RF Exposure Report

Report No.:	SA150706E06
FCC ID:	PPD-QCASP241
Test Model:	QCASP241
Received Date:	July 06, 2015
Test Date:	July 31, 2015
Issued Date:	Dec. 17, 2015
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
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (1):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA150706E06	Original release.	Dec. 17, 2015

1 Certificate of Conformity

Product:	Low-Energy WiFi Single-Band 802.11b/g/n
Brand:	Qualcomm Atheros
Test Model:	QCASP241
Sample Status:	R&D SAMPLE
Applicant:	Qualcomm Atheros, Inc.
Test Date:	July 31, 2015
Standards:	FCC Part 2 (Section 2.1091) 447498 D01 GENERAL RF EXPOSURE GUIDANCE V06 IEEE STD C95.1-2005

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 : _____ , **Date:** Dec. 17, 2015

Lori Chung / Specialist

Approved by : _____ , **Date:** Dec. 17, 2015

May Chen / 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/cm^2

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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

The antenna gain was declared by client; please refer to the following table:

Set No.	Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)	2.4GHz Cable Loss (dB)	Connector Type	Cable Length (mm)
1	Chain (0)	WNC	81-EBJ15.005	PIFA	3.00	1.15	IPEX	300
	Chain (1)	WNC	81-EBJ15.005	PIFA	3.62	1.15	IPEX	300

Set No.	Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)
2	Chain (0)	QCA	QCASP241-Ant	PCB	0.85

Note: 1. Above antenna gains of antenna No. 1 is Total (H+V).

Following antenna combination(s) was (were) selected as representative mode for test or evaluate in this report as listed.

Set No.	Transmitter Circuit	Brand	Model	Ant. Type	2.4GHz Gain with cable loss (dBi)	2.4GHz Cable Loss (dB)	Connector Type	Cable Length (mm)
1	Chain (0)+(1)	WNC	81-EBJ15.005	PIFA	3.62	1.15	IPEX	300

For QCASP241 SKU#1, the main or aux antenna port all equip the same antenna of highest gain for each frequency band.

2.5 Calculation Result

802.11b

Frequency Band (MHz)	Max Power Avg. (dBm)	Max Power Avg. (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (W/m^2)
2412 - 2462	19.50	89.125	3.62	20	0.04081	1

NOTE: 1. This power include tune-up tolerance range that specified in QCASP241 Tune Up power table

802.11g

Frequency Band (MHz)	Max Power Avg. (dBm)	Max Power Avg. (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (W/m^2)
2412 - 2462	19.50	89.125	3.62	20	0.04081	1

NOTE: 1. This power include tune-up tolerance range that specified in QCASP241 Tune Up power table

802.11n (HT20)

Frequency Band (MHz)	Max Power Avg. (dBm)	Max Power Avg. (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (W/m^2)
2412 - 2462	19.50	89.125	3.62	20	0.04081	1

NOTE: 1. This power include tune-up tolerance range that specified in QCASP241 Tune Up power table

802.11n (HT40)

Frequency Band (MHz)	Max Power Avg. (dBm)	Max Power Avg. (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (W/m^2)
2422 - 2452	17.50	56.234	3.62	20	0.02575	1

NOTE: 1. This power include tune-up tolerance range that specified in QCASP241 Tune Up power table

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