

FCC CFR47 PART 15 SUBPART C  
CERTIFICATION TEST REPORT

FOR

802.11 B/G/N FULL SIZE MINICARD

MODEL NUMBER: RTL8192EHMC

FCC ID: TX2-RTL8192EHMC  
IC: 6317A-RTL8192EHMC

REPORT NUMBER: 09U12491-1

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*Prepared for*

REALTEK SEMICONDUCTOR CORP  
NO. 2, INNOVATION ROAD II, HSINCHU SCIENCE PARK,  
HSINCHU 300, TAIWAN

*Prepared by*

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue	Date	Revisions	Revised By
--		03/27/09	Initial Issue	T. Chan

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** REALTEK SEMICONDUCTOR CORP  
NO.2, INNOVATION ROAD II, HSINCHU SCIENCE PARK,  
HSINCHU 300, TAIWAN

**EUT DESCRIPTION:** 802.11bgn Full Size MiniCard and Dual Band 800/1900 Universal  
Data Modem Platform

**MODEL:** RTL8192EHMC AND UNDP-1

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC CFR 47 PARTS 1 AND 2	Pass
OET BULLETIN 65	Pass
Industry Canada RSS-102	Pass

Compliance Certification Services, Inc. (CCS) calculated the MPE of the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:



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## 2. TEST METHODOLOGY

The calculations documented in this report were performed in accordance with FCC CFR 47 Parts 1, and 2, OET Bulletin 65, and RSS-102.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. REFERENCES

All 800 MHz Cell band and 1900 MHz PCS bands were made as documented in Qualcomm test report.

All 2.4 GHz band measurement was made as documented in Realtek test report.

Duty cycle data is excerpted from the applicable test report.

Antenna gain data is excerpted from product documentation provided by the applicant.

## 5. CALIBRATION AND UNCERTAINTY

### 5.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 5.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

Uncertainty figures are valid to a confidence level of 95%.

## 6. EQUIPMENT UNDER TEST

### 6.1. DESCRIPTION OF EUT

The EUT is an 802.11 b/g/n RTL8192E Full size miniCard radio module that is manufactured by Realtek Semiconductor Corp.

The WWAM module is a dual band, 800/1900MHz, operates in GSM/GPRS mode. The module manufactured by Qualcomm.

### 6.2. RADIO MODULE APPROVAL CONDITIONS

The Cellular / PCS radio module is manufactured by Qualcomm with original FCC ID: J9CUNDP-1 grant on January 18, 2008.

The WLAN radio module is manufactured by Realtek Semiconductor Corp. with original FCC ID: TX2-TL8192EHMC grant on November 03, 2008.

The Bluetooth module is manufactured by Yuden CSR with original FCC ID: RYYEYTFXCS grant on Jane 15, 2007 or manufactured by Askey Computer Corp. with original FCC ID: H8N-BTU1030 grant on March 02, 2009.

## 7. LIMITS AND RESULTS

### 7.1. CO-LOCATED MAXIMUM PERMISSIBLE EXPOSURE

#### LIMITS

Per OTE Bulletin 65, for frequency bands with the same MPE limits, the Power Densities produced by each transmitter are summed. The summation must be under the limit for the band.

Per OTE Bulletin 65, for frequency bands with different limits the Power Densities are calculated separately for each band, divided by the limit for the band and the results are then summed. The summation must be less than 1.

#### RESULTS

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	FCC Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	FCC Fraction of Limit Dimensionless	FCC Limit (mW/cm^2)
2.4GHz	20.0	24.90	-2.84	0.03	1.00	0.03	
800 MHz	20.0	32.98	-3.16	0.19	0.55	0.35	
Colocated						0.38	1.00
Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	FCC Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	FCC Fraction of Limit Dimensionless	FCC Limit (mW/cm^2)
2.4GHz	20.0	24.90	-2.84	0.03	1.00	0.03	
1900 MHz	20.0	29.47	-3.25	0.08	1.00	0.08	
Colocated						0.12	1.00

**END OF REPORT**