FCC RF Exposure Report

Report No.:	SA190530C17C
FCC ID:	H8NCDR8011
Test Model:	CDR8010-DBB1
Series Model:	CDR8011-DBA1, CDR8011-DDA1, CDR8011-DDB1, CDR8011-SBA1, CDR8011-SBB1, CDR8011-SDA1, CDR8011-SDB1
Received Date:	Feb. 25, 2019
Test Date:	Apr. 12 ~ Aug. 28, 2019
Issued Date:	Oct. 03, 2019
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 Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA190530C17C	Original release	Oct. 03, 2019

1 Certificate of Conformity

Product:	iDVR800
Brand:	ASKEY
Test Model:	CDR8010-DBB1
Series Model:	CDR8011-DBA1, CDR8011-DDA1, CDR8011-DDB1, CDR8011-SBA1, CDR8011-SBB1, CDR8011-SDA1, CDR8011-SDB1
Sample Status:	Engineering sample
Applicant:	ASKEY COMPUTER CORP.
Test Date:	Apr. 12 ~ Aug. 28, 2019
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3-2002

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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Oct. 03, 2019

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Oct. 03, 2019

Bruce Chen / Senior Project Engineer

2 RF Exposure

3.1 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

3.2 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

3.3 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 Calculation Result of Maximum Density Power

Function	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN	2412-2462	21.73	1.32	20	0.040	1
	5180-5240	19.41	3.44	20	0.038	1
	5260-5320	20.04	3.44	20	0.044	1
	5500-5700	20.19	3.44	20	0.046	1
	5745-5825	20.61	3.44	20	0.051	1
BT EDR	2402-2480	2.98	1.32	20	0.001	1
BT LE	2402-2480	3.57	1.32	20	0.001	1

Function	Frequency Band (MHz)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
LTE Band 2	1850.7-1909.3	25.5	20	0.071	1
LTE Band 4	1710.7-1754.3	27.5	20	0.112	1

Function	Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
LTE Band 5	824.7-848.3	19.8	21.95	20	0.031	0.550
LTE Band 26	825.5-847.5	19.5	21.65	20	0.029	0.550
LTE Band 12	699.7-715.3	21.3	23.45	20	0.044	0.466
LTE Band 13	779.5-784.5	25.0	27.15	20	0.103	0.520
LTE Band 17	706.5-713.5	23.1	25.25	20	0.067	0.471
LTE Band 26	814.7-823.3	22.6	24.75	20	0.059	0.543

LTE 12/13/17/26 EIRP = ERP + 2.15dB

*Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WWAN+WLAN 2.4GHz = 0.103/0.52+0.040/1 = 0.238
2. WWAN+WLAN 5.0GHz = 0.103/0.52+0.051/1 = 0.249
3. WWAN+BT = 0.103/0.52+0.001/1= 0.199

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

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