

## Chris Harvey

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**From:** CCS - Eric [eric.wong@cn.ccsemc.com]  
**Sent:** Wednesday, April 12, 2006 12:10 AM  
**To:** charvey-tcb@ccsemc.com  
**Cc:** 'eric.wong'; 'CCS - Eric'  
**Subject:** RE: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#1  
**Attachments:** (TL-WN321G)AntSpec\_0412.pdf; SZ060220B01-RP\_0411.pdf

Hello Chris,

Thanks for your email, please find our replies below in **BLUE**.

Eric

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

From: charvey-tcb@ccsemc.com [mailto:charvey-tcb@ccsemc.com]  
 Sent: Monday, April 03, 2006 10:10 PM  
 To: eric.wong@cn.ccsemc.com  
 Cc: charvey-tcb@ccsemc.com  
 Subject: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#1

Dear Eric Wong,

I have reviewed the above referenced TCB application and find that the following items need to be addressed before the review can be completed.

1. The form 731 has 17mW (12.41dBm) RF power for this USB WLAN dongle. Per the report the antenna is 0dBi, therefore SAR would not be required (below the 24mW Low Threshold). The schematic Diagram shows that the antenna is a Printed Antenna (photos seem to confirm this); however the exhibit provided for Antenna Specification ((TL-WNG321)AntSpec.pdf) indicates that there is a ceramic antenna (Walsin RFANT Series /N: RFANT5220110A0T) which has a typical gain of 2dBi (plot shows peak gain of 2.59dBi).

12.41dBm +2dBi = 14.41dBm = 27.6mW which is over the TCB Low Threshold, and thus required to comply with SAR measurements.

Please provide the MAX/PEAK antenna gain for the antenna used with this device, correct the documents that have incorrect

gain values and address the RF Exposure requirements for this device.

**(ERIC: After the validation with our client, they said they are wrongfully provided the antenna spec before. The antenna is laid into the PCB indeed and they would like to declare its antenna type and antenna gain. Please find the spec of the antenna per the attached file.)**

2. Pages 25 & 26 of the test report seem to show plots of Average band-edge measurements with non-compliance for Vertical & Horizontal Polarity at approximately 2488 MHz (the level is above the 54dBuV/m@3m limit per 15.209 for restricted band frequencies of 15.205.)

**(ERIC: Please find the revised report attached, upon your last comment.)**

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

## Mike Kuo

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**From:** eric [eric.wong@tw.ccsemc.com] on behalf of eric.wong [eric.wong@tw.ccsemc.com]  
**Sent:** Thursday, April 20, 2006 12:15 AM  
**To:** Mike Kuo  
**Cc:** Chris Harvey; eric.wong; CCS - Eric  
**Subject:** Re : RE: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#2  
**Attachments:** SZ060220B01-RP\_0420.pdf

Hello Mike,

Please find our revised report upon your last comments, thanks!!

***Thank you!!***

***Should you have any question, please don't hesitate to ask us..***

***Eric Wong***

***Report & Certification Section***

***Compliance Certification Services (Shenzhen) Inc. (aka Compliance Engineering Services, Inc.)***

***TEL.: 86-755-28055000 Ext.102***

***FAX: 86-755-28055221***

***EMAIL: [eric.wong@tw.ccsemc.com](mailto:eric.wong@tw.ccsemc.com) / [eric.wong@cn.ccsemc.com](mailto:eric.wong@cn.ccsemc.com)***

*(Due to our global email address/domain name standardization program, please be noted that my email have been harmonized to [eric.wong@cn.ccsemc.com](mailto:eric.wong@cn.ccsemc.com) (China domain) and [eric.wong@tw.ccsemc.com](mailto:eric.wong@tw.ccsemc.com) (Taiwan domain))*

"Mike Kuo" <[mike.kuo@ccsemc.com](mailto:mike.kuo@ccsemc.com)>

收件人 : "CCS - Eric" <[eric.wong@cn.ccsemc.com](mailto:eric.wong@cn.ccsemc.com)>, "Chris Harvey" <[charvey-tcb@CCSEMC.com](mailto:charvey-tcb@CCSEMC.com)>

副本抄送 : "eric.wong" <[eric.wong@tw.ccsemc.com](mailto:eric.wong@tw.ccsemc.com)>

主旨 : RE: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#2

Hi Eric :

- 1) Page 17 of test report, the middle channel and high channel frequency still not correct. Please make necessary correction.
- 2) In the output power spectrum plots, there is no offset value ( 2.5 dB ) on the spectrum plots. Please explain.
- 3) Page 53 - 58 of test report, when the peak reading is over the average limits, you need to perform average measurement against average limits. Please provide average measurement for those peak readings are higher than average limits.

Best Regards

Mike Kuo

4/20/2006

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**From:** CCS - Eric [mailto:[eric.wong@cn.ccsemc.com](mailto:eric.wong@cn.ccsemc.com)]  
**Sent:** Monday, April 17, 2006 10:33 PM  
**To:** Chris Harvey  
**Cc:** Mike Kuo; 'eric.wong'  
**Subject:** RE: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#2

Hello Chris,

Thanks for your mail. The test items associated with your comments are already re-take and attached is our most revised one.

Please kindly review and let me know your comments.

Thanks again!!

Eric

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

From: [charvey-tcb@ccsemc.com](mailto:charvey-tcb@ccsemc.com) [mailto:[charvey-tcb@ccsemc.com](mailto:charvey-tcb@ccsemc.com)]  
Sent: Saturday, April 15, 2006 4:08 AM  
To: [eric.wong@cn.ccsemc.com](mailto:eric.wong@cn.ccsemc.com)  
Cc: [charvey-tcb@ccsemc.com](mailto:charvey-tcb@ccsemc.com); [mkuo@ccsemc.com](mailto:mkuo@ccsemc.com)  
Subject: TP-LINK TECHNOLOGIES CO., LTD., FCC ID: TE7WN321G, Assessment NO.: AN06T5621, Notice#2

Dear Eric Wong,

We have received and reviewed your revised test report per the first request for information. There is some confusing information regarding the frequencies of operation for this device. The out of band emissions in the original report were performed with the high channel set to 2472MHz, but that test showed non-compliance. The new test revised the high frequency to 2462 MHz showing compliance with the out of band emissions. There are still some test data showing the high channel of 2472 in the test report. Please confirm that the frequency of operation for this device will be restricted to 2412 - 2462 MHz and how this setting will not be adjustable by the end users. Also, please submit the data for compliance using 2462 MHz as the high channel.

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