



B. W. St. Clair

ENGINEERING STATEMENT IN SUPPORT OF THE
APPLICATION OF KETCHIKAN TV, LLC, KUDB TO MODIFY
TO DIGITAL OPERATION.

Introduction

This application is to replace an expired CP (BPCDT-19991029AHO).

Environmental Assessment

The station is currently operating under the authority of an "STA" with the antenna on a mast on the roof of a building and the transmitter in the building. The permanently constructed station will be at the same location and continue to use a mast at the same location. While the mast will be slightly longer there is no construction involved.

The antenna is mounted near the center of a flat roof and is situated so that non-ionizing radiation is of concern only when personnel are on the roof. Access to the roof is not available to the public. A safety placard will be posted at the entrance to the roof outlining the precautions to be taken by occupational personnel going on the roof.

Required Coverage of the Principal Community

The 43 dBμ F50/90 contour encompasses the principal community of Ketchikan, AK. This is demonstrated in the attached contour plot.

Covered Population

The population associated with the application is 13,520 compared to 13,997 for the Appendix B parameters. The population for the application is 477 lower or a 3.4% reduction.

Allocation Considerations

The application specifies the channel in Appendix B and closely matches the other parameters except for the reduction in ERP. With the proposed changes the new outgoing interference contour is inside the original except over an arc from 160° to 200°. There are

no stations in this arc within the culling distances specified in OET Bul 69. In addition a "Longley-Rice Terrain Dependent " analysis in accordance with OET Bul. 69 shows no interference to any full service analog or digital station including Canadian stations.

Comparison of noise Limited Contours

The attached plot of the noise limited contours shows that for the most part the contour corresponding to the application is contained within that corresponding to the Appendix B parameters. The exception is along the arc from 165° to 195°. The greatest excursion is at 180° where the application contour is outside by 4.6 km (2.9 miles) The five mile excess distance requirement is met.

Protected Installations

The two closest FCC monitoring stations at Ferndale, WN and Kenai, AK are substantially beyond the suggested culling distance. There are no radio astronomy installations that need to be considered.

Consultant's Declaration

This "Engineering Statement" is based on information supplied by the antenna manufacturer and the applicant. Interference determinations were made using software based on OET Bulletin 69 and the year 2000 census. Plots were prepared using V-soft Probe III software. The results and statements presented herein are true and correct to the best of my knowledge and belief.

Respectfully submitted



Engineering consultant
April 4, 2011

KUBD-DT

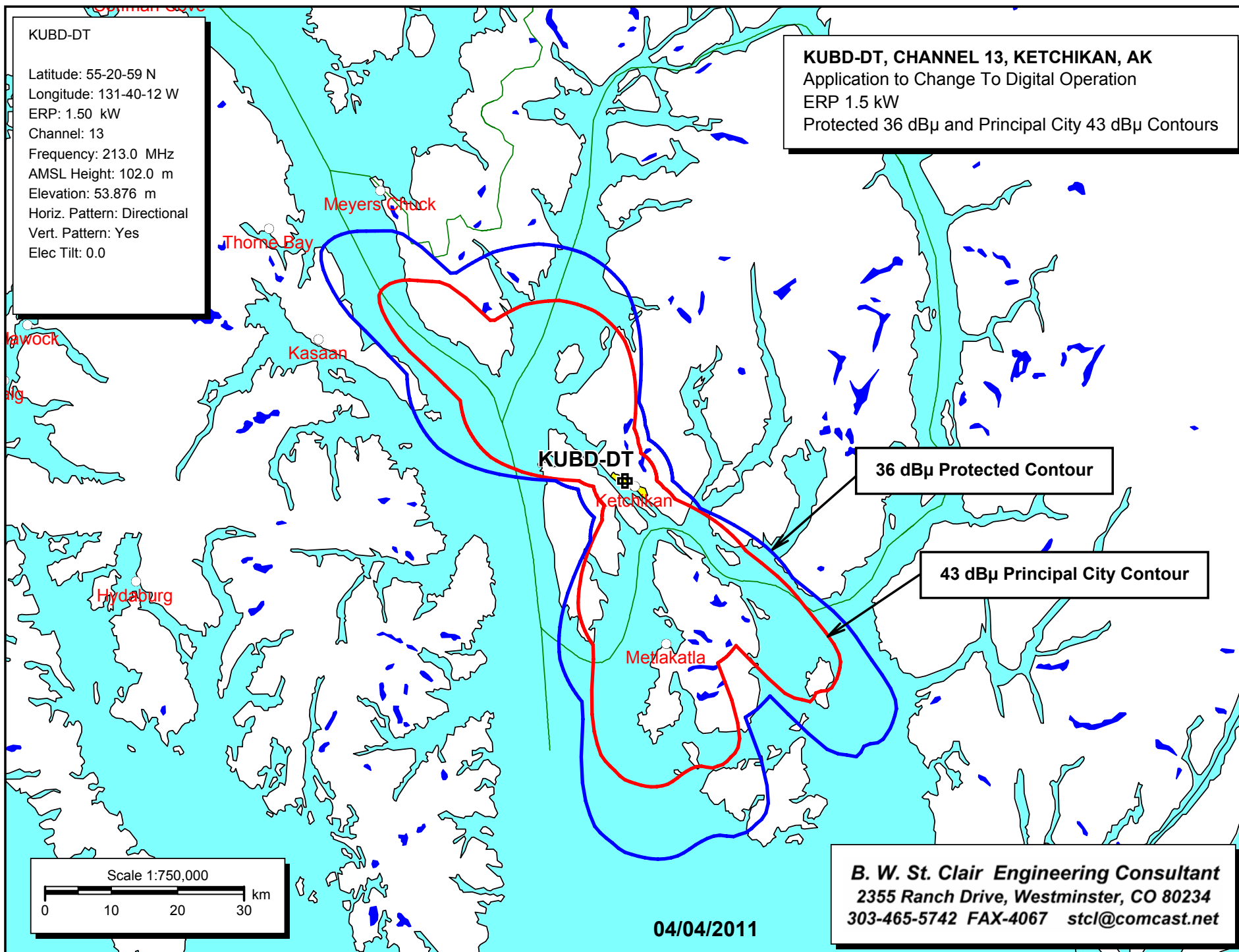
Latitude: 55-20-59 N
Longitude: 131-40-12 W
ERP: 1.50 kW
Channel: 13
Frequency: 213.0 MHz
AMSL Height: 102.0 m
Elevation: 53.876 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.0

KUBD-DT, CHANNEL 13, KETCHIKAN, AK

Application to Change To Digital Operation

ERP 1.5 kW

Protected 36 dBμ and Principal City 43 dBμ Contours



36 dBμ Protected Contour

43 dBμ Principal City Contour

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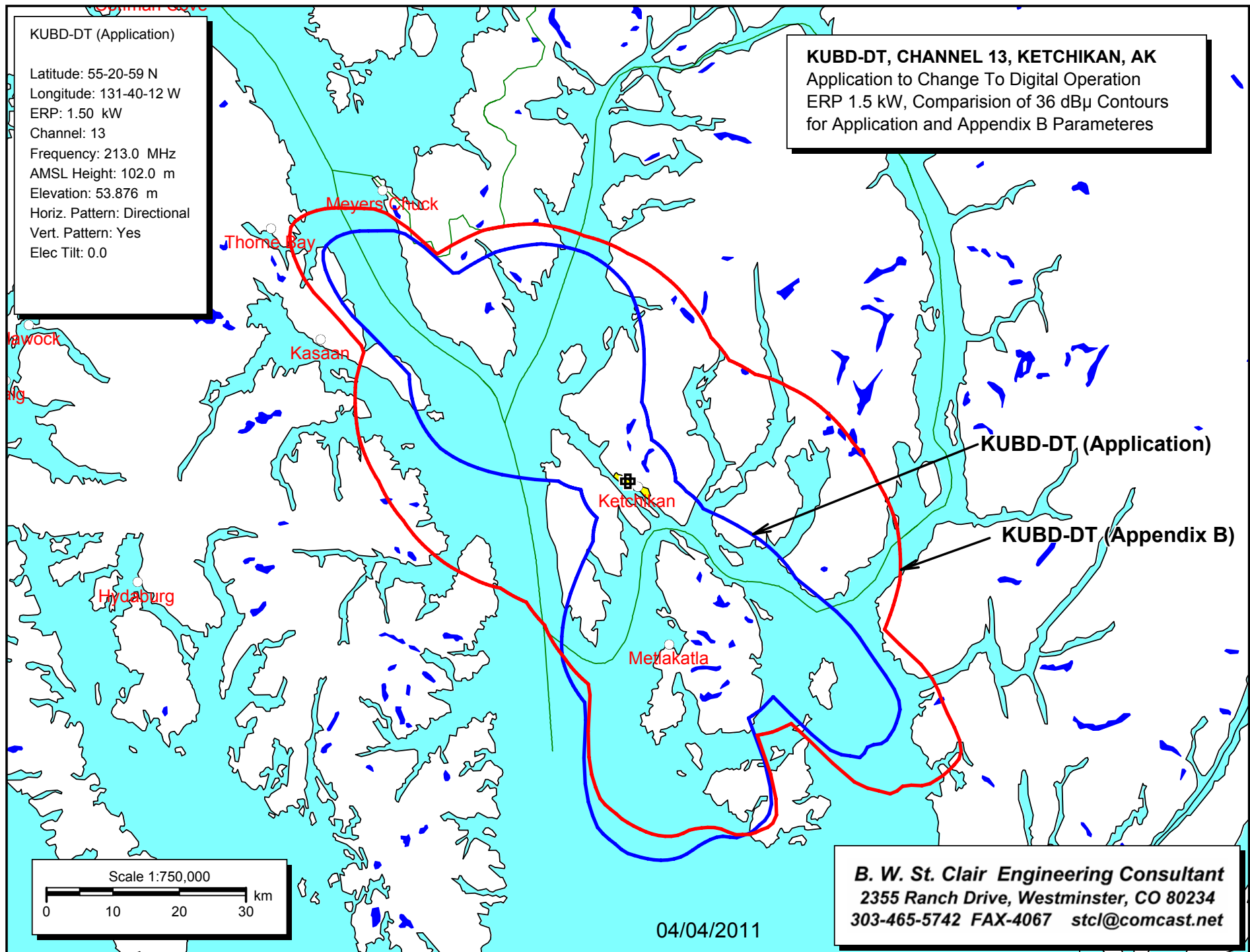
2355 Ranch Drive, Westminster, CO 80234

303-465-5742 FAX-4067 stcl@comcast.net

KUBD-DT (Application)

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KUBD-DT, CHANNEL 13, KETCHIKAN, AK
Application to Change To Digital Operation
ERP 1.5 kW, Comparison of 36 dBμ Contours
for Application and Appendix B Parameters



KUBD-DT (Application)

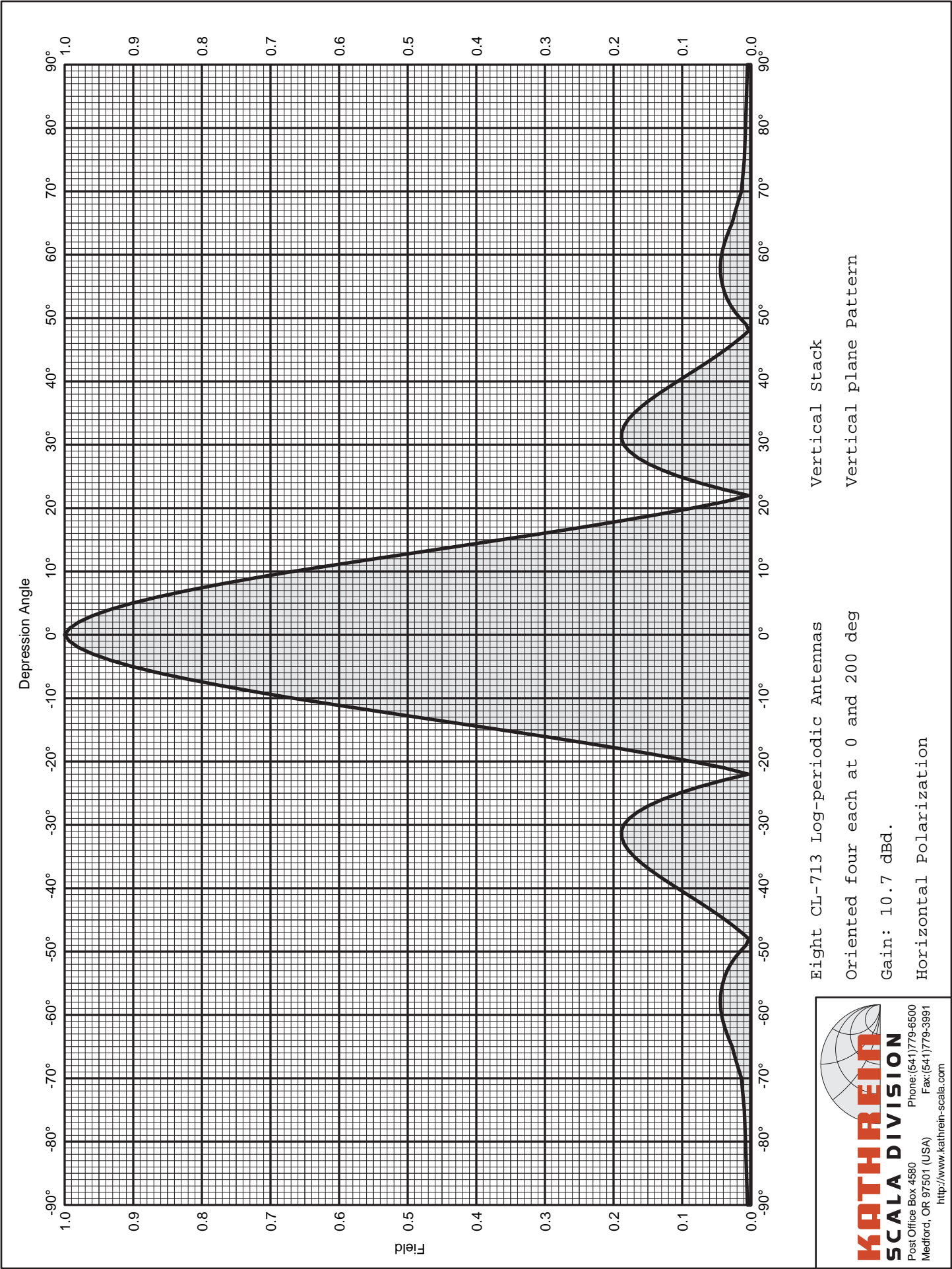
KUBD-DT (Appendix B)

Scale 1:750,000

0 10 20 30 km

04/04/2011

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Eight CL-713 Log-periodic Antennas
 Oriented four each at 0 and 200 deg
 Gain: 10.7 dBd.
 Horizontal Polarization

Vertical Stack
 Vertical plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.010	-40.00	-29.30	0.00	-45	0.037	-28.64	-17.94	0.02
-89	0.010	-40.00	-29.30	0.00	-44	0.050	-26.00	-15.30	0.03
-88	0.010	-40.00	-29.30	0.00	-43	0.064	-23.90	-13.20	0.05
-87	0.010	-40.00	-29.30	0.00	-42	0.078	-22.16	-11.46	0.07
-86	0.010	-40.00	-29.30	0.00	-41	0.092	-20.69	-9.99	0.10
-85	0.010	-40.00	-29.30	0.00	-40	0.107	-19.43	-8.73	0.13
-84	0.010	-40.00	-29.30	0.00	-39	0.121	-18.34	-7.64	0.17
-83	0.010	-40.00	-29.30	0.00	-38	0.135	-17.40	-6.70	0.21
-82	0.010	-40.00	-29.30	0.00	-37	0.148	-16.60	-5.90	0.26
-81	0.010	-40.00	-29.30	0.00	-36	0.160	-15.93	-5.23	0.30
-80	0.010	-40.00	-29.30	0.00	-35	0.170	-15.39	-4.69	0.34
-79	0.010	-40.00	-29.30	0.00	-34	0.178	-14.97	-4.27	0.37
-78	0.010	-40.00	-29.30	0.00	-33	0.185	-14.68	-3.98	0.40
-77	0.010	-40.00	-29.30	0.00	-32	0.188	-14.52	-3.82	0.42
-76	0.010	-40.00	-29.30	0.00	-31	0.188	-14.50	-3.80	0.42
-75	0.010	-40.00	-29.30	0.00	-30	0.185	-14.64	-3.94	0.40
-74	0.010	-39.77	-29.07	0.00	-29	0.177	-15.03	-4.33	0.37
-73	0.011	-39.08	-28.38	0.00	-28	0.165	-15.63	-4.93	0.32
-72	0.012	-38.44	-27.74	0.00	-27	0.149	-16.51	-5.81	0.26
-71	0.013	-37.86	-27.16	0.00	-26	0.129	-17.78	-7.08	0.20
-70	0.014	-37.34	-26.64	0.00	-25	0.105	-19.62	-8.92	0.13
-69	0.017	-35.64	-24.94	0.00	-24	0.075	-22.46	-11.76	0.07
-68	0.019	-34.26	-23.56	0.00	-23	0.042	-27.60	-16.90	0.02
-67	0.022	-33.11	-22.41	0.01	-22	0.010	-40.00	-29.30	0.00
-66	0.025	-32.14	-21.44	0.01	-21	0.039	-28.25	-17.55	0.02
-65	0.027	-31.33	-20.63	0.01	-20	0.085	-21.39	-10.69	0.09
-64	0.031	-30.15	-19.45	0.01	-19	0.135	-17.38	-6.68	0.21
-63	0.035	-29.20	-18.50	0.01	-18	0.189	-14.49	-3.79	0.42
-62	0.038	-28.44	-17.74	0.02	-17	0.245	-12.22	-1.52	0.70
-61	0.041	-27.85	-17.15	0.02	-16	0.304	-10.36	0.34	1.08
-60	0.043	-27.42	-16.72	0.02	-15	0.364	-8.77	1.93	1.56
-59	0.044	-27.17	-16.47	0.02	-14	0.425	-7.43	3.27	2.12
-58	0.044	-27.08	-16.38	0.02	-13	0.487	-6.26	4.44	2.78
-57	0.044	-27.13	-16.43	0.02	-12	0.548	-5.23	5.47	3.53
-56	0.043	-27.36	-16.66	0.02	-11	0.608	-4.32	6.38	4.35
-55	0.041	-27.79	-17.09	0.02	-10	0.668	-3.51	7.19	5.23
-54	0.038	-28.38	-17.68	0.02	-9	0.722	-2.83	7.87	6.12
-53	0.034	-29.29	-18.59	0.01	-8	0.773	-2.24	8.46	7.02
-52	0.029	-30.64	-19.94	0.01	-7	0.820	-1.72	8.98	7.91
-51	0.023	-32.70	-22.00	0.01	-6	0.863	-1.27	9.43	8.76
-50	0.016	-36.06	-25.36	0.00	-5	0.902	-0.90	9.80	9.55
-49	0.010	-40.00	-29.30	0.00	-4	0.934	-0.60	10.10	10.24
-48	0.010	-40.00	-29.30	0.00	-3	0.960	-0.36	10.34	10.82
-47	0.013	-37.50	-26.80	0.00	-2	0.980	-0.18	10.52	11.28
-46	0.025	-32.12	-21.42	0.01	-1	0.993	-0.06	10.64	11.59
					0	1.000	0.00	10.70	11.75



Eight CL-713 Log-periodic Antennas
 Oriented four each at 0 and 200 deg
 Gain: 10.7 dBd.
 Horizontal Polarization

Vertical Stack
 Vertical plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	10.70	11.75	45	0.037	-28.64	-17.94	0.02
1	0.993	-0.06	10.64	11.59	46	0.025	-32.12	-21.42	0.01
2	0.980	-0.18	10.52	11.28	47	0.013	-37.50	-26.80	0.00
3	0.960	-0.36	10.34	10.82	48	0.010	-40.00	-29.30	0.00
4	0.934	-0.60	10.10	10.24	49	0.010	-40.00	-29.30	0.00
5	0.902	-0.90	9.80	9.55	50	0.016	-36.06	-25.36	0.00
6	0.864	-1.27	9.43	8.76	51	0.023	-32.70	-22.00	0.01
7	0.820	-1.72	8.98	7.91	52	0.029	-30.65	-19.95	0.01
8	0.773	-2.24	8.46	7.02	53	0.034	-29.29	-18.59	0.01
9	0.722	-2.83	7.87	6.12	54	0.038	-28.38	-17.68	0.02
10	0.668	-3.51	7.19	5.24	55	0.041	-27.79	-17.09	0.02
11	0.608	-4.32	6.38	4.35	56	0.043	-27.36	-16.66	0.02
12	0.548	-5.23	5.47	3.53	57	0.044	-27.13	-16.43	0.02
13	0.487	-6.26	4.44	2.78	58	0.044	-27.08	-16.38	0.02
14	0.425	-7.43	3.27	2.12	59	0.044	-27.17	-16.47	0.02
15	0.364	-8.77	1.93	1.56	60	0.043	-27.42	-16.72	0.02
16	0.304	-10.36	0.34	1.08	61	0.041	-27.85	-17.15	0.02
17	0.245	-12.22	-1.52	0.70	62	0.038	-28.44	-17.74	0.02
18	0.189	-14.49	-3.79	0.42	63	0.035	-29.20	-18.50	0.01
19	0.135	-17.38	-6.68	0.21	64	0.031	-30.15	-19.45	0.01
20	0.085	-21.39	-10.69	0.09	65	0.027	-31.33	-20.63	0.01
21	0.039	-28.24	-17.54	0.02	66	0.025	-32.14	-21.44	0.01
22	0.010	-40.00	-29.30	0.00	67	0.022	-33.11	-22.41	0.01
23	0.042	-27.60	-16.90	0.02	68	0.019	-34.26	-23.56	0.00
24	0.075	-22.46	-11.76	0.07	69	0.017	-35.64	-24.94	0.00
25	0.104	-19.62	-8.92	0.13	70	0.014	-37.34	-26.64	0.00
26	0.129	-17.78	-7.08	0.20	71	0.013	-37.86	-27.16	0.00
27	0.149	-16.51	-5.81	0.26	72	0.012	-38.44	-27.74	0.00
28	0.165	-15.63	-4.93	0.32	73	0.011	-39.08	-28.38	0.00
29	0.177	-15.03	-4.33	0.37	74	0.010	-39.77	-29.07	0.00
30	0.185	-14.64	-3.94	0.40	75	0.010	-40.00	-29.30	0.00
31	0.188	-14.50	-3.80	0.42	76	0.010	-40.00	-29.30	0.00
32	0.188	-14.52	-3.82	0.42	77	0.010	-40.00	-29.30	0.00
33	0.185	-14.68	-3.98	0.40	78	0.010	-40.00	-29.30	0.00
34	0.178	-14.97	-4.27	0.37	79	0.010	-40.00	-29.30	0.00
35	0.170	-15.39	-4.69	0.34	80	0.010	-40.00	-29.30	0.00
36	0.160	-15.93	-5.23	0.30	81	0.010	-40.00	-29.30	0.00
37	0.148	-16.60	-5.90	0.26	82	0.010	-40.00	-29.30	0.00
38	0.135	-17.40	-6.70	0.21	83	0.010	-40.00	-29.30	0.00
39	0.121	-18.34	-7.64	0.17	84	0.010	-40.00	-29.30	0.00
40	0.107	-19.43	-8.73	0.13	85	0.010	-40.00	-29.30	0.00
41	0.092	-20.69	-9.99	0.10	86	0.010	-40.00	-29.30	0.00
42	0.078	-22.16	-11.46	0.07	87	0.010	-40.00	-29.30	0.00
43	0.064	-23.90	-13.20	0.05	88	0.010	-40.00	-29.30	0.00
44	0.050	-26.00	-15.30	0.03	89	0.010	-40.00	-29.30	0.00
					90	0.010	-40.00	-29.30	0.00