

# RF EXPOSURE REPORT

**REPORT NO.:** SA131022E03

**MODEL NO.:** QCASP141

**FCC ID:** PPD-QCASP141

**IC:** 4104A-QCASP141

**RECEIVED:** Oct. 22, 2013

**TESTED:** Dec. 02, 2013

**ISSUED:** Jan. 09, 2014

**APPLICANT:** Qualcomm Atheros, Inc.

**ADDRESS:** 1700 Technology Drive, San Jose, CA 95110

**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.)  
Ltd., Taoyuan Branch Hsin Chu Laboratory

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA131022E03	Original release	Jan. 09, 2014

## 1. CERTIFICATION

**PRODUCT:** 1x1 802.11b/g/n module  
**BRAND NAME:** Qualcomm Atheros  
**MODEL NO.:** QCASP141  
**TEST SAMPLE:** R&D SAMPLE  
**APPLICANT:** Qualcomm Atheros, Inc.  
**STANDARDS:** FCC Part 2 (Section 2.1091)  
FCC OET Bulletin 65, Supplement C (01-01)  
IEEE C95.1

The above equipment (Model: QCASP141) 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 :** Phoenix Huang , **DATE:** Jan. 09, 2014  
( Phoenix Huang, Specialist )

**APPROVED BY :** May Chen , **DATE:** Jan. 09, 2014  
( May Chen, 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = 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

## 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. ANTENNA GAIN

The declared antenna gain is 3.62dBi.

## 6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

### 802.11b

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	188.365	3.62	20	0.08624	1.00

### 802.11g

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	456.037	3.62	20	0.20880	1.00

### 802.11n (HT20)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2412-2462	448.745	3.62	20	0.20546	1.00

### 802.11n (HT40)

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm <sup>2</sup> )	LIMIT (mW/cm <sup>2</sup> )
2422-2452	153.109	3.62	20	0.07010	1.00

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