



American Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101

October 11, 2010

RE: FCC ID: UYXRSK2010-01 FCC correspondence 91407

Attention: Federal Communications Commission

This is a response to the formal complaint from ARRL concerning the granting of the above FCC ID number.

The issues concerning ATCB's actions in the submittal brought up by Christopher D. Imlay, ARRL's General Council are addressed below.

The complaint several times that ATCB incorrectly evaluated or missed errors, and more or less accuses ATCB of not doing a proper job as Certifier and suggests that ATCB should have denied the application. We will demonstrate that the accusations have no basis and should be summarily dismissed. In many applications for certification, there are many documents and communications that are confidential between the applicant and the Telecommunication Certification Body, and this confidential information, by its nature, is not available to open public view and that cannot be adequately or even properly evaluated by persons not closely associated with the submittal. Often, much of this documentation deals with operational descriptions, trade secrets, design and other information that is confidential and critical to the stability of the applicant, not to mention the veracity of the certification program.

The certification of any device must be based on all available information, public and confidential. A cursory examination by those viewing documentation on the FCC public web site is not sufficient, and is indeed lacking in valuable information to substantiate such opinions as expressed in the complaint. Hence, much of the letter of complaint is inaccurate and incorrect and based upon cursory information.

Specific concerns are addressed below.

1 Concern: Use of test method.

Certification bodies designated by the FCC are bound by CFR47 to follow only prescribed and accepted test methods. A party familiar with the TCB program would understand that, and frame any questions against that context.

- a. As a certification party, our obligation is to follow those practices, policies, interpretations and procedures to which the FCC has given approval.
- b. Since the inception of the TCB program and in the associated TCB Training sessions, the issue of the applicability of TIA603 has been discussed many times. While TIA603 may not be the best method for all types of transmitters, in the absence of a published test method, the FCC has stated this method is to be the test method used for approval of all licensed transmitters. A person unfamiliar with FCC Certification processes may well infer that TIA603 is not appropriate; this infers a lack of understanding of long-standing FCC guidance.

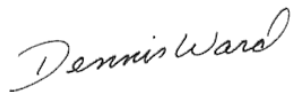
- c. Test methods such as antenna substitution, power measurement, bandwidth measurement etc., again while not specifically addressing the type emissions in this particular filing, do contain an acceptable method to which, with appropriate variation and consideration, can and are used for many modulation types other than the designated FM modulation specifically mentioned in TIA603. Data suitable for supporting a Certification decision have been applied in many applications over the life of the TCB program.
 - d. As such, regardless of what those outside the certification process may understand, the certification of a licensed Part 90 transmitter is to be based on the appropriately applied methodologies found in the accepted test method TIA603.
 - e. It is noted that even in cases where any particular TCB may not fully agree that the method required by TIA603 is accurate or appropriate, it is, nonetheless, the only accepted test method allowed for consideration by a TCB.
 - f. This is evidently not completely understood by ARRL's General Council or by Mr. Ed Hare of ARRL's laboratory. As such Mr. Hare's statement on page 3 of his letter is inaccurate and incorrect: the FCC decides what method is or is not acceptable for use by a TCB and test lab for compliance issues under Part 90. Such statements as above made by ARRL without full understanding of the requirements of the certification process imposed by the FCC are incorrect. Therefore, ATCB and the test lab did follow and evaluate the application based upon accepted test methodology of the FCC.
- 2 Concern: TCB missing error of 5M75C3F during review.
 - a. Significant discussion occurred between ATCB, the test lab and the applicant on this point. The evidence of these Discussions is held in a confidential file.
 - b. The complaint makes several apparently improper assumptions. The first assumption appears to be that the complainant assumes this device contains color and sound NTSC carriers that would produce the normal full 5M75C3F emissions designator waveform.
 - c. It is noted here that the above assumption of the complaint letter is not accurate. The device is a black and white only without audio or sensors.
 - d. If future versions did contain these color and sound NTSC carriers then the emissions designator would properly be 5M75C3F.
 - e. It is to be noted that this version of the device, with 100 kHz BW is actually centered near the center of each of the 430-436, 436-442, and 442-448 MHz bands. Per discussion with the applicant, had this been a normal NTSC signal, the video/audio carriers would NOT have been in the center of the band and offset to fit the entire 5.75 MHz bandwidth IN the 6 MHz band allotted and allowed by the waiver.
 - f. There is some discussion in the formal complaint stating the device was far from producing a typical BW signal and the condition of the video may be suspect (page 6 of formal complaint). It was also erroneously suggested that test conditions existed that were not typical or reasonable representations. Due to unusual nature of B/W only, ATCB's comments/response in the Discussion continued to show the labs questioning the narrow carrier. As stated in the test report and discussion notes, the laboratory investigated and maximized emissions to account for typical use and as normally required for EMC tests.
- 3 Concern: TCB inappropriately evaluated Power:
 - a. We submit that the entire concern in this part of the complaint is specious, as there was no deficiency in the test protocol, the reporting or in the review and acceptance of the test data.

- b. As a requirement for certification, laboratories must report worst-case power in an application. It is always the option of any applicant to provide a sample (and obtain certification on) a lower power device. One is not obligated to produce a sample (or obtain certification on) a device that produces all the allowed power in any Rule Part.
 - c. EIRP was used in the report and is within the 1 Watt specified by the waiver.
 - d. The radiated procedure from the test lab does mention that the device was rotated about 3 axes to obtain worse case.
 - e. Additionally, it is noted that for this band under Part 90 typically uses ERP power – this would be another 2.14 dB lower than the EIRP and again still meets the 1 Watt level.
 - f. It is uncertain if the 1 Watt referenced in the waiver is RF conducted and if it is subject to antenna or other in-efficiencies. However given that Part 90 typically specifies radiated power, and we assume that it is the intent of the waiver, compliance of this device is supported by the report as shown.
 - g. It should be noted also that the waiver limits the power to 1W peak and 0.25W average power. It is also noted that these are maximum values, not the only power values applicable to the waiver. Thus, while limiting the maximum power to 1W peak and 0.25W average, it does not state, nor limit a device from operating at a lower power level.
 - h. The complaint states, “At first glance, one might assume that a transmitter that is operating below its specified limit is beneficial in terms of interference avoidance, but in reality, in EMC and compliance testing, the opposite is true.” This statement appears to be completely rooted in opinion and contrary to engineering observations (for example, the well-understood behavior of active components behaving non-linearly at high operating power). This statement makes a number of assumptions that are irrelevant to the situation of operating under the waiver and really have no bearing on the waiver, or the application.
First, the FCC, at the time of granting the waiver, would have considered the likelihood and possibility of such issues, and if this was of concern to the FCC, then limitations within the waiver would, or should have addressed these possibilities. Second, the statement appears to be an assumption posed by one engineer evidently based on how color and sound NTSC carriers might work under these conditions. It does not specifically address the Black and White signal used in this application. The compliance and EMC issues supported by the test report would seem to refute the opinion as the report does in fact indicate compliance to the waiver as well as the requirements of Part 90 of the FCC rules.
- 4 Concern: Compliance to 90.209(b)(3)
- a. The report does not specifically cite compliance to 90.209.
 - b. It is also noted that the FCC still requires test data for each requirement to be presented.
 - c. Given that the waiver does in fact waive the requirements of 90.209, it is noted by the TCB that the limit specified should more appropriately be cited as ‘N/A’ instead of the note code cited. This has No effect on compliance under the waiver.
- 5 Concern: Modulation applied to device was insufficient to produce typical representative signals.
- a. See discussion in section 2) above.
- 6 Concern: Channel Plan not consistent with the Order.

- a. This appears to again be an assumption in the complaint that this is a color NTSC signal with Audio. As previously stated, this is a black and white only without audio or sensors.
- b. The waiver specified operation within 430 – 436, 436 – 442, and 442 – 448 MHz. The waiver does not specify these as channelized bands, but operation **within the band**. As presented in the report and other submittal documentation, the carriers showed operation within the bands allotted. Since this was not a channelized service under Part 90 operation, and since specific low and high channels did exist, the center channels were listed on the grant of authorization.
- c. It is reiterated here that, as given in 2) above, the signal pertinent to the device was not a typical 5.75 MHz NTSC carrier, and the center of the video carrier was, therefore, not offset as the formal complaint suggests it should be.
- d. It therefore seems that because of the nature of the actual signal, this concern is not merited and may be another incorrect assumption of the complainant based on not having all of the available documentation within the submittal.
- e. It is noted that this exact concern was raised by the TCB reviewer as well and is shown in the email correspondence between the TCB and the applicant related to the appropriate items above.
- f. It is also noted that after discussion and resolution to 2) was shown, these channels and their associated occupied bandwidth are within the bands allotted as presented in the application.
- g. It is further noted that as specified as discussed in paragraph 11 of the waiver:

· The first unit sold to a responding organization will operate on 436-442 MHz, with the 442-448 MHz version being sold only to entities that already own the 436-442 MHz version, and the 430-436 MHz version being sold only to entities that already own the other two versions.

And given the wording above, the device as presented, had 3 channels that operated within the center of each of these bands. The grant listed these channels as the center of the carrier as tested and shown.



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