



**DIRECTIONAL ANTENNA PATTERN PERFORMANCE RECERTIFICATION REPORT
STATION WEPN(AM) – NEW YORK, NEW YORK
1050 kHz - 50 kW, DA-1
Facility ID: 65636**

Applicant: New York AM Radio, LLC

1.0 GENERAL

Section 73.155 of the FCC's Rules and Regulations requires that the performance of a directional antenna pattern that has been licensed pursuant to a proof of performance using moment method modeling and internal array parameters shall be recertified at least once within every 24 month period.¹ In accordance with this requirement, measurements were performed by the undersigned on August 12, 2017 to verify the continuing integrity of the WEPN sampling system. In addition, field strength measurements were performed by Mr. Herb Squire, a contract engineer to the station, at the reference point locations on August 14 and 16, 2017. A description of the recertification measurements is contained in the paragraphs below.

2.0 SAMPLE SYSTEM MEASUREMENTS

In accordance with the procedures contained in Section 73.155(a)(3), measurements were performed of the sample line impedance at the antenna monitor

¹ The WEPN Moment Method based license was granted on September 10, 2009. The measurements contained herein are the fourth set of recertification measurements that have been performed since grant of the license in 2009.

end of the line with the sample loop connected. The impedance measurements were performed using a Hewlett-Packard Model 4396A network analyzer; an ENI Model 240L power amplifier; and a Tunwall Radio directional coupler. The measured impedances are tabulated in the table of Figure 1 along with the impedances measured in the 2009 moment method proof of performance. Comparison of the impedance values in the table demonstrates that the present measured sample line impedances are well within the required tolerance of ± 2 ohms and $\pm 4\%$ of the measured sample line impedances as contained in the 2009 License Application.

Measurements were performed by the undersigned, using the network analyzer based measurement system described above to verify the relative magnitude and phase of the sampled current from each of the three towers in the WEPN array. Comparison of the network analyzer and the antenna monitor measured relative current magnitudes and phases verified that the antenna monitor was operating within the manufacturer's stated tolerance on all three channels.

3.0 REFERENCE FIELD STRENGTH MEASUREMENTS

Reference field strength measurements were performed on the same four radial bearings that were measured in the 2009 moment method proof of performance: 19° , 68° , 124° , and 227.5° . The 68° and 227.5° radial bearings correspond to the directions of the two pattern minima, and the 19° and 227.5° radial bearings correspond to the directions of pattern maxima. Three reference field strength measurements were

performed on each of the four radial bearings. The reference point locations were the same as those described in the 2013 and 2015 recertification reports.

All of the reference field strength measurements were performed by Mr. Herb Squire. Mr. Squire is experienced in performing field strength measurements on directional antenna patterns. The field strength measurements were performed using the following field intensity meter: Potomac Instruments Model FIM-41, Serial Number 1652, most recently calibrated in April, 2015. The GPS coordinates (NAD27) and descriptions of the reference point locations are provided in Figure 2 along with the corresponding measured field strength value for each established reference location.

4.0 SUMMARY

It is submitted that: 1) recertification measurements have been performed in accordance with Section 73.155 of the FCC's Rules and Regulations within the fourth 24 month period initiated by grant of the underlying license application; and 2) the measurements verify that the WEPN directional antenna pattern continues to operate in full compliance with the technical terms of the station's FCC license. This engineering statement and the attached figures were prepared by the undersigned or under the direct supervision of the undersigned and are believed to be true and correct.

Dated: August 17, 2017



Figure 1

SAMPLE LINE IMPEDANCE WITH LOOPS

STATION WEPN - NEW YORK, NEW YORK

1050 kHz - 50 kW, DA-1

August, 2017

Tower	Measured Impedance MOM Proof July, 2009	Measured Impedance Recertification August, 2017	Delta Impedance Recertification August, 2017
1	7.40 -j 32.70	6.95 -j 31.30	-0.45 +j -1.40
2	7.40 -j 32.70	6.96 -j 31.28	-0.44 +j -1.42
3	7.40 -j 33.10	6.99 -j 31.65	-0.41 +j -1.45

REFERENCE FIELD STRENGTH MEASUREMENTS

STATION WEPN - NEW YORK, NEW YORK

1050 kHz - 50 kW, DA-1

AUGUST, 2017

68.0 Degree Radial

Point Number	Distance (km)	Field (mV/m)	Geographic Coordinates (NAD27)		Description
			Latitude	Longitude	
1	3.10	1350	40° 47' 12.72"	74° 1' 4.08"	NE corner of Bergenline Avenue and 57th Street on sidewalk.
2	3.71	990	40° 47' 19.45"	74° 0' 45.19"	NE corner of 61st street and Monroe Place on sidewalk next to fire hydant.
3	4.35	670	40° 47' 28.5"	74° 0' 15.48"	Take reading in center of Guttenberg town hall parking lot.

124.0 Degree Radial

Point Number	Distance (km)	Field (mV/m)	Geographic Coordinates (NAD27)		Description
			Latitude	Longitude	
1	1.43	1410	40° 46' 9.44"	74° 2' 17.95"	Kerrigan Ave. and 23rd. Take reading on sidewalk at NE corner of intersection
2	2.36	990	40°45' 50.64"	74°1' 44.46"	Go to NW corner of intersection. Walk approximately 20 feet north on Hudson. Take reading in center of road.
3	2.51	960	40° 45' 50.7"	74° 1' 37.92"	NE corner of Highpoint Avenue and Gregory Avenue, curb at crosswalk.

REFERENCE FIELD STRENGTH MEASUREMENTS

STATION WEPN - NEW YORK, NEW YORK

1050 kHz - 50 kW, DA-1

AUGUST, 2017

19.0 Degree Radial

Point Number	Distance (km)	Field (mV/m)	Geographic Coordinates (NAD27)		Description
			Latitude	Longitude	
1	0.77	3250	40° 47' 00.00"	74° 2' 59.00"	NE corner of Home Depot, even with front of building, middle of "stop bar"
2	1.27	3200	40° 47' 15.00"	74° 2' 52.00"	West of Harmon Meadow Blvd., near entrance of Raymour & Flannagan. On sidewalk at sign "East, the Plaza"
3	1.57	2350	40° 47' 25.00"	74° 2' 48.00"	Rear of 450 Harmon Meadow Blvd. SW corner of parking lot

227.5 Degree Radial

Point Number	Distance (km)	Field (mV/m)	Geographic Coordinates (NAD27)		Description
			Latitude	Longitude	
1	0.99	330	40° 46' 15.00"	74° 3' 41.00"	Henry Street, last building on North side (no number) in front of gas supply entrance
2	2.05	235	40° 45' 51.00"	74° 4' 14.00"	Street (no name) off County Rd., south side of road between Turnpike and Railroad at west end of guard rail
3	2.45	240	40° 45' 42.00"	74° 4' 27.00"	Railroad station South Drive, Employee parking lot. North end of lot, outer curb of right parking space.