

RF Exposure Report

Report No.: SA150709C20A

FCC ID: RSL-TQ4400E

Model: AT-TQ4400e

Received Date: Jul. 09, 2015

Test Date: Aug. 05 ~ Sep. 25, 2015

Issued Date: Jun. 23, 2016

Applicant: Allied Telesis K.K.

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Table of Contents

Release Control Record	3
1 Certificate of Conformity	4
2 RF Exposure	5
2.1 Limits For Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
3 Calculation Result Of Maximum Conducted Power	6

Release Control Record

Issue No.	Description	Date Issued
SA150709C20A	Original release.	Jun. 23, 2016

1 Certificate of Conformity

Product: Outdoor Wireless Access Point

Brand:



Model: AT-TQ4400e

Sample Status: Engineering sample

Applicant: Allied Telesis K.K.

Test Date: Aug. 05 ~ Sep. 25, 2015

Standards: FCC Part 2 (Section 2.1091)

KDB 447498 D01 (October 23, 2015)

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.

Prepared by : Ivy Lin, **Date:** Jun. 23, 2016

Ivy Lin / Specialist

Approved by : Ken Liu, **Date:** Jun. 23, 2016

Ken Liu / Senior Manager

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

$$Pd = (Pout * G) / (4 * \pi * r^2)$$

where

Pd = power density in mW/cm²

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

2.3 Classification

The antenna of this product, under normal use condition, is at least 24cm 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	29.02	8.01	24	0.697	1
5180-5240	21.13	10.01	24	0.180	1
5260-5320	20.01	10.01	24	0.139	1
5500-5700	20.54	10.01	24	0.157	1
5745-5825	22.79	10.01	24	0.263	1

Note:

2.4GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi

5GHz: Directional gain = 7.00dBi + 10log(2) = 10.01dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.697 + 0.263 = 0.960

Therefore all the maximum calculations of above situations are less than the "1" limit.

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