

DELAWDER COMMUNICATIONS, INC.

P.O. Box 1095
Ashburn, Virginia 20146-1095
(703) 299-9222

ENGINEERING REPORT

K269GS, Houston, TX, Channel 269D Minor Mod

ENGINEERING STATEMENT

PROTECTION TO KMJQ AND KLOL

All contour non-overlap protection requirements are met with the exception of KMJQ, Houston, TX (271C) and KLOL, Houston, TX (266C), discussed below.

KMJQ (29 kilometers at 255 degrees True) and KLOL (30 kilometers at 256 degrees True) are second/third adjacent-channel to the proposed channel 269D facility. The 60 dBu F50,50 service contour of each extends well beyond the proposed 269D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KMJQ or KLOL.

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 KMJQ at the proposed 269D transmitter site is at least 87 dBu (the “desired” signal of KMJQ). The F50,50 signal strength from KLOL at the proposed 269D transmitter site is also at least 87 dBu (the other “desired” signal of KLOL). 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 KMJQ and KLOL from the proposed 269D facility is a signal of greater than or equal to 127 dBu.

The bottom of the proposed Scala HDCA-5CP skewed (single bay in vertical plane) antenna is 67 meters above ground level. The attached table (requested for use by the FCC for these studies) demonstrates that the 127 dBu interference signal is predicted to be at least 48 meters above ground level. (A vertical plane pattern tabulation is also attached.) Therefore, KMJQ and KLOL are both adequately protected by the proposed facility.

74.1204(d) Showing

Houston, Texas Channel 269D (K269GS)

ERP (kw) 0.25
 Height of Antenna above Ground (m) 67
 Translator's IX Contour 127

<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	0.2500	49.5416	67.000
5	0.986	0.2430	48.8480	62.743
10	0.966	0.2333	47.8572	58.690
15	0.928	0.2153	45.9746	55.101
20	0.871	0.1897	43.1507	52.242
25	0.802	0.1608	39.7324	50.208
30	0.727	0.1321	36.0167	48.992
35	0.643	0.1034	31.8552	48.729
40	0.553	0.0765	27.3965	49.390
45	0.458	0.0524	22.6901	50.956
50	0.363	0.0329	17.9836	53.224
55	0.278	0.0193	13.7726	55.718
60	0.203	0.0103	10.0569	58.290
65	0.15	0.0056	7.4312	60.265
70	0.138	0.0048	6.8367	60.576
75	0.134	0.0045	6.6386	60.588
80	0.141	0.0050	6.9854	60.121
85	0.153	0.0059	7.5799	59.449
90	0.157	0.0062	7.7780	59.222

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

FIGURE EE1 (Page 1 of 2)

Antenna: HDCA-5CP

Vertical Pattern for C-Pol Antenna

Azimuth	Field	Rel.dB	dBd	Pwr Gain
0	1.000	0.0	4.5	2.818
1	0.997	-0.0	4.5	2.818
2	0.994	-0.0	4.5	2.818
3	0.992	-0.1	4.4	2.754
4	0.989	-0.1	4.4	2.754
5	0.986	-0.1	4.4	2.754
6	0.982	-0.2	4.3	2.692
7	0.978	-0.2	4.3	2.692
8	0.974	-0.2	4.3	2.692
9	0.970	-0.3	4.2	2.630
10	0.966	-0.3	4.2	2.630
11	0.958	-0.4	4.1	2.570
12	0.951	-0.4	4.1	2.570
13	0.943	-0.5	4.0	2.512
14	0.935	-0.6	3.9	2.455
15	0.928	-0.7	3.8	2.399
16	0.916	-0.8	3.7	2.344
17	0.905	-0.9	3.6	2.291
18	0.894	-1.0	3.5	2.239
19	0.882	-1.1	3.4	2.188
20	0.871	-1.2	3.3	2.138
21	0.857	-1.3	3.2	2.089
22	0.843	-1.5	3.0	1.995
23	0.830	-1.6	2.9	1.950
24	0.816	-1.8	2.7	1.862
25	0.802	-1.9	2.6	1.820
26	0.787	-2.1	2.4	1.738
27	0.772	-2.2	2.3	1.698
28	0.757	-2.4	2.1	1.622
29	0.742	-2.6	1.9	1.549
30	0.727	-2.8	1.7	1.479
31	0.710	-3.0	1.5	1.413
32	0.693	-3.2	1.3	1.349
33	0.677	-3.4	1.1	1.288
34	0.660	-3.6	0.9	1.230
35	0.643	-3.8	0.7	1.175
36	0.625	-4.1	0.4	1.096
37	0.607	-4.3	0.2	1.047
38	0.589	-4.6	-0.1	0.977
39	0.571	-4.9	-0.4	0.912
40	0.553	-5.1	-0.6	0.871
41	0.534	-5.4	-0.9	0.813
42	0.515	-5.8	-1.3	0.741
43	0.496	-6.1	-1.6	0.692
44	0.477	-6.4	-1.9	0.646
45	0.458	-6.8	-2.3	0.589

FIGURE EE1 (Page 2 of 2)

Antenna: HDCA-5CP

Vertical Pattern for C-Pol Antenna

Azimuth	Field	Rel.dB	dBd	Pwr Gain
46	0.439	-7.2	-2.7	0.537
47	0.420	-7.5	-3.0	0.501
48	0.401	-7.9	-3.4	0.457
49	0.382	-8.4	-3.9	0.407
50	0.363	-8.8	-4.3	0.372
51	0.346	-9.2	-4.7	0.339
52	0.329	-9.6	-5.1	0.309
53	0.312	-10.1	-5.6	0.275
54	0.295	-10.6	-6.1	0.245
55	0.278	-11.1	-6.6	0.219
56	0.263	-11.6	-7.1	0.195
57	0.248	-12.1	-7.6	0.174
58	0.233	-12.6	-8.1	0.155
59	0.218	-13.2	-8.7	0.135
60	0.203	-13.8	-9.3	0.117
61	0.193	-14.3	-9.8	0.105
62	0.182	-14.8	-10.3	0.093
63	0.171	-15.3	-10.8	0.083
64	0.161	-15.9	-11.4	0.072
65	0.150	-16.5	-12.0	0.063
66	0.148	-16.6	-12.1	0.062
67	0.145	-16.8	-12.3	0.059
68	0.143	-16.9	-12.4	0.058
69	0.141	-17.0	-12.5	0.056
70	0.138	-17.2	-12.7	0.054
71	0.138	-17.2	-12.7	0.054
72	0.137	-17.3	-12.8	0.052
73	0.136	-17.3	-12.8	0.052
74	0.135	-17.4	-12.9	0.051
75	0.134	-17.4	-12.9	0.051
76	0.136	-17.3	-12.8	0.052
77	0.137	-17.3	-12.8	0.052
78	0.138	-17.2	-12.7	0.054
79	0.140	-17.1	-12.6	0.055
80	0.141	-17.0	-12.5	0.056
81	0.143	-16.9	-12.4	0.058
82	0.146	-16.7	-12.2	0.060
83	0.148	-16.6	-12.1	0.062
84	0.150	-16.5	-12.0	0.063
85	0.153	-16.3	-11.8	0.066
86	0.153	-16.3	-11.8	0.066
87	0.154	-16.2	-11.7	0.068
88	0.155	-16.2	-11.7	0.068
89	0.156	-16.1	-11.6	0.069
90	0.157	-16.1	-11.6	0.069