

**W270BK - # 138380
Nashville, TN**

Minor Modifications

This application seeks a change in site.

Allocation Analysis:

An overlap study in Exhibit E-1 shows the proposed facility complies with §74.1204 with the exception of 3rd adjacent channel station WPRT-FM on 273C1. Since WPRT-FM is the primary station, this 3rd adjacent channel overlap may be ignored. The proposed W270BK 60 F(50-50) dBu contour overlaps the licensed facility's 60 dBu and is contained within the primary WPRT-FM HD2 60 dBu contour (see E2).

Antenna System:

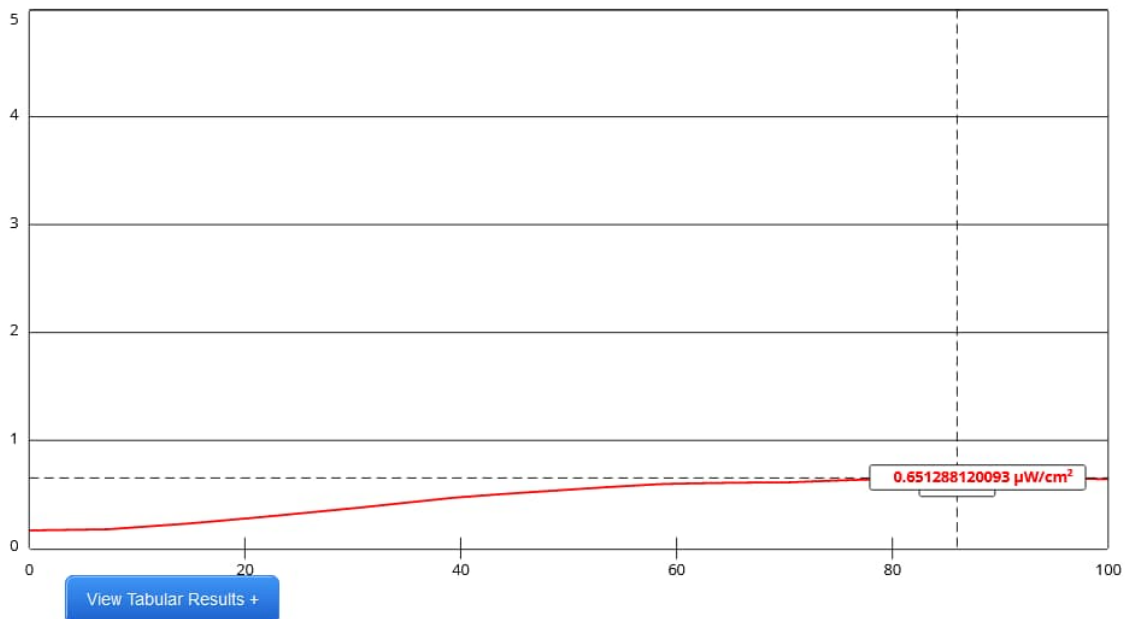
The W270BK modification will be located on the existing 88.4 meter tower, ASR #1031485, at coordinates:

36-21-24.8 N 086-43-17.7 NAD 83

A one bay PSI FML-1-DA antenna will be mounted at 86 meters AGL (280.8 meters AMSL) and operate at 0.250 kW ERP.

RF Exposure Calculation:

The RF contribution was calculated using FMModel (below). The RF is calculated to be 0.653 $\mu\text{W}/\text{cm}^2$ which is 0.33% and below 5% of the 200 $\mu\text{W}/\text{cm}^2$ maximum permissible for general population exposure.



Channel Selection	Channel 270 (101.9 MHz) ▾		
Antenna Type +	EPA Type 2: Opposed V Dipole ▾		
Height (m)	86	Distance (m)	100
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	1	λ	1
Num of Points	500	Apply	

Conclusion:

It is concluded that the W270BK modification complies with all Commission rules and policies.

August 27, 2023

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E1 Overlap Study

REFERENCE 36 21 24.80 N. 86 43 17.70 W.		CH# 270D - 101.9 MHz, Pwr= 0.25 kW DA, HAAT= 76.9 M, COR= 280.8 M Average Protected F(50-50)= 11.37 km Standard Directional						DISPLAY DATES DATA 08-25-23 SEARCH 08-26-23		
CH CITY	CALL	TYPE STATE	ANT AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
270D	W270BK Nashville	LIC DCN TN	319.1 139.1	9.12 BLFT20180813ABH	36 25 08.20 86 47 18.00	0.250	329	---Reference--- Wycq, Inc.		
270C1	WEKV Central City	STA _CN KY	350.1 170.0	138.53 0000219573	37 35 03.10 86 59 28.90	100.000 204	163.8 346	65.4 Educational Media Foundati	-35.5*	39.5
270C1	WEKV Central City	LIC _CN KY	350.1 170.0	138.53 0000120641	37 35 03.10 86 59 28.90	100.000 204	163.8 346	65.4 Educational Media Foundati	-35.5*	39.5
273C1	WPRT-FM Pegram	LIC NCN TN	262.5 82.1	52.78 BLH20031124ASU	36 17 36.20 87 18 20.00	100.000 297	10.7 483	75.1 Wycq, Inc.	32.8	-23.4*
271D	W271AB Nashville	LIC DCN TN	208.3 28.2	27.26 BLFT20171222AAV	36 08 27.20 86 51 56.00	0.250	24.8 421	16.0 Wycq, Inc.	-4.7	0.3
270D	W270DM Lebanon	LIC _CN TN	112.2 292.4	44.01 0000143882	36 12 24.20 86 16 02.00	0.055	22.3 216	6.0 Wilson County Broadcasting	10.0	0.8
269D	W269DQ Portland	LIC _VN TN	39.3 219.4	31.61 BLFT20190520AAD	36 34 36.20 86 29 50.00	0.250	15.3 305	8.6 Venture Broadcasting LLC	6.8	8.1
270D	W270AF Murfreesboro	LIC _CN TN	152.5 332.7	64.63 BLFT20181009AAW	35 50 26.20 86 23 27.00	0.250	46.3 276	13.5 The Rutherford Group, Inc.	7.4	14.3
271A	WLCT Lafayette	LIC NCN TN	72.6 253.0	66.86 BMLH19990624KA	36 32 06.20 86 00 26.90	6.000 99	42.0 351	25.6 Lafayette Broadcasting Co.	12.2	18.8
216C2	WNXP Nashville	LIC _CN TN	208.3 28.2	27.23 BMLED20030214ABG	36 08 27.20 86 51 56.00	10.000 212	0.0 385	0.0 Nashville Public Radio	14.5R	12.7M
269A	WKOM Columbia	LIC _CN TN	199.5 19.3	87.06 BLH19970910KF	35 37 05.30 87 02 33.00	4.100 118	45.3 332	29.4 Middle Tennessee Broadcast	33.3	46.6
269A	WJLE-FM Smithville	LIC _CN TN	120.4 300.9	94.05 BMLH19971229KB	35 55 31.20 85 49 13.90	4.400 59	36.7 349	20.9 Center Hill Broadcasting C	46.3	55.2

Terrain database is FCC 30 meter, R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.

* WPRT-FM is the primary. Therefore, the 3rd adjacent channel interference contour overlap may be ignored.

E1A W270BK-W271AB Interference Plot

FMCommander Single Allocation Study - 08-27-2023 - FCC 30 meter
W270BK's Overlaps (In= -4.74 km, Out= 0.28 km)

W270BK CH 270 D DA

Lat= 36 21 24.80, Lng= 86 43 17.70

0.25 kW 76.9 m HAAT, 280.8 m COR

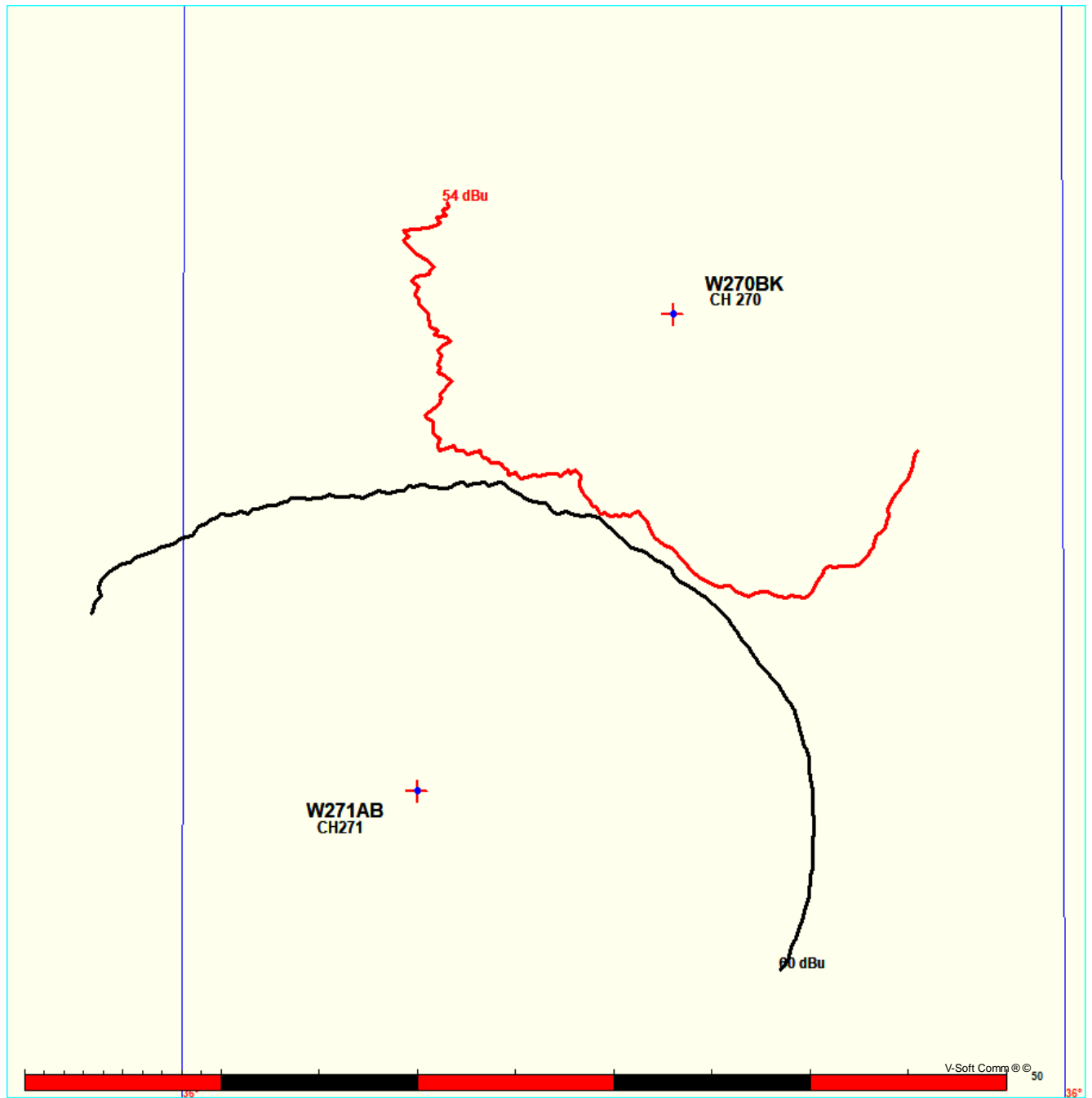
Prot.= 60 dBu, Intef.= 54 dBu

W271AB CH 271 D DA BLFT20171222AAV

Lat= 36 08 27.20, Lng= 86 51 56.00

0.25 kW 0 m HAAT, 421 m COR

Prot.= 60 dBu, Intef.= 54 dBu



E1A-1 W270BK-W271AB FMOVER

08-27-2023 Terrain Data: FCC 30 meter FMOver Analysis

W271AB BLFT20171222AAV

W270BK

Channel = 271D
Max ERP = 0.25 kW
RCAMSL = 421 m
N. Lat. 36 08 27.20
W. Lng. 86 51 56.00
Protected
60 dBu

Channel = 270D
Max ERP = 0.25 kW
RCAMSL = 280.8 m
N. Lat. 36 21 24.80
W. Lng. 86 43 17.70
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
010.0	000.0765	0265.1	015.7	229.9	000.0622	0082.6	013.3	51.68	
011.0	000.0765	0266.9	015.7	229.1	000.0603	0081.6	013.1	51.73	
012.0	000.0767	0270.5	015.9	228.5	000.0589	0082.5	012.8	52.11	
013.0	000.0767	0266.7	015.7	227.2	000.0557	0084.6	012.8	52.16	
014.0	000.0770	0271.7	015.9	226.6	000.0543	0085.7	012.5	52.59	
015.0	000.0773	0276.2	016.1	225.9	000.0526	0088.7	012.2	53.18	
016.0	000.0773	0274.1	016.0	224.6	000.0497	0085.1	012.1	52.69	
017.0	000.0776	0268.1	015.8	223.0	000.0462	0089.2	012.1	52.73	
018.0	000.0776	0266.6	015.8	221.7	000.0435	0086.6	012.1	52.32	
019.0	000.0778	0266.4	015.8	220.5	000.0411	0083.3	011.9	51.91	
020.0	000.0778	0263.4	015.7	219.1	000.0391	0081.8	011.9	51.55	
021.0	000.0781	0260.9	015.6	217.8	000.0378	0079.3	011.9	51.16	
022.0	000.0787	0262.1	015.7	216.6	000.0367	0078.6	011.8	51.18	
023.0	000.0790	0263.2	015.7	215.3	000.0355	0079.2	011.7	51.27	
024.0	000.0792	0266.0	015.9	214.1	000.0343	0072.7	011.5	50.67	
025.0	000.0795	0260.9	015.7	212.6	000.0330	0075.2	011.6	50.60	
026.0	000.0801	0257.3	015.6	211.3	000.0317	0072.2	011.7	50.00	
027.0	000.0804	0258.8	015.7	209.9	000.0306	0074.6	011.6	50.25	
028.0	000.0807	0265.8	015.9	208.6	000.0306	0085.8	011.3	51.84	
029.0	000.0812	0266.1	016.0	207.2	000.0306	0086.2	011.3	51.94	
030.0	000.0815	0268.0	016.0	205.8	000.0306	0088.0	011.2	52.21	
031.0	000.0821	0269.2	016.1	204.3	000.0306	0089.9	011.2	52.47	
032.0	000.0829	0274.5	016.3	202.7	000.0306	0094.0	011.0	53.15	
033.0	000.0835	0276.9	016.5	201.1	000.0306	0096.4	011.0	53.46	
034.0	000.0841	0277.0	016.5	199.6	000.0306	0097.9	011.0	53.53	
035.0	000.0847	0274.6	016.4	198.2	000.0306	0096.2	011.1	53.19	
036.0	000.0856	0273.0	016.4	196.9	000.0306	0096.5	011.2	53.05	
037.0	000.0861	0271.7	016.4	195.5	000.0306	0094.4	011.3	52.68	
038.0	000.0867	0270.1	016.4	194.2	000.0306	0092.5	011.5	52.30	
039.0	000.0876	0267.2	016.3	193.1	000.0306	0092.5	011.6	52.03	
040.0	000.0882	0266.4	016.3	191.8	000.0306	0091.8	011.8	51.77	
041.0	000.0891	0264.7	016.3	190.7	000.0306	0087.5	011.9	51.11	
042.0	000.0903	0265.2	016.4	189.3	000.0306	0089.4	012.0	51.17	
043.0	000.0912	0267.7	016.5	187.8	000.0306	0092.9	012.0	51.42	
044.0	000.0924	0268.6	016.6	186.4	000.0306	0100.0	012.1	51.92	
045.0	000.0933	0269.2	016.7	185.2	000.0306	0107.1	012.3	52.31	
046.0	000.0942	0269.5	016.7	184.0	000.0306	0111.3	012.4	52.42	
047.0	000.0955	0271.1	016.9	182.7	000.0306	0116.2	012.5	52.61	
048.0	000.0964	0271.7	016.9	181.5	000.0306	0118.2	012.7	52.52	
049.0	000.0977	0272.9	017.0	180.3	000.0306	0121.0	012.9	52.51	
050.0	000.0986	0268.1	016.9	179.9	000.0309	0121.3	013.2	52.15	

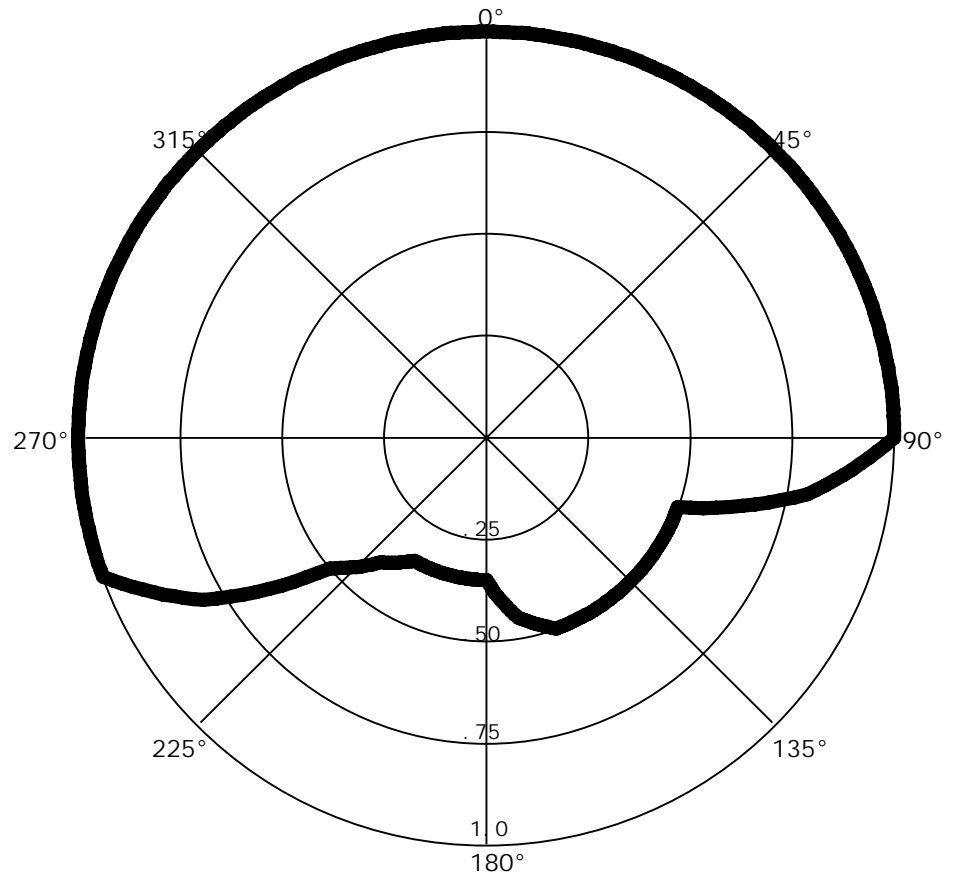
E1B W270BK DA

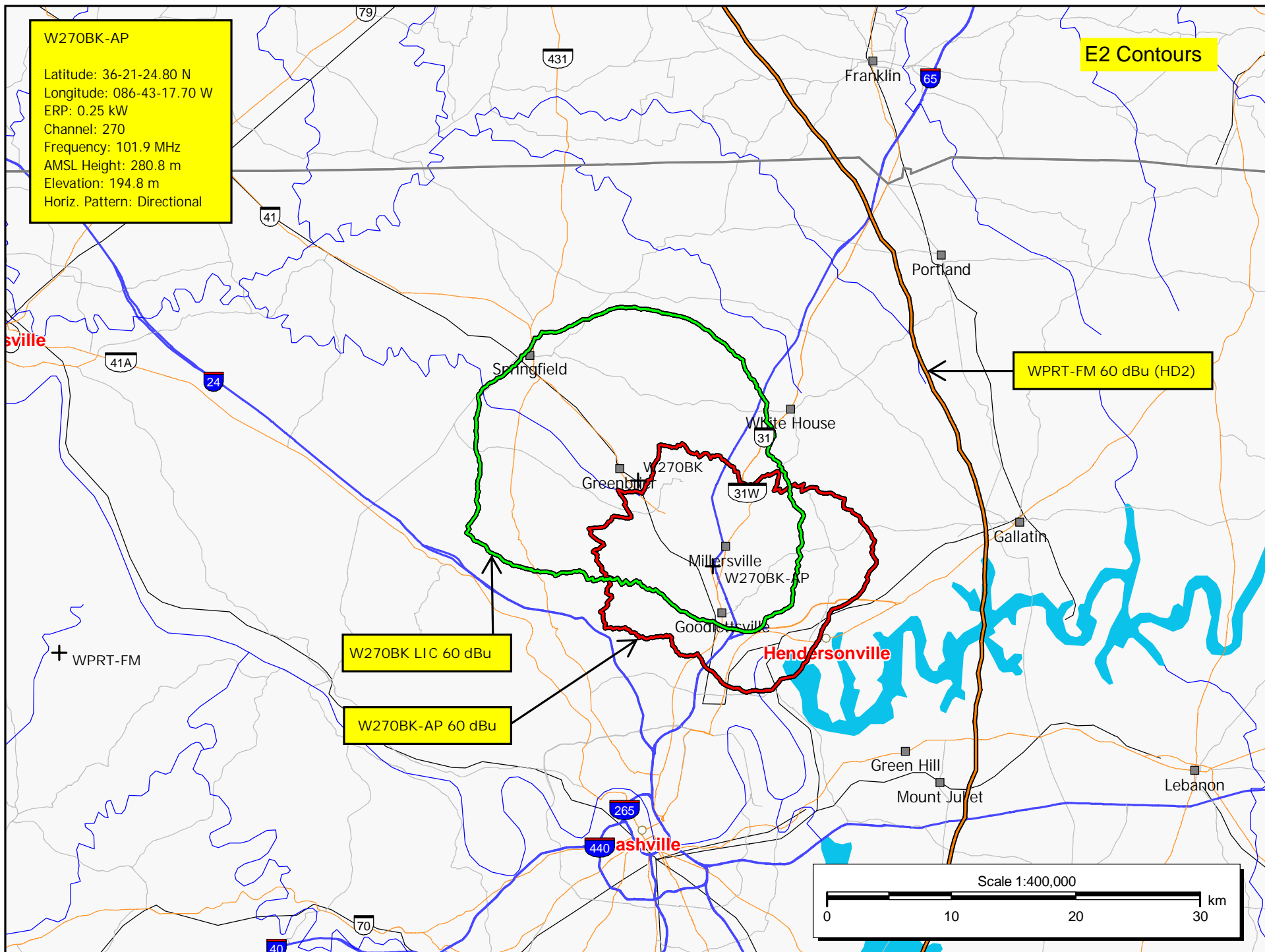
08-27-2023

RMS(V)= .831

Graph is Relative Field

Azi	Field	dBk	kW
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	0.800	-07.959	0.160
110	0.500	-12.041	0.063
120	0.500	-12.041	0.063
130	0.500	-12.041	0.063
140	0.500	-12.041	0.063
150	0.500	-12.041	0.063
160	0.500	-12.041	0.063
170	0.450	-12.956	0.051
180	0.350	-15.139	0.031
190	0.350	-15.139	0.031
200	0.350	-15.139	0.031
210	0.350	-15.139	0.031
220	0.400	-13.979	0.040
230	0.500	-12.041	0.063
240	0.800	-07.959	0.160
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250





E3 Registration 1031485



Registration Detail

Reg Number	1031485	Status	Constructed
File Number	A1013793	Constructed	10/03/1995
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type MAST - Mast

Location (in NAD83 Coordinates)

Lat/Long	36-21-24.8 N 086-43-17.7 W	Address	971-973 Highway 41 West
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City, State	GOODLETTSVILLE , TN
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Zip	37072	County	SUMNER
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Center of AM Array	Position of Tower in Array
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Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
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194.8	88.4
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Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
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283.2	87.2
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Painting and Lighting Specifications

FAA Chapters 4, 6, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2010-ASO-4624-OE	FAA Issue Date	10/21/2010
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Owner & Contact Information

FRN	0005793682	Owner Entity Type	Limited Liability Company
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Owner

Crown Castle GT Company LLC
2000 Corporate Drive
Canonsburg , PA 15317

P: (724)416-2000
F:
E: Regulatory.Department@CrownCastle.com

Contact

Snyder , Don
2000 Corporate Drive
Canonsburg , PA 15317

P: (724)416-2470
F:
E: Don.Snyder@crowncastle.com

Last Action Status

Status	Constructed	Received	05/06/2016
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Purpose	Admin Update	Entered	05/06/2016
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Mode	Interactive
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