

Channel Study

REFERENCE CH# 225D - 92.9 MHz, Pwr= 0.027 kW, HAAT= 79.3 M, COR= 265.4 M DISPLAY DATES
 41 33 30.0 N. Average Protected F(50-50)= 6.6 km DATA 01-03-13
 83 33 33.6 W. Omni-directional SEARCH 01-04-13

| CH CITY | CALL | TYPE | ANT STATE | AZI. <-- | DIST FILE # | LAT. LNG. | Pwr(kW) HAAT(M) | INT(km) COR(M) | PRO(km) LICENSEE | *IN* (Overlap | *OUT* in km) |
|-------------------------|--------|------|-----------|----------|------------------|------------|-----------------|----------------|----------------------------|---------------|--------------|
| 223B Toledo | WVKS | LIC | CN OH | 224.2 | 4.09 | 41 31 55.0 | 50.000 | 6.1 | 65.9 | -8.3*< | -62.6*< |
| | | | | 44.2 | BMLH19961008KA | 83 35 37.0 | 146 | 340 | Citicasters Licenses, Inc. | | |
| 228B1 Bowling Green | WRQN | LIC | NCX OH | 216.7 | 13.93 | 41 27 28.0 | 7.000 | 3.2 | 38.1 | 4.5 | -24.7*< |
| | | | | 36.6 | BLH20061002BGR | 83 39 33.0 | 121 | 315 | Cumulus Licensing Llc | | |
| 225D Middleton Township | W225AM | LIC | C OH | 205.4 | 14.83 | 41 26 16.0 | 0.055 | 24.2 | 7.2 | -15.6* | -13.3 |
| | | | | 25.4 | BLFT20070522ADL | 83 38 09.0 | 59 | 257 | Educational Media Foundati | | |
| 225D Adrian | W211BQ | APP | C MI | 316.3 | 48.84 | 41 52 30.0 | 0.250 | 35.2 | 10.4 | 6.9 | 16.0 |
| | | | | 136.0 | BMPFT20080703AAQ | 83 58 00.0 | 49 | 276 | Great Lakes Broadcast Acad | | |
| 226B Detroit | WDRQ | LIC | DCN MI | 16.1 | 105.64 | 42 28 16.0 | 26.500 | 78.7 | 66.3 | 20.0 | 25.6 |
| | | | | 196.4 | BLH19860613KB | 83 12 03.0 | 204 | 412 | Radio License Holding I, L | | |
| 222B Detroit | WMXD | LIC | ZCN MI | 26.1 | 95.92 | 42 19 55.0 | 45.000 | 5.9 | 64.7 | 83.2 | 30.5 |
| | | | | 206.5 | BLH19970303KA | 83 02 42.0 | 146 | 331 | Amfm Radio Licenses, L.l.c | | |
| 224B1 Leamington | CJSP< | OPE | DEN ON | 58.4 | 96.83 | 42 00 35.0 | 4.000 | 14.2 | 12.0 | 59.5R | 37.3M |
| | | | | 239.1 | 20070228CAN | 82 33 45.0 | 145 | 324 | | | |
| 227D Tiffin | W227BJ | LIC | C OH | 147.3 | 58.67 | 41 06 49.0 | 0.055 | 0.5 | 6.6 | 51.8 | 51.7 |
| | | | | 327.5 | BLFT20051021AFI | 83 10 51.0 | 41 | 275 | Tiffin Broadcasting, Llc | | |
| 226A Lima | WWSR | LIC | CN OH | 210.8 | 102.66 | 40 45 47.0 | 3.000 | 39.3 | 25.8 | 57.1 | 67.9 |
| | | | | 30.4 | BLH19920916KD | 84 10 59.0 | 97 | 350 | Maverick Media Of Lima Lic | | |
| 224A Bucyrus | WQEL | LIC | CX OH | 149.1 | 102.71 | 40 45 49.0 | 3.000 | 37.5 | 24.7 | 58.9 | 68.9 |
| | | | | 329.5 | BLH20060303AAO | 82 56 00.0 | 93 | 402 | Franklin Communications, I | | |
| 225A Grand Ledge | WLMI | LIC | CX MI | 328.2 | 154.18 | 42 43 58.0 | 5.400 | 85.3 | 27.9 | 62.1 | 103.8 |
| | | | | 147.5 | BLH20071119AEL | 84 33 13.0 | 105 | 365 | Midwest Communications, In | | |
| 225B Eaton | WGTZ | LIC | CN OH | 200.7 | 204.15 | 39 50 10.0 | 40.000 | 134.4 | 64.3 | 63.5 | 110.2 |
| | | | | 20.1 | BLH19850204KW | 84 24 16.0 | 168 | 463 | Mlb-dayton Iv, Llc | | |
| 228D Riverview | 641526 | APP | C MI | 23.5 | 73.22 | 42 09 44.0 | 0.019 | 0.3 | 6.8 | 66.1 | 66.1 |
| | | | | 203.7 | BNPFT20030317EBC | 83 12 20.0 | 100 | 278 | Educational Media Foundati | | |

Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in

KM

Contour distances are on direct line to and from reference station. 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 protected contour.

< = Station meets FCC minimum distance spacing for its class.

< = Contour Overlap

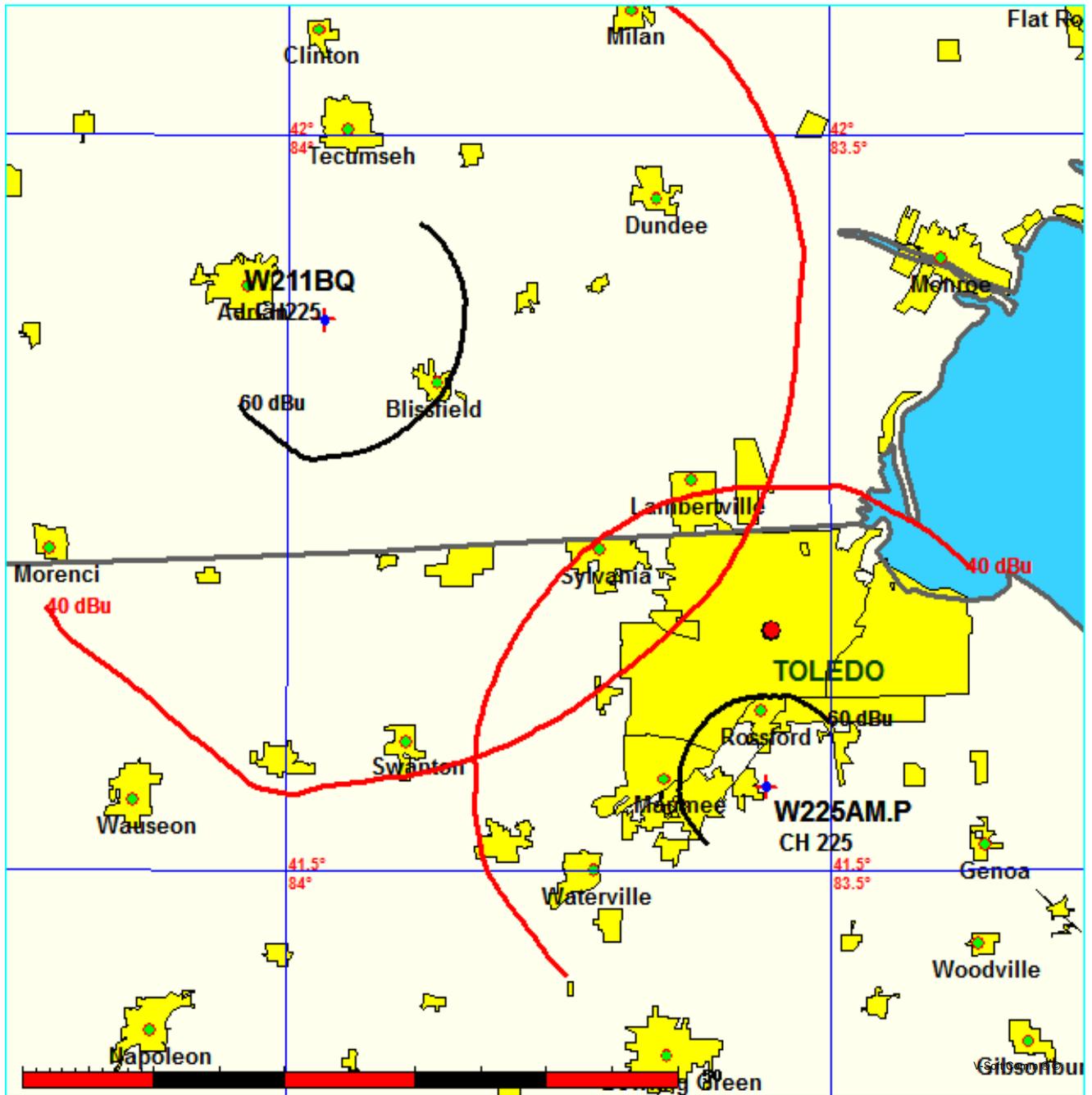
Reference station has protected zone issue:

Educational Media Foundation

FMCommander Single Allocation Study - 01-07-2013 - NGDC 30 SEC
W225AM.P's Overlaps (In= 6.91 km, Out= 16.05 km)

W225AM.P CH 225 D
Lat= 41 33 30.0, Lng= 83 33 33.6
0.027 kW 79.3 M HAAT, 265.4 M COR
Prot.= 60 dBu, Intef.= 40 dBu

W211BQ CH 225 D BMPFT20080703AAQ
Lat= 41 52 30.0, Lng= 83 58 00.0
0.25 kW 48.5 M HAAT, 276 M COR
Prot.= 60 dBu, Intef.= 40 dBu

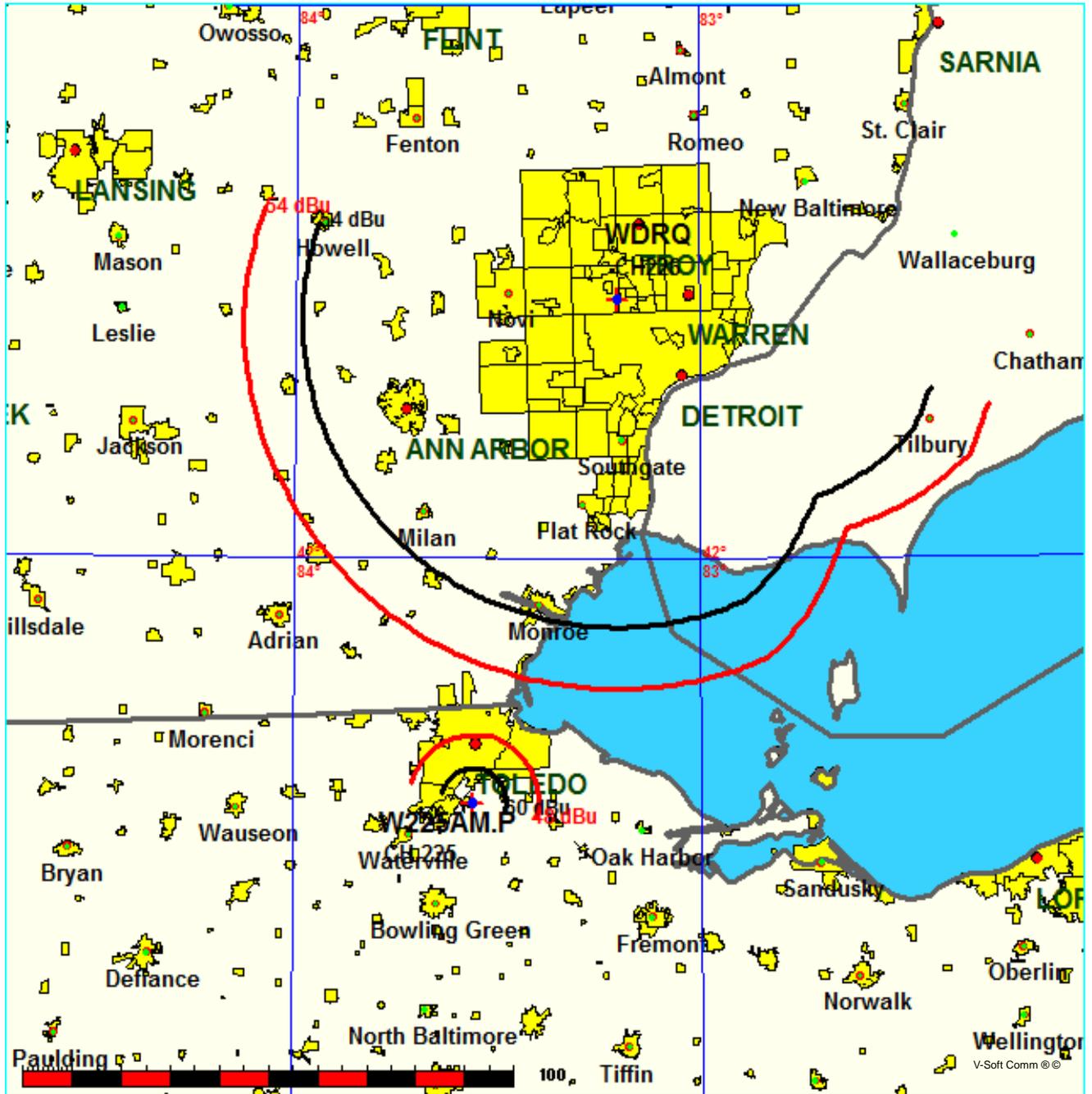


Educational Media Foundation

FMCommander Single Allocation Study - 01-07-2013 - NGDC 30 SEC
W225AM.P's Overlaps (In= 19.98 km, Out= 25.59 km)

W225AM.P CH 225 D
Lat= 41 33 30.0, Lng= 83 33 33.6
0.027 kW 79.3 M HAAT, 265.4 M COR
Prot.= 60 dBu, Intef.= 48 dBu

WDRQ CH 226 B DA BLH19860613KB
Lat= 42 28 16.0, Lng= 83 12 03.0
26.5 kW 204 M HAAT, 412 M COR
Prot.= 54 dBu, Intef.= 54 dBu



Compliance with C.F.R. 74.1204

The proposed FM Translator is also located within the protected 54dBu contour of second adjacent channel station WVKS, channel 223B, Toledo, OH. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

| | |
|--|-----------|
| The proposed ERP for W225AM.P: | 27 watts |
| The proposed COR for W225AM.P: | 67 meters |
| WVKS F(50/50) contour at proposed site: | 106.1dBu |
| The F(50/10) contour of proposed W225AM.P: | 146.1dBu |

The predicted distance to the 146.1dbu interfering contour is 1.8 meters. Taking into account the vertical elevation pattern for the RFS CPF500 single bay antenna and the height above ground of 67M, it has been determined that the interfering contour of 146.1dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 66.055M above ground.

As can be seen in Exhibit 13–A2, there are no regularly occupied structures at the base of the tower and there are no structures which are tall enough to enter the 66.055 meter aperture.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
 74.1204(d) Showing
 W225AM
 Middleton Township, OH

ERP (kw): 0.027
 Height of Antenna above Ground (m): 67
 Translator's IX Contour: 146.1
 Antenna Type: RFS CPF-500

| <u>Depression Angle from Horizon</u> | <u>Antenna Relative Field</u> | <u>ERP (kw) from the Antenna RF</u> | <u>Dist. To IX Contour (m)</u> | <u>Height IX Contour Above Ground (m)</u> |
|--|-----------------------------------|---|--------------------------------|---|
| 0 | 1.000 | 0.0270 | 1.8059 | 67.000 |
| 5 | 0.997 | 0.0268 | 1.7995 | 66.843 |
| 10 | 0.986 | 0.0262 | 1.7806 | 66.691 |
| 15 | 0.969 | 0.0253 | 1.7491 | 66.547 |
| 20 | 0.945 | 0.0241 | 1.7058 | 66.417 |
| 25 | 0.914 | 0.0226 | 1.6509 | 66.302 |
| 30 | 0.878 | 0.0208 | 1.5854 | 66.207 |
| 35 | 0.836 | 0.0189 | 1.5099 | 66.134 |
| 40 | 0.789 | 0.0168 | 1.4254 | 66.084 |
| 45 | 0.738 | 0.0147 | 1.3329 | 66.057 |
| 50 | 0.683 | 0.0126 | 1.2336 | 66.055 |
| 55 | 0.625 | 0.0105 | 1.1287 | 66.075 |
| 60 | 0.565 | 0.0086 | 1.0194 | 66.117 |
| 65 | 0.502 | 0.0068 | 0.9071 | 66.178 |
| 70 | 0.439 | 0.0052 | 0.7931 | 66.255 |
| 75 | 0.376 | 0.0038 | 0.6786 | 66.344 |
| 80 | 0.313 | 0.0026 | 0.5651 | 66.444 |
| 85 | 0.251 | 0.0017 | 0.4536 | 66.548 |
| 90 | 0.191 | 0.0010 | 0.3455 | 66.655 |

Compliance with C.F.R. 74.1204

The proposed FM Translator is also located within the protected 57dBu contour of third adjacent channel station WRQN, channel 228B1, Toledo, OH. According to 74.1204(a)(3), in order to protect second and third adjacent facilities, the difference in dBu between the two facilities must not exceed 40dBu.

| | |
|--|-----------|
| The proposed ERP for W225AM.P: | 27 watts |
| The proposed COR for W225AM.P: | 67 meters |
| WRQN F(50/50) contour at proposed site: | 75.1dBu |
| The F(50/10) contour of proposed W225AM.P: | 115.1dBu |

The predicted distance to the 115.1dbu interfering contour is 64.2 meters. Taking into account the vertical elevation pattern for the RFS CPF500 single bay antenna and the height above ground of 67M, it has been determined that the interfering contour of 115.1dbu does not reach the ground. As seen in Exhibit 13-A1, the lowest elevation for this interfering contour is 33.471M above ground.

As can be seen in Exhibit 13–A2, there are no regularly occupied structures at the base of the tower and there are no structures which are tall enough to enter the 33.471 meter aperture.

Therefore, EMF respectfully requests a waiver of C.F.R. 74.1204 based on no population within the area of predicted interference.

EXHIBIT 13 - A1
74.1204(d) Showing
W225AM
Middleton Township, OH

ERP (kw): 0.027
Height of Antenna above Ground (m): 67
Translator's IX Contour: 115.1
Antenna Type: RFS CPF-500

| <u>Depression Angle from Horizon</u> | <u>Antenna Relative Field</u> | <u>ERP (kw) from the Antenna RF</u> | <u>Dist. To IX Contour (m)</u> | <u>Height IX Contour Above Ground (m)</u> |
|--|-----------------------------------|---|--------------------------------|---|
| 0 | 1.000 | 0.0270 | 64.0740 | 67.000 |
| 5 | 0.997 | 0.0268 | 63.8497 | 61.435 |
| 10 | 0.986 | 0.0262 | 63.1770 | 56.029 |
| 15 | 0.969 | 0.0253 | 62.0621 | 50.937 |
| 20 | 0.945 | 0.0241 | 60.5243 | 46.299 |
| 25 | 0.914 | 0.0226 | 58.5765 | 42.245 |
| 30 | 0.878 | 0.0208 | 56.2506 | 38.875 |
| 35 | 0.836 | 0.0189 | 53.5723 | 36.272 |
| 40 | 0.789 | 0.0168 | 50.5736 | 34.492 |
| 45 | 0.738 | 0.0147 | 47.2930 | 33.559 |
| 50 | 0.683 | 0.0126 | 43.7690 | 33.471 |
| 55 | 0.625 | 0.0105 | 40.0463 | 34.196 |
| 60 | 0.565 | 0.0086 | 36.1698 | 35.676 |
| 65 | 0.502 | 0.0068 | 32.1844 | 37.831 |
| 70 | 0.439 | 0.0052 | 28.1413 | 40.556 |
| 75 | 0.376 | 0.0038 | 24.0790 | 43.741 |
| 80 | 0.313 | 0.0026 | 20.0488 | 47.256 |
| 85 | 0.251 | 0.0017 | 16.0954 | 50.966 |
| 90 | 0.191 | 0.0010 | 12.2574 | 54.743 |



Google earth



NAD27

41 33' 30.0" N

83 33' 33.6" W

Marker: 67M at zero degrees true