

## CHEN, Colin

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**From:** LIM, Cher Hwee  
**Sent:** 21 March 2007 14:27  
**To:** CHEN, Colin  
**Cc:** TAN, Lee Tuan  
**Subject:** FW: Add Value FCC ID - Addvalue reply  
**Attachments:** image002.png

Dear Colin,

For clause 15.247(g) and (h), I don't know where you get the clauses' statement. I did highlighted this point in my earlier email. See the clauses that we have here. In short, the EUT meets both the requirements. Lee Tuan should has the write up about frequency hopping. Please get a copy from her. As the EUT supports Bluetooth V1.2, it means it does support adaptive frequency hopping.

(g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

(h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hops to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

Kind Regards,  
Lim Cher Hwee  
TÜV SÜD PSB Corporation Pte Ltd  
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From: Prabakar Kuttaniseeri [mailto:prabakar@addvalue.com.sg]  
Sent: Wednesday, March 21, 2007 12:04 PM  
To: CHEN, Colin; LIM, Cher Hwee  
Cc: TAN, Lee Tuan  
Subject: RE: Add Value FCC ID - Addvalue reply

Dear Colin Chen,

Good morning , An another surprise!! Any way pls see my comment below. Also pls check with Cher Hwee for some clarifications

Dear Cher Hwee,

Pls help to clarify in this regard. Thanks for your ever support with us.

Best regards,  
Prabakar

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

From: CHEN, Colin [mailto:Colin.CHEN@tuv-sud-psb.sg]  
Sent: Wednesday, March 21, 2007 10:13 AM  
To: Prabakar Kuttaniseeri  
Subject: RE: Add Value FCC ID

Dear Pabakar,

There are some issues I need you to address.

> -15.247(g) Does the design of the frequency hopping system allow it to comply with all pertinent requirements when presented with a lengthy data stream?[Prabakar Kuttaniseeri] My RF engineer comment YES. but still check with Cher Hwee

> -15.247(h) Does the frequency hopping system comply with the non-coordination requirement? [Prabakar Kuttaniseeri] For this one Cher hwee only can answer.( my team don't have any idea?)

The Users Manual must have FCC RF exposure compliance guidance information as well as FCC Pt. 15 compliance information per FCC 15.21 & 15.105.[Prabakar Kuttaniseeri] I have passed you before. Still I can amend and send in following mail

The System Overview document and manual indicates that this unit has an RJ11 phone jack. Please ensure that the requirements for Pt. 68 are met.[Prabakar Kuttaniseeri] Cher Hwee can conform this part. Even though it is RJ 11 phone jack but the system is not intended to connect PUBLIC SWITCHED NETWORK LINE. A corded analog set is designed and qualified with this system. This handset is only designed and used for our product ( Satellite communicator)

For the Pt. 25 transmitter application Please provide the DC voltages[Prabakar Kuttaniseeri] System main input DC volatge is 15.0V, max.current is 2.8A [Prabakar Kuttaniseeri] ,for RF module it is 3.3V DC +/- 0.1V regulated , Current maximum 100 mA and currents required by FCC 2.1033(c)(8), and the range of operating RF power values per FCC 2.1033(c)(6)[Prabakar Kuttaniseeri] 34dBm EIRP to 40 dBm EIRP ( maximum operating RF power for Satellite portable Class 3 terminal is 10dbW +/- 1dB accuracy - According to Our Satellite service operator)

Typically this information is contained in the Operational Description exhibit. Also, please provide the Parts list and Tune-up procedure required for the Pt. 25 transmitter application. [Prabakar Kuttaniseeri] Not clear about the parts list. Typically there is no Tune-up process applicable for end user(Operator)

Please send to me on a separate email with the replies asap. Thanks. If there are any other queries. Please call me. Thanks

Colin Chen

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From: Prabakar Kuttaniseeri [mailto:prabakar@addvalue.com.sg]  
Sent: 19 March 2007 18:06  
To: LIM, Cher Hwee; CHEN, Colin  
Cc: TAN, Lee Tuan  
Subject: RE: Add Value FCC ID

Dear Colin Chen,

I have called you several times today to catch you. but couldn't. Anyway with the below report from Cher Hwee, believe all the information provided for FCC issues. Pls advise the status of FCC grant.

Pls let me know well in advance for any more surprise from TCB. pls expedite the process.

Thanks  
Prabakar

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

From: LIM, Cher Hwee [mailto:cher-hwee.lim@tuv-sud-psb.sg]  
Sent: Monday, March 19, 2007 2:13 PM  
To: CHEN, Colin; Prabakar Kuttaniseeri  
Cc: TAN, Lee Tuan  
Subject: RE: Add Value FCC ID

Dear Colin,

Please find enclosed the results of average dwell time for DH3 and DH5 packets. DH1 packet results are already in the test report (as not included).

Kind Regards,  
Lim Cher Hwee  
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From: CHEN, Colin  
Sent: Wednesday, March 14, 2007 4:31 PM  
To: Prabakar Kuttaniseeri; LIM, Cher Hwee  
Cc: TAN, Lee Tuan  
Subject: RE: Add Value FCC ID

DEar Prabakar,

I am very shocked as well. We are doing all we can to chase this. With regards to IC, I will have to check with Lee Tuan first. Thanks

Colin Chen

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From: Prabakar Kuttaniseeri [mailto:prabakar@addvalue.com.sg]  
Sent: 14 March 2007 16:22  
To: CHEN, Colin; LIM, Cher Hwee  
Cc: TAN, Lee Tuan  
Subject: RE: Add Value FCC ID

Dear Colin,

I was shocked by seeing the long list in this last minute. Any way I have checked with my RF engineer and according to him the answer is below.but still you need to double conform with Cher hwee. Rest of the few question cher hwee only can advise.

Pls help to expedite the process to obtain the GRANT. then what about IC certification ?

Thanks  
Prabakar

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

From: CHEN, Colin [mailto:Colin.CHEN@tuv-sud-psb.sg]  
Sent: Wednesday, March 14, 2007 2:32 PM  
To: LIM, Cher Hwee  
Cc: TAN, Lee Tuan; Prabakar Kuttaniseeri  
Subject: Add Value FCC ID

Dear Cher Hwee,

Please provide advice on the following questions before the certification can proceed. Thanks

The System Architecture portion of the Block Diagram exhibit is not legible. Please provide a replacement using a higher resolution to make the text legible (can be extracted to be a separate Block Diagram exhibit from the System Overview exhibit).[Prabakar Kuttaniseeri] [attached - pls extract]

The Internal Photographs of the Bluetooth Board must also be submitted with the RF shields removed to show the components under the RF shields.[Prabakar Kuttaniseeri] [attach in following mail]

Please provide the antenna specifications for this device (both Bluetooth and Pt. 25 antennas).

Please provide declaration of Bluetooth CORE compliance as mentioned in the report, or separate compliance with the following FCC requirements:

- > -Is the hopping sequence pseudorandom, based on the technical description?  
[Prabakar Kuttaniseeri] yes for Blue tooth
- > -Is each channel used equally on average, based on the technical description?  
[Prabakar Kuttaniseeri] yes for Bluetooth
- > -Does the associated system receiver have a compliant input bandwidth, based on the measured 20 dB emission bandwidth?[Prabakar Kuttaniseeri] [yes for blue tooth]

- > -Does the associated system receiver have the ability to hop in synchronization with the transmitter, based on the technical description?[Prabakar Kuttaniseeri] [yes for blue tooth](#)
- > -15.247(g) Does the design of the frequency hopping system allow it to comply with all pertinent requirements when presented with a lengthy data stream?
- > -15.247(h) Does the frequency hopping system comply with the non-coordination requirement?

Please provide additional internal photos with the RF shields removed.

For the Pt. 25 transmitter application Please provide the DC voltages and currents required by FCC 2.1033(c)(8), and the range of operating RF power values per FCC 2.1033(c)(6). Typically this information is contained in the Operational Description exhibit. Also, please provide the Parts list and Tune-up procedure required for the Pt. 25 transmitter application.

RF Exposure compliance information must be provided in the application. Since this device is likely operated at distances >20cm from the human body, this RF Exposure compliance can be addressed as Maximum Permissible Exposure (MPE) per FCC 25.149(a)(5).

The Users Manual must have FCC RF exposure compliance guidance information as well as FCC Pt. 15 compliance information per FCC 15.21 & 15.105.

For FCC compliance I typically see compliance of the DH1, DH3 and DH5 Packet lengths for the dwell time compliance. There is no description of the availability of the different packets for this device nor compliance of anything besides a single transmission duration. Does this device have the capability of transmission of different packet lengths? If yes, please provide compliance of these for the dwell time requirements of FCC 15.247.

The System Overview document and manual indicates that this unit has an RJ11 phone jack. Please ensure that the requirements for Pt. 68 are met.

Colin Chen

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