



# **ROGERS LABS, INC.**

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## **TEST REPORT ADDENDUM**

### **For**

## **APPLICATION of CERTIFICATION**

For

### **KEN-A-VISION MFG., CO., INC.**

5615 Raytown Road  
Kansas City, MO 64133

Thomas Dunn,  
President

MODEL: WIRELESS CLIP KIT

Frequency Range 905 - 918 MHz  
FCC ID: OEV-WIRELESS

Test Date: May 4, 2000

Certification Date: May 4, 2000

Certifying Engineer: *Scot D. Rogers*

Scot D. Rogers  
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**FORWARD:**

The following is submitted as an addendum to the test report used for consideration in obtaining a Grant of Certification for low power intentional radiators operated under CFR 47, paragraph 15.249.

Name of Applicant:

KEN-A-VISION MFG., CO., INC.  
5615 Raytown Road  
Kansas City, MO 64133

Model: WIRELESS CLIP KIT

FCC I.D.: OEV-WIRELESS

Frequency Range: 905 MHz to 918 MHz

Operating Power: 35.08 mV/m @ 3 Meters (90.9 dBμV/m @ 3 meters)

**1) Equipment Tested**

<u>EQUIPMENT</u>	<u>MODEL/PART#</u>	<u>FCC I.D.</u>
EUT	WIRELESS CLIP KIT	OEV-WIRELESS
VIDEO FLEX	Video Flex	N/A

Sample Calculations:

RFS = Radiated Field Strength

dBμV/m @ 3m = dBμV + A.F. - Amplifier Gain

25.0 + 32.6 - 25

= 32.6

## 2) Subpart C - Intentional Radiators

As per CFR Part 15, Subpart C, paragraph 15.249. The following information is submitted:

### Data 15.205:

#### Radiated Emissions in Restricted Bands:

Emission Frequency (MHz)	FSM Horz. (dBμV)	FSM Vert. (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	RFS Horz. @ 3m (dBμV/m)	RFS Vert. @ 3m (dBμV/m)	Limit @ 3m (dBμV/m)
2717.4	25.0	27.3	32.6	25	32.6	34.9	54.0
3623.2	24.4	25.8	37.1	25	36.5	37.9	54.0
4529.0	25.3	23.3	29.9	25	30.2	28.2	54.0
2741.4	28.3	28.8	32.6	25	42.1	44.1	54.0
3655.2	23.5	24.3	37.1	25	35.9	36.4	54.0
4569.0	24.0	24.3	29.9	25	35.6	36.4	54.0

No other emissions found in the restricted bands.

#### Sample Calculations:

$$\begin{aligned}
 \text{Computed Quasi-Peak (dBμV/m @ 3m)} &= \text{FSM(dBμV)} + \text{A.F.(dB)} - \text{Gain(dB)} \\
 &= 25.0 + 32.6 - 25 \\
 &= 32.6
 \end{aligned}$$

#### Summary of Results for Radiated Emissions in Restricted Bands:

The radiated emissions for the EUT meet the requirements of FCC Part 15.205. The EUT had a 9.9 dB minimum margin below the limit. Other emissions were present with amplitudes at least 10 dB below the limit.

**15.249 Operation in the Band 902 - 928 MHz**

The power output was measured on an open field test site at 3-meters distance. Data was taken per Paragraph 2.1046(a) and 15.249.

(a) The EUT was placed on a wooden turntable 0.8 meters above the ground plane and at a distance of 3-meters from the FSM antenna. The amplitude of the carrier frequency was measured using a spectrum analyzer. The amplitude of the emission was then recorded from the analyzer display.

(b) Emissions radiated outside of the specified bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation. The amplitudes of each spurious emission were measured at a distance of 3 meters from the FSM antenna at the OATS. The amplitude of each spurious emission was maximized by varying the FSM antenna height, polarization, and by rotating the turntable. A Biconilog Antenna was used for measuring emissions from 30 to 1000 MHz, a Log Periodic Antenna for 200 to 5000 MHz; and/or Pyramidal Horn Antenna from 4 to 10 GHz. Emissions were measured in dB $\mu$ V/m and converted to dB $\mu$ V/m @ 3 meters using the following equation.

**Data: Intentional Radiated Emissions:**

FREQ.	FSM IN HOR. dBμV	FSM IN VERT. dBμV	ANT. FACT.	AMP. GAIN	LEVEL IN dBμV/m @ 3m HOR.	LEVEL IN dBμV/m @ 3m VERT.	LEVEL IN dBμV/m @ 3m
905.8	80.6	94.6	22.9	25	78.5	92.5	94.0
913.8	83.5	92.5	22.9	25	81.4	90.4	94.0

Note: Level was measured @ 3 meter site.

$$\begin{aligned}
 \text{dB}\mu\text{v/m@ 3m} &= \text{FSM} + \text{A.F.} - \text{AMP. GAIN} \\
 &= 80.6 + 22.9 - 25 \\
 &= 78.5
 \end{aligned}$$

The band edges are protected due to the frequency band of operation.

**Radiated Emissions of Intentional Radiator:**

The EUT had a 3.6 dB margin below the limits. The radiated emissions for the EUT meet the requirements for FCC Part 15C Intentional Radiators. There are no measurable emissions in the restricted bands other than those recorded in this report. Other emissions were present with amplitudes at least 10 dB below the FCC Limits. The specification of 15.249 are met, there are no deviations or exceptions to the requirements.

**Statement of Modifications:**

No modifications to the EUT were required for the unit to meet the FCC Part 15B CLASS B emissions standards. There were no deviations to the specifications.