

FCC RF Exposure Report

FCC ID : P27RP324
Equipment : AC2100 Wi-Fi Mesh Extender
Model No. : RP324
Multiple Listing : Refer to item 1.1.1 for more details.
Brand Name : Sercomm
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 : Oct. 02, 2019
Tested Date : Oct. 08 ~ Nov. 21, 2019

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.

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

| Report No. | Version | Description | Issued Date |
|-------------|---------|---------------|---------------|
| FA9O0208-01 | Rev. 01 | Initial issue | Dec. 11, 2019 |

1 General Description

1.1 INFORMATION

This report is issued as a supplementary report to original ICC report no. FA9O0208. The modification is only concerned with adding 5250~5350MHz and 5470~5725 MHz band by software setting.

1.1.1 PRODUCT DETAILS

The following models are provided to this EUT.

| Model Name | Description |
|---|--|
| RP324 | Main tested model. |
| RP324XX | the 1st X should be "blank" or "-"; the rest X could be 0 to 9, A to Z, "blank" or "-", for marketing purpose. |
| ✦ All models are electrically identical, different model names are for marketing purpose. | |

2 MPE EVALUATION OF MOBILE DEVICES

2.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

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

2.2 MPE EVALUATION FORMULA

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

Where

Pd= Power density in mW/cm²

Pt= EIRP in Mw

Pi= 3.1416

R= Measurement distance

2.3 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

2.4 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. 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 |

| Declaration of Conformity: |
|--|
| The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. |
| Comments and Explanations: |
| 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. |

2.5 MPE EVALUATION RESULTS

Non-beamforming mode

| Frequency Range (MHz) | Maximum Conducted Power (dBm) | Rated Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) | Ratio* | Pass / Fail |
|---------------------------|-------------------------------|-------------------|--------------------|---------------|-------------------------------------|-----------------------------|--------|-------------|
| 2412~2462 ^{Note} | 22.77 | 23.00 | 3.14 | 20 | 0.082 | 1 | 0.082 | Pass |
| 5180-5240 ^{Note} | 25.78 | 26.00 | 3.25 | 20 | 0.167 | 1 | 0.167 | Pass |
| 5260~5320 | 22.59 | 23.00 | 3.49 | 20 | 0.089 | 1 | 0.089 | Pass |
| 5500~5700 | 23.05 | 23.50 | 3.53 | 20 | 0.100 | 1 | 0.100 | Pass |
| 5745-5825 ^{Note} | 25.73 | 26.00 | 3.20 | 20 | 0.165 | 1 | 0.165 | Pass |

*Ratio = Power density / Limit.

Note: These frequency bands are certified for original grant (Report No: FA9O0208).

Beamforming mode

| Frequency Range (MHz) | Maximum Conducted Power (dBm) | Rated Power (dBm) | Antenna Gain (dBi) | Distance (cm) | Power Density (mW/cm ²) | Limit (mW/cm ²) | Ratio* | Pass / Fail |
|---------------------------|-------------------------------|-------------------|--------------------|---------------|-------------------------------------|-----------------------------|--------|-------------|
| 5180-5240 ^{Note} | 25.48 | 25.50 | 8.98 | 20 | 0.558 | 1 | 0.558 | Pass |
| 5260~5320 | 20.57 | 21.00 | 9.29 | 20 | 0.213 | 1 | 0.213 | Pass |
| 5500~5700 | 20.46 | 20.50 | 9.21 | 20 | 0.186 | 1 | 0.186 | Pass |
| 5745-5825 ^{Note} | 25.14 | 25.50 | 8.97 | 20 | 0.557 | 1 | 0.557 | Pass |

*Ratio = Power density / Limit.

Note: These frequency bands are certified for original grant (Report No: FA9O0208).

Note:

For 5250~5350MHz:

$$\text{Directional gain} = 10 \times \log\left(\frac{10^{3.49/20} + 10^{3.32/20} + 10^{3.08/20} + 10^{3.17/20}}{4}\right) = 9.29 \text{ dBi.}$$

For 5470~5725MHz:

$$\text{Directional gain} = 10 \times \log\left(\frac{10^{2.79/20} + 10^{3.53/20} + 10^{3.15/20} + 10^{3.28/20}}{4}\right) = 9.21 \text{ dBi.}$$

2.6 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

| Mode | Max Ratio of Each Mode |
|---|------------------------|
| WLAN 2.4GHz (<i>Non-beamforming mode</i>) | 0.082 |
| WLAN 5GHz (<i>Non-beamforming mode</i>) | 0.167 |
| Sum | 0.249 |
| Limit | 1 |
| Pass / Fail | Pass |

| Mode | Max Ratio of Each Mode |
|--|------------------------|
| WLAN 2.4GHz(<i>Non-beamforming mode</i>) | 0.082 |
| WLAN 5GHz (<i>Beamforming mode</i>) | 0.558 |
| Sum | 0.64 |
| Limit | 1 |
| Pass / Fail | Pass |

3 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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No. 30-2, Ding Fwu Tsuen, Lin
Kou District, New Taipei City,
Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St.,
Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

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

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