RF Exposure Report

Report No.:	SA190916C10
FCC ID:	I4L-LAVIEPM9560
Test Model:	PC-PM75GNAR
Received Date:	Sep. 16, 2019
Date of Evaluation:	Oct. 15, 2019
Issued Date:	Oct. 18, 2019
Applicant:	Micro-Star International Co., Ltd.
Address:	No. 69, Lide St., Zhonghe Dist., 235 New Taipei City Taiwan
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

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Release Control Record

Issue No.	Description	Date Issued
SA190916C10	Original Release	Oct. 18, 2019

1 Certificate of Conformity

Product:	Notebook
Brand:	NEC Personal Computers, Ltd.
Test Model:	PC-PM75GNAR
Sample Status:	Mass product
Applicant:	Micro-Star International Co., Ltd.
Date of Evaluation:	Oct. 15, 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 : Gina Liu , **Date:** Oct. 18, 2019

Gina Liu / Specialist

Approved by : , **Date:** Oct. 18, 2019

Dylan Chiou / Project Engineer

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Calculation Result of Maximum Conducted Power

Band	Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN	2412-2472	25.45	2.86	20	0.135	1.00
	5180-5250	21.37	1.34	20	0.037	1.00
	5260-5320	21.25	1.34	20	0.036	1.00
	5500-5720	21.46	2.00	20	0.044	1.00
	5745-5825	23.43	1.97	20	0.069	1.00
BT	2402-2480	10.36	-0.15	20	0.002	1.00

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: Directional gain = -0.15dBi + 10log(2) = 2.86dBi
   U-NII-1, U-NII-2A Band: Directional gain = -1.67dBi + 10log(2) = 1.34dBi
   U-NII-2C Band: Directional gain = -1.01dBi + 10log(2) = 2.00dBi
   U-NII-3 Band: Directional gain = -1.04dBi + 10log(2) = 1.97dBi

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN + BT = 0.135 + 0.002 = 0.137

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

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