

American TCB

May 16, 2006

RE: Savi Technology, Inc. FCC ID# KL7-673T-V1
Attention: Tim Johnson

Please find our responses to your comments on this Application below:

1) Please provide appropriate internal and external photograph exhibits for this device.

Uploaded a pdf file with the photos in them. Apologies for them being omitted from the original upload. Please note that the internal pictures are identical to those for the ST 674 as the internal circuit boards are identical.

2) The device appears larger than 8x10 cm and therefore the FCC 2 part statement (15.19(a)(3)) is expected to be placed on the device.

The device actually measures 5cm x 15cm x 3cm and has no surface area larger than 80cm². The variant with the metal bracket (model ST 673) measures slightly larger because a separate metal bracket is attached to the main enclosure, but the bracket is removable and, therefore, not appropriate to place the label on the bracket.

Further, previous Savi Tags using the same enclosure have been approved without the need for the FCC 2-part statement being included on the label due to the small size of the product.

It is requested that the ST 673 and ST 674 be treated as too small to necessitate the inclusion of the label.

3) Page 7 of the operational description appears to show > 5 sec transmit for the reader for wakeup and hello command (480 + 90 + 10). Please explain as it appears the reader is in excess of 15.231 timing requirements.

The timing for the reader's transmission is 4.8 seconds + 90ms + 10ms = 4.9 seconds (4800 + 90 + 10 = 4900). This meets the 15.231 limit for transmissions under 15.231(a).

4) Section 6.3.4.2 of the operational description mentions the pattern repeating up to 6 times ($6 * 330$ msec), but this would be in excess of the 1 second maximum transmit period. Please explain.

The timing of the pulses described is a transmission time of 330ms followed by a silent period of 10 seconds repeated up to 6 times (i.e. the pattern of 3 pulses is not repeated 6 times, the pattern of three pulses followed by a 10 second silent period is repeated up to 6 times).

5) Information regarding 15.240 (a), (e), and (f) do not appear to be provided to the user. Please review.

The operation under 15.240 is dictated by the reader and not by the tag. In a previous application it was, therefore, considered that these statements only belong with the readers capable of controlling the tags to operate under 15.240 and not the tags themselves, since use is transparent to the end user. Please advise if you still consider it necessary to include the statements in the manual for the tag.

6) Please explain how the device knows when it is communicating with a 15.240 device vs. a 15.231 device.

The tag is controlled by a 15.240 certified Reader located at a Registered Site where the reader is specially configured to enable 15.240 Tag Read commands to be sent to the tag. The commands issued by the 15.240 reader are what cause the tag to operate under 15.240.

At other sites not Registered for 15.240 operation, Readers are only configured to enable 15.231 Tag Read commands.

7) Is the applicant fully aware of their responsibility under 15.240(f). Please have Savi comment.

Savi understand the requirements and their responsibilities for the manufacture of devices that operate under 15.240. This is shown in the operational description, provided by Savi, on page 8, *Read/Write Operations Under Section 15.240*. As the readers that control the tags are responsible for initiating the tags responses under 15.240 it is suggested that the applicant has to address these issues in full in applications for readers operating under FCC 15.240.

8) Please provide further detail/justification of point to point signals being considered under 15.231(a) vs. 15.231(e).

The point-to-point signals contain a combination of control and data information as permitted under 15.231(a) and as explained to the FCC in previous communications between Savi and the FCC.

15.231(a) permits transmissions to be initiated by human operation or other non-periodic external events. Point-to-point operations are initiated in two ways: (1.) by operators requesting control and data interaction with the tags, or (2.) through non-periodic events generated through the system control logic which in turn generate a command to the tag.

15.231(a) permits data to be combined with control functions in a single transmission. Point-to-point commands always include several ID fields which control the system response, and also include control bits indicating the state of the devices including battery status, alarm conditions triggered by sensors, and the results of data searches inside the device. These control fields may generate requests for service or maintenance, or in control decisions for the routing of the asset to its final destination.

9) Was the device investigated from 30 – 200 MHz. Test equipment does not necessarily support this.

Preliminary scans in an anechoic chamber were performed from 30 MHz to 4GHz. No signals were observed below 300 MHz, therefore all OATS measurements were made between 400 MHz and 4.3 GHz.

10) This device appears to only use a 10% duty factor correction. How about the optional 25% payload? This device would appear to exceed FCC limits with a 25% payload. Also, in the case of duty factors other than 20 dB, both peak and average levels should be shown.

The test data and report have been revised to include the calculated average values of the field strength for both 10% and 25% duty cycles.

11) According the theory, 15.240 emissions utilize 25% duty factor. However this device would appear to exceed the limits using this factor. Please review.

The test data and report have been revised to include the calculated average values and measured peak values of the field strength for a 25% duty cycle against the limits of 15.240.

12) Maximum peak radiated emissions exceed levels of 15.240.

The correct average values, compared to the average limit and the peak values compared to the peak limit of 15.240 show compliance. (See answer above).

13) Test Report does not appear to reference 15.240, while operational description and 731 form do. Please review.

Test report and corresponding data have been updated to include data tables for 15.231(a) and 15.240.

14) Please document RBW and VBW setting used for various radiated tests.

These have been included in the revised test data. Below 1 GHz all measurements made with a receiver with measurement bandwidth set to 120 kHz and peak detector selected. Above 1 GHz all measurements made using RB=VB=1 MHz.

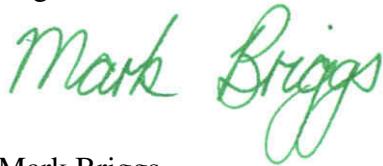
15) Please comment on if the 99% bandwidth was measured using IC techniques as specified in the attachment? Additionally, it does not appear that the measurements meet with the requirements of using RBW > 1%, VBW > 3*RBW and NO Video Averaging? RSS-GEN, section 4.4.1, issue 1. Please correct the IC form as necessary.

The measurements were re-taken and are in the updated report/test data. The IC forms have been corrected.

To support the above the following files have been uploaded to the ATCB web-site:

- ST673 External Pics.pdf
- R63548 revised.pdf
- ST 673 response to TCB Questions.pdf
- ATCB-Form-IC-Application rev 1.doc
- Internal Pics.pdf

Regards,



Mark Briggs
Principal Engineer