RF EXPOSURE

1. Information

1) Company Name : NEUROSYS Co., Ltd.

2) Product Name : Real-time Temperature Monitoring System

3) Model Name : SIZM

4) FCC ID : AS7SIZM

5) Antenna Maximum gain : 2.5

6) Maximum peak conducted output power : 51 mW

2. RF Exposure

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this Chapter.

Limits for Maximum Permissive Exposure: RF exposure is calculated.

Frequency Range	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Averaging Time [minute]
Limits for General Population/Uncontrolled Exposure				
0.3 ~ 1.34	614.0	1.6	*(100)	30
1.34 ~ 30	824/f	2.19/f	*(180/f^2)	30
30 ~ 300	27.5	0.073	0.2	30
300 ~ 1500	/	/	f/1500	30
1500 ~ 15000	/	/	1	30

f = frequency in MHz,   * = Plane-wave equivalent power density

MPE (Maximum Permissive Exposure) Prediction

Predication of MPE limit at a given distance: Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

$$(\Rightarrow R = \sqrt{PG/4\pi S})$$

S = power density [mW/cm^2]

P = power input to antenna [mW]

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna [cm]
    (20 cm = limit for MPE estimates)

EUT: Maximum peak output power=51 [mW](= 17.05 dBm)& Antenna gain=1.78 [mW](=2.5 [dBi])	
100 mW, at 20 cm from an antenna 6 [dBi]	S = PG/4πR² = 100 × 3.98 / (4 × π × 400) = 0.0792 [mW/cm^2] < 1.0 [mW/cm^2]
51 mW, at 20 cm from the antenna 2.5 [dBi]	S = PG/4πR² = 0.018 [mW/cm^2] < 1.0 [mW/cm^2]

The power density does not exceed 0.018 mW/cm2 at 20 cm; therefore, the exposure condition is compliant with FCC rules.

Completed By : Chahee, Kim

Date : April 04, 2012