RF Exposure Evaluation declaration

Product Name	Wireless Module
Model No.	BM03R8645
FCC ID	JFZBM03R8645

Applicant	Audio-Technica Corporation
Address	2-46-1 Nishi-naruse, Machida, Tokyo,194-8666

Date of Receipt	Nov. 22, 2017
Date of Declaration	Dec. 04, 2017
Report No.	17B0393R-RFUSP01V00

Issued Date: Dec. 04, 2017
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Product Name	Wireless Module
Applicant	Audio-Technica Corporation
Address	2-46-1 Nishi-naruse, Machida, Tokyo,194-8666
Manufacturer	Audio-Technica Corporation
Model No.	BM03R8645
FCC ID.	JFZBM03R8645
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	AC 120V/60Hz
Trade Name	Audio-Technica Corporation
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By : Rita Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Xiao Chen

(Engineer / Xiao Chen)

Approved By :

(Director / Vincent Lin)

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^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

Pd id the limit of MPE, 1 mW/cm^2. 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℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product : Wireless Module
Test Item : RF Exposure Evaluation

Operation Frequency	2402MHz-2480MHz
Maximum Conducted output power	7.02dBm
Antenna gain	1.2 dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
5.0350	0.001320

Power density is lower than the limit (1 mW/cm2).