International Organization for Standardization
Technical Committee 104 – Freight Containers
ISO TC 104

May 21, 2003

Valery Timofeev
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International Telecommunication Union
Place des Nations
CH-1211 Geneva 20
Switzerland

Dear Mr. Timofeev:

I am writing to inform you of ISO TC104's efforts on electronic seals for freight containers and to solicit ITU's assistance so we can finalize this work. The finalization of a uniform international standard is seen by both governmental bodies and industry as an important component in the international, intergovernmental push to a more secure transportation system.

TC104's efforts are addressing:

- Seal mechanical strength and physical tamper resistance;
- Security of the data contained within the seal, including the ability to change such data;
- Security of the data while it is being transferred to or from the seal;
- Environmental conditions under which the seal must be able to survive and retain its data both secure and intact;
- Environmental conditions under which the seal must retain its barrier (to tampering) properties;
- Performance parameters for the seal; and,
- Sensor interface requirements.

What we cannot address, beyond the performance ramifications of any given frequency, is the worldwide acceptability of the frequency band(s) ultimately selected for communication between the seal and its remote reader. We have not been able to identify and do not believe there exists any particular frequency that is currently available for use worldwide.

ITU is specifically asked to establish an international standard for transportation related RFID activities that will provide:

- a frequency hopping spread spectrum (FHSS), passive frequency[1)]; and,
- a narrow band, active frequency[2)]

which can be used by electronic seals worldwide. The establishment of this world-wide standard is necessary if applications, such as electronic seals, are to become economically viable and available to meet existing and emerging security and other needs.

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1) e.g. 860-930 MHz (see ISO/IEC 18000, Part 6) which is widely used for supply chain applications Such devices are used for low-cost, battery-less applications within the supply chain, with a typical range of 3 to 5 meters in warehousing and distribution facilities.

2) e.g. 433.92 MHz (ISO/IEC 18000, Part 7) which is widely used for electronic container seals and container identification. Such devices are used for low-power, battery-assisted applications within the supply chain, with a typical range of up to 100 meters in container facilities.

TC104's work on electronic seals has been re-directed because of the new emphasis on security. With ITU's assistance we will be able to deliver a meaningful standard that will provide a valuable tool in the fight to improve transportation security. We hope you are able to provide this world-wide frequency allocation or otherwise assist in causing it to occur. Please keep TC104 apprised as to your progress in this regard. Thank you for your help in this effort.

Sincerely,

Michael T. Bohlman
Chairman

cc: Roberto Blois
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