

## **QUESTION 7: PURPOSE OF EXPERIMENT**

In the interests of ensuring RFID remains a viable solution to enable the Wal-Mart Stores, Inc. vision of a completely worldwide supply chain tracking and management system, testing must be conducted on frequencies allocated for RFID in other countries. Applicant must ensure the same benefits that have been realized from RFID in the United States can be replicated everywhere else in the world and must develop global solutions that take in to consideration the limited availability of spectrum allocations in other countries. The solutions must also consider the reality that spectrum allocated for RFID in other countries is different and does not coincide with that utilized in the United States.

Wal-Mart will utilize this FCC experimental site license for radio frequency identification (RFID) research at its lab in Fayetteville, Arkansas. This research will compliment the work conducted in the company's Bentonville lab using North American based RFID reader standards and frequencies. The research is to be based on supply chain applications utilizing RFID readers at strategic locations within our supply chain and optimal placement of RFID tags on cases, pallets and assets utilizing frequency ranges currently being used overseas. The need for the site license is to continue to research and develop a deployment strategy for RFID solutions for Wal-Mart's global subsidiaries throughout Europe and the Asia Pacific and the resulting impact on the domestic side of the logistics operations. The varying frequency levels and power limits allowed in each respective region will have an affect on the RFID reader/tag communication performance across the other regions.

The experimentation will include RFID tagged cases going through a simulated supply chain. This will include testing in a dense reader mode environment. Additional testing will be conducted using RFID enabled handhelds for inventory collection, product locating and product receiving in a simulated store environment. RFID readers fixed to mobile assets (forklifts, carts, wearable devices) will be tested using this site license to ensure that solutions developed using RFID readers in the United States will meet the given performance criteria across all other regions worldwide within which Wal-Mart operates.

Due to the limitations of frequency allocated in other countries, solutions are being developed for EPC Global UHF Gen 2 Reader operations in these bands, and are subsequently being recommended for standards. Wal-Mart intends to utilize its RFID laboratory to test the recommended solutions, ensure there are no major shortcomings, and recommend an appropriate solution for the entire industry to standards committees. Wal-Mart understands that successful RFID implementation requires all companies to be able to realize the benefits of successful implementation. For this reason, it is imperative that testing be completed so that successful RFID operation can be guaranteed worldwide.

The configurations of the radio will continually be optimized to ensure acceptable performance across varying frequency bands and power levels. The goal of this research

and testing is to ensure an RFID solution developed in the United States can be deployed globally, finding the optimal placements of the tags and readers. In addition, Wal-Mart wants to ensure that an RFID tag applied from a manufacturer in Japan or the United Kingdom will perform in the United States (and vice versa).

The objective of this research is to demonstrate that multiple classes of tags can exist within the network architecture and still be effective to implement the various aspects of supply chain management in a truly global distribution system.