RF Exposure Evaluation Declaration

FCC ID:	2AOIB-HL9344Y
APPLICANT:	Visunex Medical Systems (Suzhou) Co., Ltd.

Application Type:	Certification
Product:	Wireless Module
Model No.:	HL9344-Y
Trademark:	Visunex
FCC Classification:	Digital Transmission System (DTS)

Reviewed By : (Kevin Guo)

Approved By : (Marlin Chen)

Revision History

Report No.	Version	Description	Issue Date	Note
1711RSU03902	Rev. 01	Initial report	12-25-2017	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	Wireless Module
Model No.:	HL9344-Y
Brand Name:	Visunex
Wi-Fi Specification:	802.11b/g/n/
Power Type	DC 5V

1.2. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	T_X Paths	Maximum Peak Antenna Gain (dBi)		Directional Gain (dBi)
			Antenna 0	Antenna 1	
PIFA Antenna	802.11b	2	2.0	2.0	--
	802.11g	2	2.0	2.0	--
	802.11n	2	--	--	2.0

Note:

1. Transmit at 2.4GHz support two antennas. 802.11b, 802.11g support only Single transmission, and 802.11n support only MIMO transmission.
2. Basic methodology with N_{ANT} transmit antennas, each with the same directional gain G_{ANT} dBi, being driven by N_{ANT} transmitter outputs of equal power. Directional gain is to be computed as follows:

   (i) If any transmit signals are correlated with each other,

   Directional gain = G_{ANT} + 10 log(N_{ANT}) dBi

   (ii) If all transmit signals are completely uncorrelated with each other,

   Directional gain = G_{ANT}

2. RF Exposure Evaluation

2.1. 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

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

Where

P_d = power density in mW/cm^2

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

Pd is the limit of MPE, $1mW/cm^2$. 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.

2.2. Test Result of RF Exposure Evaluation

Product	Wireless Module
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Average Output Power: (dBm)	Maximum EIRP (dBm)	Power Density at R = 20cm (mW/cm^2)	Power Density Limit (mW/cm^2)
802.11b/g/n	2412 ~ 2462	26.59	28.59	0.144	1

Note: Antenna Gain refer to Section 1.2 of this report.

CONCULISON:

Therefore, the Max Power Density at r (20 cm) = 0.144mW/cm^2 < 1mW/cm^2.

So the EUT complies with the FCC requirement.

The End