

Ketchikan TV, LLC  
KDMD, FID 25221,  
Channel 33, Anchorage, AK

**1. Detailed description of antenna system and its performance in accordance with §73.685.**

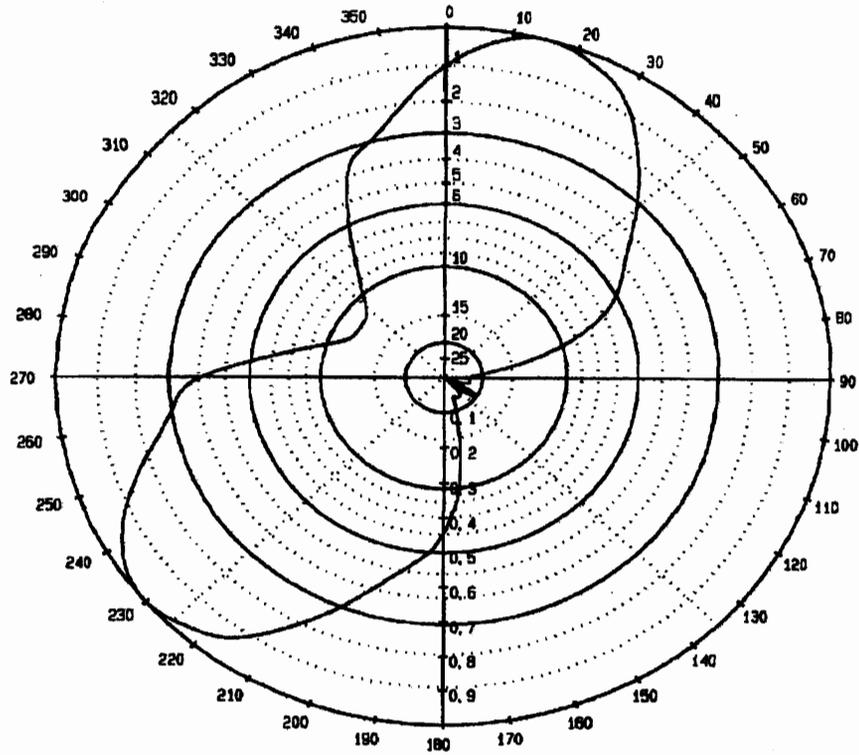
The antenna system is an array of Kathrein panels. Eight panels are oriented at 233° and eight are oriented at 13°; all are fed via a power divider harness system arranged and connected in such a way as to provide 0.5° electrical beam tilt and 5% null fill. No mechanical beam tilt is employed. Subsequent pages in this exhibit provide full technical details on the antenna system.

**Request for waiver of required 15 dB maximum to minimum ratio of antenna system.**

§73.685(e) states that the ratio of a transmitting antenna system used on channels between 14 and 69 and whose connected transmitter power exceeds 1 kW must not exceed 15 dB. The within proposal specifies an antenna whose maximum to minimum ratio exceeds 30 dB.

This panel array was appropriately selected for this transmitter location because the site is located immediately to the west of a steep clifflike mountain, the reflected signal from which could produce unpredictable ghosting and degraded reception in the desired reception area if significant power levels were radiated toward the east. Additionally, signal radiation toward the east from any antenna at this tower site does not make it past the proximal hillside. The topographical transmitter area map and the Longley-Rice signal coverage map included later in this exhibit graphically illustrate the problem.

Accordingly, waiver of the maximum to minimum radiation ratio as expressed in §73.685(e) and approval of the antenna pattern as proposed is requested.



frequency in MHz 585.250  
 down-tilt in .5  
 max / mean in dB 4.43

Maximum signal shown = 18.2dBK

<b>SCALA</b> Medford Oregon	8 x 2 K723147	Typ Nr.
	Ch: 33.	Bl.:

simulation with typical exactness of +/- 8% of max signal

**Azimuth Radiation Pattern in % and dB at downtilt: .5**

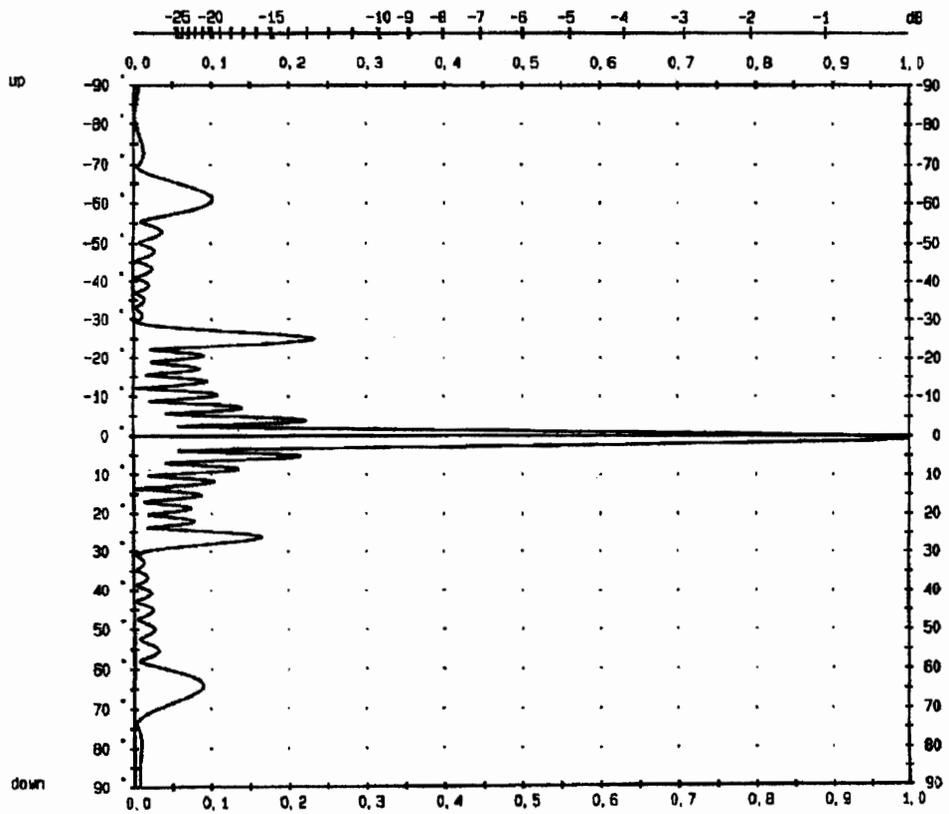
**f = 585.250MHz**

azimuth %		dB	azimuth %		dB
0	89.2	-1.0	180	44.6	-7.0
5	94.5	-.5	185	50.9	-5.9
10	98.3	-.1	190	55.5	-5.1
15	100.0	.0	195	61.0	-4.3
20	98.8	-.1	200	67.8	-3.4
25	96.3	-.3	205	75.4	-2.5
30	92.2	-.7	210	83.4	-1.6
35	85.0	-1.4	215	91.0	-.8
40	77.0	-2.3	220	95.7	-.4
45	69.3	-3.2	225	98.4	-.1
50	62.2	-4.1	230	100.0	.0
55	56.4	-5.0	235	98.9	-.1
60	51.8	-5.7	240	95.4	-.4
65	46.0	-6.7	245	90.4	-.9
70	37.9	-8.4	250	84.3	-1.5
75	27.0	-11.4	255	77.8	-2.2
80	15.5	-16.2	260	72.3	-2.8
85	8.9	-21.0	265	68.9	-3.2
90	6.1	-24.2	270	62.4	-4.1
95	6.5	-23.8	275	50.8	-5.9
100	6.8	-23.4	280	41.1	-7.7
105	6.5	-23.8	285	34.2	-9.3
110	4.3	-27.3	290	29.2	-10.7
115	1.8	-34.9	295	26.5	-11.5
120	8.4	-21.5	300	26.0	-11.7
125	9.2	-20.7	305	25.9	-11.7
130	3.2	-29.8	310	26.3	-11.6
135	3.5	-29.1	315	28.5	-10.9
140	6.3	-24.1	320	33.1	-9.6
145	6.8	-23.4	325	39.6	-8.1
150	6.6	-23.6	330	48.6	-6.3
155	6.1	-24.3	335	60.2	-4.4
160	8.0	-21.9	340	68.1	-3.3
165	13.8	-17.2	345	71.5	-2.9
170	24.4	-12.2	350	76.6	-2.3
175	36.0	-8.9	355	83.0	-1.6
180	44.6	-7.0	360	89.2	-1.0

maximum fieldstrength was found at:  
azimuth 230.

Maximum signal shown = 18.2dBK

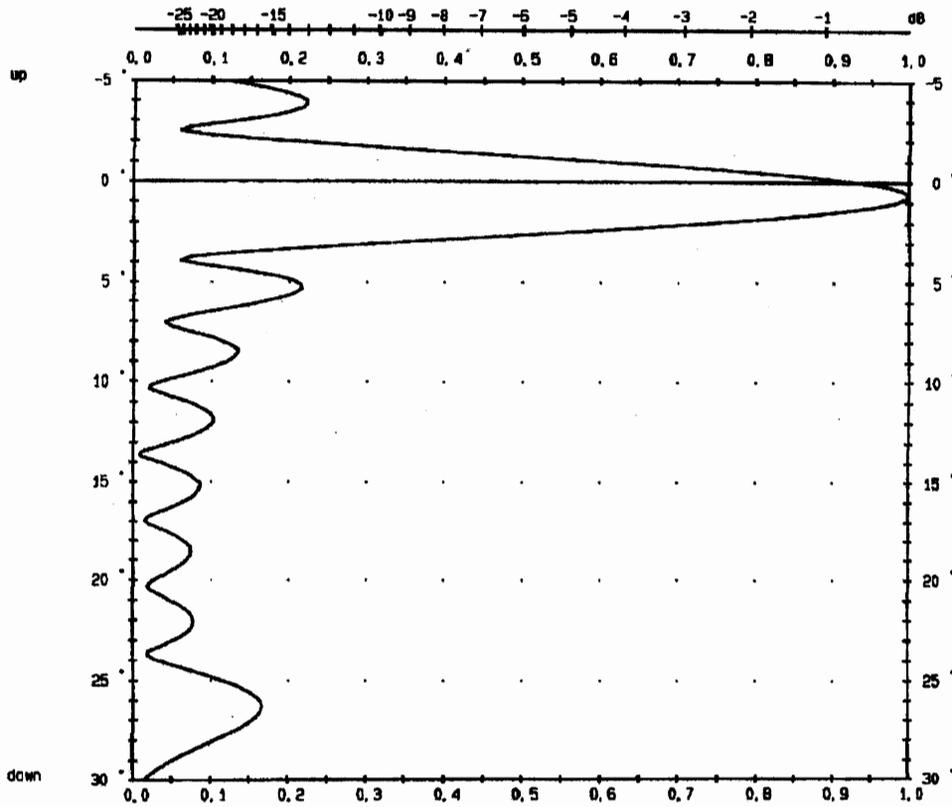
<b>SCALA</b> Medford Oregon NO 23.6. 3 15:36	8 x 2 K723147	Typ No.
	Ch: 33.	81.:



frequency in MHz 585.250  
 azimuth in ° 15.0  
 omni-dir in dBd 13.00

Maximum signal shown = 18.2dBK

<b>SCALA</b> Medford Oregon MB 23.6.3 15:35	8 x 2 K723147	Typ Nr.
	Ch: 33.	Bl.:



frequency in MHz 585.250  
 azimuth in ° 15.0  
 omni-dir in dBd

Maximum signal shown = 18.2dBK

<b>SCALA</b> Medford Oregon MB 23.6.3 15:37	8 x 2 K723147	Typ Nr.
	Ch: 33.	B1.: