

#### SECTION 74.1204(d) STUDY

This narrative exhibit demonstrates that the predicted interference to the 60 dBu contour of the second-adjacent W254BQ, Olean, NY is allowable under the rules stated in 47 CFR 74.1204(d).

In support thereof this Applicant states the following:

1. W254BQ, Olean, NY, second adjacent channel facility to this translator proposal, is protected from interference within its 60 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 (W254BQ) 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 60 dBu contour (based on 73.333 F(50/50)) of W254BQ, Olean, NY. This proposal will use the predicted desired to undesired coverage method to determine the appropriate interference contour that need be used with regard to W254BQ. Included as an attachment (W256BS Olean Macduffy Desired to Undesired) is a map showing that the 80 dBu coverage contour of W254BQ encompasses the proposed antenna site along with the entire proposed 120 dBu interference contour. As the proposed 120 dBu interference contour is 40 dBu greater than the 80 dBu contour of W254BQ 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 85 watts, Non-Directional; the predicted 120 dBu interference contour for

this proposal would be very small. At any HAAT value, the 120 dBu contour distance for this proposal is 0.06467 kilometers (64.67 meters).

4. This proposed translator is situated in a sparsely populated hilltop area 29 meters above ground on a radio communications tower. Based on the proposed antenna's vertical antenna pattern, the entire area of interference is located above ground on the radio tower. Included as an attachment is W256BS Olean Macduffy Downward Radiation Calculator which shows that no interference would occur on ground based on the height of the antenna and the proposed antenna pattern. 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 W254BQ, Olean, NY 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, W254BQ, Olean, NY.

By: Kevin Fitzgerald, Technical Consultant

# Contour Analysis

Kevin Fitzgerald

Job: W256BS Olean Macduffy Desired to Undesired2.fmj

Master Database: 2020\_Nov\_06.fmd

Lat: N42:01:29 Lon: W078:26:53 NAD-83

Scale: 1:24000

Channel: 256 Class: DX

Status: Licensed, Construction Permit, Application

Channels:

Range: 100 km, Clearance: -0.5km

Comments: No Comments

Description: W256BS, 99.1, Olean, NY; Macduffy Site; Desired to Undesired Analysis

rfInvestigator Version 3.8.16

by rfSoftware, Inc.

Date: 10/30/2021 5:51:04 PM

Key:

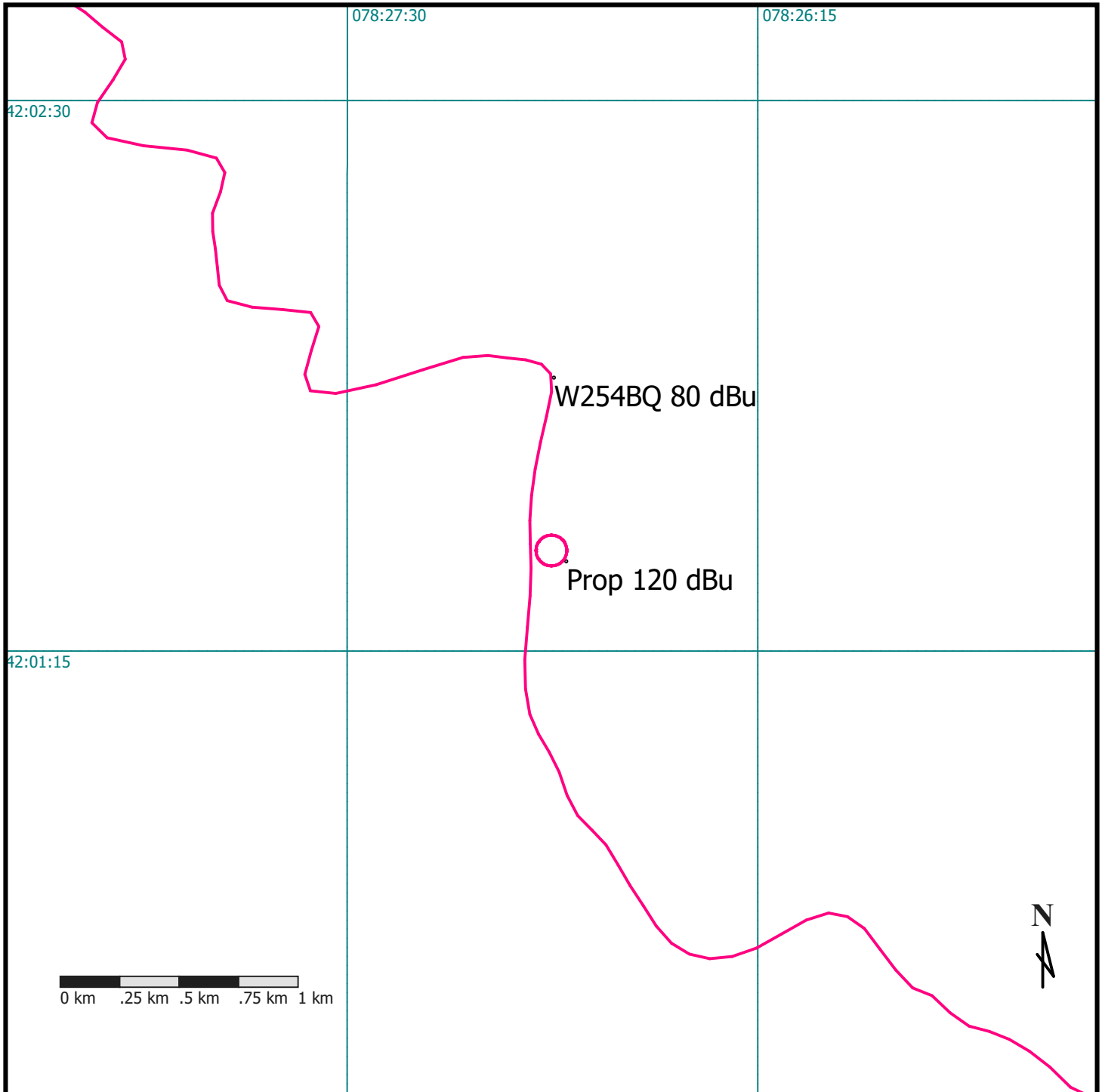
City Grade

Protected

Co-Channel

1st Adj

2nd/3rd Adj



74.1204(d) EXHIBIT  
 74.1204(d) Showing  
 W256BS  
 Olean, NY

ERP (kw): 0.085  
 Height of Antenna above Ground (m): 29  
 Translator's IX Contour: 120  
 Antenna Type: Scala FMV-1

<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	0.0850	64.6710	29.000
5	0.995	0.0841	64.3347	23.393
10	0.982	0.0819	63.4875	17.976
15	0.956	0.0776	61.7996	13.005
20	0.918	0.0717	59.3874	8.688
25	0.867	0.0638	56.0439	5.315
30	0.803	0.0548	51.9049	3.048
35	0.727	0.0449	47.0223	2.029
40	0.645	0.0354	41.7063	2.192
45	0.558	0.0265	36.0929	3.478
50	0.472	0.0189	30.4924	5.641
55	0.388	0.0128	25.0923	8.446
60	0.315	0.0084	20.3714	11.358
65	0.240	0.0049	15.5210	14.933
70	0.176	0.0026	11.3950	18.292
75	0.119	0.0012	7.6894	21.573
80	0.067	0.0004	4.3265	24.739
85	0.019	0.0000	1.2481	27.757
90	0.025	0.0001	1.6426	27.357

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