

## **Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey**

### **Skywave Interference Protection FCC Form 301 §III-A, Question 10.b.**

The proposed facility meets all FCC Rules pertaining to skywave protection of all existing stations, permits, and applications, as summarized below.

#### **RSS Calculations**

The proposed facility enters into the 25% RSS of one station (WVMT), but its contributions do not increase over those now authorized, as shown in the following Exhibit 15B.

The proposed facility enters into the 50% RSS of three other stations (WHEN, WZON, and WPRO), but its contributions comply with the reductions required by FCC Rules over those now authorized, as shown in the following Exhibit 15B.

As shown in the table below, two stations make up the 50% RSS of the proposed facility, giving an Interference-Free contour level of 20.09 mV/m:

To WSNR-prop 620 kHz proposed

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WHEN	620	293	147.9	53.4	25.5	38.6	0.2020	25.5	385.4	15.57	15.57
WVMT	620	420	193.0	54.1	18.0	28.7	0.1293	18.0	491.2	12.70	20.09
WZON	620	633	227.6	54.4	11.4	19.3	0.0705	11.4	364.1	5.14	20.74
WKHB	620	457	80.4	52.0	16.4	26.6	0.1228	16.4	187.8	4.61	
WRJZ	620	987	54.0	49.8	6.1	11.4	0.0404	6.1	557.2	4.51	
WWNR	620	684	58.0	50.7	10.3	17.7	0.0712	10.3	251.4	3.58	
WIP	610	127	30.7	51.8	48.2	61.7	0.3720	51.5	478.9	3.56	
WDAE	620	1627	25.4	45.7	1.4	4.7	0.0191	1.4	535.8	2.05	

#### **“Clipping” Study**

RSS calculations have been performed at 1° increments along the Interference-Free contours of all stations entitled to protection, and the proposed facility provides the required protections for all points over land.

#### **Skywave Study**

There are no co-channel or first-adjacent Class A stations for which skywave contour protection is required.



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## Skywave Interference Protection

Following are definitions for column heading abbreviations used in the tables:

Freq	is frequency in kilohertz.
Dist	is distance, in kilometers.
Bear	is azimuth, in degrees east from true north.
GM	is geomagnetic latitude of path midpoint, in degrees.
Tmin	is lower pertinent departure angle, in degrees.
Tmax	is higher pertinent departure angle, in degrees.
Skywv	is the 10% skywave signal for 100 mV/m radiated at 1 km, in mV/m.
Thet	is the departure angle between Tmin and Tmax where the radiation is greatest, in degrees. Note: for interference to Canada and Mexico, Thet = Tmin = Tmax
	departure angle (1) of Section 73.190, Figure 6a.
Rmax	is the radiation at departure angle Thet, in mV/m at 1 km.
Limit	is 20 times the skywave field at the receive point for co-channel stations and 2 times the skywave field for first adjacent stations, in mV/m.
RSS	is the square root of the sum of the squares of the limits, using the 50% and 25% exclusion rules, in mV/m.

To WFNZ 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WEZN	610	584	68.3	45.5	12.5	20.9	0.0980	20.9	274.4	5.38	5.38
WIP	610	719	226.9	48.9	9.7	16.8	0.0689	9.7	311.9	4.30	6.89
WIOD	610	1053	356.3	41.8	5.4	10.4	0.0429	5.4	484.2	4.16	8.05
WNTW	610	494	209.4	48.5	15.1	24.7	0.1183	15.1	162.1	3.84	8.91
WDAF	610	1283	104.4	48.1	3.5	7.7	0.0272	3.5	689.0	3.74	9.67
WRJZ	620	277	105.3	46.8	26.8	40.2	0.2302	40.2	729.3	3.36	10.23
WVBE	610	236	199.2	47.5	30.9	44.9	0.2639	30.9	57.0	3.01	10.67
KIILT	610	1485	62.5	43.6	2.2	5.8	0.0238	2.2	397.7	1.89	
WSJS	600	103	208.2	46.9	54.1	66.4	0.4062	54.1	210.0	1.71	
WTVN	610	541	159.5	48.7	13.7	22.6	0.1044	13.7	81.6	1.70	
WSNR-exist	620	837	225.2	49.4	7.9	14.0	0.0537	7.9	157.3	0.17	
WSNR-prop	620	842	225.0	49.5	7.8	13.9	0.0531	7.8	168.3	0.18	

To WGIR 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WIP	610	463	39.6	52.9	16.2	26.3	0.1177	26.3	319.7	7.53	7.53
CFLQ	610	505	139.7	56.3	14.8	24.2	0.0917	14.8	140.2	2.57	7.96
WVMT	620	219	139.8	55.3	32.8	47.0	0.2534	32.8	387.2	1.96	
CKTB	610	625	87.6	54.5	11.6	19.5	0.0716	11.6	97.7	1.40	
WDAF	610	1986	69.5	52.6	0.0	2.4	0.0091	0.0	690.9	1.25	
WSNR-exist	620	343	43.1	53.4	22.0	34.1	0.1697	34.1	96.4	0.33	
WSNR-prop	620	338	43.5	53.4	22.3	34.5	0.1727	34.5	79.0	0.27	



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## Skywave Interference Protection

To WIOD 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WDAE	620	330	132.5	38.1	22.8	35.1	0.1989	22.8	830.1	3.30	3.30
WDAF	610	1989	132.9	43.5	0.0	2.4	0.0141	0.0	690.9	1.95	3.84 - 50%
WIP	610	1627	198.2	44.2	1.4	4.7	0.0200	4.7	410.6	1.64	4.17
WEKS	610	1696	303.4	33.6	1.0	4.2	0.0245	1.0	284.9	1.40	4.40
KARV	610	1626	126.7	41.6	1.4	4.7	0.0211	1.4	317.8	1.34	4.60
KILT	610	1566	103.1	38.9	1.7	5.1	0.0240	1.7	272.1	1.30	4.78
WBWL	600	519	162.0	39.3	14.3	23.5	0.1179	14.3	509.7	1.20	4.93 - 25%
WFNZ	610	1053	176.0	41.8	5.4	10.4	0.0429	10.4	119.7	1.03	
WTWN	610	1581	169.6	44.1	1.6	5.0	0.0211	1.6	216.6	0.91	
XJBC	620	915	343.4	33.2	6.9	12.6	0.0626	6.9	686.0	0.86	
WSNR-exist	620	1746	199.6	44.7	0.8	3.9	0.0174	0.8	98.0	0.03	
WSNR-prop	620	1752	199.6	44.7	0.7	3.8	0.0172	0.7	195.6	0.07	

To WIP 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WDAF	610	1676	80.5	50.8	1.1	4.3	0.0146	1.1	690.7	2.02	2.02
WGIR	610	463	222.1	52.9	16.2	26.3	0.1177	16.2	84.0	1.98	2.83
WIOD	610	1627	15.5	44.2	1.4	4.7	0.0200	1.4	476.4	1.90	3.41
WCAO	600	149	70.5	51.0	43.6	57.7	0.3484	55.8	268.3	1.87	3.89 - 50%
WNTW	610	277	73.5	50.9	26.9	40.2	0.2229	26.9	33.1	1.47	4.16
WHEN	620	370	165.6	52.9	20.4	32.0	0.1571	20.4	466.8	1.47	4.41
CKTB	610	488	134.9	52.8	15.3	25.0	0.1097	15.3	63.8	1.40	4.62
WEZN	610	1264	52.5	48.0	3.6	7.9	0.0280	7.9	230.1	1.29	4.80
WSNG	610	273	220.2	52.3	27.2	40.6	0.2217	27.2	28.7	1.27	4.97 - 25%
WFNZ	610	719	43.4	48.9	9.7	16.8	0.0689	16.8	71.6	0.99	
WTWN	610	671	87.6	51.2	10.6	18.1	0.0722	18.1	67.4	0.97	
WVMT	620	542	197.3	53.6	13.7	22.6	0.0920	13.7	472.5	0.87	
WSNR-exist	620	122	211.8	51.8	49.5	62.7	0.3788	59.9	68.8	0.52	
WSNR-prop	620	127	211.2	51.8	48.2	61.7	0.3720	48.2	107.2	0.80	

To WNTW 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WIP	610	277	255.4	50.9	26.9	40.2	0.2229	40.2	482.9	21.53	21.53 -50&25%
WDAF	610	1414	83.9	50.2	2.6	6.4	0.0209	2.6	689.8	2.88	
WVBE	610	264	36.5	49.5	28.0	41.5	0.2364	28.0	48.4	2.29	
WIOD	610	1495	6.5	43.8	2.1	5.7	0.0234	2.1	478.8	2.24	
WSNR-exist	620	374	242.8	51.4	20.2	31.7	0.1601	20.2	81.3	0.26	
WSNR-prop	620	378	242.2	51.4	20.0	31.5	0.1579	20.0	80.3	0.25	

To WSNG 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WIP	610	273	38.8	52.3	27.2	40.6	0.2217	40.6	414.1	18.36	18.36 -50&25%
WGIR	610	190	223.2	53.9	36.7	51.0	0.2908	51.0	67.9	3.95	
WVMT	620	309	177.4	54.6	24.3	37.0	0.1849	24.3	551.8	2.04	
CFLQ	610	567	159.0	55.6	13.0	21.6	0.0792	13.0	113.1	1.79	
WSNR-exist	620	153	45.2	52.7	42.9	57.1	0.3384	52.4	122.0	0.83	
WSNR-prop	620	148	46.3	52.8	43.9	57.9	0.3443	43.9	79.1	0.54	



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# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To WTVN 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WIP	610	671	272.6	51.2	10.6	18.1	0.0722	18.1	609.6	8.80	8.80
WDGF	610	1005	80.7	50.3	5.9	11.1	0.0386	5.9	685.4	5.29	10.27 - 50%
WNTW	610	415	281.9	50.8	18.2	29.0	0.1427	18.2	169.8	4.85	11.36
WBVE	610	383	319.2	49.8	19.7	31.1	0.1597	31.1	107.3	3.43	11.86
WEZN	610	790	25.0	47.7	8.5	15.1	0.0614	15.1	275.4	3.38	12.33 - 25%
WRJZ	620	438	9.7	49.0	17.2	27.6	0.1370	17.2	1023.4	2.80	
WIOD	610	1581	351.2	44.1	1.6	5.0	0.0211	1.6	492.8	2.08	
WFNZ	610	541	340.8	48.7	13.7	22.6	0.1044	22.6	91.1	1.90	
WSNR-exist	620	737	264.8	51.7	9.4	16.3	0.0613	16.3	86.9	0.11	
WSNR-prop	620	739	264.4	51.7	9.3	16.2	0.0609	9.3	60.5	0.07	

To WBVE 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WIP	610	514	237.9	50.0	14.5	23.8	0.1094	23.8	313.2	6.85	6.85
WFNZ	610	236	18.7	47.5	30.9	44.9	0.2639	44.9	120.2	6.34	9.34
WNTW	610	264	217.6	49.5	28.0	41.5	0.2364	28.0	117.0	5.53	10.85 - 50%
WTWN	610	383	137.3	49.8	19.7	31.1	0.1597	31.1	134.3	4.29	11.67
WDGF	610	1288	93.8	49.2	3.5	7.6	0.0260	3.5	689.0	3.58	12.21
WEZN	610	750	53.7	46.5	9.2	16.0	0.0678	16.0	239.7	3.25	12.63 - 25%
WIOD	610	1273	0.5	42.8	3.6	7.8	0.0313	3.6	481.7	3.01	
CKTB	610	642	186.9	51.4	11.2	19.0	0.0768	11.2	122.7	1.88	
WSJS	600	135	11.9	47.9	46.6	60.3	0.3702	46.6	239.6	1.77	
WSNR-exist	620	626	233.4	50.4	11.5	19.5	0.0819	11.5	122.6	0.20	
WSNR-prop	620	630	233.1	50.5	11.4	19.3	0.0810	11.4	134.7	0.22	

To WEKS 610 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WAEL	600	123	98.6	29.6	49.3	62.6	0.4111	49.3	570.6	4.69	4.69
WIOD	610	1696	118.1	33.6	1.0	4.2	0.0245	1.0	613.5	3.01	5.57 - 50%
WIP	610	2582	157.6	40.5	0.0	0.0	0.0093	0.0	1188.4	2.22	6.00
XABS	620	456	282.7	29.0	16.5	26.6	0.1593	16.5	639.1	2.04	6.34 - 25%
WFNZ	610	2418	138.8	38.3	0.0	0.0	0.0115	0.0	607.3	1.39	
WBVE	610	2544	143.7	39.3	0.0	0.0	0.0100	0.0	559.5	1.12	
WGIR	610	2827	167.8	42.0	0.0	0.0	0.0075	0.0	550.8	0.83	
WSNR-exist	620	2656	160.1	41.0	0.0	0.0	0.0088	0.0	456.8	0.08	
WSNR-prop	620	2660	160.2	41.0	0.0	0.0	0.0087	0.0	1374.0	0.24	

To KMKI 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XENK	620	1563	8.8	36.2	1.7	5.2	0.0261	1.7	621.0	3.24	3.24
WRJZ	620	1201	259.0	45.4	4.1	8.5	0.0328	4.1	292.6	1.92	3.77 - 50%
WTMT	620	1128	243.3	46.4	4.7	9.4	0.0356	9.4	257.1	1.83	4.19
KMNS	620	1015	180.5	47.8	5.8	11.0	0.0410	5.8	202.5	1.66	4.51
XJBC	620	2542	315.5	36.8	0.0	0.0	0.0111	0.0	692.0	1.54	4.76
WJDX	620	601	280.9	43.2	12.1	20.3	0.0959	12.1	77.8	1.49	4.99
KTAR	620	1435	86.8	42.7	2.5	6.2	0.0257	2.5	288.5	1.48	5.20
WDAE	620	1461	297.5	41.4	2.3	6.0	0.0254	2.3	275.3	1.40	5.39
KJSL	630	836	225.7	46.3	7.9	14.1	0.0578	7.9	1201.9	1.39	5.57 - 25%
WDAF	610	661	195.6	46.2	10.8	18.4	0.0819	10.8	672.6	1.10	
KWAL	620	2275	127.2	49.6	0.0	0.9	0.0083	0.0	520.1	0.87	
XEKK	620	1739	332.7	36.9	0.8	3.9	0.0214	0.8	201.3	0.86	
WSNR-exist	620	2133	253.9	48.4	0.0	1.6	0.0102	0.0	86.2	0.18	
WSNR-prop	620	2136	253.8	48.5	0.0	1.6	0.0101	0.0	52.9	0.11	



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Exhibit 15B3

# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To KMNS 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WTMJ	620	688	269.7	53.0	10.3	17.6	0.0655	10.3	437.1	5.72	5.72
WRJZ	620	1296	307.0	49.9	3.4	7.5	0.0249	3.4	953.4	4.75	7.44
KMKI	620	1015	0.4	47.8	5.8	11.0	0.0410	5.8	488.6	4.01	8.45 -50&25%
KTAR	620	1680	49.4	47.1	1.1	4.3	0.0172	1.1	608.6	2.09	
WTMT	620	1015	299.7	51.0	5.8	11.0	0.0369	5.8	279.3	2.06	
WDAF	610	407	338.4	50.7	18.6	29.5	0.1464	18.6	637.9	1.87	
WSNR-exist	620	1840	282.8	53.0	0.3	3.2	0.0104	0.3	87.4	0.18	
WSNR-prop	620	1841	282.6	53.1	0.3	3.2	0.0103	0.3	89.2	0.18	

To WJDX 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	708	237.3	45.1	9.9	17.0	0.0751	17.0	336.8	5.06	5.06
KMKI	620	601	97.4	43.2	12.1	20.3	0.0959	12.1	220.2	4.22	6.59
WTMT	620	775	213.0	46.1	8.8	15.4	0.0649	8.8	294.2	3.82	7.62 - 50%
WDAE	620	886	306.3	41.1	7.2	13.1	0.0561	7.2	301.7	3.39	8.34
KMNS	620	1240	151.6	47.7	3.8	8.1	0.0292	3.8	508.2	2.97	8.85
XENK	620	1697	29.7	36.2	1.0	4.2	0.0229	1.0	621.3	2.84	9.30 - 25%
XJBC	620	2041	324.1	36.4	0.0	2.1	0.0166	0.0	692.0	2.30	
WTMJ	620	1163	189.9	48.2	4.4	9.0	0.0322	4.4	309.9	1.99	
KJSL	630	699	180.6	46.1	10.1	17.3	0.0756	10.1	1234.4	1.87	
WSNR-exist	620	1691	241.4	48.0	1.1	4.2	0.0165	1.1	101.0	0.33	
WSNR-prop	620	1695	241.3	48.0	1.0	4.2	0.0164	1.0	87.4	0.29	

To WDAE 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XJBC	620	1215	335.8	34.2	4.0	8.4	0.0407	4.0	690.0	5.61	5.61 - 50%
XENK	620	1925	57.5	34.4	0.0	2.7	0.0195	0.0	621.4	2.42	6.11
WIOD	610	330	313.6	38.1	22.8	35.1	0.1989	22.8	551.6	2.19	6.49
XEKK	620	1078	29.9	34.7	5.2	10.1	0.0480	5.2	200.2	1.92	6.77
XABS	620	2439	302.9	34.3	0.0	0.0	0.0130	0.0	692.0	1.80	7.01 - 25%
KMKI	620	1461	110.4	41.4	2.3	6.0	0.0254	2.3	268.0	1.36	
WTMT	620	1196	165.1	44.1	4.2	8.6	0.0339	4.2	172.1	1.17	
KMNS	620	2040	137.7	46.0	0.0	2.1	0.0124	0.0	438.4	1.09	
WSNR-exist	620	1621	210.2	45.7	1.4	4.7	0.0193	1.4	149.4	0.58	
WSNR-prop	620	1627	210.1	45.7	1.4	4.7	0.0191	1.4	132.0	0.51	

To WDNC 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	438	87.9	47.2	17.2	27.6	0.1400	17.2	420.4	11.77	11.77 - 50%
WDAE	620	969	19.7	43.2	6.3	11.7	0.0481	6.3	453.9	4.36	12.56
WWNR	620	280	133.3	48.2	26.5	39.8	0.2259	26.5	80.1	3.62	13.07
WHEN	620	820	197.8	50.9	8.1	14.4	0.0530	8.1	313.3	3.32	13.48 - 25%
WTMT	620	648	111.0	48.4	11.1	18.8	0.0814	11.1	195.0	3.18	
WKHB	620	477	172.1	49.4	15.7	25.5	0.1221	15.7	127.9	3.12	
WSNR-exist	620	664	218.6	49.8	10.7	18.3	0.0761	10.7	158.2	2.41	
WSNR-prop	620	670	218.5	49.8	10.6	18.1	0.0751	10.6	165.4	2.49	
WMAL	630	368	206.5	48.9	20.5	32.1	0.1690	20.5	669.0	2.26	
XJBC	620	2012	356.3	38.3	0.0	2.2	0.0159	0.0	692.0	2.21	



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Exhibit 15B4

# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To WTMT 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	307	328.0	48.1	24.4	37.2	0.2069	24.4	152.3	6.30	6.30
WTMJ	620	527	157.0	51.3	14.1	23.2	0.1025	14.1	187.0	3.83	7.38 -50&25%
WKHB	620	561	248.9	50.4	13.1	21.8	0.0960	13.1	94.9	1.82	
WDNC	620	648	295.0	48.4	11.1	18.8	0.0814	11.1	108.8	1.77	
KMKI	620	1128	56.9	46.4	4.7	9.4	0.0356	4.7	240.6	1.72	
WSNR-exist	620	1010	257.8	50.9	5.8	11.0	0.0373	5.8	86.0	0.64	
WSNR-prop	620	1013	257.6	51.0	5.8	11.0	0.0371	5.8	55.7	0.41	

To WVMT 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WZON	620	352	266.2	56.2	21.4	33.4	0.1508	21.4	257.2	7.76	7.76 - 50%
WHEN	620	287	55.0	55.3	26.0	39.1	0.1967	26.0	90.9	3.57	8.54
WPRO	630	343	334.0	54.6	22.0	34.1	0.1639	22.0	1037.8	3.40	9.19
WSNR-exist	620	426	12.3	54.1	17.7	28.3	0.1270	17.7	107.3	2.72	9.59 - 25%
WSNR-prop	620	420	12.2	54.1	18.0	28.7	0.1293	18.0	100.0	2.59	
WTMJ	620	1210	75.3	55.1	4.1	8.4	0.0213	4.1	468.1	1.99	
CHLT	630	137	231.7	56.4	46.2	59.9	0.3343	55.6	264.7	1.77	
WRJZ	620	1307	40.1	51.7	3.3	7.4	0.0226	7.4	370.3	1.67	
WDAE	620	2030	21.7	47.6	0.0	2.1	0.0117	0.0	484.3	1.13	
WSNG	610	309	357.5	54.6	24.3	37.0	0.1849	24.3	250.7	0.93	

To WRJZ 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WTMT	620	307	146.9	48.1	24.4	37.2	0.2069	24.4	81.3	3.36	3.36
WWNR	620	306	229.9	48.0	24.5	37.3	0.2080	24.5	62.8	2.61	4.26
WDAE	620	910	352.9	43.0	6.9	12.7	0.0531	6.9	217.1	2.30	4.84 - 50%
WJDX	620	708	53.8	45.1	9.9	17.0	0.0751	17.0	144.2	2.17	5.31
XJBC	620	2095	344.1	38.3	0.0	1.8	0.0149	0.0	692.0	2.06	5.69
WDNC	620	438	270.8	47.2	17.2	27.6	0.1400	27.6	67.1	1.88	5.99
KMKI	620	1201	71.7	45.4	4.1	8.5	0.0328	4.1	256.0	1.68	6.23
WTMJ	620	830	152.7	50.3	8.0	14.2	0.0530	8.0	153.8	1.63	6.44 - 25%
WKHB	620	599	218.4	49.3	12.2	20.4	0.0895	12.2	87.0	1.56	
XENK	620	2374	35.7	38.4	0.0	0.4	0.0119	0.0	621.4	1.47	
KMNS	620	1296	119.0	49.9	3.4	7.5	0.0249	7.5	232.6	1.16	
WSNR-exist	620	983	240.1	49.8	6.1	11.4	0.0408	6.1	103.3	0.84	
WSNR-prop	620	987	239.9	49.8	6.1	11.4	0.0404	6.1	95.7	0.77	

To WTMJ 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XJBC	620	2923	342.4	41.6	0.0	0.0	0.0071	0.0	692.0	0.99	0.99
XENK	620	2793	19.3	41.4	0.0	0.0	0.0078	0.0	621.4	0.97	1.39
KTAR	620	2321	56.8	48.2	0.0	0.6	0.0087	0.0	540.0	0.94	1.67
WDAF	610	690	51.0	51.3	10.2	17.6	0.0689	10.2	674.5	0.93	1.91 - 50%
KJSL	630	481	20.4	51.3	15.6	25.3	0.1164	15.6	359.5	0.84	2.09
WRJZ	620	830	335.4	50.3	8.0	14.2	0.0530	8.0	75.5	0.80	2.24
WDAE	620	1721	344.8	46.3	0.9	4.0	0.0169	0.9	222.8	0.76	2.36
WJDX	620	1163	8.6	48.2	4.4	9.0	0.0322	4.4	115.0	0.74	2.47
WZON	620	1562	268.1	55.5	1.7	5.2	0.0121	1.7	304.5	0.74	2.58
WVMT	620	1210	265.5	55.1	4.1	8.4	0.0213	4.1	161.1	0.68	2.67 - 25%
WLAP	630	595	330.1	51.3	12.3	20.6	0.0864	12.3	384.3	0.66	
WWNR	620	796	315.5	51.3	8.5	14.9	0.0549	14.9	55.1	0.61	
WTMT	620	527	338.5	51.3	14.1	23.2	0.1025	14.1	28.3	0.58	
WSNR-exist	620	1155	285.1	53.1	4.5	9.1	0.0263	4.5	86.8	0.46	
WSNR-prop	620	1155	284.8	53.2	4.5	9.1	0.0263	4.5	94.8	0.50	



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# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To WZON 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WSNR-exist	620	638	43.5	54.3	11.3	19.1	0.0697	11.3	91.0	1.27	1.27
WSNR-prop	620	633	43.8	54.4	11.4	19.3	0.0705	19.3	77.1	1.09	
WRJZ	620	1605	47.6	52.0	1.5	4.8	0.0148	1.5	408.4	1.21	1.75
WTMJ	620	1562	74.7	55.5	1.7	5.2	0.0121	1.7	472.4	1.14	2.09
WDAE	620	2247	29.3	47.9	0.0	1.0	0.0094	0.0	590.8	1.11	2.37
CHLT	630	248	101.2	56.6	29.6	43.4	0.2189	43.4	252.7	1.11	2.61
WVMT	620	352	83.1	56.2	21.4	33.4	0.1508	21.4	34.8	1.05	2.82
CFCY	630	463	252.1	57.1	16.2	26.3	0.1003	26.3	492.8	0.99	2.98
WPRO	630	397	30.3	54.8	19.0	30.2	0.1362	30.2	357.6	0.97	3.14
WHEN	620	623	69.4	55.5	11.6	19.6	0.0686	11.6	69.2	0.95	3.28
CFRP	620	424	176.8	58.2	17.8	28.4	0.1069	17.8	39.6	0.85	3.39
XJBC	620	3094	13.4	42.9	0.0	0.0	0.0061	0.0	692.0	0.84	
XABS	620	3145	349.5	42.5	0.0	0.0	0.0060	0.0	692.0	0.82	
WWNR	620	1299	49.0	52.9	3.4	7.5	0.0213	3.4	166.0	0.71	
WDNC	620	1301	38.2	52.0	3.4	7.5	0.0224	3.4	147.4	0.66	
WTMT	620	1578	57.3	53.2	1.7	5.0	0.0141	1.7	152.3	0.43	

To WKHB 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	599	35.9	49.3	12.2	20.4	0.0895	20.4	612.4	10.96	10.96
WWNR	620	308	25.0	50.3	24.3	37.1	0.2019	24.3	173.7	7.01	13.01
WDNC	620	477	352.5	49.4	15.7	25.5	0.1221	15.7	191.3	4.67	13.83
WHEN	620	427	224.3	53.0	17.7	28.3	0.1307	28.3	107.9	2.82	
WTMJ	620	746	108.3	52.6	9.2	16.1	0.0582	9.2	240.4	2.80	
WTMT	620	561	65.1	50.4	13.1	21.8	0.0960	13.1	143.3	2.75	
WSNR-exist	620	455	264.6	51.9	16.5	26.7	0.1237	26.7	90.6	2.24	
WSNR-prop	620	457	263.9	52.0	16.4	26.6	0.1228	16.4	54.6	1.34	

To WHEN 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	1026	37.3	50.8	5.7	10.8	0.0365	10.8	459.1	3.35	3.35
WZON	620	623	254.5	55.5	11.6	19.6	0.0686	11.6	235.3	3.23	4.65
WSNR-exist	620	297	330.0	53.4	25.2	38.2	0.1993	25.2	78.3	3.12	5.60
WSNR-prop	620	293	329.1	53.4	25.5	38.6	0.2020	38.6	63.1	2.55	
WIP	610	370	346.3	52.9	20.4	32.0	0.1571	20.4	986.2	3.10	6.40
WTMJ	620	968	83.4	54.2	6.3	11.7	0.0345	6.3	424.8	2.93	7.04
WMAL	630	460	9.7	52.4	16.3	26.4	0.1202	16.3	836.3	2.01	7.32
WDNC	620	820	16.0	50.9	8.1	14.4	0.0530	8.1	160.9	1.71	
WPRO	630	425	291.8	53.9	17.7	28.4	0.1281	24.4	562.9	1.44	
WDAE	620	1787	17.1	46.8	0.6	3.6	0.0155	0.6	419.6	1.30	
WSNG	610	297	301.0	53.9	25.2	38.1	0.1967	25.2	322.5	1.27	
WKHB	620	427	41.9	53.0	17.7	28.3	0.1307	17.7	48.0	1.26	

To WWNR 620 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WRJZ	620	306	48.4	48.0	24.5	37.3	0.2080	37.3	576.4	23.98	23.98
WTMT	620	395	97.2	49.1	19.1	30.3	0.1552	19.1	160.0	4.97	
WDNC	620	280	314.7	48.2	26.5	39.8	0.2259	39.8	87.3	3.94	
WKHB	620	308	206.0	50.3	24.3	37.1	0.2019	24.3	96.2	3.88	
WSNR-exist	620	680	242.7	50.7	10.4	17.8	0.0719	10.4	92.6	1.33	
WSNR-prop	620	684	242.4	50.7	10.3	17.7	0.0712	10.3	80.5	1.15	



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# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To CFRP      620 kHz

From	Freq	Dist	Bear	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WZON	620	424	357.0	23.3	23.3	0.1386	23.3	911.5	25.27	25.27
WVMT	620	555	33.2	17.8	17.8	0.1172	17.8	584.7	13.71	28.75 - 50%
WHEN	620	825	39.2	11.2	11.2	0.0834	11.2	201.2	3.35	
WTMJ	620	1610	59.3	3.2	3.2	0.0211	3.2	442.6	1.87	
WRJZ	620	1850	36.0	1.7	1.7	0.0134	1.7	463.0	1.24	
WSNR-exist	620	966	23.7	9.0	9.0	0.0677	9.0	85.7	1.16	
WSNR-prop	620	960	23.8	9.1	9.1	0.0683	9.1	65.0	0.89	

To XEKX      620 kHz

From	Freq	Dist	Bear	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WDAE	620	1078	212.1	7.6	7.6	0.0568	7.6	1002.4	11.38	11.38
XJBC	620	1118	280.7	7.2	7.2	0.0531	7.2	685.5	7.28	13.51 - 50%
XENK	620	1157	87.1	6.8	6.8	0.0496	6.8	615.7	6.11	
WJDX	620	1441	170.9	4.3	4.3	0.0295	4.3	486.4	2.87	
WRJZ	620	1872	193.8	1.6	1.6	0.0129	1.6	842.0	2.17	
WSNR-exist	620	2695	212.9	0.0	0.0	0.0047	0.0	160.4	0.15	
WSNR-prop	620	2700	212.9	0.0	0.0	0.0046	0.0	145.6	0.14	

To XJBC      620 kHz

From	Freq	Dist	Bear	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WDAE	620	1215	153.8	6.2	6.2	0.0448	6.2	919.8	8.24	8.24 - 50%
XABS	620	1670	275.5	2.8	2.8	0.0187	2.8	690.4	2.58	
XEKK	620	1118	97.3	7.2	7.2	0.0531	7.2	199.2	2.12	
XENK	620	2271	90.3	0.0	0.0	0.0073	0.0	621.4	0.90	
WSNR-exist	620	2555	187.8	0.0	0.0	0.0054	0.0	87.3	0.09	
WSNR-prop	620	2561	187.8	0.0	0.0	0.0053	0.0	504.9	0.54	

To XENK      620 kHz

From	Freq	Dist	Bear	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XEKK	620	1157	270.8	6.8	6.8	0.0496	6.8	199.5	1.98	1.98
KTAR	620	2025	137.5	0.8	0.8	0.0100	0.8	958.2	1.92	2.76
WJDX	620	1697	213.6	2.6	2.6	0.0177	2.6	482.5	1.70	3.24
KMKI	620	1563	189.9	3.5	3.5	0.0232	3.5	359.2	1.67	3.65 - 50%
WDAE	620	1925	244.1	1.3	1.3	0.0118	1.3	686.0	1.62	
XJBC	620	2271	277.3	0.0	0.0	0.0073	0.0	692.0	1.01	
WRJZ	620	2374	222.9	0.0	0.0	0.0066	0.0	563.0	0.74	
WSNR-exist	620	3343	231.9	0.0	0.0	0.0028	0.0	138.9	0.08	
WSNR-prop	620	3348	231.9	0.0	0.0	0.0028	0.0	144.2	0.08	

To XABS      620 kHz

From	Freq	Dist	Bear	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XJBC	620	1670	90.8	2.8	2.8	0.0187	2.8	691.0	2.58	2.58 - 50%
WDAE	620	2439	114.9	0.0	0.0	0.0061	0.0	957.9	1.17	
WRJZ	620	3016	128.2	0.0	0.0	0.0036	0.0	1117.7	0.79	
WSNR-exist	620	2891	151.7	0.0	0.0	0.0039	0.0	740.1	0.58	
WSNR-prop	620	2895	151.8	0.0	0.0	0.0039	0.0	1564.4	1.22	
WVMT	620	3226	157.1	0.0	0.0	0.0030	0.0	828.8	0.50	
WDNC	620	2696	136.7	0.0	0.0	0.0047	0.0	515.7	0.48	



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# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To WBMQ 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WMAL	630	848	205.5	46.8	7.7	13.8	0.0559	7.7	708.1	7.91	7.91
WMFD	630	370	230.4	44.4	20.4	32.0	0.1726	20.4	137.0	4.73	9.22 - 50%
KJSL	630	1104	129.0	46.4	4.9	9.7	0.0369	4.9	344.2	2.54	9.56 - 25%
WLAP	630	742	154.1	46.2	9.3	16.2	0.0691	9.3	167.6	2.32	
WUNO	630	2126	318.3	36.9	0.0	1.6	0.0152	0.0	602.0	1.83	
KSLR	630	1656	75.9	41.7	1.2	4.5	0.0204	1.2	355.7	1.45	
WSNR-exist	620	1138	213.5	47.8	4.6	9.3	0.0338	4.6	159.9	0.11	
WSNR-prop	620	1144	213.5	47.8	4.6	9.2	0.0335	4.6	148.4	0.10	

To WDGY 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
KJSL	630	720	341.1	52.2	9.7	16.7	0.0626	9.7	148.0	1.85	1.85
WLAP	630	1029	318.6	52.2	5.6	10.8	0.0342	5.6	255.6	1.75	2.55
KHOW	630	1112	57.1	52.1	4.9	9.6	0.0299	4.9	272.6	1.63	3.02 - 50%
WOI	640	313	9.2	53.6	24.0	36.7	0.1874	24.0	305.9	1.15	3.23
CFCO	630	909	291.0	54.4	6.9	12.7	0.0381	6.9	149.7	1.14	3.43
WTMJ	620	462	301.4	54.3	16.3	26.3	0.1132	16.3	497.7	1.13	3.61 - 25%
WPRO	630	1785	288.1	54.9	0.6	3.6	0.0095	3.6	471.1	0.89	
CFCY	630	2319	276.8	57.8	0.0	0.6	0.0036	0.0	1121.4	0.80	
KMNS	620	381	44.6	53.7	19.8	31.2	0.1483	31.2	252.7	0.75	
WSNR-exist	620	1584	292.4	54.2	1.6	5.0	0.0130	1.6	87.9	0.02	
WSNR-prop	620	1584	292.2	54.2	1.6	5.0	0.0130	1.6	126.3	0.03	

To WLAP 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WMAL	630	642	263.4	49.8	11.2	19.0	0.0799	19.0	230.7	3.69	3.69
KJSL	630	498	95.3	49.2	15.0	24.5	0.1159	15.0	158.6	3.68	5.21 -50&25%
KSLR	630	1581	49.2	44.5	1.6	5.0	0.0209	1.6	307.6	1.28	
CJET	630	1026	226.2	52.8	5.7	10.8	0.0334	5.7	183.7	1.23	
WUNO	630	2819	324.7	40.0	0.0	0.0	0.0080	0.0	681.8	1.09	
WSNR-exist	620	915	254.3	50.8	6.9	12.6	0.0444	6.9	85.3	0.08	
WSNR-prop	620	918	254.0	50.9	6.8	12.5	0.0441	6.8	51.6	0.05	

To WMFD 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WBMQ	630	370	48.7	44.4	20.4	32.0	0.1726	32.0	315.4	10.89	10.89
WLAP	630	723	124.8	47.4	9.6	16.6	0.0704	9.6	396.0	5.58	12.23 - 50%
WMAL	630	538	188.3	48.0	13.8	22.7	0.1065	13.8	247.8	5.28	13.32 - 25%
WUNO	630	2113	328.5	37.9	0.0	1.7	0.0148	0.0	726.8	2.16	
WDNC	620	220	155.8	46.4	32.7	46.8	0.2788	32.7	347.4	1.94	
WFNC	640	128	137.4	46.0	48.0	61.5	0.3771	48.0	159.6	1.20	
WSNR-exist	620	797	204.8	48.9	8.4	14.9	0.0588	8.4	115.5	0.14	
WSNR-prop	620	803	204.7	48.9	8.3	14.8	0.0581	8.3	129.4	0.15	



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# Radio Station WSNR • 620 kHz, Class B • Jersey City, New Jersey

## Skywave Interference Protection

To WPRO 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WVMT	620	343	152.7	54.6	22.0	34.1	0.1639	22.0	626.2	2.05	2.05
WUNO	630	2641	350.3	41.6	0.0	0.0	0.0087	0.0	938.0	1.63	2.62
CJET	630	508	130.5	54.8	14.7	24.0	0.0969	24.0	80.3	1.56	3.05
CFCY	630	818	235.5	55.6	8.1	14.4	0.0430	8.1	177.8	1.53	3.41
WMFD	630	1022	32.8	49.5	5.7	10.9	0.0386	5.7	196.6	1.52	3.73
CFCO	630	906	90.2	53.6	7.0	12.7	0.0401	7.0	186.1	1.49	4.02
WSNR-exist	620	276	65.8	52.8	26.9	40.3	0.2171	26.9	338.1	1.47	4.28
WSNR-prop	620	272	66.8	52.8	27.3	40.7	0.2199	27.3	261.7	1.15	
CHLT	630	395	173.4	55.0	19.1	30.3	0.1360	19.1	53.9	1.47	4.52
WMAL	630	580	56.2	51.9	12.6	21.1	0.0881	21.1	82.2	1.45	4.75
WNZN	640	126	110.4	53.5	48.4	61.8	0.3661	48.4	154.0	1.13	
WZON	620	397	212.0	54.8	19.0	30.2	0.1362	19.0	401.8	1.09	
WLAP	630	1188	65.9	51.5	4.2	8.7	0.0273	4.2	172.0	0.94	
CFBK	630	746	118.9	55.0	9.2	16.1	0.0522	9.2	83.4	0.87	
WDGY	630	1785	93.1	54.9	0.6	3.6	0.0095	0.6	410.1	0.78	

To WUNO 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
XABS	620	478	288.0	29.3	15.7	25.5	0.1509	15.7	643.9	1.94	1.94
WMAL	630	2523	152.0	40.3	0.0	0.0	0.0098	0.0	987.4	1.94	2.74
WPRO	630	2641	167.7	41.6	0.0	0.0	0.0087	0.0	981.1	1.70	3.23
WMFD	630	2113	143.2	37.9	0.0	1.7	0.0148	0.0	500.5	1.49	3.55
WBHQ	630	2126	131.9	36.9	0.0	1.6	0.0152	1.6	479.9	1.46	3.84
CFCY	630	3104	185.9	43.8	0.0	0.0	0.0058	0.0	783.1	0.91	
WLAP	630	2819	135.9	40.0	0.0	0.0	0.0080	0.0	416.9	0.67	
XJBC	620	1207	85.8	29.8	4.1	8.5	0.0447	4.1	689.9	0.62	
WSNR-exist	620	2608	160.0	41.2	0.0	0.0	0.0090	0.0	458.6	0.08	
WSNR-prop	620	2612	160.1	41.2	0.0	0.0	0.0090	0.0	1375.5	0.25	

To WMAL 630 kHz

From	Freq	Dist	Bear	GM	Tmin	Tmax	Skywv	Thet	Rmax	Limit	RSS
WPRO	630	580	240.0	51.9	12.6	21.1	0.0881	12.6	126.2	2.22	2.22
WUNO	630	2523	337.4	40.3	0.0	0.0	0.0098	0.0	822.5	1.61	2.75
CFCO	630	569	128.7	52.0	12.9	21.5	0.0904	12.9	59.1	1.07	2.95
KJSL	630	1123	84.0	50.1	4.8	9.5	0.0320	4.8	159.2	1.02	3.12
CFBK	630	718	165.6	53.5	9.7	16.8	0.0597	16.8	85.0	1.01	3.28
WWJZ	640	235	243.1	50.9	31.0	45.0	0.2585	31.0	192.4	0.99	3.43
WLAP	630	642	78.9	49.8	11.2	19.0	0.0799	11.2	61.5	0.98	3.57
WMFD	630	538	7.8	48.0	13.8	22.7	0.1065	13.8	45.9	0.98	3.70
WBHQ	630	848	23.3	46.8	7.7	13.8	0.0559	7.7	86.1	0.96	3.82
WRJZ	620	679	58.3	48.8	10.4	17.8	0.0753	10.4	607.9	0.92	
WWNR	620	382	67.8	49.7	19.8	31.2	0.1603	19.8	273.9	0.88	
WKHB	620	261	122.1	51.0	28.3	41.9	0.2354	28.3	186.1	0.88	
WSNR-exist	620	309	231.0	51.3	24.3	37.0	0.1983	24.3	100.2	0.40	
WSNR-prop	620	314	230.4	51.3	23.9	36.6	0.1950	23.9	137.7	0.54	



**HAMMETT & EDISON, INC.**  
CONSULTING ENGINEERS  
SAN FRANCISCO

020410  
Exhibit 15B9