

RF Exposure Report

Report No.: SA150318C33G

FCC ID: UCC-A22221000

Test Model: A2-2221-000

Received Date: Mar. 18, 2015

Test Date: Mar. 19 ~ Apr. 07, 2015

Issued Date: Nov. 03, 2016

Applicant: Altai Technologies Limited

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Release Control Record

Issue No.	Description	Date Issued
SA150318C33G	Original release.	Nov. 03, 2016

1 Certificate of Conformity

Product: A2c Indoor Dual-Band 2X2 802.11ac AP

Brand: ALTAI

Test Model: A2-2221-000

Sample Status: Engineering sample

Applicant: Altai Technologies Limited

Test Date: Mar. 19 ~ Apr. 07, 2015

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

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Date:

Nov. 03, 2016

Approved by :


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Date:

Nov. 03, 2016

2 RF Exposure

2.1 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)
Limits For General Population / Uncontrolled Exposure				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Calculation Result Of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	28.92	6.35	25	0.428	1
5180-5240	28.36	7.78	25	0.523	1
5745-5825	25.53	8.47	25	0.320	1

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 6.35 \text{ dBi}$

5.0GHz: **For U-NII-1 Band:** Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 7.78 \text{ dBi}$

For U-NII-3 Band: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2/2] = 8.47 \text{ dBi}$

Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.428 + 0.523 = 0.952

Therefore the maximum calculations of above situations are less than the “1” limit.

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