

**Engineering Statement
In Support of an
Amendment to a Pending Application
KMAJ(FM), Shawnee, Kansas**

KCVK Protected/KMAJ Interfering FM Overlap Study

KCVK.A
Channel= 299
Max ERP = 2.5 kW
RCAMSL =405 M
N. Lat = 383921
W.Lng = 925427

KMAJ.A
Channel = 299
Max ERP = 90 kW
RCAMSL =565 M
N. Lat = 390045
W. Lng = 950146

Protected 60 dBu				Interfering 40 dBu				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
262.0	0.380	175.5	19.4	104.4	90.000	303.9	170.4	39.9
263.0	0.374	176.4	19.3	104.3	90.000	303.9	170.3	39.9
264.0	0.368	177.5	19.3	104.1	90.000	304.0	170.2	39.9
265.0	0.362	178.1	19.3	104.0	90.000	304.0	170.2	39.9
266.0	0.356	178.1	19.2	103.9	90.000	304.0	170.1	39.9
267.0	0.350	177.4	19.1	103.8	90.000	304.0	170.1	39.9
268.0	0.344	175.9	18.9	103.7	90.000	304.1	170.2	39.9
269.0	0.339	174.2	18.8	103.6	90.000	304.1	170.2	39.9
270.0	0.333	172.5	18.6	103.4	90.000	304.1	170.3	39.9
271.0	0.333	170.8	18.5	103.3	90.000	304.1	170.3	39.9
272.0	0.333	169.9	18.4	103.2	90.000	304.1	170.3	39.9
273.0	0.333	169.6	18.4	103.1	90.000	304.1	170.3	39.9
274.0	0.333	169.5	18.4	103.0	90.000	304.1	170.2	39.9
275.0	0.333	169.5	18.4	102.9	90.000	304.1	170.2	39.9
276.0	0.333	169.2	18.4	102.8	90.000	304.1	170.1	39.9
277.0	0.333	168.7	18.4	102.7	90.000	304.1	170.1	39.9
278.0	0.333	168.1	18.3	102.6	90.000	304.1	170.1	39.9
279.0	0.333	167.2	18.3	102.5	90.000	304.1	170.2	39.9
280.0	0.333	166.0	18.2	102.4	90.000	304.0	170.2	39.9
281.0	0.333	164.7	18.1	102.3	90.000	304.0	170.3	39.9
282.0	0.333	164.1	18.1	102.1	90.000	304.0	170.3	39.9
283.0	0.333	164.5	18.1	102.0	90.000	303.9	170.3	39.9
284.0	0.333	165.2	18.2	101.9	90.000	303.9	170.2	39.9
285.0	0.333	166.2	18.2	101.8	90.000	303.8	170.2	39.9
286.0	0.333	167.3	18.3	101.7	90.000	303.8	170.1	39.9
287.0	0.333	168.4	18.4	101.6	90.000	303.8	170.1	39.9
288.0	0.333	169.2	18.4	101.5	90.000	303.8	170.1	39.9
289.0	0.333	169.4	18.4	101.4	90.000	303.8	170.1	39.9
290.0	0.333	169.4	18.4	101.3	90.000	303.8	170.2	39.9
291.0	0.339	169.3	18.5	101.2	90.000	303.7	170.1	39.9
292.0	0.344	169.3	18.6	101.1	90.000	303.7	170.1	39.9
293.0	0.350	169.2	18.6	100.9	90.000	303.7	170.1	39.9
294.0	0.356	169.1	18.7	100.8	90.000	303.7	170.1	39.9
295.0	0.362	169.1	18.8	100.7	90.000	303.7	170.1	39.9
296.0	0.368	169.0	18.9	100.6	90.000	303.7	170.1	39.9
297.0	0.374	169.0	18.9	100.5	90.000	303.7	170.1	39.9
298.0	0.380	169.2	19.0	100.4	90.000	303.7	170.1	39.9
299.0	0.386	169.7	19.1	100.3	90.000	303.7	170.1	39.9
300.0	0.392	170.6	19.3	100.1	90.000	303.6	170.1	39.9
301.0	0.399	171.8	19.4	100.0	90.000	303.6	170.1	39.9
302.0	0.407	173.1	19.6	99.9	90.000	303.5	170.1	39.9
303.0	0.414	174.7	19.7	99.8	90.000	303.5	170.0	39.9
304.0	0.422	176.0	19.9	99.6	90.000	303.4	170.0	39.9
305.0	0.430	177.2	20.0	99.5	90.000	303.3	170.0	39.9
306.0	0.437	178.8	20.2	99.4	90.000	303.3	170.0	39.9
307.0	0.445	180.6	20.4	99.2	90.000	303.2	170.0	39.9
308.0	0.453	182.6	20.6	99.1	90.000	303.1	170.0	39.9
309.0	0.461	184.3	20.7	99.0	90.000	303.1	170.1	39.9
310.0	0.469	185.6	20.9	98.8	90.000	303.1	170.1	39.9
311.0	0.490	186.9	21.2	98.7	90.000	303.0	170.1	39.9
312.0	0.511	188.5	21.5	98.5	90.000	303.0	170.0	39.9
313.0	0.532	190.3	21.8	98.4	90.000	303.0	170.0	39.9