

Channel Study

REFERENCE CH# 283D - 104.5 MHz, Pwr= 0.01 kW DA, HAAT= 236.9 M, COR= 515 M DISPLAY DATES
41 07 35.0 N. Average Protected F(50-50)= 9.0 km DATA 07-03-14
76 15 59.0 W. Standard Directional SEARCH 07-06-14

| 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* |
|------------------------|---------|---------------|-----|----------------|---------------------------|--------------------------|--------------------|-------------------|------------------------------------|-------------------------|---------|
| 283D Mountain Top | W283BJ | LIC DV PA | | 79.2 259.4 | 33.90 BLFT20140312AAM | 41 10 58.0 75 52 10.0 | 0.099 260 | 47.5 654 | 14.3 Geos Communications | -14.1*< | 16.6 |
| 283B Wellsboro | WNBT-FM | LIC CN PA | | 307.0 126.3 | 114.14 BLH6205 | 41 44 17.0 77 21 50.0 | 50.000 116 | 126.7 639 | 52.5 Farm & Home Broadcasting C | -13.4*< | 54.0 |
| 284D Jonestown | W284CF | CP DC PA | | 0.0 0.0 | 0.00 BNPFT20130325ABO | 41 07 35.0 76 15 59.0 | 0.010 259 | 11.9 536 | 8.4 Mary Medicus | -12.7* | -10.0* |
| 286B Williamsport | WILQ | LIC CN PA | | 277.6 97.2 | 59.68 BLH19890403KA | 41 11 43.0 76 58 18.0 | 9.200 346 | 5.3 608 | 69.9 Backyard Broadcasting Pa, | 53.9 | -10.2*< |
| 281B Allentown | WAEB-FM | LIC CN PA | | 128.5 308.9 | 72.29 BLH7006 | 40 43 13.0 75 35 44.0 | 50.000 152 | 5.3 353 | 60.3 Capstar Tx Llc | 58.6 | 11.7 |
| 282D Bloomsburg | W282AP | LIC DC PA | | 233.4 53.3 | 20.47 BLFT20140509AKK | 41 01 00.0 76 27 44.0 | 0.250 51 | 7.0 283 | 5.0 Columbia Fm, Inc. | 13.2 | 15.1 |
| 283B Philadelphia | WRFF | LIC C PA | | 144.0 324.6 | 148.52 BMLH20090513AAG | 40 02 30.0 75 14 24.0 | 11.500 308 | 125.3 376 | 65.6 Amfm Radio Licenses, L.L.c | 13.8 | 38.8 |
| 284D St. Clair | W284CB | LIC C PA | | 165.0 345.1 | 41.83 BLFT20121010AAZ | 40 45 45.0 76 08 17.0 | 0.150 183 | 17.3 540 | 11.8 Salt And Light Media Minis | 15.7 | 17.6 |
| 286D Hazleton | W283BJ | APP DV PA | | 123.8 304.0 | 31.33 BPFT20140611AAA | 40 58 10.0 75 57 24.0 | 0.080 | 0.0 597 | 1.3 Geos Communications | 23.4 | 29.9 |
| 280A Dushore | WNKZ | LIC ZCX PA | | 345.9 165.8 | 43.03 BLH20130225ABB | 41 30 07.0 76 23 34.0 | 2.800 111 | 1.6 664 | 14.1 Geos Communications | 40.5 | 28.9 |
| 285A Scranton | WRRR | LIC CX PA | | 52.6 232.9 | 56.75 BLH20060623AAT | 41 26 06.0 75 43 35.0 | 0.270 333 | 1.2 690 | 24.6 Bold Gold Media Wbs, L.p | 55.4 | 32.2 |
| 282D Tunkhannock | W282BK | LIC DC PA | | 20.7 200.9 | 45.89 BLFT20101014AAP | 41 30 45.0 76 04 16.0 | 0.250 351 | 10.9 748 | 7.7 Geos Communications | 34.5 | 37.1 |
| 284D Lewisburg | W284BG | LIC C PA | | 246.3 65.9 | 50.69 BLFT20050311ACB | 40 56 32.0 76 49 05.0 | 0.010 288 | 13.3 469 | 9.5 Family Life Ministries, In | 37.1 | 40.7 |
| 286B Ephrata | WIOV-FM | LIC CN PA | | 175.1 355.1 | 106.03 BLH19980603KD | 40 10 30.0 76 09 31.0 | 25.000 214 | 5.4 360 | 62.1 Radio License Holding Cbc, | 92.6 | 43.6 |
| 281B Harrisburg | WNNK-FM | LIC CX PA | | 212.9 32.4 | 106.94 BMLH20050804ADH | 40 18 59.0 76 57 04.0 | 22.500 221 | 5.1 379 | 59.4 Cumulus Licensing Llc | 100.5 | 47.5 |
| 280D Scranton, Etc. | W280CV | LIC DVN PA | | 52.2 232.5 | 54.79 BLFT19900719TD | 41 25 38.0 75 44 53.0 | 0.013 364 | 0.1 700 | 5.3 Family Stations Inc | 54.5 | 49.5 |
| 283D Scranton | W283BE | LIC DV PA | | 52.6 232.9 | 56.75 BLFT20140403ABY | 41 26 06.0 75 43 35.0 | 0.027 | 3.0 657 | 0.4 Geos Communications | 53.5 | 54.4 |
| 283A Hancock | WQFM | CP NCX NY | | 41.4 222.0 | 124.52 BPH20130327ACJ | 41 57 43.4 75 16 16.9 | 6.000 34 | 68.3 505 | 15.8 The Scranton Times, L.p. | 56.0 | 106.8 |

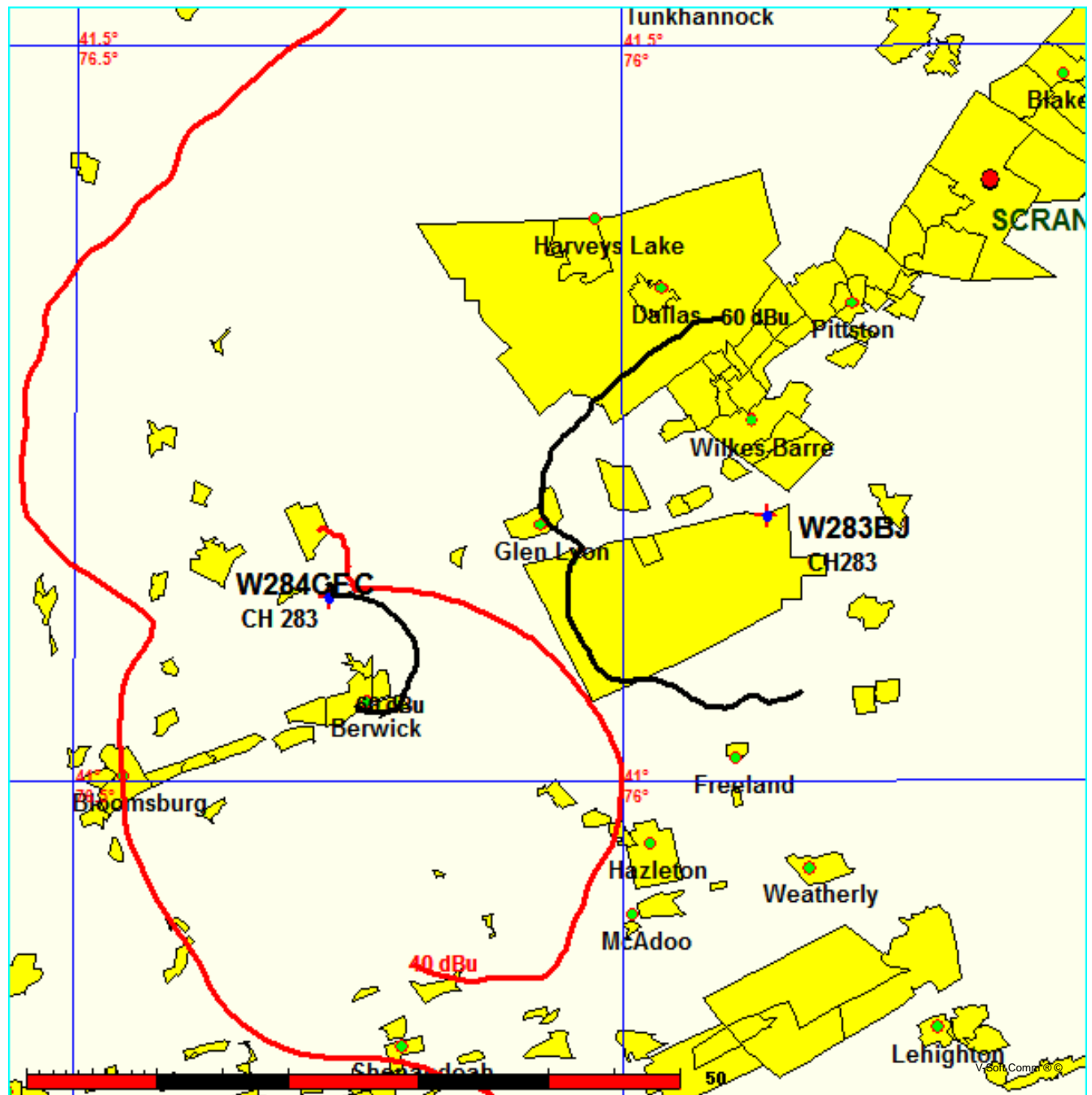
Terrain database is NGDC 30 SEC, R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in
KM
Contour distances are on direct line to and from reference station. Reference Zone= East Zone, Co to 3rd
adjacent.
All separation margins (if shown) include rounding
Ant Column: (D= DA Standard, 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.
< = Contour Overlap

Mary Medicus

FMCommander Single Allocation Study - 07-07-2014 - NGDC 30 SEC
W284CF.C's Overlaps (In= -14.05 km, Out= 16.56 km)

W284CF.C CH 283 D DA
Lat= 41 07 35.0, Lng= 76 15 59.0
0.01 kW 236.9 M HAAT, 515 M COR
Prot.= 60 dBu, Intef.= 40 dBu

W283BJ CH 283 D DA BLFT20140312AAM
Lat= 41 10 58.0, Lng= 75 52 10.0
0.099 kW 259.6 M HAAT, 654 M COR
Prot.= 60 dBu, Intef.= 40 dBu

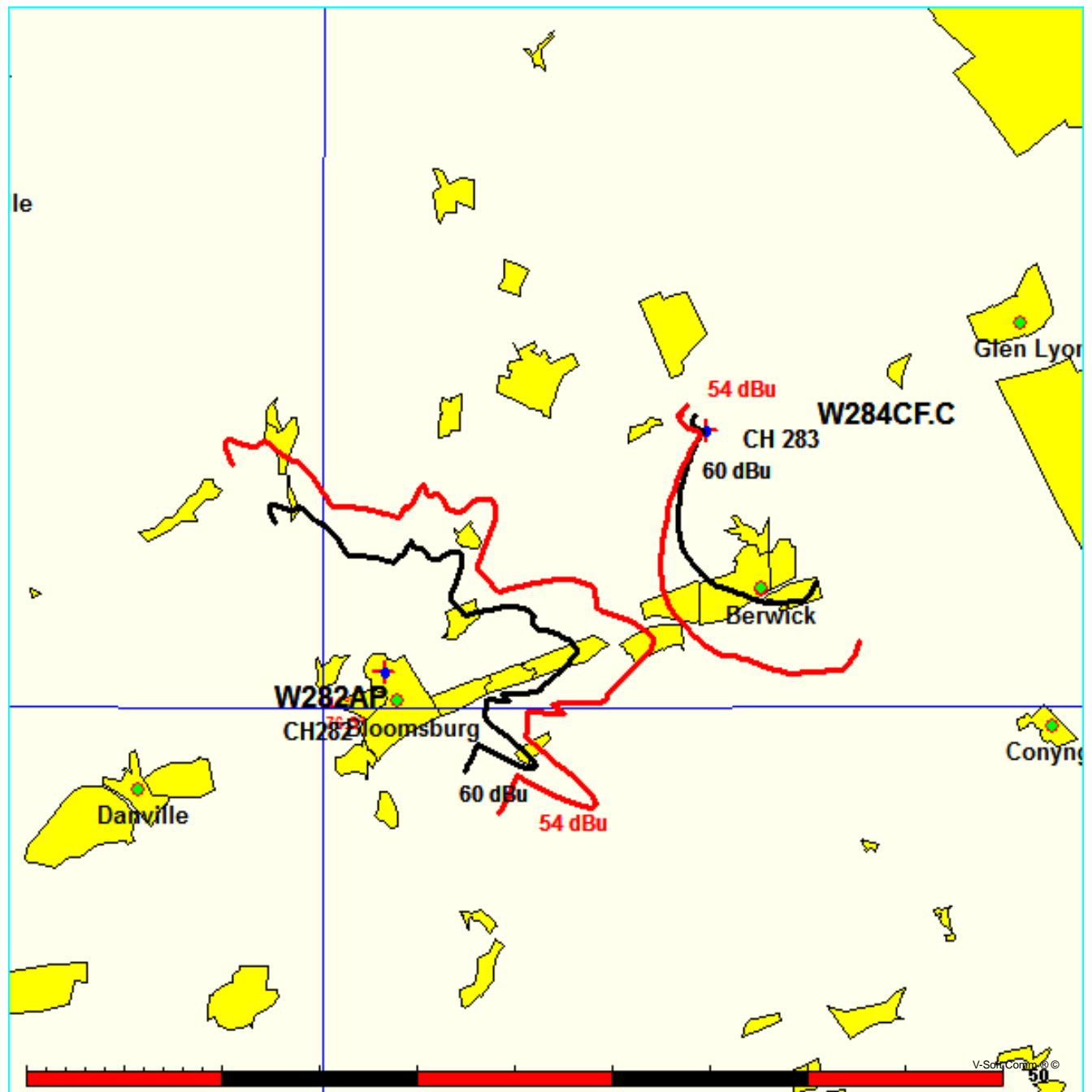


Mary Medicus

FMCommander Single Allocation Study - 07-07-2014 - NGDC 30 SEC
W284CF.C's Overlaps (In= 13.23 km, Out= 15.08 km)

W284CF.C CH 283 D DA
Lat= 41 07 35.0, Lng= 76 15 59.0
0.01 kW 236.9 M HAAT, 515 M COR
Prot.= 60 dBu, Intef.= 54 dBu

W282AP CH 282 D DA BLFT20140509AKK
Lat= 41 01 00.0, Lng= 76 27 44.0
0.25 kW 50.5 M HAAT, 283 M COR
Prot.= 60 dBu, Intef.= 54 dBu

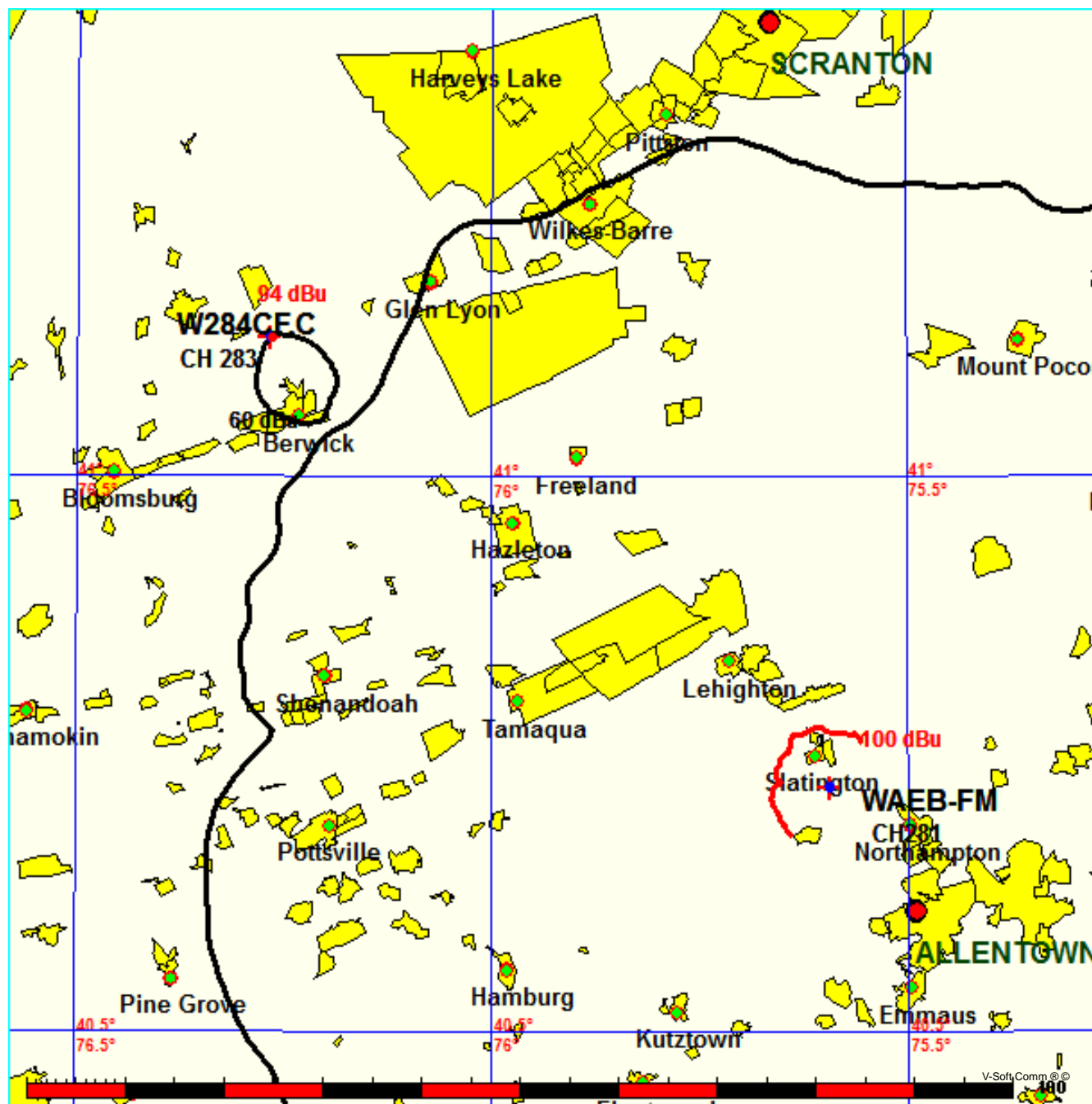


Mary Medicus

FMCommander Single Allocation Study - 07-07-2014 - NGDC 30 SEC
W284CF.C's Overlaps (In= 58.6 km, Out= 11.69 km)

W284CF.C CH 283 D DA
Lat= 41 07 35.0, Lng= 76 15 59.0
0.01 kW 236.9 M HAAT, 515 M COR
Prot.= 60 dBu, Intef.= 94 dBu

WAEB-FM CH 281 B BLH7006
Lat= 40 43 13.0, Lng= 75 35 44.0
50.0 kW 152 M HAAT, 353 M COR
Prot.= 54 dBu, Intef.= 100 dBu



Compliance with C.F.R. 74.1204

The proposed FM Translator is located within the protected 54dBu contour of third adjacent channel station WILQ, channel 286B, Williamsport, PA. 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 W284CF.P: | 10 watts |
| The proposed COR for W284CF.P: | 15 meters |
| WILQ F(50/50) contour at proposed site: | 58.3dBu |
| The F(50/10) contour of proposed W284CF.P: | 98.3dBu |

The predicted distance to the 98.3dbu interfering contour is 269.7 meters. Exhibit 13-A1 demonstrates the distances to the interfering contour by taking into account the vertical elevation pattern of the Scala CL-H single bay antenna. It has been determined that the interfering contour of 98.3dbu does not extend to any regularly occupied structures.

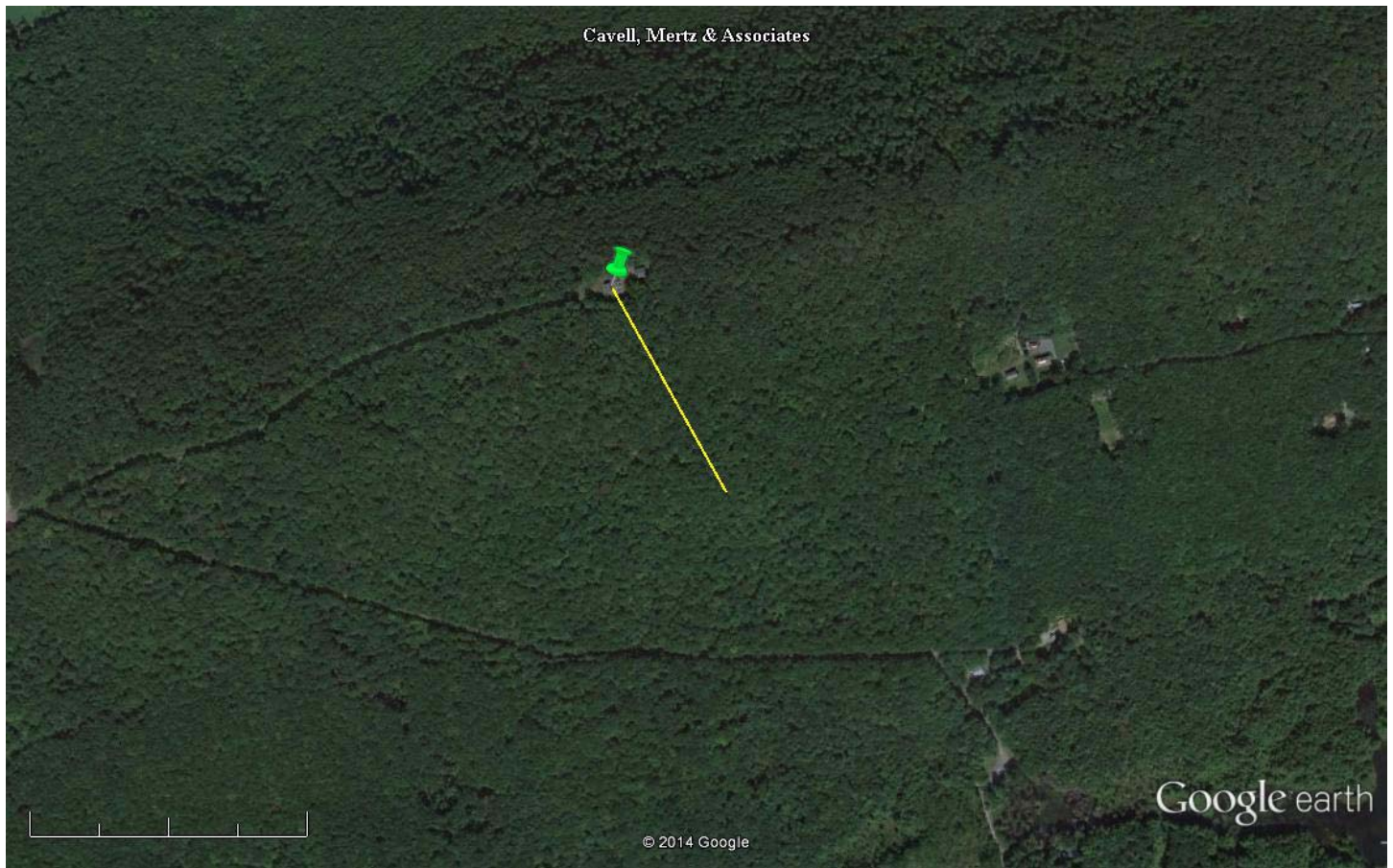
As seen in attachment 13-A2, the yellow marker demonstrates the distance of 269.7 meters at 150 degrees from true north, the direction of the CL-H main lobe. The distance to the nearest occupied structure is 473 meters at 101 degrees. The nearest potentially occupied structure is at a greater distance than the interfering contour extends, therefore no population will be affected as a result of this proposed modification.

Therefore, FLM 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
W284CF
Jonestown, PA

ERP (kw): 0.01
Height of Antenna above Ground (m): 15
Translator's IX Contour: 98.3
Antenna Type: Scala CL-H

| <u>Depression Angle</u> <u>from Horizon</u> | <u>Antenna</u> <u>Relative Field</u> | <u>ERP (kw)</u> <u>from the Antenna RF</u> | <u>Dist. To IX Contour (m)</u> | <u>Height IX Contour Above</u> <u>Ground (m)</u> |
|--|---|---|--------------------------------|---|
| 0 | 1.000 | 0.0100 | 269.7739 | 15.000 |
| 5 | 0.994 | 0.0099 | 268.0204 | -8.360 |
| 10 | 0.980 | 0.0096 | 264.3785 | -30.909 |
| 15 | 0.953 | 0.0091 | 256.9597 | -51.506 |
| 20 | 0.917 | 0.0084 | 247.2478 | -69.564 |
| 25 | 0.873 | 0.0076 | 235.3778 | -84.475 |
| 30 | 0.818 | 0.0067 | 220.5402 | -95.270 |
| 35 | 0.756 | 0.0057 | 203.8142 | -101.903 |
| 40 | 0.690 | 0.0048 | 186.1440 | -104.651 |
| 45 | 0.618 | 0.0038 | 166.5854 | -102.794 |
| 50 | 0.544 | 0.0030 | 146.6221 | -97.319 |
| 55 | 0.468 | 0.0022 | 126.1193 | -88.311 |
| 60 | 0.390 | 0.0015 | 105.2118 | -76.116 |
| 65 | 0.300 | 0.0009 | 80.9322 | -58.349 |
| 70 | 0.190 | 0.0004 | 51.2570 | -33.166 |
| 75 | 0.110 | 0.0001 | 29.6751 | -13.664 |
| 80 | 0.050 | 0.0000 | 13.4887 | 1.716 |
| 85 | 0.030 | 0.0000 | 8.0932 | 6.938 |
| 90 | 0.030 | 0.0000 | 8.0932 | 6.907 |



Google earth

feet | 2000
meters | 800



Green Pin - NAD27

41 07' 35.0" N

76 15' 59.0" W

Yellow Marker: 269m at 150 degrees true north