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[FCC](#) > [FCC E-filing](#) > [Inquiry System Home Page](#) > Reply to OET Response

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[Advanced KDB Search](#)

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[Reply to an Inquiry Response](#)

[Category List](#)

[FAQ Search](#)

[Draft Laboratory Division Publications](#)

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[Equipment Authorization Presentations](#)

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Currently Display Inquiry Tracking Number: **590455**

Contact Information:

Customer First Name: **Sam**
 Customer Last Name: **Chuang**
 Telephone Number: **+886 3 2710188**
 Extension: **601**
 E-mail Address: **sam@atl-lab.com.tw**

Address:

Line 1: **N/A**
 Line 2:
 P.O. Box:
 City: **N/A**
 State:
 Zip Code:
 Country:

Inquiry Details:

First Inquiry Category: **Radio Frequency Exposure - MPE; SAR**
 Second Inquiry Category: **Portable - Part 2.1093**
 Third Inquiry Category: **Non-handset SAR**

Hi Sir,



This is device specification as below:

- 1. 802.11b/g/n (MIMO)**
- 2. Frequency Range: 2412~2462MHz**
- 3. Antenna -> a: print antenna on board, b: dipole antenna. The both antenna will transmit at simultaneous in 802.11n.**
- 4. Power -> 802.11b 22+/-2dBm, 802.11g 18+/-2dBm, 802.11n 17+/-2dBm**

Please kindly advise how to determine the test configurations.

---Reply from Customer on 12/21/2009---

Sorry, This is MISO device Yes, we have the software to control each antenna individually without simultaneous transmission(full power, 100 percent duty factor). But we don't know what configuration need to do SAR testing? The external antenna is transmission antenna.

---Reply from Customer on 12/23/2009---

Dear Sir, May I have your reply? Thank you so much!!

---Reply from Customer on 12/23/2009---

Dear Sir,

You are Right, The only transmitting antenna is the external one.

---Reply from Customer on 01/04/2010---

802.11b Horizontal Up_straight mode_5mm: SAR(1g) is 0.574 mW/g 802.11b
Horizontal down_straight mode_5mm: SAR(1g) is 0.456 mW/g 802.11n(HT20)
Horizontal Up_straight mode_5mm: SAR(1g) is 0.602 mW/g 802.11n(HT20)
Horizontal down_straight mode_5mm: SAR(1g) is 0.509 mW/g 802.11n(HT40)
Horizontal Up_straight mode_5mm: SAR(1g) is 0.509 mW/g 802.11n(HT40)
Horizontal down_straight mode_5mm: SAR(1g) is 0.413 mW/g Is this SAR similar?
Don't we need to test Vertical Front and Vertical Back, Right?

---Reply from Customer on 01/06/2010---

Sorry, it is disorder last inquiry. Please kindly see the attached file.

Response(s):

--OET response sent on Dec 17 2009 1:05PM--

Do you have the ability to test each antenna individually/independently (full power, 100 percent duty factor) without simultaneous transmission?

--OET response sent on Dec 23 2009 12:43PM--

Just to be clear- the printed circuit antenna does not transmit and is receive only. The only transmitting antenna is the external one?

--OET response sent on Dec 24 2009 11:15AM--

Test the *Horizontal Up* and *Horizontal Down* positions of the dongle with the external dipole antenna in straight mode (no bend or angle). If the two measured SAR levels are similar, then additionally test the *Horizontal Up* position with the dipole antenna at 90 degrees, perpendicular to the phantom (antenna pointing down and away from the phantom) and SAR testing conditions for this dongle will be satisfied (3 test positions total).

If the SAR levels for the *Horizontal Up* and *Horizontal Down* positions of the dongle with the dipole antenna in straight mode are not similar, then the antenna is not symmetrical and the *Vertical Front* and *Vertical Back* positions with the dipole antenna in straight mode also need to be tested (5 test positions total).

--OET response sent on Jan 6 2010 1:53PM--

The difference in reported SAR for the two positions is not large, but the SAR plots need to be reviewed for symmetry. If the plots show similar areas of SAR distribution, then the additional vertical tests would be unnecessary.

It is assumed that the *Horizontal Up* position with the dipole antenna at 90 degrees, perpendicular to the phantom (antenna pointing down and away from the phantom) has or will also be tested.

[Enter any additional comments below:](#)

Attachment List:

[Picture of USB Dongle Swivel Antenna](#)
[SAR Result](#)

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Please send any comments or suggestions for this site to [OET Systems Support](#)

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