Dear Steve,

To reply your comments Q6:

Please refer to our client's e-mail.

Dear Julian,
I have been confirmed with correlate in our company about BT with AFH issue!!
Our AFH system was maintain more then 20 hopping channels and can not to changed by the end user.

Best Regards,
Chiason

Thanks!

Best Regards,

Amanda Chu / 朱芳誼

Certification Specialist / ADT Corp. (Hsin Chu Office)

Tel: 03-5935343 ext. 1737 Fax: 03-5934728

Hi May,

For UMedia urgent application, I need to clarify one more question; also the RF exposure statement in the manual is not yet corrected for this application. Please revise ASAP today (please refer to mail below).

Question #6: Does BT with AFH always maintain more then 15 hopping channels in worst case? Is minimum hopping channel changeable by the user to lower than 15 channels?

(Note: Due to limited time we can wait, FCC is not able to look into this issue completely. So they gave me only guideline to clarify minimum channel requirement.)

Best regards,

Steve Cheng

From: amanda@adt.com.tw [mailto:amanda@adt.com.tw]
Sent: December 4, 2006 12:10 AM
To: steve.cheng
Cc: eric@adt.com.tw; Ken_Lu@adt.com.tw; may@adt.com.tw
Subject: Re : RE: One TOP URGENT FCC approval project, FCC ID:SI5BCB210

Dear Steve,

Thank you for your comments on this application!

The following items are our replies for your comments:
Question #1: The label sample for SI5BCB210 is not readable, please upload a clear one if possible.
=> Our client provied another clear one.

Question #2: P14 or user manual, please explain what is Adaptive Frequency Hopping? Per FCC FHSS policy that "Coordination, from a single central intelligence, may not occur if the intent is to avoid collisions".

=>Please refer to the following attached e-mail from Hank and our client.
----- 轉呈者 Amanda Chu/ADT 於 2006/12/04 下午 04:08 -----

Hank Chung/ADT (鍾昆宏/新竹無線電檢測課)

2006/12/04 下午 02:45

收件人 Amanda Chu/ADT@ADT
副本抄送 May Chen/ADT@ADT
主旨 Fw : FW: Bluetooth CSR spec.

Dear Amand:

Adaptive Frequency Hopping (AFH) techniques aimed at modifying the Bluetooth frequency hopping sequence in the presence of WLAN direct sequence spread spectrum devices. We examine the conditions such as the applications, topologies,and scenarios under which AFH techniques improve performance that is measured in terms of packet loss, TCP delay, and channel efficiency. We also compare the results obtained with AFH to others obtained using a scheduling technique that consist in delaying the transmission of a Bluetooth packet until the medium is "idle". Our results show that an obvious performance improvement with AFH is in terms of delay and throughput.AFH brings the delay down to the same level than when no interference is present. On the other hand, AFH is rather slow in responding to changes in the environment and the packet loss is more significant than with the scheduling. This is probably due to the limitations imposed by the communication overhead. The main difficulty for AFH is having to dynamically communicate the changes to all slaves in the piconet in order to keep the synchronization.
----- 轉呈者 Hank Chung/ADT 於 2006/12/04 下午 02:45 -----

"Chiason Liu" <chiason.liu@u-media.com.tw>

2006/12/04 下午 01:15

收件人 <sam_yu@adt.com.tw>, <hank@adt.com.tw>

副本抄送

主旨 FW: Bluetooth CSR spec.

From: Debby Chiang [mailto:debby.chiang@u-media.com.tw]
Sent: Monday, December 04, 2006 12:23 PM
To: 'Chiason Liu'
Cc: 'Hank 政亮 U-RH001'
Subject:

Chiason:
Please refer to following CSR spec or attached datasheet about AFH. This can explain AFH is defined by Bluetooth.

Thank you!
debby

=== from datasheet===

9.1.1 Key Features of the HCI Stack: Standard Bluetooth Functionality

Bluetooth v2.0 + EDR mandatory functionality:

- Adaptive frequency hopping (AFH), including classifier

http://www.csr.com/products/bc4ext_spec.htm

Baseband and software

- External 8Mbit Flash for complete system solution
- Internal 48kbyte RAM, allows full speed data transfer, mixed voice and data, and full Piconet operation, including all medium rate preset types
- Logic for forward error correction, header error control, access code correlation, CRC, demodulation, encryption bit stream generation, whitening and transmit pulse shaping. Supports all Bluetooth v1.2 features including eSCO and AFH

Question #3: P57 of test report, Average value calculation is wrong.
=>Sorry for our typo. We already revised the test report.

Question #4: Why connect modem during 15C test? If it is for meeting minimum ITE configuration, then why there is no parallel or USB device connected?
=>Sorry for our mistake. We already revised the test report, the added modem has not effect to the test result.

Question #5: User manual is missing all required regulatory statements.
=> Our client revised the user' manual.

Thanks!

Best Regards,

Amanda Chu / 朱芳誼

Certification Specialist / ADT Corp. (Hsin Chu Office)

Tel: 03-5935343 ext. 1737 Fax: 03-5934728

"steve.cheng" <steve.cheng@nacsemc.com>

2006/12/01 下午 06:00

收件人 amanda@adt.com.tw
副本抄送 eric@adt.com.tw, may@adt.com.tw, Ken_Lu@adt.com.tw

TCB Review Comments for (B06-1201b- SI5BCB210, 951106H06 U-MEDIA BT Skype Phone)

-EMC-

Question #1: The label sample for SI5BCB210 is not readable, please upload a clear one if possible.

Question #2: P14 or user manual, please explain what is Adaptive Frequency Hopping? Per FCC FHSS policy that "Coordination, from a single central intelligence, may not occur if the intent is to avoid collisions".

RF Standard	Class 1 Bluetooth v2.0
	Backward compatible with Bluetooth v1.1 & v1.2
RF Frequency	2.4~2.4835 GHz, ISM band
Spread Spectrum	Frequency Hopping and Adaptive Frequency Hopping

Question #3: P57 of test report, Average value calculation is wrong.

NOTE (Average):

Average value = 56.74-30.00=26.74dBuV/m, which is under 54dBuV/m limit.

*The DH5 packet was the worse case duty cycle for a transmit dwell time on a channel, based upon Bluetooth theory the transmitter is on 0.625 * 5 per 296.25 ms per channel. Therefore, the duty cycle be equal to: $20\log(3.125/100)= -30$ dB. Average value = peak reading – 30.00.

Average value = 45.29-30.00=15.29dBuV/m, which is under 54dBuV/m limit.

Question #4: Why connect modem during 15C test? If it is for meeting minimum ITE configuration, then why there is no parallel or USB device connected?

Question #5: User manual is missing all required regulatory statements.
Section 15.105 Information to the user.
(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a

Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
Section 15.19 Labelling requirements. (following statement may be on CD if too small)
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Section 15.21 Information to user. (not specified if on CD is OK)
The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
CAUTION: Any changes of modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.
IMPORTANT NOTE: FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Best regards,

Steve Cheng
Curtis-Straus LLC