

RF Exposure Report

Report No.: SA150506E05A

FCC ID: H8N-PKE1334D

Test Model: PKE1334D(US-RoHS)

Series Model: TCG220XXXXXXXX(X=0-9,A-Z,a-z,"-", "." or blank)

Received Date: May 06, 2015

Test Date: June 03 to 04, 2015

Issued Date: July 23, 2015

Applicant: ASKEY COMPUTER CORP.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Test Location (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

Test Location (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA150506E05A	Original release.	July 23, 2015

1 Certificate of Conformity

Product: WiFi EMTA

Brand: Askey

Test Model: PKE1334D(US-RoHS)

Series Model: TCG220XXXXXXXX(X=0-9,A-Z,a-z,"-", "." or blank)

Sample Status: ENGINEERING SAMPLE

Applicant: ASKEY COMPUTER CORP.

Test Date: June 03 to 04, 2015

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



Date:

July 23, 2015

Lori Chung / Specialist

Approved by :



Date:

July 23, 2015

May Chen / Manager

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.

So, this device is classified as **Mobile Device**.

3 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

2.4GHz Band						
Antenna No.	PCB Chain No.	Brand	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connector Type
A	Chain (1)	NA	3.76	2.4~2.4835	PCB	None (like solder)
B	Chain (2)	NA	3.87	2.4~2.4835	PCB	None (like solder)
5GHz Band						
Antenna No.	PCB Chain No.	Brand	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connector Type
C	Chain (1)	Hong-Lin	5.78	5.15~5.85	PCB	i-pex(MHF)
D	Chain (2)	Hong-Lin	4.36	5.15~5.85	PCB	i-pex(MHF)

4 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	682.092	6.83	20	0.65399	1
5180-5240	115.994	8.11	20	0.14934	1
5745-5825	266.606	8.11	20	0.34324	1

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.83\text{dBi}$

5GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 8.11\text{dBi}$

Conclusion:

The formula of calculated the MPE is:

$\text{CPD1} / \text{LPD1} + \text{CPD2} / \text{LPD2} + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = $0.65399 + 0.34324 = 0.997$

Therefore the maximum calculations of above situations are less than the “1” limit.

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