EXHIBIT 6 TEST REPORT

For

CERTIFICATION

INTENTIONAL RADIATOR

Under 47 CFR, Part 15.231(e)

SmarTire Systems, Inc.

FCC ID: NATTX433TV-1

February 16, 2001

Prepared By:

Spectrum Technology, Inc.
209 Dayton Street
Edmonds, WA 98020
425 771- 4482

CERTIFICATION

TABLE OF CONTENTS

TEST: FIELD STRENGTH OF RADIATED EMISSIONS

Grantee: SmarTire Systems, Inc.

FCC ID: NATTX433TV-1

Setup:

The equipment under test (EUT) was configured and operated in accordance with the applicable provisions of ANSI C63.4-1992, Section 6, 13. Measurements were made in accordance with applicable paragraphs of Section 8.2.3, 8.2.4, Section 13.1.1, 13.1.4 Appendix D, and I.

The EUT was placed on a 1 by 1.5 meter table located 40 cm above a 2 meter diameter non-metallic turntable that sits 40 cm above the 15 X 30-meter ground plane at Spectrum's Open Area Test Site. The bi-conical or log-periodic antenna was mounted on a tower spaced at a three meters distance, and arranged for adjustment in height (1-4 meters) and vertical/horizontal polarization to maximize the emissions levels when combined with turntable rotation of the EUT. The dual ridged guide antenna was mounted on a tripod at one-meter height and adjusted for vertical or horizontal antenna orientation. An HP 8562A spectrum analyzer with an HP 8447F, Option H64 amplifier and an HP 83006A pre-amplifier were used for the measuring instrumentation.

Discussion:

No modifications were made during the final radiated measurements reported herein.

The EUT is the transmitter for the Smartire Pressure and Temperature Monitoring System which uses four 433.92 MHz transmitter/sensors. A 433 MHz receiver and display module used in the SmartTire Monitoring System, FCC ID: NATBR433BP, would be installed in a passenger vehicle and used to receive signals and display status of tire pressure and temperature sensors. The transmitter/sensor is installed within each tire with a stainless steel strap on to the rim of each wheel. Each transmitter reports back to the receiver approximately every four to six minutes continuously with pressure and temperature status transmitted in 10 18.5 ms packets within 500 ms. If a reduction in pressure is sensed the sensor will transmit more frequently. The information being considered a safety issue, as in the case of a punctured tire and an alarm is displayed on the receiver.

For the radiated emissions test, the transmitter was set on the table and tested while positioned in three orthogonal planes. The position of the sensor was with the valve pointing up at an angle siting on the table surface. Final testing was done with this position as depicted in the photo of the test setup uploaded with this report. The EUT was carefully centered on the table to maintain a 3-meter distance during rotation. The radiated test setup was conducted this way based on previous correspondence from the lab requiring testing the EUT off the rim for earlier models.

The transmitter was jumpered with two leads brought out externally specifically to allow continuous packet transmission at its maximum date rate. This made it practical to observe maximum emission levels when the turntable was rotated and antenna height and polarization adjusted.

Measurements were made for the single frequency 433.92 MHz AM pulse modulated intentional radiator operating at its nominal operating frequency with a data rate of 3kHz in a BiPhase format .

Preliminary measurements were made as described in Section 8.3.11 and 13.1.4.1 with the EUT operating as described.

The final set of measurements as specified in Section 8.3.1.2 and 13.1.4.2 were made as specified in Section 13.1.1. The transmitter was observed stand alone while positioned on the turntable three meters from the receive antenna. We rotated the turntable and varied antenna height and polarization endeavoring to maximize the signal being measured. The EUT was powered with a new battery during the measurements. RBW and VBW of 100 kHz were used for measurements below 1 GHz. Above 1 GHz peak measurements were made with a RBW and VBW of 1 MHz.

All of the harmonics through 10 Fo were measurable at 3 meters during the final detailed radiated emissions measurements. An HP pre-amplifier was used along with a band pass filter to attenuated the 433.92 MHz signal and avoid any question of overloading the front end of the spectrum analyzer.

Conclusion:

The SmarTire Systems, Inc., FCC ID: NATTX433TV-1, when operated and measured as discussed above, complies with the field strength of the fundamental limit and limits for spurious emissions requirements under Title 47, CFR Part 15.231(e). Duty cycle averaging was applied to the peak reading to comply with the 4399 uV/m average detector limit. *This device has shown compliance with the current rules and is not subject to the transition provisions of Part 15.37.*

SPECTRUM TECHNOLOGY, INC.

Field Strength of Radiated Fundamental and Spurious Emissions

47 CFR Part 15.231 - Final Data - Ref. SMARTIR .TV-1

Grantee: SmarTire Systems, Inc. 01/24/01
FCC ID: NATTX433TV-1

	Freq in MHz	Vert Rdg. dBuV	Horz Rdg. dBuV	Ant-F	Cable & BPF Loss	Amp Gain dB	Corrected Rdg in dBuV/m	uV/m Peak detector	Limit uV/m Average detector
Fo	433.92	59.17	61.5	22.60	3.3	0	87.40	23442	4399
2Fo	867.84	49.67	57.00	27.70	6.5	inc.	66.20	2041	500
3Fo	1.30176	49.83	54.33	25.70	1.05	27.00	54.08	505	" "
4Fo	1.73568	50.00	56.17	27.15	1.22	25.30	59.24	916	" "
5Fo	2.16960	46.50	46.67	27.15	1.22	24.00	51.04	356	" "
6Fo	2.60325	47.67	41.33	28.37	1.38	22.10	55.02	563	" "
7Fo	3.03744	40.5	38.00	29.93	1.53	21.30	50.66	341	" "
8Fo	3.471360	55.17	51.17	31.01	1.67	21.20	66.65	2150	" "
9Fo	3.905280	51.67	51.00	34.45	1.80	21.60	66.32	2070	" "
10Fo	4.339200	44.33	46.83	31.98	1.92	22.5	58.23	816	" "

Note: The highest level of the Vertical or Horizontal Reading in dBuV is calculated above.

Limit for the band 260 - 470 MHz, uV/m at 3 meters = 16.6667(F) - 2833.3333.

Limit at 433.92 MHz = 4399 uV/m average detector limit, Section 15.231(e).

Peak detector field strength was measured at 21702 uV/m at 3 meters. **With the 18.5% duty cycle = 4336 uV/m calculated average detector field strength with an average detector limit of 4399 uV/m.**

Averaging Correction Applied

In accordance with Section 15.35(c) when the radiated emissions limits are expressed in terms of the average value of the emission [as in Section 15.231(b)(2)], and pulsed operation is employed, the field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative where the pulse train exceeds 0.1 seconds , the measured field strength shall be determined from the average absolute voltage during a 0.1-second interval during which its field strength is at its maximum value

ANSI C63.4-1992 Appendix I4 (10) also describes a method which we used to correct for duty cycle when average detector function limits are specified for a pulse-modulated transmitter, the average level of emissions may be found by measuring the peak level of emissions and correcting them with duty cycle.

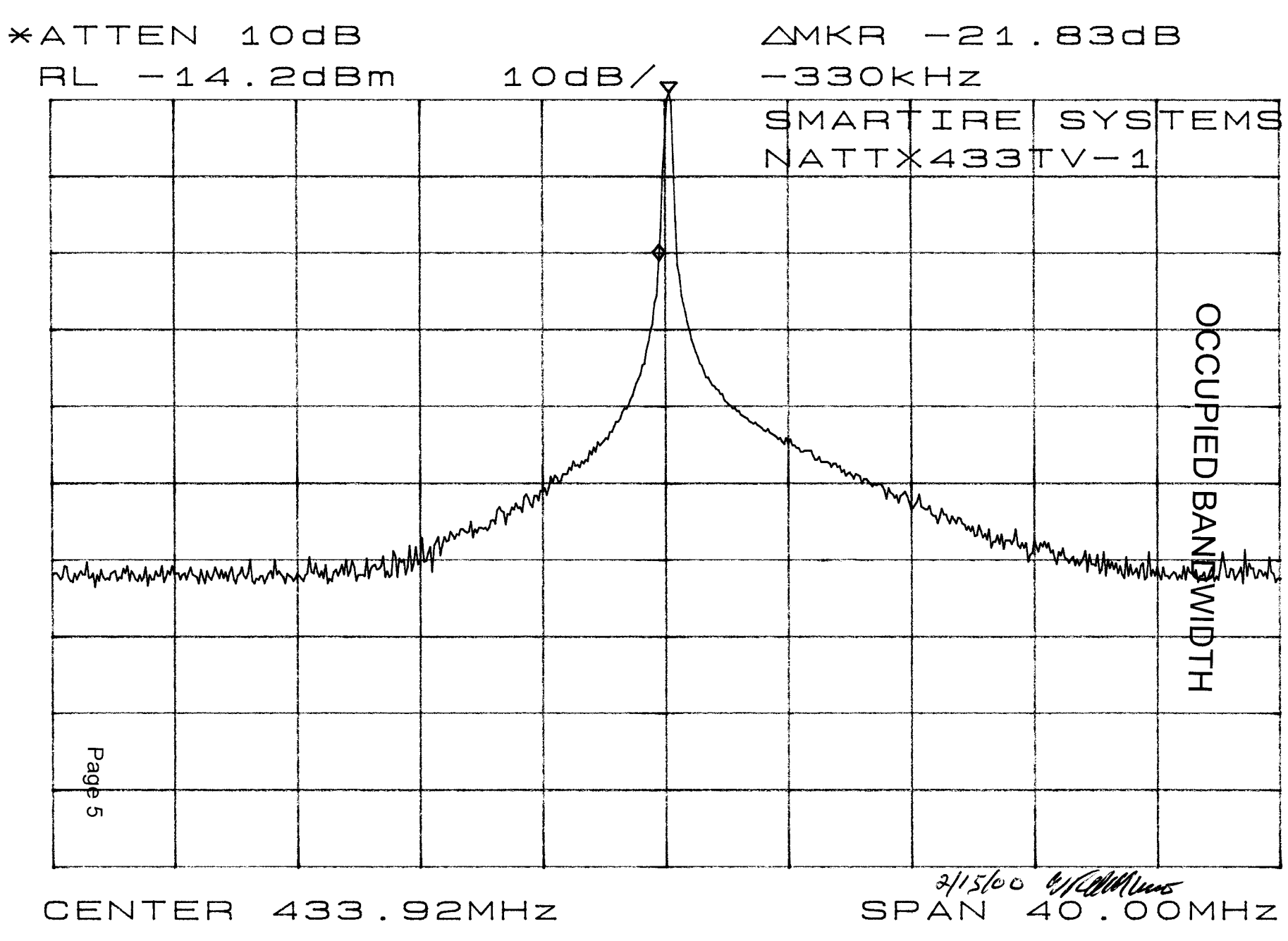
When the pulse train exceeds 100 ms calculate the duty cycle by averaging the sum of the pulse widths with the highest average over the 100 ms width with the highest average value. The duty cycle is the value of the sum of the pulse widths in one period (or 100 ms) divided by the length of the period (or 100 ms).

We multiplied the peak detector field strength in uV/m of the emission from the transmitter by the duty cycle calculated to determine the average detector field strength of the emission for comparison to the average detector limit in Part 15.231.

The sensor transmits 10 packets of data with each packet length 18.5 ms within 500 ms. every 4 – 6 minutes. So typically 2 packets in 100 ms period with a total packet length of 37 ms in 100 ms. With the transmission BiPhase with a 50% on off duty cycle the EUT total on time in 100 ms then is 18.5 %. (18.5 ms + 18.5 ms = 37 ms total packet length at a 50% duty cycle = 18.5% / 100 ms)

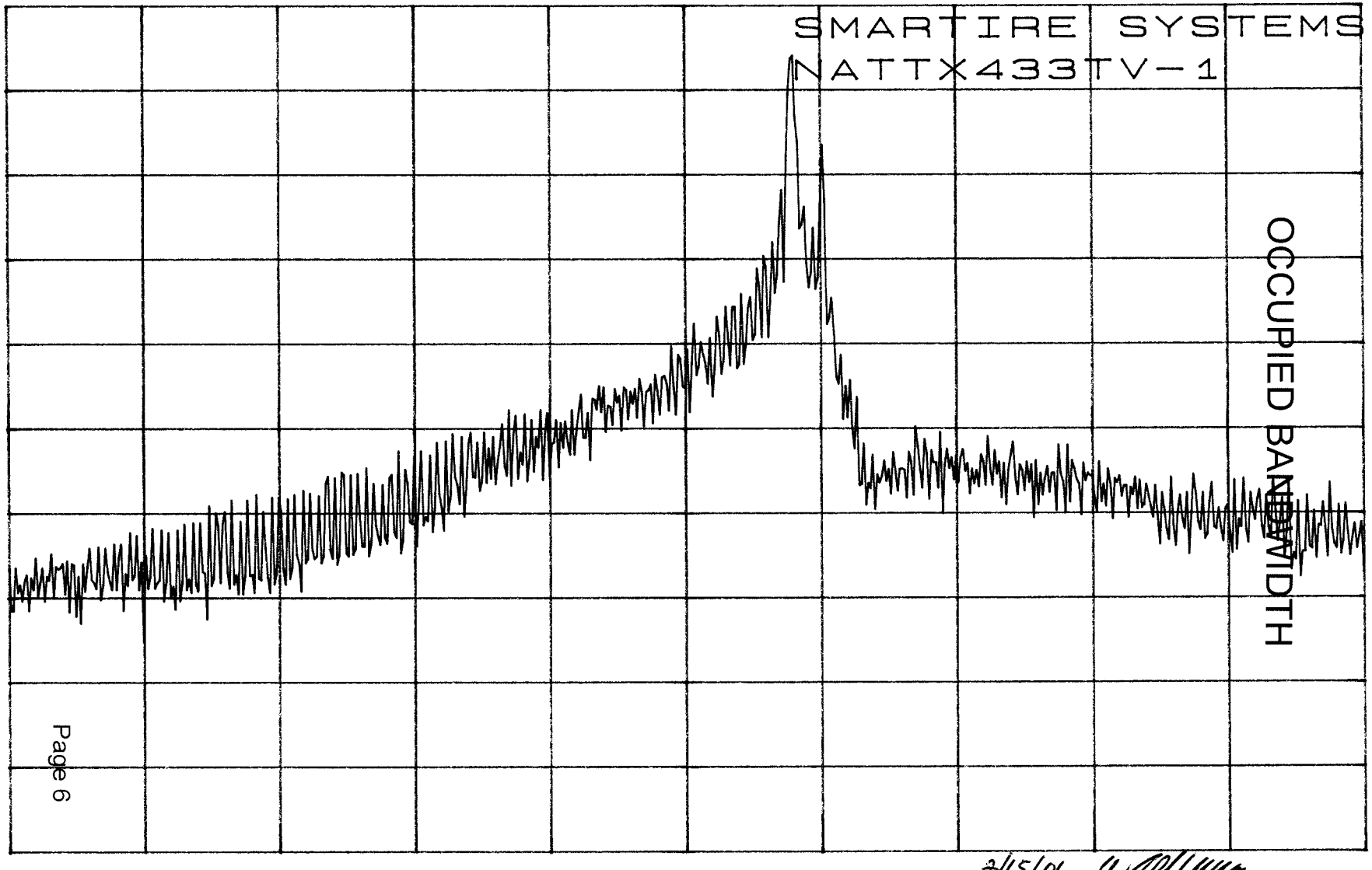
Note:

Two plots of the transmitter occupied bandwidth for your reference follow on the next two pages showing the characteristics of the modulation at different spans and bandwidth settings.


*ATTEN 10dB
RL -14.2dBm
10dB/
ΔMKR -21.83dB
-330kHz
SMARTIRE SYSTEMS
NATTX433TV-1
OCCUPIED BANDWIDTH
2/15/00
CENTER 433.92MHz
SPAN 40.00MHz
*RBW 100kHz
VBW 100kHz
SWP 50ms

*ATTEN 10dB

RL -14.2dBm 10dB/



2/15/01

CENTER 433.920MHz SPAN 1.000MHz

*RBW 300Hz VBW 300Hz SWP 30sec