

## **Request for Engineering STA**

The WPNA-FM licensed transmit facility experienced an apparent lightning strike on August 6<sup>th</sup>, 2020. Significant damage to the antenna and feed line occurred. Emergency repairs were made to the antenna and the 1 5/8 inch coaxial cable feed line was replaced with 7/8 inch coaxial cable. WPNA-FM is operating with the licensed antenna at 4.8 kW or 80 percent of licensed power due to power limitations of the 7/8 inch feed line. An exhibit is included showing that the FCC F(50,50) 60 dBu contours of the Engineering STA requested are contained inside the licensed WPNA-FM F(50,50) 60 dBu contours. No changes are being made to the structure. Therefore, it is believed a Section 106 review by the SHPO/THPO is not required. An FM Model for Windows is attached and shows the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $19.30 \mu\text{W}/\text{cm}^2$  at 26.9 meters, which is 9.65 percent of the general population/uncontrolled maximum permitted exposure limit.

**WPNA-FM Lic.**

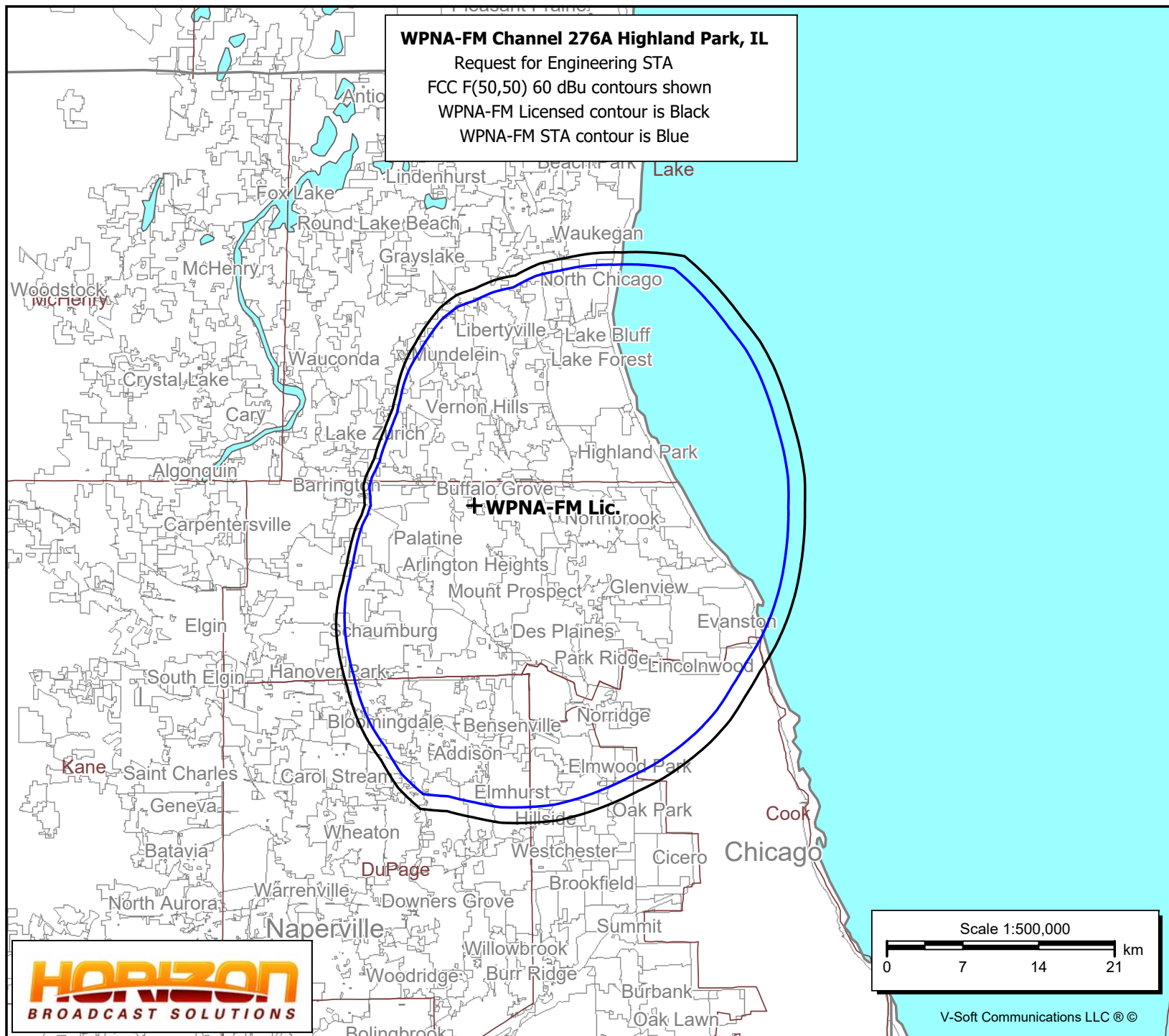
Highland Park, IL  
BLH19990730KB  
Latitude: 42-08-14.10 N  
Longitude: 087-58-57.30 W  
ERP: 6.00 kW  
HAAT: 100.0 m  
Channel: 276  
Frequency: 103.1 MHz  
AMSL Height: 318.0 m  
Elevation: 216.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

**WPNA-FM STA**

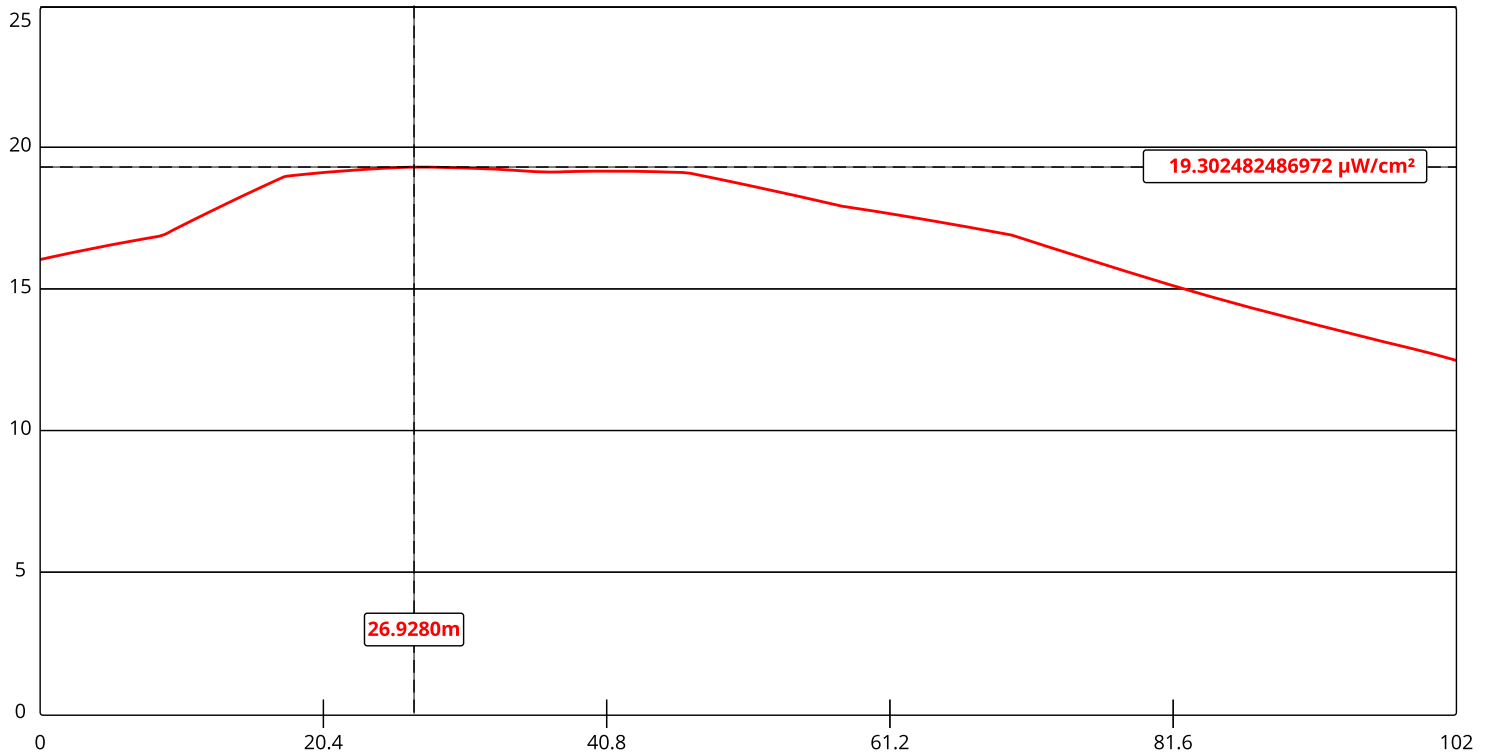
Highland Park, IL  
BLH19990730KB  
Latitude: 42-08-14.10 N  
Longitude: 087-58-57.30 W  
ERP: 4.80 kW  
HAAT: 100.0 m  
Channel: 276  
Frequency: 103.1 MHz  
AMSL Height: 318.0 m  
Elevation: 216.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

**WPNA-FM Channel 276A Highland Park, IL**

Request for Engineering STA  
FCC F(50,50) 60 dBu contours shown  
WPNA-FM Licensed contour is Black  
WPNA-FM STA contour is Blue



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 [▼ Show More....](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\Txt\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). <a href=)


[View Tabular Results +](#)

Channel Selection	Channel 276 (103.1 MHz) ▼		
<a href="#">Antenna Type +</a>	EPA Type 1: Ring-and-Stub or "Other" ▼		
Height (m)	<input type="text" value="102"/>	Distance (m)	<input type="text" value="102"/>
ERP-H (W)	<input type="text" value="4800"/>	ERP-V (W)	<input type="text" value="4800"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	Apply	


**Bureau/Office:**
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**Updated:**

Friday, June 8, 2018