



Professional Testing (EMI), Inc.
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Round Rock TX 78665

May 12, 2008

Timothy R. Johnson
Examining Engineer
ATCB
6731 Whittier Avenue
McLean VA 22101

Dear Mr. Johnson,

The attached document comprises our response to your letter of May 7, 2008 regarding our filing for Hilberling GmbH RF Laboratories. The FCC ID for the project is V84PT8000.

Several attachment accompany this letter, and we hope you will find the information sufficient to allow you to proceed.

Yours truly,

Jason Anderson
Director of Testing Services

Response to May 7, 20008
Correspondence from
Timothy R. Johnson
ATCB

Manufacturer: Hilberling GmbH RF Laboratories

FCC ID: V84PT8000

The following paragraph numbers refer to paragraph numbers in the May 7th correspondence.

- 1) Regarding the 731 form, the equipment portion Certified is operated under 15B...and the equipment code is CSR (for scanning RX....).

The receiver will not be Certified as a scanning receiver at this time. Since it will be used by licensed amateur radio operators and scanning will only be implemented below 30 MHz and within the 50-54 MHz and 144-148 MHz ham bands, it will be Certified as a digital device, designated CXX. Form 731 has been amended and included as an attachment.

- 2) Regarding internal photographs, Generally the FCC desires top/bottom photographs of all boards....

The photograph section of the report has been modified. Each of the printed wiring boards in the system is named in a list, and photographs of the top and bottom of each is provided in an attachment. Boards on which some of the circuitry is protected by shield cans are photographed with and without the shields in place. Both RX and TX boards are identified and photographed.

- 3) Labeling appears to be missing information required by 15.19(a)(1).

The label submission has been changed to make it conform to the requirements of 15.19(a)(1). Please see the attached submission.

- 4) Given the RS-232 interface, it appears that this device may also be considered a PC peripheral device under Part 15...and is possibly subject to either a Certification or DoC as a PC peripheral....

The firmware for this receiver allows the RS-232 port to be used only for uploading new versions of the firmware. The radio is not remotely controllable from a PC or other computing device. This information has been added to the report and to the User Manual.

- 5) The authorization letter from the applicant should define whom at PTI is authorized to sign paperwork on their behalf – not just the Labs name....

The authorization letter has been re-drafted and now includes the name of the individual at PTI who is authorized to act on their behalf. Please see the new Agent Authorization letter exhibit.

- 6) Scanning RX's require a statement describing the methods used to comply with the design requirements of all parts of §15.121(a)(1) & (2) of this chapter....

Since the receiver is not being Certified as a scanning receiver, this statement is not required.

- 7) Test report does not appear to make any mention of test procedures (i.e. ANSI C63.4).

The report has been updated to reflect ANSI C63.4 as the test procedure.

- 8) Information in the application (operational description and manual) suggests the RX for different bands is connected to different ports...and that depending on the band, it may actually not be the port labeled RX. Please ensure all readings were taken with appropriate RX switched to the port during testing and explain.

The RX-ANT port may be selected as the receive-only antenna port for one or both of the receivers and only on frequencies below 54 MHz. If the RX-ANT port is not selected for this purpose, both receivers in the radio are by default connected to the HF-ANT 1 port. HF-ANT 2 may also be selected as the active port by the operator. A third option allows one receiver to be connected to HF-ANT 1 or HF-ANT-2 and the other to the RX-ANT port. During VHF operation at 110 – 170 MHz, the internal transverter receiver is connected only to the port labeled VHF-ANT.

During radiated emissions tests, all antenna ports were terminated using 1 meter cables and 50 Ohm loads. Antenna-conducted emissions were measured by connecting a spectrum analyzer to HF-ANT 1 for the 9 kHz to 54 MHz receiver tests. The VHF-ANT port was used while measuring antenna-conducted emissions from the internal 120-170 MHz transverter. In each case, the appropriate antenna port was selected before performing measurements.

- 9) Section 4.0 & 4.2 mentions that this device is not categorized as a scanning RX. If the scanning portion ONLY functions in the amateur bands, then this would be true. However manual suggests scanning and the settings associated with this are not strictly limited to the amateur bands. Once a device becomes a wide band scanner, it is then considered a scanning receiver because it is beyond the operation just in the licensed service as cited in 15.3(v).

The radio firmware limits scanning operation to frequencies below 30 MHz and to the amateur radio bands, 50-54 MHz and 144-148 MHz. The product is also intended to be sold only to licensed amateur radio operators. This obviates the need to designate the receiver as a scanning receiver. The product User Manual has been changed to reflect this fact.

10) Please explain the limit line (60 dB μ V/m) above 1 GHz.

The limit line was placed at 60 dB μ V/m by error. This is changed to 54 dB μ V/m in the attached emissions plots.

11) Please provide test data for the 15.121(b) –38dB rejection test.

These data are no longer required because the device is not being submitted as a scanning receiver.

12) Device does not appear to contain labeling information as required by 15.121(f).

This information is no longer required because the device is not being submitted as a scanning receiver.

13) Actual antennas do not appear to be present. Generally these should be terminated into a 50 Ohm load or load of expected impedance. Please review.

Photos of the rear of the receiver as installed prior to testing were accidentally omitted in the initial filing. Please review these photograph in the photo addendum exhibit. It shows that 1m lengths of coaxial cable terminated in 50 Ohm loads were installed on all antenna ports.

14) EUT tuning for Radiated and Conducted appears to be done with 14.1 MHz set to RX. 15.31 requires each band tested using a low, middle and high channel between frequencies covered by Part 15....

The text of the report has been amended to include statements explaining that the test engineer elected to defer measurements at three frequencies in each band while taking radiated emissions measurements. Initially, the receiver switching power supply produced spurs at several HF and VHF frequencies. Tracing the cause of these emissions involved turning the receiver on and off while leaving the power supply on. These tests revealed that the receiver produces no measurable emissions. This observation made it apparent that testing at three frequencies in each band instead of one would have produced no additional information.

15) Unit doesn't appear to be fully populated as required by ANSI C63.4. Please review.

Connectors J17, J19, J20, and J21 on the rear panel of the receiver are in place but, their functions are not enabled in the current version of the software. J22 is presently available only for uploading operating system software into the receiver processors. Since it is used infrequently and during service, it was left un-terminated. References to the remaining connectors will be deleted from the documentation. The receiver will be re-evaluated in the future, when software to implement these functions is ready for release.

16) FYI....Information suggests that this device may also in the future be subject to IC regulations (i.e. some IC info in the manual). Please note that IC has 2 different standards for scanning RX's – which devices going to Canada must be appropriately Certified to.

Our client has requested that we proceed with Certification under IC rules as well as FCC rules. The application has been amended to indicate this, and we anticipate addressing IC requirements immediately after completing the present application for Certification under FCC rules.



Jason Anderson
Director of Testing Services