RF Exposure Report

Report No.:	SA200330E01
FCC ID:	H8NEAI2304P
Test Model:	EAI2304P
Received Date:	Mar. 30, 2020
Test Date:	Apr. 24, 2020
Issued Date:	May 18, 2020
Applicant:	ASKEY COMPUTER CORP.
Address:	10F, NO.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 23585, TAIWAN, R.O.C.
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA200330E01	Original release.	May 18, 2020

1 Certificate of Conformity

Product:	Indoor AP
Brand:	ASKEY, T-Mobile
Test Model:	EAI2304P
Sample Status:	ENGINEERING SAMPLE
Applicant:	ASKEY COMPUTER CORP.
Test Date:	Apr. 24, 2020
Standards:	FCC Part 2 (Section 2.1091) IEEE C95.3 -2002
References Test Guidance:	KDB 447498 D01 General RF Exposure Guidance v06

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:** May 18, 2020

Joyce Kuo / Specialist

Approved by : _____ , **Date:** May 18, 2020

Clark Lin / Technical 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 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 45cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

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

Antenna NO.	RF Chain NO.	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type
WIFI_0	chain0 chain3	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_1	chain1 chain2	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_2	chain2 chain1	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA
WIFI_3	chain3 chain0	4.5 4.54	2.4~2.4835GHz 5.15~5.85GHz	Dipole	R-SMA

2.5 Calculation Result

Operation Mode	Evaluation Frequency (MHz)	Maxn Avg. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN (2.4GHz)	2437	978.061	10.52	45	0.43324	1
WLAN 5GHz U-NII-1	5230	714.126	10.56	45	0.31926	1
WLAN 5GHz U-NII-3	5825	991.459	10.56	45	0.44324	1

NOTE:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4$] = 10.52 dBi
3. 5GHz: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 4$] = 10.56 dBi

For WWAN module < Worst Case> FCC ID: RI7LM960

Operation Mode	Evaluation Frequency (MHz)	Maxn Avg. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
LTE B5 CA	836.5	708	0.50	45	0.03122	0.5498

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz+ LTE B5 CA =0.43324 / 1 + 0.44324 / 1 + 0.03122 / 0.5498= 0.93326

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

Appendix

For WWAN module (Model: LM960, FCC ID: RI7LM960)

Operation Mode	Evaluation Frequency (MHz)	Max Avg. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Ratio
LTE B2	1850.7	232.274	1.80	45	0.01382	1	0.01382
LTE B4	1717.5	257.04	2.71	45	0.01885	1	0.01885
LTE B5	836.5	254.097	0.50	45	0.01120	0.5498*	0.02037
LTE B12	700.5	220.8	0.40	45	0.00951	0.46647*	0.02039
LTE B25	1907.5	233.884	1.80	45	0.01391	1	0.01391
LTE B26	841.5	206.063	0.93	45	0.01003	0.54313*	0.01847
LTE B41	2506	472.063	1.20	45	0.02445	1	0.02445
LTE B66	1712.5	250.611	2.71	45	0.01838	1	0.01838
LTE B71	688	242.103	0.40	45	0.01043	0.442*	0.02360
LTE B5 CA	836.5	708	0.50	45	0.03122	0.5498*	0.05678
LTE B41 CA	2506	525	1.20	45	0.02720	1	0.02720

Note: *Limit of Power Density = F/1500

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