

WTIC

Hartford, Connecticut

50 kW DA_N

MOM Proof Recertification

December 20, 2016

Hungry Wolf Electronics
William Weeks

A recertification of the nighttime directional antenna system, as required by the rules, was performed on December 20, 2016. The system was found to be operating within specifications.

FCC RR 73.155 requires that “A station licensed with a directional antenna pattern pursuant to a proof of performance using moment method modeling and internal array parameters as described in § 73.151(c) shall recertify the performance of that directional antenna pattern at least once within every 24 month period.”

The WTIC antenna monitor sampling system employs sampling loops, so 73.155(a) (3) applies:

“For towers having sampling loops, measurements shall be made at carrier frequency or, if necessary, at nearby frequencies where the magnitude of the measured impedance is no greater than 200 ohms with the sampling loops connected. The frequencies measured must be the same as were measured in the most recent proof of performance and the measured impedances must agree within ± 2 ohms and ± 4 percent resistance and reactance of the proof values.”

The rule also requires:

“(b) Field strength measurements shall be made at the reference field strength measurement locations that were established by the most recent proof of performance. If locations have become inaccessible or their readings contaminated by localized electromagnetic environmental changes, new locations that meet the requirements of the moment method proof of performance rules in § 73.151(c) (3) shall be established to replace them.”

“(c) The results of the periodic directional antenna performance recertification measurements shall be retained in the station's public inspection file.”

The impedance measurements were made using an Array Solutions VNA 2180, SN 5036, calibrated on frequency with standard loads. The field strength measurements were made with a Potomac Instruments FIM 41, SN 1918, last calibrated by the manufacturer September 27, 2015.

While the field strength measurements were being made, the weather was clear, approximately 12 degrees Fahrenheit, and the ground was completely covered with snow.

Both inputs to the Potomac Instruments model 1901 phase monitor were fed, through a T, from the same source, and the readings agreed within manufacturer's tolerance. The Delta Electronics Common Point Bridge indicated 50.5 $-j1$, and the common point current indicated 32 amperes.

The instant measurements were made on December 20, 2016, by William P. Weeks, who has been engaged full time in broadcast engineering for many years, and whose qualifications are a matter of record before the FCC. They are true and correct to the best of my knowledge and belief.

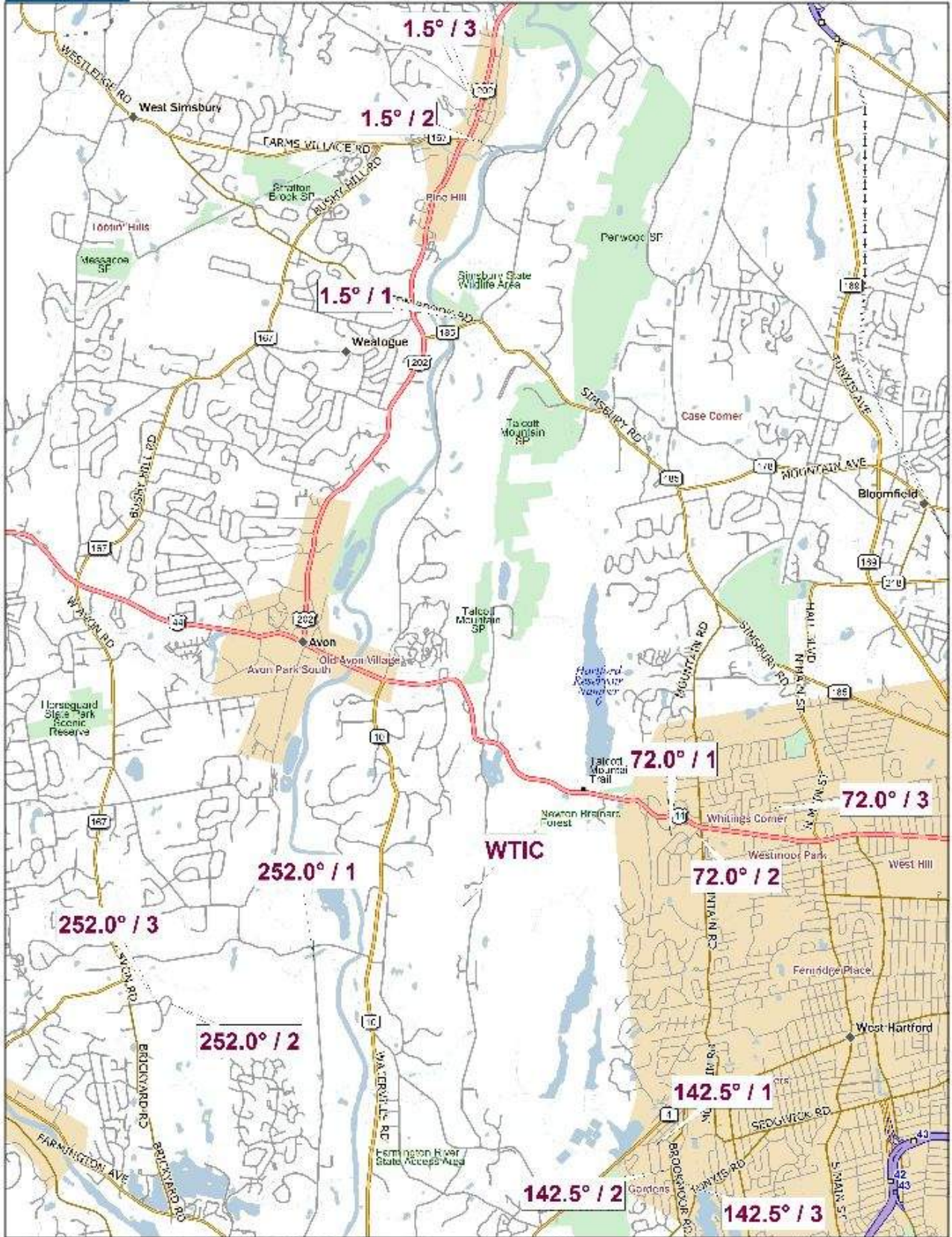


William P. Weeks, 12/21/16

WTIC
1080 kHz, Hartford, Connecticut
50 kW DA-D
MOM Recertification December 20, 2016

Radial	Point	Distance (km)	2016 Time	2016 Field (mV/m)	Coordinates (NAD 83)		Description
1.5°	1	7.9	10:36 AM	100	41-50-54.5	72-48-08.3	Traffic Island at jct of E Weatogue and Hartford Rd (Rt 85)
	2	10.3	10:21 AM	81	41-52-12.5	72-48-05.8	Corner of Drake Hill Rd and Iron Horse Blvd.
	3	10.5	10:24 AM	91	41-52-21.3	72-48-05.3	#710 & 720 Mall Way, Opp entrance to CVS Pharmacy
72.0°	1	2.9	10:59 AM	365	41-47-08.7	72-46-16.2	Opposite driveway at 32 High Ridge Rd
	2	3.3	10:56 AM	305	41-47-12.2	72-46-01.6	Opposite driveway at 11 Old Oak Road
	3	4.3	10:49 AM	320	41-47-22.6	72-45-18.3	Opposite driveway at 8 Rye Ridge Parkway
142.5°	1	4.1	11:12 AM	315	41-44-53.8	72-46-28.3	Opposite driveway at 46 Howland Road
	2	4.4	11:16 AM	190	41-44-45.3	72-46-19.7	Opposite entry sidewalk at 17 Finger Lane
	3	4.6	11:18 AM	235	41-44-41.4	72-46-15.6	Opposite driveway at 7 Terrace Road
252.0°	1	2.1	11:46 AM	325	41-46-18.1	72-49-44.2	Farm Fields parking lot, Tillotson Road (Former station MP)
	2	4.1	11:38 AM	115	41-45-58.0	72-51-07.6	Opposite driveway at 51 Coventry Lane
	3	4.3	11:37 AM	105	41-45-56.5	72-51-13.9	Opposite driveway at 61 Somerset Drive

Tower	2010 Measured Sample Impedance 1080 kHz	2016 Measured Sample Impedance 1080 kHz	Variation	2010 Indicated Ratio	2010 Indicated Phase	2016 Indicated Ratio	2016 Indicated Phase
1	8.44 +j 0.102	8.47 +j0.072	0.03 / 0.030	1.000	0	1.000	0.001
2	8.34 +j 0.875	8.28 +j0.736	0.06 / 0.139	1.796	47.5	1.749	46.4



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