



Appendix N

On-Air IBOC Field Trial Record

August 2001

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Overview

iBiquity started on-air testing of the final IBOC system in June 1998. Since then, 11 FM stations in 7 markets have been converted to IBOC and tested and/or demonstrated to the public accumulating over 8.5 on-air years of total operation. This extensive on-air testing provides an excellent record of real world IBOC experience.

1st Adjacent Testing

IBOC was maintained on several of these stations for lengthy periods of time to test its effects of on first adjacent stations. These stations provide an excellent forum for field trials of any impact to first adjacents. The testing of any impact to first adjacents included monitoring for any complaints from listeners, station staff, auto or receiver manufacturers or regulators, and monitoring any unexplained changes in Arbitron ratings. Of the 11 stations, 6 were of specific interest since they have close-spaced first adjacents:

FM Station	Market	Characteristics	On Air Start Month	On Air Finish Month	Down Time (Mo.)	Total Months on Air
WPOC	Baltimore	1 st Adjacents South and Northeast	August 99	June 01	-	22
WNEW	New York	High antenna, 1 st Adjacent Southwest	Sept. 99	July 01	2	20
WHFS	Annapolis MD	Twin 1 st adjacents Southeast	Jan 00	April 01	3	12
WETA	Washington DC	75 kW Class B	Oct 99	Ongoing	3	17
WWIN	Baltimore	Class A with strong 1 st adjacent. High power testing	June 01	Ongoing	2	2
WJFK	Washington DC	Moved-in station with strong upper and lower 1 st adjacents	Nov 99	Dec 00	-	13
KLLC, KWNR, WMMO, WGRV	San Francisco, Columbia, Las Vegas, Orlando, Detroit	Mix of Class C's and B's with less interference than the 6 listed above	August 99	Ongoing	NA	17

Total On Air Time = 103 Months (8.5 years)

Summary of Results

For the six trial stations having the most potential to impact first adjacent stations, the results were conclusive: no impact from the introduction of IBOC was observed. After monitoring of the stations and their first adjacents for a cumulative "on-air" period of more than 8.5 on-air years, no known complaints were received from listeners, station staff, auto or receiver manufacturers or regulators, and no unexplained changes to Arbitron ratings were observed due to the introduction of IBOC. The trials included WJFK, arguably one of the most interfered stations in the nation. Further, to more fully

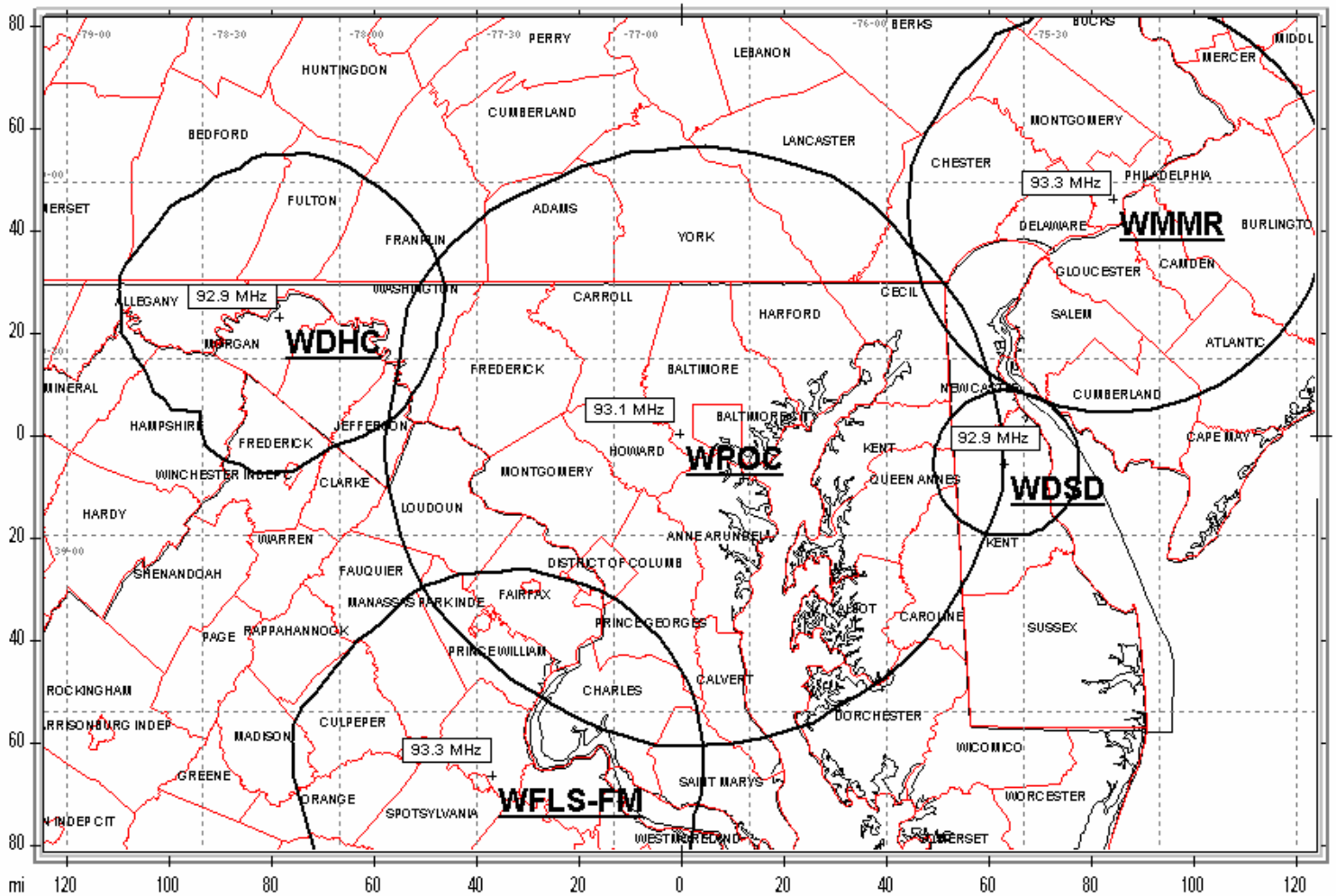
understand the limits of the system, three of the stations broadcast the IBOC signal for significant periods of time at power levels up to 10 times iBiquity's proposed power levels. Again, these trials were all completed without any known impact to first adjacent stations.

Station by Station Review

WPOC Baltimore

This station has coverage from Washington DC to Maryland's eastern shore and is situated geographically between two upper first adjacents at 93.3 MHz and two lower first adjacents at 92.9 MHz as shown in Figure 1. Of the four stations, WFLS and WDSB theoretically would receive IBOC interference from WPOC (due to sea level terrain conditions of the Potomac River and Chesapeake Bay at sea level and short distance). For a period of 12 months out of the nearly 2 years WPOC has been on the air, the IBOC sidebands were transmitted at *twice* the -20dBc ¹ proposed digital power level to determine the worst case of adverse impact to the surrounding stations. To date, there have been no reported complaints from audiences, station staff or regulators or impacts to Arbitron ratings associated with the introduction of IBOC on WPOC.

¹ Digital power compared to the station's analog carrier



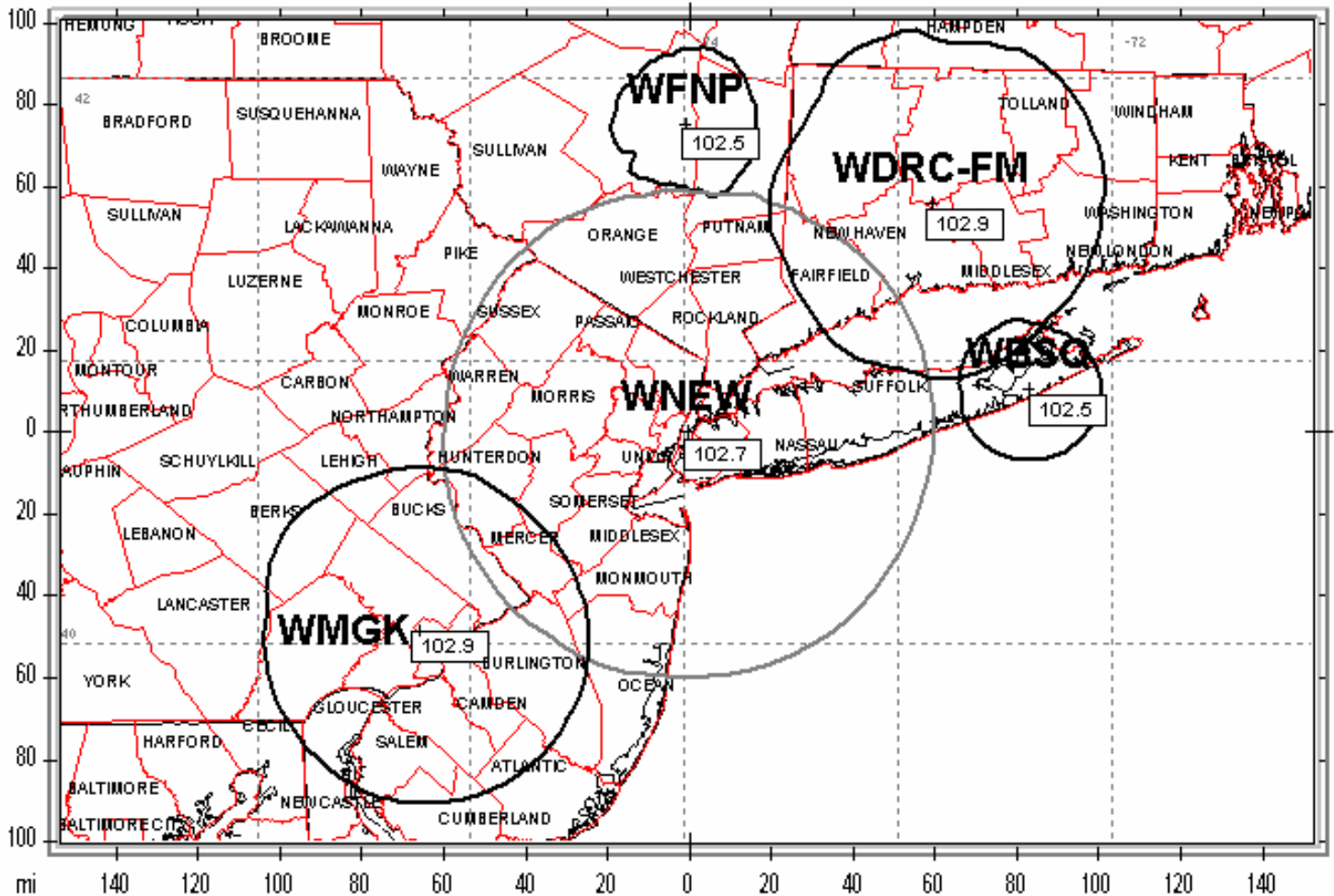
Call Sign	ST	City	Freq.	ERP [W]	Class	Distance from WPOC [mi]
WDHC	WV	BERKELEY SPRINGS	92.9	6000	A	81.49
WSD	DE	SMYRNA	92.9	1700	A	64.07
WFLS-FM	VA	FREDERICKSBURG	93.3	50000	B	76.68
WMMR	PA	PHILADELPHIA	93.3	18000	B	96.29

Figure 1 - WPOC FCC interfering contour shown with first adjacent WDHC, WFLS, WSD and WMMR FCC protected contours.

WNEW New York

Transmitting from the top of the Empire State Building at over 1000 feet, WNEW has line of sight coverage to over half of Long Island, northern New Jersey and southwest Connecticut. As shown in Figure 2, it is close spaced to two stations and its interference contour touches a third. A small class A, WBSQ meets the FCC spacing rules, but was included in the study due to the interest of most Long Island residents in receiving New York stations. As with WPOC, WNEW's IBOC sidebands were also

transmitted at *twice* the -20 dBc proposed digital power level for a period of 3 out of the 20 months it was on the air. Again, even with the elevated transmitter height and increased IBOC power level, there have been no reported complaints from audiences, station staff, regulators or impacts to Arbitron ratings due to the introductions of IBOC on WNEW.

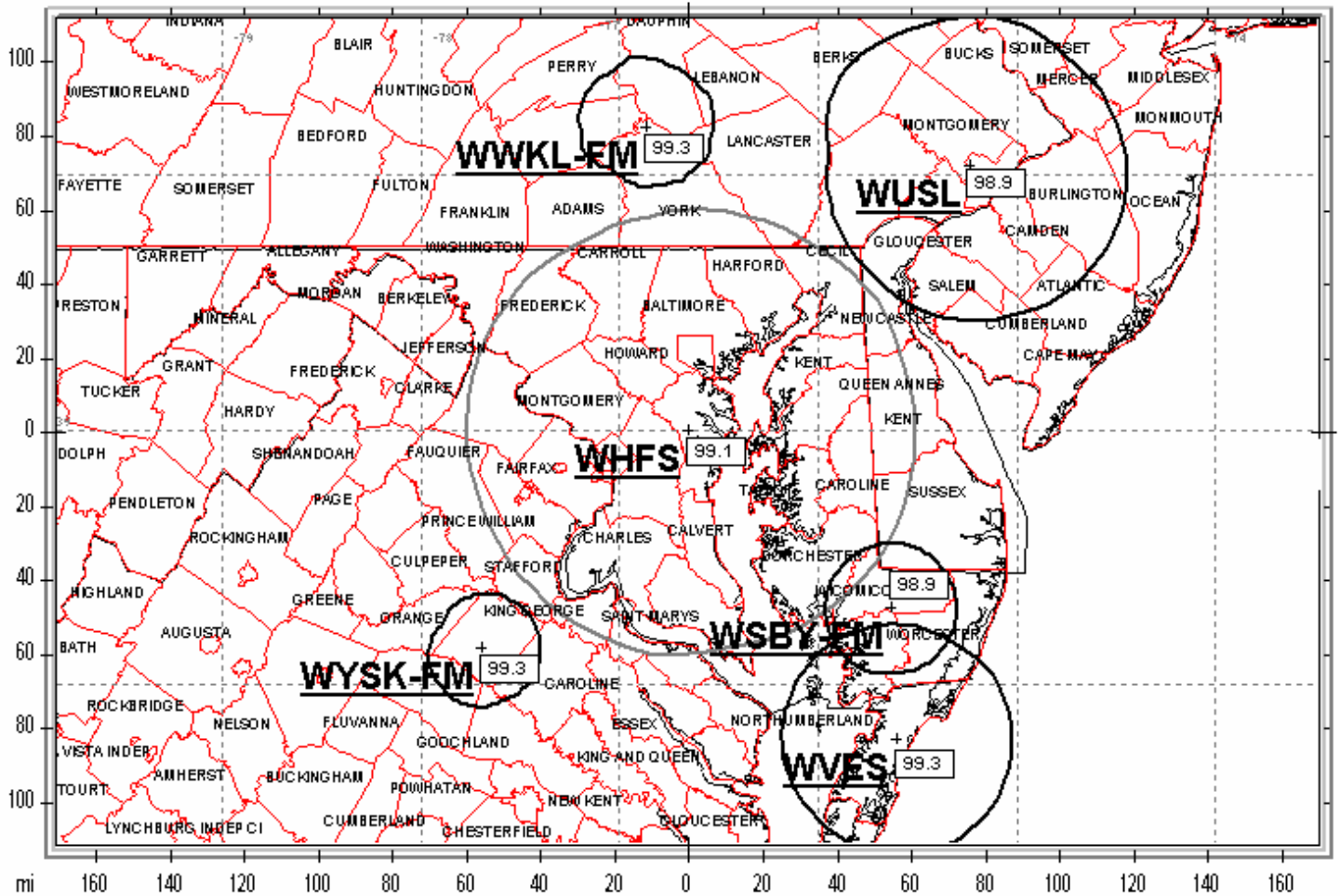


Call Sign	ST	City	Freq.	ERP [W]	Class	Distance [mi]
WBSQ	NY	BRIDGEHAMPTON	102.5	4799.9	A	84.57
WFPN	NY	ROSENDALE	102.5	1399.9	A	75.41
WDRG-FM	CT	HARTFORD	102.9	19500	B	81.85
WMGK	PA	PHILADELPHIA	102.9	8900	B	82.15

Figure 2 - WNEW FCC interfering contour shown with first adjacents WBSQ, WDRG, WFPN and WMGK FCC protected contours.

WHFS Annapolis MD

Situated between the Baltimore and Washington markets, WHFS covers central Maryland, northern Virginia and central portions of the Delmarva Peninsula. The station has two simultaneous first adjacents on either side on the Delmarva Peninsula, one short spaced as shown in Figure 3. The Philadelphia station's protected contour comes close to touching WHFS's interfering contour. As with both WNEW and WPOC, placing IBOC on WHFS did not generate any complaints from potentially interfered station listeners, engineers/management, or regulators nor were there any noted Arbitron ratings impacted.

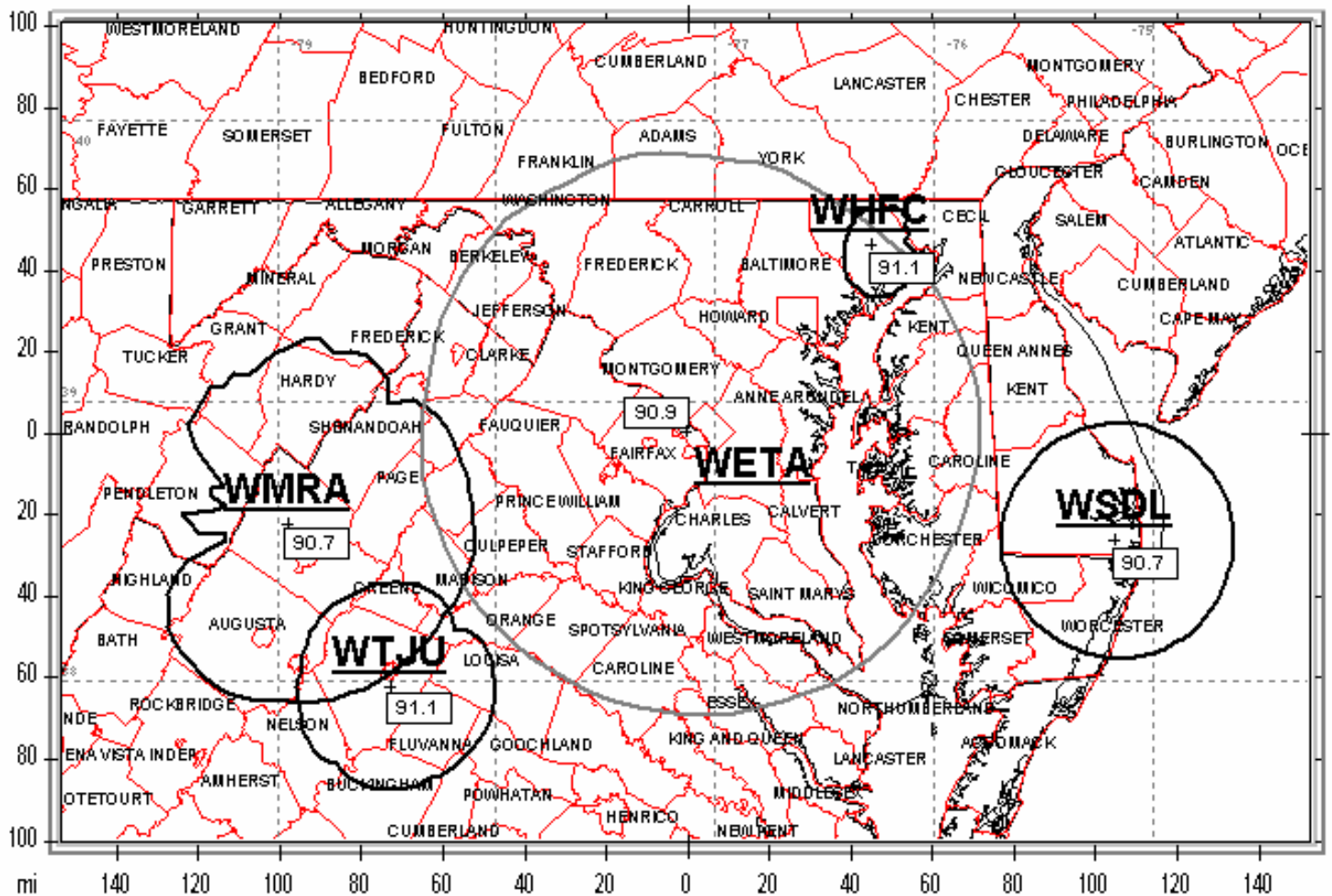


Call Sign	ST	City	Freq.	ERP [W]	Class	Distance [mi]
WSBY-FM	MD	SALISBURY	98.9	6000	A	73.52
WUSL	PA	PHILADELPHIA	98.9	18000	B	104.73
WVES	VA	ACCOMAC	99.3	22000	B1	101.23
WWKL-FM	PA	HARRISBURH	99.3	1350	A	83.24
WYSK-FM	VA	SPOTSYLVANIA	99.3	3000	A	81.38

Figure 3 - WHFS FCC interfering contour shown with first adjacents WSBY, WVES, WUSL, WWKL and WYSK FCC protected contours.

WETA Washington DC

A grandfathered “Super Class B” station transmitting 75 kW, WETA covers Northern Virginia, central Maryland and the District of Columbia. As shown in Figure 4, its interfering contour is based on its class B rating of 50 kW, not the 75 kW it transmits, therefore its interference contour is actually greater than shown. A small college station, WHFC, in northeast Maryland resides almost completely within WETA’s interfering coverage area. To the West, WMRA overlaps WETA’s interference contour. After almost 1.5 years transmitting IBOC on this elevated “Super B” powered station, once again there were no complaints from station listeners, engineers/management or the regulators. Non-commercial stations are not rated, so rating trends were not analyzed.



Call Sign	ST	City	Freq.	ERP [W]	Class	Distance [mi]
WMRA	VA	HARRISONBURG	90.7	10500	B	100.81
WSDL	MD	OCEAN CITY	90.7	15000	B1	109.49
WHFC	MD	BEL AIR	91.1	1100	A	64.74
WTJU	VA	CHARLOTTESVILLE	91.1	600	B1	96.54

Figure 4 - WETA FCC interfering contour shown with first adjacent WMRA, WSDL, WHFC and WTJU FCC protected contours.

WWIN Baltimore

Class A 3 kW station southeast of Baltimore, WWIN was chosen for testing because it has a strong first adjacent to the north (see Figure 5) and high powered testing could easily be accomplished. For the two months that the station was broadcasting, half of the testing was done at power levels at least *10 dB stronger* than the proposed -20 dBc power level. During this time, neither WSOX station management/engineers or its listeners complained to WWIN about any interference.

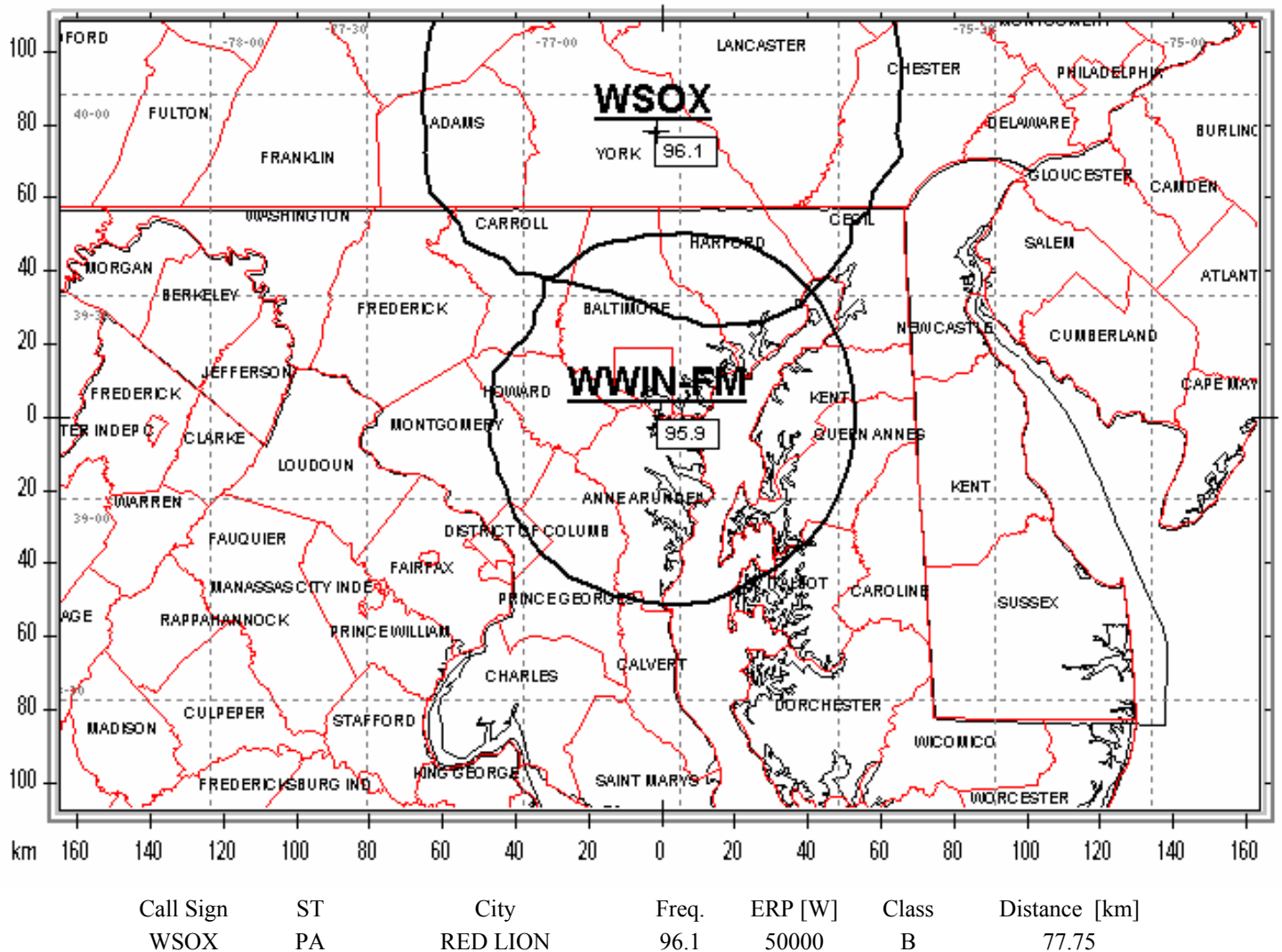
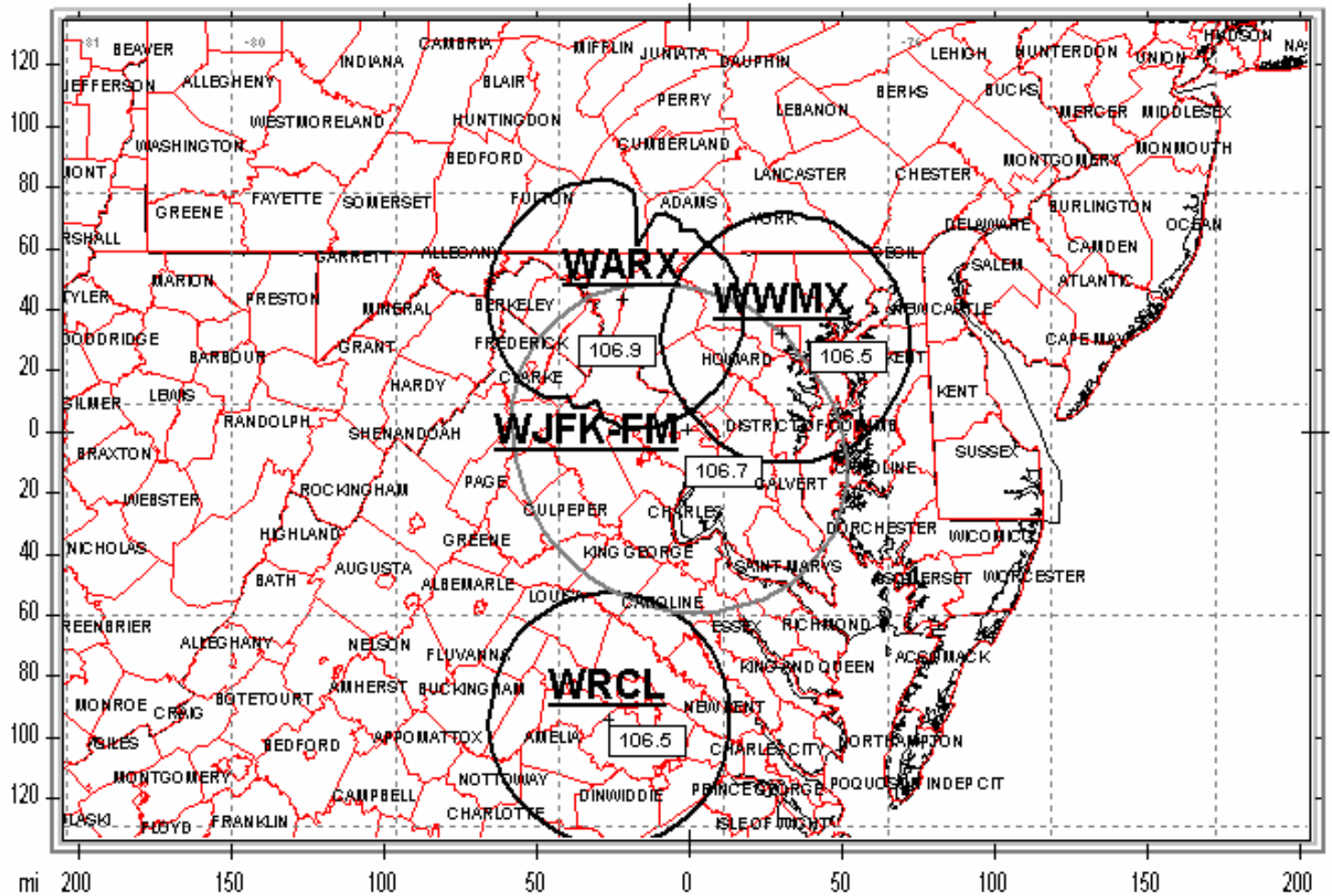


Figure 5 - WWIN FCC interfering contour shown with first adjacent WSOX FCC protected contour.

WJFK Manassas VA

One of the most severely impacted stations in the country is WJFK. The station, licensed in Manassas, Virginia, was moved closer to Washington in order broadcast more signal into the District of Columbia. As a result, its interfering contour overlaps

substantial portions of its lower first adjacent WWMX, only 44 miles away in Baltimore, and its upper first adjacent WARX, only 47 miles away in Hagerstown, Maryland as shown in Figure 6. WJFK and WWMX are commonly owned stations with the same engineering staff. During the test program, both stations engineers were in contact on a regular basis and jointly investigated areas of potential interference. In areas where interference could be detected, analog reception was severely impacted *without* IBOC on the air. Furthermore, during this extended 13 month test period, no complaints of interference were received by WWMX nor changes in WWMX Arbitron ratings could be attributed to IBOC.



Call Sign	ST	City	Freq.	ERP [W]	Class	Distance [mi]
WRCL	VA	RICHMOND	106.5	7600	B	98
WWMX	MD	BALTIMORE	106.5	7400	B	44.33
WARX	MD	HAGERSTOWN	106.9	15500	B	47.63

Figure 6 - WJFK FCC interfering contour shown with first adjacent WWMX, WARX and WRCL FCC protected contours.

Since WJFK represents a worst case interference scenario, iBiquity worked with a major automotive receiver supplier to investigate if there were any warranty claims in the Baltimore-Washington area related to not being able to receive WWMX or WARX (or any reception problem that could be attributed indirectly to IBOC). No such warranty claims were reported

Conclusions

The ongoing IBOC test program that so far has accumulated over 8.5 on-air years of on air testing, at sometimes much higher power levels than proposed, has produced *not one* single complaint of interference by an auto receiver manufacturer, the broadcasters, the FCC or the listening public. This was shown in the station by station analysis above, including WJFK, arguable the worst interfered with station in the country.