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 제목: Response to Inquiry to FCC (Tracking Number 838996)



Office of Engineering and Technology

Inquiry on 12/07/2012 :

Inquiry:

We, KES Co., Ltd., an FCC listed test lab(343818), are asked by a customer to SAR test/apply for the following device:

1. Applicant : Aram Huvis Co., Ltd.
2. Model number : APSII, ASNII
3. Product Description : Portable Skin Diagnosis System(Please refer to the attached files)

The product transmit simultaneously for WiFi(802.11b/g/n_HT20&40) & BT(BDR&EDR).

For detecting the skin diagnosis, they use close to the surface of the skin.

[Model: APSII & ASNII]

The output power is $<60/f_{\text{(GHz)}}$ calculate results. For detailed information, refer to the following,

Operation mode	Frequency(GHz)	Factor	Limit(mW)
802.11b/g/n(HT20)	2.412	60	24.88
	2.442	60	24.57
	2.462	60	24.37
802.11n(HT40)	2.422	60	24.77
	2.442	60	24.57
	2.452	60	24.47

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Operation mode	Frequency(MHz)	Average output power(mW)
802.11b	2412	6.92
	2442	6.95
	2462	7.41
802.11g	2412	6.98
	2442	7.14
	2462	6.98
802.11n(HT20)	2412	6.67
	2442	7.05
	2462	7.52

802.11n(HT40)	2422	6.43
	2442	6.73
	2452	6.68

But, EUT exceed the RF exposure limit because of distance 0.1 cm.(For detailed information, refer to the table.)

We wonder whether SAR test is applied or not.

Operation mode	Frequency (MHz)	Antenna gain (dBi)	Power density at 0.1 cm(mW/cm ²)	Limit (mW/cm ²)
802.11b	2412	0.90	67.71360	1
	2442	0.90	68.00716	1
	2462	0.90	72.50835	1
802.11g	2412	0.90	68.30072	1
	2442	0.90	69.86635	1
	2462	0.90	68.30072	1

802.11n(HT20)	2412	0.90	65.26730	1
	2442	0.90	68.98568	1
	2462	0.90	73.58473	1
802.11n(HT40)	2422	0.90	62.91885	1
	2442	0.90	65.85442	1
	2452	0.90	65.36516	1

FCC response on 12/11/2012

This device operates in portable exposure conditions, power density limit does not apply.

Compliance for portable exposure conditions is according to SAR limit.

Please provide the device operating details for us to determine the applicable use and exposure conditions, including antenna and device form factor details.

Please also be aware that 60/f will not apply after December 31, 2012. The new procedures released on October 24, 2012 must be applied starting January 1, 2013. The new test exclusion thresholds are based on power, frequency and required test distance. When the maximum average conducted power for all required test channels are below the required SAR test exclusion threshold, SAR testing is not required. If only some of the channels are below the threshold, some testing will be required. When test exclusion applies, you must include the required justification in the RF exposure exhibit of the equipment filing to qualify for the test exclusion. Please consult with your TCB to determine review and approval requirements with respect to the old (60/f) or new (revised KDB 447498) exclusion requirements. Please also see page 78 of the October TCB workshop slides on RF exposure for additional 802.11 test considerations.

The subject category you selected for this KDB indicates Wi-Max; which is inconsistent with the questions you have; please clarify according.

---Reply from Customer on 12/12/2012---

Please provide the device operating details for us to determine the applicable use and exposure conditions, including antenna and device form factor details.

[Answer]

1. Device operatin frequency

1) WLAN: 2412 MHz ~ 2462 MHz(802.11b/g/n_HT20)

2422 MHz ~ 2452 MHz(802.11n_HT40)

2) Bluetooth: 2402 MHz ~ 2480 MHz(BDR & EDR)

2. The product transmit simultaneously for WLAN & Bluetooth

3. For detecting the skin diagnosis, they use close to the surface of the skin.

4. EUT photos, Output power(included SAR limit): Please refer to the attached files.

FCC response on 12/13/2012

Based on the maximum output power indicated in this inquiry for Wi-Fi and Bluetooth, the device would not require SAR measurement results to support compliance. Please following earlier instructions to determine SAR test exclusion and provide the analysis in lieu of the SAR report to support equipment approval.

When applying test exclusion according to the October 24, 2012 version of KDB 447498, you will need the antenna to user (skin) separation distance. We are unable to determine from the photos the relative location of the antennas (Wi-Fi and Bluetooth) to the opening on the device (where it might be put on the skin). You will need to clarify this in the analysis to facilitate TCB review approval. Depending on antenna location(s), you may use the aggregate maximum output power for both Wi-Fi and Bluetooth to determine SAR test exclusion. The power levels are low; therefore, it is conservative and should avoid other issues.

Regarding the Wi-Max in the subject of this KDB; please clarify this to the TCB performing the approval.

Attachment Details:

[EUT photos and output power](#)

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.