

## **SECTION 3.3**

**Reston, VA**

## **SECTION 3.3**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

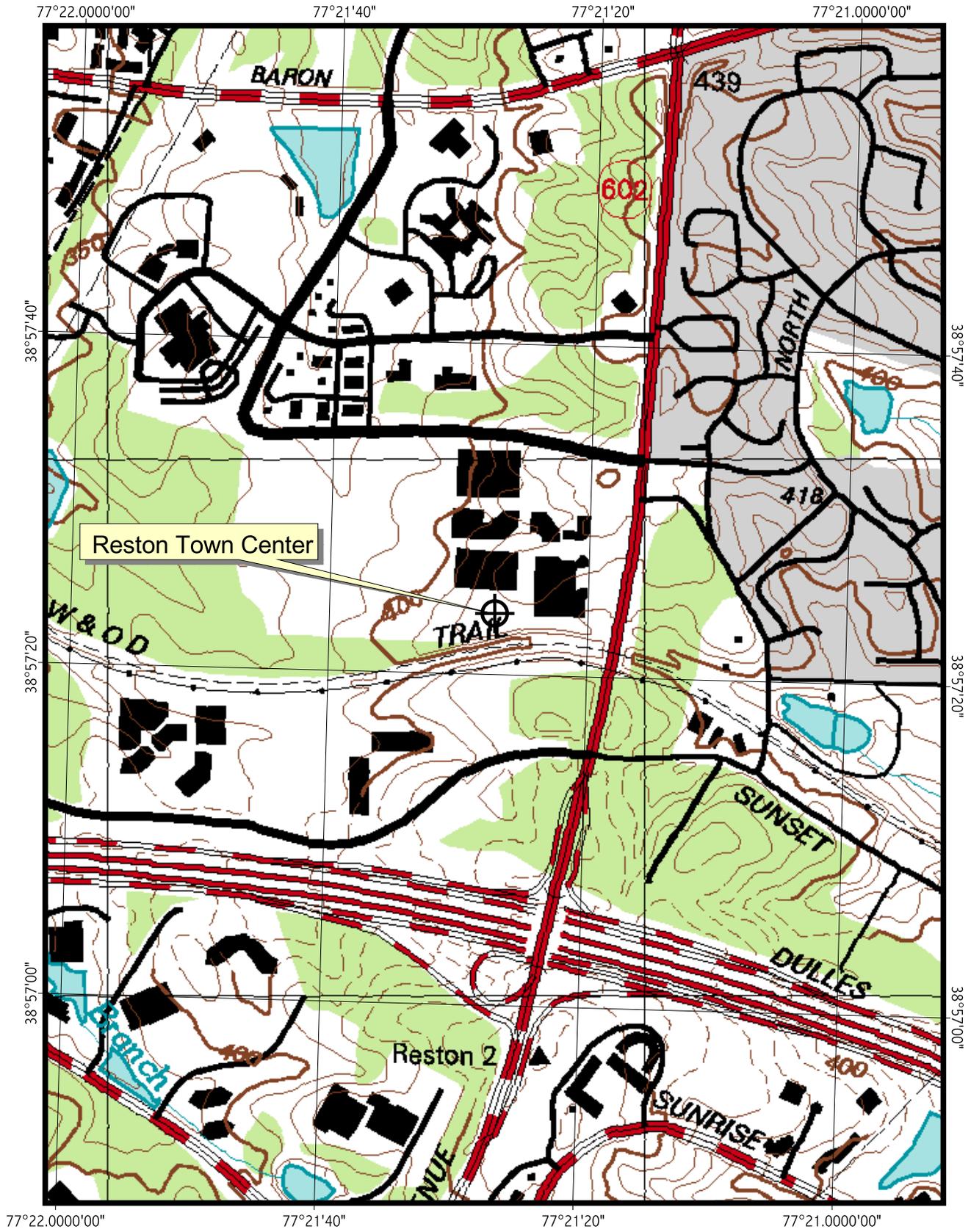
#### **3.3 XM Radio – Reston, VA**

- o Table 3.3-1 presents a site data sheet including all pertinent site information.
- o Figure 3.3-1 contains topographic map denoting the test location throughout the measurements.
- o Figures 3.3-2 are the photographs depicting the test site.
- o Figures 3.3-3 through 3.3-4 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.3-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Reston, VA
3. SITE IDENTIFICATION:	Reston Town Center
4. COORDINATES: (NAD 1983)	LATITUDE: 38° 57' 27.2" N LONGITUDE: 77° 21' 27.2" W
5. Site Type:	Urban
6. MEASUREMENT DATES & TIMES:	January 17, 2002 1730-1830 January 18, 2002 1430-1515



**XM RADIO**  
**FIGURE 3.3-1**



North



East



Figure 3.3-2 Measurement Site Photographs

South



West



Figure 3.3-2 (cont.) Measurement Site Photographs



Az 166°

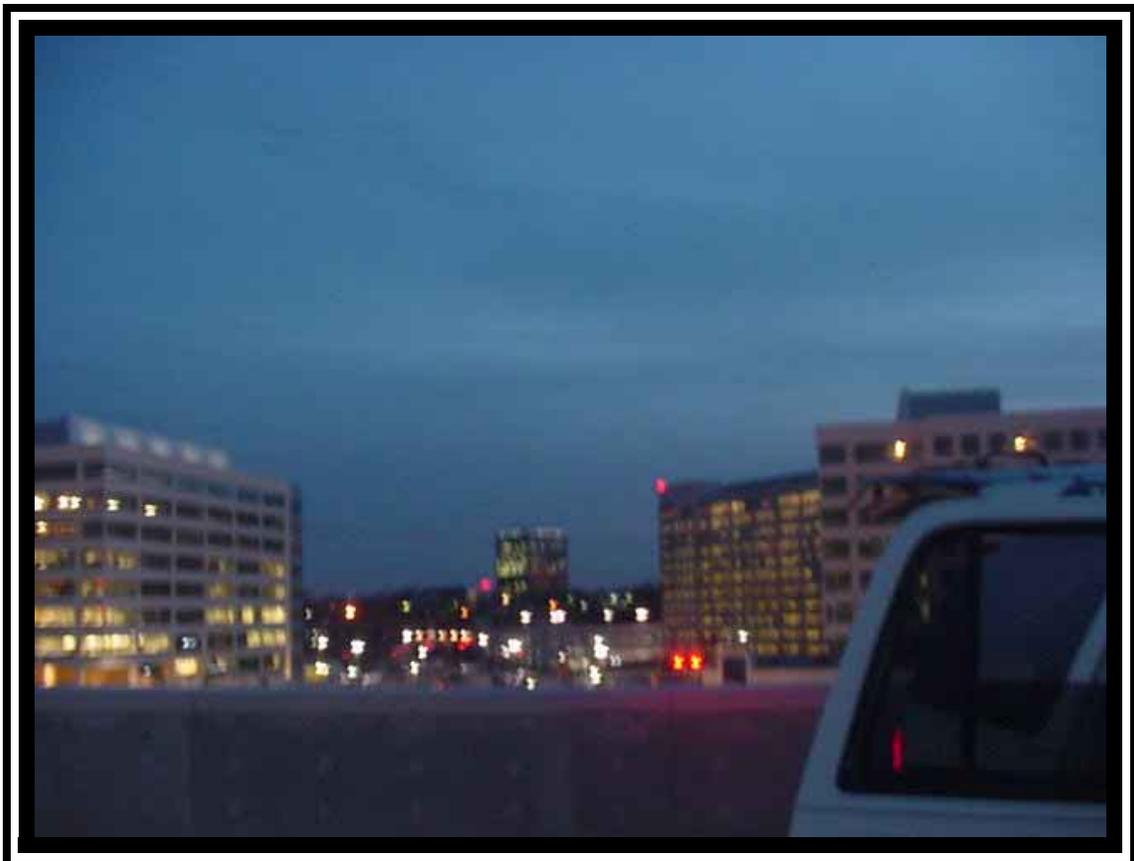


Figure 3.3-2 (cont.) Measurement Site Photographs

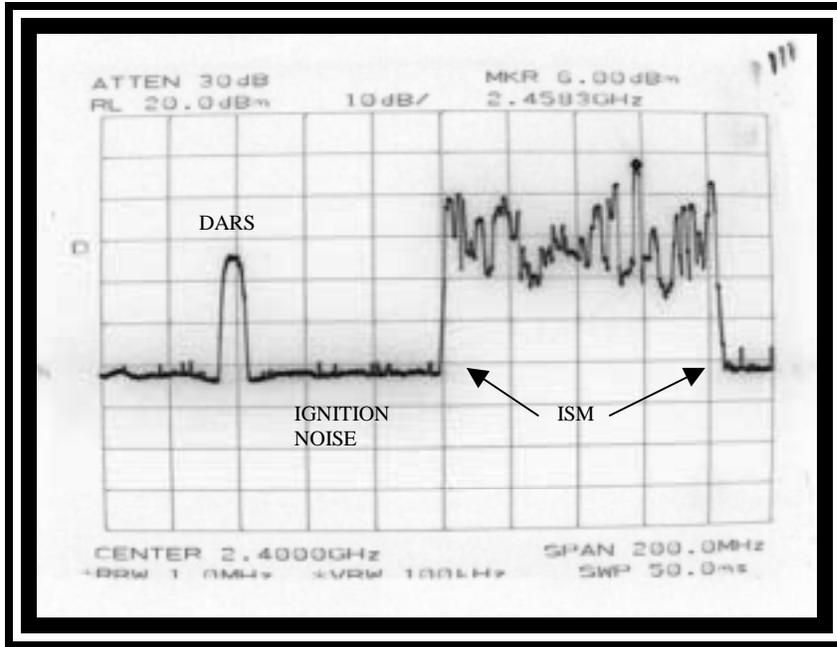
Reston, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-87



With High-Pass, Tunable and  
Notch Filters

Date: January 18, 2002

Time of Day: 1430

Ant. Polarization: V

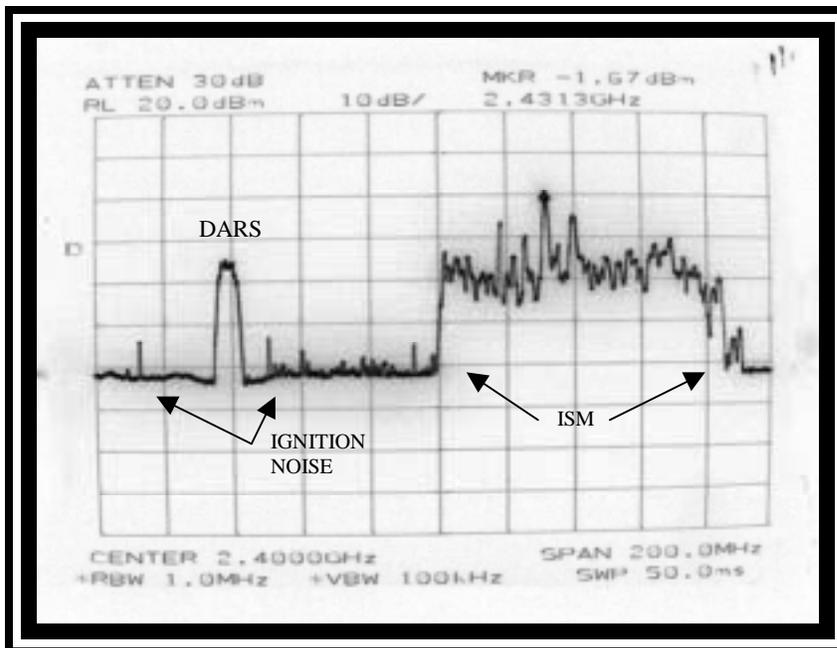
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-87



Date: January 18, 2002

Time of Day: 1435

Ant. Polarization: H

Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.3-3 RF Spectrum Analysis

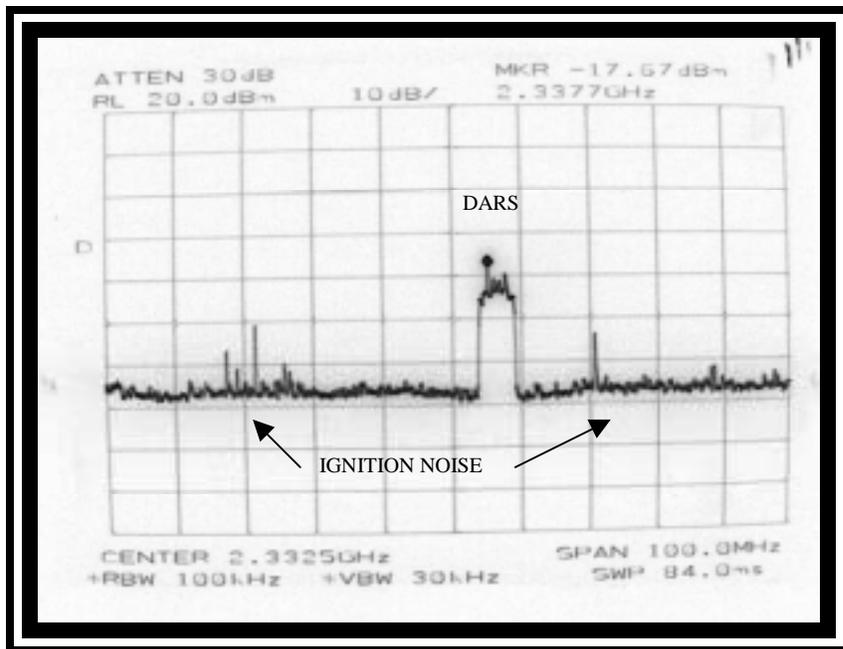
Reston, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-87



With High-Pass, Tunable, and  
Notch Filters

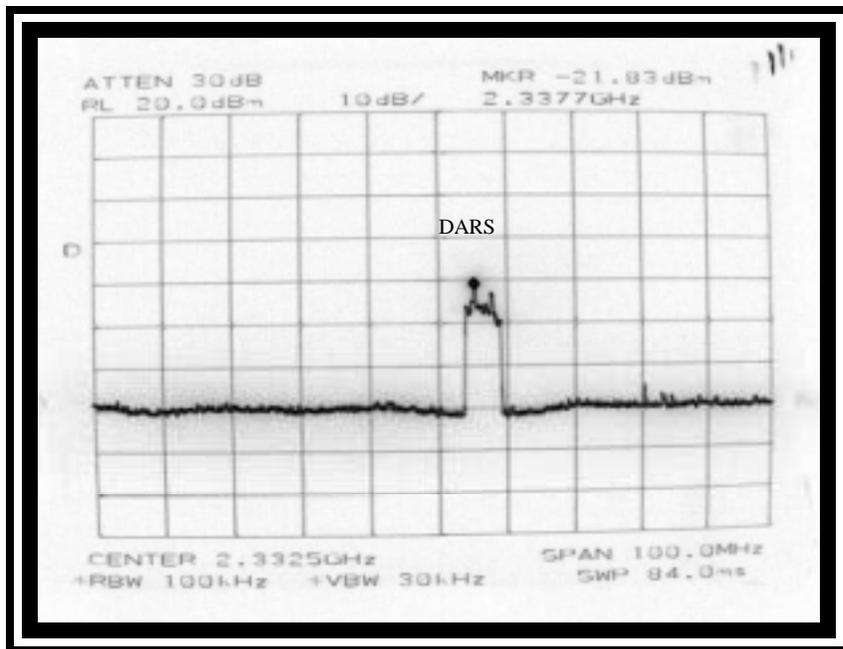
Date: January 18, 2002  
Time of Day: 1445  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-87



Date: January 18, 2002  
Time of Day: 1450  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.3-4 RF Spectrum Analysis

## **SECTION 3.4**

**Vienna, VA**

## **SECTION 3.4**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

#### **3.4 XM Radio – Vienna, VA**

- o Table 3.4-1 presents a site data sheet including all pertinent site information.
- o Figure 3.4-1 contains topographic map denoting the test location throughout the measurements.
- o Figures 3.4-2 are the photographs depicting the test site.
- o Figures 3.4-3 through 3.4-4 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.4-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Vienna, VA
3. SITE IDENTIFICATION:	Tyson's Corner
4. COORDINATES: (NAD 1983)	LATITUDE: 38° 55' 19.5" N LONGITUDE: 77° 13' 25.9" W
5. SITE TYPE:	Urban
6. MEASUREMENT DATES & TIMES:	January 17, 2002 1200-1330 January 18, 2002 1300-1400



***XM RADIO***  
***FIGURE 3.4-1***



North



East



Figure 3.4-2 Measurement Site Photographs

South

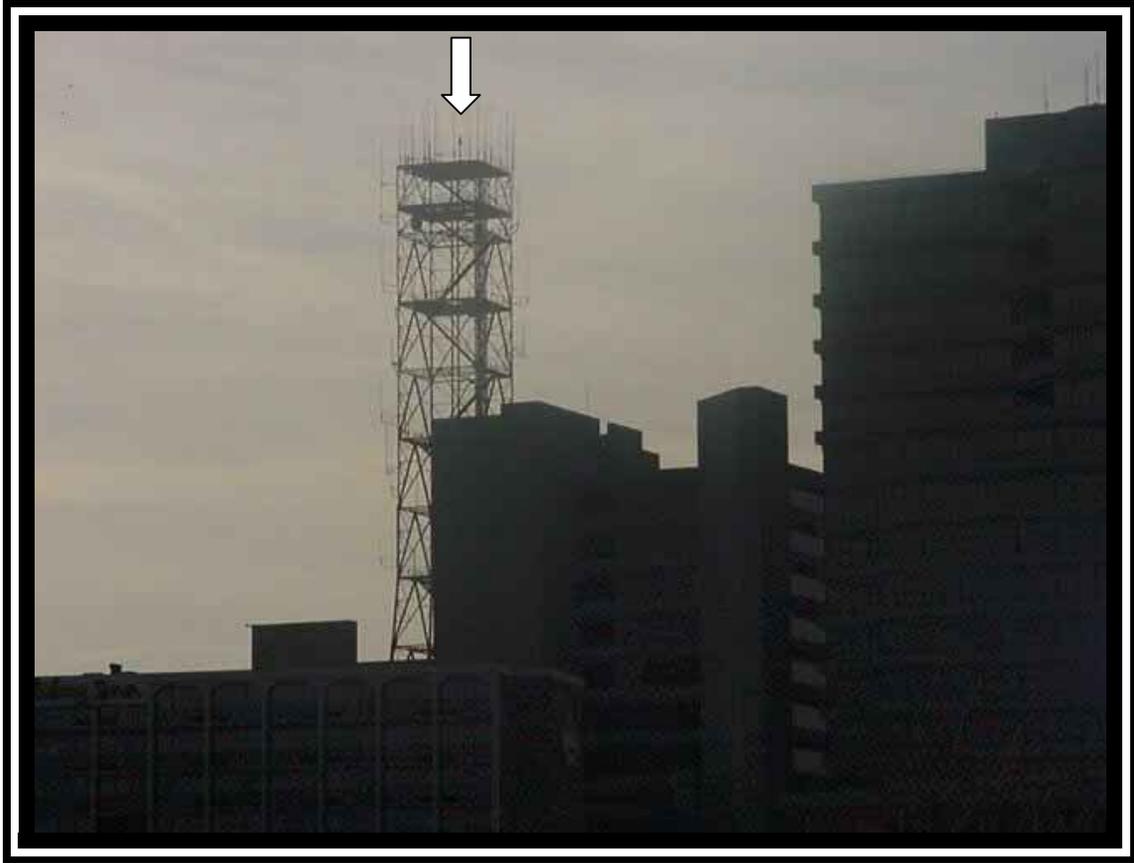


West



Figure 3.4-2 (cont.) Measurement Site Photographs

Az 233°



Az 296°



Figure 3.4-2 (cont.) Measurement Site Photographs

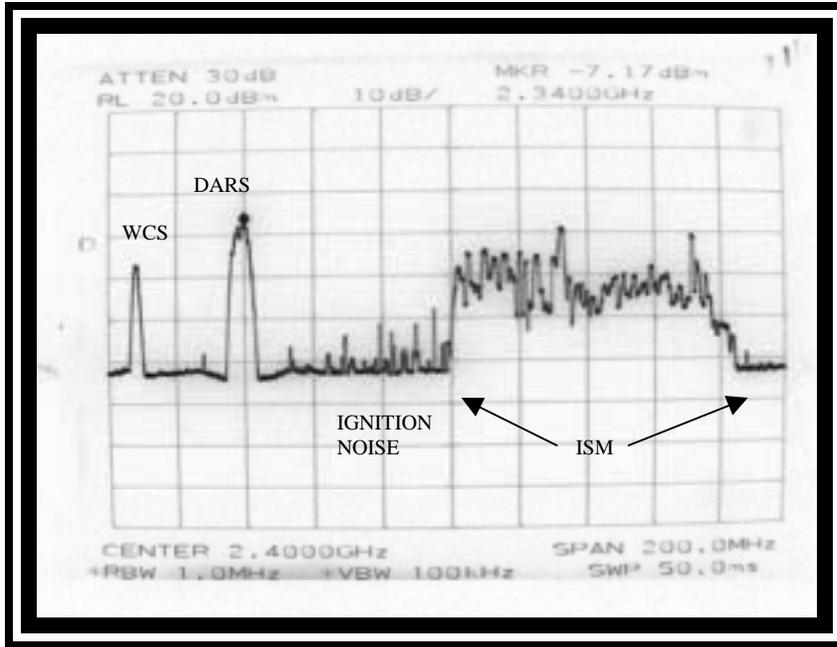
Vienna, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-87



With High-Pass, Tunable and  
Notch Filters

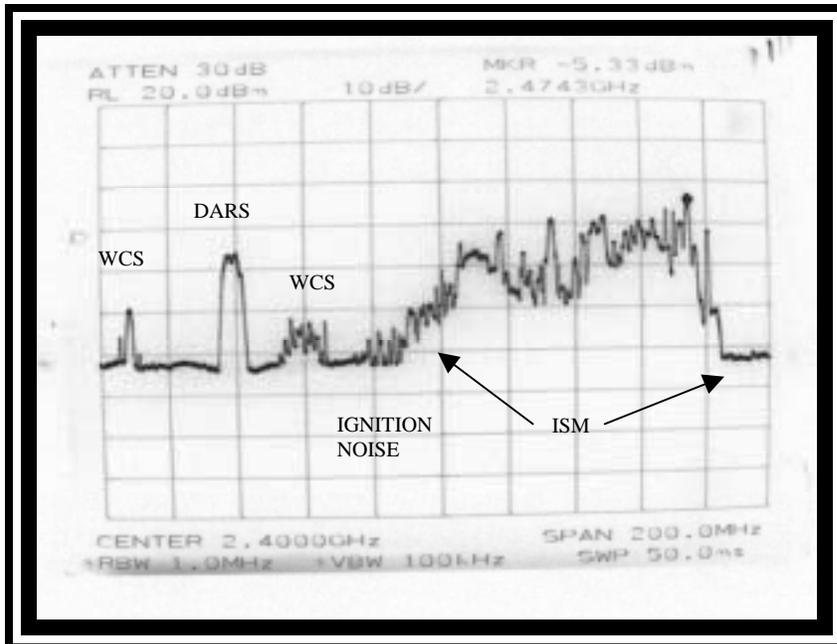
Date: January 18, 2002  
Time of Day: 1310  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-87



Date: January 18, 2002  
Time of Day: 1315  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.4-3 RF Spectrum Analysis

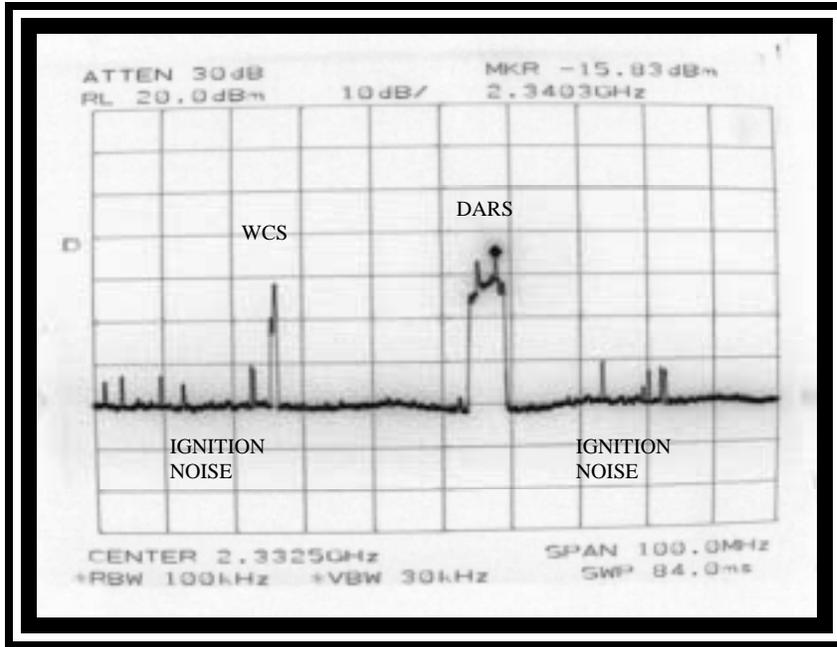
Vienna, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-87



With High-Pass, Tunable and  
Notch Filters

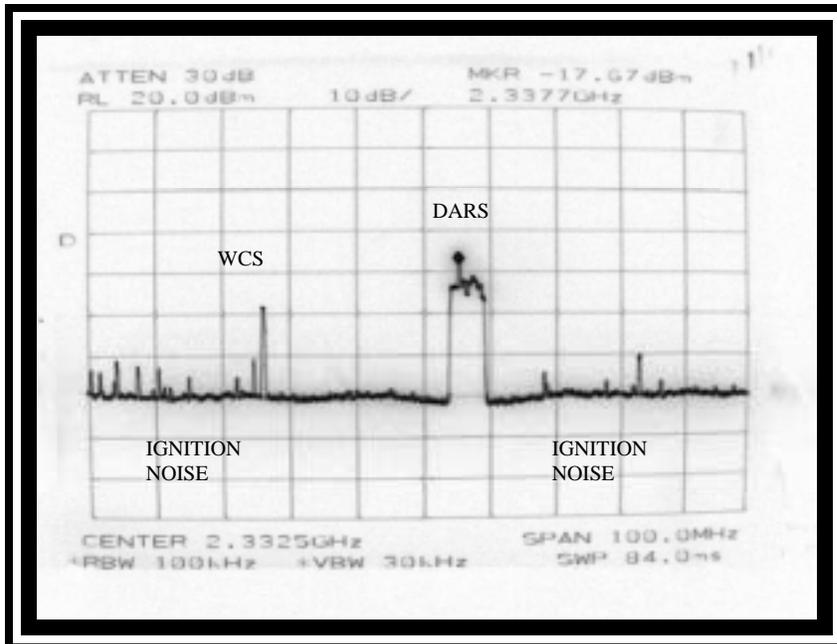
Date: January 18, 2002  
Time of Day: 1325  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-87



Date: January 18, 2002  
Time of Day: 1330  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.4-4 RF Spectrum Analysis

## **SECTION 3.5**

**Leesburg, VA**

## **SECTION 3.5**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

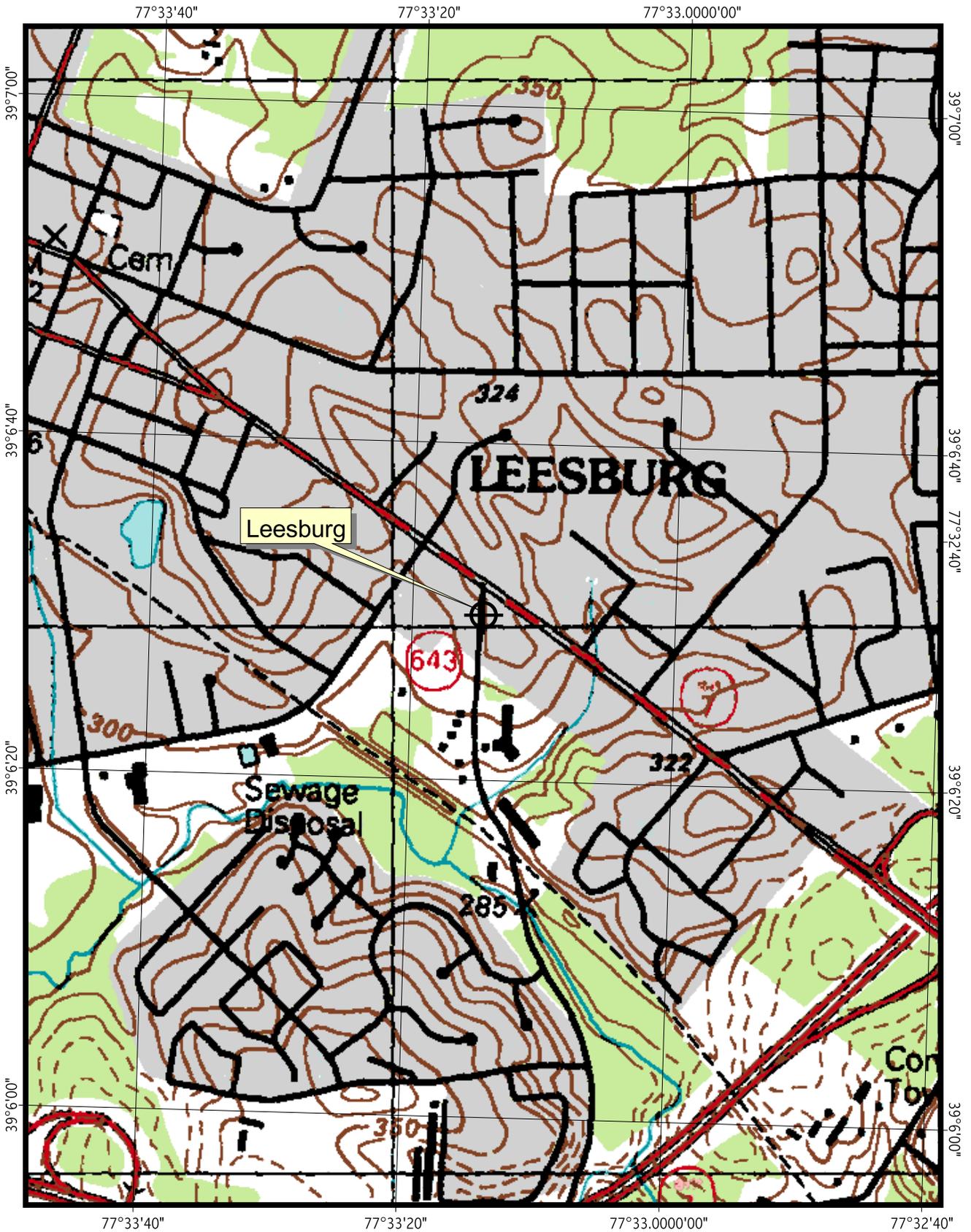
#### **3.5 XM Radio – Leesburg, VA**

- o Table 3.5-1 presents a site data sheet including all pertinent site information.
- o Figure 3.5-1 . contains topographic map denoting the test location throughout the measurements.
- o Figures 3.5-2 are the photographs depicting the test site.
- o Figures 3.5-3 through 3.5-8 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.5-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Leesburg, VA
3. SITE IDENTIFICATION:	Rte. 7 & Sycolin Rd
4. COORDINATES: (NAD 1983)	LATITUDE: 39° 06' 33.6" N LONGITUDE: 77° 33' 14.5" W
5. SITE TYPE:	Suburban
6. MEASUREMENT DATES & TIMES:	January 21, 2002 1000-1130



**XM RADIO**  
**FIGURE 3.5-1**



North



East



Figure 3.5-2 Measurement Site Photographs

South



West



Figure 3.5-2 (cont.) Measurement Site Photographs

Az 96°



Az 296°



Figure 3.5-2 (cont.) Measurement Site Photographs

Az 317°



Figure 3.5-2 (cont.) Measurement Site Photographs

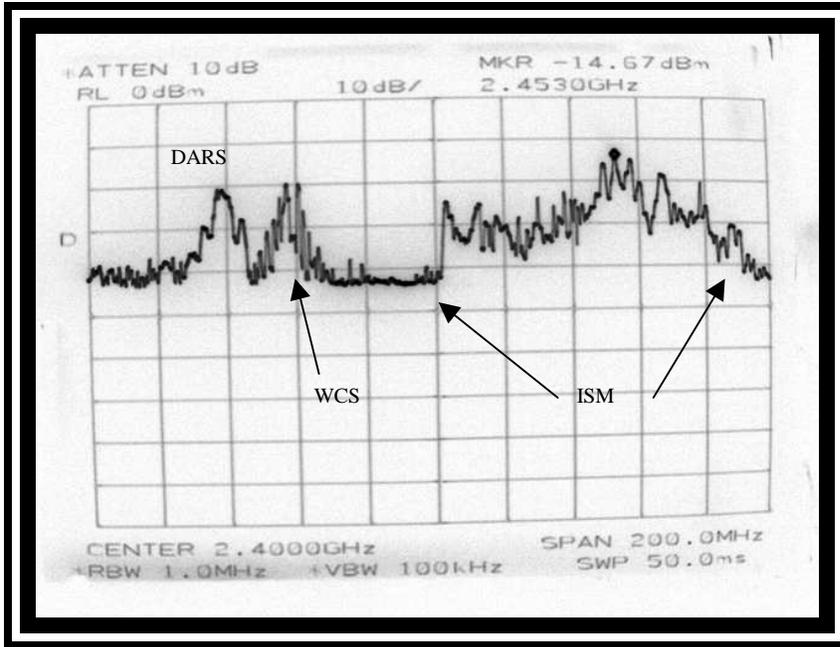
Leesburg, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



With High-Pass and Tunable  
Filters

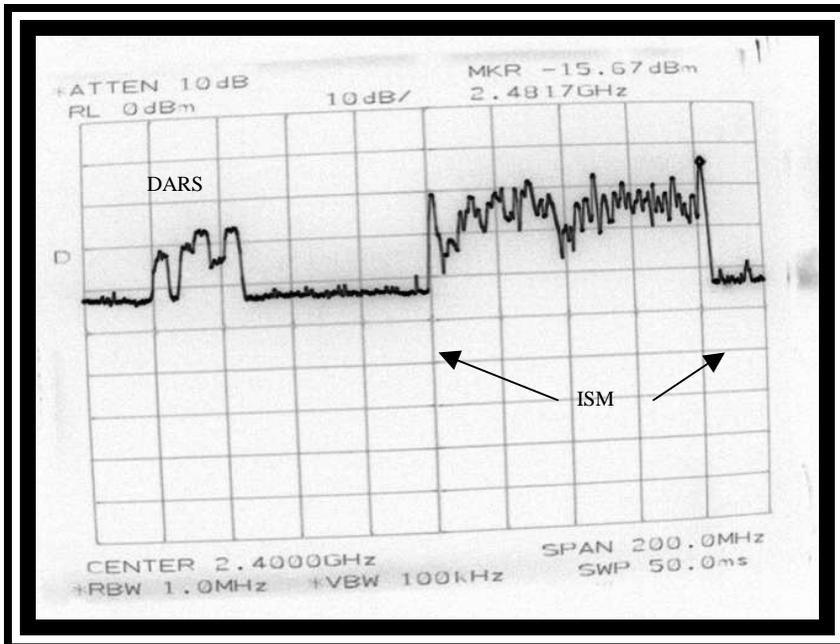
Date: January 21, 2002  
Time of Day: 1000  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1005  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.5-3 RF Spectrum Analysis

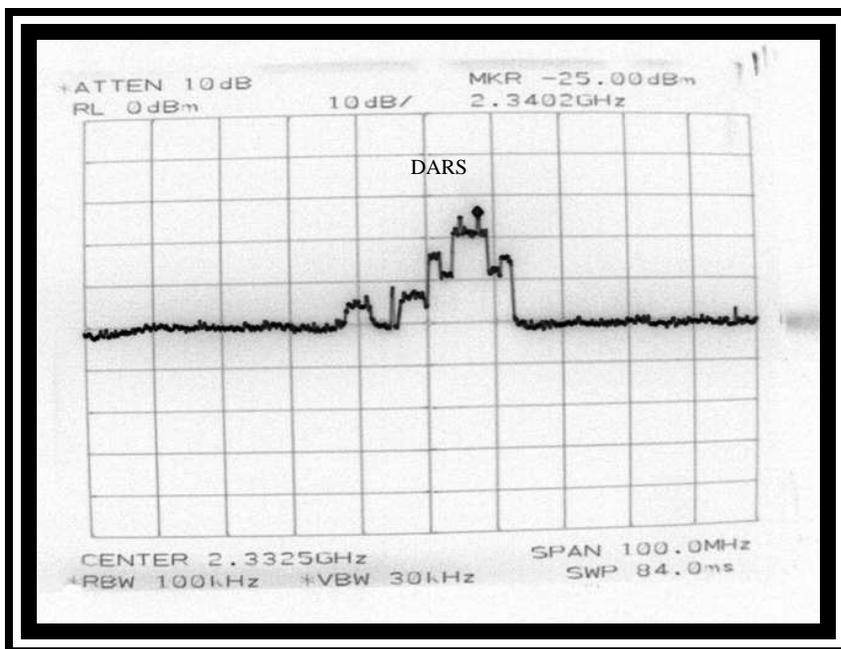
Leesburg, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



With High-Pass and Tunable  
Filters

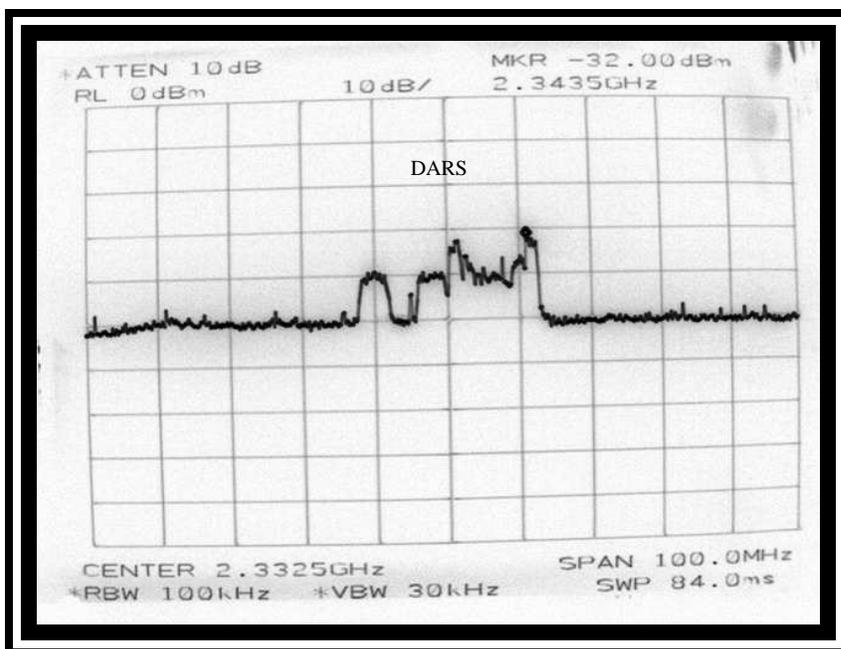
Date: January 21, 2002  
Time of Day: 1015  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1020  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.5-4 RF Spectrum Analysis

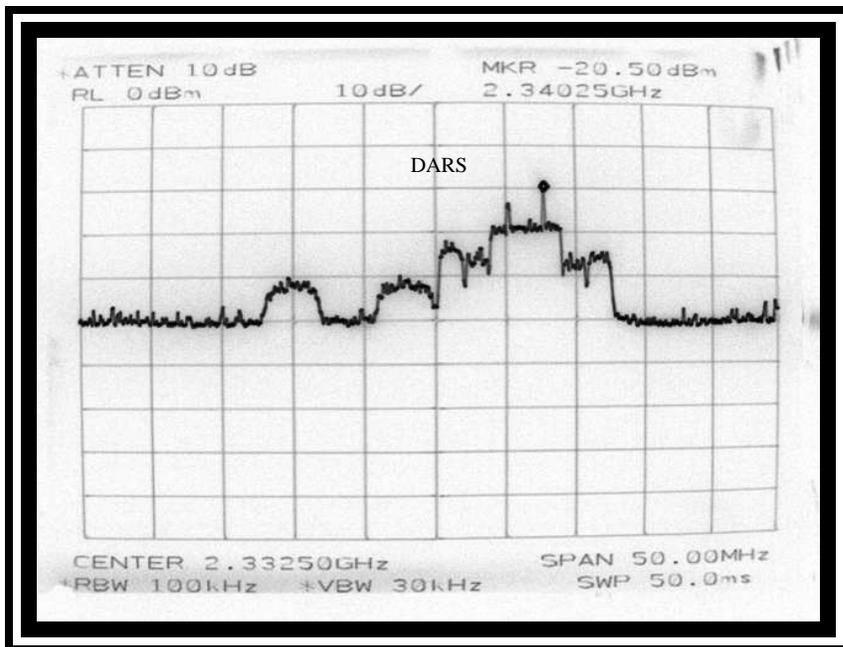
Leesburg, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



With High-Pass and Tunable  
Filters

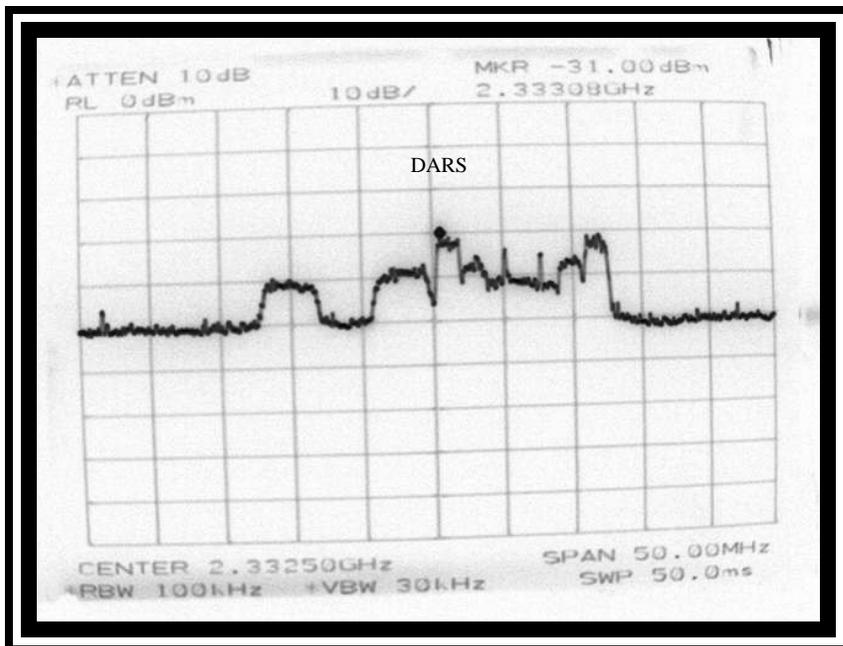
Date: January 21, 2002  
Time of Day: 1025  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1030  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.5-5 RF Spectrum Analysis

Leesburg, Virginia

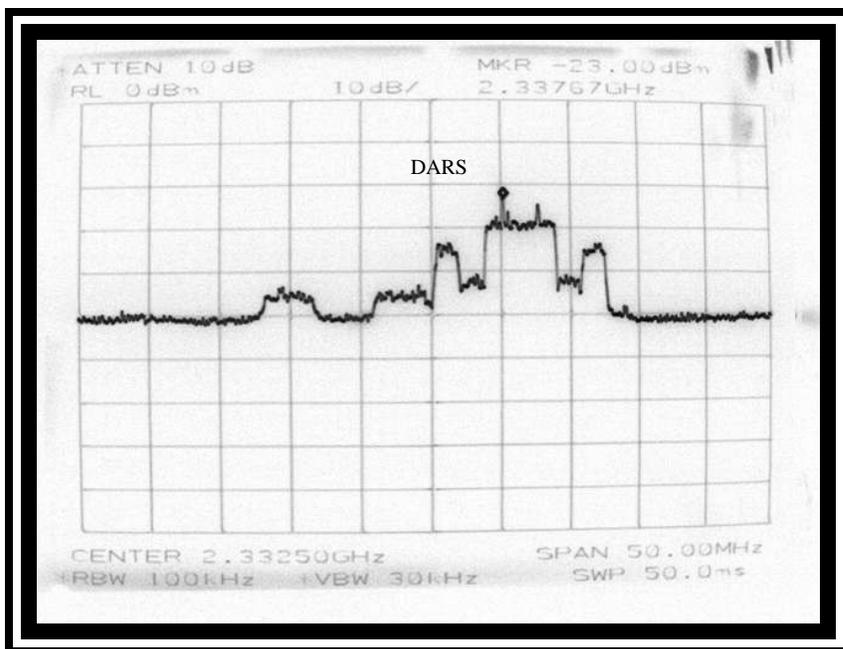
Azimuth 96°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

With High-Pass and Tunable  
Filters

-109.5

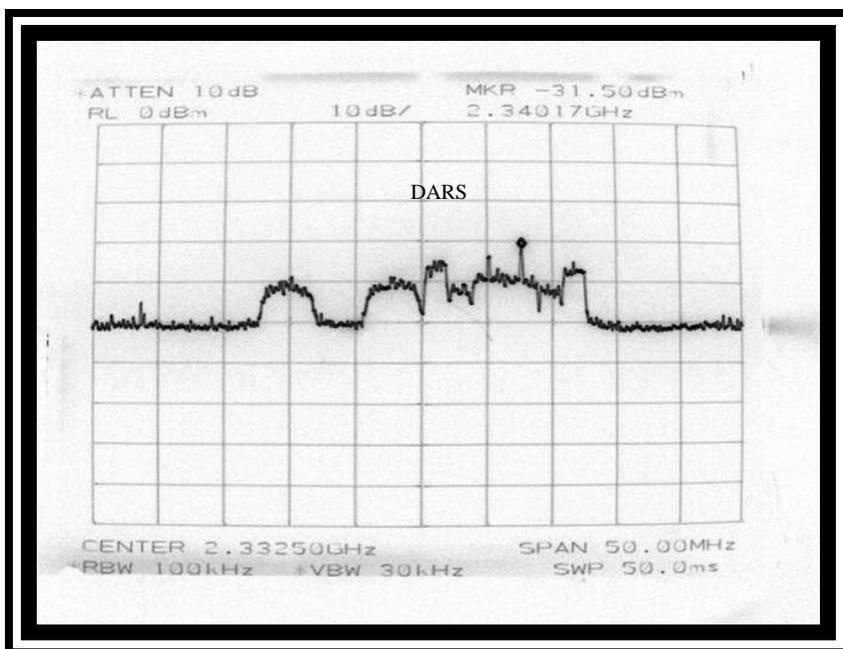


Date: January 21, 2002  
Time of Day: 1040  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1045  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

(B)

Figure 3.5-6 RF Spectrum Analysis

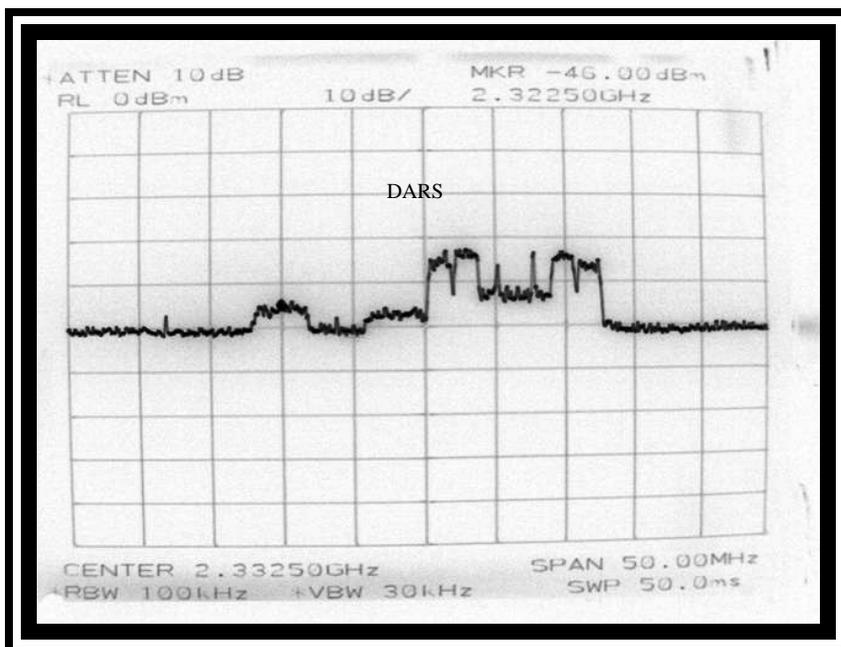
Leesburg, Virginia

Azimuth 233°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



With High-Pass and Tunable  
Filters

Date: January 21, 2002

Time of Day: 1055

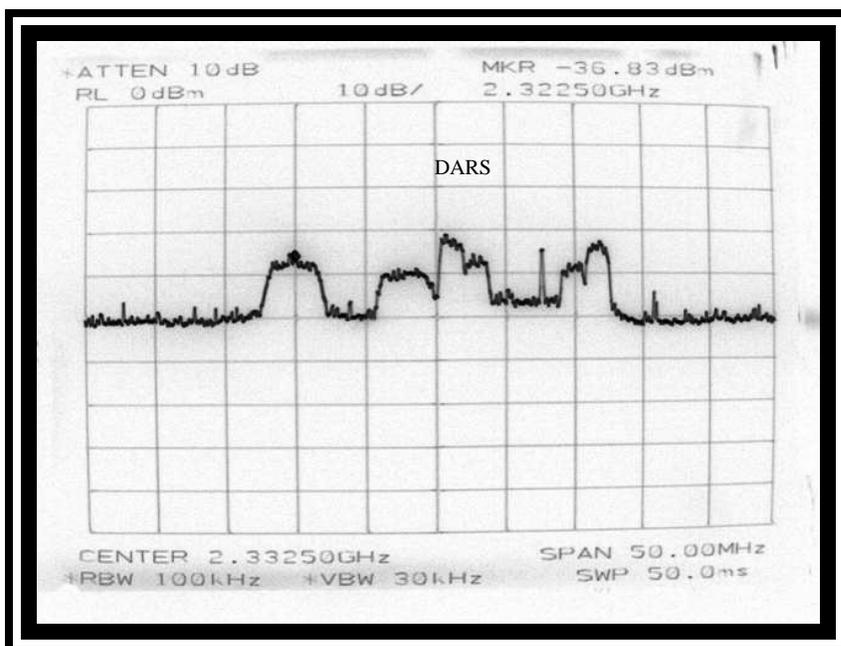
Ant. Polarization: V

Ant. Centerline: 10 Ft.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002

Time of Day: 1100

Ant. Polarization: H

Ant. Centerline: 10 Ft.

(B)

Figure 3.5-7 RF Spectrum Analysis

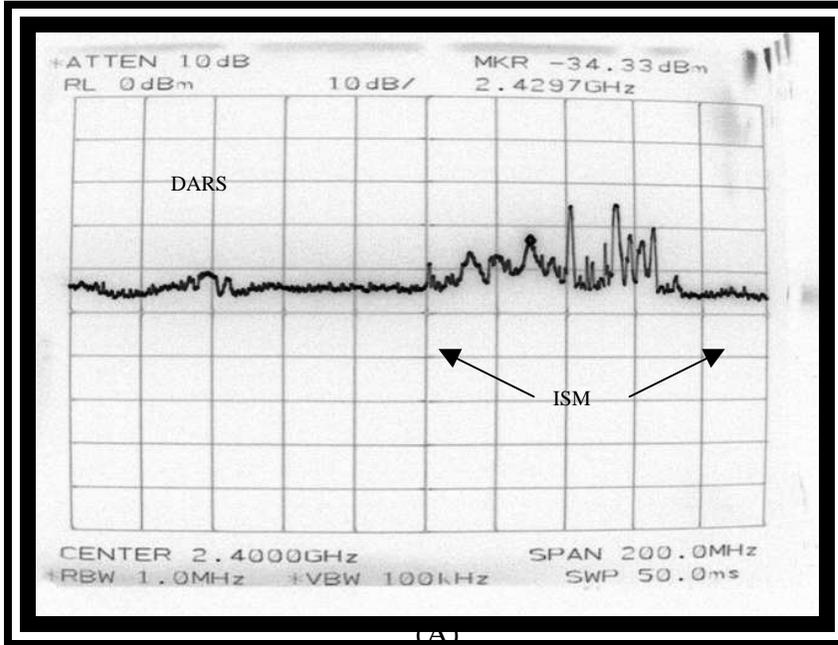
Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 317°

With High-Pass and Tunable  
Filters

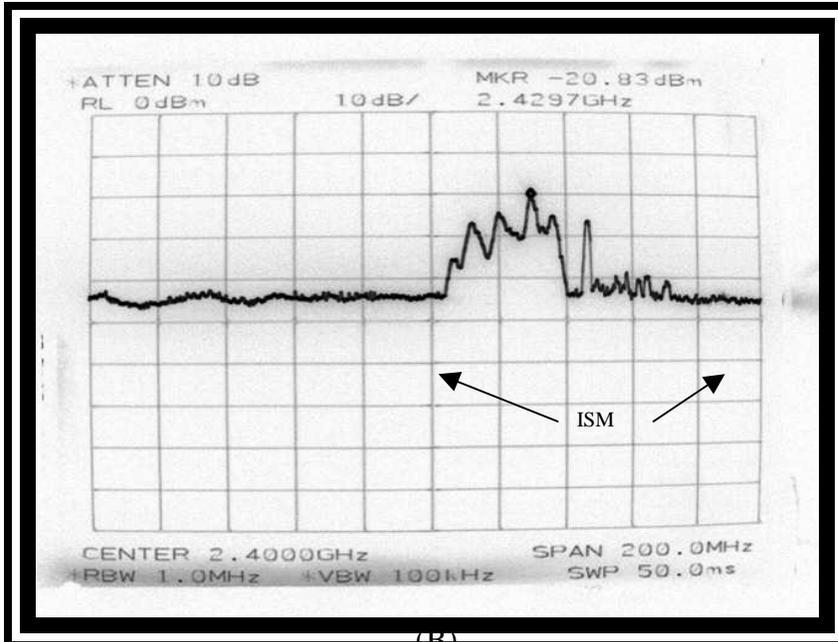
-109.5



Date: January 21, 2002  
Time of Day: 1105  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1110  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Figure 3.5-8 RF Spectrum Analysis

## **SECTION 3.6**

**Sterling, VA**

## **SECTION 3.6**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

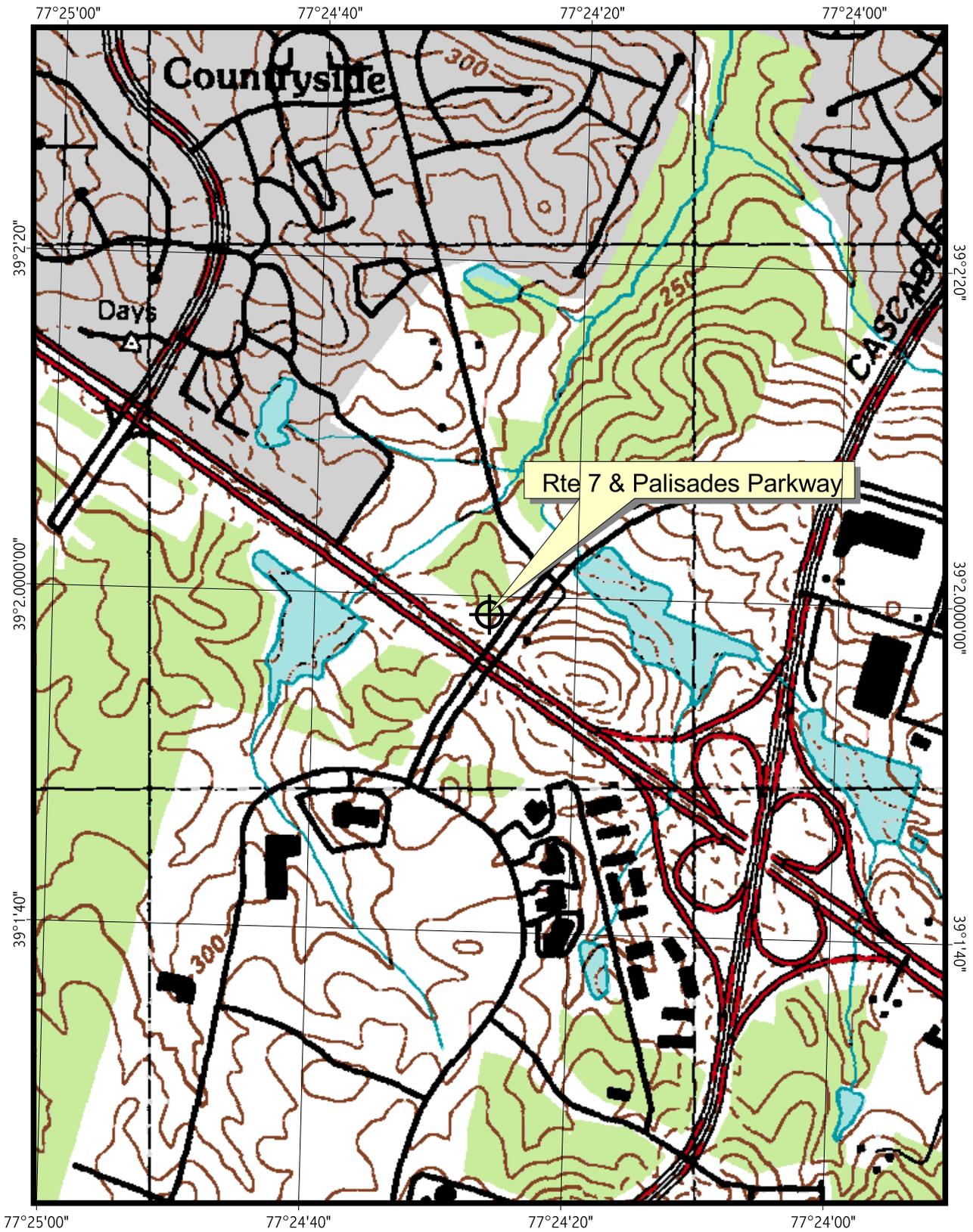
#### **3.6 XM Radio – Sterling, VA**

- o Table 3.6-1 presents a site data sheet including all pertinent site information.
- o Figure 3.6-1 contains topographic map denoting the test location throughout the measurements
- o Figures 3.6-2 are the photographs depicting the test site.
- o Figures 3.6-3 through 3.6-8 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.6-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Sterling, VA
3. SITE IDENTIFICATION:	Rte. 7 & Palisades Pkwy
4. COORDINATES: (NAD 1983)	LATITUDE: 39° 02' 02.6" N LONGITUDE: 77° 24' 26.6" W
5. SITE TYPE:	Suburban
6. MEASUREMENT DATES & TIMES:	January 17, 2002 0930-1130



***XM RADIO***

***FIGURE 3.6-1***



North



East



Figure 3.6-2 Measurement Site Photographs

South



West



Figure 3.6-2 (cont.) Measurement Site Photographs

Az 79°



Az 223°



Figure 3.6-2 (cont.) Measurement Site Photographs

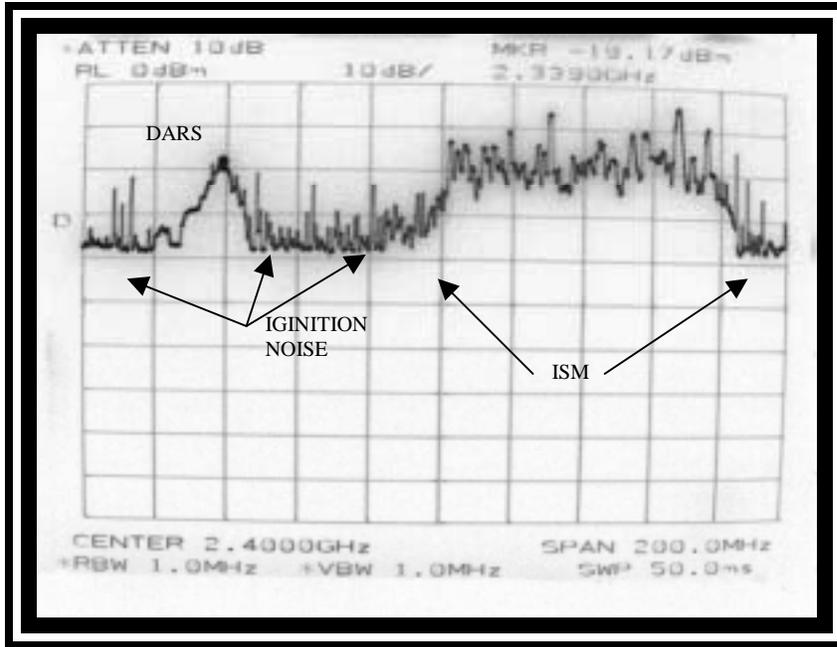
Sterling, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



With High-Pass and Tunable  
Filters

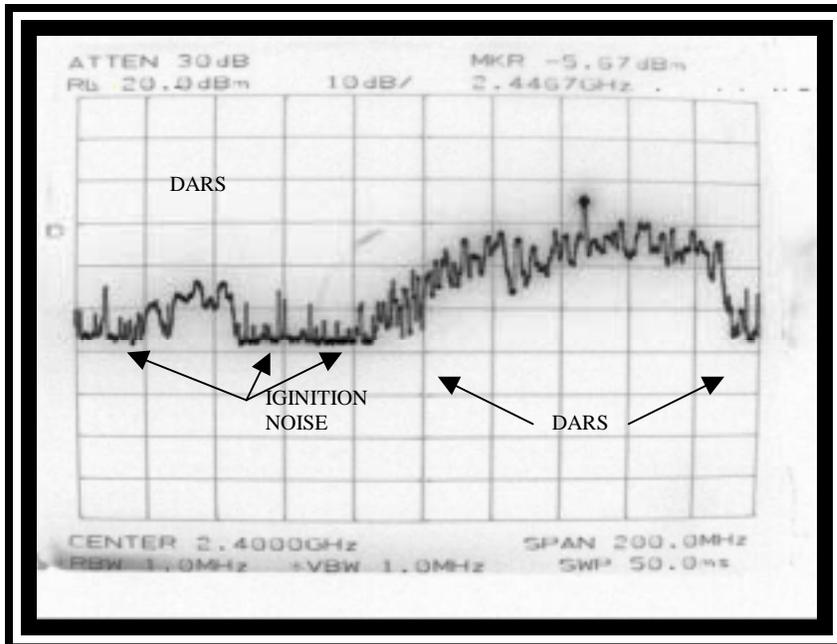
Date: January 17, 2002  
Time of Day: 0945  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-89.5



Date: January 17, 2002  
Time of Day: 0950  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.6-3 RF Spectrum Analysis

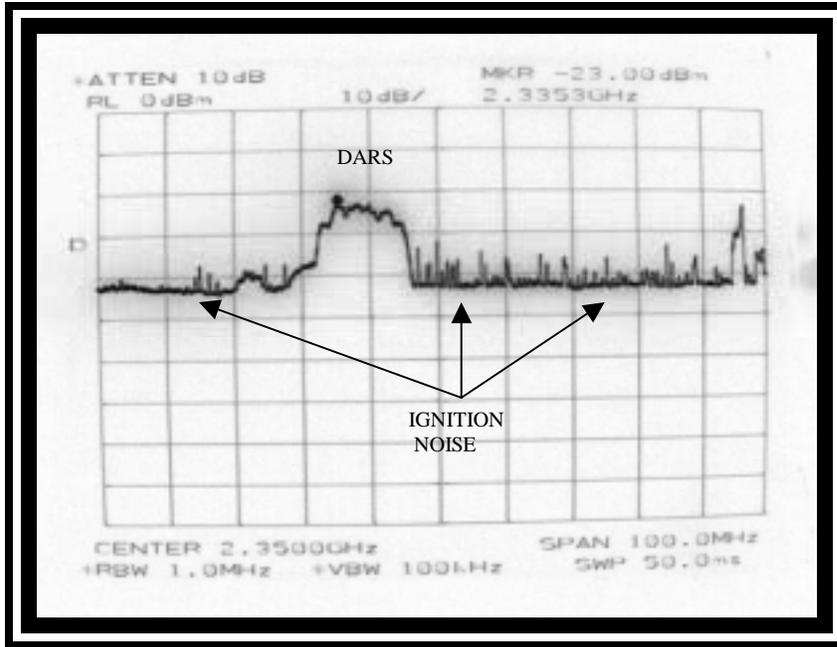
Sterling, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



With High-Pass and Tunable  
Filters

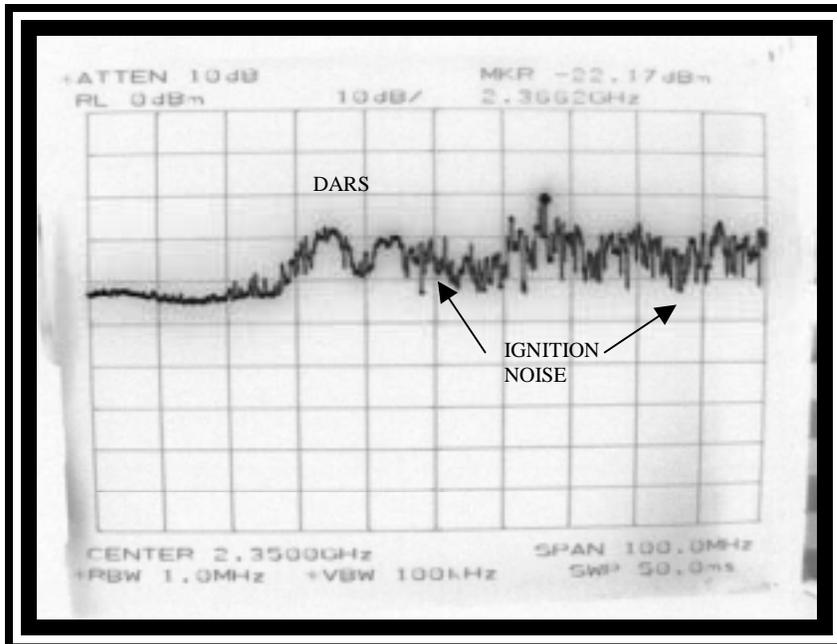
Date: January 17, 2002  
Time of Day: 1000  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002  
Time of Day: 1005  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.6-4 RF Spectrum Analysis

Sterling, Virginia

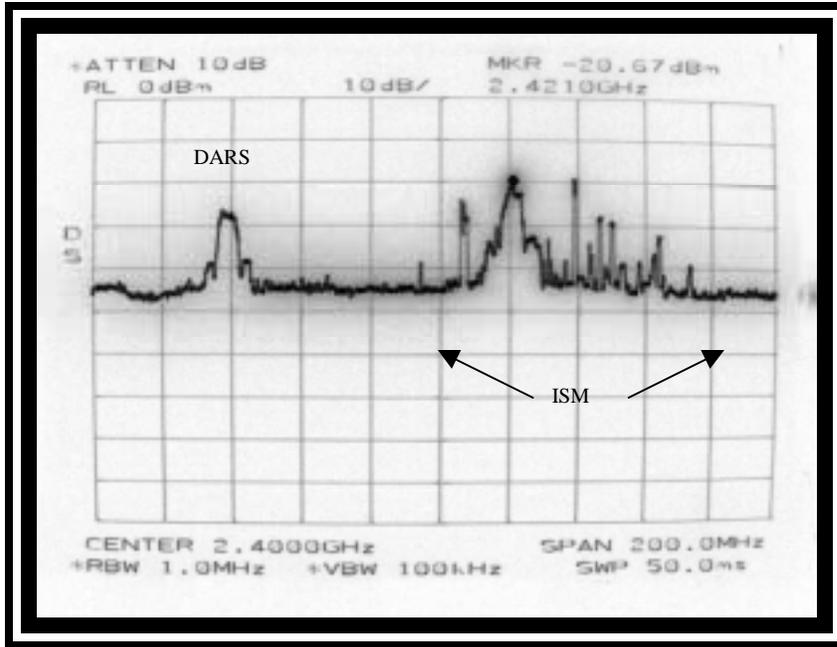
Azimuth 79°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

With High-Pass and Tunable  
Filters

-109.5



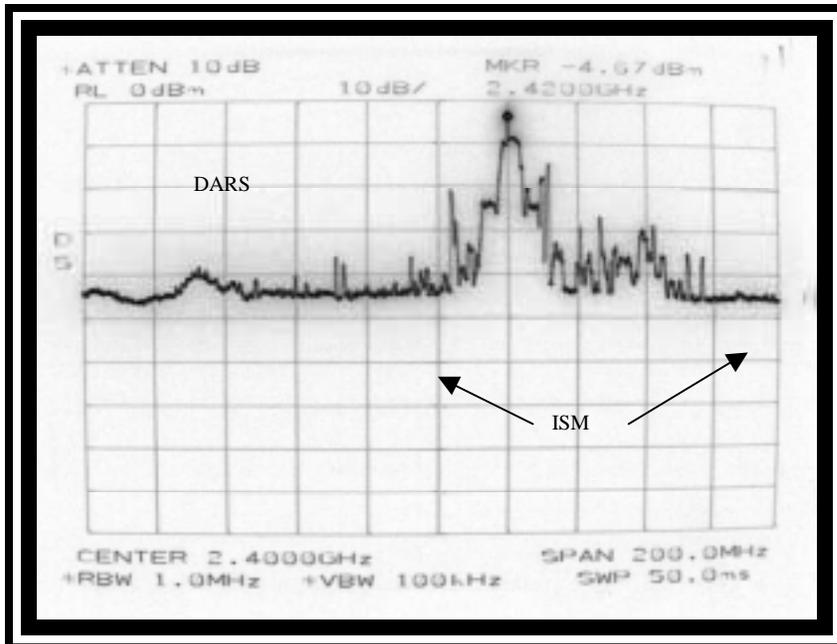
Date: January 17, 2002  
Time of Day: 1015  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Antenna pointed in direction of  
a telecommunications tower.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002  
Time of Day: 1020  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.6-5 RF Spectrum Analysis

Sterling, Virginia

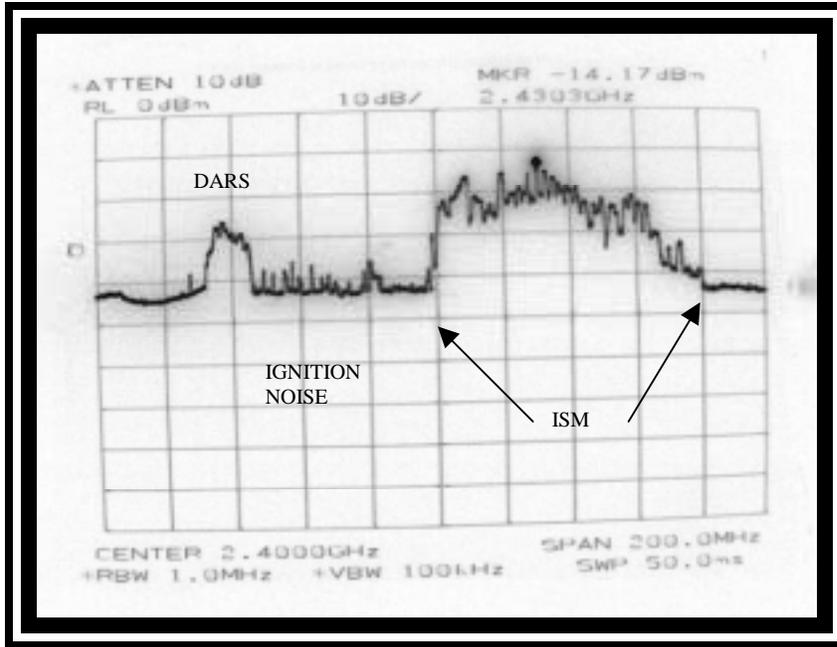
Azimuth 223°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

With High-Pass and Tunable  
Filters

-109.5



Date: January 17, 2002  
Time of Day: 1030  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

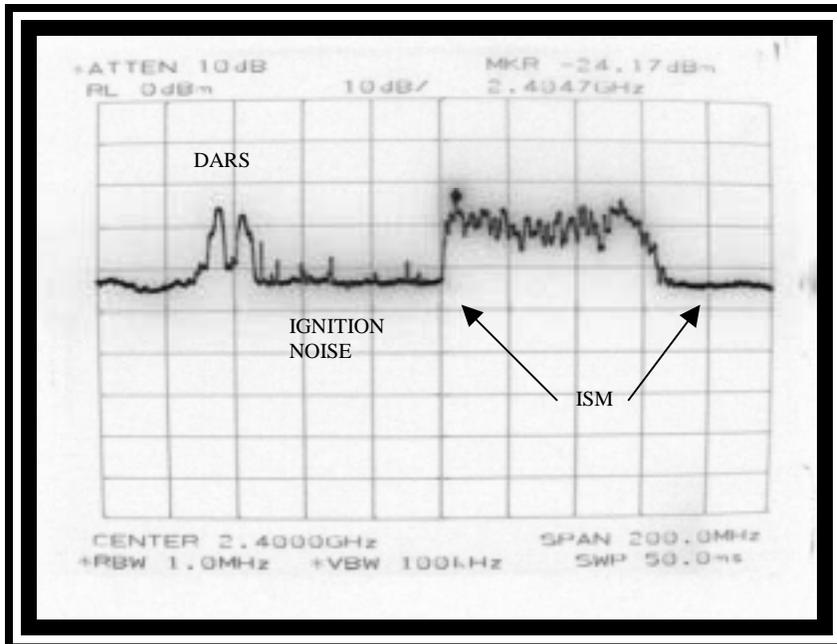
Antenna pointed to a control box  
At the intersection of Rte.7 and  
Palisades Pkwy.

A steady signal exists at  
2420 MHz

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002  
Time of Day: 1035  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

(B)

Figure 3.6-6 RF Spectrum Analysis

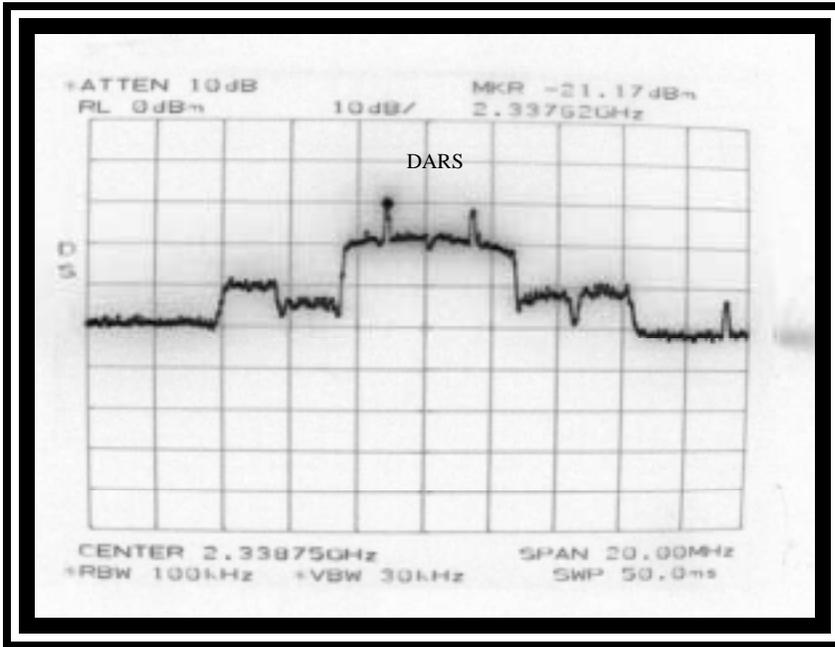
Sterling, Virginia

Azimuth 297°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



With High-Pass and Tunable  
Filters

Date: January 17, 2002

Time of Day: 1040

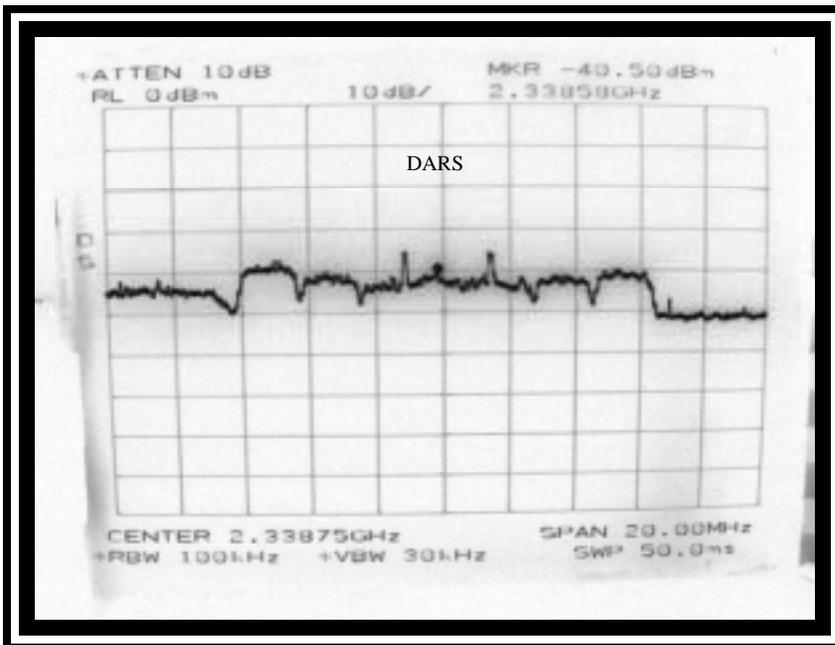
Ant. Polarization: V

Ant. Centerline: 10 Ft.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002

Time of Day: 1050

Ant. Polarization: H

Ant. Centerline: 10 Ft.

(B)

Figure 3.6-7 RF Spectrum Analysis

Sterling, Virginia

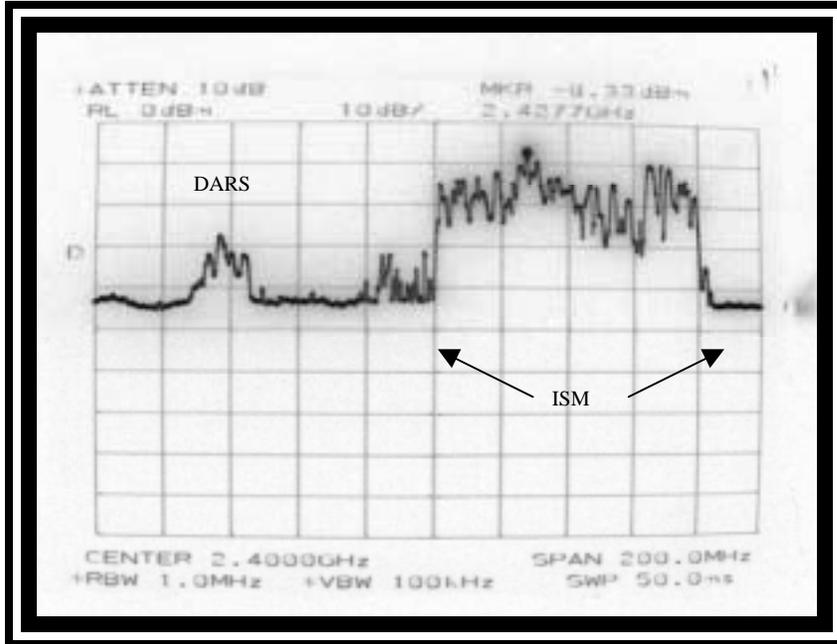
Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 315°

With Tunable and High-Pass  
Filters

-109.5



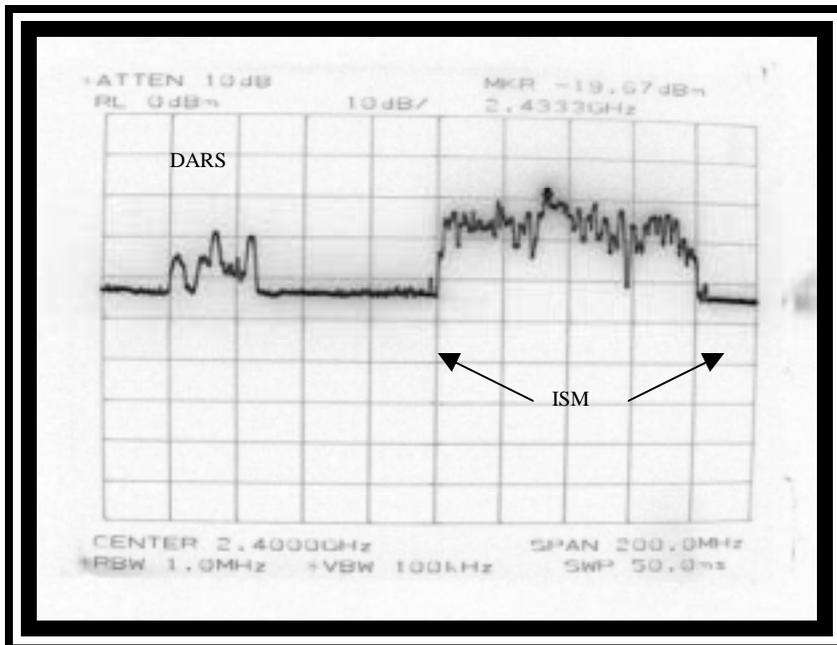
Date: January 17, 2002  
Time of Day: 1055  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Antenna pointed in the direction  
of a Burger King Restaurant

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 17, 2002  
Time of Day: 1100  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

(B)

Figure 3.6-8 RF Spectrum Analysis

## **SECTION 3.7**

**Lucketts, VA**

## **SECTION 3.7**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

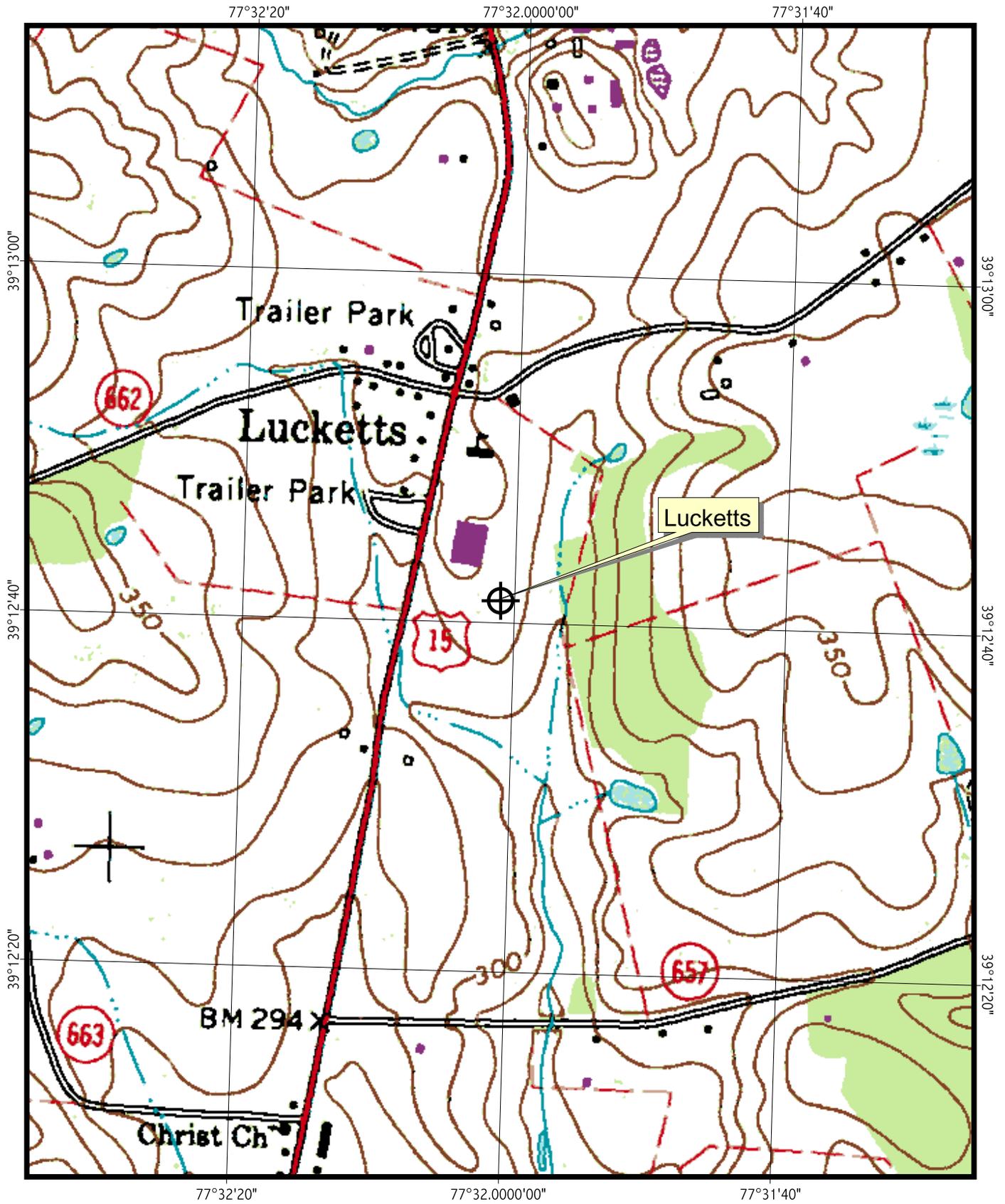
#### **3.7 XM Radio – Lucketts, VA**

- o Table 3.7-1 presents a site data sheet including all pertinent site information.
- o Figure 3.7-1 contains topographic map denoting the test location throughout the measurements
- o Figures 3.7-2 are the photographs depicting the test site.
- o Figures 3.7-3 through 3.7-5 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.7-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Lucketts, VA
3. SITE IDENTIFICATION:	Lucketts
4. COORDINATES: (NAD 1983)	LATITUDE: 39° 12' 45.1" N LONGITUDE: 77° 32' 00.8" W
5. SITE TYPE:	Rural
6. MEASUREMENT DATES & TIMES:	January 18, 2002 1600-1645



**XM RADIO**  
**FIGURE 3.7-1**



North



East

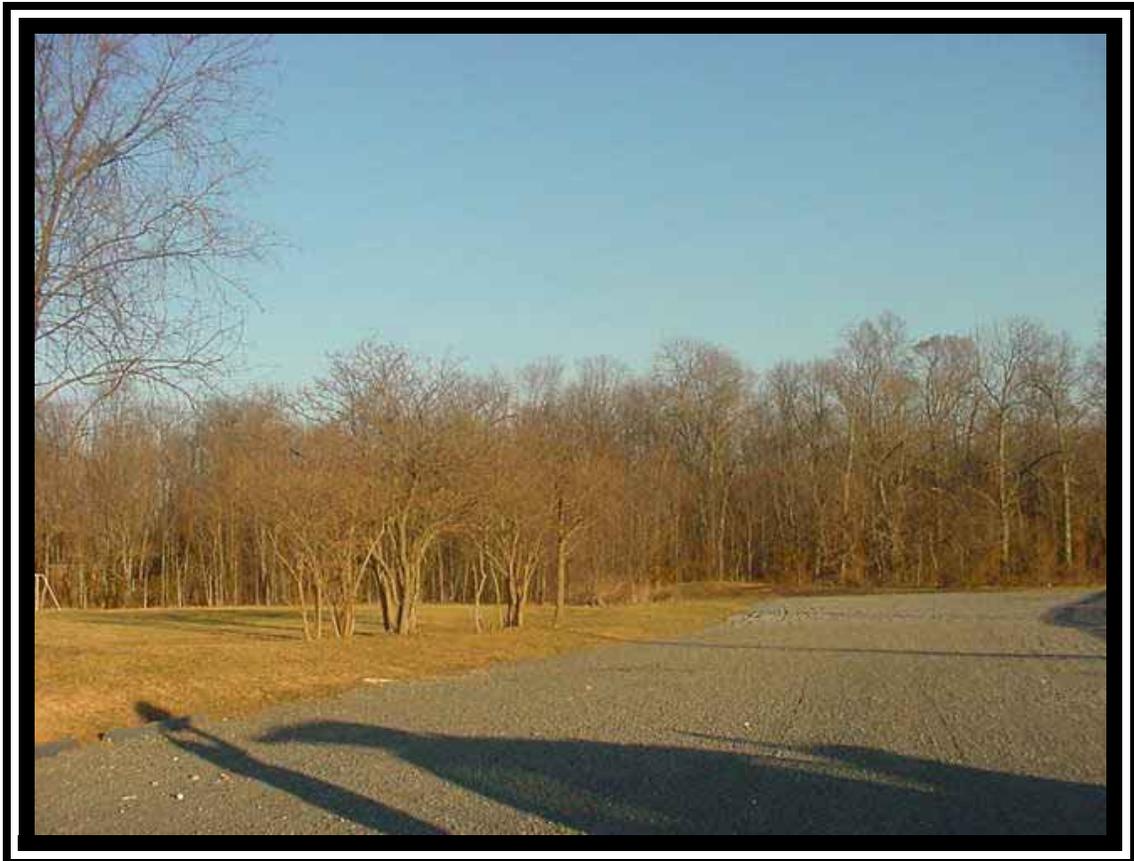


Figure 3.7-2 Measurement Site Photographs

South



West



Figure 3.7-2 (cont.) Measurement Site Photographs

Az 190°

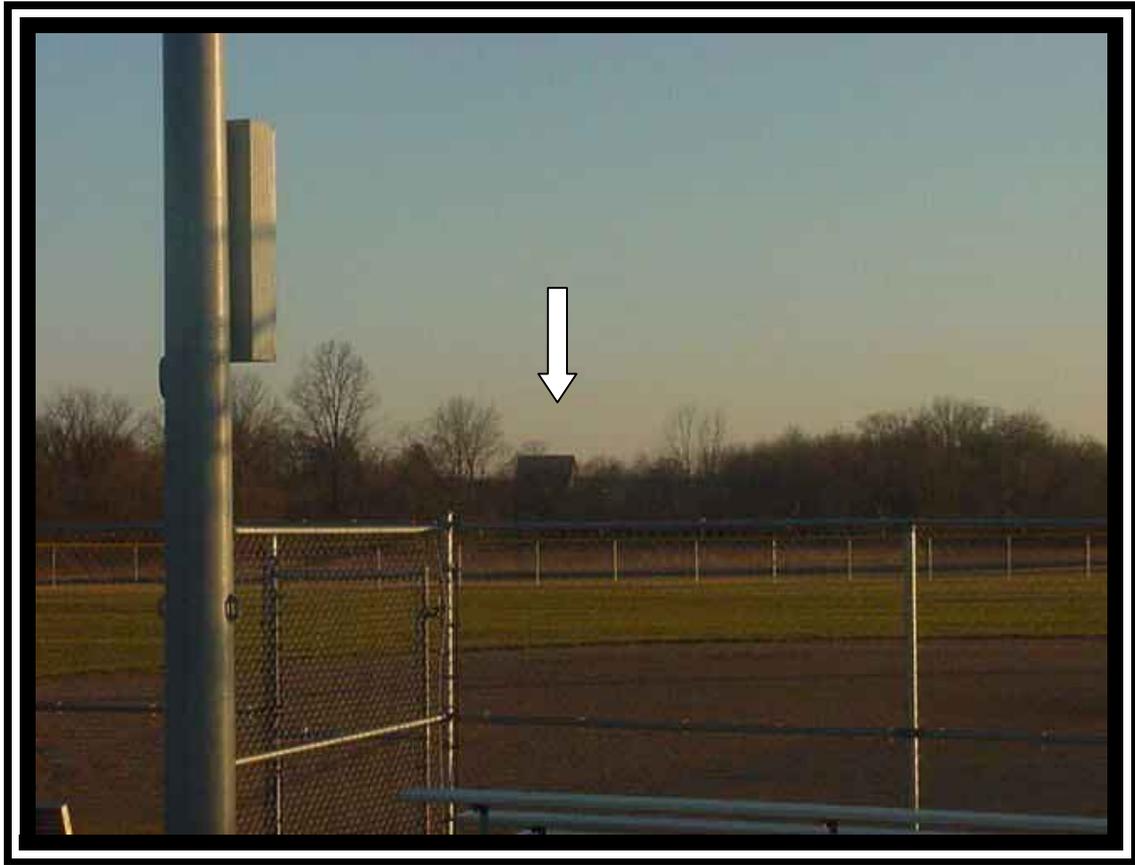


Figure 3.7-2 (cont.) Measurement Site Photographs

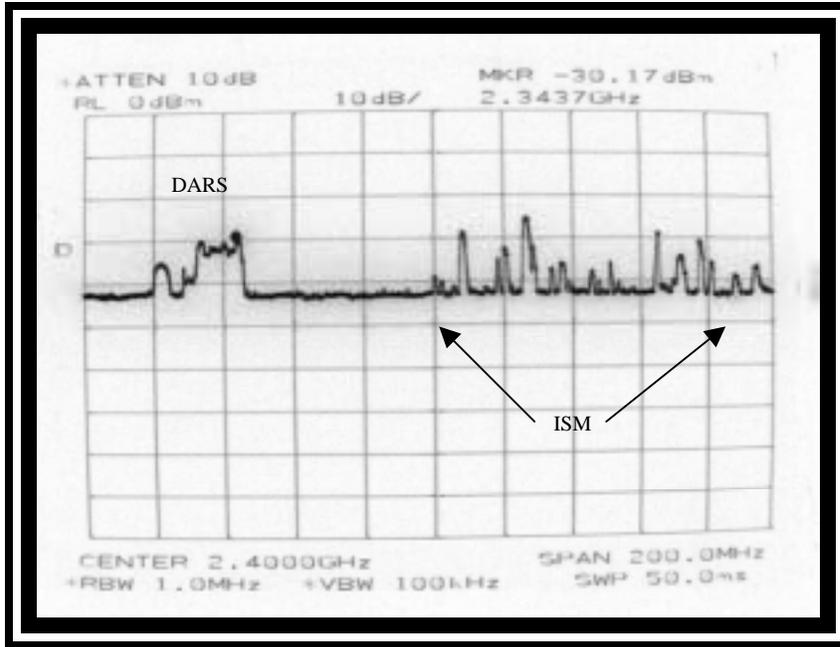
Lucketts, Virginia

Azimuth 0-360°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

-109.5



High-Pass Filter Only

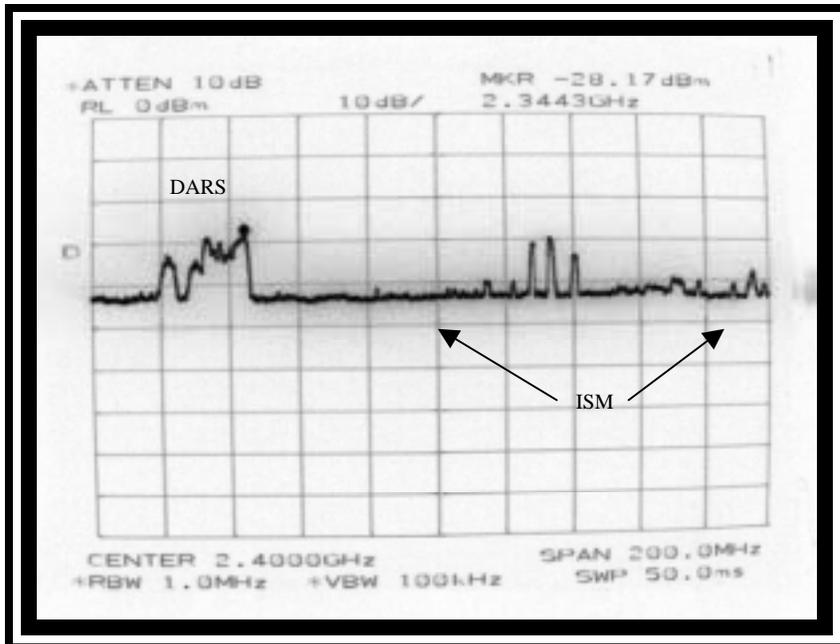
Date: January 18, 2002  
Time of Day: 1605  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 18, 2002  
Time of Day: 1610  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.7-3 RF Spectrum Analysis

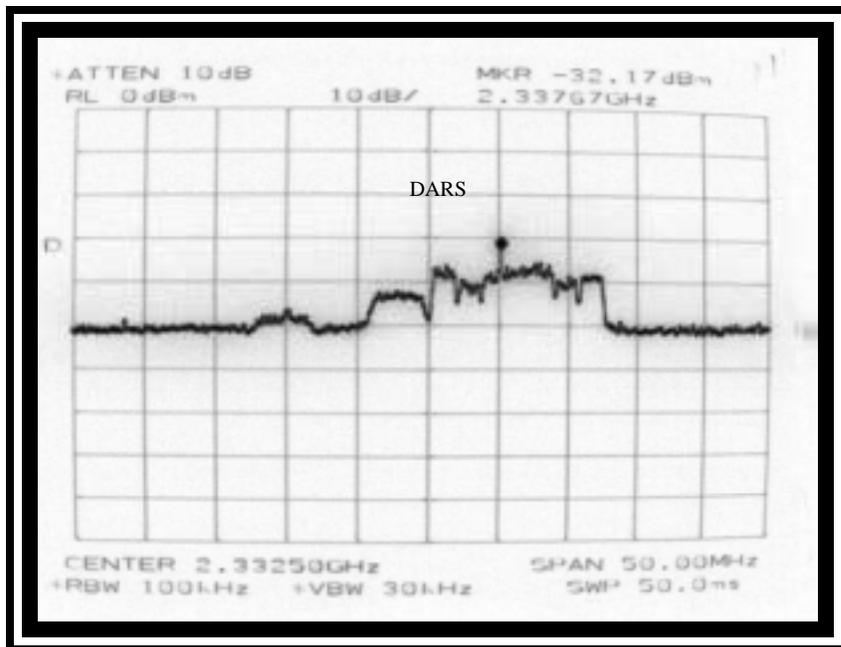
Lucketts, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



High-Pass Filter Only

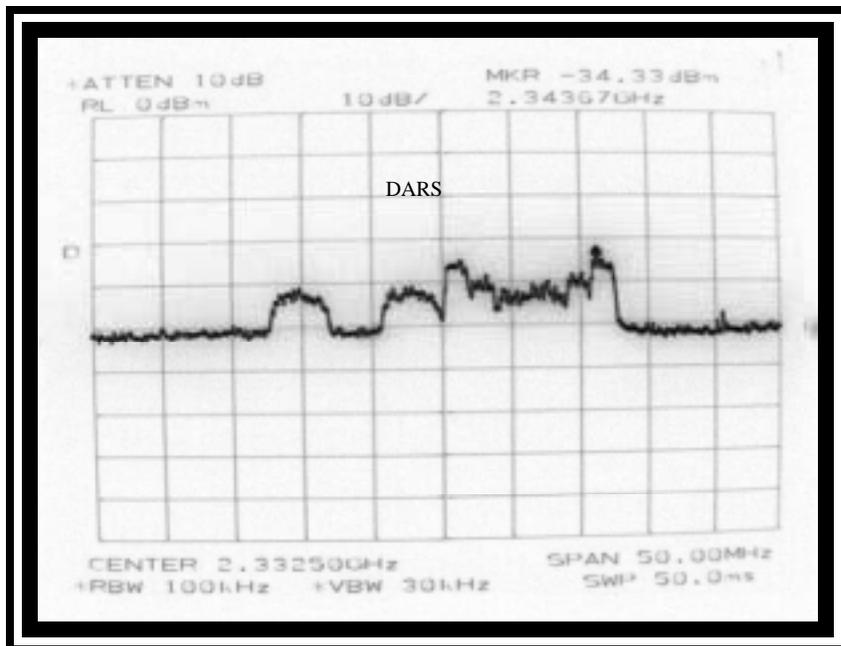
Date: January 18, 2002  
Time of Day: 1620  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 18, 2002  
Time of Day: 1625  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.7-4 RF Spectrum Analysis

Lucketts, Virginia

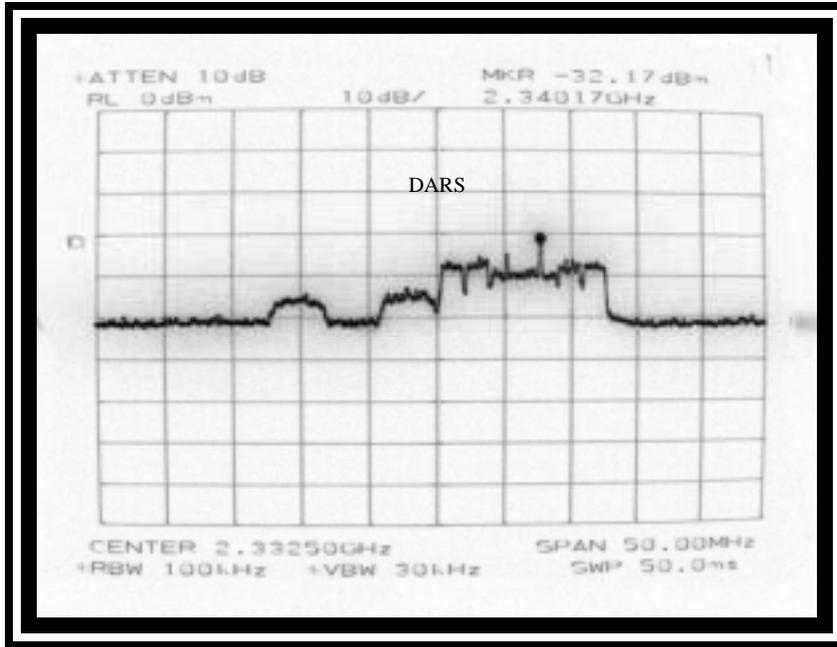
Azimuth 190°

Reference  
Level  
dBW<sub>I</sub>

XM Radio

High-Pass Filter Only

-109.5

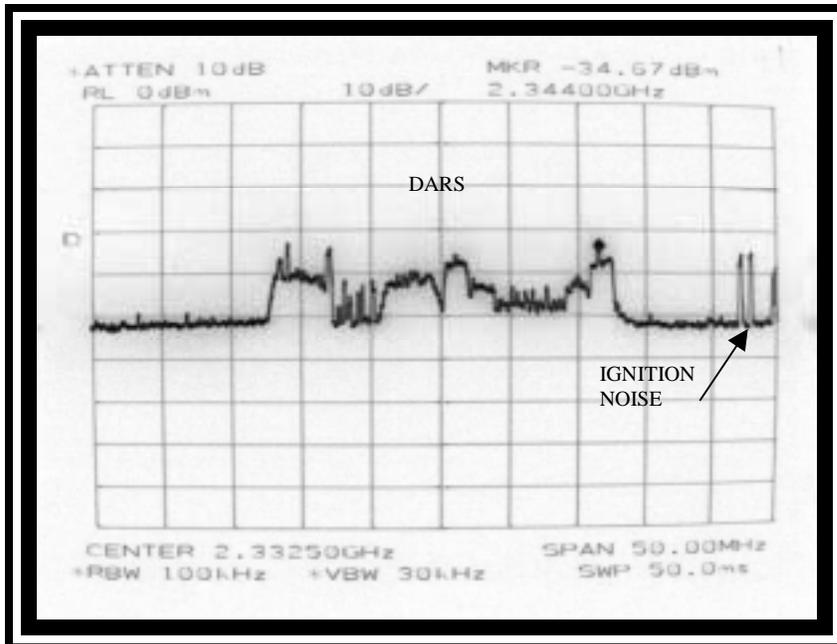


Date: January 18, 2002  
Time of Day: 1630  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 18, 2002  
Time of Day: 1630  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

(B)

Figure 3.7-5 RF Spectrum Analysis

## **SECTION 3.8**

**Nokesville, VA**

## **SECTION 3.8**

### **DATA PRESENTATION**

The following section contains the tables, site photos, and spectrum photos pertaining to the site location measured.

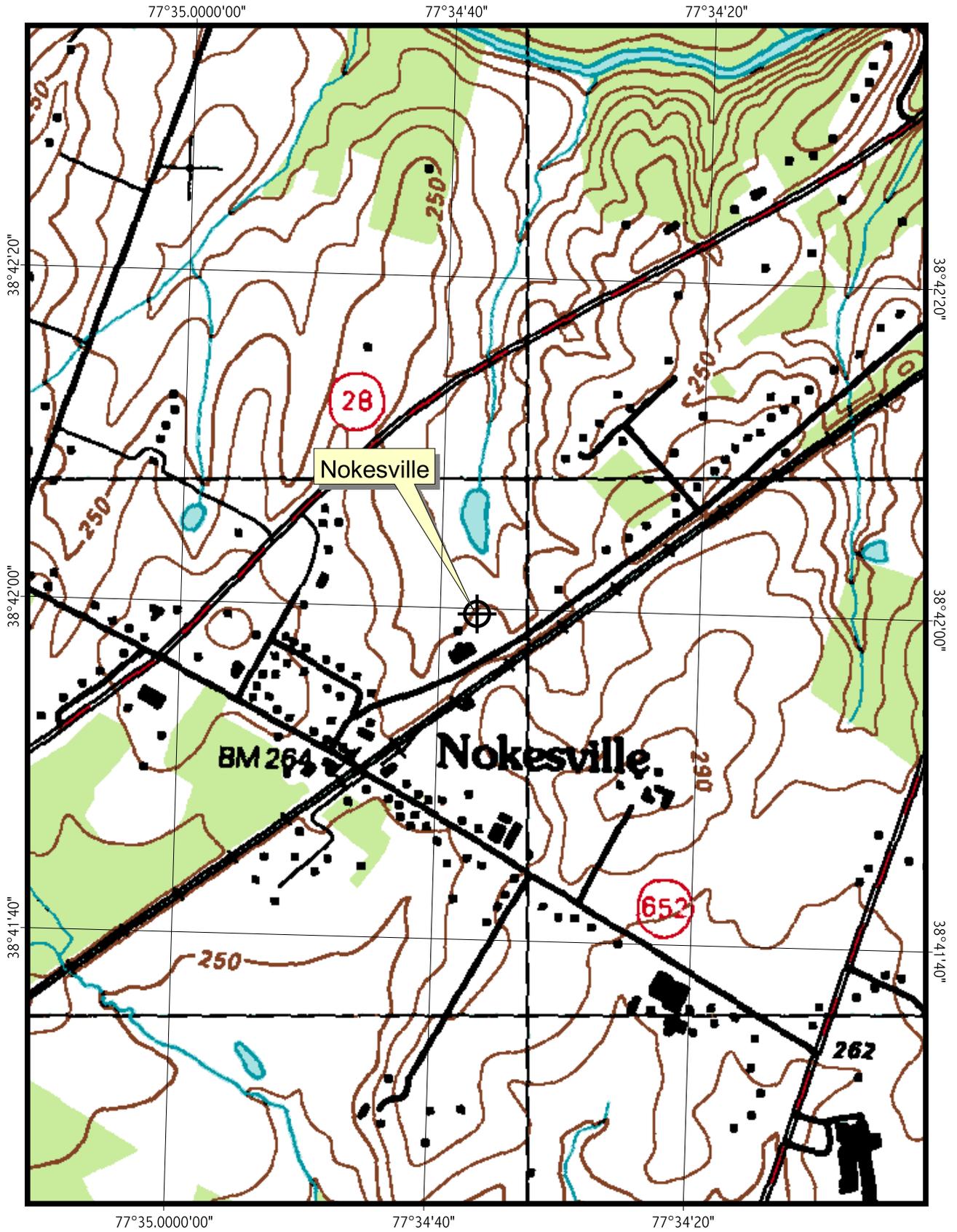
#### **3.8 XM Radio – Nokesville, VA**

- o Table 3.8-1 presents a site data sheet including all pertinent site information.
- o Figure 3.8-1 contains a plot plan which indicates the test antenna location throughout the measurements.
- o Figures 3.8-2 are the photographs depicting the test site.
- o Figures 3.8-3 through 3.8-6 are the RF spectrum photographs depicting the interference environment at the test site.

**TABLE 3.8-1**

**MEASUREMENT SITE DATA SHEET**

1. SYSTEM NAME:	XM Radio
2. CITY AND STATE:	Nokesville, VA
3. SITE IDENTIFICATION:	Nokesville
4. COORDINATES: (NAD 1983)	LATITUDE: 38° 42' 03.4" N LONGITUDE: 77° 34' 36.9" W
5. SITE TYPE:	Rural
6. MEASUREMENT DATES & TIMES:	January 21, 2002 1430-1530



**XM RADIO**  
**FIGURE 3.8-1**



North



East



Figure 3.8-2 Measurement Site Photographs

South



West



Figure 3.8-2 (cont.) Measurement Site Photographs

Az 68°



Cell Tower at Az 349°



Figure 3.8-2 (cont.) Measurement Site Photographs

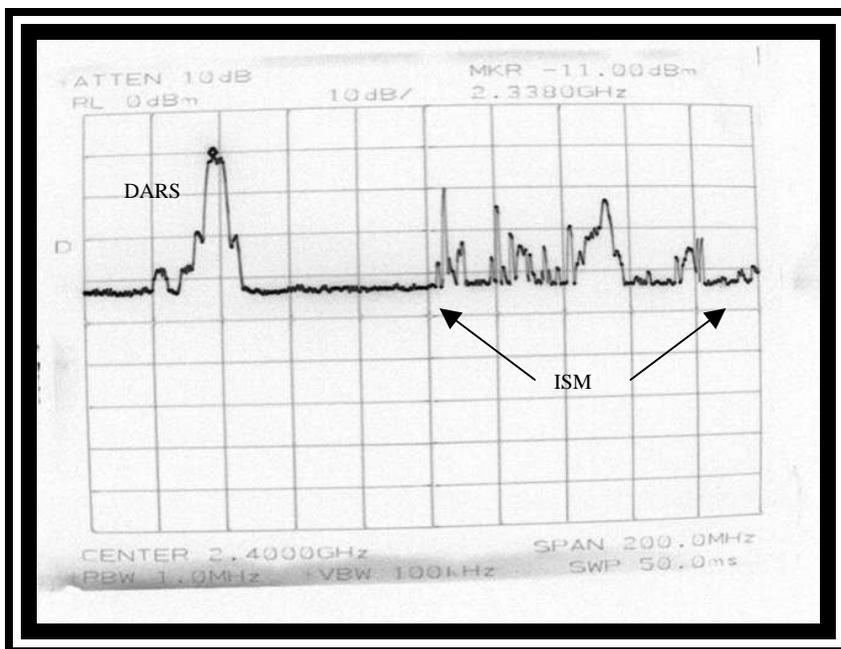
Nokesville, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



High-Pass Filter Only

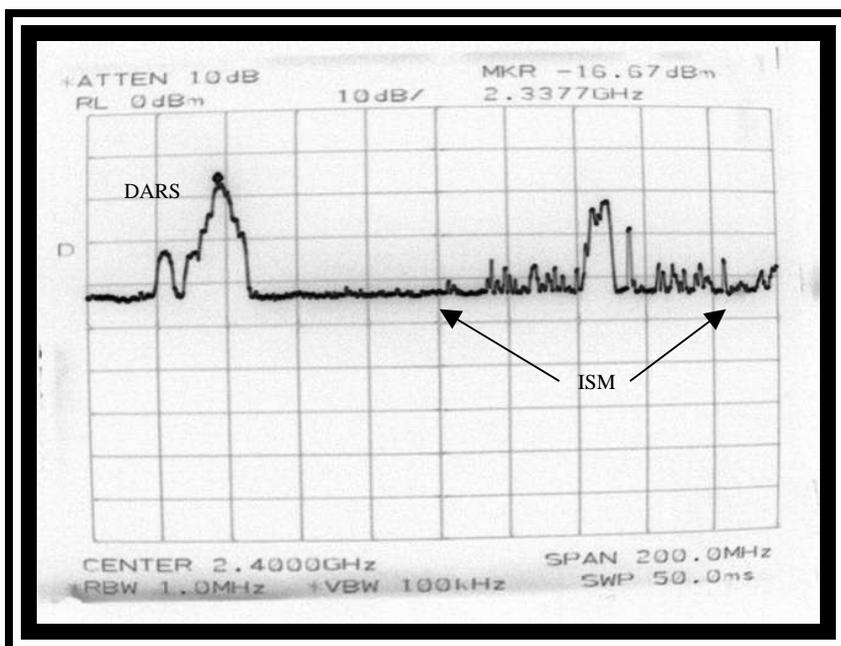
Date: January 21, 2002  
Time of Day: 1435  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1440  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.8-3 RF Spectrum Analysis

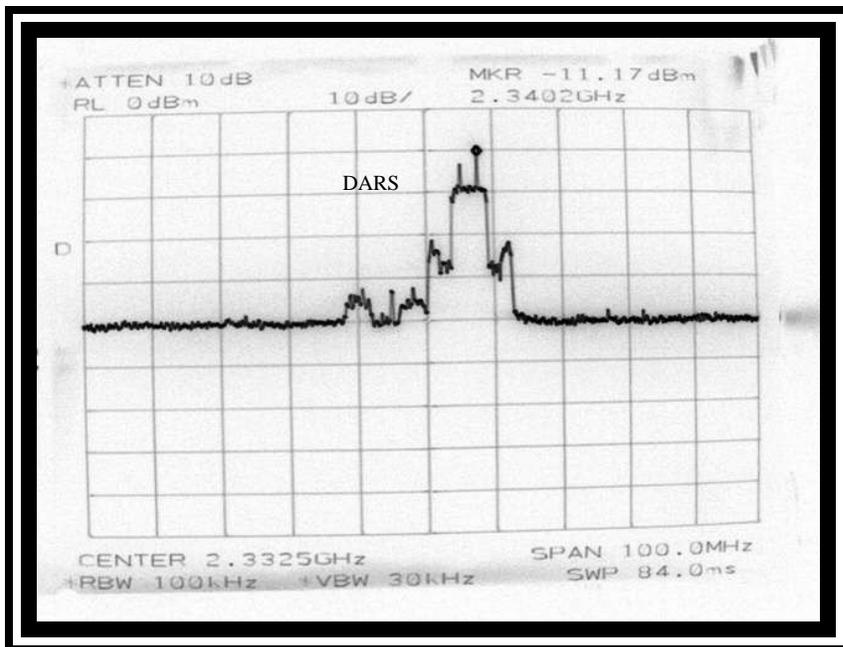
Nokesville, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



High-Pass Filter Only

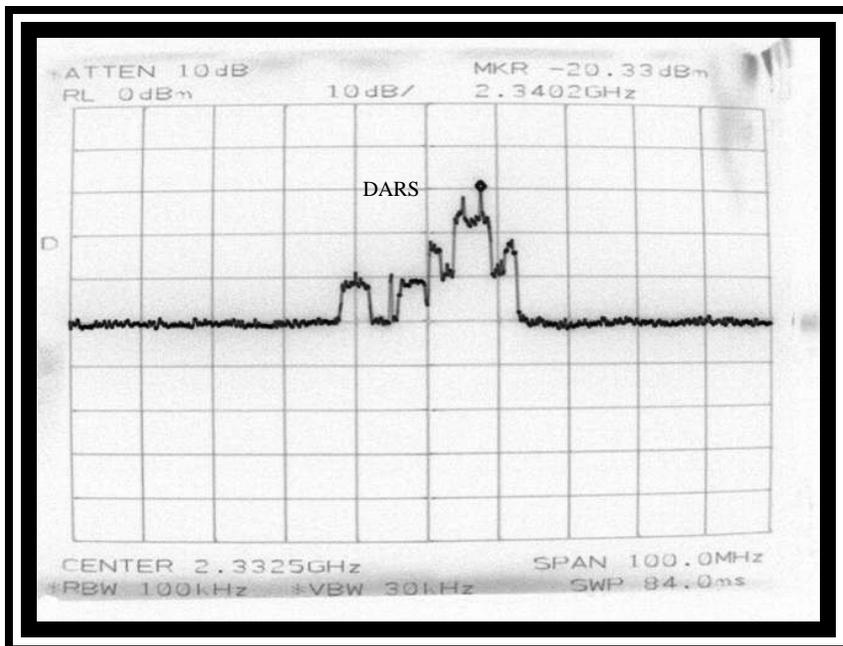
Date: January 21, 2002  
Time of Day: 1445  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1450  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.8-4 RF Spectrum Analysis

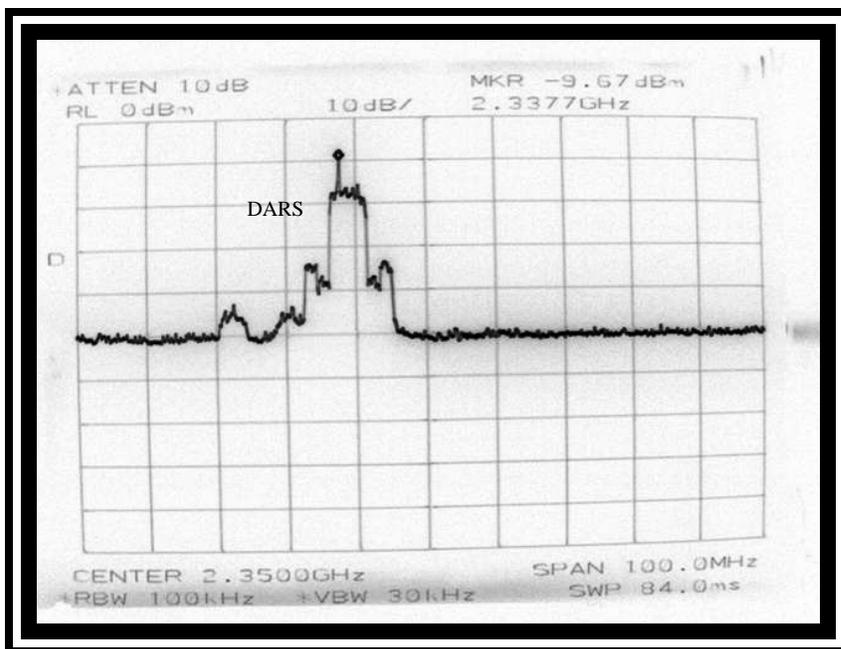
Nokesville, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 0-360°

-109.5



High-Pass Filter Only

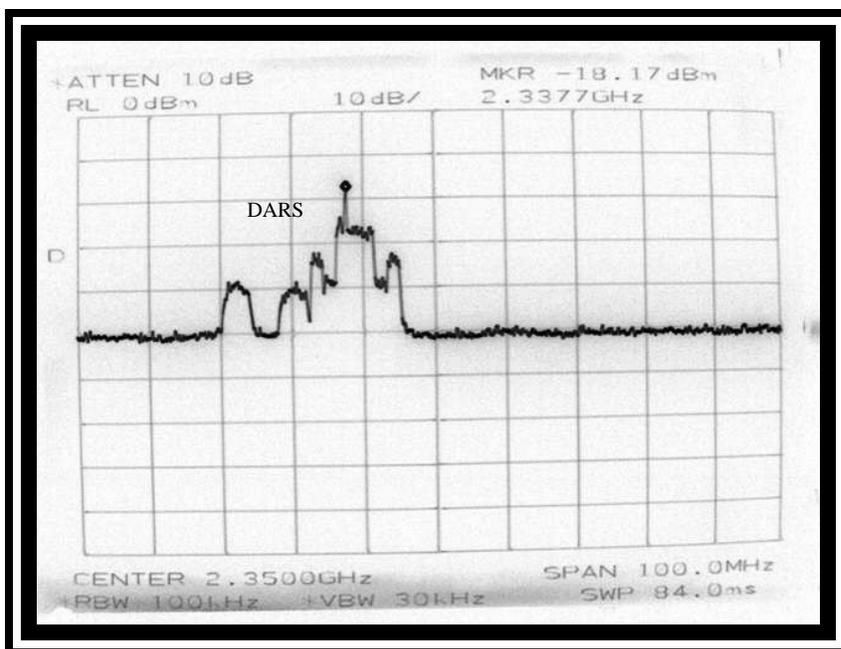
Date: January 21, 2002  
Time of Day: 1455  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1500  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

Full Antenna Sweep

(B)

Figure 3.8-5 RF Spectrum Analysis

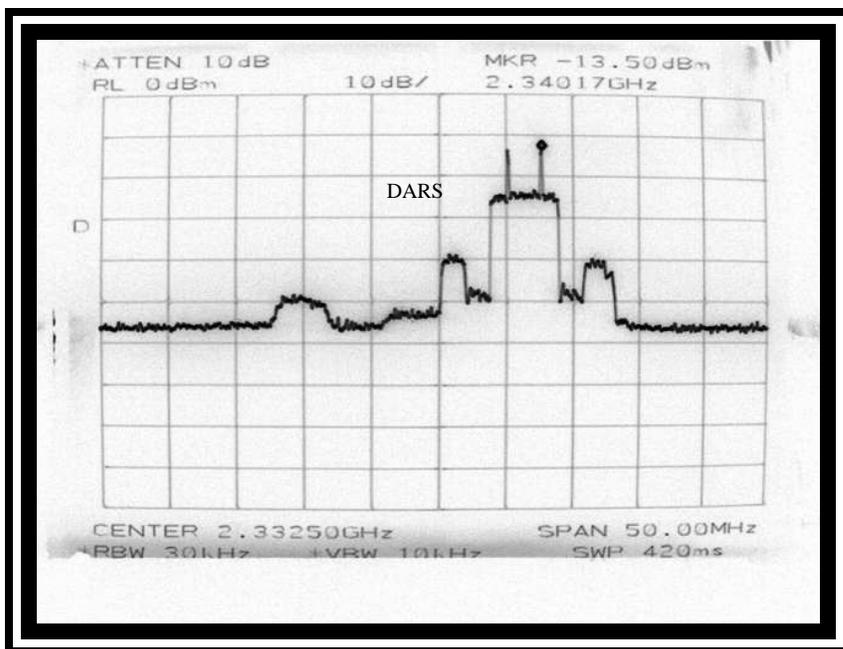
Nokesville, Virginia

Reference  
Level  
dBW<sub>I</sub>

XM Radio

Azimuth 68°

-109.5



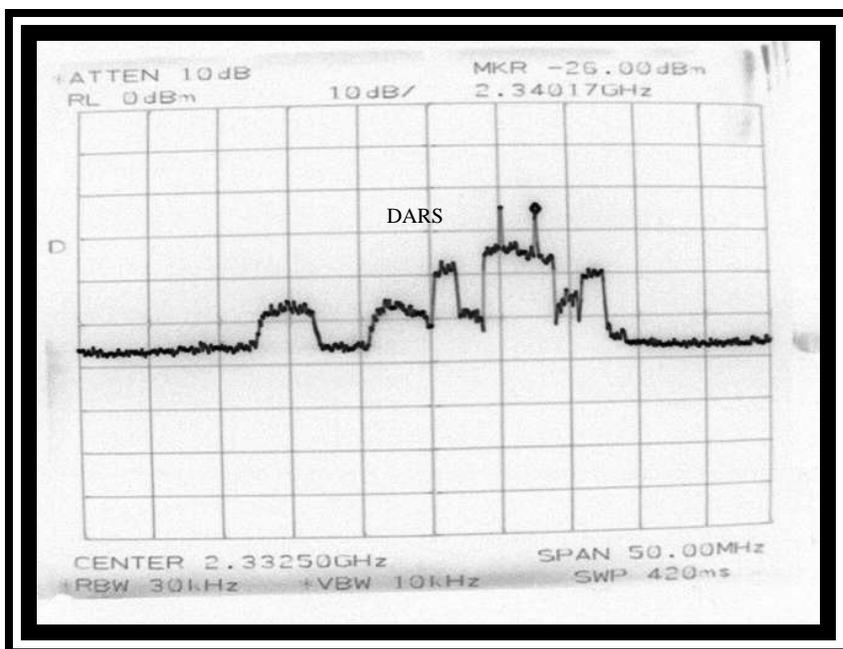
High-Pass Filter Only

Date: January 21, 2002  
Time of Day: 1510  
Ant. Polarization: V  
Ant. Centerline: 10 Ft.

(A)

Reference  
Level  
dBW<sub>I</sub>

-109.5



Date: January 21, 2002  
Time of Day: 1515  
Ant. Polarization: H  
Ant. Centerline: 10 Ft.

(B)

Figure 3.8-6 RF Spectrum Analysis

***SECTION***

***FOUR***

## **SECTION 4**

### **SUMMARY OF RESULTS**

The measurements in this project were performed over a wide range of geographical locations (urban, suburban and rural). Unlike the measurements performed previous to this project the measurements at this time were able to detect the signals from both the XM Radio and Sirius Satellites and the XM Radio repeaters. As a matter of fact, the electromagnetic environment measurements in the urban areas in proximity to the XM Radio repeaters required the use of a notch filter so that the noise level close in to the XM Radio signal could be measured. The measurements were made to a sensitivity level of between -148 to -152 dBW/MHz. See the individual spectrum display figures for the sensitivity of each measurement. At every measurement location there were no signals detected from systems in the adjacent bands or from the WCS band; nor, from any spurious emissions. The ISM band was extremely active, especially in the urban areas and at least one emission consisting of two separate signals was detected in the WCS band. This transmission was believed to belong to COMCAST operating at the high and low B frequencies of the WCS band. When measurements were made close to the highway ignition noise was detected and this can be seen in a number of the spectrum displays.

The electromagnetic environment that was observed at this time in the DARS band is essentially the same as that measured previously and documented in the report referenced in Section 1 of this report. The ignition noise detected was also at levels previously measured. The only difference in the measurements now as compared to the measurements in October of 2000 is that the signals of both the XM Radio and Sirius Satellites and the XM Radio repeater are also present in the environment.

**TABLE 4-1**  
**INTERFERNCE LEVELS WITHIN THE DARS BAND**  
(2320 - 2345 MHz)

LOCATION	INTERFERING FREQUENCY	FIGURE	C/L (Ft.)	SOURCE	MAX LEVEL (dBW/1 MHz)	SYSTEM SENSITIVITY (dBW/1 MHz)
Reagan National Aiport	None	3.1-3(B)	10	N/A	-151	-151
Dulles Airport	None	3.2-3(B)	10	N/A	-152	-152
Reston, VA	Ignition Noise	3.3-4(A)	10	Vehicles	<b>-140</b>	-151
Vienna, VA	Ignition Noise	3.3-4(B)	10	Vehicles	<b>-155</b>	-152
Leesburg, VA	None	3.5-3(B)	10	N/A	-151	-151
Sterling, VA	Ignition Noise	3.6-4(B)	10	Vehicles	-140	-151
Lucketts, VA	Ignition Noise	3.7-5(B)	10	Vehicles	<b>-145</b>	-152
Nokesville, VA	None	3.8-3(A)	10	N/A	-152	-152

**NOTES:**

Levels in Bold are (dBW/100 KHz)

***SECTION***

***FIVE***

## **SECTION 5**

### **CONCLUSIONS**

Based on the measurements performed in this project it is concluded that the electromagnetic environment in the DARS band is virtually the same as it was when the previous measurements referenced in Section 1 were performed. The only signals detected above the noise level of the measurement system in the DARS band and not belonging either to XM Radio or Sirius was ignition noise. Ignition noise of the same magnitude was measured previously and is not considered an interference threat to the reception of the DARS signals. As long as the DARS band electromagnetic environment remains as measured in this project no interference to the operation of the satellite receivers in this band are anticipated.