

RE: Stealth Alarm Systems Inc os Tela-Link
FCC ID: UBLSIU3A

Tim,

Here are the responses to your enquiries. Please also note due to some changes and retests to get compliance for radiated emissions, the following updated additional exhibits have been uploaded to the website:

1. Internal photographs
2. BOM
3. Schematics
4. New Test report

1) Please provide a parts list for this device. As a minimum this must include the active components in the RF circuitry.

Response: A new BOM has been uploaded to the ATCB website

2) Please provide a Tune up procedure over the power range provided (2.1033(c)(9)). Note that information in the operational description explains factory calibrations. This information should be included in the Tune up procedure.

Response: The description below has also been added to the Test report in section 2

The production tune-up procedure is as follows.

With EUT in test mode set to maximum power and transmitting four packets per second, measure the power at the bottom, bottom middle, top middle and top frequencies (406.1, 430, 450, 470 MHz). If the power is within 33 +/- 1 dB, make no further adjustments. If the power is more than +/- 1 dB send commands to the microprocessor to reduce the gate bias on the PA until the power is within spec.

The gate bias is controlled by a pulse-width-modulated output of the microprocessor. The PWM frequency is approximately 100 kHz.

3) It does not appear that the application includes both DC voltages AND currents applied into the several elements of the final radio frequency amplifying device for normal operation over the power range been provided? (2.1033(c)(8)). Please provide or kindly explain where this information may be found.

Response: The description below has also been added to the revised test report in section 2

The typical operating parameters for the PA are

$$\begin{array}{ll} V_{dd} & = 10.0 \text{ V} \\ I_d & = 500 \text{ mA typical} \end{array}$$

4) If necessary, please update the confidentiality to include the parts list and tune up procedures provided.

Response: Updated to include BOM

5) 731 form cites frequency range of 406.1 – 470 while operational description cites 410 – 470 MHz and users manual cites 410 – 430 & 450 – 470 and test report cites 410.6 – 430 & 450 – 470 and test data shows 406.1 – 430 & 450-470. Please explain/correct these inconsistencies as necessary.

Response: These errors have been corrected, the correct frequency ranges are 406.1 MHz - 430 MHz and 450 MHz – 470 MHz for Canada and 416 MHz – 430 MHz and 450 to 470 MHz for the USA

6) The information provided mentions both an internal and external antenna. Please update the RF exposure information to clearly explain the gains associated with each antenna and the worse case is selected for calculations. Additionally, please note that a 1.0 dBi is listed for antenna gain, however dipoles are typically 1.64 numeric (theoretical) or similar

Response: A new RF exposure exhibit has been uploaded. The maximum gain for any external antenna is 5 dBi

7) Kindly explain why the RF exposure shows 25.9 cm, while the manual shows much more distance. Did the manufacturer cite a larger distance on purpose?

Response: A new manual and RF exposure exhibit has been updated and uploaded to the website

8) RF exposure information in the manual should also caution against co-location, such as the following or similar:

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least ___ cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Response: The manual has been updated

9) Users Manual does not appear to address the RX portion of this system is subject to Part 15 and the manual does not appear to include information required by 15.21 and the label does not appear to include the information required by 15.19(a)(1) (for the RX).

Response: This device does not have a receiver, it is a transmitter only

10) This device utilizes a integrated antenna. Given the devices utilizes a integrated antenna (and also external antenna) and the limits are in ERP (90.279 and 90.205), the data should show compliance in ERP. Please correct.

Response: The report has been updated to show data relative to ERP limits

11) Sections mentioning power should also cite 90.205 and 90.279 in addition to Part 2.

Response: Corrected in updated report

12) Please justify transmissions in the 406 – 416 band. It appears that according to certain sections of Part 90, that: Frequencies in this band will be assigned only for transmitting hydrological or meteorological data or for low power wireless microphones in accordance with the provisions of §90.265.

Response: This device will only be marketed for the US in the 416 MHz – 430 MHz, and 450-470 MHz bands. For Canada the band will be extended down to 406.1 MHz as per RSS 119

13) It is difficult to adequately determine if the device complies with the mask portion from 3 to 4.6 kHz given the span used. Please provide an additional plot of the worse case emissions using a span around 10-15 kHz as appropriate. Additionally, mask plots should normally show the masks on the plot itself to show compliance. Please correct.

Response: Please see revised test report uploaded to your website which contains new data

14) Figure 7 appears to utilize a duty cycle for purposes of showing compliance. Duty factor is normally not applied to review of the mask. Please utilize the narrower span as given above in effort to obtain better dynamic range and also an appropriate RBW = VBW = 100 Hz.

Response: Please see revised report, no duty cycle factor has been applied and measurements have been conducted with RBW and VBW as per your direction.

15) Test report for radiated emissions mentions ANSI C63.4. This is not correct as the method should follow the substitution method of TIA-603.

Response: TIA-603 Substitution method was followed, this is a reference error in the report and has been corrected in the revised report

16) For frequency stability, please compare to appropriate limits (i.e. 1 ppm FCC, 0.5 ppm IC).

Response: The Limits have been corrected in the report and margins reported accordingly

17) For transient frequency behavior, please add appropriate limit lines.

Response: Limit lines have been added to the transient frequency response plot

For IC:

18) Please adjust the IC labeling to include the model number as being listed, according to IC labeling requirements.

Response: Revised label has been uploaded to the ATCB website

19) Please correct the IC form to:

- worse case TX spurious levels and worse case RX emissions.

Response: There is no receiver, the tx worst case has been updated based on recent testing

20) For IC an appropriate RSS-102 attestation should be provided. Please see most recent ATCB IC forms which includes these attestations (attached). Annex B should be provided and Annex A may also need to be provided. Please review.

Response: Annex a and B are provided along with an RSS 102 attestation as uploaded with an updated application form

21) Please provide appropriate receiver emissions according to RSS-119 section 5.12.

Response: This device does not have a receiver, it is a transmitter only

22) Please explain if frequencies for Canada are 406-1 – 470 MHz or 406-1 – 430 MHz, and 450 – 470 MHz. Please correct the IC form if relevant.

Response: As listed on new application form 406-1 – 430 MHz, and 450 – 470

Glen Moore
EMC Manager