

CBS RADIO STATIONS, INC

**RADIO STATION WTIC
HARTFORD, CT**

**DIRECTIONAL ANTENNA
PERFORMANCE RECERTIFICATION**

January 29, 2015

1080 KHZ 50 KW U DA-N

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CHIEF ENGINEER**

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Recertification Sampling System Measurements – WTIC

Impedance measurements were made of the antenna monitor sampling system using an Array Solutions 'Power AIM120' antenna analyzer in a calibrated digital measurement system. The operation and calibration of the analyzer was verified as correct by the procedure in the manufacturer's manual. Measurements were made looking into the antenna monitor ends of the sampling lines with sampling loops connected. As was the case for the WTIC proof of performance on which the present station license is based, measurements were made at carrier frequency of 1.080mhz.

	Measured Impedance Sampling Loop Connected Jan 16, 2015 (Ohms)	Measured Impedance Sampling Loop Connected WTIC Proof (Ohms)
Tower		
1 Zo	8.08 +j0.116	8.44 +j0.102
2 Zo	8.05 +0.800	8.34 +j0.875

Measurements were made January 16th 2015 under cold conditions with an outdoor temperature of approximately 15 degrees Fahrenheit. Some slight variance, which might be expected is noticeable in electrical length from those recorded in the WTIC Method of Moments proof performed under dry, warm, summer conditions. Nonetheless, measured impedance for each tower agrees with those that were made in August 2010 for the WTIC proof of performance within +/- 2 ohms and +/- 4 percent for resistance and reactance. As such they may, therefore be considered identical for purposes of the analysis required for a Method of Moments proof.

Additionally these measurements agreed with a second reference set performed with a Potomac Instruments OIB-3 driving the loops with approximately 100 watts at 1.080mhz

Tower 1 measured 7.9 +j0.1 and Tower 2 measured 8.5 +j0.9 (corrected) with the OIB-3

As the complete sampling system with the loops connected exhibit the same measured characteristics as when measurements recorded on the sampling lines separately two years ago, the sampling loops on the towers were not disconnected for further measurements. No repairs or changes have been made to the sampling system since the original WTIC proof was run.

The sampling system continues to meet the requirements of the FCC Rules.

Recertification Field Strength Measurements – WTIC

Field strength measurements were made at reference locations that were established by the original Method of Moments directional antenna proof of performance on WTIC

Measurements were made at three locations each along radial at azimuths that are specified for monitoring. The measured field strengths, distance from antenna, descriptions and GPS coordinates for the reference measurement points are shown on the following page.

Recertification Field Strength Measurements - WTIC DA-N

Radial (Deg.)	Point	Distance (Km)	Field (mV/m)	Coordinates (NAD 83)		Description
				N	W	
1.5	1	7.9	80	41-50-54.5	72-48-08.3	Traffic Island at jct of E Weatogue and Hartford Rd (Rt 85)
	2	10.3	35	41-52-12.5	72-48-05.8	Corner of Drake Hill Rd and Iron Horse Blvd.
	3	10.5	50	41-52-21.3	72-48-05.3	#710 & 720 Mall Way, Opp entrance to CVS Pharmacy
72.0	1	2.9	275	41-47-08.7	72-46-16.2	Opposite driveway at 32 High Ridge Rd
	2	3.3	305	41-47-12.2	72-46-01.6	Opposite driveway at 11 Old Oak Road
	3	4.3	240	41-47-22.6	72-45-18.3	Opposite driveway at 8 Rye Ridge Parkway
142.5	1	4.1	290	41-44-53.8	72-46-28.3	Opposite driveway at 46 Howland Road
	2	4.4	242	41-44-45.3	72-46-19.7	Opposite entry sidewalk at 17 Finger Lane
	3	4.6	165	41-44-41.4	72-46-15.6	Opposite driveway at 7 Terrace Road
252.0	1	2.1	265	41-46-18.1	72-49-44.2	Farm Fields parking lot, Tillotson Road (Former station MP)
	2	4.1	115	41-45-58.0	72-51-07.6	Opposite driveway at 51 Coventry Lane
	3	4.3	92	41-45-56.5	72-51-13.9	Opposite driveway at 61 Somerset Drive

Measurements were made January 29, 2015 (between 11:00 AM and 3:15 PM) by Jeffrey R Hugabonne using Potomac Instruments FIM-41, SN 399 calibrated January 10, 2011.

Recertification Summary - WTIC

This engineering exhibit provides information relative to the periodic directional antenna performance recertification required by Section 73.155 of the FCC Rules for radio station WTIC in Hartford CT.

WTIC is licensed to operate on 1080 kilohertz with 50kW employing a Non Directional antenna in the daytime and 50 kW night with a two tower directional antenna system.

This report pertains to the WTIC directional antenna system.

The information provided herein demonstrates that the antenna monitor sampling lines and the tower-mounted sampling loops continue to meet the requirements of Section 73.151(c) of the FCC Rules. Field strength measurements have been made at the reference locations established by the original Method of Moments proof of performance on WTIC with antenna monitor parameters observed within +/- 5 percent in ratio and +/- 3 degrees in phase of the modeled values, as required.

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CBS Radio Hartford / WTIC
January 29, 2015