

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 currently and potentially allocated for RFID in other countries. We must ensure the same benefits that have been realized from RFID in the United States can be replicated everywhere else in the world. Our company secures products from many countries and is expanding retail operations to other countries. We must develop global solutions that take in to consideration the limited 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 Bentonville, Arkansas. This research will build upon the work that has previously been conducted in the lab using the 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 our global subsidiaries throughout Europe, the Asia Pacific and other countries, and the resulting impact on the domestic side of logistics operations. The varying frequency levels and power limits allowed in the respective regions of the globe 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 dock door outfitted with RFID portals on each side. This will include testing in a dense reader mode environment (up to 26 different RFID readers in a 1000 square foot area). 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 in the future across all other regions worldwide within which Wal-Mart currently operates and may operate.

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 proposes to continue 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 operations can be achieved 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. Wal-Mart wants to ensure

that an RFID tag applied from a manufacturer in Japan, United Kingdom, and other countries will perform in the United States (and vice versa).

The objective of this research is to demonstrate that region specific tags can exist within a global RFID network infrastructure and still be effective to implement the various aspects of global supply chain management. The research will also ensure that standards and systems are designed to allow successful RFID communications by companies deploying RFID, consistent with the regulations set forth in the various countries.