

# RF Exposure Evaluation declaration

Product Name : Desktop PC  
Model No. : G35CZ  
FCC ID : MSQ-G35DX

Applicant : ASUSTeK Computer Inc

Address : 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Date of Receipt : Apr. 14, 2020  
Date of Declaration : May 19, 2020  
Report No. : 2040330R-E3082100013  
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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Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Issued Date: May 19, 2020

Report No.: 2040330R-E3082100013



Product Name	Desktop PC	
Applicant	ASUSTeK Computer Inc	
Address	1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan	
Manufacturer	ASUSTeK Computer Inc	
Model No.	G35CZ	
FCC ID.	MSQ-G35DX	
Trade Name	ASUS	
Applicable Standard	KDB 447498 D01 v06	<input checked="" type="checkbox"/> Minimum test separation distance $\geq$ 20 cm <input type="checkbox"/> For low power devices
Test Result	Complied	

Documented By :



( Senior Adm. Specialist / Genie Chang )

Tested By :



( Supervisor / Wen Lee )

Approved By :



( Director / Vincent Lin )

## 1. GENERAL INFORMATION

### 1.1. EUT Description

Product Name	Desktop PC
Model No.	G35CZ
Trade Name	ASUS
FCC ID	MSQ-G35DX
Frequency Range	13.56MHz
Modulation	ASK
Antenna Type	Loop Antenna
Contain FCC ID	PD9AX201NG (WLAN)

### 1.2. Antenna List :

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	AGEO	ANTA0AA13761WLAN1 (Main, Aux)	PIFA Antenna	-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 -3.7dBi for 5.725~5.825GHz
2	ACON	AYP6Y-100063 (Main, Aux)	PIFA Antenna	-2.32dBi for 2.4 GHz -5.50dBi for 5.15~5.25GHz -4.74dBi for 5.25~5.35GHz -3.36dBi for 5.47~5.725GHz -4.24dBi for 5.725~5.825GHz

Note: Only the higher gain antenna was tested and recorded in this report.

## 2. RF Exposure Evaluation

### 2.1. Standard Applicable

According to KDB 447498 D01 (7.1), A minimum test separation distance  $\geq 20$  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 <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
3.0-30	1842/f	4.89/f	900/f <sup>2</sup>	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 <sup>2</sup>	30
300-1500	--	--	F/1500	30
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $Pd = (P_{out} * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm<sup>2</sup>

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  $\leq 1.0$ .

### 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: -3.36dBi

Band	Frequency	Maximum Tune UP AV Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
WLAN	2.4G	21	125.893	0.0153	1	Pass
WLAN	5G	21	125.893	0.0116	1	Pass
BT	2.4G	10.5	11.220	0.0014	1	Pass

Note: The Maximum AV power is refer to to Original RF Exposure report FCC ID: PD9AX201NG.

#### RFID:

Frequency (MHz)	H-Field (dBuV/3m)	H-Field (ERP) (dBm)	H-Field (ERP) (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass/Fail
13.56	42.38	-54.99878745	0.0000032	0.0000000006	0.979	Pass

Note: The H-Field is refer to report No.: 2040330R-E3032110103 from the DEKRA

### 2.4. Calculations for Multi-Transmitter

Worst Case Mode	Max Power (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Result	Limit	Pass/Fail
WLAN	125.893	0.0153	0.017	1	Pass
BT	11.220	0.0014			
RFID	0.0000032	0.0000000006			