

DELAWDER COMMUNICATIONS, INC.

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ENGINEERING REPORT

K238BZ, Schertz, TX, Channel 238D Site-move Minor Mod

ENGINEERING STATEMENT

PROTECTION TO KMYO AND KXXM

All contour non-overlap protection requirements are met with the exception of stations KMYO, Comfort, TX (236C1) and KXXM, San Antonio, TX (241C1), discussed below.

KMYO (45 kilometers at 282 degrees True from the translator site) is second adjacent-channel to the proposed channel 238D facility. KXXM (30 kilometers at 289 degrees True from the translator site) is third adjacent-channel to the proposed channel 238D facility. The 60 dBu F50,50 service contours of these stations extend beyond the proposed 238D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KMYO or KXXM.

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 KMYO at the proposed 228D transmitter site is at least 70 dBu (the “desired” KMYO signal). The F50,50 signal strength from KXXM at the proposed 228D transmitter site is at least 76 dBu (the “desired” KXXM 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 worst-case interference to KMYO and KXXM from the proposed 228D facility is a signal of greater than or equal to 110 dBu.

The centerline for the proposed Scala CA5-FM/CP 2-bay (0.87 wavelength spaced) antenna is 70 meters above ground level. The attached table (requested for use by the FCC for these studies) demonstrates that the 110 dBu interference signal is predicted to be at least 2 meters above ground level. (A vertical plane pattern is also attached.) There are no tall buildings near the site. The 6.9 meters clearance to ground level will protect persons in the two-story homes near the site. Therefore, KMYO and KXXM are adequately protected by the proposed facility.

74.1204(d) Showing

K238BZ, Schertz, TX 238D

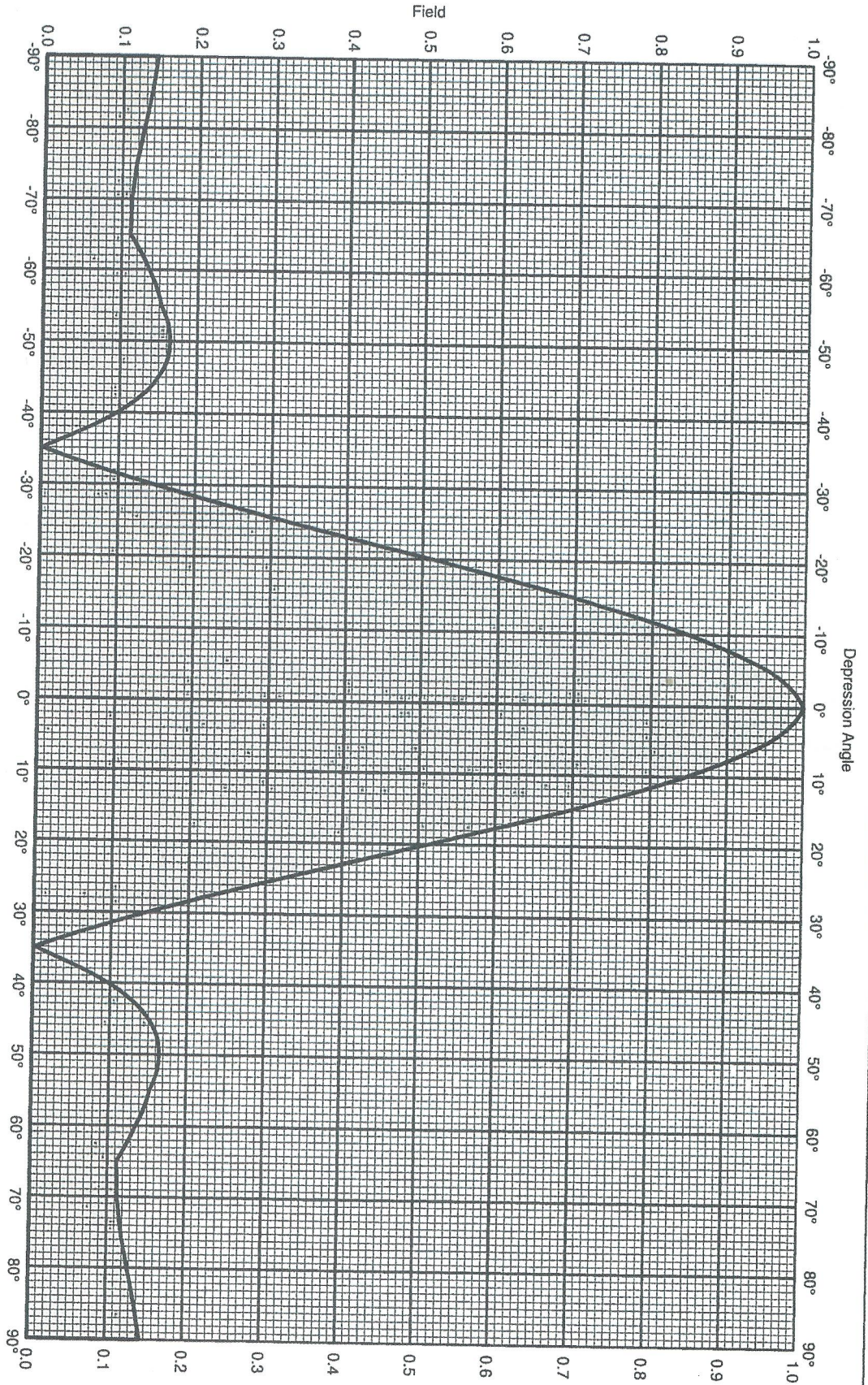
ERP (kw)
Height of Antenna above Ground (m)
Translator's IX Contour

0.25
70
110

Scala CA5-FMCP two bay (0.87 wl spaced)

<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	350.7276	70.000
5	0.955	0.2280	334.9449	40.808
10	0.847	0.1794	297.0663	18.415
15	0.695	0.1208	243.7557	6.911
20	0.514	0.0660	180.2740	8.343
25	0.321	0.0258	112.5836	22.420
30	0.146	0.0053	51.2062	44.397
35	0.01	0.0000	3.5073	67.988
40	0.098	0.0024	34.3713	47.907
45	0.15	0.0056	52.6091	32.800
50	0.164	0.0067	57.5193	25.938
55	0.153	0.0059	53.6613	26.043
60	0.136	0.0046	47.6990	28.691
65	0.112	0.0031	39.2815	34.399
70	0.113	0.0032	39.6322	32.758
75	0.118	0.0035	41.3859	30.024
80	0.128	0.0041	44.8931	25.789
85	0.137	0.0047	48.0497	22.133
90	0.144	0.0052	50.5048	19.495

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



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Two CA5-FM/CP/KM/50N Yagi Antennas
 Frequency: 103.7 MHz
 Gain: 8.5 dBd (x 7.07)
 Circular Polarization

Vertical stacked 0.87 wavelength
 Vertical plane Pattern



Two CA5-FM/CP/RM/50N Yagi Antennas

Frequency: 103.7 MHz

Gain: 8.5 dBd (x 7.07)

Circular Polarization

Vertical stacked 0.87 wavelength

Vertical plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	8.50	7.08	45	0.150	-16.49	-7.99	0.16
1	0.995	-0.04	8.46	7.01	46	0.156	-16.15	-7.65	0.17
2	0.988	-0.10	8.40	6.92	47	0.160	-15.91	-7.41	0.18
3	0.979	-0.18	8.32	6.79	48	0.163	-15.76	-7.26	0.19
4	0.968	-0.28	8.22	6.63	49	0.164	-15.68	-7.18	0.19
5	0.955	-0.40	8.10	6.45	50	0.164	-15.68	-7.18	0.19
6	0.937	-0.57	7.93	6.21	51	0.164	-15.68	-7.18	0.19
7	0.917	-0.75	7.75	5.95	52	0.163	-15.75	-7.25	0.19
8	0.895	-0.96	7.54	5.68	53	0.161	-15.88	-7.38	0.18
9	0.872	-1.19	7.31	5.38	54	0.157	-16.07	-7.57	0.18
10	0.847	-1.44	7.06	5.08	55	0.153	-16.32	-7.82	0.17
11	0.819	-1.73	6.77	4.75	56	0.151	-16.44	-7.94	0.16
12	0.790	-2.05	6.45	4.42	57	0.148	-16.60	-8.10	0.15
13	0.759	-2.39	6.11	4.08	58	0.144	-16.80	-8.30	0.15
14	0.728	-2.76	5.74	3.75	59	0.140	-17.05	-8.55	0.14
15	0.695	-3.16	5.34	3.42	60	0.136	-17.34	-8.84	0.13
16	0.660	-3.61	4.89	3.08	61	0.132	-17.60	-9.10	0.12
17	0.624	-4.09	4.41	2.76	62	0.127	-17.90	-9.40	0.11
18	0.588	-4.61	3.89	2.45	63	0.122	-18.24	-9.74	0.11
19	0.551	-5.17	3.33	2.15	64	0.117	-18.62	-10.12	0.10
20	0.514	-5.77	2.73	1.87	65	0.112	-19.05	-10.55	0.09
21	0.475	-6.47	2.03	1.60	66	0.112	-19.02	-10.52	0.09
22	0.436	-7.21	1.29	1.34	67	0.112	-18.99	-10.49	0.09
23	0.397	-8.02	0.48	1.12	68	0.113	-18.97	-10.47	0.09
24	0.359	-8.90	-0.40	0.91	69	0.113	-18.97	-10.47	0.09
25	0.321	-9.86	-1.36	0.73	70	0.113	-18.97	-10.47	0.09
26	0.284	-10.93	-2.43	0.57	71	0.114	-18.87	-10.37	0.09
27	0.248	-12.12	-3.62	0.43	72	0.115	-18.78	-10.28	0.09
28	0.213	-13.45	-4.95	0.32	73	0.116	-18.69	-10.19	0.10
29	0.179	-14.96	-6.46	0.23	74	0.117	-18.61	-10.11	0.10
30	0.146	-16.73	-8.23	0.15	75	0.118	-18.54	-10.04	0.10
31	0.114	-18.88	-10.38	0.09	76	0.120	-18.39	-9.89	0.10
32	0.083	-21.58	-13.08	0.05	77	0.122	-18.26	-9.76	0.11
33	0.055	-25.26	-16.76	0.02	78	0.124	-18.13	-9.63	0.11
34	0.027	-31.23	-22.73	0.01	79	0.126	-18.00	-9.50	0.11
35	0.010	-40.00	-31.50	0.00	80	0.128	-17.89	-9.39	0.12
36	0.022	-33.27	-24.77	0.00	81	0.130	-17.75	-9.25	0.12
37	0.044	-27.23	-18.73	0.01	82	0.131	-17.62	-9.12	0.12
38	0.063	-23.95	-15.45	0.03	83	0.133	-17.50	-9.00	0.13
39	0.082	-21.78	-13.28	0.05	84	0.135	-17.38	-8.88	0.13
40	0.098	-20.20	-11.70	0.07	85	0.137	-17.26	-8.76	0.13
41	0.112	-19.03	-10.53	0.09	86	0.139	-17.16	-8.66	0.14
42	0.124	-18.13	-9.63	0.11	87	0.140	-17.07	-8.57	0.14
43	0.134	-17.43	-8.93	0.13	88	0.142	-16.98	-8.48	0.14
44	0.143	-16.89	-8.39	0.14	89	0.143	-16.89	-8.39	0.14
					90	0.144	-16.81	-8.31	0.15