

RF EXPOSURE REPORT

REPORT NO.: SA130318C03

MODEL NO.: AT-TQ2450

FCC ID: RSL-TQ2450

RECEIVED: Mar. 18, 2013

TESTED: Mar. 21 ~ Oct. 02, 2013

ISSUED: Oct. 17, 2013

APPLICANT: Allied Telesis R&D Center K.K.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA130318C03	Original release.	Oct. 17, 2013

1. CERTIFICATION

PRODUCT: IEEE 802.11a/b/g/n WIRELESS LAN ACCESS POINT

MODEL: AT-TQ2450

BRAND:  Allied Telesis™

APPLICANT: Allied Telesis R&D Center K.K.

TESTED: Mar. 21 ~ Oct. 02, 2013

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 2 (Section 2.1091)

FCC OET Bulletin 65, Supplement C (01-01)

IEEE C95.1

The above equipment (Model: AT-TQ2450) 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 :  , **DATE :** Oct. 17, 2013
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APPROVED BY :  , **DATE :** Oct. 17, 2013
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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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 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)
2400-2483.5	28.61	2	20	0.144	1
5150-5250	16.67	2	20	0.009	1
5250-5350	19.35	2	20	0.017	1
5470-5725	19.16	2	20	0.016	1
5725-5825	26.21	2	20	0.083	1

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 = $0.144 + 0.083 = 0.227$

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

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