

# RF Exposure Evaluation Declaration

## 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:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is 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. EUT Operation condition

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

## 1.4. Test Result of RF Exposure Evaluation

### Antenna Gain:

Antenna Gain: The maximum Gain is 3.5 dBi.

### Transmit By DH5

Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
00	2402.00	0.2421	0.000168575
39	2441.00	0.2203	0.000153395
78	2480.00	0.2084	0.000145109

### Transmit By 3DH5

Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
00	2402.00	0.2109	0.00014685
39	2441.00	0.2296	0.000159871
78	2480.00	0.2061	0.000143508

### Note:

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm<sup>2</sup>.