

RF Exposure Evaluation declaration

Product Name : Desktop PC
Model No. : GA35DX, G35DX
FCC ID : MSQ-G35DX

Applicant : ASUSTeK Computer Inc

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

Date of Receipt : Oct. 16, 2019
Date of Declaration : Nov. 20, 2019
Report No. : 19A0238R-SAUSP03V00
Report Version : V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Issued Date: Nov. 20, 2019

Report No.: 19A0238R-SAUSP03V00



Product Name	Desktop PC	
Applicant	ASUSTeK Computer Inc	
Address	4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan	
Manufacturer	ASUSTeK Computer Inc	
Model No.	GA35DX, G35DX	
FCC ID.	MSQ-G35DX	
Trade Name	ASUS	
Applicable Standard	KDB 447498 D01 v06	<input checked="" type="checkbox"/> Minimum test separation distance ≥ 20 cm <input type="checkbox"/> For low power devices
Test Result	Complied	

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Approved By : Vincent Lin
 (Director / Vincent Lin)

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Desktop PC
Model No.	GA35DX, G35DX
Trade Name	ASUS
FCC ID	MSQ-G35DX
Frequency Range	13.56MHz
Modulation	ASK
Antenna Type	Loop Antenna
Contain FCC ID	TX2-RTL8822CE (WLAN)

1.2. Antenna List :

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ACON	AYP6Y-100063 (Main) AYP6Y-100063 (Aux)	PIFA Antenna (WLAN)	-2.13dBi for 2.4 GHz -6.02dBi for 5.15~5.25GHz -4.46dBi for 5.25~5.35GHz -3.55dBi for 5.47~5.725GHz -3.70dBi for 5.725~5.850GHz

2. RF Exposure Evaluation

2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance ≥ 20 cm is required between the antenna and radiating structures of the device and nearby persons to apply mobile device exposure limits.

2.2. 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				
3.0-30	1842/f	4.89/f	900/f ²	6
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
1.34-30	824/f	2.19/f	180/f ²	30
300-1500	--	--	F/1500	30
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission 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

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 .

2.3. Test Result of RF Exposure Evaluation

Product : Desktop PC
 Test Item : RF Exposure Evaluation

WLAN 2.4G Peak Gain: -2.13dBi; WLAN 5G Peak Gain: -3.55dBi

Band	Frequency	Maximum 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	24.145	259.739	0.032	1	Pass
WLAN	5G	24.885	307.991	0.027	1	Pass
BT	2.4G	12.840	19.231	0.002	1	Pass

Note: The Maximum power is refer to report No.: SA180816E04 from the BV.

Wireless:

Frequency (MHz)	H-Field (dBuV/3m)	H-Field (ERP) (dBm)	H-Field (ERP) (mW)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)	Pass/Fail
13.56	35.858	-61.52078745	0.0000007	0.0000000001	0.979	Pass

Note: The conducted output power is refer to report No.: 19A0238R-RFUSP17V01 from the DEKRA.

2.4. Calculations for Multi-Transmitter

Worst Case Mode	Max Power (mW)	Power Density at R = 20 cm (mW/cm ²)	Result	Limit	Pass/Fail
WLAN	259.739	0.032	0.034	1	Pass
BT	19.231	0.002			
Wireless	0.0000007	0.0000000001			