

RE: Savi Technology
FCC ID: KL7-600MR-V3

In response to your comments on the above referenced Application.

1) The users manual should include the information specified in 15.19(a)(3) according to 15.19(a)(5).

The “Getting Started Guide” has been updated with the correct verbiage - [“This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”].

The revised guide has been uploaded to ATCB.

2) The FCC Label does not contain the proper FCC ID. Please correct.

The label diagram was a generic diagram with the characters “XX” used in place of the “V3” characters for this model. The label has been revised and uploaded to ATCB website.

3) The schematics show an oscillator of 5.0 MHz for the micro-controller. According to the block diagram for this model this should be 4.9152 MHz. Please provide the proper schematics.

An older version was uploaded with the application. The latest version has been uploaded to the ATCB web site.

4) Please explain why the data for the low frequency TX that was used (page 9 of 10 and 4 of 13) was the older test data and not the higher levels that were obtained for the most recent test date?

The data reported was incorrect (actually the extrapolation factor had been applied to the raw receiver reading and not to the receiver plus antenna factor reading). The test data and report (R48374) have been updated to reflect the correct data for the more recent test session.

5) The EUT voltage listed for the general Part 15 Radiated emissions (page 5 of 22) states 230 V / 50 Hz. Please note that the FCC requires testing at the rated voltage in the U.S. for this product (120 V / 60 Hz).

This was an error in the test data sheet. All radiated emissions tests were performed with the unit powered from an AC voltage of 120V/60Hz and conducted emissions tests were done at both 120V/60Hz and 230V/50Hz. The test data sheets have been updated.

6) Multiple places in the report (page 6 of 17, 8 of 17, 2 of 22 to name but a few) state that the data & control signals were tested against 15.231(e). However the data shows that they were tested against the 15.231(a). Please correct this inconsistency throughout the report.

The report and test data have been updated to remove the inconsistency. The updated reports have been uploaded to the ATCB web site. Control signals (Wake-Up and Hello) were both tested against 15.231(a) and the data signals were tested against 15.231(e).

7) It appears that the data/control signals measured were higher than the wakeup signal. Was this expected since the reports states that the wakeup signals was to meet 15.231(a), while the data/control was to meet 15.231(e) - see above?

As the Wake-Up signal does not get the benefit of a duty cycle reduction of the pulsed signals, the peak value of this signal is limited to the average limit imposed by 15.231(a) while the pulsed control signals have the peak value and average values limited by the peak and average limits of 15.231(a) respectively.

8) The theory of operation provided information with respect to meeting the requirements of 15.231(a) & 15.231(e). In specific please address the following concerns:

a) The information is somewhat ambiguous in relation to the hello and sleep transmission. The information supplied shows that this does transmission does not last longer than 5 seconds. However, does this 5 second limitation always exist, no matter how many tags respond (given that only a certain number of responses will occur in the 5 second window? Please explain

The Hello & Sleep transactions with responding tags are automatically limited to 5 seconds of transmission. Any tags which are not put to sleep during that time will be flagged in the log of those responding. The operator must initiate a second transaction, also limited to 5 seconds, in order to process such stragglers. Alternatively, an automated command will be initiated over the network.

b) Please give an explanation on how long tags usually take to respond given the anti-collision algorithm. Also, what is the anticipated time that the EUT takes between the wake up command and "hello/sleep" transmissions.

After receiving the Hello command, tags respond by transmitting their ID in one of up to 255 randomly selected time slots of 57 msec width each. The anti-collision algorithm determines the slot number for each tag based on its ID number and internal clock counter, with a random increment to spread the transaction uniformly over the interval. The average tag response time after receiving a Hello is then half of the interval time. This can range from 28.5 msec up to several seconds. (Note: the duration of the tag ID packet is 9.44 msec.) The duration between the end of the WakeUp transmission and the beginning of the Hello/Sleep transmission is a random delay depending on the anti-collision algorithm. It ranges from about 60 msec to several seconds.

c) Earlier versions of the EUT also had additional type of transmissions in the case that some tags do not respond. Please explain if this device has this and if so, please provide detail on this transmission classification, plots, etc.

A previous product stated that an Alarm Condition would be declared under the definition of 15.231(a,4) in the event that not all tags responded. Such a condition would permit EUT transmission to re-try until the alarm was cleared. In practice, this mode was not found essential to operation, and was deleted from the current model.

9) FYI, The data on page 19, 20 & 22 of 22 of the UHF report applied the general limits of 15.209 at some frequencies where the limits of 15.231 could have been applied instead (2603 and 3038 MHz).

Thanks – changes have been made to the test data

10) FYI, The correction factor on Note 2, page 21 of 22 was not filled in.

This has been filled in and the test data revised.

The updated and new files detailed in the notes above have been uploaded to the ATCB website. The files are:

R47499 Revised.pdf
R48374 Revised.pdf
Label (revised).pdf.
Schematics Revised.pdf
Getting Started Guide (Revised).doc

If you have any further questions, please contact me via doc@elliottlabs.com.

Regards



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