Appendix B

Test Results of RF Exposure

Appendix B.1: RF Exposure Compliance

Radio Frequency Exposure Compliance

RESULT: **Passed**

Test standard	:	FCC 1.1310 RSS-102 Issue 5

This device is mobile device, and the applicant declares that the minimum separation distance is greater than 20cm. Therefore MPE measurement or computational modeling should be used to determine compliance.

MPE Calculation
According to the formula

$$Pd = \frac{Pout * G}{4R^2\pi}$$

Where
Pd = power density in mW/cm^2 or W/m2
Pout = output power to antenna in mW or W
G = Antenna gain in numeric
π = 3.14159
R = Distance between observation point and the center of radiator in cm or m

In here
Pout = 6.24dBm = 4.21mW
G = -0.13dBi = 0.97 (numeric)
R = 20cm

For Bluetooth operation:

$$Pd = \frac{Pout * G}{4R^2\pi} = \frac{4.21 * 0.97}{4 * 20^2 * 3.14159} = 0.00081 mW / cm^2$$ < 1mW/cm^2 for FCC limit

$$Pd = \frac{Pout * G}{4R^2\pi} = \frac{0.00421 * 0.97}{4 * 0.2^2 * 3.14159} = 0.0081 W / m^2$$ < 5.4W/m^2 for IC limit

The summed maximum permissible exposure (MPE) level is 0.00081mW/cm^2 and 0.0081W/m^2. It is less than MPE limit 1mW/cm^2 for FCC and 5.4W/m^2 for IC, therefore the device compliance with MPE limit.