



2400 MARKET STREET, 4TH FLOOR
PHILADELPHIA, PA 19103

July 22, 2021

via EMAIL

Federal Communications Commission
Office of the Secretary
45 L Street NE
Washington, DC 20554
Attn: Media Bureau, Audio Division
james.bradshaw@fcc.gov
rodolpho.bonacci@fcc.gov

**Re: Station WZMX(FM), Hartford, CT (Facility ID No. 1900)
and Station WIP-FM, Philadelphia, PA (Facility ID No. 28628)
FCC File Nos. 20210205AAQ and 20210205AAE**

Dear Ms. Dortch:

Audacy License, LLC (formerly known as Entercom License, LLC) (“Licensee”)¹, licensee of Stations WZMX(FM), Hartford, CT (Facility ID No. 1900) and WIP-FM, Philadelphia, PA (Facility ID No. 28628) (collectively, the “Stations”), hereby submits the enclosed report detailing the research, experimentation and results of the testing authorized pursuant to the above-referenced experimental authority.

In accordance with the instructions set forth in *Audio Division Announces Procedures Related to Coronavirus*, Public Notice, DA 20-266 (rel. Mar. 13, 2020), Audacy is submitting this report via email.

Questions about the report should be referred to Glynn Walden, Audacy’s technical consultant (Glynn.Walden@audacy.com) or David Layer, VP, Advanced Engineering, National Association of Broadcasters (DLayer@nab.org).

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Laura Berman', with a long horizontal flourish extending to the right.

Laura Berman
Vice President, Legal

Enclosure

cc: Priscilla Lee, FCC
John Kennedy, SVP of Technical Operations, Audacy
Paul Donovan, VP of Technical Operations, Audacy
Glynn Walden, Technical Consultant, Audacy
David Layer, VP, Advanced Engineering, NAB

¹ On March 30, 2021, Entercom License, LLC changed its name to Audacy License, LLC.



TECHNICAL REPORT – High-power FM Field Test Project – Stations WZMX and WIP

Summary

Audacy, working with partners National Association of Broadcasters (NAB) through the PILOT innovation initiative, Xperi Corporation, and broadcasters NY Public Radio (WNYC-FM), iHeartMedia, and Cox Media, participated in two field tests to evaluate the change to (desired) analog reception when the total HD power of an undesired 1st-adjacent channel signal is increased to -10 dBc. This technical report provides technical and logistical details of these two tests.

During the test periods (which were relatively brief, see Table 2) no reports of objectionable interference due to these tests were reported by listeners of WNYC (the desired station) or other stations, to the knowledge of the test team. Currently underway are subjective evaluations of the collected audio recordings to compare the perceived audio quality of the desired station when subjected to -10 and -14 dBc 1st-adjacent channel interferers.

Test description

Two separate field tests were conducted under this project, one on March 15, 2021 (Connecticut test, CT) and one on March 29, 2021 (New Jersey test, NJ). The location of each participating station and the test locations are shown in Figure 1.

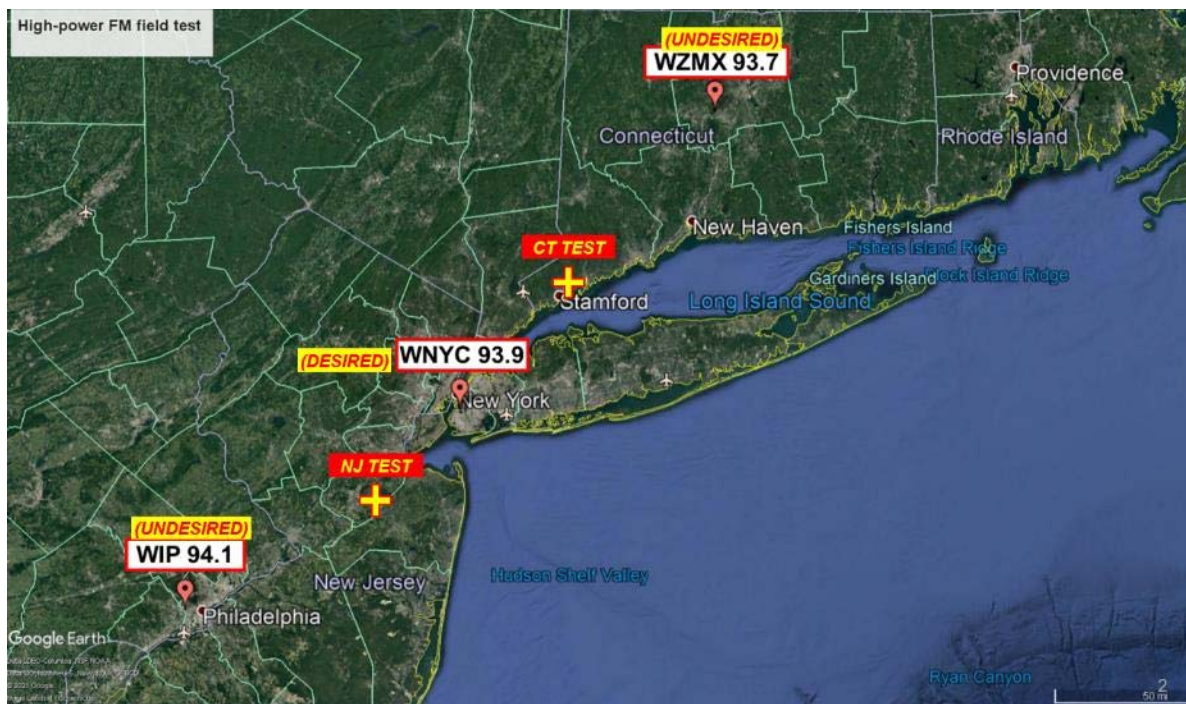


Figure 1. Map showing CT and NJ test locations as well as participating test stations.

Table 1 lists some technical information on the participating FM stations. For each test, audio recordings of the desired station (WNYC both times) were obtained using 4 different receivers, for two cases of undesired 1st-adjacent channel operation: at -14 dBc and -10 dBc digital power. Note that the Audacy stations (WZMX, WIP) were able to increase their digital transmit power for the -10 dBc portions of the test without alteration to the broadcast equipment chain. The test schedules are provided in Table 2.

Table 1. FM stations participating in the high-power FM field tests.

Parameter	WZMX	WIP	WNYC
Role	Undesired (CT)	Undesired (NJ)	Desired (CT, NJ)
Frequency (MHz)	93.7	94.1	93.9
Class	B	B	B
Power (kW)	17.0	9.6	5.2
Location	Hartford, CT	Philadelphia, PA	New York, NY
Licensee	Audacy		NYPR
Program format	Hip-hop	Sports	Public radio
LSB	-17.0	-17.0	-18.5
USB	-17.0	-17.0	-18.5
Lat	41.77417	40.04167	40.74844
Long	-72.80497	-75.23614	-73.98569

Table 2. High-power FM field test schedule.

Time	Description
Monday, March 15, 2021	
Noon	Conduct test (-14 dBc)
1PM	WZMX enters -10 dBc operation
	Conduct test (-10 dBc)
2PM	Start stationary recording (-10 dBc)
2:05PM	WZMX enters -14 dBc operation
2:10PM	Start stationary recording (-14 dBc)
2:15PM	End stationary recording
Monday, March 29, 2021	
Noon	Conduct test (-14 dBc)
1PM	WIP enters -10 dBc operation
	Conduct test (-10 dBc)
2PM	Begin stationary recording (-10 dBc)
2:05PM	WIP enters -14 dBc operation
2:10PM	Begin stationary recording (-14 dBc)
2:15PM	End stationary recording

A test route was developed for each test based upon the location of the protected contours of the desired and undesired stations, such that the test route was located just inside of the desired station's protected contour at the point closest to the protected contour of the undesired station. Maps of the two test routes utilized are shown in Figure 2 through Figure 5. Each test route took approximately 45 minutes of drive time. Following the mobile testing, short stationary recordings of the desired audio were made, as well.

Audio recordings of the desired station's audio were made simultaneously for three aftermarket consumer FM receivers and one FM chipmaker's evaluation board (see data collection block diagram shown in Figure 6). These receivers were either analog-only or HD Radio receivers operated in analog mode since the goal of the tests is to assess the impact of the 1st-adjacent channel undesired signal on desired *analog* audio performance. One of the benefits of using the eval board was that additional technical data on receiver performance was available and collected for future analysis.

Test results

The principal data collected during these field tests were the audio recordings of the four receivers under each test condition (see Table 3). These were captured simultaneously and stored as .wav files (uncompressed audio). As previously mentioned, additional data was available from the FM chipset eval board but this was ancillary and collected primarily as a reference for future study of the audio files. Also collected was information from an RF signal analyzer, again for future reference.

Currently these audio files are being analyzed to obtain meaningful, short (1-2 minutes in length) clips that can be subjectively evaluated to determine how listeners rate the audio clips with -10 dBc and -14 dBc interferers.

Table 3. Audio recordings obtained during field tests (ET is elapsed time).

		-14 dBc		-10 dBc	
Description		# of recordings	Total ET (min)	# of recordings	Total ET (min)
CT test	Mobile	4	180	4	180
	Stationary	4	40	4	40
NJ test	Mobile	4	180	4	180
	Stationary	4	40	4	40

TOTAL - 14.7 hours of audio

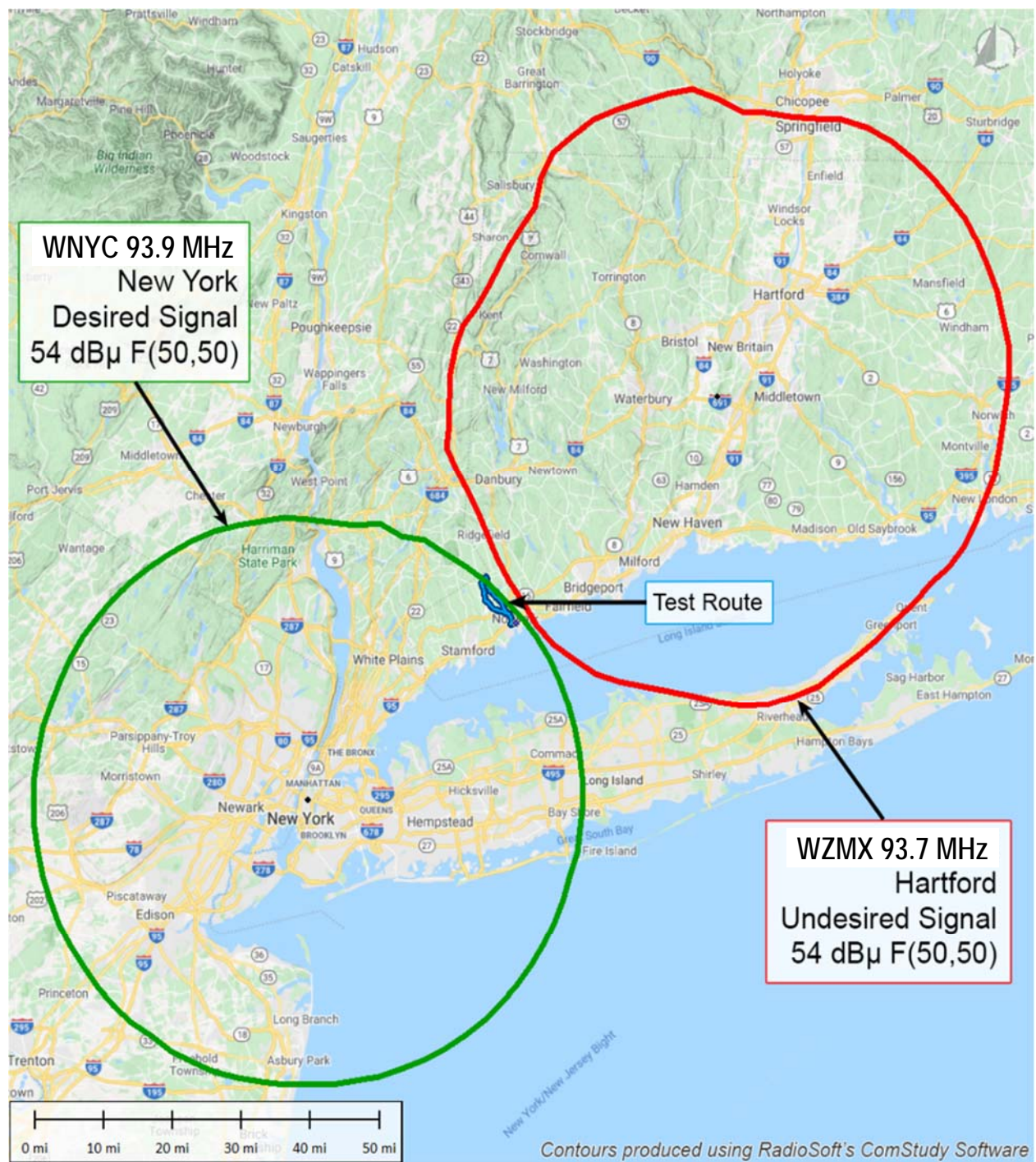


Figure 2. Route map – CT test, overview.

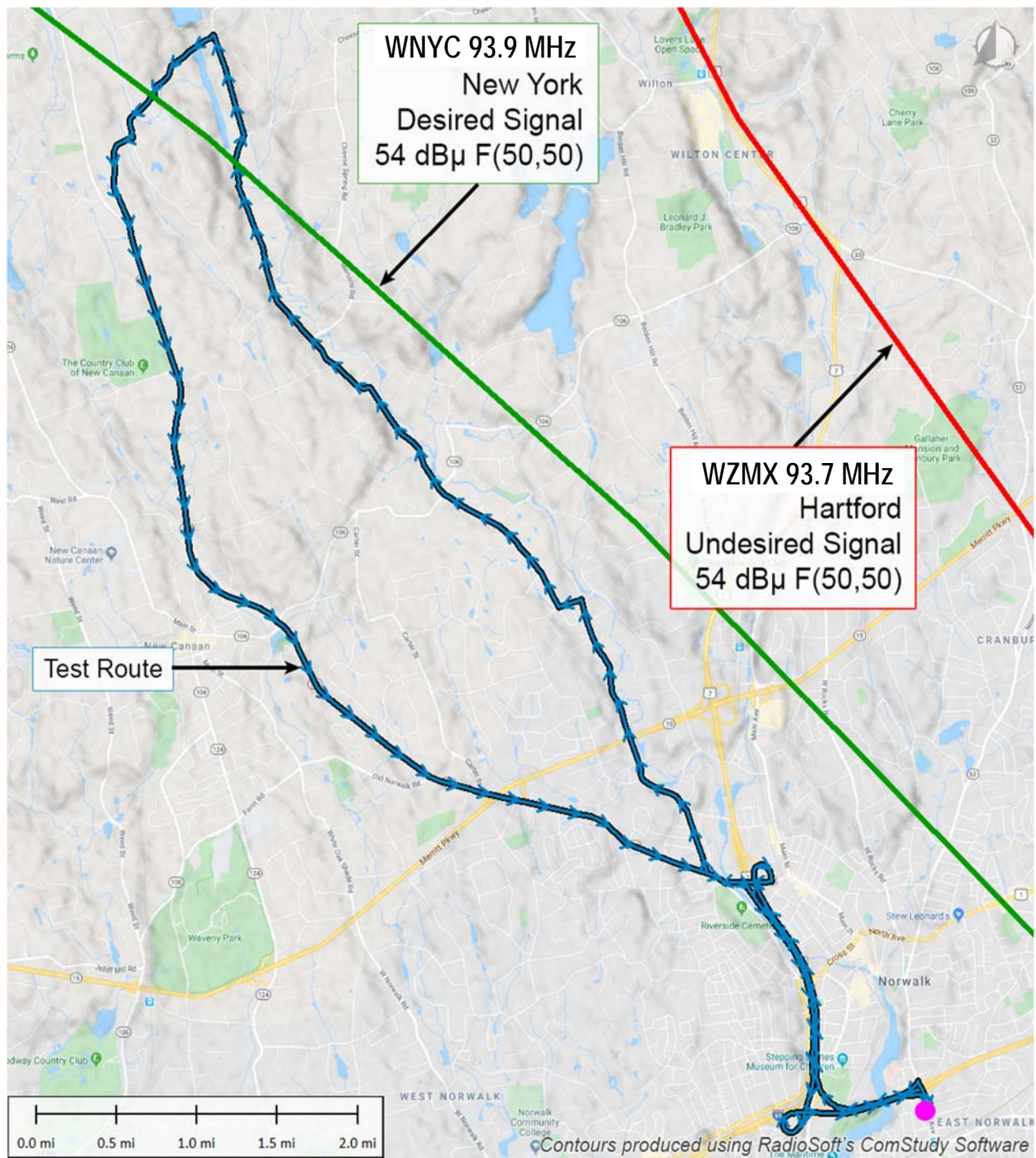


Figure 3. Route map – CT test, detail.

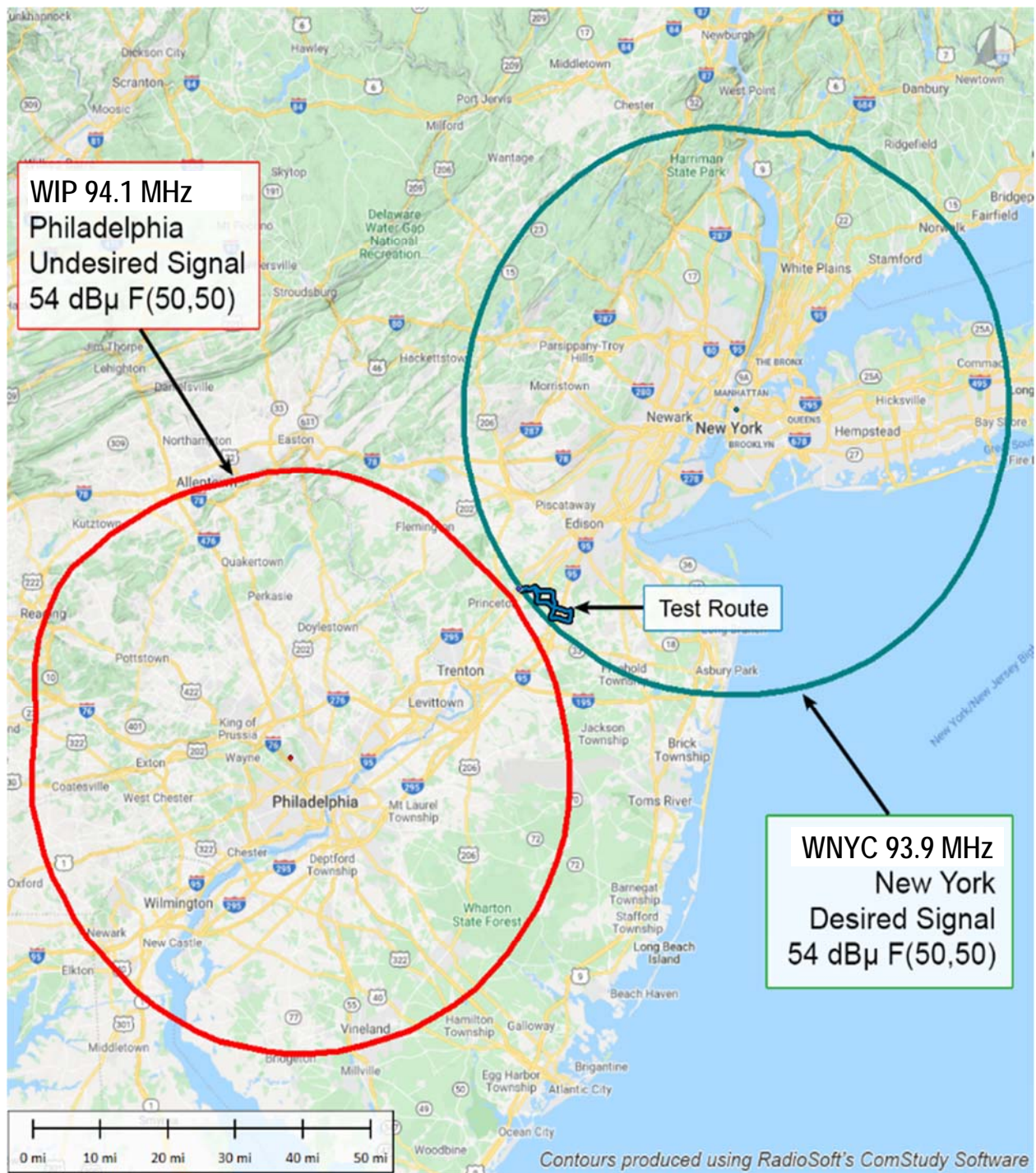


Figure 4. Route map, NJ test, overview.

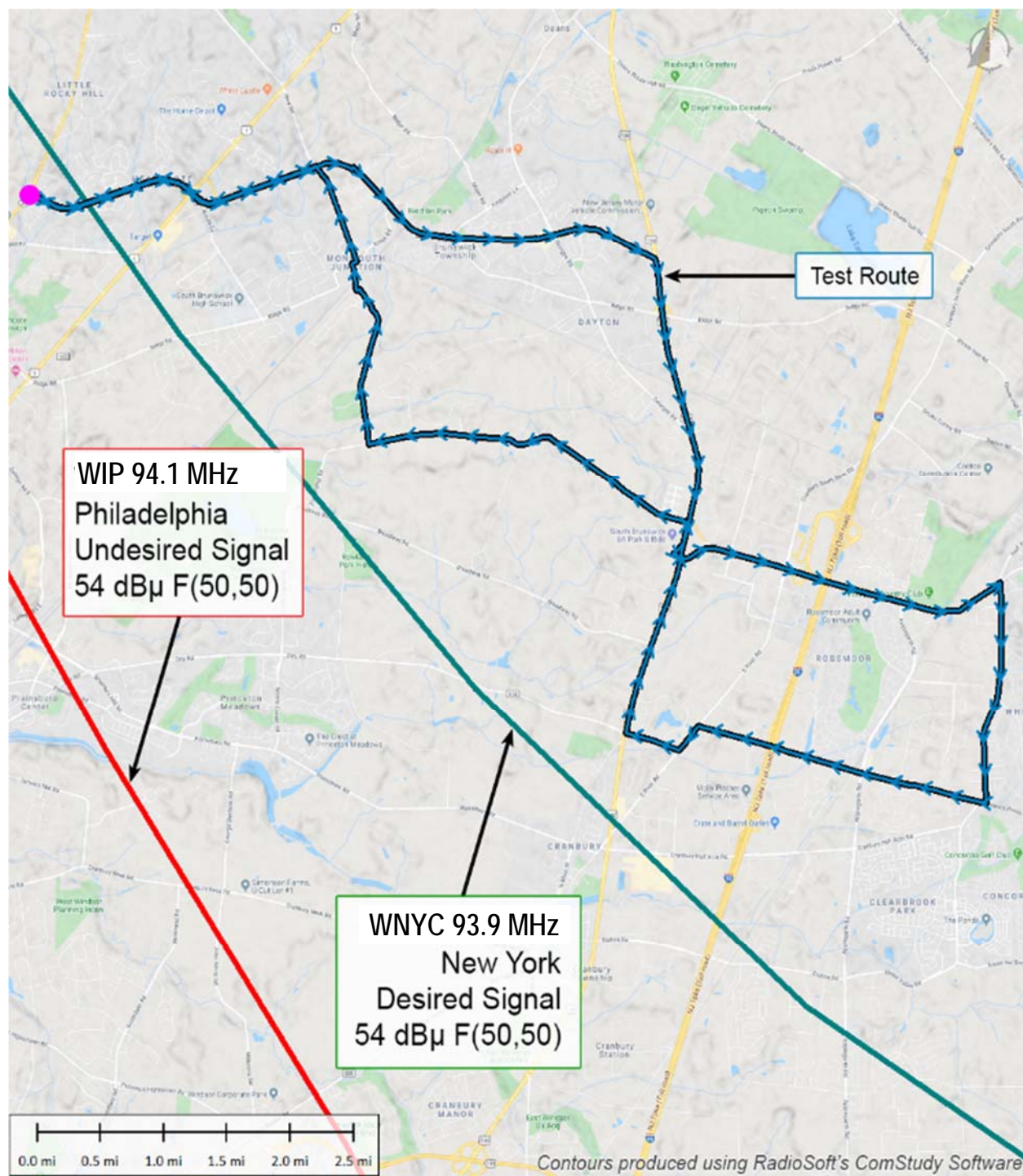


Figure 5. Route map, NJ test, detail.

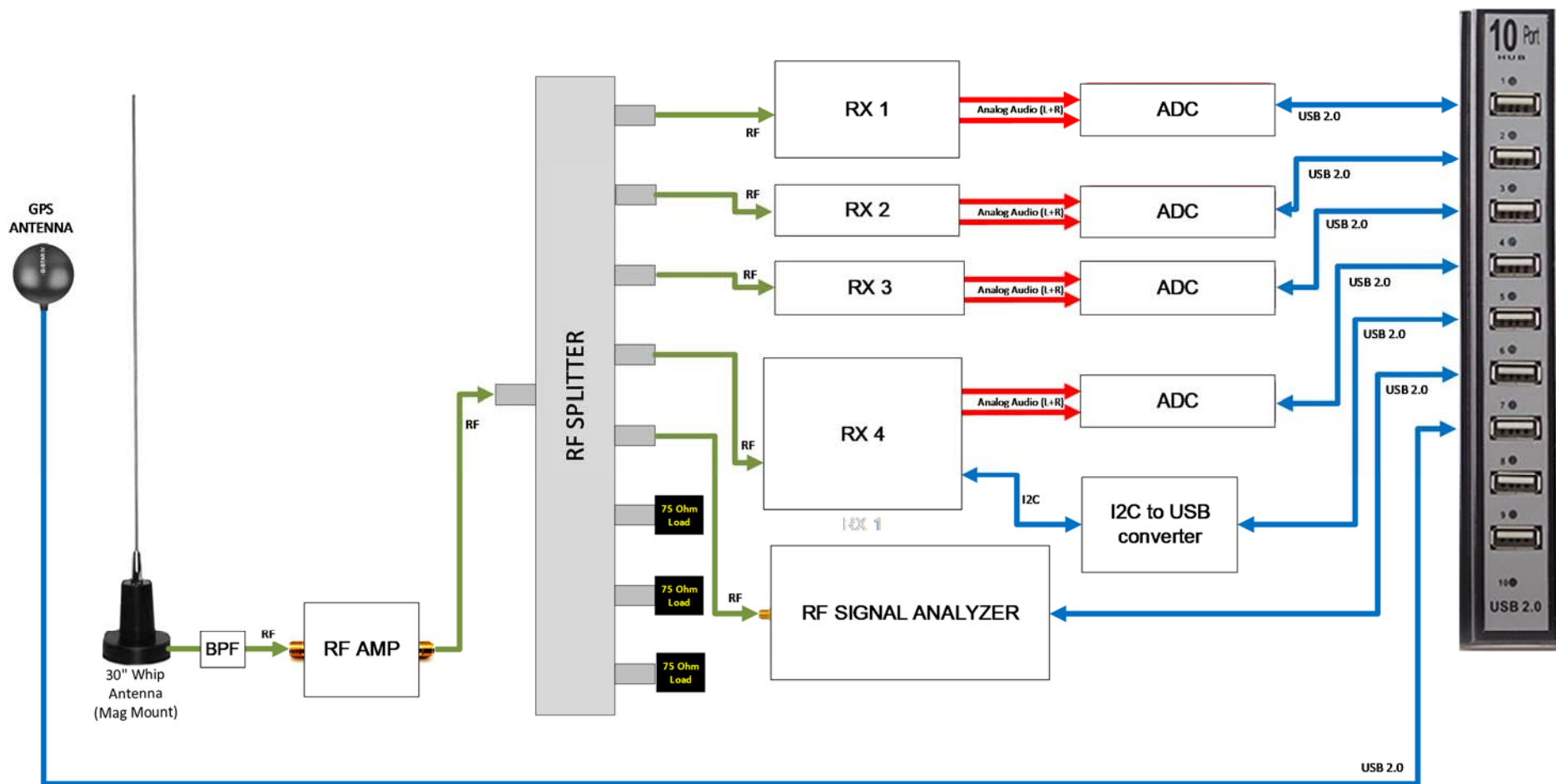


Figure 6. Data collection equipment block diagram.