel: 261
Frequency: 100.1 MHz

WRHP
Anniston, AL
BLED20180508ACQ
Latitude: 33-40-53.40 N
Longitude: 085-48-56.90 W
ERP: 5.40 kW
HAAT: 216.0
Channel: 261
Frequency: 100.1 MHz

WQMJ
Forsyth, GA
BLH6007
Latitude: 32-58-27.40 N
Longitude: 083-52-01.60 W
ERP: 3.00 kW
HAAT: 91.0
Channel: 261
Frequency: 100.1 MHz

WPUP
Watkinsville, GA
BLH20080626ABC
Latitude: 33-56-28.40 N
Longitude: 083-23-54.60 W
ERP: 4.30 kW
HAAT: 88.0
Channel: 261
Frequency: 100.1 MHz

Section 74.1204 Contour Protection
WNSY - WRHP - WQMJ - WPUP

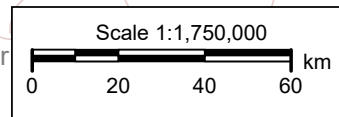


FCC Contours Legend

F(50,50) 60 dBu = Black

F(50,10) 40 dBu = Red

HORIZON
BROADCAST SOLUTIONS



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W261DL Lic.

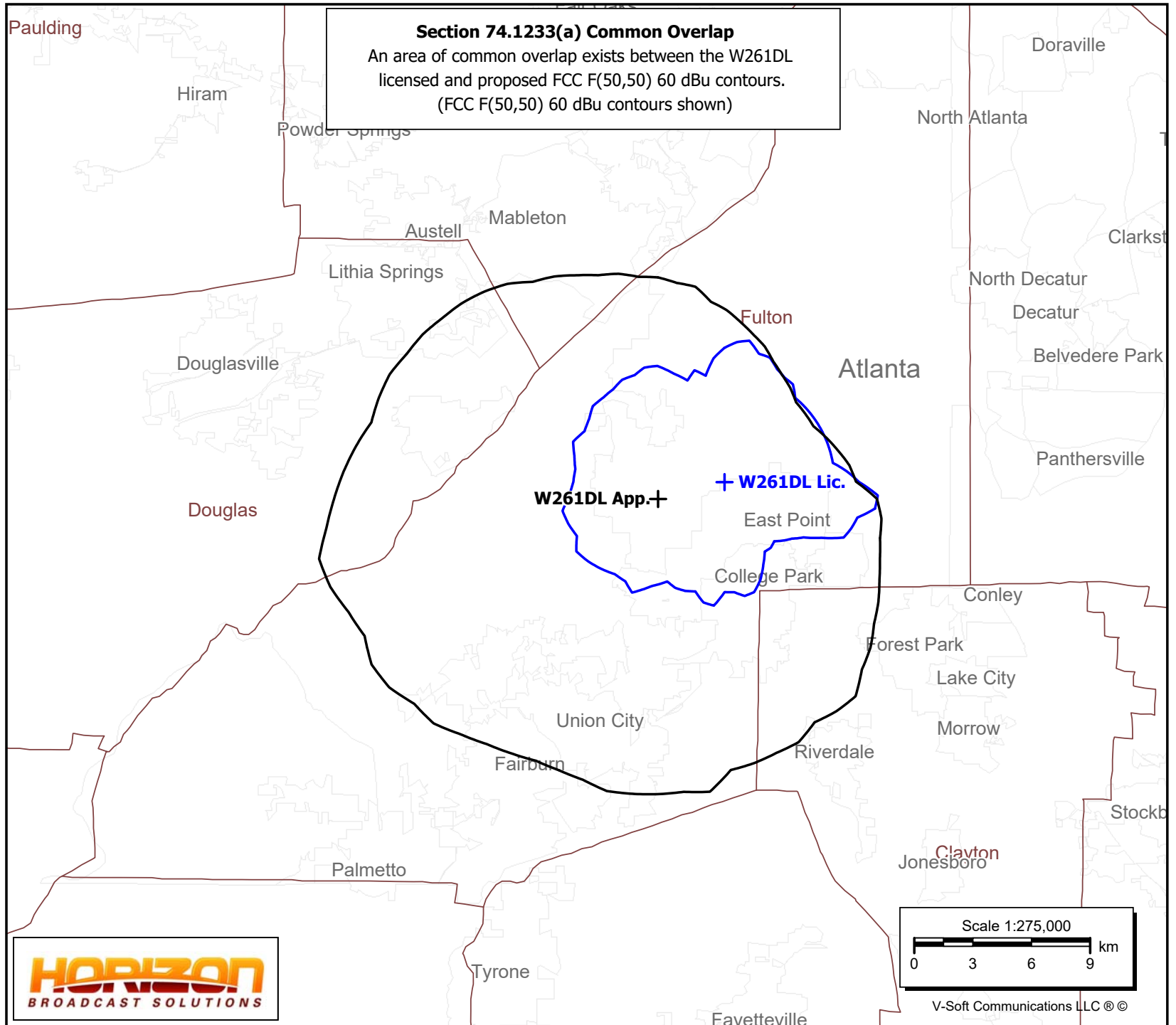
East Point, GA
Latitude: 33-41-48.30 N
Longitude: 084-28-25.70 W
ERP: 0.099 kW
HAAT: 0.0
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 322.0 m
Elevation: 264.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

W261DL Lic.

East Point, GA
0000130311
Latitude: 33-41-48.30 N
Longitude: 084-28-25.70 W
ERP: 0.099 kW
HAAT: 0.0
Channel: 261
Frequency: 100.1 MHz
AMSL Height: 322.0 m
Elevation: 264.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

Section 74.1233(a) Common Overlap

An area of common overlap exists between the W261DL
licensed and proposed FCC F(50,50) 60 dBu contours.
(FCC F(50,50) 60 dBu contours shown)



Human Exposure to Radiofrequency Electromagnetic Field & Section 106 Compliance (Environmental)

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. 1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. North Georgia Broadcasting, ("NGB"), licensee of FM translator station W261DL, Channel 261D, Facility ID No. 200345, East Point, GA herein proposes to modify W261DL by relocating to a different tower site. The transmitting site is an existing tower 133 meters in overall height and is not registered with an FCC Antenna Structure Registration (ASR) number. The tower is located at 33° 41' 20.4" N ~ 84° 30' 37.7" W (NAD 83). The proposed antenna is a side mounted PSI Model FM-T one bay full wave circularly polarized directional antenna. The proposed W261DL facility would operate with 250 watts ERP directional at 131 meters above ground level and 148.35 meters HAAT. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of § 1.1306 of the FCC Rules. Because W261DL proposes to operate from an existing tower and antenna and no changes are being made to the tower, it is believed to be exempt from a Section 106 review by the SHPO/THPO.

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. The recently revised FM Model Program does include the PSI antenna under Type Two, Opposed V - dipole. Using the Type 2 EPA element, the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $0.276 \mu\text{W}/\text{cm}^2$ at 132 meters, which is 0.138 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in 1.1307(b) regarding sites with multiple emitters, which excludes applicant from responsibility for taking any corrective action in areas where the proposal's contribution is less than five percent.

The applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

FM Model

Radio Frequency Safety

FCC Policy on Human Exposure

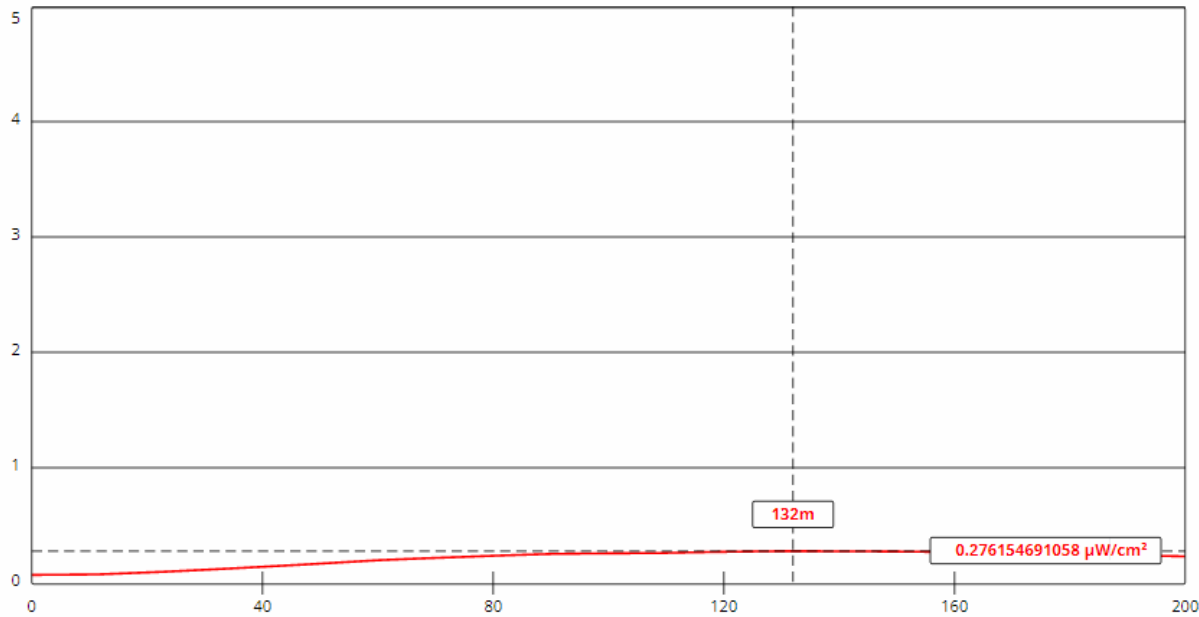
RF Safety FAQ

Body Tissue Dielectric Parameters

RF Safety Highlighted Releases

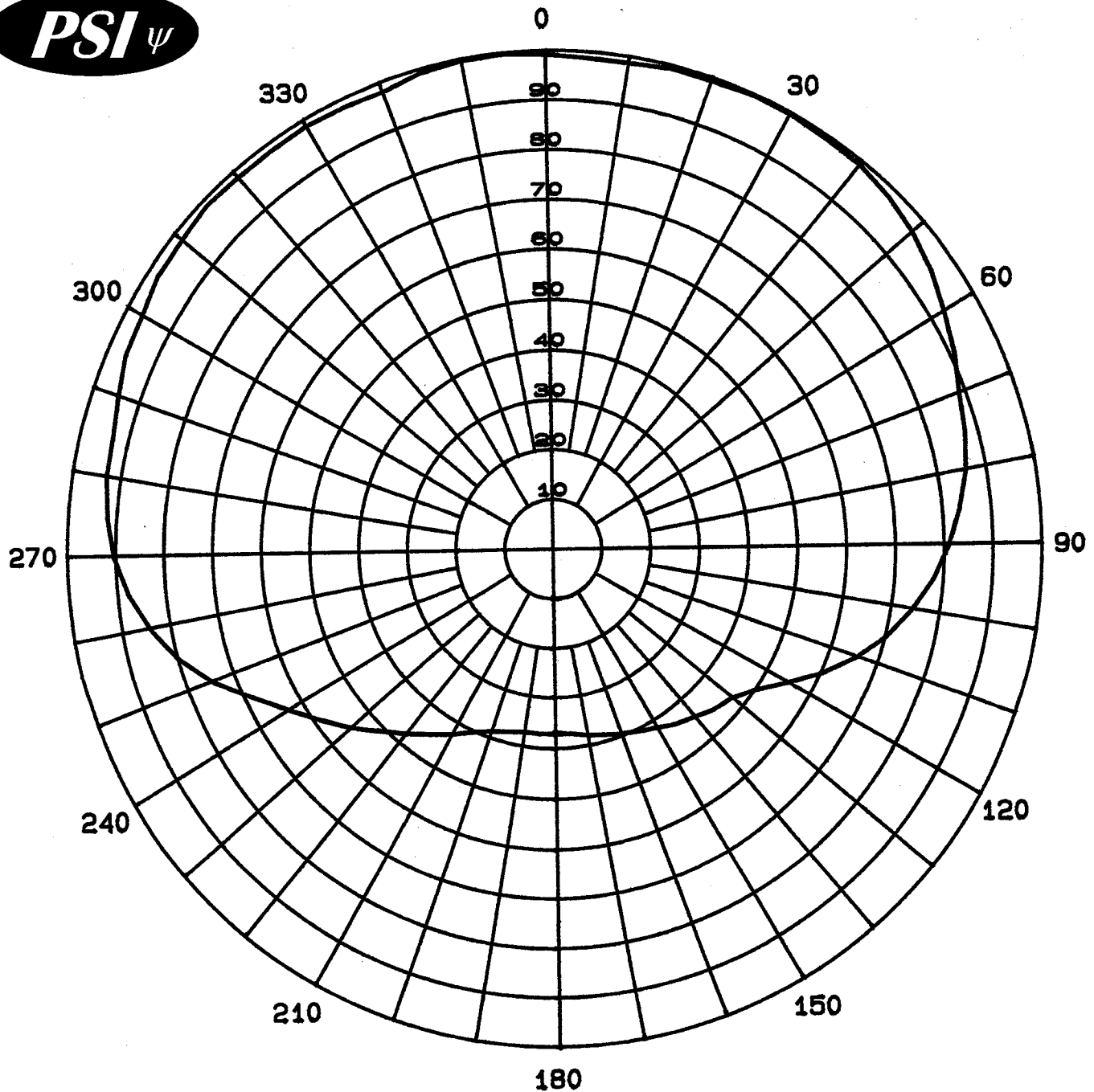
FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data published in 1985 by the EPA. [Show More....](#)



[View Tabular Results +](#)

Channel Selection	Channel 261 (100.1 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="131"/>	Distance (m)	<input type="text" value="200"/>
ERP-H (W)	<input type="text" value="250"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (?)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	



Azimuth Plane Pattern
Composite Relative Field
Antenna Model: PSIFMT-1A-6DB
Type: Directional Translator
Polarization: Circular
Number of Bays: One
Gain: .82 (-.87 dB)
Date: 11-1-2011

Propagation Systems Inc.
PO Box 113
Ebensburg, PA 15931



Composite Azimuth Pattern Tabulation

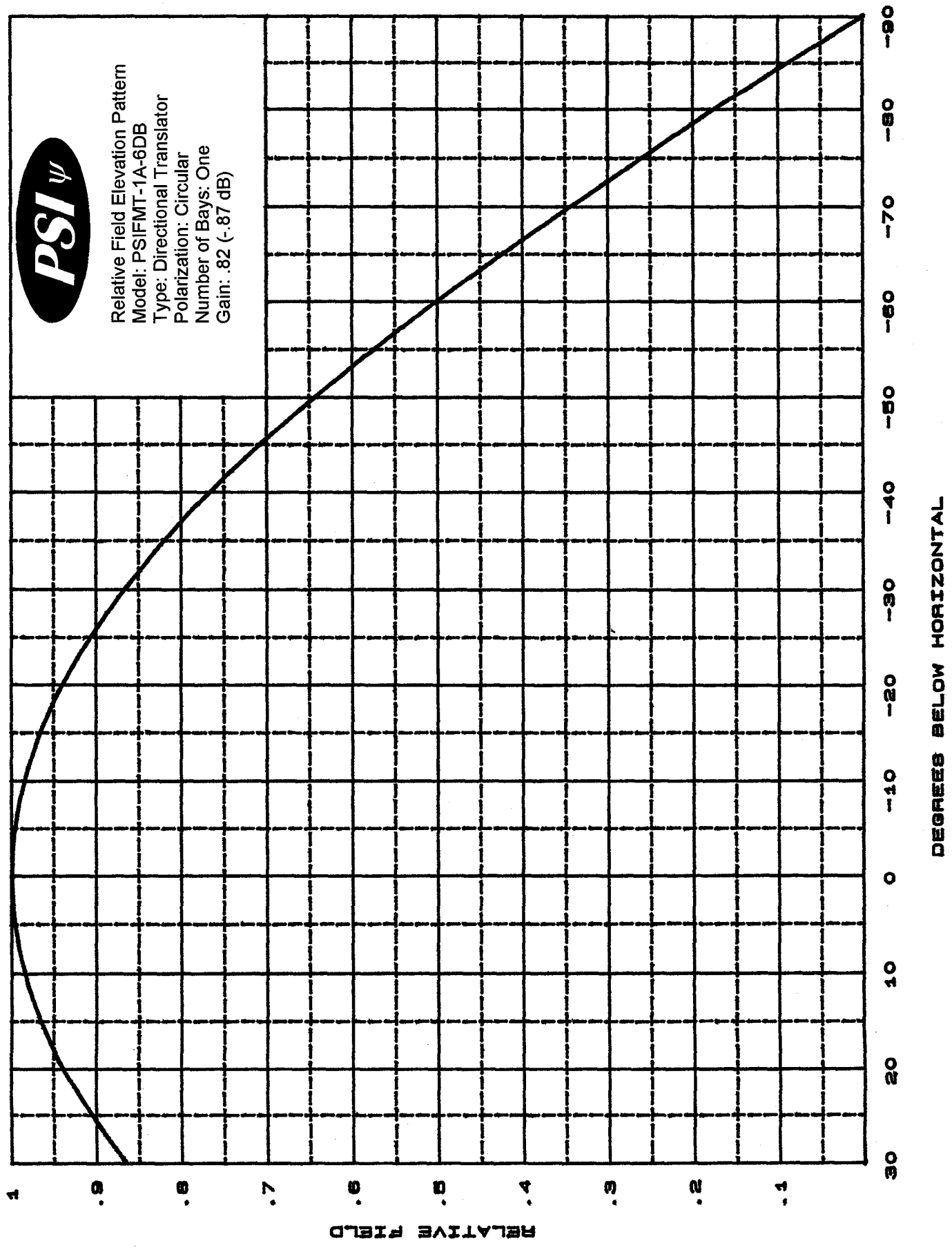
Antenna Model: PSIFMT-1A-6DB

Gain: .82 (-.87 dB)

Angle	Relative Field	Power Gain	Gain (dBd)
0	0.995	0.81	-0.91
10	0.990	0.80	-0.95
20	0.996	0.81	-0.90
30	1.000	0.82	-0.86
40	0.994	0.81	-0.91
50	0.971	0.77	-1.12
60	0.932	0.71	-1.47
70	0.889	0.65	-1.88
80	0.860	0.61	-2.17
90	0.811	0.54	-2.68
100	0.744	0.45	-3.43
110	0.656	0.35	-4.52
120	0.547	0.25	-6.10
130	0.472	0.18	-7.38
140	0.443	0.16	-7.93
150	0.415	0.14	-8.50
160	0.395	0.13	-8.93
170	0.378	0.12	-9.31
180	0.368	0.11	-9.54
190	0.369	0.11	-9.52
200	0.384	0.12	-9.18
210	0.423	0.15	-8.34
220	0.475	0.19	-7.33
230	0.545	0.24	-6.13
240	0.628	0.32	-4.90
250	0.745	0.46	-3.42
260	0.840	0.58	-2.38
270	0.902	0.67	-1.76
280	0.929	0.71	-1.50
290	0.945	0.73	-1.35
300	0.966	0.77	-1.16
310	0.981	0.79	-1.03
320	0.986	0.80	-0.98
330	0.988	0.80	-0.97
340	0.982	0.79	-1.02
350	0.999	0.82	-0.87



Relative Field Elevation Pattern
Model: PSIFMT-1A-6DB
Type: Directional Translator
Polarization: Circular
Number of Bays: One
Gain: .82 (-.87 dB)





Propagation Systems Inc.
Elevation Pattern Tabulation
Antenna Model: PSIFMT-1A-6DB

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.643	-3.839	-10.0	0.985	-0.134
-89.0	0.017	-35.177	-49.0	0.656	-3.663	-9.0	0.988	-0.109
-88.0	0.035	-29.156	-48.0	0.669	-3.490	-8.0	0.990	-0.086
-87.0	0.052	-25.634	-47.0	0.682	-3.325	-7.0	0.992	-0.066
-86.0	0.070	-23.136	-46.0	0.695	-3.166	-6.0	0.994	-0.049
-85.0	0.087	-21.198	-45.0	0.707	-3.012	-5.0	0.996	-0.034
-84.0	0.104	-19.626	-44.0	0.719	-2.862	-4.0	0.997	-0.022
-83.0	0.122	-18.286	-43.0	0.731	-2.719	-3.0	0.998	-0.013
-82.0	0.139	-17.134	-42.0	0.743	-2.580	-2.0	0.999	-0.007
-81.0	0.156	-16.117	-41.0	0.755	-2.445	-1.0	1.000	-0.003
-80.0	0.174	-15.207	-40.0	0.766	-2.316	0.0	1.000	0.000
-79.0	0.191	-14.390	-39.0	0.777	-2.190	1.0	1.000	-0.003
-78.0	0.208	-13.644	-38.0	0.788	-2.071	2.0	0.999	-0.007
-77.0	0.225	-12.962	-37.0	0.798	-1.955	3.0	0.998	-0.013
-76.0	0.242	-12.330	-36.0	0.809	-1.842	4.0	0.997	-0.022
-75.0	0.259	-11.741	-35.0	0.819	-1.733	5.0	0.996	-0.034
-74.0	0.276	-11.194	-34.0	0.829	-1.630	6.0	0.994	-0.049
-73.0	0.292	-10.684	-33.0	0.839	-1.529	7.0	0.992	-0.066
-72.0	0.309	-10.203	-32.0	0.848	-1.432	8.0	0.990	-0.086
-71.0	0.325	-9.750	-31.0	0.857	-1.339	9.0	0.988	-0.109
-70.0	0.342	-9.320	-30.0	0.866	-1.251	10.0	0.985	-0.134
-69.0	0.358	-8.914	-29.0	0.875	-1.164	11.0	0.982	-0.162
-68.0	0.375	-8.530	-28.0	0.883	-1.082	12.0	0.978	-0.193
-67.0	0.391	-8.165	-27.0	0.891	-1.003	13.0	0.974	-0.227
-66.0	0.407	-7.815	-26.0	0.899	-0.928	14.0	0.970	-0.263
-65.0	0.423	-7.482	-25.0	0.906	-0.855	15.0	0.966	-0.301
-64.0	0.438	-7.164	-24.0	0.913	-0.786	16.0	0.961	-0.344
-63.0	0.454	-6.860	-23.0	0.920	-0.720	17.0	0.956	-0.389
-62.0	0.469	-6.569	-22.0	0.927	-0.657	18.0	0.951	-0.436
-61.0	0.485	-6.291	-21.0	0.933	-0.598	19.0	0.945	-0.487
-60.0	0.500	-6.023	-20.0	0.940	-0.542	20.0	0.940	-0.540
-59.0	0.515	-5.764	-19.0	0.945	-0.487	21.0	0.933	-0.598
-58.0	0.530	-5.517	-18.0	0.951	-0.437	22.0	0.927	-0.657
-57.0	0.545	-5.279	-17.0	0.956	-0.389	23.0	0.920	-0.720
-56.0	0.559	-5.050	-16.0	0.961	-0.344	24.0	0.913	-0.786
-55.0	0.573	-4.830	-15.0	0.966	-0.301	25.0	0.906	-0.855
-54.0	0.588	-4.616	-14.0	0.970	-0.263	26.0	0.899	-0.927
-53.0	0.602	-4.413	-13.0	0.974	-0.227	27.0	0.891	-1.003
-52.0	0.616	-4.214	-12.0	0.978	-0.193	28.0	0.883	-1.082
-51.0	0.629	-4.024	-11.0	0.982	-0.162	29.0	0.875	-1.164