

**Modify FM Translator W242CD Greensboro, NC
Channel 242D – 96.3 MHz – 0.250 kW**

**Proposed Channel 242D – 96.3 MHz – 0.250 kW
February 28, 2021**

TECHNICAL NARRATIVE

This Technical Narrative and attached exhibits were prepared on behalf of Delmarva Educational Association, ("Delmarva"), licensee of FM translator W242CD, Channel 242D, Facility ID No. 142274, Greensboro, North Carolina.

Delmarva proposes to modify W242CD to operate on channel 244D (96.3 MHz) from a different tower site 0.66 km. southeast of the current site. The proposed W242CD facility will continue to be used as a fill-in translator for WKEW(AM), 1400 kHz, Facility ID No. 73156, Greensboro, NC. Delmarva has received written retransmission consent from Truth Broadcasting Corporation, the licensee of WKEW(AM). The proposed new facility would operate on Channel 242D (96.3 MHz) with 250 watts ERP directional with the transmit antenna located at 79 meters height above ground level and 86.45 meters HAAT. An exhibit demonstrates that the proposed FCC F(50,50) 60 dBu contour of the proposed facility is contained within a 25 mile radius of WKEW(AM). Therefore, it is believed that this application is in compliance with Section 74.1201(g) of the Commission's rules. The proposed transmit coordinates are only 0.66 km from the licensed facility. The FCC F(50,50) 60 dBu contours of the proposed modification and licensed facility overlap. Therefore, an exhibit showing compliance with FCC Section 74.1233(a) "Common Overlap" is not provided.

A channel study is included as an exhibit that assumes a Class A 6 kW facility operating on channel 242. This study is provided to FCC staff as a convenience to help identify potential contour overlap issues. Section 74.1204 contour protection exhibits shows protections to first adjacent full power FM station WBBB, Channel 241C0, Raleigh, NC, first adjacent channel FM translator W242CC, Channel 242D, Bethania, NC, first adjacent channel LPFM station WLUL-LP, Channel 243L1, Thomasville, NC, second adjacent channel FM translators W244CD, Channel 244D, Browns Summit, NC and W240ED, Channel 240D, Eden, NC.

Studies have been undertaken to show the proposed facility is in compliance with the FCC's radio frequency emission limits and are attached as exhibits.

W242CD App

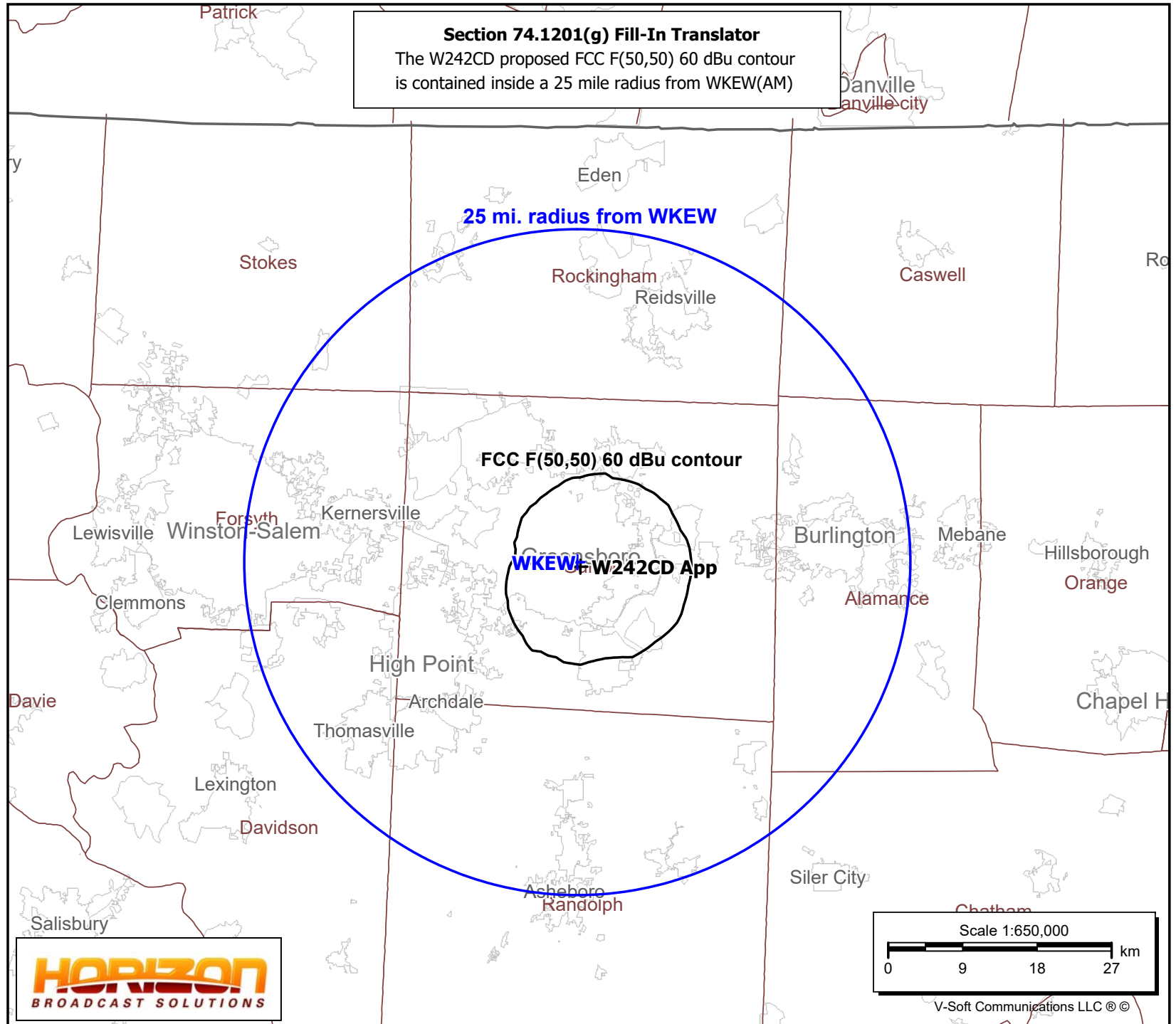
Greensboro, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WKEW

Greensboro, NC
Latitude: 36-04-00 N
Longitude: 079-47-49 W
Power: 1.0 kW Unlimited
Frequency: 1400 kHz

Section 74.1201(g) Fill-In Translator

The W242CD proposed FCC F(50,50) 60 dBu contour is contained inside a 25 mile radius from WKEW(AM)



W242CD Class A FM Channel Study

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REFERENCE                                     DISPLAY DATES
36 03 42.0 N.                               CLASS = A   Int = AA   DATA 02-27-21
79 47 34.0 W.                               Current Spacings to 3rd Adj. SEARCH 02-27-21
----- Channel 242 - 96.3 MHz -----
Call      Channel  Location      Azi      Dist      FCC      Margin
      Lat.      Lng.      Ant      Power
-----
W242CD    LIC    242D    Greensboro    NC  328.2    0.7    84.5    -83.8
36 04 00.4  79 47 48.1  CN      0.250 kW    0 M
      Delmarva Educational Assoc    BLFT20181129AAE

WROV-FM   LIC    242C1   Martinsville    VA  350.4    118.8    199.5    -80.7
37 07 00.4  80 00 57.1  CN      14.000 kW    633 M
      Ihm Licenses, LLC            BLH19890302KB

WBBB      LIC    241C0   Raleigh          NC  113.1    105.5    151.5    -46.0
35 41 07.6  78 43 13.0  CN      100.000 kW    300 M
      Carolina Media Group, Inc.    BLH19900228KE
Note: See Section 74.1204 Contour Protection Exhibit - WBBB

W242CC    LIC    242D    Bethania        NC  272.0    41.6    84.5    -42.9
36 04 26.5  80 15 17.2  CN      0.250 kW    0 M
      Delmarva Educational Assoc    BLFT20160421AEX
Note: See Section 74.1204 Contour Protection Exhibit - W242CC

WLUL-LP   LIC    243L1   Thomasville     NC  227.4    32.7    55.5    -22.8
35 51 44.2  80 03 35.1  CN      0.015 kW    67 M
      Thomasville Educational Ra    BLL20170213ACC
Note: See Section 74.1204 Contour Protection Exhibit - WLUL-LP

WHQC      LIC-D 241C    Shelby          NC  238.1    145.7    164.5    -18.8
35 21 44.5  81 09 18.3  DCN     100.000 kW    533 M
      Ihm Licenses, LLC            BLH20111221ADF

W244CD    LIC    244D    Browns Summit   NC  19.9     10.8    25.5    -14.7
36 09 10.5  79 45 07.1  VN      0.010 kW    148 M
      CSN International            BLFT20061122AGL
Note: See Section 74.1204 Contour Protection Exhibit - W244CD

WFLB      LIC-N 243C    Laurinburg      NC  154.4    157.5    164.5    -7.0
34 46 49.6  79 02 44.1  NCN     100.000 kW    318 M
      Beasley Media Group Licens    BMLH20120425ADF

W240EG    LIC    240D    Eden            NC  30.6     24.1    25.5    -1.4
36 14 54.8  79 39 20.1  CN      0.200 kW    0 M
      Ihm Licenses, LLC            0000105788
Note: See Section 74.1204 Contour Protection Exhibit - W240EG

W296CV    LIC    296D    High Point      NC  205.7    14.4     9.5     4.9
35 56 42.0  79 51 44.0  CN      0.110 kW    0 M
      Educational Media Foundati    BLFT20160518ACC

WKKT      LIC-D 245C    Statesville     NC  237.3    108.0    94.5    13.5
35 31 57.4  80 47 46.2  DCN     100.000 kW    472 M
      Ihm Licenses, LLC            BLH19860402KB

W264DO    APP    244D    Winston-Salem   NC  275.9    40.8    25.5    15.3
36 05 53.4  80 14 37.1  CN      0.065 kW    0 M
      Southern Broadcast Media,      0000135146

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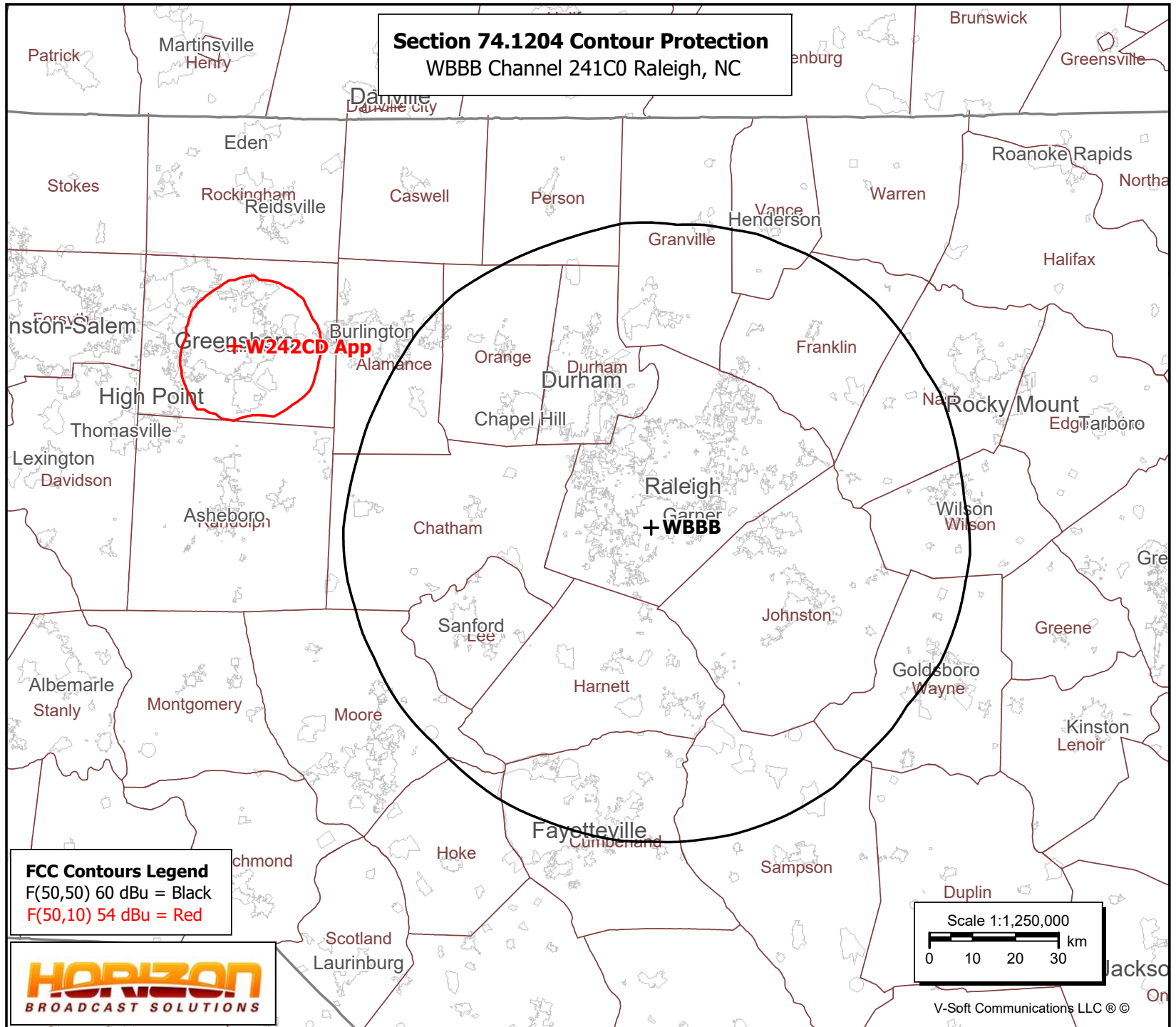
Call	Channel	Location		Azi	Dist	FCC	Page #
Lat.	Lng.	Ant	Power		HAAT	Margin	2
W240CU	LIC 240D	Lexington	NC	250.5	47.9	25.5	22.4
35 55 02.5	80 17 37.2	CN	0.140 kW	0 M			
	Positive Alternative Radio		BLFT20160401ADD				
W295CE	LIC-D 295D	Winston-Salem	NC	285.5	33.0	9.5	23.5
36 08 25.5	80 08 45.2	DCN	0.250 kW	0 M			
	Ghb Radio, Inc.		BLFT20161117ABN				
W243EC	LIC 243D	Mocksville	NC	253.6	70.7	33.5	37.2
35 52 49.4	80 32 39.2	CN	0.250 kW	0 M			
	Farren K. Shoaf		BLFT20180821AAX				
W243DK	LIC-D 243D	Durham	NC	90.0	75.7	33.5	42.2
36 03 33.5	78 57 10.0	DCN	0.250 kW	0 M			
	Wdnc-Am, LLC		BLFT20150623AAM				
WXRC	LIC-D 239C0	Hickory	NC	239.9	133.1	85.5	47.6
35 27 16.5	81 03 45.3	DCN	100.000 kW		311 M		
	Pacific Broadcasting Group		BLH19890616KE				
WKRX	LIC 244A	Roxboro	NC	64.2	79.0	30.5	48.5
36 22 04.5	78 59 57.0	CN	3.000 kW		91 M		
	Roxboro Broadcasting Compa		BLH6712				

W242CD App

Greensboro, NC
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

WBBB

Raleigh, NC
BLH19900228KE
Latitude: 35-41-07.60 N
Longitude: 078-43-13 W
ERP: 100.00 kW
HAAT: 300 m
Channel: 241
Frequency: 96.1 MHz
AMSL Height: 408.0 m
Elevation: 107.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Section 74.1204 Contour Protection
WBBB Channel 241C0 Raleigh, NC

W242CD App

Greensboro, NC
BLFT20181129AAE
Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

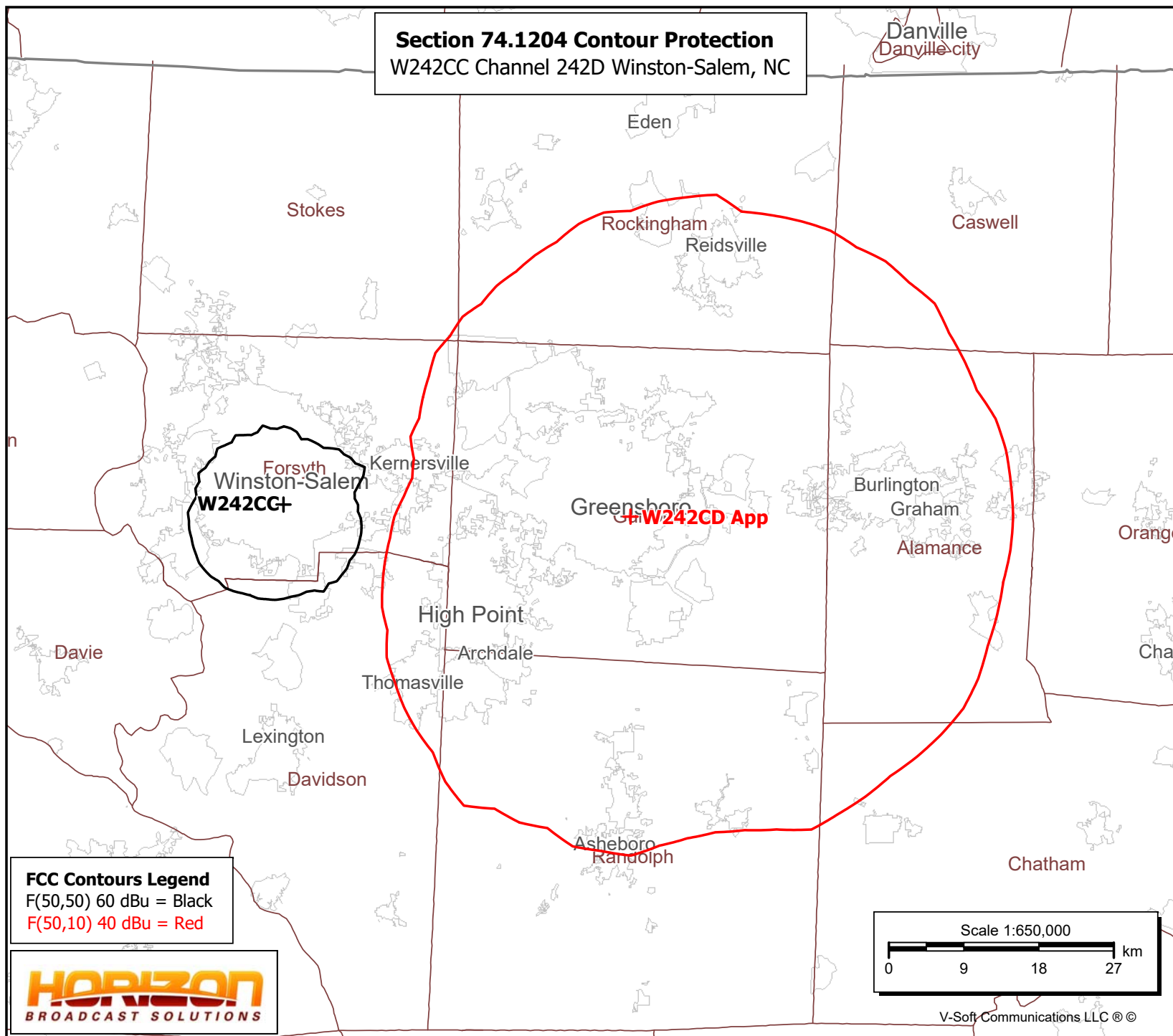
W242CC

Raleigh, NC
BLFT20160421AEX
Latitude: 36-04-26.50 N
Longitude: 080-15-17.20 W
ERP: 0.25 kW
HAAT: 300 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 328.0 m
Elevation: 219.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

FCC Contours Legend

F(50,50) 60 dBu = Black
F(50,10) 40 dBu = Red

HORIZON
BROADCAST SOLUTIONS

Section 74.1204 Contour Protection
W242CC Channel 242D Winston-Salem, NC

W242CD App

Greensboro, NC

Latitude: 36-03-42 N

Longitude: 079-47-34 W

ERP: 0.25 kW

HAAT: 86.45 m

Channel: 242

Frequency: 96.3 MHz

AMSL Height: 329.0 m

Elevation: 250.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: FCC Model

Loc. Variability: 50.0%

Time Variability: 50.0%

HAAT Mthd: FCC

WLUL-LP

Thomasville, NC

BLL20170213ACC

Latitude: 35-51-44.20 N

Longitude: 080-03-35.10 W

ERP: 0.015 kW

HAAT: 66.9 m

Channel: 243

Frequency: 96.5 MHz

AMSL Height: 297.3 m

Elevation: 273.3 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: FCC Model

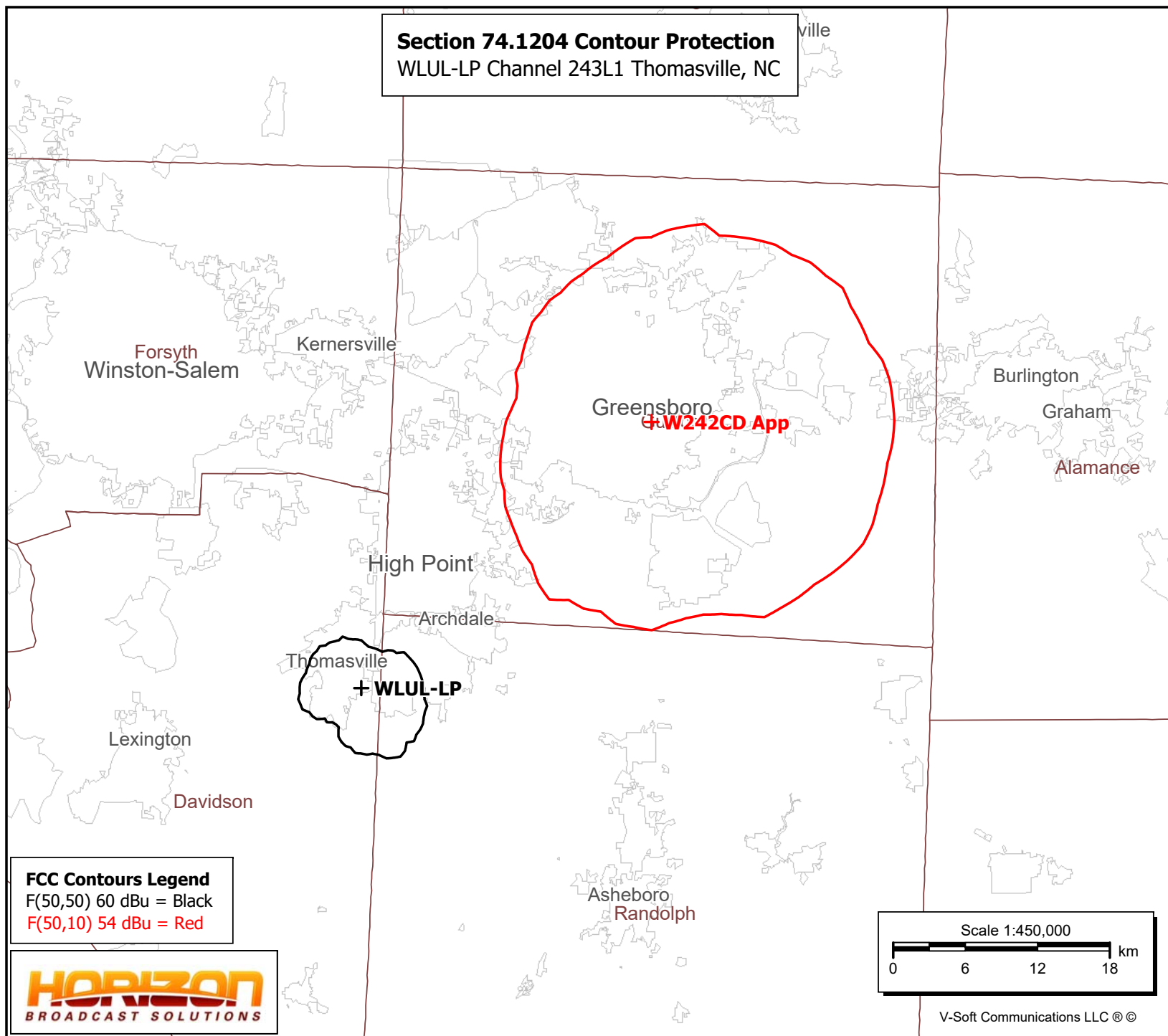
Loc. Variability: 50.0%

Time Variability: 50.0%

HAAT Mthd: FCC

Section 74.1204 Contour Protection

WLUL-LP Channel 243L1 Thomasville, NC

**FCC Contours Legend**

F(50,50) 60 dBu = Black

F(50,10) 54 dBu = Red

HORIZON
BROADCAST SOLUTIONS

Scale 1:450,000

0 6 12 18 km

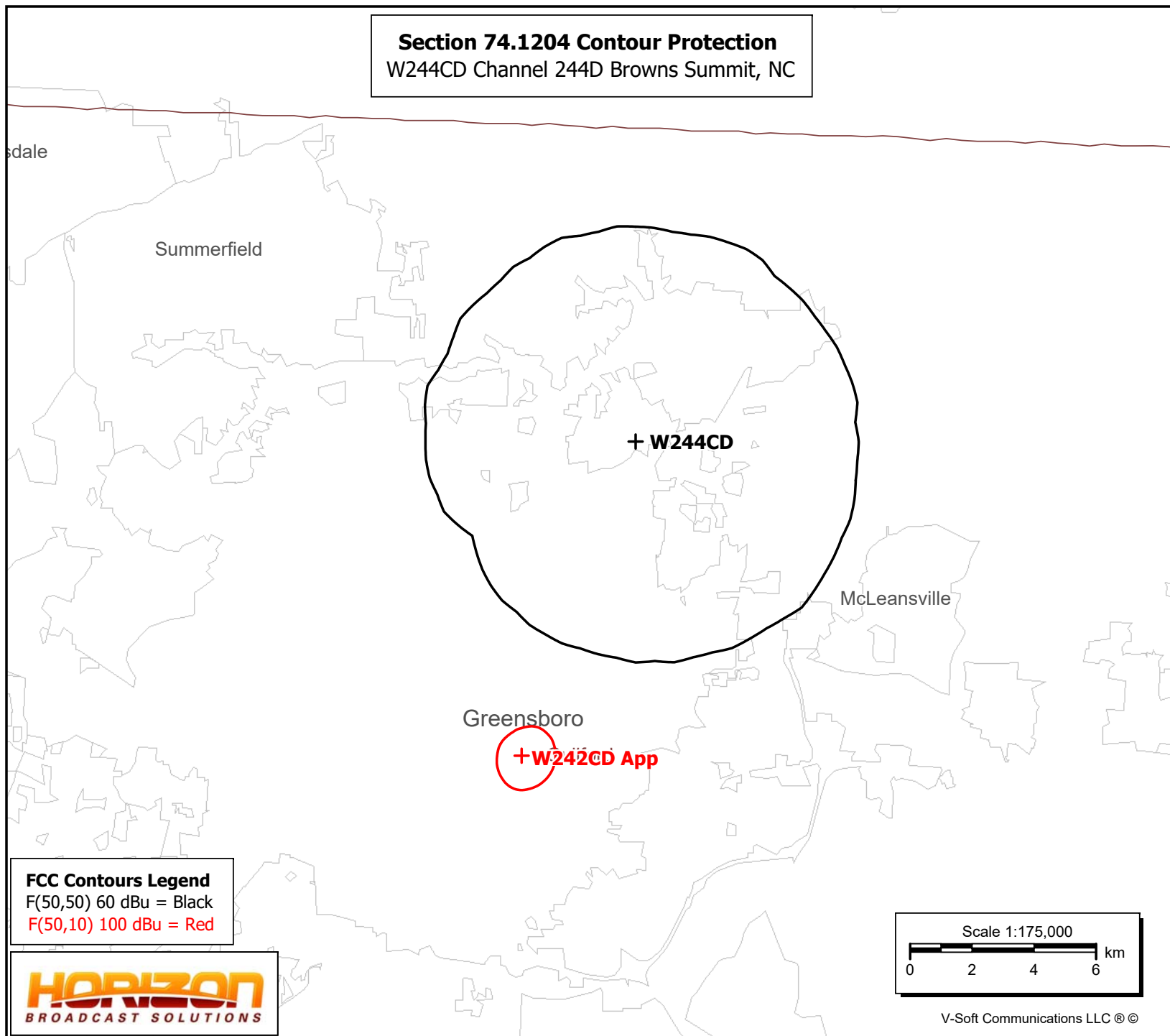
V-Soft Communications LLC ©

W242CD App

Latitude: 36-03-42 N
Longitude: 079-47-34 W
ERP: 0.25 kW
HAAT: 86.45 m
Channel: 242
Frequency: 96.3 MHz
AMSL Height: 329.0 m
Elevation: 250.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

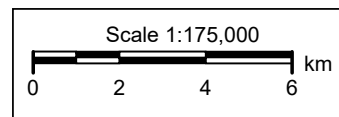
W244CD

Browns Summit, NC
BLFT20061122AGL
Latitude: 36-09-10.50 N
Longitude: 079-45-07.10 W
ERP: 0.01 kW
HAAT: 148.2 m
Channel: 244
Frequency: 96.7 MHz
AMSL Height: 383.0 m
Elevation: 270.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC Model
Loc. Variability: 50.0%
Time Variability: 50.0%
HAAT Mthd: FCC

Section 74.1204 Contour Protection
W244CD Channel 244D Browns Summit, NC**FCC Contours Legend**

F(50,50) 60 dBu = Black
F(50,10) 100 dBu = Red

HORIZON
BROADCAST SOLUTIONS



V-Soft Communications LLC ©

W242CD App

Greensboro, NC

Latitude: 36-03-42 N

Longitude: 079-47-34 W

ERP: 0.25 kW

HAAT: 86.45 m

Channel: 242

Frequency: 96.3 MHz

AMSL Height: 329.0 m

Elevation: 250.0 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: FCC Model

Loc. Variability: 50.0%

Time Variability: 50.0%

HAAT Mthd: FCC

W240EG

Eden, NC

0000105788

Latitude: 36-14-54.80 N

Longitude: 079-39-20.10 W

ERP: 0.20 kW

HAAT: 157.21 m

Channel: 240

Frequency: 95.9 MHz

AMSL Height: 386.0 m

Elevation: 226.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: FCC Model

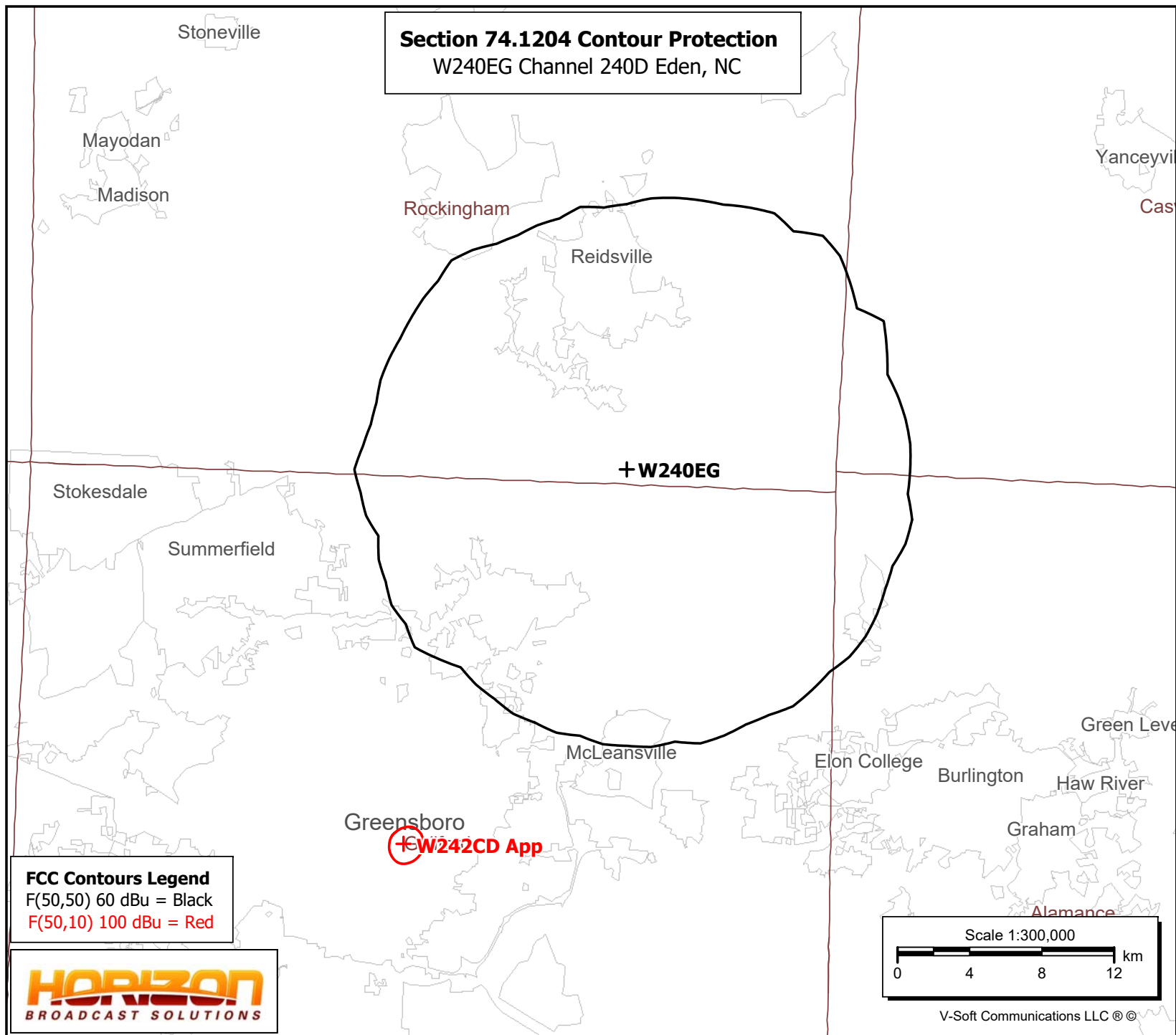
Loc. Variability: 50.0%

Time Variability: 50.0%

HAAT Mthd: FCC

Section 74.1204 Contour Protection

W240EG Channel 240D Eden, NC



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. Delmarva Educational Association, ("Delmarva"), is the licensee of FM translator W242CD, Channel 242D, Facility ID No. 142274, Greensboro, North Carolina. Delmarva seeks to modify W242CD. The transmit site is an existing tower 81.4 meters in overall height and is registered with FCC Antenna Structure Registration (ASR) number 1235239. The site is located at 36° 03' 42" N ~ 79° 47' 34" W (NAD 83). The proposed transmit antenna is a side mounted Nicom BKG77 two bay 0.85 wave spaced circularly polarized directional antenna. The proposed W242CD facility would operate with 250 watts ERP directional at 79 meters above ground level and 86.45 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. This modification 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 includes the Nicom BKG77 antenna under Type 2, Opposed "V" dipole. Using this antenna type, the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $0.313 \mu\text{W}/\text{cm}^2$ at 36 meters, which is 0.157 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.

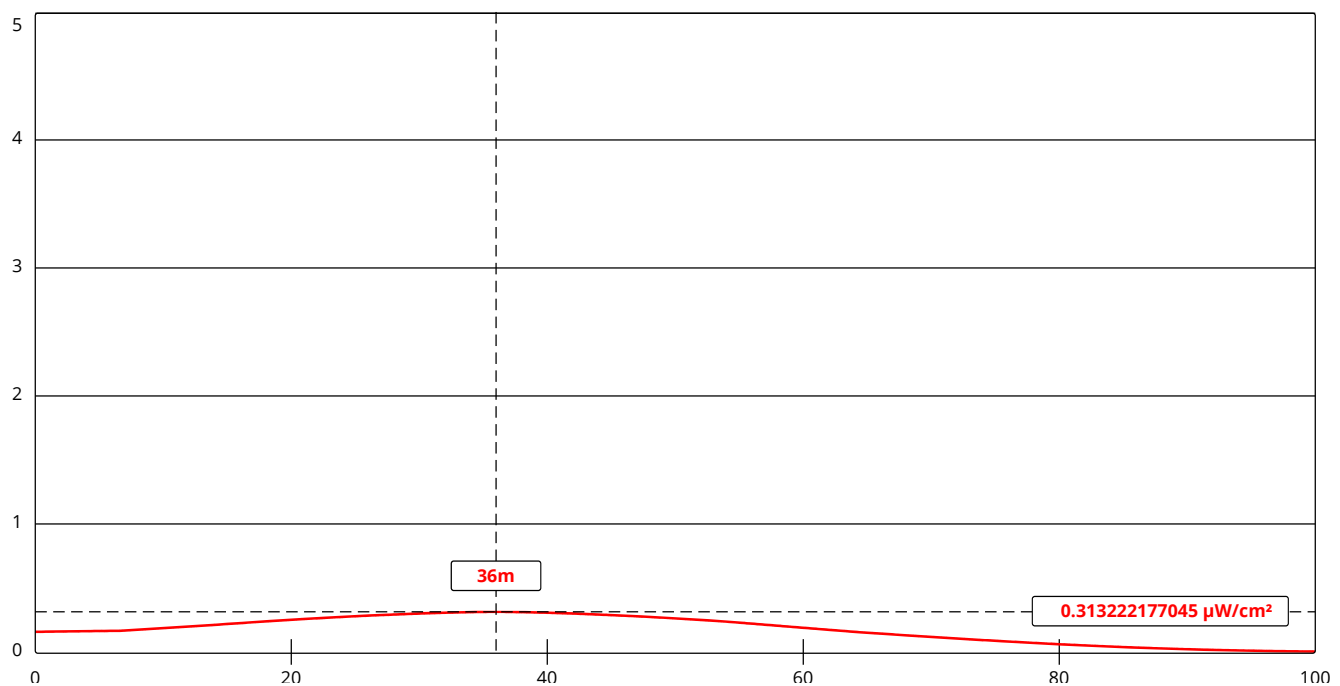
The applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less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



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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](#) (<http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Tx\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>). [▼ Show More.....](#)



[View Tabular Results +](#)

Channel Selection	Channel 242 (96.3 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="79"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="250"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="2"/>	Element Spacing (λ)	<input type="text" value="0.85"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	