

FCC RF Exposure Report

FCC ID : MXF-C4500MG
Equipment : C4500 MG Multi-Dwelling Unit Gateway Product
Model No. : C4500MG
Brand Name : CenturyLink
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial Park, Hukou, Hsinchu, Taiwan, 30352.
Standard : 47 CFR FCC Part 2.1091
Received Date : Dec. 16, 2020
Tested Date : Dec. 21, 2020 ~ Jan. 19, 2021

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



Table of Contents

1	MPE EVALUATION OF MOBILE DEVICES	4
1.1	LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE.....	4
1.2	MPE EVALUATION FORMULA	4
1.3	DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE	4
1.4	MEASUREMENT UNCERTAINTY	4
1.5	MPE EVALUATION RESULTS	5
1.6	MPE EVALUATION OF SIMULTANEOUS TRANSMISSION.....	5
2	TEST LABORATORY INFORMATION	6

Release Record

Report No.	Version	Description	Issued Date
FA0D1601	Rev. 01	Initial issue	Feb. 22, 2021

1 MPE EVALUATION OF MOBILE DEVICES

1.1 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

1.2 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

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

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.

1.5 MPE EVALUATION RESULTS

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	*Ratio	Limit (mW/cm ²)
Non-beamforming mode							
2412~2462	29.65	30	3.4	26	0.258	0.258	1
5180~5240	29.13	29.5	4	26	0.264	0.264	1
5745~5825	29.61	30	4.5	26	0.332	0.332	1
Beamforming mode							
2412~2462	29.50	30	5.88	26	0.456	0.456	1
5180~5240	28.71	29	6.91	26	0.459	0.459	1
5745~5825	28.57	29	7.31	26	0.503	0.503	1

*Ratio = Power density / Limit.

Note:

2412~2462MHz: Directional gain = $10 * \log((10^{3.4/20} + 10^{2.3/20})^2 / 2) = 5.88$ dBi

5150~5250MHz: Directional gain = $10 * \log((10^{3.8/20} + 10^{4/20})^2 / 2) = 6.91$ dBi

5725~5850MHz: Directional gain = $10 * \log((10^{4.5/20} + 10^{4.1/20})^2 / 2) = 7.31$ dBi

1.6 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Mode	Max Ratio of Each Mode	
	Non-beamforming	Beamforming mode
Wi-Fi 2.4 GHz	0.258	0.456
Wi-Fi 5 GHz	0.332	0.503
Sum (Wi-Fi 2.4 GHz+ Wi-Fi 5 GHz)	0.59	0.959
Limit	1	1
Pass / Fail	Pass	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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Kwei Shan

Tel: 886-3-271-8666

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Kwei Shan District, Tao Yuan City
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Kwei Shan Site II

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

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