

4/17/02

Correspondence:

To: Steve Dayhoff
From: Drew Rosenberg
Re: Pulsed Device

Dear Mr. Dayhoff,

This is a response to your email dated April 12, 2002 regarding the nature of our pulsed device. For your convenience, a copy of this email has been attached to the end of this correspondence.

Please refer to Attachment B on page 14 of the EO951ESS FCC test report. As this attachment states, our device sends manchester encoded 92 byte packets of data at a bit rate of 16.384kBit/sec. This yields a bit pulse width of:

$$\text{Bit Pulse Width} = (1/16.384\text{kBit/sec}) = 61.04\mu\text{S}$$

Referring back to Attachment B of the EO951ESS FCC test report, the 51ESS broadcasts each packet every two to six seconds, which is far beyond the 100ms limit for time averaging that is stated in 47 CFR 15.35c. Therefore, with a maximum of one packet being sent within any given 100msec interval, the worst case PRF over 100msec can be determined as:

$$\begin{aligned} \text{PRF} &= (16.384\text{kBit/sec}) * (50\% \text{ manchester encoding}) * [(44.92 \text{ msec message length}) / 100\text{msec}] \\ &+ (0 \text{ kBit/sec}) * (55.08\text{msec no message}) / 100 \text{ msec} \\ &= \underline{3.6799\text{kHz}} \end{aligned}$$

Using this data, the PRF and pulse width calculated above can be multiplied to give .2246, which is equal to the duty cycle that was calculated in Attachment B of the FCC test report.

If you have any further questions regarding this, then please feel free to contact me. One other resource that you may find helpful would be Joe Dichoso, who is very familiar with our products and their pulsed operation.

Regards,

Drew Rosenberg
Regulatory Engineer
Itron, Inc.
2401 North State Street
Waseca, MN 56093
507-837-5264
Drew.rosenberg@itron.com

To: Andrew Rosenberg, Itron, Inc.
From: Steve Dayhoff
sdayhoff@fcc.gov
FCC Application Processing Branch

Re: FCC ID EO951ESS
Applicant: Itron, Inc.
Correspondence Reference Number: 22606
731 Confirmation Number: EA861372

1) What is the pulse width and pulse repetition frequency (PRF) of this device?

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 60 days of the original e-mail date may result in application dismissal pursuant to Section 2.917 (c) and forfeiture of the filing fee pursuant to section 1.1108.

DO NOT reply to this e-mail by using the Reply button. In order for your response to be processed expeditiously, you must upload your response via the Internet at www.fcc.gov, Electronic Filing, OET Equipment Authorization Electronic Filing. If the response is submitted through Add Attachments, in order to expedite processing, a message which informs the processing staff that a new exhibit has been submitted must also be submitted via Submit Correspondence. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.