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Applicant's FCC Registration Number (FRN): 0005052626

Experiment description

In order to measure and improve the performance of new UHF RFID systems used by retailers around the world, we would like to operate systems using the European frequency plan for UHF RFID. Because these UHF systems typically operate using channels around either 915 MHz or 868 MHz, depending on the country, overall system performance can vary significantly between these two frequency ranges.

We would like to run experiments that would use four frequency channels as specified in the EU RFID standard EN 302 208:

- Center frequency = 865.7, 866.3, 866.9, 867.5 MHz
- Each channel has a bandwidth of 200 kHz.
- We plan to operate a maximum of ten transmitters at any one time.
- Maximum power for each transmitter will be 3.28 Watts EIRP.

Operation will be limited to our engineering lab located at 6600 Congress Ave, during normal business hours (8AM to 6PM).

Excerpt from EN 302 208 describing the EU channel usage:

4.2.2.1 Lower band

Interrogators operating in the lower band shall use any of the four specified high power channels illustrated in figure 1 and table 1. The centre frequency of the lowest channel shall be 865,7 MHz and the bandwidth of each high power channel shall be 200 kHz. The remaining three high power channels shall be spaced at equal intervals of 600 kHz. Tags should respond in the dense interrogator mode within the low power channels.

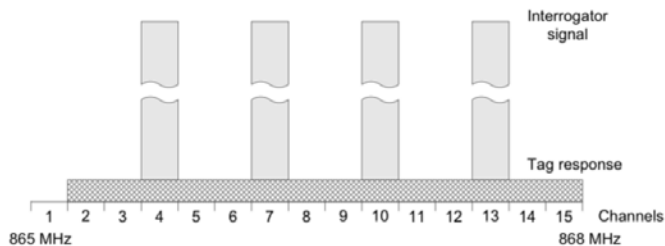


Figure 1: Channel plan for lower band

Table 1: Interrogator frequencies of operation in the lower band

Equipment	Operating frequencies
Interrogator Transmit channel 4	865,6 MHz to 865,8 MHz
Interrogator Transmit channel 7	866,2 MHz to 866,4 MHz
Interrogator Transmit channel 10	866,8 MHz to 867,0 MHz
Interrogator Transmit channel 13	867,4 MHz to 867,6 MHz

Example RFID system:

