

RE: ATCB006608 – Original Equipment / Single Certification FCC ID: N82-KOHLER004 & IC: 4554A-KOHLER004 for Kohler Company

I have a few comments on this Application. Please **do not put confidential information** in your responses to these questions because the response letter will not be held confidential by the FCC. Depending on your answers there may be more questions.

1. Page 76 of 85 of the FCC test report totally confused me with a list of the hopping channels?!?!? Is this device a frequency hopping transmitter or a digital transmission system?

A1. This is a DSSS transmitter employing digital modulation (DTS), not FHSS as indicated on our test report. The test report has been corrected.

2. I want a better operational description that tells me what signals are being transmitted, the type of modulation used, and how the channels are chosen (you only demonstrate compliance from 2412 to 2462 MHz) but this device transmits on low and high frequencies of 2401 and 2473 MHz.

A2. This RF module uses IEEE 802.11 protocol. A new Operation Description has been provided. (See Kohler's Letter)

3. This device will not meet band edge requirements at the two extreme frequencies 2401 and 2473 MHz so how will Kohler prevent transmission on the lower and upper frequency groups shown on page 77 of 85 of the test report?

A3. The frequency range of operation was improperly provided by the client. The test report indicates the correct frequency range of operation. All references to the incorrect frequency range have been removed.

4. Operating frequency range of this device is all over the map. Please make sure the FCC and IC application forms, the new operational description and the test report all agree on the operating frequency range for this device.

A4. The frequency range of operation was improperly provided by the client. The FCC and IC application forms and test report indicates the correct frequency range of operation. All references to the incorrect frequency range have been removed.

5. The FCC MPE exhibit is flawed. It uses the wrong formula for a distance of less than 2.5 cm in the calculation. The threshold is really 24 milliwatts and this device uses 107 milliwatts (EIRP). Please fix this by using the RF safety analysis provided in the LMA request letter but use the correct EIRP not 18.5 dBm (70.8 milliwatts).

A5. The MPE Evaluation exhibit has been corrected to reflect >20cm distance from the antenna to the user.

6. The user manual provided is incomplete. The user manual also does not mention the requirement for the ferrites on all the interconnecting cables mentioned in Section 8 of the test report. The user manual also mentions a separation distance of 20 cm for safe RF exposure requirements while the LMA request letter mentions a safe RF exposure distance of less than 2.5 cm will always be maintained by the installation of this device. Please fix the user manual accordingly. Note the safe distance must be adjusted according to item 5 above.

A6. Separation from the user to the transmit antenna is greater than 20cm as indicated in the user manual (See Kohler's Letter). The MPE Evaluation and LMA request have been corrected.

A6. A complete users manual has been provided. Instructions for the use and placement of the ferrites has been included in the installation manual.

7. The model number for this device appears to be 1070734 based on the label exhibit. However the test report and IC application list the wrong model number on them. Please provide correct exhibits with the right model number on them.

A7. The model of the entire product assembly is different from the model name for the transmitter module. This information has been corrected and differentiated in the FCC and IC application forms and test report.

8. The test report does not identify the FCC accepted test procedure used to measure emission characteristics from the DTS device. ANSI C63.4 is not used for measuring emissions from spread spectrum devices. Please identify the FCC accepted test procedure used for measuring emissions from a DTS device in a revised test report.

A8. Procedure used for measurement of this device is per FCC guidance document "Measurement of Digital Transmission Systems Operating under Section 15.247 - March 23, 2005". This has been indicated in the test report.

9. Please provide a letter from the manufacturer of this device stating that all modifications made to this device during compliance testing will be incorporated into all units during installation.

A9. This has been provided. (See Kohler's Letter)