

# FCC RF Exposure Report

**FCC ID** : U2M-PCE4551AH  
**Equipment** : 802.11 a/n/ac Module  
**Model No.** : PCE4551AH  
**Brand Name** : Senao  
**Applicant** : Senao  
**Address** : 3F, No. 529, Chung Cheng Rd., Hsintien,  
Taipei, Taiwan  
**Standard** : 47 CFR FCC Part 2.1091  
**Received Date** : Sep. 03, 2013  
**Tested Date** : Oct. 08, 2013

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:



Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FA390302	Rev. 01	Initial issue	Dec. 04, 2013

## 1 MPE EVALUATION OF MOBILE DEVICES

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 20 cm or more from persons.

### 1.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm <sup>2</sup> )	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

### 1.2 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm<sup>2</sup>

Pt= EIRP in Mw

Pi= 3.1416

R= Measurement distance

### 1.3 MPE EVALUATION RESULTS

The EUT will be installed in below hosts

Brand Name	Model Name	Product Name	Description	Antenna type	Antenna Gain (dBi)	
					2.4GHz	5GHz
Senao	IAP7260AG	802.11 Wireless AP	Internal Antenna	PIFA	5	6
	IAP7261AG	802.11 Wireless AP	External Antennas	Dipole	3	3
				Dipole	5	5.5

Note 1: Above hosts contain EUT (FCC ID: U2M-PCE4551AH) and FCC ID: U2M-PCE3300AN

#### MPE Evaluation of Single Transmission

Evaluation result of EUT (FCC ID: U2M-PCE4551AH)

Antenna type	Frequency Range (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Dipole	5150-5250	16.58	3	20	0.018	1
Dipole	5725-5850	27.33	3	20	0.215	1
Dipole	5150-5250	15.80	5.5	20	0.027	1
Dipole	5725-5850	27.33	5.5	20	0.382	1
PIFA	5150-5250	16.41	6	20	0.035	1
PIFA	5725-5850	24.74	6	20	0.236	1

Evaluation result of FCC ID: U2M-PCE3300AN

Antenna type	Frequency Range (MHz)	Maximum Conducted Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Dipole	2412~2462	23.83	3	20	0.096	1
Dipole	2412~2462	23.83	5	20	0.152	1
PIFA	2412~2462	23.83	5	20	0.152	1

Note: 5GHz function is disabled by software setting.

### **MPE Evaluation of Simultaneous Transmission**

2.4 and 5GHz can transmit at the same time, MPE evaluation is as below formula

PD1 / Limit1 + PD2 / Limit2 + ..... < 1, PD = Power density

MPE Evaluation = Maximum MPE of 2.4GHz + Maximum MPE of 5 GHz =  $0.152 / 1 + 0.382 / 1 = 0.534 < 1$

### **Conclusion**

MPE evaluations of single and simultaneous transmission meet the requirement of standard.

## 2 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website <http://www.icertifi.com.tw>.

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