

Second-Adjacent Channel Protection

The proposed facility is located within the protected service contour of second-adjacent channel station WRVQ (233B, FCC ID 11963), Richmond, which is protected in accordance with §74.1204(d) at a +40 dB level. The proposed antenna will be mounted 128 meters above ground, operating directionally at 250 watts ERP.

WRVQ is located 18.3 kilometers distant with a calculated field of 83.5 dBu at the proposed site based on an ERP of 200 KW and height above average terrain along a 325° radial from WRVQ to the proposed site of 103 meters. The translator would require a field intensity of 123.5 dBu to cause interference to the WRVQ signal. This contour extends a maximum of 74 meters horizontally from the antenna and does not reach the ground or intercept any living spaces. The published vertical plane pattern was used to calculate the downward radiation and as shown below the 123.5 dBu contour does not intrude on any regularly occupied space.

The Sun Trust building in Richmond, Virginia is a commercial office building with no residential floors. The top floor is an unmanned equipment room with a 20 foot ceiling. The two floors below it are offices with 12 foot ceilings, and each floor is approximately 1 foot “thick”. The antenna is to be mounted with a center of radiation approximately 18 feet above the roof, 39 feet (11.9 meters) above any potential receiver location on an occupied floor, and approximately 5.3 meters from the roof edge along the directional main lobe. As there is no regularly occupied space or population inside this contour the proposed operation will comply with §74.1204(d).

(Revised January 8, 2018)

Distance-to-Contour Table for 123.5 dBu contour.

Roof edge is at approximately 5.3 meters.

<u>Dep (°)</u>	<u>Er(%)</u>	<u>DTC</u>	<u>Slant</u>	<u>Clearance</u>	<u>Radius</u>	<u>Dep (°)</u>	<u>Er(%)</u>	<u>DTC</u>	<u>Slant</u>	<u>Clearance</u>	<u>Radius</u>
0.01	100.0	74.14	68181.98	68107.84	68181.98	45	45.8	33.96	16.83	-17.13	11.90
1	99.7	73.92	681.85	607.94	681.75	46	43.9	32.55	16.54	-16.00	11.49
2	99.4	73.69	340.98	267.28	340.77	47	42.0	31.14	16.27	-14.87	11.10
3	99.2	73.55	227.38	153.83	227.07	48	40.1	29.73	16.01	-13.72	10.71
4	98.9	73.32	170.59	97.27	170.18	49	38.2	28.32	15.77	-12.55	10.34
5	98.6	73.10	136.54	63.44	136.02	50	36.3	26.91	15.53	-11.38	9.99
6	98.2	72.81	113.84	41.04	113.22	51	34.6	25.65	15.31	-10.34	9.64
7	97.8	72.51	97.65	25.14	96.92	52	32.9	24.39	15.10	-9.29	9.30
8	97.4	72.21	85.51	13.29	84.67	53	31.2	23.13	14.90	-8.23	8.97
9	97.0	71.92	76.07	4.15	75.13	54	29.5	21.87	14.71	-7.16	8.65
10	96.6	71.62	68.53	-3.09	67.49	55	27.8	20.61	14.53	-6.08	8.33
11	95.8	71.03	62.37	-8.66	61.22	56	26.3	19.50	14.35	-5.14	8.03
12	95.1	70.51	57.24	-13.27	55.99	57	24.8	18.39	14.19	-4.20	7.73
13	94.3	69.91	52.90	-17.01	51.54	58	23.3	17.27	14.03	-3.24	7.44
14	93.5	69.32	49.19	-20.13	47.73	59	21.8	16.16	13.88	-2.28	7.15
15	92.8	68.80	45.98	-22.82	44.41	60	20.3	15.05	13.74	-1.31	6.87
16	91.6	67.91	43.17	-24.74	41.50	61	19.3	14.31	13.61	-0.70	6.60
17	90.5	67.10	40.70	-26.39	38.92	62	18.2	13.49	13.48	-0.02	6.33
18	89.4	66.28	38.51	-27.77	36.62	63	17.1	12.68	13.36	0.68	6.06
19	88.2	65.39	36.55	-28.84	34.56	64	16.1	11.94	13.24	1.30	5.80
20	87.1	64.58	34.79	-29.78	32.69	65	15.0	11.12	13.13	2.01	5.55
21	85.7	63.54	33.21	-30.33	31.00	66	14.8	10.97	13.03	2.05	5.30
22	84.3	62.50	31.77	-30.73	29.45	67	14.5	10.75	12.93	2.18	5.05
23	83.0	61.54	30.46	-31.08	28.03	68	14.3	10.60	12.83	2.23	4.81
24	81.6	60.50	29.26	-31.24	26.73	69	14.1	10.45	12.75	2.29	4.57
25	80.2	59.46	28.16	-31.30	25.52	70	13.8	10.23	12.66	2.43	4.33
26	78.7	58.35	27.15	-31.20	24.40	71	13.8	10.23	12.59	2.35	4.10
27	77.2	57.24	26.21	-31.02	23.36	72	13.7	10.16	12.51	2.36	3.87
28	75.7	56.12	25.35	-30.78	22.38	73	13.6	10.08	12.44	2.36	3.64
29	74.2	55.01	24.55	-30.47	21.47	74	13.5	10.01	12.38	2.37	3.41
30	72.7	53.90	23.80	-30.10	20.61	75	13.4	9.93	12.32	2.39	3.19
31	71.0	52.64	23.11	-29.53	19.80	76	13.6	10.08	12.26	2.18	2.97
32	69.3	51.38	22.46	-28.92	19.04	77	13.7	10.16	12.21	2.06	2.75
33	67.7	50.19	21.85	-28.34	18.32	78	13.8	10.23	12.17	1.93	2.53
34	66.0	48.93	21.28	-27.65	17.64	79	14.0	10.38	12.12	1.74	2.31
35	64.3	47.67	20.75	-26.92	16.99	80	14.1	10.45	12.08	1.63	2.10
36	62.5	46.34	20.25	-26.09	16.38	81	14.3	10.60	12.05	1.45	1.88
37	60.7	45.00	19.77	-25.23	15.79	82	14.6	10.82	12.02	1.19	1.67
38	58.9	43.67	19.33	-24.34	15.23	83	14.8	10.97	11.99	1.02	1.46
39	57.1	42.33	18.91	-23.42	14.70	84	15.0	11.12	11.97	0.84	1.25
40	55.3	41.00	18.51	-22.49	14.18	85	15.3	11.34	11.95	0.60	1.04
41	53.4	39.59	18.14	-21.45	13.69	86	15.3	11.34	11.93	0.59	0.83
42	51.5	38.18	17.78	-20.40	13.22	87	15.4	11.42	11.92	0.50	0.62
43	49.6	36.77	17.45	-19.32	12.76	88	15.5	11.49	11.91	0.42	0.42
44	47.7	35.36	17.13	-18.23	12.32	89	15.6	11.57	11.90	0.34	0.21

