

# Appendix E

## Test Results of RF Exposure

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## Appendix E.1: RF Exposure Compliance

### Radio Frequency Exposure Compliance

#### RESULT:

**Passed**

Test standard : FCC 1.1310  
RSS-102 Issue 5  
FCC KDB publication 447498 D01 v05

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/cm<sup>2</sup> or W/m<sup>2</sup>

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 = 17.53dBm = 56.62mW

G = 1.35dBi = 1.36 (numeric)

R = 20cm

For Wi-Fi operation:

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{56.62 * 1.36}{4 * 20^2 * 3.14159} = 0.0153mW / cm^2 < 1mW/cm^2 \text{ for FCC limit}$$

$$Pd = \frac{P_{out} * G}{4R^2\pi} = \frac{0.05662 * 1.36}{4 * 0.2^2 * 3.14159} = 0.153W / m^2 < 5.4W/m^2 \text{ for IC limit}$$

The summed maximum permissible exposure (MPE) level is 0.0153mW/cm<sup>2</sup> and 0.153W/m<sup>2</sup>. It is less than MPE limit 1mW/cm<sup>2</sup> for FCC and 5.4W/m<sup>2</sup> for IC, therefore the device compliance with MPE limit.