

From: Generic Office of Engineering Technology [mailto:petech@fccsun27w.fcc.gov]
Sent: Wednesday, October 31, 2007 7:52 PM
To: Mike Kuo
Subject: Response to Inquiry to FCC (Tracking Number 411848)

Inquiry:

---Reply from Customer on 10/31/2007---

please see reply in attached

Response:

test plan is acceptable

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Version: 7.5.503 / Virus Database: 269.15.15/1101 - Release Date: 10/31/2007 10:06 AM

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Version: 7.5.503 / Virus Database: 269.15.17/1103 - Release Date: 11/1/2007 6:01 AM

----- Forwarded message -----
From: "Mike Kuo" <mike.kuo@ccsemc.com>
To: "Tim Harrington" <Tim.Harrington@fcc.gov>
Date: Tue, 30 Oct 2007 10:49:34 -0800
Subject: FW: TCB- KDB 411848 - Identical Tablet Computer with three alternate WLAN modules with one set of antenna

Hi Tim:

Sorry to bother you again. I sent this e-mail to EASTECH mailbox. I know you will be the one to evaluate the request. Could you please help me to take a quick look?

Best Regards

Mike Kuo

Compliance Certification Services

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Web Site:www.ccsemc.com

From: Mike Kuo
Sent: Tuesday, October 30, 2007 11:48 AM
To: 'eastech@fcc.gov'
Cc: Mike Kuo
Subject: TCB- KDB 411848 - Identical Tablet Computer with three alternate WLAN modules with one set of antenna

Dear FCC:

This is to reply the questions asked in KDB 422848:

Response:

General remarks:

a) please update table in 2 to show hi/mid/lo powers

FCC ID		Grant Date	Peak Output Power (W)			
			2.4 GHz band	5.15-5.25 GHz band	5.25-5.35 GHz Band	5.725-5.850 GHz Band
1	CJ6UPA3489WL Non-MIMO	12/12/2005	0.274/0.318/0.264	0.042/0.048	0.068/0.066	0.085/0.1/0.091
2	CJ6UPA3538WL 2x3 MIMO	12/04/2006	0.240/0.242/0.225	0.048/0.049	0.083/0.087	0.105/0.123/0.110
3	CJ6UPA3539WL Non-MIMO	03/16/2007	0.240/0.242/0.225	0.048/0.049	0.083/0.087	0.105/0.107/0.107

b) please explain why two rows "TBN003"

Identical TBN003 antenna is used for above three alternate transmitter modules. Two rows of TBN003 is the antenna gain measurement data measured with TBN003 installed in a typical notebook computer. Due to the location of antenna, the gain is different (main Vs aux).

c) please explain status and locations of Bluetooth and WWAN for host product

A certified Bluetooth module will be installed in this tablet computer under the keyboard. Bluetooth module is equipped with chip antenna. WWAN module is not included in this investigation. No WWAN module will be installed..

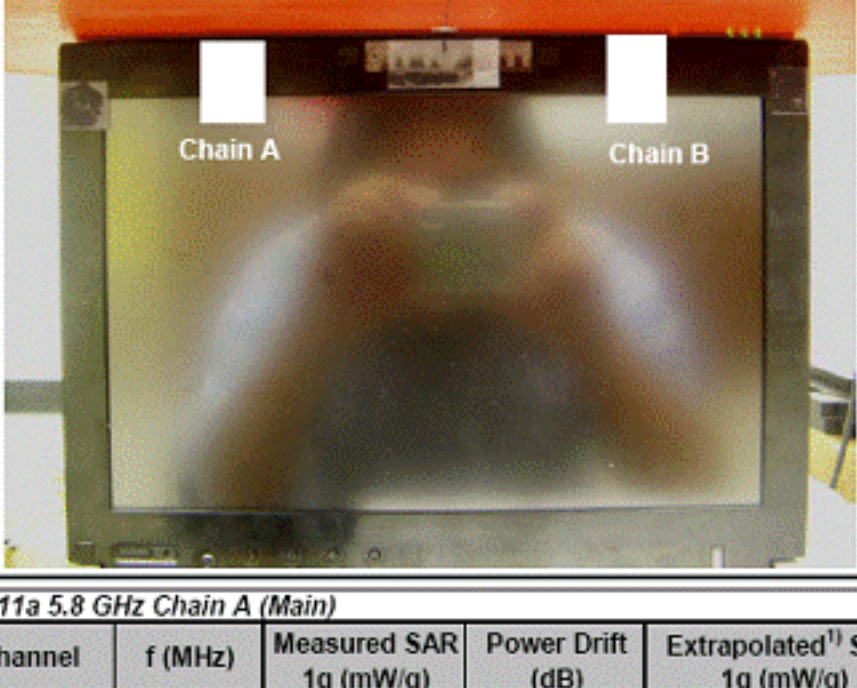
d) Similar criteria as in FCC oct07 Test Reduction Procedures may be appropriate to qualify for reduced testing, ie allowed for configs. where SAR <75% of limit

CCS has done full investigation with WLAN module #2 and co-located with Bluetooth module, below is the summary of test result:

Rule Parts	Frequency Range [MHz]	The Highest SAR Values [1g_mW/g]	Collocation SAR Values [1g_mW/g]
FCC 15.247	2412 - 2462	0.335	0.331
	5745 - 5825	1.481	1.492
FCC 15.407	5180 - 5320	1.010	1.010

When the tablet is configured as secondary landscape mode, highest SAR distribution measured. Below is the test configuration:

8.3.1 SECONDARY LANDSCAPE

				
802.11a 5.8 GHz Chain A (Main)				
Channel	f (MHz)	Measured SAR 1g (mW/g)	Power Drift (dB)	Extrapolated ¹⁾ SAR 1g (mW/g)
149	5745	1.010	-0.058	1.024
157	5785	1.070	0.000	1.070
165	5825	1.110	0.000	1.110
165 ⁴⁾	5825	1.130	0.000	1.130
802.11a 5.8 GHz Chain B (Sub-A)				
Channel	f (MHz)	Measured SAR 1g (mW/g)	Power Drift (dB)	Extrapolated ¹⁾ SAR 1g (mW/g)
149	5745	1.410	-0.046	1.425
157	5785	1.450	-0.050	1.467
165	5825	1.420	-0.183	1.481
165 ⁴⁾	5825	1.430	-0.184	1.492
802.11n 5.8 GHz MIMO 20 MHz Bandwidth MIMO CONFIGURATIONS WAS MEASURED WITH ALL ANTENNAS TRANSMITTING SIMULTANEOUSLY				
Channel	f (MHz)	Measured SAR 1g (mW/g)	Power Drift (dB)	Extrapolated ¹⁾ SAR 1g (mW/g)
149	5745	0.840	-0.106	0.861
157	5785	0.847	0.000	0.847
165	5825	0.870	0.000	0.870
Notes: 1) The exact method of extrapolation is Measured SAR x 10 ^(-drift/10) . The SAR reported at the end of the measurement process by the DASIV4 system can be scaled up by the Power drift to determine the SAR at the beginning of the measurement process. 2) The SAR measured at the middle channel for this configuration is at least 3 dB lower (0.8 mW/g) than SAR limit (1.6 mW/g), thus testing at low & high channel is optional. 3) Please see attachments for the detailed measurement data and plots showing the maximum SAR location of the EUT. 4) Collocation with Bluetooth module				

Request:

- WLAN module #2 and #3 are basically identical radio module, the original WLAN manufacturer is Intel Corp. Intel has issued a statement to explain the difference between WLAN #2 and WLAN#3 which is primary to enable/disable MIMO firmware. CCS has done the full investigation on MIMO/WLAN#2. CCS would like to have FCC permission to submit the identical SAR test report for WLAN#2 and WLAN#3.
- WLAN module #1 is different than WLAN#2 and WLAN#3, CCS is going to perform SAR evaluation based upon the worse case of WLAN module #2. The worse case configuration is to test one 2.4 GHz @ mid channel at secondary landscape mode, , 5.2 and 5.3 GHz band@ mid channel at secondary landscape mode, 5.8GHz @ L/M/H channel at secondary landscape mode. Please let us know is it acceptable.

Best Regards

Mike Kuo

The above e-mail addresses and subject are pre-filled, however these fields may be changed. If no address appears in the CC line, a CC address may be entered, and/or additional addresses may be entered on the CC line. Replies will go to all addresses listed on the CC line, and to the original inquirer. Please leave the pre-filled Subject (TCB), and add additional information at the end of the Subject line to uniquely identify your issue.

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Version: 7.5.503 / Virus Database: 269.15.13/1099 - Release Date: 10/30/2007 10:06 AM

----- Forwarded message -----
From: "Generic Office of Engineering Technology" <oetech@fccsun27w.fcc.gov>
To: "Mike Kuo" <mike.kuo@ccsemc.com>
Date: Sun, 14 Oct 2007 16:00:54 -0800
Subject: Response to Inquiry to FCC (Tracking Number 411848)
Inquiry:

From: Mike Kuo [mailto:mike.kuo@ccsemc.com]
Sent: Tuesday, October 02, 2007 2:26 PM
To: FCC Lab staff
Cc: Leone, Peter
Subject: Proposed Toshiba SAR evaluation test plan- one tablet computer with three alternate WLAN modules

<Toshiba proposed SAR Test Plan with three alternate WLAN modules.doc>

Hi FCC Lab staff:

I would like to submit the attached test plan for your review in advance. CCS is going to perform SAR evaluation in this week. If you have any question, please feel free to contact me.

Best Regards
Mike Kuo
Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Direct: (510) 771-1105
Fax: (510) 661-0888
Main: (510) 771-1000
e-mail:mike.kuo@ccsemc.com
Web Site:www.ccsemc.com

Response:
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