

**Exhibit 11 – RF Exposure Information**

**Serial 610**

**Mid-Range Reader**

FCC ID: E9USER610

Model No. Serial 610

## **11.0 RF Exposure Information**

The Motorola Serial 610 Smartcard Reader complies with human radiation emission requirements. These requirements are based on the Maximum Permissible Exposure (MPE) levels of ANSI/IEEE C95.1-1992 and 47 CFR 1.1310, Table 1 for an uncontrolled environment.

The Serial 610 is a low power device intended to be used in a fixed location. The Serial 610 reader can arguably fit the definition of a portable device as defined in 47 CFR 2.1093(b) (i.e. "designed to be used so that the radiating structure of the device is within 20 cm of the body of the user", specifically the hand). However, it does not fit any of the equipment classification criteria for portable devices requiring SAR testing as defined in 47 CFR 2.1093(c). All other portable transmitting devices "are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use" per 2.1093(c) which includes the Serial 610 reader.

# RF Energy Exposure Assessment Record

Product or  
Equipment Name: FlexPass™ Serial Mid-Range Reader Date: 01/24/01

Program/Project  
Contact Person: Fred Nylander Phone: (408) 383-4082  
M/D: \_\_\_\_\_

Location of  
Product/Equipment: Fixed Locations

## 1. RF Emitting Product or Equipment Description

Manufacturer: Motorola Indala

Model: Serial 610 Serial Number: EM01

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**Describe the product or equipment, the environment(s) where it is used, and information about operators and others who might be exposed to its emitted RF energy.**

The access control reader is a low power device intended to be installed at a permanent or fixed location. The access control reader can arguably fit the definition of a portable device as defined in 47 CFR 2.1093(b) (i.e. "designed to be used so that the radiating structure of the device is within 20 cm of the body of the user", specifically the hand). However, it does not fit any of the equipment classification criteria for portable devices requiring SAR testing as defined in 47 CFR 2.1093(c). All other portable transmitting devices "are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use" per 2.1093(c) which includes the Access Control Reader.

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Frequencies of Operation (MHz): 0.125 MHz

Maximum Output Power Level  
(Watts): < 1 Watt

Modulation Characteristics: None, exciter not modulated

If pulsed; Pulse duration: N/A Pulse repetition frequency (PRF): N/A

Duty cycle: N/A

Antenna  
description: Magnetic loop antenna L/C resonant @ 125 kHz

Antenna gain: N/A

### Failure Modes

Are there credible failure modes in the product or equipment (hardware, software) or operations (controls, procedures, human error) that could cause the average output power to increase above the normal operating level?

Yes \_\_\_\_\_ No X If Yes, describe the failure mode, probability of occurrence of the failure, and the expected level of output power.

# RF Energy Exposure Assessment Record

Product or Equipment Name: FlexPass™ Serial Mid-Range Reader Date: 01/24/01

## 2. Maximum Permissible Exposure (MPE) Levels

MPE Levels based on ANSI/IEEE C95.1-1992 and 47 CFR 1.1310, Table 1 requirements, unless otherwise specified.

	Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Plane Wave Equiv. Power Density (S) (mW/cm <sup>2</sup> )	Specific Absorption Rate (SAR) (mW/g)
Controlled Environment	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Uncontrolled Environment	<u>0.125</u>	<u>614</u>	<u>130.4</u>	<u>N/A</u>	<u>N/A</u>
Induced Current (mA)	Both Feet <u>90</u>		Each Foot <u>N/A</u>	Frequency <u>125 kHz</u>	
Contact Current (mA)	<u>45</u>	Frequency <u>125 kHz</u>			

## 3. Measurement Results

Applicable Document: Radio Frequency (RF) Energy Exposure Test Procedure, Rev E.

	Frequency (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Plane Wave Equiv. Power Density (S) (mW/cm <sup>2</sup> )	Specific Absorption Rate (SAR) (mW/g)
Controlled Environment	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Uncontrolled Environment	<u>0.125</u>	<u>472</u>	<u>0.8</u>	<u>N/A</u>	<u>N/A</u>
Induced Current (mA)	Both Feet <u>0.75</u>		Each Foot <u>N/A</u>	Frequency <u>125 kHz</u>	
Contact Current (mA)	<u>0.0</u>	Frequency <u>125 kHz</u>			

Is the Maximum Permissible Exposure Level for an uncontrolled environment exceeded?

Yes \_\_\_\_\_ No  X  If Yes, provide drawings to show the boundaries of the Restricted Access Area.

Is the Maximum Permissible Exposure Level for a controlled environment exceeded?

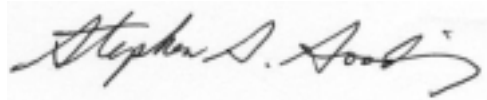
Yes \_\_\_\_\_ No  X  If Yes, define and implement necessary controls.

# RF Energy Exposure Assessment Record

Product or  
Equipment Name: FlexPass™ Serial Mid-Range Reader Date: 01/24/01

## 4. RF Energy Measurement Equipment

Manufacturer	Description	Model	Asset No.	Date of Last Cal.	Cal. Due Date
Holaday	VLF Magnetic Field Meter & Probe	HI3637	G52042	01-20-00	01-31-01
Narda	Probe, E-field, Isotropic	8782	G52450	09-25-00	09-30-01
Narda	Transmitter, Fiber optic	8745T	G52452	09-21-00	09-30-01
Narda	Electromagnetic Survey Meter	8718	G49076	03-07-00	03-31-01
Narda	Induced Current Meter	8850	G52446	02-02-00	02-28-01
Boonton	RMS Voltmeter	92EA	G29096	08-10-00	08-31-01



Measurements made by: Steve Gooding Date: 01/24/01

## 5. Required Hazard Controls

Fully describe all hazard controls to be implemented. Provide drawings and other attachments, as necessary, to describe Restricted Access Areas.

**None required for its present configuration and intended state of use.**

## 6. Review & Approval

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Date: \_\_\_\_\_  
Gil Estrella  
EMC Engineer

\_\_\_\_\_  
Date: \_\_\_\_\_  
Dwayne Averkamp  
EMC Engineering Manager

\_\_\_\_\_  
Date: \_\_\_\_\_  
Brent Marking  
SSS RF Safety Advisor