

DELAWDER COMMUNICATIONS, INC.

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ENGINEERING REPORT

K299BW, Brookshire, TX, Channel 296D Minor Mod

ENGINEERING STATEMENT

PROTECTION TO KGLK

All contour non-overlap protection requirements are met with the exception of KGLK, Lake Jackson, TX (298C), discussed below.

KGLK (85 kilometers at 122 degrees True) is second adjacent-channel to the proposed channel 296D facility. The 60 dBu F50,50 service contour of this station extends beyond the proposed 296D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KGLK.

Note that a rule waiver of Section 74.1204 for this second/third adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to any station.

The F50,50 signal strength from KGLK at the proposed 296D transmitter site is at least 63 dBu (the "desired" signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired ("U/D") dB signal strength ratio of 40:1. Therefore, predicted interference to KGLK from the proposed 296D facility is a signal of greater than or equal to 103 dBu.

The centerline for the proposed Jampro J3YF 3-bay (full wavelength spaced) antenna is 100 meters above ground level. The attached table (requested for use by the FCC for these studies) demonstrates that the 103 dBu interference signal is predicted to be at least 9.8 meters above ground level. (A vertical plane pattern tabulation is also attached.) There are no tall buildings near the site. Any second floor persons in a nearby building should be adequately protected based on the clearance shown on the table. Therefore, KGLK is adequately protected by the proposed facility.

74.1204(d) Showing

K299BW, Brookshire, TX 296D

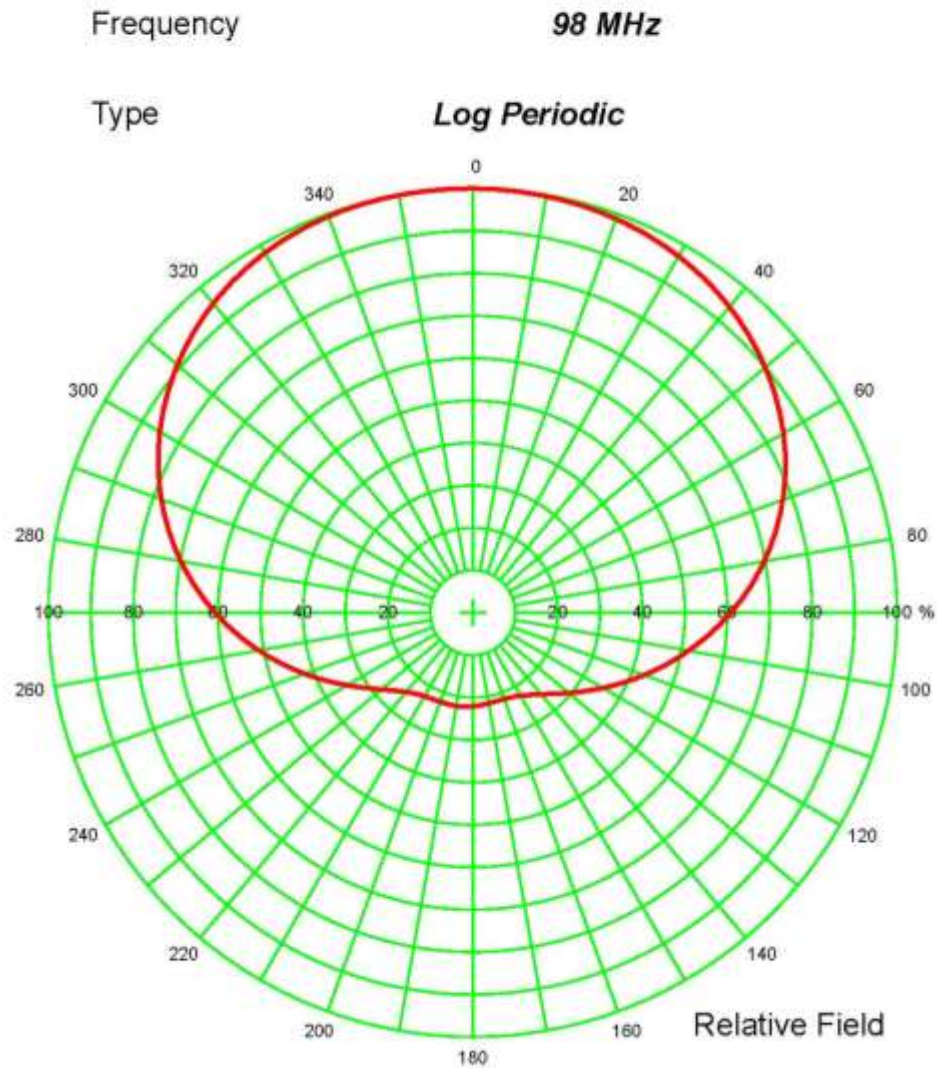
ERP (kw)	0.12
Height of Antenna above Ground (m)	100
Translator's IX Contour	103

<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	0.1200	543.9896	100.000
5	0.954	0.1092	518.9661	54.769
10	0.826	0.0819	449.3354	21.974
15	0.64	0.0492	348.1534	9.891
20	0.43	0.0222	233.9155	19.996
25	0.23	0.0063	125.1176	47.123
30	0.063	0.0005	34.2713	82.864
35	0.057	0.0004	31.0074	82.215
40	0.128	0.0020	69.6307	55.242
45	0.157	0.0030	85.4064	39.609
50	0.154	0.0028	83.7744	35.825
55	0.133	0.0021	72.3506	40.734
60	0.103	0.0013	56.0309	51.476
65	0.072	0.0006	39.1673	64.502
70	0.046	0.0003	25.0235	76.486
75	0.027	0.0001	14.6877	85.813
80	0.014	0.0000	7.6159	92.500
85	0.005	0.0000	2.7199	97.290
90	0.001	0.0000	0.5440	99.456

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



HORIZONTAL RADIATION PATTERN



Values in Relative Field

Frequency: Band II (mid-band)

Model: J3YF-3
Description: FM Yagi Antenna
Notes: Vertical Polarization



HRP Tabulation

Angle	Amplitude
0	100
10	99.68
20	98.79
30	97.01
40	94.12
50	89.98
60	84.55
70	77.79
80	69.78
90	60.85
100	51.67
110	43.02
120	35.49
130	29.45
140	25.13
150	22.6
160	21.64
170	21.69
180	22.08
190	22.32
200	22.38
210	22.76
220	24.39
230	28.15
240	34.21
250	42.14
260	51.23
270	60.72
280	69.88
290	78.14
300	85.19
310	90.89
320	95.16
330	97.96
340	99.42
350	99.95
360	100

Frequency: Band II (mid-band)

Model: J3YF-3
Description: FM Yagi Antenna
Notes: Vertical Polarization



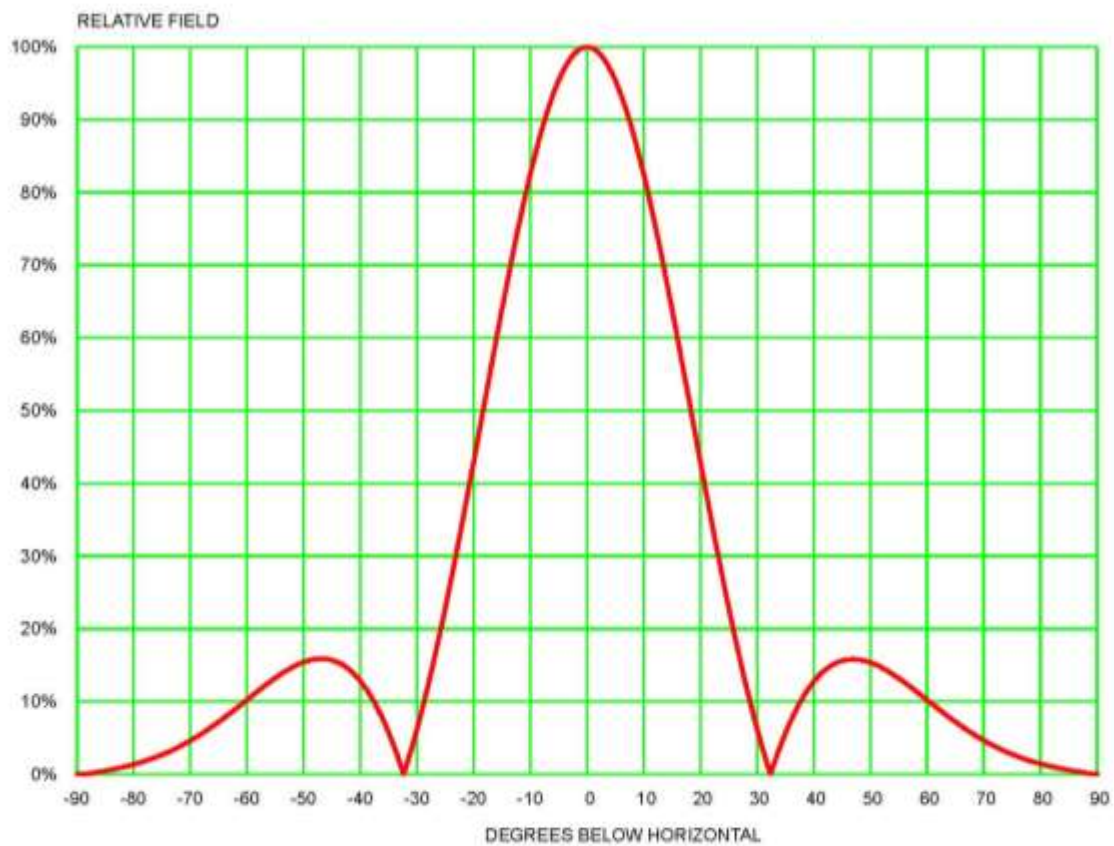
VERTICAL RADIATION PATTERN

Frequency

98 MHz

Type

Log Periodic



Frequency: Band II (mid-band)

Model: J3YF-3
Description: FM Yagi Antenna
Notes: Vertical Polarization



VRP Tabulation

Angle	Amplitude	Angle	Amplitude	Angle	Amplitude	Angle	Amplitude
-90	0.09	-44	15.41	2	99.24	48	15.76
-89	0.05	-43	14.99	3	98.31	49	15.61
-88	0.08	-42	14.42	4	97.01	50	15.37
-87	0.22	-41	13.7	5	95.36	51	15.05
-86	0.36	-40	12.82	6	93.39	52	14.67
-85	0.49	-39	11.76	7	91.09	53	14.22
-84	0.63	-38	10.53	8	88.49	54	13.73
-83	0.79	-37	9.11	9	85.62	55	13.21
-82	0.97	-36	7.51	10	82.48	56	12.64
-81	1.17	-35	5.7	11	79.12	57	12.06
-80	1.37	-34	3.7	12	75.55	58	11.45
-79	1.59	-33	1.51	13	71.8	59	10.84
-78	1.83	-32	0.89	14	67.9	60	10.22
-77	2.1	-31	3.49	15	63.88	61	9.6
-76	2.39	-30	6.28	16	59.76	62	8.98
-75	2.7	-29	9.27	17	55.58	63	8.38
-74	3.04	-28	12.44	18	51.37	64	7.79
-73	3.4	-27	15.78	19	47.13	65	7.21
-72	3.79	-26	19.3	20	42.92	66	6.66
-71	4.21	-25	22.96	21	38.74	67	6.12
-70	4.64	-24	26.77	22	34.63	68	5.61
-69	5.11	-23	30.7	23	30.61	69	5.12
-68	5.6	-22	34.73	24	26.69	70	4.67
-67	6.12	-21	38.85	25	22.89	71	4.23
-66	6.66	-20	43.03	26	19.23	72	3.82
-65	7.22	-19	47.25	27	15.73	73	3.44
-64	7.8	-18	51.49	28	12.39	74	3.08
-63	8.4	-17	55.71	29	9.23	75	2.76
-62	9.01	-16	59.89	30	6.26	76	2.45
-61	9.63	-15	64.01	31	3.48	77	2.17
-60	10.26	-14	68.03	32	0.89	78	1.9
-59	10.88	-13	71.93	33	1.5	79	1.66
-58	11.5	-12	75.68	34	3.69	80	1.45
-57	12.11	-11	79.25	35	5.68	81	1.25
-56	12.7	-10	82.6	36	7.47	82	1.06
-55	13.27	-9	85.73	37	9.07	83	0.88
-54	13.8	-8	88.6	38	10.48	84	0.72
-53	14.29	-7	91.19	39	11.71	85	0.59
-52	14.74	-6	93.47	40	12.75	86	0.46
-51	15.12	-5	95.44	41	13.63	87	0.32
-50	15.44	-4	97.07	42	14.35	88	0.18
-49	15.68	-3	98.35	43	14.91	89	0.07
-48	15.84	-2	99.27	44	15.33	90	0.03
-47	15.9	-1	99.82	45	15.62		
-46	15.86	0	100	46	15.78		
-45	15.7	1	99.81	47	15.82		

Frequency: Band II (mid-band)

Model: J3YF-3
Description: FM Yagi Antenna
Notes: Vertical Polarization