

Appendix B

Test Results of RF Exposure

APPENDIX B.1: RF EXPOSURE COMPLIANCE	2
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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

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

Where

Pd = power density in mW/cm² 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 = 3.58dBm = 2.28mW

G = -0.13dBi = 0.97 (numeric)

R = 20cm

For Bluetooth operation:

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{2.28 * 0.97}{4 * 20^2 * 3.14159} = 0.00044mW / cm^2 < 1mW/cm^2 \text{ for FCC limit}$$

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{0.00228 * 0.97}{4 * 0.2^2 * 3.14159} = 0.0044W / m^2 < 5.4W/m^2 \text{ for IC limit}$$

The summed maximum permissible exposure (MPE) level is 0.00044mW/cm² and 0.0044W/m². It is less than MPE limit 1mW/cm² for FCC and 5.4W/m² for IC, therefore the device compliance with MPE limit.