



RF EXPOSURE REPORT

REPORT NO.: SA121115E05

MODEL NO.: RTL8723AEN0

FCC ID: TX2-RTL8723AEN0

RECEIVED: Oct. 25, 2012

TESTED: Oct. 25 to Nov. 26, 2012

ISSUED: Dec. 04, 2012

APPLICANT: Realtek Semiconductor Corp.

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA121115E05	Original release	Dec. 04, 2012

1. CERTIFICATION

PRODUCT: 802.11b/g/n RTL8723AE Combo NGFF Card
BRAND NAME: Realtek
MODEL NO.: RTL8723AEN0
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Realtek Semiconductor Corp.
TESTED DATE: Oct. 25 to Nov. 26, 2012
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: RTL8723AEN0) 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:** Dec. 04, 2012
(Lori Chung, Specialist)

APPROVED BY :  , **DATE:** Dec. 04, 2012
(May Chen, Deputy Manager)

2. RF EXPOSURE LIMIT

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

3. 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

4. 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**.

5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412 - 2462	204.174	3.5	20	0.09093	1.00

For BT(LE MODE)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412 - 2462	3.020	3.5	20	0.00135	1.00

For Bluetooth:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2402-2480	13.152	3.5	20	0.00586	1.00

CONCLUSION:

Both of the WLAN and Bluetooth can transmit simultaneously, the formula of calculated the MPE is:

$$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is $0.09093 / 1 + 0.00586 / 1 = 0.097$, which is less than "1". This confirmed that the device comply with FCC 1.1310 MPE limit.

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