

From: Generic Office of Engineering Technology [mailto:oetech@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

Do not reply to this message. Please select the [Reply to an Inquiry Response](#) link from the OET Inquiry System to add any additional information pertaining to this inquiry.

No virus found in this incoming message.

Checked by AVG Free Edition.

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

No virus found in this outgoing message.

Checked by AVG Free Edition.

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

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

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
1	CJ6UPA3489WL	12/12/2005	0.274/0.318/0.264	0.042/0.048	0.068/0.066
	Non-MIMO				0.085/0.1/0.091
2	CJ6UPA3538WL	12/04/2006	0.240/0.242/0.225	0.048/0.049	0.083/0.087
	2x3 MIMO				0.105/0.123/0.110
3	CJ6UPA3539WL	03/16/2007	0.240/0.242/0.225	0.048/0.049	0.083/0.087
	Non-MIMO				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..

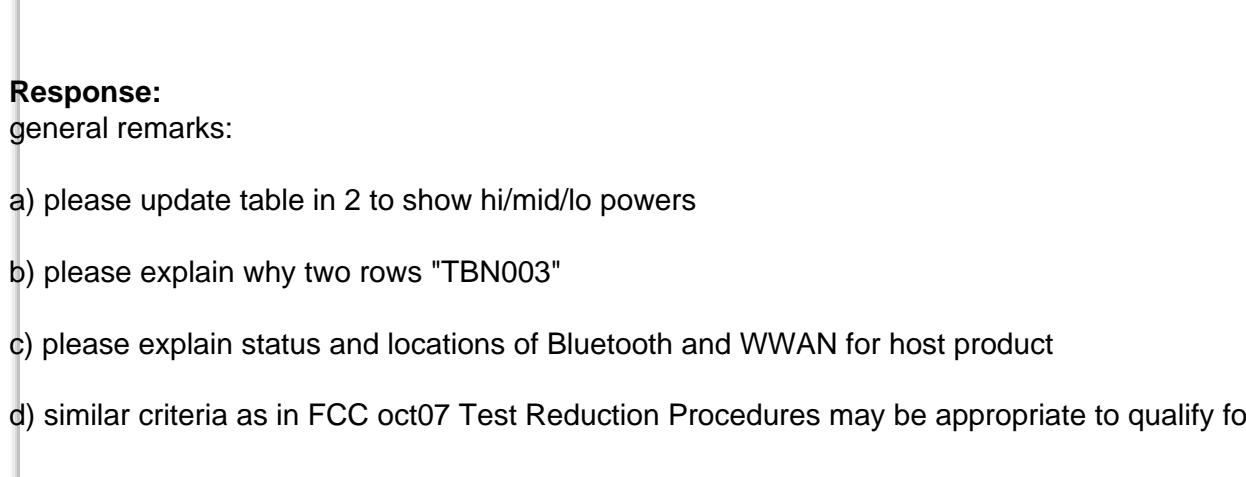
- d) Similar criteria as in FCC oct07 Test Reduction Procedures may be appropriate to qualify for reduced testing, ie allowed for configs. where SAR <75% of limit

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	5625	1.110	0.000	1.110
165 ⁽⁴⁾	5625	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	-0.053	1.481
165	5825	1.430	-0.044	1.492

802.11a 5.8 GHz Main Bandwidth MEASURED WITH ALL ANTENNAS

Channel	f (MHz)	Measured SAR 1g (mW/g)	Power Drift (dB)	Extrapolated ⁽¹⁾ SAR 1g (mW/g)
149	5745	1.040	-0.106	1.061
157	5785	0.870	0.000	0.870

802.11a 5.8 GHz Main Bandwidth MEASURED WITH ALL ANTENNAS

Channel	f (MHz)	Measured SAR 1g (mW/g)	Power Drift (dB)	Extrapolated ⁽¹⁾ SAR 1g (mW/g)
149	5745	1.040	-0.106	1.061
157	5785	0.870	0.000	0.870

802.11a 5.8 GHz Main Bandwidth MEASURED WITH ALL ANTENNAS

Notes:	1)	The exact method of extrapolation is Measured SAR x 10 ^{(1)-drift/10} . The SAR reported at the end of the measurement process by the DASY 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 low & high channel for optional configuration is at least 3 dB lower (0.8 mW/g) than SAR limit (1.6 mW/g).
	3)	Please see for the detailed measurement data and plots showing the maximum SAR location of the test.
	4)	Collocation with Bluetooth mode

Request:

1. 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 test report for WLAN #2 and WLAN #3. 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.

2. WLAN module #1 is different than WLAN #2 and WLAN #3. CCS is going to perform SAR evaluation based upon the mid case of WLAN #1. CCS would like to have FCC permission to submit the identical SAR test report for WLAN #1.

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.

Please leave the pre-filled Subject (TCB), and add additional information at the end of the Subject line to uniquely identify your issue.

Request:

General remarks:

No virus found in this outgoing message.

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>

Date: Sun, 14 Oct 2007 16:00:54 -0800

Inquiry:

From: Mike Kuo [mailto:mike.kuo@ccsemc.com]

Sent: Tuesday, October 02, 2007 2:26 PM

To: FCC Lab staff

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

Direct: (510) 771-1105

Fax: (510) 661-0