RF Exposure Evaluation declaration

Product Name : OTT BOX

Model No. : SB520

FCC ID : JCK-SB5204KOTTBK

Applicant : Giga Byte Technology Co Ltd

Address : No.6, Bau Chiang Road,Hsin-Tien,Taipei Hsien,Taiwan

Date of Receipt : Aug. 04, 2015

Date of Declaration : Sep. 01, 2015

Report No. : 1580191R-RFUSP05V00

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 : OTT BOX
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

For 2.4GHz Band:

Operation Frequency	2412-2462MHz
Maximum Conducted output power	22.04dBm
Antenna Gain	-0.54dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
159.9558029	0.0281

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

For 5GHz Band:

Operation Frequency	5180-5320MHz, 5500-5700MHz,5745-5825MHz 5190-5310MHz, 5510-5670MHz, 5720MHz 5710MHz, 5210-5290MHz, 5530-5690MHz 5775 MHz
Maximum Conducted output power	17.57dBm
Antenna Gain	3.54dBi For 5.15~5.25GHz 3.50dBi For 5.25~5.35GHz 3.41dBi For 5.47~5.725GHz 3.52dBi For 5.725~5.825GHz

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
57.14786367	0.0257

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