

# PERDOMO MEDIA GROUP (PMG)

**25 Woodman St. Providence, RI. 02907. 401-338-2642**

Friday, November 12, 2021

This report is prepared on behalf of Ritmo Broadcasting LLC to support a minor modification for FM Translator W281CL, Cherry Hill, NJ. the following changes would be applied for modification: Antenna's height, Antenna's Patterns, & Location.

## PROPOSED

ASRN **1045856**

N. Lat: 39-56-3.40

W. Lon: 74-53-37.9

CH281 D

Antenna PSI FML-4

POWER: 0.130 Kw

HAG: 38 m

HAAT: 74 m

AMSL: 90 m COR

Primary Station WIFI.

This narrative is followed by contour to contour protection maps demonstrating that there is not prohibited overlap contours, an allocation study finds only one channel to be considered it's the second adjacent 283 channel WRFF 104.500 MHz. which is located 31.78 Km from the proposed site This will be further discussed.

We use directional antenna to protect co-channel WAEB-FM & First adjacent WPHI-FM, a map on this narrative demonstrates that the 60 dbu contour of the translator is entirely within the 60 dBu primary station contour of WPEN 54 dBu. There is a map showing the overlap requirement between the actual license W281CL 60 dBu and the proposed 60 dBu contour.

There is an Antenna's patterns plot and proposed 60 dBu contour, There is one by one maps from first to third adjacents chronologically. Next page there is an allocation table. There are tabulation graphs showing the interference contour, environmental maps showing RF exposure does not reach any occupied area. In conclusion, the proposed translator meets all the overlap requirements of § 74.1204 of the FCC rules and regulations.

**AM Stations.** The nearest AM station is WPHT, 1510, which is 9.37 kilometers west of this site. The antenna will be mounted on an existing 54.5 meter tower, registered as #1045856.

**Environmental.** As noted, this is an existing tower. No ground disturbance will be required. Construction will consist of mounting the antenna on an existing tower, and adding the feedline. At the base of the tower, the field from this antenna will be less than 5% of the maximum allowed for public exposure. The area around the base of the tower is fenced.

I certify that this report has been prepared by the undersigned. It is correct and accurate to my knowledge, except where stated otherwise, and where that is so, the information is correct to the best of my knowledge and belief.

I further certify that I have successfully completed several webinars of V-Soft, regarding FM Allocations rules, FM Commander, Pattern design, Electronic tech, contour overlapping, Probe 5, RadioSoft: Comstudy, RF Investigator, together with advance study of technology and digital matters.

I further have explored Digital Radio and TV transition and currently enrolled in a Broadcast Engineering Distance Education Course at SBE University.

<https://www.sbe.org/sections/FMTransmissionSystems.php>



Quilvio N. Perdomo (Frankie).

Consultant

401-338-2642

qperdomo@radiosharon.com

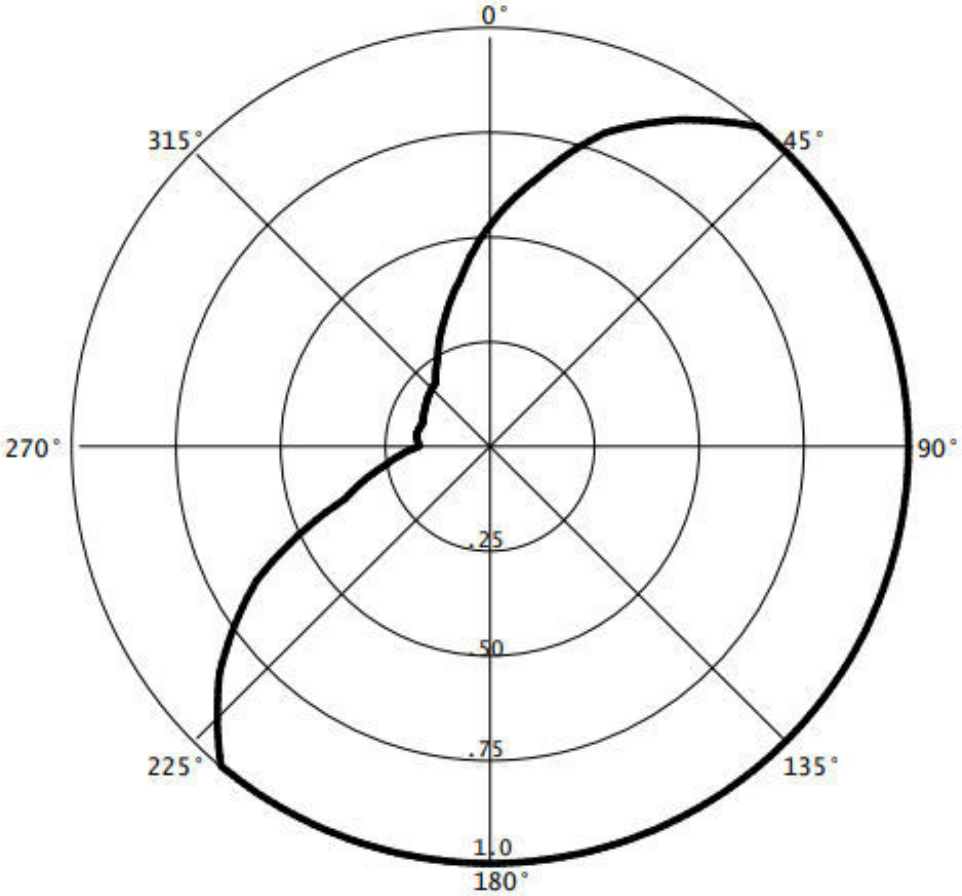
PROPOSED

11-11-2021

RMS(V)= .799

Graph is Relative Field

Azi	Field	dbk	kw
000	0.531	-14.359	0.037
010	0.654	-12.549	0.056
020	0.800	-10.799	0.083
030	0.905	-09.728	0.106
040	1.000	-08.861	0.130
050	1.000	-08.861	0.130
060	1.000	-08.861	0.130
070	1.000	-08.861	0.130
080	1.000	-08.861	0.130
090	1.000	-08.861	0.130
100	1.000	-08.861	0.130
110	1.000	-08.861	0.130
120	1.000	-08.861	0.130
130	1.000	-08.861	0.130
140	1.000	-08.861	0.130
150	1.000	-08.861	0.130
160	1.000	-08.861	0.130
170	1.000	-08.861	0.130
180	1.000	-08.861	0.130
190	1.000	-08.861	0.130
200	1.000	-08.861	0.130
210	1.000	-08.861	0.130
220	1.000	-08.861	0.130
230	0.843	-10.344	0.092
240	0.644	-12.683	0.054
250	0.369	-17.520	0.018
260	0.252	-20.833	0.008
270	0.170	-24.252	0.004
280	0.178	-23.852	0.004
290	0.170	-24.252	0.004
300	0.180	-23.755	0.004
310	0.191	-23.240	0.005
320	0.201	-22.797	0.005
330	0.249	-20.937	0.008
340	0.320	-18.758	0.013
350	0.407	-16.669	0.022



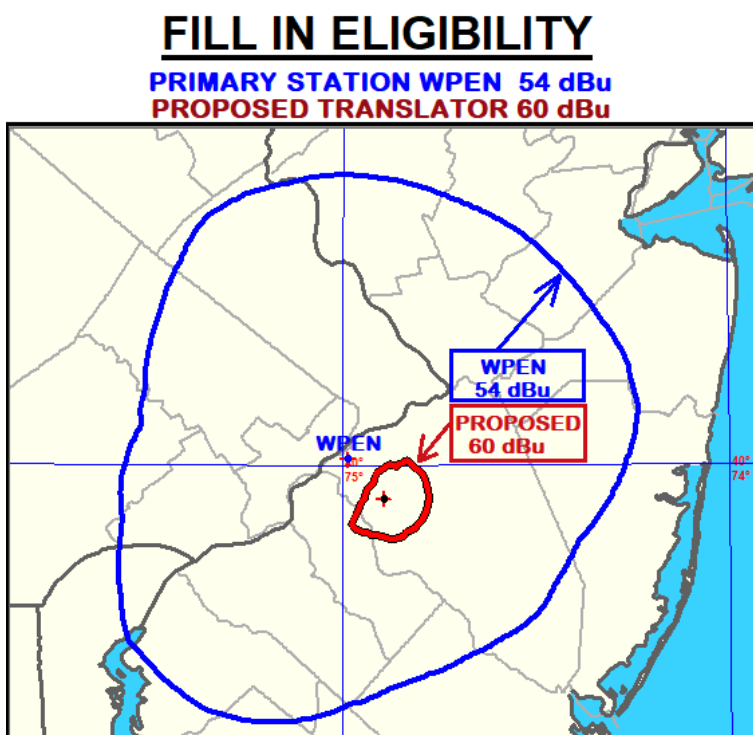
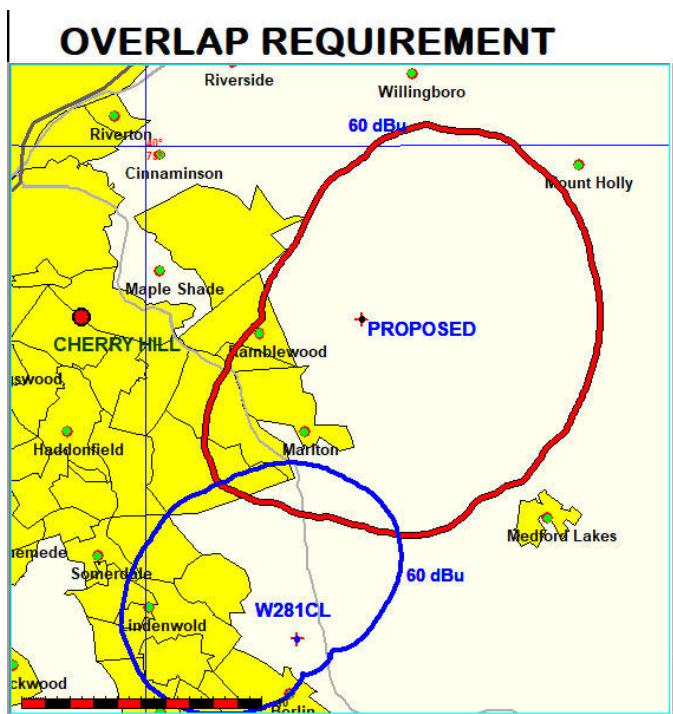
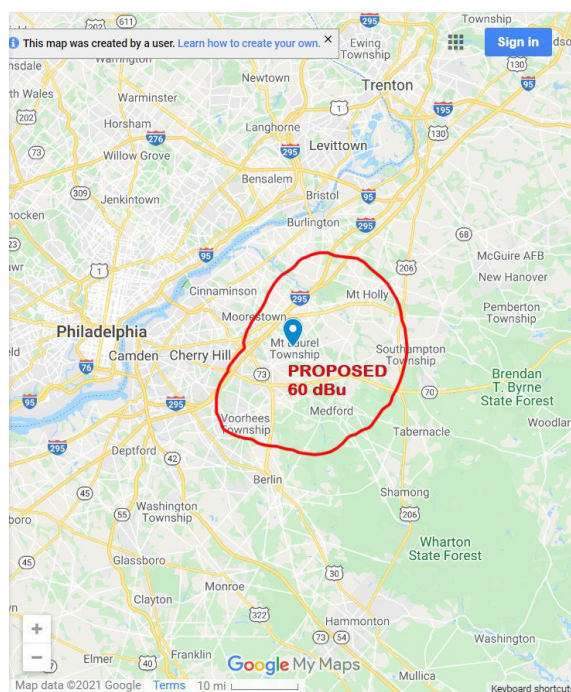
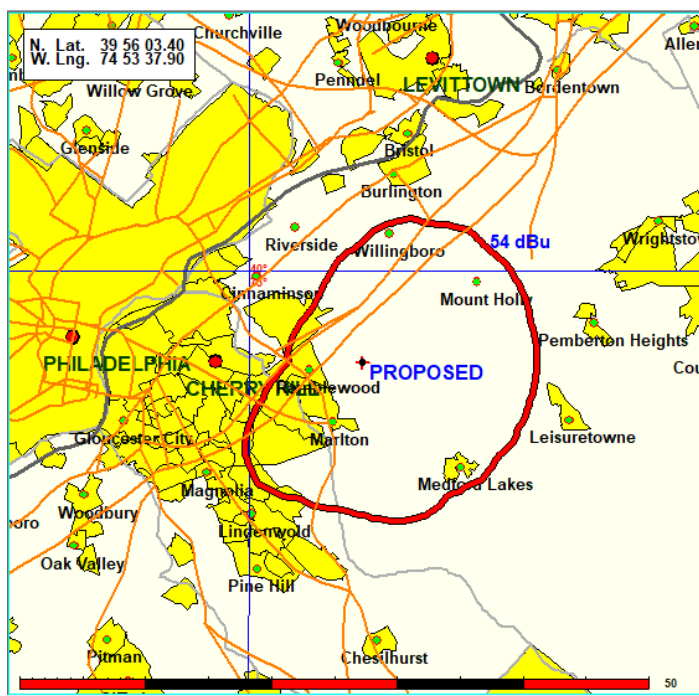
Allocation

Ritmo Broadcasting, LLC

REFERENCE CH# 281D - 104.1 MHz, Pwr= 0.13 kW DA, HAAT= 74.3 M, COR= 90 M DISPLAY DATES  
39 56 03.4 N. Average Protected F(50-50)= 9.5 km DATA 11-09-21  
74 53 37.9 W. Standard Directional SEARCH 11-10-21

CH	CALL	TYPE	ANT	AZI.	DIST	LAT.	Pwr(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
281B	WAEB-FM	LIC	CN	326.0	105.69	40 43 13.30	50.000	147.6	72.8	-47.6*	8.1
Allentown			PA	145.6	BLH7006	75 35 42.60	152	353	Ihm Licenses, LLC		
283B	WRFF	LIC	CN	292.2	31.78	40 02 30.40	11.500	5.5	67.8	22.0	-36.3*
Philadelphia			PA	112.0	BMLH20090513AAG	75 14 22.60	308	376	Ihm Licenses, LLC		
280A	WPHI-FM	LIC	CN	292.4	31.50	40 02 30.00	0.270	39.1	25.5	-11.8*	0.1
Jenkintown			PA	112.2	BLH20070111AAX	75 14 10.00	338	403	Audacy License, LLC		
281D	W281CM	LIC	DCN	232.6	43.56	39 41 43.30	0.250	28.8	8.7	6.2	0.5
Millville			NJ	52.3	0000143669	75 17 53.50		281	The Voice Radio Wilmington		
281D	W281BI	LIC	DVN	8.6	38.53	40 16 37.10	0.250	27.3	6.7	3.4	1.4
Trenton			NJ	188.7	BLFT20160930ABF	74 49 32.40	49	98	Ihm Licenses, LLC		
281D	W281CK	LIC	CN	95.8	62.46	39 52 31.40	0.225	48.2	14.4	4.3	14.8
Lakewood Township			NJ	276.3	0000094164	74 09 55.80		149	Townsquare License, LLC		
227B	WMMR	LIC	CN	275.1	23.48	39 57 09.40	16.500	0.0	0.0	14.5R	9.0M
Philadelphia			PA	94.9	BMLH20061205ADU	75 10 03.60	264	292	Beasley Media Group Licens		
279B	WMGM	LIC	DCN	151.5	68.76	39 23 24.40	50.000	4.9	57.0	54.4	10.2
Atlantic City			NJ	331.7	BLH19971121KA	74 30 43.50	106	112	Longport Media, LLC		
281D	W281BH	LIC	CN	155.3	68.21	39 22 35.40	0.250	41.4	12.0	17.3	24.7
Absecon			NJ	335.5	BLFT20181231AAP	74 33 42.60		101	Hope Christian Church Of M		
282B	WAXQ	LIC	CN	40.1	118.80	40 44 54.30	6.000	79.3	66.5	29.7	32.0
New York			NY	220.7	BLH19960426KA	73 59 08.50	415	429	Ihm Licenses, LLC		
278D	W278AK	LIC	DCN	256.5	46.48	39 50 07.40	0.080	0.1	3.8	38.9	40.6
Village Green			PA	76.1	BLFT19980402TE	75 25 23.70	79	122	Priority Radio, Inc.		
281B	WNNK-FM	LIC	CN	284.3	179.94	40 18 59.30	22.500	132.1	67.1	42.7	93.1
Harrisburg			PA	103.0	BMLH20050804ADH	76 57 02.90	221	379	Cumulus Licensing LLC		

Terrain database is FCC NGDC 30 Sec, 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.



CO-W281BH  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 17.33 km, Out= 24.71 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W281BH CH 281 D BLFT20181231AAP  
Lat= 39 22 35.40, Lng= 74 33 42.60  
0.25 kW 0 m HAAT, 101 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

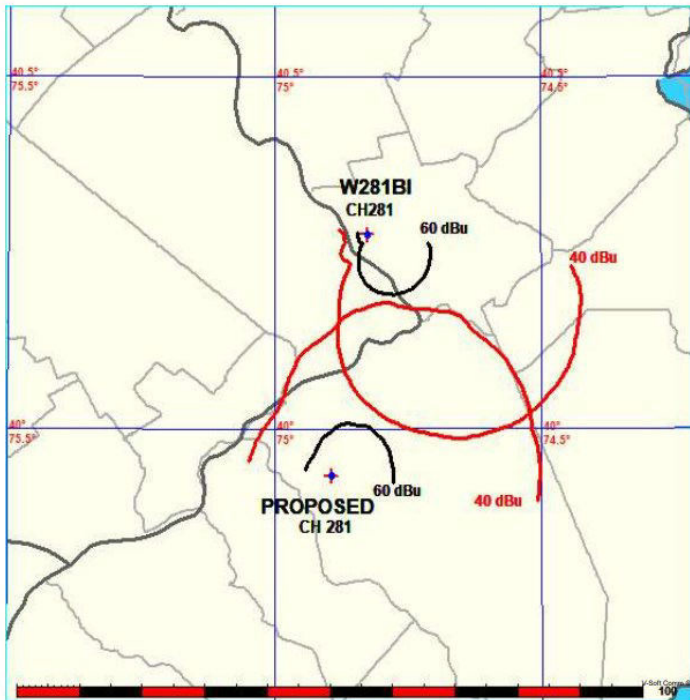


CO-W281BI  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 3.36 km, Out= 1.42 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W281BI CH 281 D DA BLFT20160930ABF  
Lat= 40 16 37.10, Lng= 74 49 32.40  
0.25 kW 49.3 m HAAT, 98 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

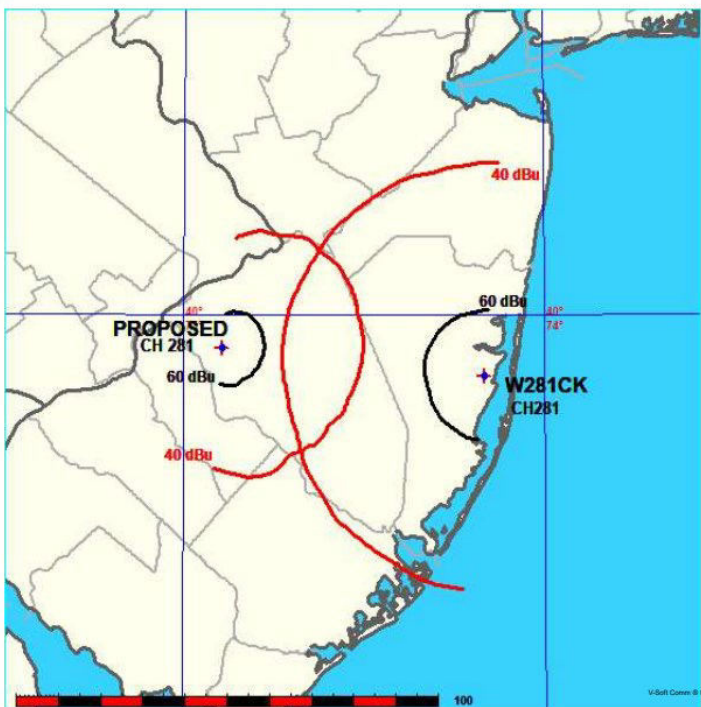


CO-W281CK  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 4.33 km, Out= 14.82 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W281CK CH 281 D 0000094164  
Lat= 39 52 31.40, Lng= 74 09 55.80  
0.225 kW 0 m HAAT, 149 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

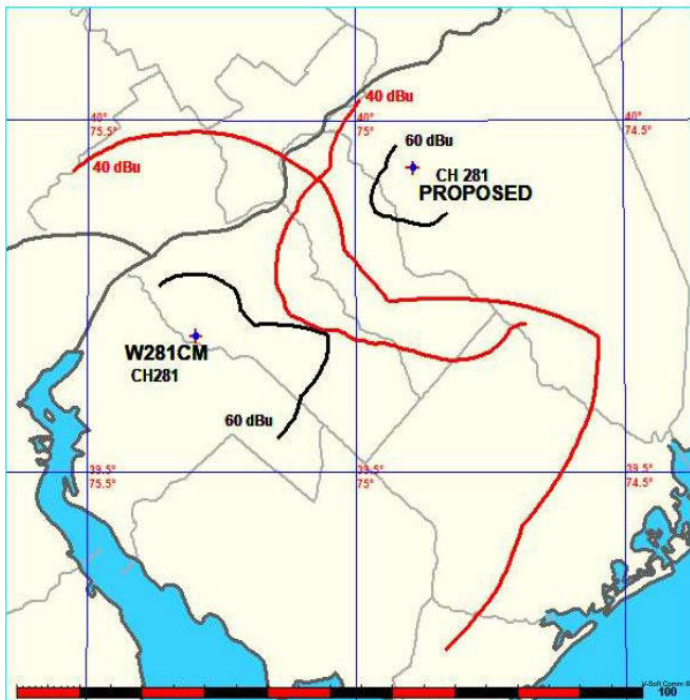


CO-281CM  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 6.17 km, Out= 0.5 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

W281CM CH 281 D DA 0000143669  
Lat= 39 41 43.30, Lng= 75 17 53.50  
0.25 kW 0 m HAAT, 281.3 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



CO-WEAB  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= -47.64 km, Out= 8.08 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 34 dBu

WAEB-FM CH 281 B BLH7006  
Lat= 40 43 13.30, Lng= 75 35 42.60  
50.0 kW 152 m HAAT, 353 m COR  
Prot.= 54 dBu, Intef.= 40 dBu

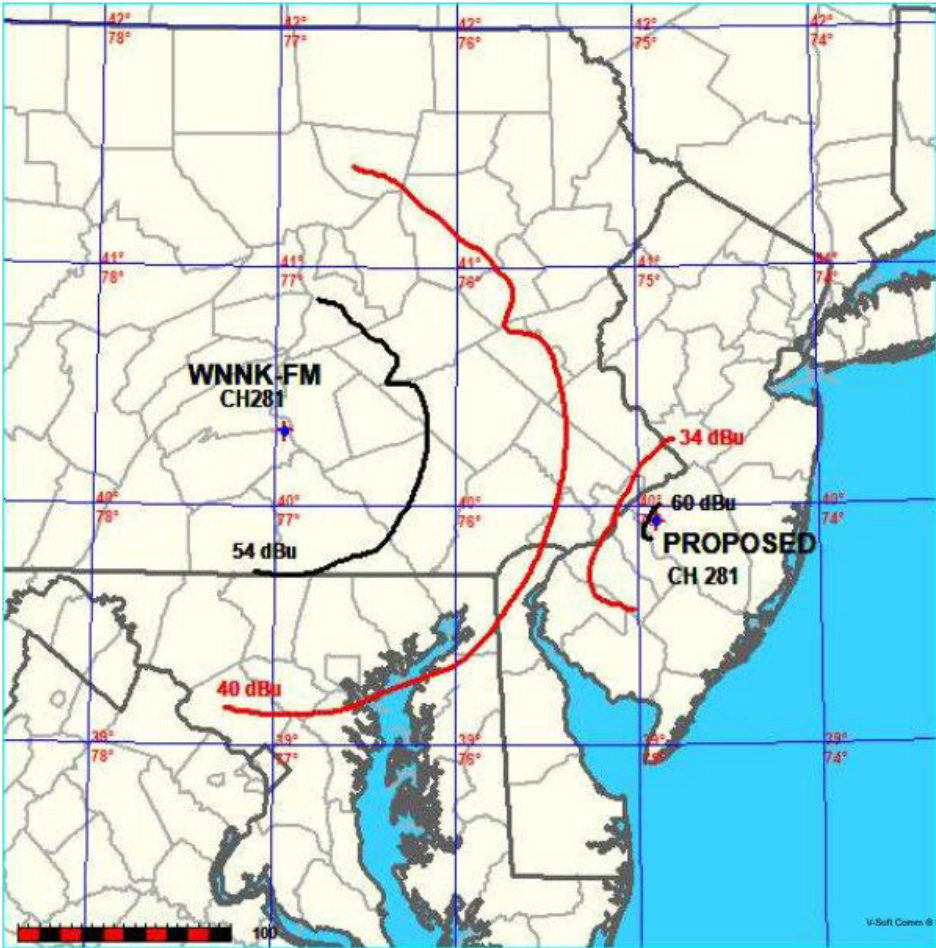


CO- WNNK-FM  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 42.66 km, Out= 93.11 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 34 dBu

WNNK-FM CH 281 B BMLH20050804ADH  
Lat= 40 18 59.30, Lng= 76 57 02.90  
22.5 kW 221 m HAAT, 379 m COR  
Prot.= 54 dBu, Intef.= 40 dBu



# FIRST-CHANNEL WAXQ

1ST. CH. WAXQ  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 29.75 km, Out= 32.04 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 48 dBu

WAXQ CH 282 B BLH19960426KA  
Lat= 40 44 54.30, Lng= 73 59 08.50  
6.0 kW 415 m HAAT, 429 m COR  
Prot.= 54 dBu, Intef.= 54 dBu

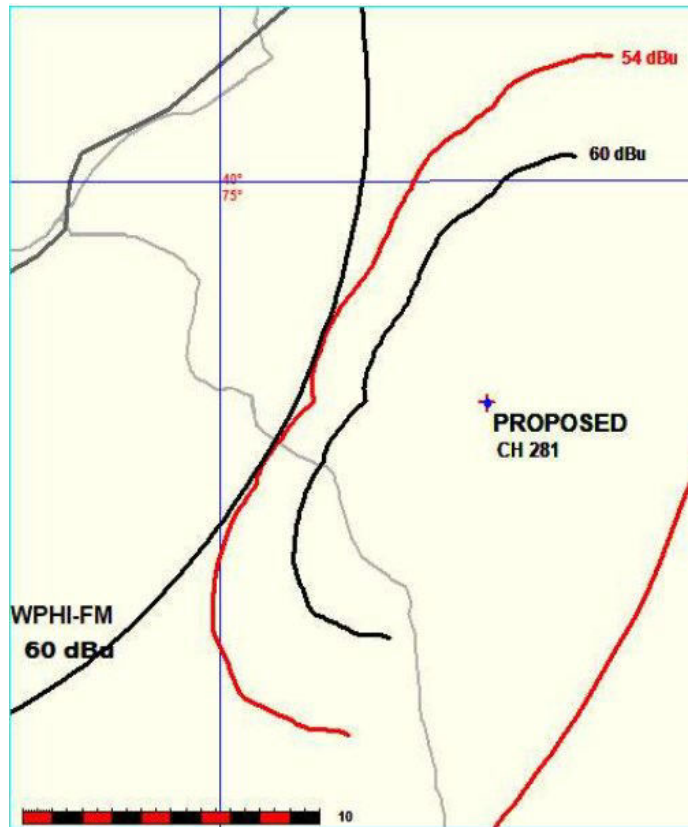
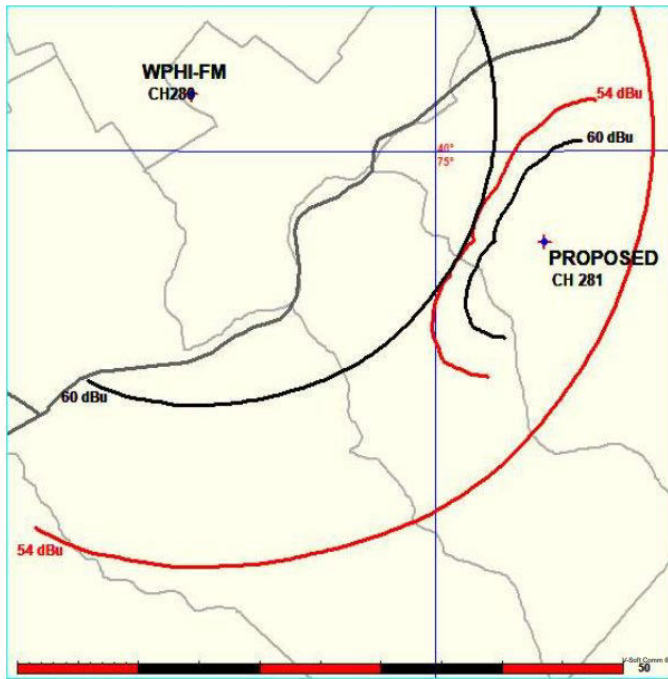


1ST. CH. WPHI-FM  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= -11.83 km, Out= 0.07 km)

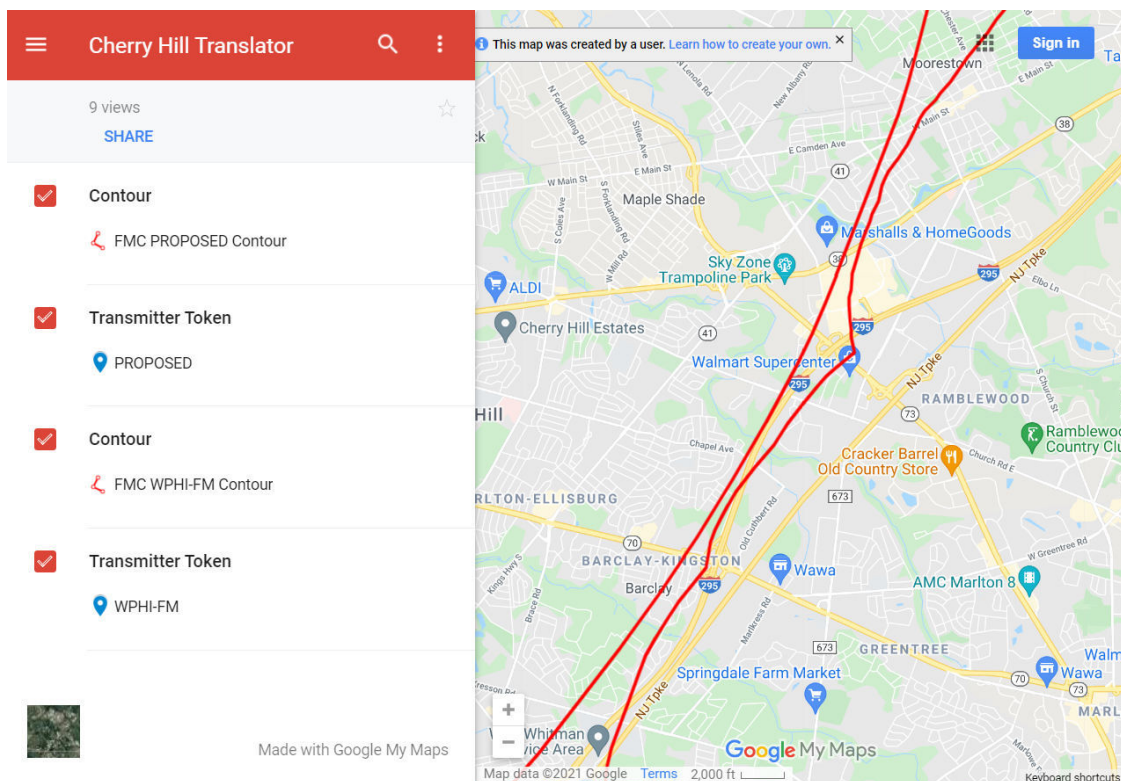
PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 54 dBu

WPHI-FM CH 280 A BLH20070111AAX  
Lat= 40 02 30.00, Lng= 75 14 10.00  
0.27 kW 338 m HAAT, 403 m COR  
Prot.= 60 dBu, Intef.= 54 dBu



To appreciate better that there is not prohibited overlap between Proposed 54 dBu and WPHI 60 dBu. With FMCommander we sent the involved contours as KML-Files to Google Map and make zoom to get a closer view. It is an interactive map, thru the link could be confirmed.

[https://www.google.com/maps/d/edit?mid=1eTDWyTQcLLt\\_1YjkKyUvwSzU7zubQ&usp=sharing](https://www.google.com/maps/d/edit?mid=1eTDWyTQcLLt_1YjkKyUvwSzU7zubQ&usp=sharing)



# SECOND CHANNELS

2nd. Ch. WMGM  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 54.41 km, Out= 10.16 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 94 dBu

WMGM CH 279 B DA BLH19971121KA  
Lat= 39 23 24.40, Lng= 74 30 43.50  
50.0 kW 106 m HAAT, 112 m COR  
Prot.= 54 dBu, Intef.= 100 dBu

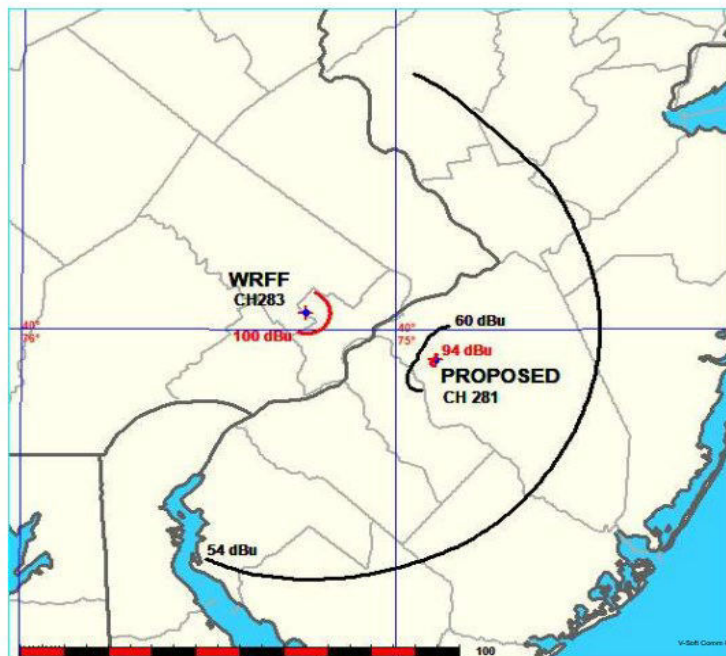


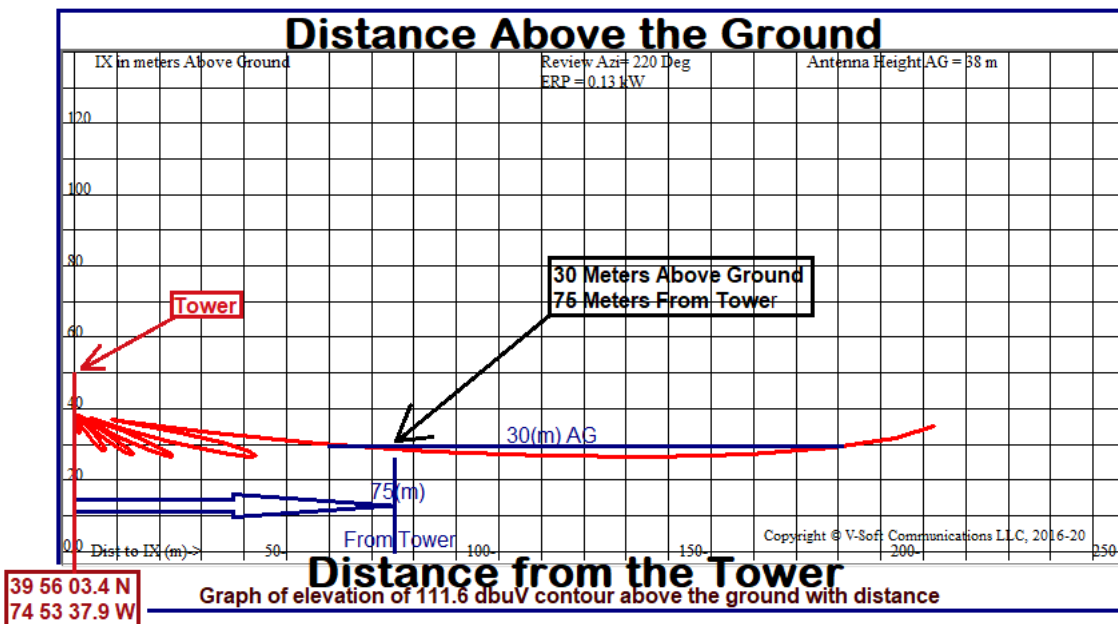
2nd. Ch. WRFF  
Ritmo Broadcasting, LLC

FMCommander Single Allocation Study - 11-11-2021 - FCC NGDC 30 Sec  
PROPOSED's Overlaps (In= 22.05 km, Out= -36.27 km)

PROPOSED CH 281 D DA  
Lat= 39 56 03.40, Lng= 74 53 37.90  
0.13 kW 74.3 m HAAT, 90 m COR  
Prot.= 60 dBu, Intef.= 94 dBu

WRFF CH 283 B BMLH20090513AAG  
Lat= 40 02 30.40, Lng= 75 14 22.60  
11.5 kW 308 m HAAT, 376 m COR  
Prot.= 54 dBu, Intef.= 100 dBu





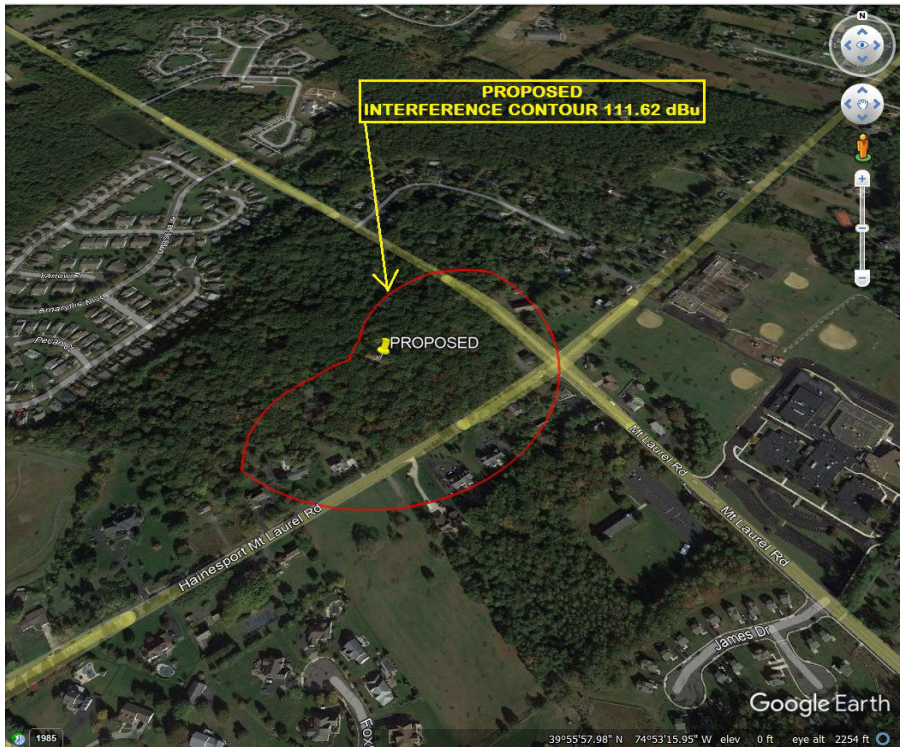
Showing downward radiation pattern of proposed W281CL antenna, and the 111.62 dbu interference area to WRFF. The chart demonstrates that the interference area is, at various downward angles from the antenna, a minimum of 25 meters above ground, hence, occurring in an “unoccupied” area.

Now examine the chart showing interference protection to WREF. At a depression angle of **25E**, for **130** watts, the interference contour will extend **21.7** meters from the tower, but this point on a **25E** downward slope is some **27.9** meters above ground. Similarly, at 210 meters from the tower, at a depression angle of about **10E**, the interference contour will be **36** meters above ground, and only **10.5** meters from the tower.

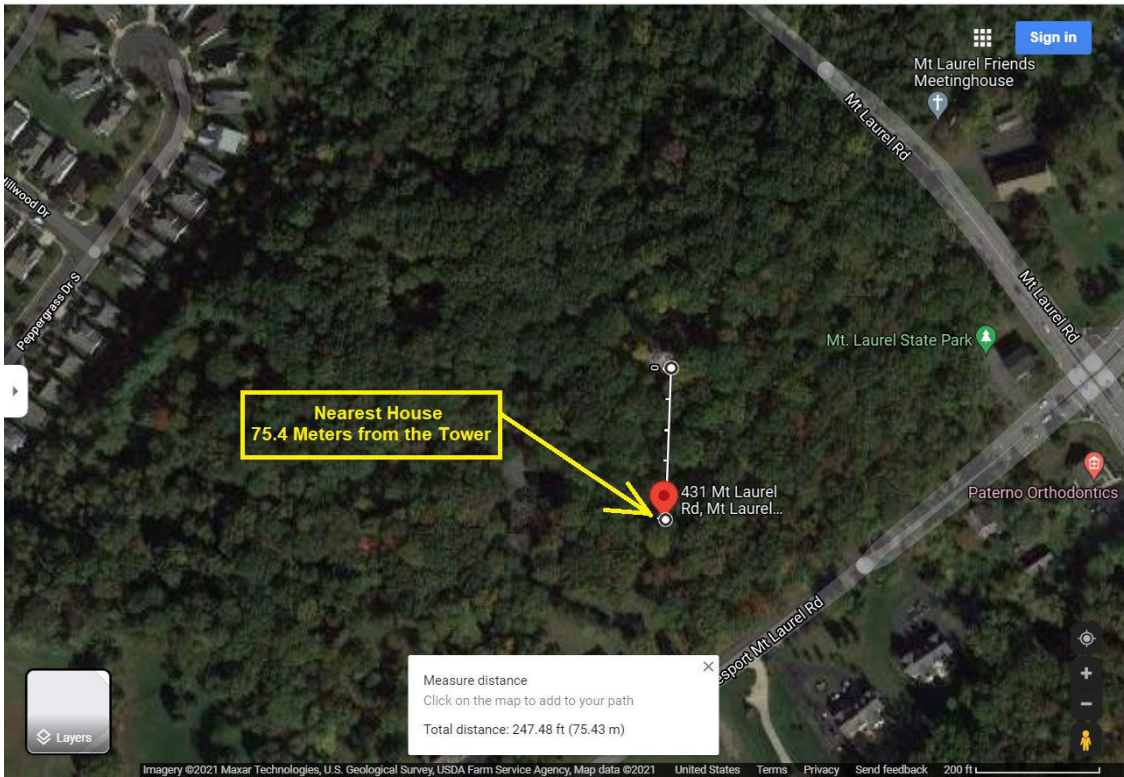
PROPOSED Cherry Hill, New Jersey, Showing Protection to WRFF, Channel: 283						
Geographic Coordinates: N. 39 56 03.40 W. 74 53 37.90						
74.1204(d) Study - Using FCC 30 SEC Terrain Database						
Translator or LPFM Maximum Licensed ERP = 0.13 kW, Channel: 281						
Translator or LPFM Antenna Height AG = 38 meters						
PROPOSED Antenna Model =						
Protected Station's Contour = 71.62485 dBu						
Translator's or LPFM's full Interference contour 111.62485						
Review Azimuth = 220 Degrees True						
Horizontal Relative Field at Review Azimuth = 1.000						
Translator/LPFM ERP on the horizontal at Review Azimuth = 0.13 kW						
Distance between stations = 31.8 km						
Protected Station= WRFF, 11.5 kW, 376 M meters COR AMSL						
Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kW)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	1.0	0.1300	209.7631	209.7631	038.000
05.00	0.665	1.0	0.0575	139.4925	138.9617	025.842
<u>10.00</u>	0.051	1.0	0.0003	010.6979	<u>010.5354</u>	<u>036.142</u>
15.00	0.216	1.0	0.0061	045.3088	043.7650	026.273
20.00	0.065	1.0	0.0005	013.6346	012.8123	033.337
<u>25.00</u>	0.114	1.0	0.0017	023.9130	<u>021.6725</u>	<u>027.894</u>
30.00	0.083	1.0	0.0009	017.4103	015.0778	029.295
35.00	0.042	1.0	0.0002	008.8101	007.2168	032.947
40.00	0.085	1.0	0.0009	017.8299	013.6585	026.539
45.00	0.029	1.0	0.0001	006.0831	004.3014	033.699
50.00	0.039	1.0	0.0002	008.1808	005.2585	031.733
55.00	0.059	1.0	0.0005	012.3760	007.0986	027.862
60.00	0.038	1.0	0.0002	007.9710	003.9855	031.097
65.00	0.005	1.0	0.0000	001.0488	000.4432	037.049
70.00	0.017	1.0	0.0000	003.5660	001.2196	034.649
75.00	0.025	1.0	0.0001	005.2441	001.3573	032.935
80.00	0.024	1.0	0.0001	005.0343	000.8742	033.042
85.00	0.018	1.0	0.0000	003.7757	000.3291	034.239
90.00	0.011	1.0	0.0000	002.3074	000.0000	035.693

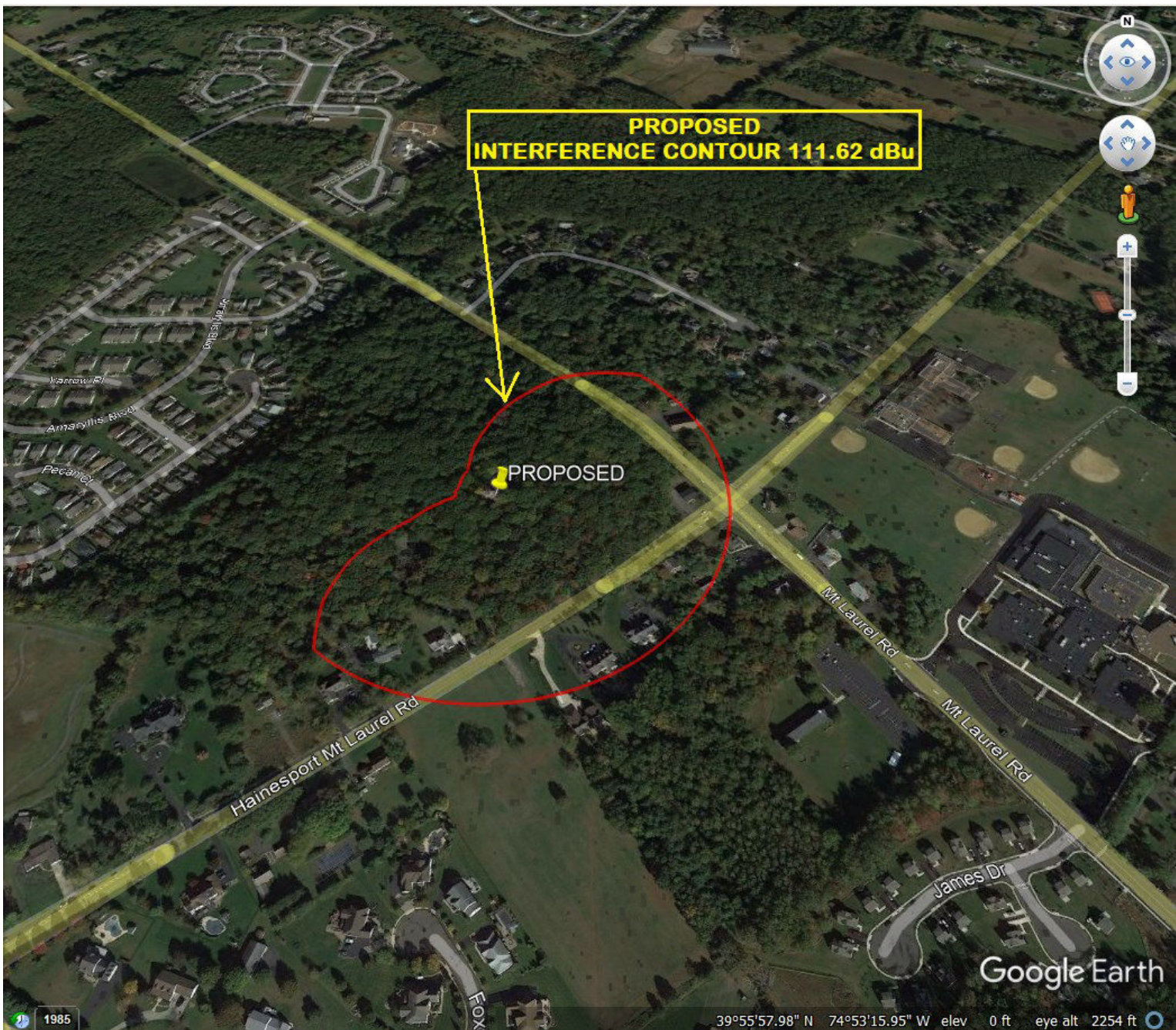
WRFF places a 71.62 dbu contour at the site. Hence the interfering contour is 40 dbu higher or 111.62 dbu, which extends a maximum of 210 meters horizontally from the antenna.

This is a neighborhood of single family homes, mostly single story. The interference contour falls well above these houses, at the lowest point more than 25 meters (82 feet) above ground. Hence, under Section 74.1204(d), the interference to WRFF will fall in an “unoccupied area,” and is permitted under this subsection.



Here the nearest house is 75.4 meters from the tower. A four bay PSI antenna will be used, model FML-4 the vertical radiation chart at 75 meters, the depression angle is 27E.





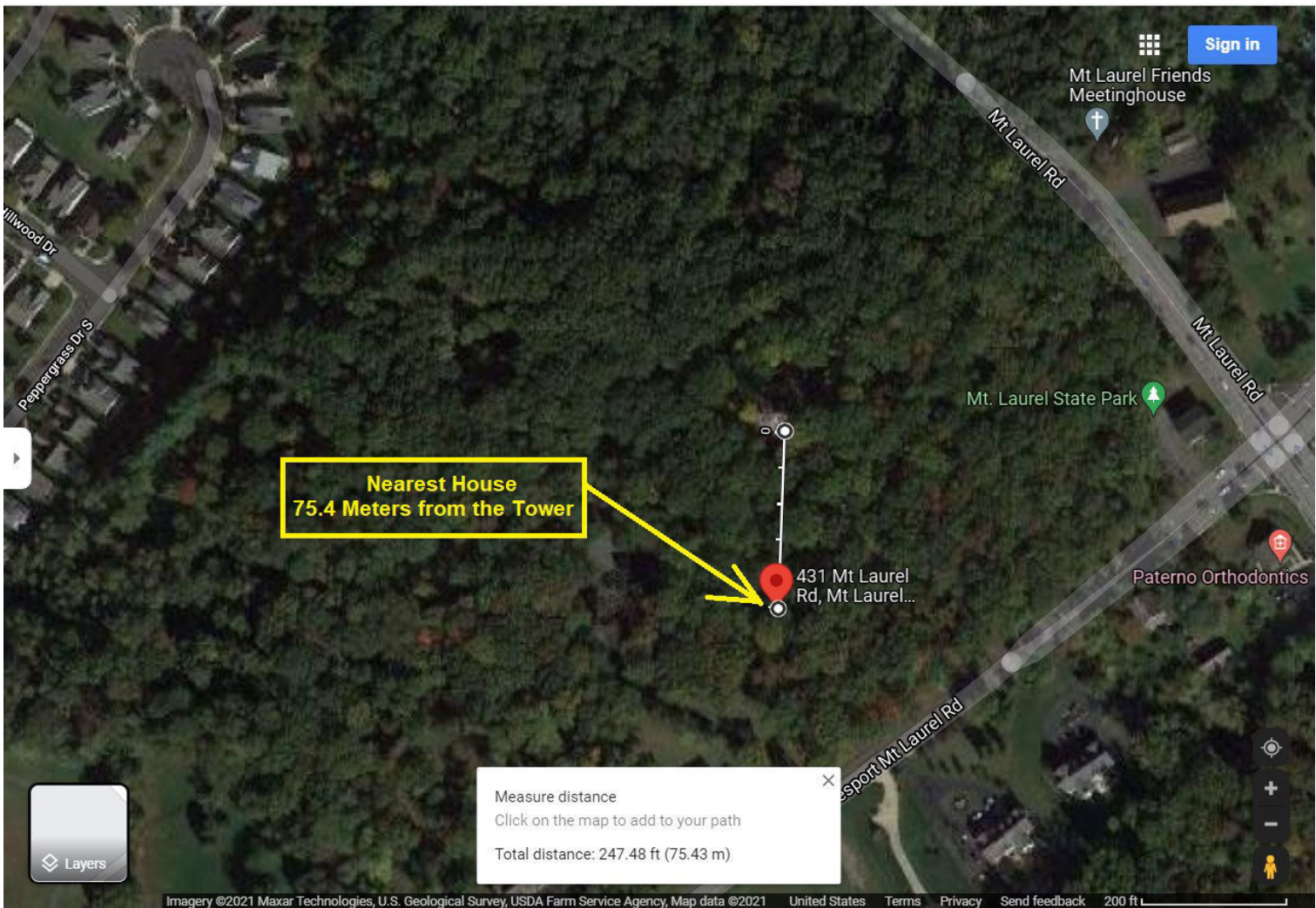
Second and Third Adjacent Channels.

WRFF, Philadelphia, on 104.7 MHz., is 31.85 KM to the west of the proposed translator site. WRFF places a 71.62 dbu contour at the site. Hence the interfering contour is 40 dbu higher or 111.62 dbu, which extends a maximum of 210 meters horizontally from the antenna.

Here the nearest house is 75.4 meters from the tower. A four bay PSI antenna will be used, model FML-4, the vertical radiation chart follows the maps attached to this exhibit. At 75 meters, the depression angle is 27E.

Now examine the chart showing interference protection to WREF. At a depression angle of 25E, for 130 watts, the interference contour will extend 21.7 meters from the tower, but this point on a 25E downward slope is some 27.9 meters above ground. Similarly, at 210 meters from the tower, at a depression angle of about 10E, the interference contour will be 36 meters above ground, and only 10.5 meters from the tower.

This is a neighborhood of single family homes, mostly single story. The interference contour falls well above these houses, at the lowest point more than 25 meters (82 feet) above ground. Hence, under Section 74.1204(d), the interference to WRFF will fall in an “unoccupied area,” and is permitted under this subsection.



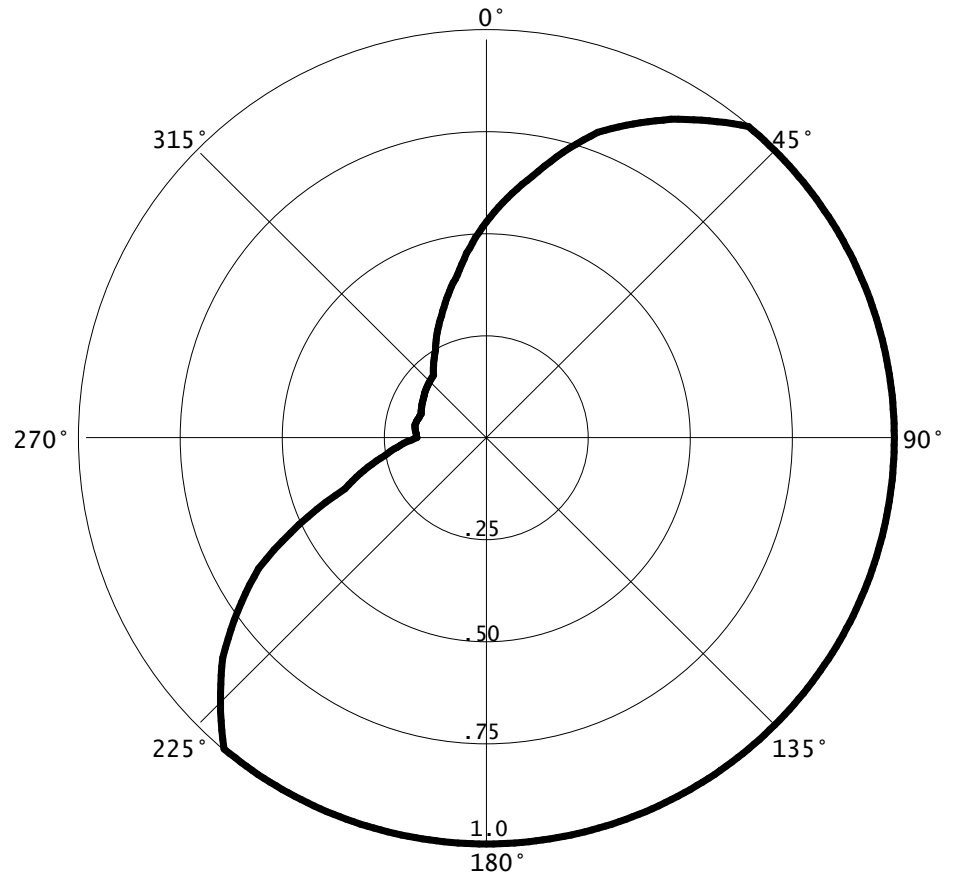
PROPOSED

11-11-2021

RMS(V)= .799

Graph is Relative Field

Azi	Field	dBk	kw
000	0.531	-14.359	0.037
010	0.654	-12.549	0.056
020	0.800	-10.799	0.083
030	0.905	-9.728	0.106
040	1.000	-8.861	0.130
050	1.000	-8.861	0.130
060	1.000	-8.861	0.130
070	1.000	-8.861	0.130
080	1.000	-8.861	0.130
090	1.000	-8.861	0.130
100	1.000	-8.861	0.130
110	1.000	-8.861	0.130
120	1.000	-8.861	0.130
130	1.000	-8.861	0.130
140	1.000	-8.861	0.130
150	1.000	-8.861	0.130
160	1.000	-8.861	0.130
170	1.000	-8.861	0.130
180	1.000	-8.861	0.130
190	1.000	-8.861	0.130
200	1.000	-8.861	0.130
210	1.000	-8.861	0.130
220	1.000	-8.861	0.130
230	0.843	-10.344	0.092
240	0.644	-12.683	0.054
250	0.369	-17.520	0.018
260	0.252	-20.833	0.008
270	0.170	-24.252	0.004
280	0.178	-23.852	0.004
290	0.170	-24.252	0.004
300	0.180	-23.755	0.004
310	0.191	-23.240	0.005
320	0.201	-22.797	0.005
330	0.249	-20.937	0.008
340	0.320	-18.758	0.013
350	0.407	-16.669	0.022





## Antenna Structure Registration

[FCC](#) > [WTB](#) > [ASR](#) > [Online Systems](#) > ASR Search

[FCC Site Map](#)

ASR Registration Search

### Registration 1045856

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#### Registration Detail

Reg Number	1045856	Status	Constructed
File Number	A0815260	Constructed	05/17/2002
EMI	No	Dismantled	
NEPA	No		

#### Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

**Location** (in NAD83 Coordinates - [Convert to NAD27](#))

Lat/Long	39-56-03.4 N 074-53-37.9 W	Address	443 Mt Laurel Road (000061)
City, State	MOUNT LAUREL , NJ		
Zip	08054	County	BURLINGTON
Center of AM Array		Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
51.5	54.5
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
106.0	48.2

#### Painting and Lighting Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number [70/7460-1K](#)

#### FAA Notification

FAA Study	2009-AEA-3259-OE	FAA Issue Date	10/28/2009
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#### Owner & Contact Information

FRN	0011498342	Owner Entity Type	Limited Liability Company
Assignor FRN	0005884689	Assignor ID	L00008376

#### Owner

American Towers LLC  
 Attention To: Regulatory Compliance FAA FCC  
 10 Presidential Way  
 Woburn , MA 01801

P: (678)564-3236  
 F:  
 E: faa-fcc@americantower.com

#### Contact

Attention To: FAA FCC  
 10 Presidential Way  
 Woburn , MA 01801

P: (678)564-3236  
 F:  
 E: faa-fcc@americantower.com