RF EXPOSURE EVALUATION

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
(A) Limits for Occupational / Control Exposures				
300-1,500	--	--	F/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300-1,500	--	--	F/1500	6
1,500-100,000	--	--	1	30

Friis Formula

Friis transmission formula : Pd = (Pout*G)/(4*pi*r2)
Where
Pd = power density in mW/cm2
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/cm2. 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.

EUT Operating Condition

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

Test Result of RF Exposure Evaluation

Test Item ： RF Exposure Evaluation Data
Test Mode：Normal Operation

Antenna Gain

Antenna Gain：The maximum Gain measured in fully anechoic chamber is 2dBi linear scale.

Output Power into Antenna & RF Exposure Evaluation Distance

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Antenna Gain	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
CH01（Low）	2402.00	-1.02	2	0.000249	1
CH40（Mid）	2441.00	-1.72	2	0.000212	1
CH79（High）	2480.00	-2.48	2	0.000178	1

The power density Pd (4^{th} column) at a distance of 20cm calculated from the fries transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as portable product and the output power is lower than the FCC low threshold. So, RF exposure limit warning or SAR test are not required.