Abstract

The invention is a reusable battery-less dual-display electronic tag that use Radio Frequency (RF) energy harvesting technique to update the invention, such that it is in compliance with the airlines' safety restrictions (Subsection 2.3 of the IATA Dangerous Goods Regulations (DGR)) of not allowing batteries in checked luggage. The RF Energy harvesting and updating of flight information on dual bi-stable displays works simultaneously. Flight information is displayed in the form of barcode on the dual-displays that is backward compatible with airports' tracking and tracing system, and at the same time fail-safe with flight data stored on RFID and NFC chips. Cryptographic protocols are integrated to the invention for user authentication and privacy protection. The invention further has the capability to be reprogrammed or firmwares can be updated wirelessly via BLE to allow the invention to remain compatible to changes in airlines or IATA requirements if any.

Fig.1 Front View with Flight Info