

Application for Equipment Certification by Northwest EMC TCB Committee  
TCB-412 Item 2: Cover Letter Describing the Product

White's Electronics Matrix 100 Security Handheld Metal Detector  
January 24, 2007

The subject device, White's Matrix 100 Handheld Security Metal Detector, is a hand-held field-disturbance metal detector. The primary intended application of this product is in commercial or industrial security inspection of objects or persons for detection of concealed metallic objects. The detection field is produced by a planar rectangular coil of about 2 x 8 inch dimensions. The excitation signal is produced by an L-C oscillator having nominal frequency of about 125 KHz, and oscillator DC power input of about 3 mW. Detection range for large metallic objects is about six inches. Operation of the detection field is continuous, and the field is not modulated otherwise. Detection is obtained by measurement of field disturbance; there is not a separate receiver in this device. Detection is announced by visible and audible or vibratory signal. Audio alarm level is typically 85dB at 30 inches. An earphone can optionally be plugged into the package for unobtrusive use of audible annunciation. Operating power is obtained from a self-contained battery. The FCC ID is KHS900-0001. The Matrix 100 is a portable device.

Approval is sought for this equipment as a 47 CFR Part 15 Unlicensed Radio Frequency Device.

Review of Applicable FCC rules:

Reference is made to FCC rules, 47 CFR Part 15: Radio Frequency Devices. Reviewing Subparts A, B, C, D, and E:

Subpart A General This product matches relevant definitions of Subpart A for unlicensed operation.

Subpart B Unintentional Radiators This product contains digital computing electronics, an unintentional radiator. This product is subject to Class B radiated emission limits in order to meet Justice department standards. Therefore, the product will be subject to the Class A radiated emission limits of Part 15, 15.109(a).

Subpart C Intentional Radiators This product contains an intentional radiator operating at nom. 125 KHz (acceptance limits are 115/135 KHz min/max). Operating DC power input to the radiating circuit is typically 3 mW. This product matches definitions of 47 CFR Part 15.3 (l): Field disturbance sensor, and 15.3 (o) Intentional radiator.

15.203 Antenna requirement. The antenna is an internal feature of the product, and no provision is made to permit use of any antenna other than that furnished by the manufacturer.

15.205 Restricted bands of operation. A restricted band, 0.090 – 0.110 MHz, is in the vicinity of the operating frequency of this product. Design and production testing of assembled product ensures compliance with this restriction.

15.209 Radiated emission limits of (a) apply.

Subpart D Unlicensed Personal Communications Service Devices does not apply.

Subpart E Unlicensed National Information Infrastructure Devices does not apply.

Contacts

General:

Tom Scrivner  
White's Electronics, Inc.  
1011 Pleasant Valley Road  
Sweet Home, OR 97386  
Tel 541-367-6121 ext. 212  
email [tscrivner@whiteelectronics.com](mailto:tscrivner@whiteelectronics.com)

Technical:

Mike Linse  
Alpha Omega Computer Systems, Inc.  
PO Box U  
Corvallis, OR 97339  
Tel 541-754-1911  
email [linse@ao.com](mailto:linse@ao.com)