

RF HAZARD STATEMENT  
APPLICATION FOR CONSTRUCTION PERMIT  
KTVF-LD, FAIRBANKS, ALASKA  
CHANNEL 11, 1.85 KW (MAX-DA)

This RF Hazard Statement was prepared in regard to digital low power television station KTVF-LD, Fairbanks, Alaska. This statement concerns an evaluation of compliance with Section 1.1307(b) of the FCC Rules\* regarding human exposure to radio frequency (RF) energy.†

The proposed KTVF-LD facility will operate with the following specifications:

Center Frequency (MHz)	Maximum Effective Radiated Power (kW)	Radiation Center Height Above Ground (m)	Transmitting Antenna
201	1.85 kW	31	Kathrein-Scala model DRV-1/2HW

As indicated above the maximum effective radiated power (ERP) is 1.85 kW, which is for a horizontally-polarized transmitting antenna.

The FCC Rules outline the maximum permissible exposure (MPE) limits applicable to the above facility. Specifically, according to Section 73.1310 of the FCC Rules, the MPE limits for 201 MHz are as follows:

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\* See Rules of the United States Federal Communications Commission (FCC), generally at Title 47 of the Code of Federal Regulations (Telecommunication).

† See FCC Office of Engineering and Technology Bulletin No. 56 for background information on non-ionizing RF energy of the type discussed here. Internet web reference:  
[http://www.fcc.gov/Bureaus/Engineering\\_Technology/Documents/bulletins/oet56/oet56e4.pdf](http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf)

Frequency (MHz)	MPE for Occupational/Controlled (O/C) Exposure (mW/cm <sup>2</sup> )	MPE for General Population/Uncontrolled (GP/U) Exposure (mW/cm <sup>2</sup> )
201	1.000	0.200

The subject facility was evaluated for RF exposure at 2-m above ground level using the procedures outlined in the FCC OET Bulletin No. 65, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*<sup>‡</sup> with the following results:

Radial Distance from Base of Tower Structure (m)	Angle from Horizontal (deg)	Antenna Downward Relative Field Factor	Distance From Transmitting Antenna (m)	Calculated Power Density (uW/cm <sup>2</sup> )	Percent of GP/U MPE (%)
0	90.0	0.08	29.00	0.47	0.24
5	80.2	0.09	29.43	0.58	0.29
10	71.0	0.14	30.68	1.29	0.64
15	62.7	0.22	32.65	2.81	1.40
20	55.4	0.31	35.23	4.78	2.39
25	49.2	0.41	38.29	7.09	3.54
30	44.0	0.45	41.73	7.19	3.59
35	39.6	0.54	45.45	8.72	4.36
40	35.9	0.60	49.41	9.11	4.56
45	32.8	0.67	53.54	9.68	4.84
50	30.1	0.70	57.80	9.06	4.53
55	27.8	0.72	62.18	8.29	4.14
60	25.8	0.75	66.64	7.83	3.91
65	24.0	0.76	71.18	7.04	3.52
70	22.5	0.80	75.77	6.89	3.44
75	21.1	0.82	80.41	6.43	3.21
100	16.2	0.91	104.12	4.72	2.36

<sup>‡</sup> Federal Communications Commission, Office of Engineering and Technology, OET Bulletin No. 65, Edition 97-01, August, 1997.

As indicated above the transmitting antenna relative field factor was employed in the calculations. This factor was based on the transmitting antenna vertical plane relative field elevation pattern. The manufacturer's radiation pattern envelope for the KTVF-LD transmitting antenna is included herein as Figure 1.

The above calculations indicate that the overall RF field level at 2-m above ground level will not exceed  $9.68 \text{ uW/cm}^2$  or 4.84% of the MPE for GP/U environments.<sup>§</sup> This is below the 5% exclusion level outlined in Section 1.1307 of the FCC Rules. Therefore, the KTVF-LD facility is in compliance with the FCC RF exposure Rules.

With regard to tower workers, the licensee of KTVF-LD shall reduce power or cease the operation of the facility as necessary to protect persons having access to the tower or antenna from RF radiation in excess of the FCC guidelines.



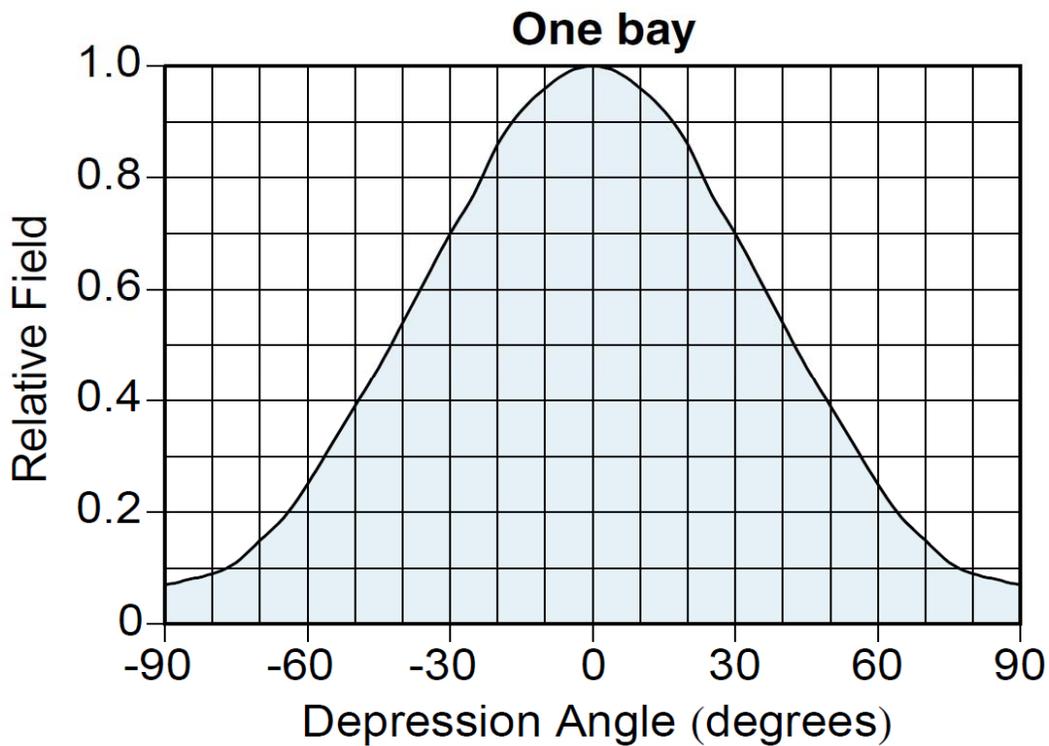
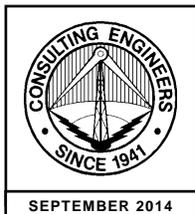
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<sup>§</sup> This is 0.97% of the MPE for O/C environments.



Kathrein-Scala model DRV-1/2HW  
Maximum gain = 4.5 dBd (2.82x)

## ELEVATION PATTERN FOR KTVF-LD FACILITY

du Treil, Lundin & Rackley, Inc. Sarasota, Florida