

June 2018
FM Translator W284BW
New York, NY Channel 284D
Allocation Study

Allocation Study

The attached spacing study shows the spacing between the proposed translator site and the location of cochannel and adjacent channel stations and proposals. This study was made with the Commission's Class A spacing requirements, and individual situations were examined to determine the lack of prohibited contour overlap per the requirements of §74.1204 of the Rules. The attached allocation study maps demonstrate compliance with the Commission's Rules for protection of FM broadcast stations and FM translators as outlined in §74.1204. Certain special cases are discussed below.

WAXQ 282B New York

WWPR-FM 286B New York

The proposed translator transmitter site is located within the 54 dBu protected contours of two second-adjacent channel stations. The following calculation, performed using the *Living Way* methodology, demonstrates interference protection to those stations.

Protected Station	Distance & Bearing to Proposal	Station ERP and HAAT on that azimuth	Station Field Strength at Proposal	Corresponding Translator Interfering Contour	Distance to Translator Interfering Contour
WAXQ 282B	4.58 km 210 deg True	6 kW 428 meters	100.0 dBu F(50,50)	140.0 dBu	7 meters Free Space
WWPR-FM 286B	4.58 km 210 deg True	6 kW 428 meters	100.0 dBu F(50,50)	140.0 dBu	7 meters Free Space

The 140.0 dBu contour extends just 7 meters from the antenna and does not reach ground level, nor occupied portions of the building. There is no population within this contour. Therefore, the proposed facility is believed to satisfy the requirements of §74.1204(d) with respect to WAXQ and WWPR-FM.

IF Channel

The proposed facility will operate with a maximum lobe ERP of 99 watts. Therefore there are no spacing restrictions to stations which are 53 or 54 channels removed from the proposed operation.

W264BT Franklin Township (Application on 284D, BPFT-20160728AFS)

New FX Somerset (Applications on 284D, BNPFT-20180130ADV & BNPFT-20180420AAS)

W284DG Hempstead (CP on 284D, BNPFT-20171205ABN)

The existing W284BW facility (see BLFT-20180618AAJ) has existing caused overlap to four authorized or proposed FM translator facilities: BPFT-20160728AFS (minor change application), BNPFT-20180130ADV (short-form), BNPFT-20180420AAS (long-form), and BNPFT-20171205ABN (CP). The overlap amounts to 100% of each of those translator 60 dBu contours. This overlap was created by those listed applications, which were all filed after the date of the prior W284BW minor change application (see BPFT-20160705ACF). Therefore, the existing overlap was voluntarily accepted by the proponents of those facilities.

The proposed W284BW facility will also cause 100% overlap to the listed facilities. However, as is demonstrated by the attached map titled "W284BW Cochannel Study Map #1", grant of the proposed W284BW facility will result in a decrease of the W284BW 40 dBu F(50,10) contour in the direction of those facilities. Thus, those facilities are no impediment to grant of the instant application, in that there is no increase in total overlap area caused to those facilities, and the area of overlap does not move significantly closer to the station receiving the overlap. The instant application is therefore in compliance with §74.1204(c) with regard to the four listed FM translator facilities.

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SEARCH PARAMETERS FM Database Date: 180619

Channel: 284A 104.7 MHz
 Latitude: 40 42 46
 Longitude: 74 0 49
 Safety Zone: 50 km
 Job Title: W284BW NEW YORK
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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
WNYC-FM LIC	NEW YORK NY	BLH-10815ADD	230B 93.9	5.200 415.0	40-44-54 073-59-10	30.4	4.58 -10.42	15 SHORT
WAXQ LIC	NEW YORK NY	BLH-960426KA	282B 104.3	6.000 415.0	40-44-54 073-59-10	30.4	4.58 -64.42	69 SHORT
W283BS LIC	BRIDGEPORT CT	BLFT-21220ACF	283D 104.5	0.250 DA 140.0	41-13-10 073-12-06	50.2	88.53 0.00	0 TRANS
NEW-T APP	NAUGATUCK CT	BNPFT-80130ABV	283D 104.5	0.100 DA 0.0	41-31-04 073-01-09	42.6	122.35 0.00	0 TRANS
W283BA LIC	SELDEN NY	BLFT-51031AAL	283D 104.5	0.010 165.0	40-50-32 073-02-25	79.7	83.42 0.00	0 TRANS
WRFF LIC	PHILADELPHIA PA	BMLH-90513AAG	283B 104.5	11.500 308.0	40-02-30 075-14-24	234.7	128.06 15.06	113 CLEAR
W264BT APP	FRANKLIN TOWNSHIP NJ	BPFT-60728AFS	284D 104.7	0.100 DA 156.0	40-28-45 074-28-30	236.5	46.89 0.00	0 TRANS
W284AQ LIC	HACKETTSTOWN NJ	BLFT-70309ABK	284D 104.7	0.250 DA 229.0	40-51-19 074-46-42	284.1	66.46 0.00	0 TRANS
W284BW LIC	PERTH AMBOY NJ	BLFT-60623AAG	284D 104.7	0.170 DA 88.0	40-30-35 074-17-18	225.9	32.39 0.00	0 TRANS
W284BW CP	PERTH AMBOY NJ	BPFT-60705ACF	284D 104.7	0.099 DA 0.0	40-42-46 074-00-49	0.0	0.00 0.00	0 TRANS
NOTE: LICENSE APPLICATION PENDING AS BLFT-20180618AAJ								
WJUI-LP LIC	RAMTOWN NJ	BLL-61220ABW	284L1 104.7	0.100 0.0	40-04-58 074-06-22	186.4	70.39 3.39	67 CLOSE
NEW-T APP	SOMERSET NJ	BNPFT-80130ADV	284D 104.7	0.100 DA 0.0	40-28-45 074-28-30	236.5	46.89 0.00	0 TRANS
NEW-T APP	SOMERSET NJ	BNPFT-80420AAS	284D 104.7	0.100 DA 155.0	40-28-45 074-28-30	236.5	46.89 0.00	0 TRANS
W284DG CP	HEMPSTEAD NY	BNPFT-71205ABN	284D 104.7	0.250 DA 110.0	40-41-08 073-36-37	95.0	34.22 0.00	0 TRANS

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SEARCH PARAMETERS

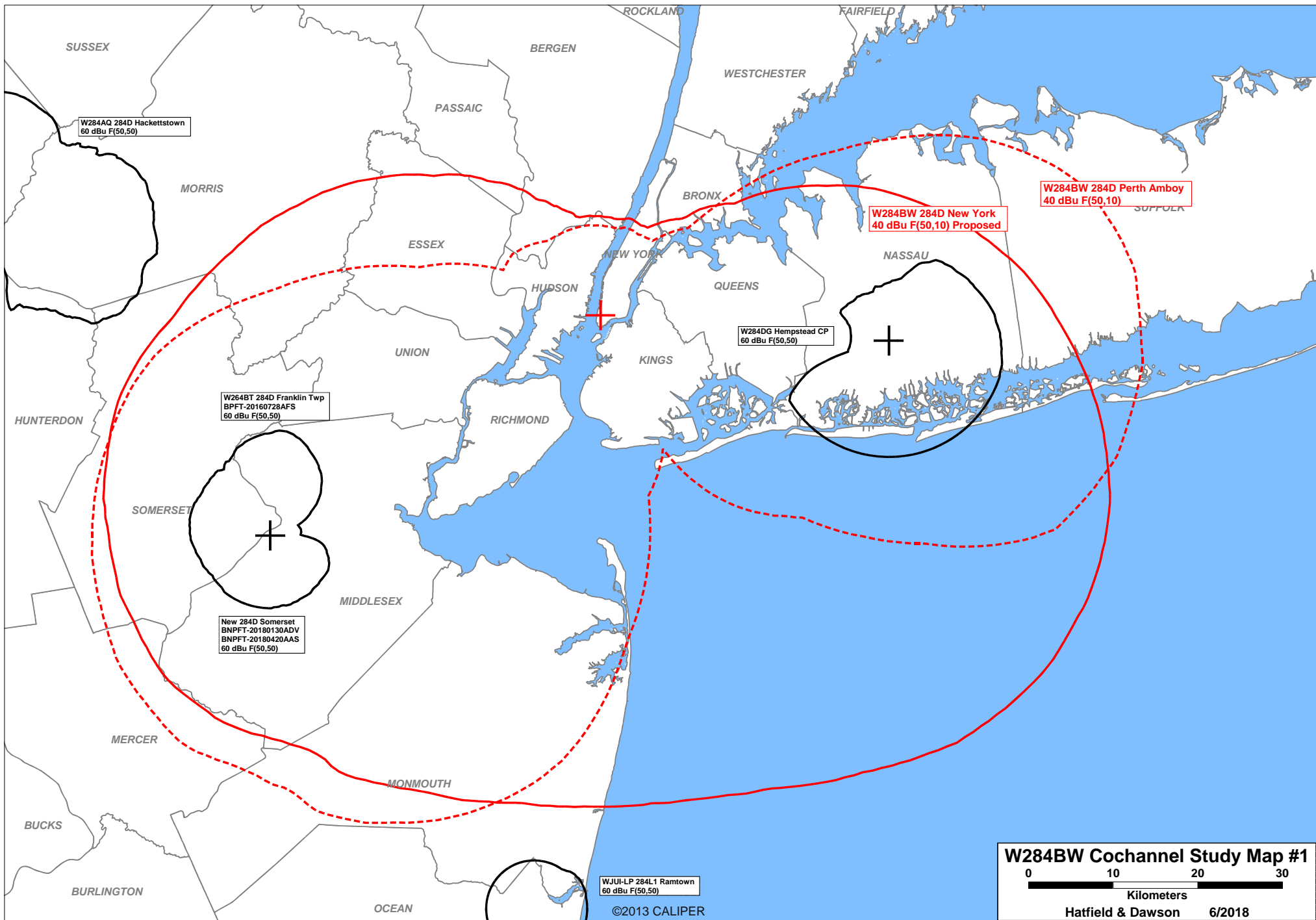
FM Database Date: 180619

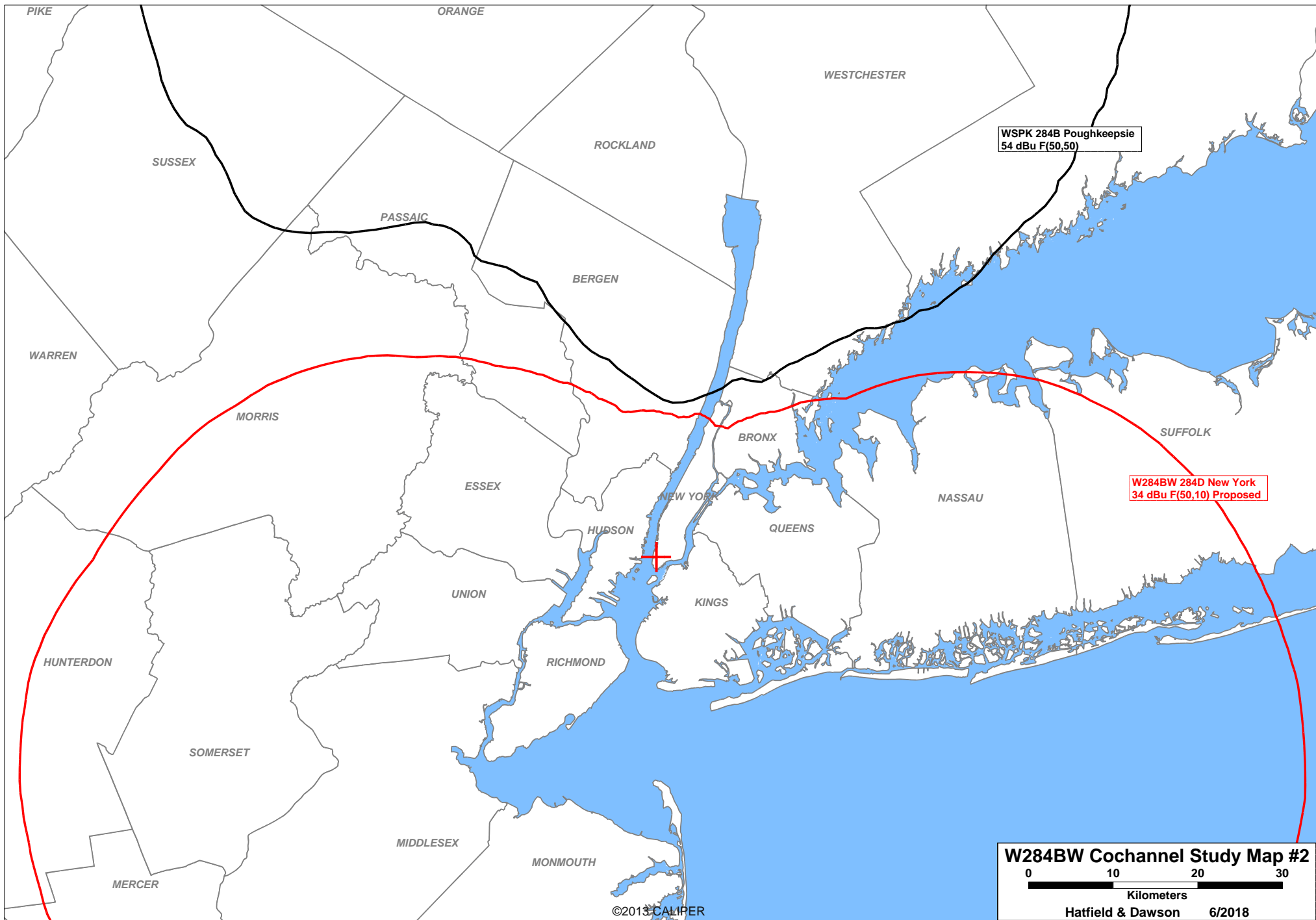
Channel: 284A 104.7 MHz
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 Job Title: W284BW NEW YORK

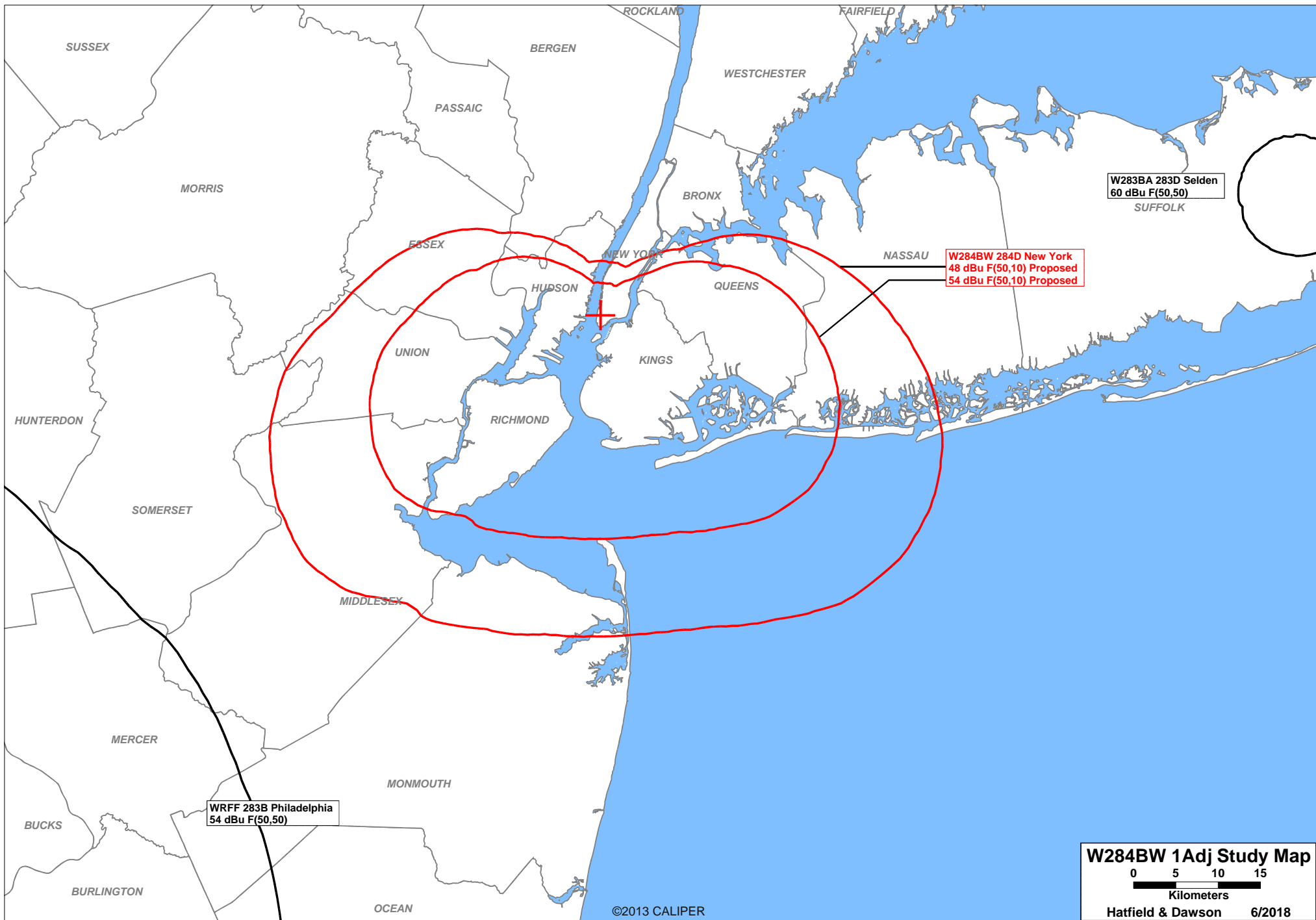
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Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
WSPK LIC	POUGHKEEPSIE NY	BLH-840802CR	284B 104.7	7.400 381.0	41-29-19 073-56-52	3.6	86.34 -91.66	178 SHORT
WSJO LIC	EGG HARBOR CITY NJ	BLH-910726KB	285B1 104.9	10.000 155.0	39-32-49 074-38-19	202.5 SS	139.98 43.98	96 CLEAR
W285FX CP	RIVERHEAD NY	BNPFT-80419ABB	285D 104.9	0.125 188.0	40-51-18 072-46-10	81.0	106.20 0.00	0 TRANS
WJRH LIC	EASTON PA	BLED-920817KA	285D 104.9	0.008 7.0	40-41-53 075-12-30	269.5	100.98 0.00	0 CLS=D
W285EW LIC	LANSDALE PA	BLFT-61014ACD	285D 104.9	0.050 95.0	40-14-18 075-19-00	244.8	122.42 0.00	0 TRANS
WCSD-LP LIC	SHAWNEE-ON-DELAWARE PA	BLL-40331ABY	285L1 104.9	0.100 26.0	41-01-03 075-06-51	290.5	98.76 42.76	56 CLEAR
WWPR-FM LIC	NEW YORK NY	BLH-940204KB	286B 105.1	6.000 415.0	40-44-54 073-59-10	30.4	4.58 -64.42	69 SHORT
W287AZ LIC	SOUTHPORT CT	BLFT-61106AAT	287D 105.3	0.050 30.0	41-08-53 073-15-05	52.7	80.36 0.00	0 TRANS

===== END OF FM SPACING STUDY FOR CHANNEL 284 =====







June 2018
FM Translator W284BW
New York, NY Channel 284D
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 284D (104.7 MHz) with a maximum lobe effective radiated power of 99 watts. Operation is proposed with an antenna to be mounted on an existing structure (the mast on One World Trade Center) with FCC Antenna Structure Registration Number for the proposed tower is 1263701.

RF Exposure Calculations

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . . For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed operation of K259BG will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

D is the distance in meters from the center of radiation to the calculation point.

Calculations of the power density produced by the W284BW antenna system have been made assuming that the antenna will radiate 100% power straight down to a point 2 meters above ground at the base of the tower (424 meters below the antenna). Under this worst-case assumption, the highest calculated ground level power density from W284BW occurs at the base of the antenna support structure. At this point the power density is calculated to be 0.04 $\mu W/cm^2$, which is 0.02% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of W284BW alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.