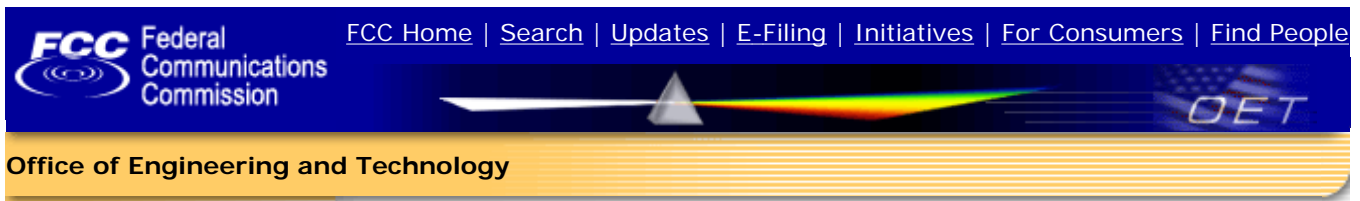


Yi Pan

From: oetech@fccsun27w.fcc.gov
Sent: Monday, April 13, 2009 4:26 PM
To: Yi Pan
Subject: Response to Inquiry to FCC (Tracking Number) (TCB)
Importance: High



Inquiry:

Dear Sir / Madam:

I would like to get your advice regarding how to certify a composite product with capabilities to transmit Bluetooth and WIFI (802.11b/g) simultaneously.

This product is called 3000B2, it's a portable device for body worn only. The closest distance of BT/WIFI antennas pair is < 5 cm, but > 2.5cm. Bluetooth RF output power is 1.7 mW conducted, WIFI RF output power is 14.3 mW conducted. Bluetooth transmitter and Wifi transmitter are integrated in one combo PCB card.

There's another product which is in the same product series, called 3000B4. The product to be certified 3000B2 is exactly the same as 3000B4 except one thing : 3000B4 has a GPRS transmitter, but 3000B2 doesn't have this GPRS transmitter. So 3000B2 is actually a simplified version of 3000B4. Please check enclosed internal photos showing the difference between these two products.

3000B4 has been certified a couple of days ago, the FCC ID is T5M3000B4. 3000B4 falls into KDB 648474 as it's a product authorized under part 22H, 24E with built in unlicensed transmitters. Also according to KDB 447498, 4) d): The simultaneous transmission SAR evaluation procedure for cellphone in KDB 648474 may be applied to antennas that are built-in within a PDA or UMPC. So we as a TCB can certify 3000B4. There's NO simultaneous transmission between GPRS and WIFI, but with simultaneous transmission between GPRS and BT. The antenna distance between GPRS and BT is also larger than 2.5 cm. SAR has been tested on 3000B4, includes standalone WIFI SAR test and standalone GPRS SAR tests on two bands. Standalone WIFI SAR test results are below detection limit.

I have two questions :

First question :

According to latest TCB exclusion list 2) f) i) (1): Portable transmitter with simultaneous transmission

4/14/2009

configuration for which the closest antenna separation distance between any simultaneous transmitting antennas is <5cm expect for those handsets defined in KDB648474 or KDB616217 ; 3000B2 falls into TCB exclusion list.

KDB648474 doesn't apply to 3000B2 since it doesn't operate under part 22H, 24E, 27L or 90SMR. So it seems we can certify the complicated product version 3000B4, but not able to certify a simplified product version 3000B2. Is this interpretation correct? Please kindly advise whether or not we are able to certify 3000B2?

Second question :

Complete SAR tests had been done on 3000B4. WIFI conducted output power is 14mW > Pref (12mW), so standalone WIFI (802.11 b/g) SAR test was also conducted on 3000B4, the WIFI SAR level is below detection limit.

No SAR tests have been done on 3000B2 yet. Although 3000B2 and 3000B4 are different products, the only difference is that 3000B4 has a GPRS card, 3000B2 doesn't. The physical location of WIFI/Bluetooth combo PCB, location of antennas, main PCBs and all other hardwares are all exactly the same, the enclosures are exactly the same as well. Same 13.56MHz RFID on the back of the products.

Taking into account the output power of WLAN is so low, below single transmitter's SAR threshold 24mW, along with the below detection limit SAR level for 3000B4, it's our engineering judgement that 3000B2 complies to RF exposure requirements, no need to conduct stand-alone WIFI SAR tests although there's simultaneous transmission between WIFI and Bluetooth.

Please kindly advise if the above engineering judgement is acceptable, so no additional SAR tests shall be done on 3000B2.

Your advise is greatly appreciated.

Thanks and best regards,

Yi Pan

Nemko Canada

Response:

questions repeated for reference, followed by responses

4/14/2009

Q1) According to latest TCB exclusion list 2) f) i) (1): ... model 3000B2 falls into TCB exclusion list. KDB648474 doesn't apply to 3000B2 since it doesn't operate under part 22H, 24E, 27L or 90SMR. So it seems we can certify the complicated product version 3000B4, but not able to certify a simplified product version 3000B2. Is this interpretation correct? Please kindly advise whether or not we are able to certify 3000B2?

Q2) Complete SAR tests had been done on model 3000B4. ... No SAR tests have been done on 3000B2 yet. Although 3000B2 and 3000B4 are different products, the only difference is that 3000B4 has a GPRS card, 3000B2 doesn't. ...

Please kindly advise if the above engineering judgement is acceptable, so no additional SAR tests shall be done on 3000B2.

note - fyi thorough review of voluminous attachments was not done for this response

A0) general remarks, for all versions

- fyi it appears KDB 447498 item 4) c) i) not applicable
- please ensure KDB 447498 item 4) c) iii) is addressed
- please ensure KDB 447498 item 4) d) is addressed

A1) see e.g. agenda TCB Conference Call April 14, 2009:

"Oct. 2008 FCC-TCB meeting regarding Tim Harrington's presentation

The following items will be updated and a new version will be posted.

1) On page 17 in the lower summary table, for antenna pair (1, 3) having sum-SAR < 1.6 W/kg, at column "sim-Tx SAR" change from "Y" to "N"

- i.e., when simultaneous-transmission SAR test is not required, then device is not excluded from TCB processing

2) At the bottom of page 20, change KDB reference from KDB 616217 to KDB 648474 to:

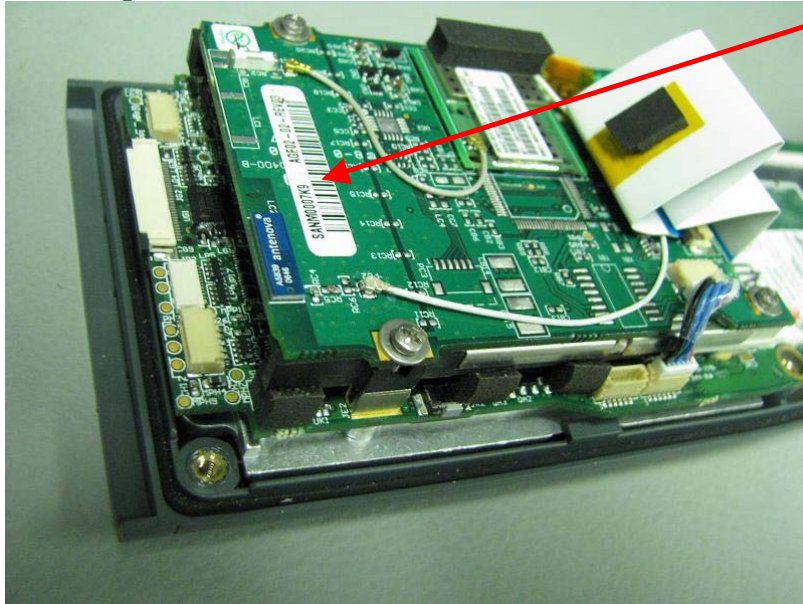
NOTE KDB 648474 applies only for multi-transmitter handsets containing one or more of 22H, 24E, 27L, 90 SMR; per KDB 447498 please contact FCC Lab concerning evaluation procedures for other devices, i.e. such as this. For the example device configuration shown, simultaneous-transmission SAR test is not required, therefore device is not excluded from TCB processing."

A2) concerning "de-populated" versions, note e.g. KDB pub. 899624, i.e.

final product integrating module/module-like component transmitter(s) must contain test data for all applicable RF exposure and EMC tests as evaluated using a fully-populated product test-sample (i.e. all modules installed) [i.e. 2.907(b), 2.908, 2.932].

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.

Internal photo of 3000B2

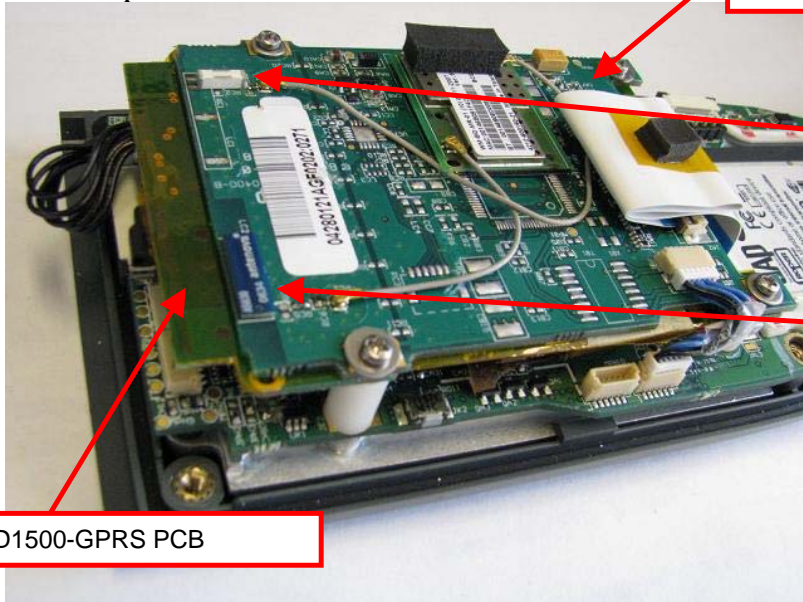


Internal photo of 3000B2 :
EGF0400-Ethernet-WIFI-BT PCB

The only difference between 3000B4
and 3000B2 is : NO GPRS PCB on
3000B2 series.

Everything else is the same. Same
hardware, same enclosure.

Internal photo of 3000B4



Internal photo of 3000B4 :
EGF0400-Ethernet-WIFI-BT PCB

Bluetooth antenna

WIFI antenna

EHD1500-GPRS PCB

Closest distance between BT
antenna and WIFI antenna is >
2.5 cm, around 3.3 cm.

BT output power: 1.7 mW conducted
WIFI output power: 14. 3mW conducted

3000B4 has been certified under FCC ID: T5M3000B4.