

Chris Harvey

From: Claire Hoque [claire.hoque@ccsemc.com]
Sent: Tuesday, January 20, 2009 1:27 PM
To: Chris Harvey; Chris Harvey -TCB
Cc: Tina Chu
Subject: answer: 08U12125 questions: Plantronics, Inc., FCC ID: AL8-WH100T, Assessment NO.: AN08T8674, IC No: 457A-WH100T, Assessment No: AN08I2710, Notice#1
Attachments: 7r2_antenna specification headset.pdf; 1ar2_Request for Long Term Confidentiality_AL8-WH100T_pc.pdf; 11_bluetooth declaration.pdf; 08U12125-1B FCC IC_BLUETOOTH Report_Final.pdf; Hydra Bluetooth Headset 08U12125 - FCC submission (52.1 KB)

Hi Chris,

Pls see answer below.

Thanks,

Claire Hoque

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-----Original Message-----

From: Chris Harvey
Sent: Monday, December 08, 2008 9:36 AM
To: Thu Chan
Cc: Chris Harvey; Claire Hoque
Subject: Plantronics, Inc., FCC ID: AL8-WH100T, Assessment NO.: AN08T8674, IC No: 457A-WH100T, Assessment No: AN08I2710, Notice#1

Dear Thu Chan and Claire Hoque,

You are listed as the Technical Contact for the above referenced TCB application. The following items need to be resolved before the review can be continued:

1. The antenna gain exhibit seems to document a +2dBi gain, but the report uses a -2dBi gain. Please confirm and update as needed.
For the antenna gain:

Peak antenna Gain = 1.35 dBi

Please reference the attached "7r2_antenna specification headset.pdf"

Here is the reason why the antenna gain is at 1.35 dBi even though the data in the previous attachment show an antenna gain of -1.6dB.

Attached are the antenna radiation pattern results for the Theo headset labelled Theo 2 EB1#5 and CLI 094102. The measured peak antenna gain was -1.6dBd (dBd as the measurement was referenced to a dipole). This yields a dBi figure of 0.55 (Dipole gain of +2.15 + peak gain of -1.6dBd).

The conducted measurement results @ 2441 MHz were as follows:

0dB setting yielded -0.8dBm (for technical reasons the Swindon antenna gain measurements were made with the 0dB setting)

As the conducted output power was -0.8dbm (not 0dBm) we need to apply this offset to the result, giving $0.55\text{dBi} + 0.8\text{dB} = 1.35\text{ dBi}$

So the figures you requested are:

Peak antenna Gain = 1.35 dBi

2. If the antenna gain is actually +2dBi, then the max EIRP would be $12.81\text{dBm} + 2\text{dBi} = 14.81\text{ dBm} = 30.26\text{mW}$, which is over the 60/f low threshold for SAR. Please also confirm if SAR compliance testing is necessary for this device in accordance with FCC policy.

For the antenna gain:

Peak antenna Gain = 1.35 dBi

[Tina] Chris, the client sent me the reply stating that SAR evaluation isn't required. Can you check please? I attached his email for your reference. Do not upload his email reply. Thanks.

3. The block diagram shows a PA bypass function of this device but this function does not seem to be described in the remaining documentation. Please describe the PA bypass and indicate if its function was investigated during the testing of this device.

"The PA bypass function works the same way in the Headset and Base. The PA is only active for TX power levels of +8dbm and +12dbm, for all the other output powers (see section 2.4.1.2 of the product specification), the PA is in bypass mode. Bypass mode is also enabled when the Headset/Base is in receiving mode. During normal operation, the bypass enable/disable function is fully automated under the control of the firmware."

The EUT was tested at +12dBm so the PA would not have been bypassed.

4. The Long Term Confidentiality request letter lists a Parts List exhibit which has not been submitted, but is not required to be submitted. In order to have a correct exhibit, please replace the letter to remove the Parts List from the Confidentiality request letter. Please reference attached "1ar2_Request for Long Term Confidentiality_AL8-WH100T_pc.pdf"

5. There are several FCC FHSS requirements that are not yet declared as being compliant in the application referenced above. These requirements are automatically deemed compliant if the device meets the Bluetooth Specification. The device is called a Bluetooth device; however there is no clear statement that the device complies with the Bluetooth CORE specification. Please either provide a declaration with the Bluetooth CORE Specification (please include version) or provide individual declarations of compliance with the following items needed for FCC 15.247 compliance:

Is the hopping sequence pseudorandom, based on the technical description?

Is each channel used equally on average, based on the technical description?

Does the associated system receiver have a compliant input bandwidth, based on the measured 20 dB emission bandwidth?

Does the associated system receiver have the ability to hop in synchronization with the transmitter, based on the technical description?

Does the design of the frequency hopping system allow it to comply with all pertinent requirements when presented with a lengthy data stream?

Does the frequency hopping system comply with the non-coordination requirement?

Please reference attached "11_bluetooth declaration.pdf".

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.

Best regards,

Chris Harvey
Charvey-tcb@ccsemc.com