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Operational Description

The device does not transmit simultaneously. The device has a 915MHz and GSM module the supports only GPRS Class 10 operations just as in KDB tracking number 563910. The SRD 915MHz ISM RF transmitter transmits for a maximum of 11ms, this is the maximum transmission time for the 915 MHz transmitter and not the MC56 module.

For the Short Range Device (SRD) transceiver a Micrel RF505 multichannel FSK transceiver IC is employed and designed to operate in the 902-928 MHz ISM band. It has a conducted average power of <10mW which is < 60/f (GHz). Because of the extremely low averaged conducted output power of the SRD transmitter being less than 60/f, SAR evaluation was not required for the SRD 915 MHz transmitter.

The RF application uses a single channel (# 13) at 915 MHz for all half duplex communications. The SRD 915 MHz transceiver functionality is primarily designed to listen for broadcasts from BluTag accessories and periodically broadcast its own ID. The accessories are primarily designed to assist in areas of poor **GPS** signal to provide an alternative method of ensuring The BluTag Stalker Alert location.

There are 2 types of accessories that work with the device. The maximum average output power of the accessories is <10mW. The accessories is used at more than 20 cm from the user and the maximum average output power of the accessories is less than 60/f. Under normal operation the SRD 915 MHz transceiver is in receive mode and will periodically (random period between 57 and 63 seconds), or in response to a particular received broadcast, switch on the 915 MHz transceiver and transmit a short message before switching back to receive mode. The periodic transmit duty cycle of the SRD 915 MHz transceiver is 0.017 - 0.020%. The duration of the 915 MHz transceiver message is 11ms as is any reply.

The MC56 module use for the GPRS class-10 functionality has a conducted average output power of 2watts and transmits a GPRS data burst worst-case every 60 second. The MC56 transmits for 10 second. As a single GPRS time slot takes 570microsecond. The MC56 uses 17544 time slots to in its transmission that is 17544 in 105264 time slots. In normal operation the MC56 module transmits a GPRS data burst every 600 seconds and the transmission last for 20 seconds.

Calculations:
The Worst-case Duty factor = worst-case transmission time / repetition interval =
10/60 = 0.167
Average out power in the MC56 transmission = 2watts (worst-case conducted output power from the MC56 module GPRS Class 10)* 0.167 (Duty factor) = 0.33watts

Yours sincerely

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