

August 8, 2002

Response to ATCB request

Dear Tim.

The following is a response to your request for information.

1: a) clearer external photographs.

Response: A clearer external photograph has been requested and will be uploaded within the next day or two

b) a photograph of the back of the Bluetooth module.

Response: A photograph of the back of the Bluetooth module has been requested of the lab. Please note however, that this is a soldered board level component similar to a CPU chip on the EUT. Also, since there is nothing on the bottom side of this component, I have provided the master layout masks of this module and the board on which it resides. Please accept this in lieu of de-soldering the component.

c) a photograph of the main board with the Bluetooth module removed.

Response: Please note that the device in question is soldered to the main board as a component at the factory. In lieu of the possibly destructive nature of de-soldering the Bluetooth modular component for photographing, I have attached the master layout drawing of the dongle main board showing the component locations and traces under the Bluetooth modular component. Please accept this as evidence in accordance with 2.1033b7 requirements of defining component location and construction properties. These layout drawings are not listed in the confidentiality request.

2) Regarding the Transmitter Schematics, please provide one of the following:

Response: I have requested the information from the manufacturer. However, please note that the Bluetooth 'modular' section is treated as a component in this system. The schematics of the 'transmitter' show this modular component as it is used in the system with input and output information. This is in the same manner as other chips or components are shown. Please note that the master layout mask shows the Bluetooth board-component part number. The product is an OEM product and I have requested the part number from Microsoft and should have it shortly. While Parts Lists are not required for Part 15 devices, please accept this as meeting your request for verification that this is a component of the EUT.

- 3) and 4) The EUT is considered a PC peripheral device + transmitter and is subject to the applicable requirements of both. However to meet all the applicable requirements for this device it should also be certified under the same ID number as a PC peripheral or it should be tested by an accredited laboratory as a PC peripheral. The test report provided for certification appears to only cover the transceiver portion of the device. Please note that when tested as a PC peripheral, the device should be configuration as specified by ANSI C63.4 Section 11. The minimum configuration specified includes 2 additional interface ports (i.e. parallel and serial) in addition to the monitor, keyboard, mouse ports which did not appear to be filled. Please confirm that the EUT has been properly evaluated and tested by an accredited laboratory for DoC requirements as a PC peripheral device or provide a copy of the DoC report. Also, please note that the FCC's web site does not appear to list Taiyo Yuden as an accredited test lab. Assuming the device has been tested for a DoC authorization as a PC peripheral device, the label should also include the appropriate Part 15 DoC labeling information. Please provide a corrected exhibit.

Response: Taiyo Yuden is listed with the FCC. You will find them as Taiyo Yuden Co., Ltd. Please check again.

The device label showing the FCC DoC will be provided. As such, the label itself is evidence of compliance and as such, no test data for digital device peripherals will be necessary. The label and attestation has been requested and will be provided shortly.

- 5) The compliance information sheet (either separate sheet or information contained on a single page within the manual as specified by 2.1077) is required for DoC authorizations. Most of this information required by 2.1077 is located on page 5 of the users manual. However the compliance information on this page should also contain the following information: a) The identification, by name, address and telephone number, of the responsible party. The responsible party is defined as either the manufacturer, or if the equipment is imported, the importer. The responsible party for a Declaration of Conformity must be located within the United States.

Response: I have requested the information to be provided.

- 6) RF exposure statement.

Response: I have provided a copy of the email between Microsoft and the FCC on rf exposure statements for these devices. Please accept this email as evidence that the suggested or similar wording that appears in the manuals is appropriate. Please note that the FCC has stated that no specific caution language is mandated. As such, any reasonable wording with the intent of cautioning or giving instructions to the user about rf exposure should be deemed appropriate. Because of the response of the FCC and since the MPE calculations show the device compliant at less than 0.3cm we request that accept the wording as provided and as 'de-facto' approved by the FCC in their email response.

- 7) And 8) In the Antenna Conducted report, please explain section 5.5 where it mentions the devices was tested using a fully charged battery.

Response: Radiated spurious emissions testing was performed on the device by Taiyo Yuden and it is this radiated spurious emissions testing that requires the device to be connected to a host. During transmitter conducted terminal tests, the intent is to determine the emissions and power at the antenna terminals alone, not the case emissions of the device. As such, the device is not required to be connected as a peripheral and can be tested as “stand alone”. As an accredited Bluetooth Qualification Body Hyper has the equipment necessary to perform the various modes of operation required for Bluetooth transmitters in this configuration. It is in this ‘stand alone’ configuration that the device was tested for conducted terminal measurements. Thus, in the configuration of ‘standalone’ the E1852B Bluetooth Test Set provides the necessary ‘normal’ use test configurations for antenna terminal measurements.

During this mode, power is derived from fully charged batteries of the type to produce normal operating voltages.

- 9) FYI no response

- 10) The radiated spurious emissions report did not contain 3 sets of data for a typical low, middle and high channel, or contain information to clearly define if the data table provided encompasses all 3 test frequencies. Please explain or provide the missing test data.

Response: While it is necessary to stop the hopping of the Bluetooth device during Band edge compliance in either conducted or radiated methods, during radiated spurious emissions testing it is required that the device be in normal hopping mode. Since the device operates in a pseudorandom manner of channel selection during normal operation, it is assumed that all channels will be used equally and thus all channels will be tested equally during normal operation. The two modes listed in the test report for radiated spurious emissions are the normal hopping transmit mode and a receive mode. In normal transmit mode it is the pseudo random hopping sequence mentioned above that is tested. In receive mode transmission is ceased altogether and the device is testing while in receive mode.

- 11) Section 6 of the radiated emissions report shows ferrite cores on the AC line cord, keyboard, mouse, and CRT. Section 3.4 shows that ferrite were not on the AC line cord. The test system should contain a minimum number of ferrites. Please confirm if the ferrite was present on the AC line cord.


Response: Section 3.4 has a typo. There is a ferrite on the AC line cord to the PC.

- 12) The EUT obtains its power from a host computer. Please provide conducted emissions that show compliance with 15.207.

Response: Please note 15.207 states, "Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines." This device does not connect to the AC mains nor does it use a 'battery eliminator/charger". Please note that this device derives its DC power from an already approved host. Please note also that it is not necessary for a Computer or other device to show compliance with all possible peripheral devices. It is only necessary for the host to have shown compliance under the provisions of ANSI C63.4 minimum configuration. Since the host fully meets the requirements of ANSI C63.4 there is no need for further conducted emissions testing since the host has already shown compliance with the appropriate I/O ports. As such, the conducted compliance of the PC is sufficient for for this device.

If you have any questions or if you need further explanation, please contact as soon as possible

Sincerely,

A handwritten signature in cursive script that reads "Dennis Ward". The signature is written in dark ink and is positioned to the left of a vertical line.

Dennis Ward  
Consultant  
dt Associates  
PO Box 1644  
Mariposa, CA 95538

