

DTV Adjacent Channel

According to the new FCC rule 74.706 (d)(2)

Subpart G--Low Power TV, TV Translator, and TV Booster Stations

Sec. 74.706 Digital TV (DTV) station protection.

(d) A low power TV, TV translator or TV booster station application will not be accepted if the ratio in dB of its field strength to that of the DTV station (L/D ratio) fails to meet the following:

(2) + 48 dB for adjacent channel operations at:

(i) The DTV noise-limited perimeter if a low power TV, TV translator or TV booster station is located outside that perimeter.

(ii) At all points within the DTV noise-limited area if a low power TV or TV translator is located within the DTV noise-limited perimeter, as demonstrated by the applicant.

Please find attached a study which shows the signal does not exceed a ratio of desired to undesired that exceeds the required +48 db within the DTV noise-limited perimeter of 41 dBu, therefore, the proposed station complies with the FCC rule and does not cause harmful interference to WFGX DTV Channel 25.

Contour At A Bearing of 000 Degrees From Proposed Station

WFGX -DT Distance-Km	58.34	58.63	59.23	59.83	60.45	63.68	67.13
Bearing-Deg	54.11	53.72	52.94	52.17	51.42	47.90	44.72
ERP-dBk	18.37	18.38	18.38	18.39	18.40	18.37	18.31
HAAT-m	60.45	60.37	60.21	60.05	59.89	58.50	56.87
Field Strength	36.95	36.66	36.08	35.50	34.92	31.78	29.07
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.18	1.63	1.09	.82	.65	.30	.20
ERP-dBk	2.36	3.33	3.92	4.01	4.01	4.01	4.01
HAAT-m	57.00	57.00	57.00	57.00	57.00	53.11	53.11
Field Strength	105.76	96.93	90.56	85.68	81.82	69.03	62.02
Difference	68.81	60.27	54.48	50.18	46.90	37.25	32.95

Contour At A Bearing of 030 Degrees From Proposed Station

WFGX -DT Distance-Km	58.83	59.28	60.19	61.10	62.02	66.63	71.29
Bearing-Deg	54.70	54.50	54.10	53.72	53.34	51.63	50.14
ERP-dBk	18.37	18.37	18.37	18.38	18.38	18.39	18.41
HAAT-m	60.58	60.54	60.45	60.37	60.29	59.93	59.62
Field Strength	36.51	36.08	35.24	34.40	33.58	30.03	27.11
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.68	2.01	1.34	1.00	.80	.40	.27
ERP-dBk	1.05	3.30	4.08	4.43	4.44	4.44	4.44
HAAT-m	70.15	70.15	70.15	70.15	70.15	70.15	70.15
Field Strength	104.44	98.18	92.26	87.78	84.00	71.90	64.87
Difference	67.93	62.10	57.02	53.38	50.42	41.87	37.76

Contour At A Bearing of 060 Degrees From Proposed Station

WFGX -DT Distance-Km	58.96	59.46	60.46	61.45	62.45	67.42	72.40
Bearing-Deg	55.45	55.48	55.56	55.63	55.70	56.01	56.28
ERP-dBk	18.36	18.36	18.36	18.36	18.36	18.35	18.35
HAAT-m	60.73	60.74	60.76	60.77	60.79	60.85	60.91
Field Strength	36.40	35.95	35.04	34.16	33.28	29.65	26.59
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.85	2.14	1.43	1.07	.86	.43	.29
ERP-dBk	1.99	4.54	5.61	5.99	6.07	6.07	6.07
HAAT-m	74.66	74.66	74.66	74.66	74.66	74.66	74.66
Field Strength	105.38	99.73	94.22	89.82	86.14	74.06	67.04
Difference	68.98	63.78	59.18	55.66	52.86	44.41	40.45

Contour At A Bearing of 090 Degrees From Proposed Station

WFGX -DT Distance-Km	58.71	59.13	59.96	60.80	61.64	65.93	70.31
Bearing-Deg	56.16	56.43	56.96	57.47	57.97	60.27	62.29
ERP-dBk	18.35	18.35	18.35	18.34	18.34	18.31	18.23
HAAT-m	60.88	60.94	61.05	61.16	61.26	61.84	62.99
Field Strength	36.66	36.29	35.54	34.79	34.06	30.74	28.05
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	3.30	2.47	1.65	1.24	.99	.50	.33
ERP-dBk	1.29	4.99	6.93	7.38	7.63	7.63	7.63
HAAT-m	86.39	86.39	86.39	86.39	86.39	86.39	86.39
Field Strength	104.69	100.92	96.54	92.34	88.92	76.89	69.87
Difference	68.03	64.63	61.00	57.55	54.86	46.15	41.82

Contour At A Bearing of 120 Degrees From Proposed Station

WFGX -DT Distance-Km	58.13	58.36	58.82	59.29	59.78	62.41	65.31
Bearing-Deg	56.66	57.10	57.97	58.82	59.66	63.66	67.31
ERP-dBk	18.35	18.35	18.34	18.33	18.32	18.18	18.03
HAAT-m	60.99	61.08	61.26	61.44	61.62	63.76	65.83
Field Strength	37.22	37.02	36.62	36.20	35.78	33.67	31.55
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.43	1.83	1.22	.91	.73	.37	.24
ERP-dBk	5.95	7.54	8.22	8.45	8.45	8.45	8.45
HAAT-m	63.74	63.74	63.74	63.74	63.74	63.74	63.74
Field Strength	109.35	101.95	95.74	91.05	87.22	75.08	68.05
Difference	72.13	64.93	59.12	54.85	51.44	41.41	36.50

Contour At A Bearing of 150 Degrees From Proposed Station

WFGX -DT Distance-Km	57.37	57.35	57.31	57.29	57.29	57.54	58.22
Bearing-Deg	56.82	57.32	58.32	59.32	60.32	65.31	70.22
ERP-dBk	18.35	18.34	18.33	18.33	18.31	18.11	17.90
HAAT-m	61.02	61.13	61.34	61.55	61.87	64.70	67.42
Field Strength	37.94	37.98	38.05	38.09	38.13	38.18	37.78
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	3.04	2.28	1.52	1.14	.91	.46	.30
ERP-dBk	3.32	6.28	7.71	8.13	8.28	8.28	8.28
HAAT-m	79.77	79.77	79.77	79.77	79.77	79.77	79.77
Field Strength	106.72	101.81	96.78	92.47	88.90	76.85	69.82
Difference	68.78	63.83	58.73	54.38	50.77	38.67	32.04

Contour At A Bearing of 180 Degrees From Proposed Station

WFGX -DT Distance-Km	56.64	56.36	55.83	55.30	54.79	52.45	50.50
Bearing-Deg	56.58	57.00	57.87	58.74	59.64	64.36	69.49
ERP-dBk	18.35	18.35	18.34	18.33	18.32	18.15	17.94
HAAT-m	60.97	61.06	61.24	61.43	61.62	64.16	67.06
Field Strength	38.64	38.92	39.46	40.00	40.53	43.17	45.49
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.93	2.20	1.47	1.10	.88	.44	.29
ERP-dBk	2.82	5.53	6.74	7.14	7.24	7.24	7.24
HAAT-m	76.73	76.73	76.73	76.73	76.73	76.73	76.73
Field Strength	106.22	100.86	95.54	91.18	87.55	75.48	68.45
Difference	67.58	61.94	56.08	51.18	47.02	32.31	22.96

Contour At A Bearing of 210 Degrees From Proposed Station

WFGX -DT Distance-Km	56.12	55.68	54.78	53.89	53.01	48.64	44.41
Bearing-Deg	55.99	56.21	56.68	57.15	57.65	60.39	63.66
ERP-dBk	18.36	18.35	18.35	18.34	18.34	18.30	18.18
HAAT-m	60.85	60.90	60.99	61.09	61.20	61.91	63.76
Field Strength	39.12	39.56	40.46	41.37	42.28	47.06	50.66
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	3.18	2.39	1.59	1.20	.96	.48	.32
ERP-dBk	-.22	3.13	4.83	5.27	5.48	5.48	5.48
HAAT-m	83.46	83.46	83.46	83.46	83.46	83.46	83.46
Field Strength	103.18	98.88	94.21	88.96	86.48	74.44	67.41
Difference	64.06	59.32	53.75	47.59	44.20	27.38	16.75

Contour At A Bearing of 240 Degrees From Proposed Station

WFGX -DT Distance-Km	55.98	55.48	54.49	53.49	52.50	47.53	42.57
Bearing-Deg	55.21	55.16	55.08	54.98	54.89	54.36	53.71
ERP-dBk	18.36	18.36	18.36	18.36	18.36	18.37	18.38
HAAT-m	60.68	60.67	60.66	60.64	60.62	60.51	60.37
Field Strength	39.23	39.72	40.70	41.70	42.72	47.84	51.83
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.86	2.14	1.43	1.07	.86	.43	.29
ERP-dBk	.05	2.61	3.70	4.08	4.16	4.16	4.16
HAAT-m	74.85	74.85	74.85	74.85	74.85	74.85	74.85
Field Strength	103.44	97.82	92.33	87.93	84.26	72.18	65.15
Difference	64.21	58.10	51.63	46.23	41.54	24.34	13.32

Contour At A Bearing of 270 Degrees From Proposed Station

WFGX -DT Distance-Km	56.25	55.84	55.04	54.24	53.44	49.59	45.95
Bearing-Deg	54.46	54.16	53.55	52.93	52.28	48.75	44.64
ERP-dBk	18.37	18.37	18.38	18.38	18.39	18.38	18.31
HAAT-m	60.53	60.46	60.34	60.21	60.07	58.94	56.82
Field Strength	38.95	39.33	40.10	40.88	41.66	45.50	48.21
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.18	1.63	1.09	.82	.65	.28	.19
ERP-dBk	2.65	3.61	4.21	4.30	4.30	4.30	4.30
HAAT-m	57.00	57.00	57.00	57.00	57.00	49.37	49.37
Field Strength	106.05	97.21	90.84	85.97	82.11	68.66	61.66
Difference	67.10	57.88	50.74	45.09	40.45	23.16	13.45

Contour At A Bearing of 300 Degrees From Proposed Station

WFGX -DT Distance-Km	56.85	56.65	56.25	55.88	55.52	53.96	52.83
Bearing-Deg	53.96	53.50	52.57	51.62	50.66	45.69	40.46
ERP-dBk	18.37	18.38	18.39	18.39	18.40	18.33	18.23
HAAT-m	60.42	60.33	60.13	59.93	59.73	57.36	54.67
Field Strength	38.35	38.53	38.87	39.21	39.53	40.50	40.95
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.36	1.77	1.18	.88	.71	.35	.24
ERP-dBk	2.74	4.13	4.78	4.97	4.97	4.97	4.97
HAAT-m	61.70	61.70	61.70	61.70	61.70	61.70	61.70
Field Strength	106.14	98.37	92.08	87.32	83.47	71.32	64.29
Difference	67.79	59.84	53.21	48.11	43.94	30.82	23.34

Contour At A Bearing of 330 Degrees From Proposed Station

WFGX -DT Distance-Km	57.61	57.67	57.79	57.93	58.09	59.13	60.56
Bearing-Deg	53.84	53.35	52.36	51.38	50.40	45.62	41.03
ERP-dBk	18.37	18.38	18.39	18.40	18.40	18.33	18.24
HAAT-m	60.40	60.29	60.09	59.88	59.67	57.33	54.96
Field Strength	37.62	37.55	37.40	37.23	37.05	35.53	33.65
Proposed Distance-Km	1.50	2.00	3.00	4.00	5.00	10.00	15.00
Tilt (Deg)	2.18	1.63	1.09	.82	.65	.32	.21
ERP-dBk	3.19	4.16	4.75	4.84	4.84	4.84	4.84
HAAT-m	57.00	57.00	57.00	57.00	57.00	55.48	55.48
Field Strength	106.59	97.76	91.38	86.51	82.65	70.25	63.23
Difference	68.97	60.21	53.98	49.28	45.60	34.72	29.58