RF Exposure Evaluation declaration

Product Name : ROS Home Center

Model No. : 005-02004

FCC ID : BJM-ROS2000A

Applicant : TATUNG CO.

Address : 22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.

Date of Receipt : Apr. 13, 2010

Date of Declaration : May 31, 2010

Report No. : 104248R-RFUSP29V01

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 : ROS Home Center
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

802.11a (5260~5700MHz)

Output Power Into Antenna & RF Exposure Evaluation Distance (4.68dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
52	5260	38.9045	0.022737
60	5300	37.6704	0.022016
64	5320	39.0841	0.022842
100	5500	37.3250	0.021814
116	5580	38.7258	0.022632
140	5700	39.6278	0.023160

802.11n – 20BW (5260~5700MHz) -Antenna A+B

Output Power Into Antenna & RF Exposure Evaluation Distance (4.68dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
52	5260	37.1535	0.021714
60	5300	37.0681	0.021664
64	5320	39.1742	0.022894
100	5500	38.0189	0.022219
116	5580	37.1535	0.021714
140	5700	38.4592	0.022477

802.11n – 40BW (5270~5670MHz) -Antenna A+B

Output Power Into Antenna & RF Exposure Evaluation Distance (4.68dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
54	5270	37.5837	0.021965
62	5310	38.9942	0.022789
102	5510	37.8443	0.022117
110	5550	38.7258	0.022632
134	5670	39.1742	0.022894

The distance r (4th column) calculated from the Fries transmission formula is far shorter than 20 cm separation requirement.