Dear Ruby,
Thank you for your Email and your fax. I would like to clarify how the P-tag responds to controller as from the correspondence I can see, that there is some misunderstanding about this. Also, I want to apologize that from our description of the RF protocol is not clear how the tag behaves when it is named and stays in the field.
1) The controller is transmitting every 100 msec. the "WAKEUP WORD" interleaved with "RESPOND COMMAND".
If a new (unnamed) tag (A-tag, P-tag) reaches the interrogation 307 kHz field it will respond in one 83 msec long transmission. This transmission consists of pulses which are 250 usec. long, and are separated by 2 or 3 msec. from each other. Once the transmission is over the tag is considered named.
2) After the tag (A-tag, P-tag), is named, that means a change in its inner state and the tag will not respond to the "WAKEUP WORD" any more. Instead the tag goes to sleep mode for one second +/- 250 msec. After waking up from the sleep the memory is read and the named state is resumed. The tag now looks for the "RESPOND COMMAND". If the "RESPOND COMMAND" is received the tag will respond with one 250 usec. long pulse and resumes the sleep mode. This scenario will repeat until the tag leaves the interrogation field, generated by the controller. This one 250 usec. pulse transmitted every 1.2 sec. is a recognition code to determine if a person (infant) is still by the door and therefore in a danger that they may leave.
I would like to stress that normally the tag is not transmitting at all, and it is only when in the RF field and after being named that this short code is send back to the controller to inform about its presence in the exit zone.
On top of the scenario described above, there is an other mechanism, which can cause a tag to transmit. This mechanism applies to both the A-tag and the P-tag. Even thought the removal sensing, either from the body or from the asset is accomplished by different means, the end result on transmission is the same.
As the tag is removed from the person or object, which it is supposed to protect, the tag transmits a burst of pulses to identify itself and to trigger an alarm. After the first burst, a second burst is then retransmitted after 20 seconds. Then a thirth burst is retransmitted 40 seconds after the second burst, the fourth burst follows 80 seconds after the third burst, the fifth burst follows 160 seconds after the fourth burst, and finally the tag transmits every 255 seconds. The reasoning behind repeating the transmission is, that if the tag is intentionally removed, and if there is an RF noise present at the time of removal, the first burst may be missed, which would compromise the security of the person/object. Also sooner or later the transmission will be received by either a receiver or by controller, and somebody will be sent down to find the tag, as there would be constant nuisance alarms otherwise.
I hope this clarifies some of the concerns. If the indication of the removal is still not acceptable, or if we are still exceeding the limits, we can stop the transmissions completely after certain number of retransmissions.
Please advise me about the development.
Regards Vladimir Federman