



## **Enhancing security of any RFID ID card or document**

### **Radio-frequency identification (RFID):**

RFID is the wireless use of electromagnetic fields to transport data, for the purposes of automatically recognizing and tracking a label or card attached to objects. The label or card contains electronically stored information. Some tags are powered by electromagnetic induction from magnetic fields produced near the reader. Some types collect energy from the interrogating radio waves and act as a passive transponder. Other types have a local power source such as a battery and may operate at hundreds of meters from the reader.

We have patents covering types collecting energy from the interrogating radio waves and act as a passive transponder when used in combination with our security technology. This is one area of our differentiation and focus areas.

We have advanced the technology to include a proprietary machine readable random pattern to work in concert with the RFID making our solution extremely secure.

### **Combining Technologies**

We have developed a method of enhancing the security of any RFID ID card or document by adding a machine-readable holographic element to the design. The machine readable holographic elements are formed utilizing optical patterns random manner and are nearly



impossible to duplicate, we call this new patented technology “Galaxy”.



The Galaxy system is designed to enhance the security of an ID card by automatically detecting & correlating multiple, random artifacts of the manufacturing process via, using of Specially designed OVD (Holograms), and Non-registered placement of the OVD code. Random generation of optical marks, random generation of optical shapes and sizes and random overlay placement form the basis of the security code.

### **FEATURES:**

Enhances the security of Cards or documents.

Correlates independent manufacturing steps to form secure optical Holographic pattern .

Techniques described here are covered by several granted Patents.

The ability to mix low cost technologies onto an id-card adds levels of security unprecedented today.

Example of mixing additional technology is shown on figure 2 below.

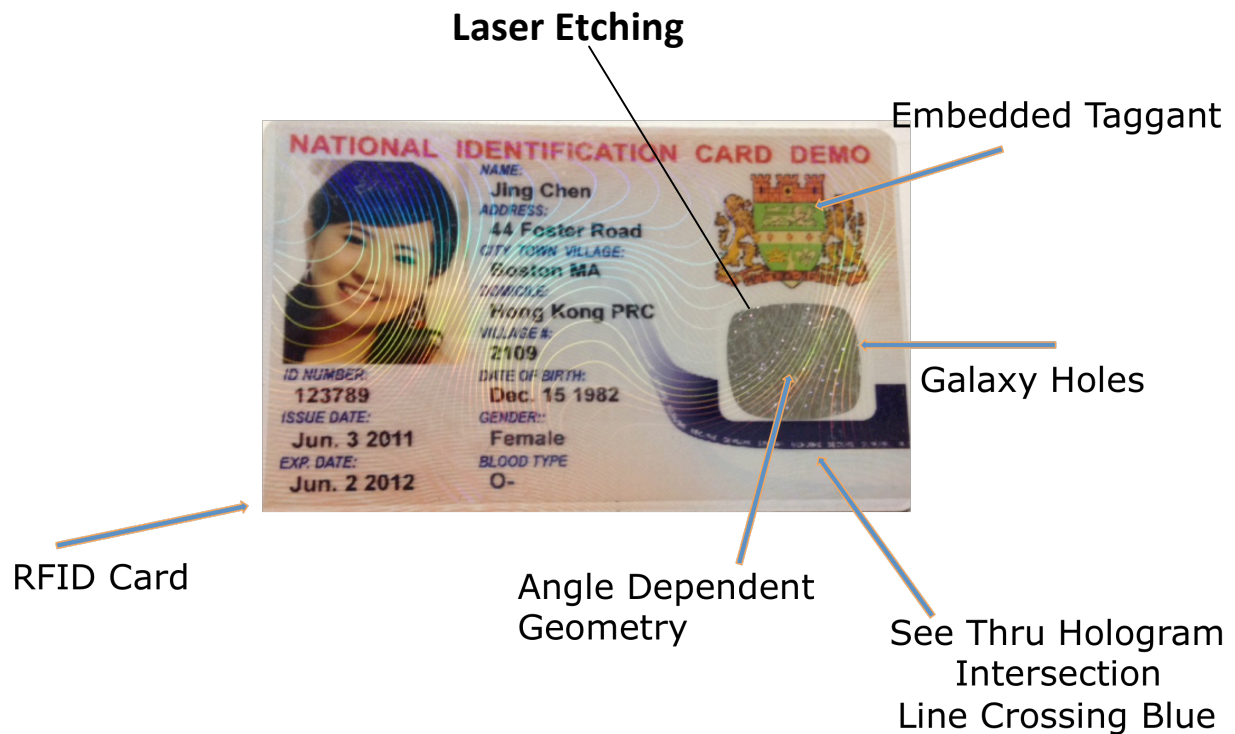


Figure 2

**Expanding Combinations of Technologies with Addition of Taggants:**

Lepton-id has added its taggant technology to a Galaxy id card. IN addition to all of the security features in Galaxy the presence of the taggant on the id card can be swiftly detected by the VI1170 and/or the VL6300 security scanning devices.



The presence of the taggant in no way effects the overt and secure Galaxy optical features or RFID so the brilliant effects of the hologram remain intact. For example when the hologram is scanned by the VL1170 an audible and or vibration indicates the presence of the taggant. The taggants operate outside the visible spectrum and are extremely difficult to detect by any visual means.

**Expanding Combinations of Technologies with Addition of laser etching:**

In addition to the taggant we can add laser etch a variety of security features in to the id card. An example of that would be the addition of standard linear barcode or 2D barcodes. Please note this can be etched with a series of unique numbers. Additionally we can add a laser etched micro printing and these numbers may or may not be the same as those embedded within the hologram itself.