

FCC Test Report.

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Product: Traficam2 Wireless US

FCC-ID: VE710-6034-6035

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¹ This document has been composed according to Public Notice DA 00–705, March 30, 2000.

1 Demonstrating compliance to Section 15.203.

The EUT, hereafter called TrafiCam, complies with requirement 15.203 because the antenne (custom made for Traficon) is permanently mechanically attached to the TrafiCam housing and the antenna cable is soldered to the PCB.

The photographs in appendix D show the antenne before and after fixation to the housing of TrafiCam.

2 Demonstrating compliance to Section 15.204.

The TrafiCam is delivered with the antenne permanetly fixed to it.

Replacement of the antenna is therefore not possible by the user!

Therefore there is only 1 antenne specified for the 915MHz frequency.

2.1 *Antenne type:*

½ wave dipole antenna, omnipole radiation patern.

2.2 *Manufacturer & model number.*

Unilink Technology ltd
7F-5, No. 66, Nan-Kan Road, Section 2,
Lu-Chu Hsiang, Taoyuan, Taiwan
Tel: 886-3-322-9050 Fax: 886-3-322-9043

Antenne model number: TTA-915-027-04

2.3 *Antenna gain*

The antenna gain is 0dBi.

The measurement plots of the antenna gain provided by the manufacturer of the antenna are added as Appendix A.

3 Demonstrating compliance to section 15.207 and 15.247.

According to section 15.204 (4), no retesting of the system configuration is required when an antenna that is of the same type and of equal directional gain as the antenna that is authorized with the intentional radiator is used.

Since our custom made antenna meets this requirement, we therefore refer to the initial grant (See Appendix B) of the intentional radiator Wi.232FHSS250-R to demonstrate compliance with these sections.

Manufacturer:	Radiotronix 905 Messenger Lane Moore, OK 73160
FCC ID:	Q7V-3F090009X.
Test report No:	R042007-20
Test report issued by:	NCEE Nebraska Center for Excellence in Electronics 4740 Discovery drive Lincoln, NE68521

However, to demonstrate that the TraftiCam itself complies with general FCC regulations, tests for conducted (15.207) and radiated emissions (15.209) have been done on TraftiCam.

The test report of these measurements is added as Appendix C.

The test results show that the TraftiCam itself complies with these general FCC regulations.

4 Installation/Operation Manual requirements.

4.1 Instructions pertaining correct peak output power.

Since the output power of the intentional radiator is set in production (to max output) and the antenna is permanently fixed to the device, no instructions are necessary.

4.2 Point-to-point operational requirements and responsibilities.

Not applicable.

4.3 RF-exposure compliance requirements.

The following notice is included into the user's manual.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 4.89cm (1.93 inches) between the radiator and your body.

4.3.1 RF exposure calculations:

The minimum separation distance is calculated from **FCC OET 65 Appendix B, table 1B** Guidelines for General Population/Uncontrolled Exposure.

This calculation is based on the highest possible EIRP possible from the system, considering maximum output of the intentional radiator and an antenna gain of 0 dBi. The exposure limit for a transmitter operating at 926.27 MHz is found in mW/cm² using the equations $f/1200$.

Since the operating frequency for channel 0 of the intentional radiator produced the lowest limit, that limit will be used in calculation. $(902.971/1200 = 0.75\text{mW/cm}^2)$

$$S = (P_o * G) / (4 * \pi * r^2) \text{ or } r = \text{SQRT}[(P_o * G) / (4 * \pi * S)]$$

Where $S = 0.75\text{mW/cm}^2$ for 915MHz

Where $P_o = 224.9\text{mW/cm}^2$

Where $G = 1$ (numeric equivalent of 0dB antenna gain with 0dB cable loss)

Where r = minimum safe distance from antenna (cm)

For $P_o = 224.9\text{mW}$, $r = 4.89 \text{ cm}$ (1.93 inches)

For a distance $[r]$ of 20cm from the antenna, the field density $S = 0.0447\text{mW/cm}^2$.

Notes:

1. The minimum safe distance is based on a conservative "worst case" prediction, i.e. using the formula shown above and no duty factor. In practice the minimum distance will be much shorter. (Ref. 2)
2. The minimum safe distance has been calculated for the maximum allowed Power Density (s) limit of 0.75mW/cm^2 for the frequency 915MHz for uncontrolled environments. (Ref. 2)

References:

1. FCC Part 15, sub-clause 15.247 (b)(4)(i)
2. FCC OET Bulletin 65, Edition 97.01
3. FCC supplement C to OET Bulletin 65, edition 01-01

5 Appendixes.

5.1 Appendix A: measurement plots of antenna gain.



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5.2 Appendix B: FCC grant for Wi232FHSS250-R.



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5.3 Appendix C: FCC test report on TrafiCam.



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5.4 Appendix D: photographs of antenna fixation.

