

SECTION 74.1204(d) STUDY

This narrative exhibit demonstrates that the predicted interference to the 54 dBu contour of the second-adjacent WKSB, Williamsport, PA is allowable under the rules stated in 47 CFR 74.1204(d).

In support thereof this Applicant states the following:

1. WKSB, Williamsport, PA, second adjacent channel facility to this translator proposal, is protected from interference within its 54 dBu contour from the associated interference contour (based on 47 CFR 74.1204(a)(1); using the FCC F(50/10) curves) which need be 40 dBu greater than the associated coverage contours (WKSB) that would encompass the proposed translator antenna site and that contour which is 40 dBu greater than the associated coverage contour.
2. This translator's antenna location is located within the 54 dBu contour (based on 73.333 F(50/50)) of WKSB, Williamsport, PA. This proposal will use the predicted desired to undesired coverage method to determine the appropriate interference contour that need be used with regard to WKSB. Included as Figure 1 of this exhibit is a map showing that the 93.2 dBu coverage contour of WKSB encompasses the proposed antenna site along with the entire proposed 133.2 dBu interference contour. As the proposed 133.2 dBu interference contour is 40 dBu greater than the 93.2 dBu contour of WKSB then this contour is the appropriate interference contours for this analysis and it is clearly evident that interference will only occur within this interference contour for this proposed translator.
3. Given this translator's requested effective radiated power of 242 watts, Directional; the predicted 133.2 dBu interference contour for this proposal would be very small. At any HAAT value, the 133.2 dBu contour

distance for this proposal is 23.87 meters in the direction of the main lobe and smaller in other directions.

4. This proposed translator is situated in a sparsely populated hilltop tower farm area 71 meters above ground on a radio communications tower. Based on the proposed antenna pattern, the entire area of interference is more than 60 meters above ground located on the tower. A Vertical Plane Study has been provided as an attachment. The rule in 47 CFR 74.1204(d) states "an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such factors as may be applicable." In this particular case, as shown in this exhibit, it is clearly evident that there is a "lack of population" as defined in 47 CFR 1204(d) thus allowing this translator to operate at this proposed location.

For the foregoing reasons this applicant submits that the predicted interference to WKSB, Williamsport, PA is allowable under Section 74.1204(d) of the Commission's rules. Furthermore, grant of this application is in the public interest as it would increase the coverage area of a radio facility in this area and impose no hardship to the referenced facilities, WKSB, Williamsport, PA.

By: Kevin Fitzgerald, Technical Consultant

Contour Analysis

Kevin Fitzgerald

Job: W272ED Desired to Undesired Max4.fmj

Master Database: 2022_Apr_05.fmd

Lat: N41:03:33 Lon: W076:57:46 NAD-83

Scale: 1:24000

Channel: 272 Class: DX

Status: Licensed, Construction Permit, Application

Channels:

Range: 100 km, Clearance: -0.5km

Comments: No Comments

Description: W272ED, 102.3, Lewisburg, PA; Desired to Undesired Analysis

rfInvestigator Version 3.8.16

by rfSoftware, Inc.

Date: 4/6/2022 3:18:48 AM

Key:

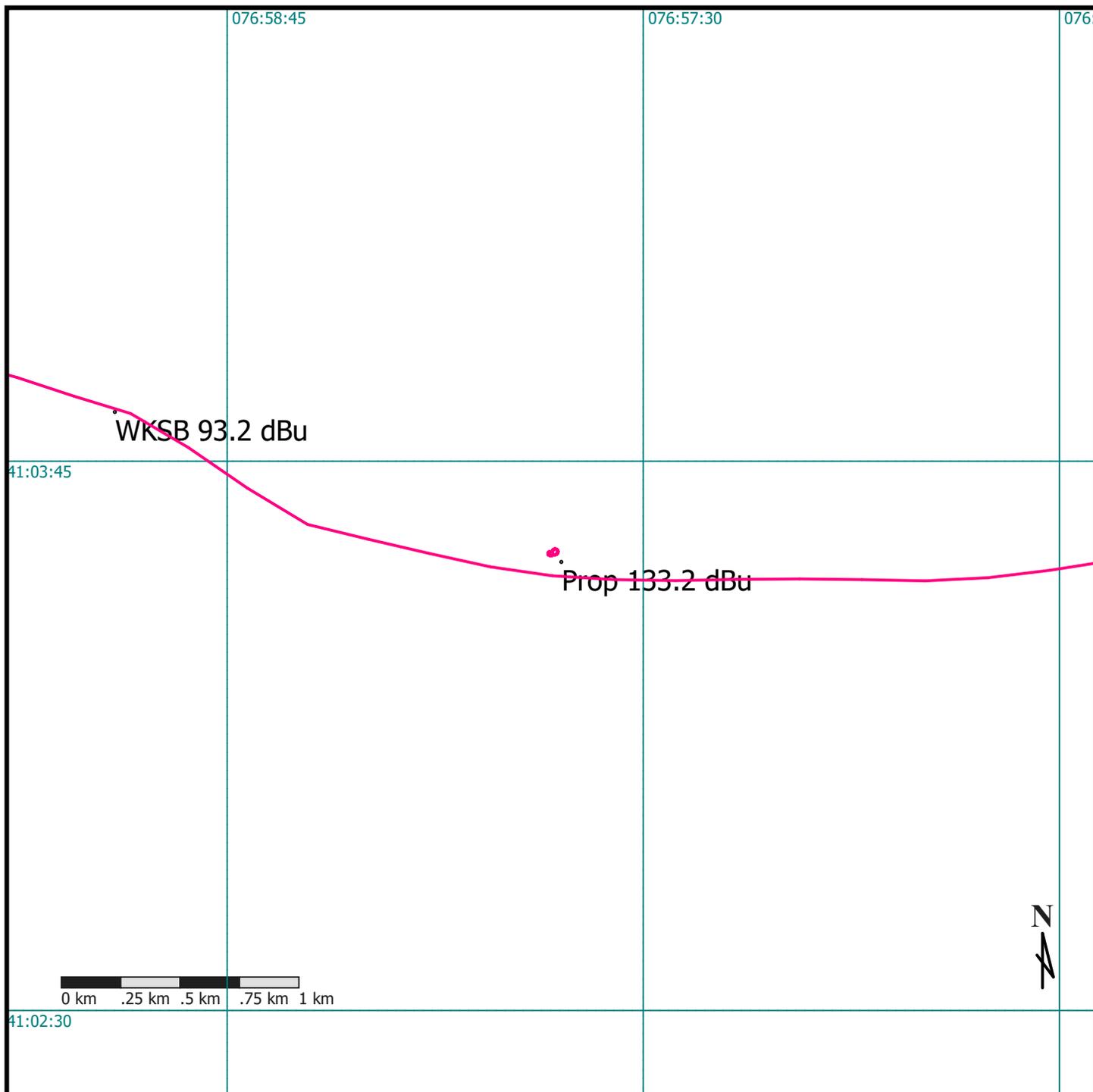
City Grade

Protected

Co-Channel

1st Adj

2nd/3rd Adj



74.1204(d) Showing
W272ED
Lewisburg, PA

ERP (kw): 0.242
Height of Antenna above Ground (m): 71
Translator's IX Contour: 133.2
Antenna Type: Scala CA2 45 deg Slant

<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	0.2420	23.8730	71.000
5	0.990	0.2372	23.6343	68.940
10	0.978	0.2315	23.3478	66.946
15	0.957	0.2216	22.8465	65.087
20	0.915	0.2026	21.8438	63.529
25	0.865	0.1811	20.6502	62.273
30	0.808	0.1580	19.2894	61.355
35	0.745	0.1343	17.7854	60.799
40	0.675	0.1103	16.1143	60.642
45	0.595	0.0857	14.2045	60.956
50	0.510	0.0629	12.1752	61.673
55	0.430	0.0447	10.2654	62.591
60	0.345	0.0288	8.2362	63.867
65	0.265	0.0170	6.3264	65.266
70	0.190	0.0087	4.5359	66.738
75	0.125	0.0038	2.9841	68.118
80	0.075	0.0014	1.7905	69.237
85	0.055	0.0007	1.3130	69.692
90	0.050	0.0006	1.1937	69.806

Note: Input the ERP, Height of the antenna above Ground, the Calculated Translator IX contour, and the specified Antenna Relative Field Pattern.