RF Exposure Evaluation declaration

Product Name : Notebook PC

Model No. : GZ700G, GZ765G, GZ775G, AZ700G

FCC ID : MSQ-GZ700SYS

Applicant : ASUSTeK Computer Inc

Address : 4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

Date of Receipt : Dec. 20, 2018

Date of Declaration : Apr. 01, 2019

Report No. : 18C0277R-SAUSP03V00

Report Version : V1.0

Issued Date: Apr. 01, 2019
Report No.: 18C0277R-SAUSP03V00

Product Name	Notebook PC
Applicant	ASUSTeK Computer Inc
Address	4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan
Manufacturer	ASUSTeK Computer Inc
Model No.	GZ700G, GZ765G, GZ775G, AZ700G
FCC ID.	MSQ-GZ700SYS
Trade Name	ASUS
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : Genie Chang

(Senior Adm. Specialist / Genie Chang)

Tested By : wen Lee

(Engineer / Wen Lee)

Approved By :

(Director / Vincent Lin)

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Notebook PC
Model No.	GZ700G, GZ765G, GZ775G, AZ700G
Trade Name	ASUS
FCC ID	2AAD3B01C0Z
Frequency Range	2402-2480MHz
Number of Channels	40
Type of Modulation	GFSK
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
Contain FCC ID	MSQAX200NG

1.2. Antenna List :

No.	Manufacturer	Part No.	Part No.(ASUS)	Antenna Type	Peak Gain
1	NANYA	2.52*0.6,12L(8)1.2MM	08702-00503000	Loop	-2.89 dBi for 2.4 GHz
2	INPAQ	WA-F-LBLBLB-12-002(TX1) WA-F-LBLBLB-12-002(TX2) WA-F-LBLBLB-12-002(TX3) WA-F-LB-05-002(TX4)	14008-03420400(TX1) 14008-03420400(TX2) 14008-03420400(TX3) 14008-03420300(TX4)	PIFA	-2.43dBi for 2.4 GHz 0.79dBi for 5.15~5.25GHz 1.48dBi for 5.25~5.35GHz 1.51dBi for 5.47~5.725GHz 1.21dBi for 5.725~5.850GHz

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission 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

Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0.

2.2. Test Result of RF Exposure Evaluation

Product : Notebook PC
Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: -2.43dBi; WLAN 5G Peak Gain: 1.51dBi

Band	Frequency	Maximum Target Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN	2.4G	24	251.2	0.029	1	Pass
WLAN	5G	24	251.2	0.071	1	Pass

Note: The Target power is refer to report No.: 181210-03.TR07 from the INTEL.

Wireless:

Band	Frequency	Maximum H-Field Power (dBuV/3m)	EIRP Power (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
Wireless	2.4G	93.577	0.7	0.00014	1	Pass

Note: The conducted output power is refer to report No.: 18C0277R-RFUSP15V00 from the DEKRA.

2.3. Calculations for Multi-Transsmitter

Worst Case Mode	Max Power (mW)	Power Density at R = 20 cm (mW/cm^2)	Result	Limit	Pass/Fail
WLAN	251.2	0.071	0.071	1	Pass
Wireless	0.7	0.00014			