## Chris Harvey

**From:** Claire Hoque [claire.hoque@ccsemc.com]

**Sent:** Monday, July 14, 2008 2:10 PM

**To:** Chris Harvey; Chris Harvey -TCB

**Cc:** Tina Chu; Chi Tsou; Sunny Shih

**Subject:** DTS answer: Broadcom Corporation, FCC ID: QDS-BRCM1038, Assessment NO.: AN08T8122, Notice#1

**Attachments:** 08U11756-1A_DTS WLAN Report(2).pdf; 08U11756-1A_DTS WLAN Report(3).pdf; 08U11756-1A_ DTS Setup Photos.pdf; 08U11756-1A_DTS WLAN Report(1).pdf; BCM4322USA Operational Description revised on 7-14-08 with frequency stability statement.pdf

Hi Chris,

Pls see DTS answers below.
Thanks,

Claire

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

From: Chris Harvey
Sent: Friday, July 11, 2008 8:59 AM
To: Thu Chan
Cc: Chris Harvey; Claire Hoque
Subject: Broadcom Corporation, FCC ID: QDS-BRCM1038, Assessment NO.: AN08T8122, Notice#1

Dear Thu Chan and Claire Hoque,

You are listed as the Technical Contact for the above referenced TCB applications. The following item(s) need(s) to be resolved before the review can be continued:

1. The antenna combinations table on page 9 of 265 (in DTS PDF report exhibit) seems to indicate that the HT20 (27.56dBm) mode was tested with the 8.61 dBi antenna gain combination, and not the HT40 (29.4dBm) mode. (Please note that the table seems to have a typo in the middle row that should probably state "SLOT Hi / PIFA Hi").
**< answer >: It's typo. The HT20 (27.56dBm) mode was tested with 8.61 dBi antenna gain combination (SLOT Hi / PIFA Hi). Revised report attached.**

2. Please confirm all of the possible antenna combinations that can be utilized in the final products. For example, can the end product use 2 of the Tyco PIFA M97PIFA antennas with 7.18dBi each in the 5.8GHz band (which would be a combined 10.45dBi)? Or must the end product use one PIFA antenna and one Slot antenna?
**< answer >: The end product can only use high PIFA/low slot or low PIFA/high slot antenna combination.**

3. The MPE calculation in the DTS report seems to over calculate the MPE safe distance of 22.5cm in the 5 GHz by using the highest power in HT40 MIMO mode (29.4dBm) and the highest gain in the tested HT20 mode (8.61dBi). Is the HT40 mode capable of using the SLOT Hi (3.08dBi) and the PIFA Hi (7.18dBi) antenna combination? If yes, then this combination must be tested as the worst case.
**< answer >: Updated report with right antenna gain. There are only two**

**combinations for the HT40 mode, which is SLOT Low (0.56 dBi) plus PIFA Hi (7.18dBi) and SLOT Hi (3.08 dBi) plus PIFA Low (1.05 dBi) antenna combinations.**

4. The MPE calculation currently calculates the 22.43cm required separation, but the manual only recommends 20cm separation for the installers. If the MPE calculations are corrected per the items above to be 20cm, then this does not need to be addressed. However, if the correct calculation of separation distance is 22.43cm, then the manual/installation statements must be corrected.
**< answer >: Please see answer in Q3**

5. The DTS Radiated emissions appear to only have been performed with either the PIFA antenna or the SLOT antenna. Please confirm that the worst case antenna combinations were tested for the Radiated Emissions for DTS modes.
**< answer >: Yes. The worst case antenna combinations were tested for the Radiated Emissions test.**

6. The Operational Description exhibit indicates a maximum 8.8dBi gain antenna (s) in the 5GHz band, but the test reports document DTS 5GHz band has 8.6dBi gain and the NII 5GHz band has 8.9dBi gain (SLOT Hi / PIFA Hi). Please correct the Operational Description exhibit.
**< answer >: pls see revised Operational Description.**

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