

RADIO & TV BROADCAST SERVICES  
**WOODS COMMUNICATIONS, INC.**  
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KWIL Directional Antenna Measurements

11/15/2021

Day Licensed Values:

Tower 1	Ratio 0.545	Phase -113 degrees
Tower 2	Ratio 1.000	Phase 0.0 degrees
Tower 3	Ratio 0.550	Phase 131 degrees

Night Licensed Values:

Tower 1	Ratio 0.667	Phase -146 degrees
Tower 2	Ratio 0.000	Phase 0.0 degrees
Tower 3	Ratio 0.670	Phase 146 degrees

Prior to adjustment readings were:

Day:

Tower 1	Ratio 0.510	Phase 115.1 degrees
Tower 3	Ratio 0.580	Phase 131.9 degrees

Night:

Tower 1	Ratio 0.660	Phase 148 degrees
Tower 3	Ratio 0.670	Phase 146 degrees

Monitor Points before adjustment of array:

5 degrees	3 mV Day (limit 10 mV)	14 mV Night (limit 15 mV)
51.5 degrees	2.5 mV Day (limit 4.8 mV)	3 mV Night (limit 10 mV)
97 degrees		0.36 mV Night (limit 0.36 mV)
329 degrees		3.8 mV Night (limit 4.4 mV)

Then, both day and night Antenna Monitor parameters were set to the exact licensed values as shown above by adjusting the phasor.

Monitor Points after adjustment of array:

5 degrees	9 mV Day (limit 10 mV)	14 mV Night (limit 15 mV)
51.5 degrees	3.8 mV Day (limit 4.8 mV)	8.3 mV Night (limit 10 mV)
97 degrees		0.28 mV Night (limit 0.36 mV)
329 degrees		3.3 mV Night (limit 4.4 mV)

Measurements were taken between 11:30 AM and 12:30 PM during flooding rainstorms.

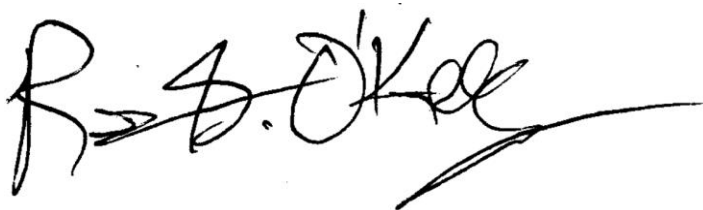
GPS Coordinates (NAD 83):

5 degrees	44-40-08.84 N	123-00-44.69 W
51.5 degrees	44-41-05.10 N	122-55-47.60 W
97 degrees	44-37-19.60 N	122-55-28.29 W
329 degrees	44-39-59.60 N	123-02-41.45 W

On 11/24/2021 an antenna for an FM translator, K245DI, was installed on the roof of the studio building. As required by the terms of the Construction Permit, monitor point measurements were taken again to determine that the construction of the FM translator had not adversely affected the pattern of KWIL. It was determined that there was no appreciable effect, as noted by the measurements below, which were taken between 1:15 and 2:15 PM on 11/24/2021:

Monitor Points after installation of antennas for translator K245DI:

5 degrees	9 mV Day (limit 10 mV)	14 mV Night (limit 15 mV)
51.5 degrees	4 mV Day (limit 4.8 mV)	8.8 mV Night (limit 10 mV)
97 degrees		0.28 mV Night (limit 0.36 mV)
329 degrees		3.3 mV Night (limit 4.4 mV)



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