

# FCC RF Exposure Report

**FCC ID** : P27CAP1800AX  
**Equipment** : CAP1800-AX  
**Model No.** : CAP1800-AX  
**Brand Name** : Centurylink  
**Applicant** : Sercomm Corporation  
**Address** : 8F, No. 3-1, YuanQu St., NanKang, Taipei 115,  
Taiwan, R.O.C.  
**Standard** : 47 CFR FCC Part 2.1091  
**Received Date** : Apr. 15, 2020  
**Tested Date** : Apr. 24 ~ Jun. 04, 2020

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.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

Reviewed by:

  
Along Chen / Assistant Manager

Approved by:

  
Gary Chang / Manager



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## Release Record

Report No.	Version	Description	Issued Date
FA041501	Rev. 01	Initial issue	Jul. 02, 2020

# 1 MPE EVALUATION OF MOBILE DEVICES

## 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 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

## 1.4 MEASUREMENT UNCERTAINTY

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Parameters	Uncertainty
Conducted power	±0.808 dB

<b>Declaration of Conformity:</b>
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
<b>Comments and Explanations:</b>
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

## 1.5 MPE EVALUATION RESULTS

### MPE Evaluation of Single Transmission

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Ratio*
<b>Non-beamforming mode</b>							
2412~2462	26.29	26.5	4.0	20	0.223	1	0.223
5180~5240	25.03	25.5	3.3	20	0.151	1	0.151
5260~5320	23.60	24.0	3.3	20	0.107	1	0.107
5500~5700	23.60	24.0	2.9	20	0.097	1	0.097
5745~5825	26.19	26.5	2.7	20	0.165	1	0.165
<b>Beamforming mode</b>							
2412~2462	21.28	21.5	6.57	20	0.128	1	0.128
5180~5240	21.53	22.0	5.87	20	0.122	1	0.122
5260~5320	20.45	20.5	5.87	20	0.086	1	0.086
5500~5700	20.59	21.0	5.76	20	0.094	1	0.094
5745~5825	23.18	23.5	5.51	20	0.158	1	0.158

\*Ratio = Power density / Limit.

**Note:**

For 2412~2462 MHz band

Directional gain =  $10 \times \log((10^{3.1/20} + 10^{4/20})^2 / 2) = 6.57$  dBi.

For 5180~5240 MHz band / 5260~5320 MHz band

Directional gain =  $10 \times \log((10^{2.4/20} + 10^{3.3/20})^2 / 2) = 5.87$  dBi.

For 5500~5700 MHz band

Directional gain =  $10 \times \log((10^{2.6/20} + 10^{2.9/20})^2 / 2) = 5.76$  dBi.

For 5745~5850 MHz band

Directional gain =  $10 \times \log((10^{2.3/20} + 10^{2.7/20})^2 / 2) = 5.51$  dBi.

## 1.6 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

### *Non-beamforming mode*

Mode	Max Ratio of Each Mode
WLAN 2.4GHz	0.223
WLAN 5GHz	0.165
Sum	0.388
Limit	1
Pass / Fail	Pass

### *Beamforming mode*

Mode	Max Ratio of Each Mode
WLAN 2.4GHz	0.128
WLAN 5GHz	0.158
Sum	0.286
Limit	1
Pass / Fail	Pass

## 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 (EMC and Wireless Communication Laboratory), 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 District. Location map can be found on our website <http://www.icertifi.com.tw>.

### **Linkou**

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Taiwan, R.O.C.

### **Kwei Shan**

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If you have any suggestion, please feel free to contact us as below information.

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