

## RF Exposure Evaluation declaration

Product Name	ASUS Home Gateway
Model No.	HG100
FCC ID	MSQ-RK903

Applicant	ASUSTeK COMPUTER INC.
Address	4F, No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

Date of Receipt	Nov. 28, 2014
Date of Declaration	Jan. 22, 2015
Report No.	14C0096R-RFUSP02V00

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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**1. RF Exposure Evaluation**

**1.1. 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 <sup>2</sup> )	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<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

Pd id the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

**1.2. Test Procedure**

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

**1.3. Test Result of RF Exposure Evaluation**

Product : ASUS Home Gateway  
 Test Item : RF Exposure Evaluation  
 Test Site : No.3 OATS

Operation Frequency	
Maximum Conducted output power	23.56dBm
Antenna gain	-1.55dBi

**Output Power Into Antenna & RF Exposure Evaluation Distance:**

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
226.9865	0.031603

Power density is lower than the limit (1 mW/cm<sup>2</sup>).