

RF Exposure Evaluation



Applicant : Cyber Power Systems, Inc.
Product : WiFi Module
Model : CPWMU02
FCC ID : 2AFG8CPWMU02

In accordance with
FCC rule Part §1.13101

RESPONSIBLE FOR	NAME	SIGNATURE	DATE
Approved By	Jack Chang	<i>Jack Chang</i>	2026.03.03
Prepared By	Ariel Hsu	<i>Ariel Hsu</i>	2026.03.03

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service control rules.

EXECUTIVE SUMMARY

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1 General Information

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

History of this test report

Issue	Description of Change	Date of Issue
1	Initial Issue	2026-03-03

1.2 Introduction

The information contained in this report is intended to show verification of RF qualification approval. The testing requirements of the standards for the tests listed in Section 1.5.

Applicant : Cyber Power Systems, Inc.
Address : 11F, No. 26,, Jinzhuang Rd., Neihu Dist., Taipei, Taiwan
Manufacturer : CyberPower (ShenZhen) System Inc.
Brand Name : CyberPower
Product Name : WiFi Module
Model Number(s) : CPWMU02
Date of Receipt of EUT : 2025-06-11
Start of Test : 2025-07-02
Finish of Test : 2025-07-04
Test Laboratory : TÜV SÜD Asia Ltd., Taiwan Branch
Address : 7F., No. 37, Sec. 2, Zhongyang S. Rd., Beitou District, Taipei City 11270, R.O.C. Taiwan
Test Location : TÜV SÜD Asia Ltd., Taiwan Branch, Guishan Laboratory
Address : No. 31, Dinghu Road, Guishan District, Taoyuan City, TAIWAN (R.O.C.)

The test facility is accredited by TAF (member of ILAC), under number 2573 according to ISO/IEC 17025: 2017.

1.3 Applied Standard

FCC rule Part §2.1091
FCC Part §1.1310 FCC KDB 447498 D01 v06

1.4 Deviation from standards

None

1.5 Reference Test Report

Test Lab	TÜV SÜD Asia Ltd., Taiwan Branch
Report Number	6128625032701

2 General EUT Information

All information in this chapter was provided by the applicant.

2.1 Technical Specification of EUT

Items	EUT information
Operating Frequency	2412 ~ 2462 MHz
Channel number	802.11b/g/n HT20: 11
Maximum Output Power (dBm)	802.11b: 18.43dBm 802.11g: 21.83dBm 802.11n HT20:22.38dBm
Operation Voltage	3.3Vdc
Modulation	DSSS (DBPSK, DQPSK, CCK) OFDM (BPSK, QPSK, 16QAM, 64QAM)
Test Software Version	EspRFTestTool v3.6 (ESP32C2)

2.2 Antenna List

	Antenna Type	Brand	Model	Connector	Freq. (MHz)	Peak Antenna Gain (dBi)
Main	Dipole	Cortec	AN2400-39A14BBF	I-Pex	2400 - 2480	2.74

3 FCC Maximum Permissible Exposure Evaluation

3.1 Introduction

This Standard specifies requirements for, and provides guidance on, assessing compliance with the exposure limits of radiofrequency (RF) safety standards such as IEEE Std C95.1. This includes methodologies for making an assessment (by measurement or computation) of human exposure to ambient RF fields and induced body currents in the frequency range of 0 kHz to 300 GHz.

This Standard may also be used as a guide for making low-level environmental exposure assessments in areas around RF sources listed above, as well as other sources such as Wi-Fi devices.

3.2 Reference Levels

Where appropriate, the reference levels are derived from the basic restrictions by mathematical modelling and by extrapolation from the results of laboratory investigations at specific frequencies. They are given for the condition of maximum coupling of the field to the exposed individual, thereby providing maximum protection.

According to FCC 1.1310, the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

The FCC MPE limits from 47 CFR §1.1310 are shown in the table below

Frequency Range [MHz]	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm ²]	Average Time [minutes]
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	*100	6
3.0 – 30	1842/f	4.89/f	*900/f ²	6
30 – 300	61.4	0.163	1.0	6
300 – 1500			f/300	6
1500 – 100000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 1.34	614	1.63	*100	30
1.34 – 30	824/f	2.19/f	*180/f ²	30
30 – 300	27.5	0.073	0.2	30
300 – 1500			f/1500	30
1500 – 100000			1.0	30

NOTE –

- (1) f is the frequency in MHz.
- (2) Provided that basic restrictions are met and adverse indirect effects can be excluded, field strength values can be exceeded. For the specific case of occupational exposures at frequencies up to 100 kHz, the derived electric fields can be increased by a factor of 2 under conditions in which adverse indirect effects from contact with electrically charged conductors can be excluded.

- (3) For frequencies between 100 kHz and 10 GHz, the quantities Seq, E2 and H2 are averages over any 6 minutes.
- (4) For frequencies exceeding 10 GHz, Seq, the quantities E2 and H2 are averages over any $68/f$ 1.05 minutes (f in GHz).

3.3 Classification of the Assessment Methods

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user. Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. So, this product under normal use is located on electromagnetic far field between the human body.

MPE Calculation Method according to KDB 447498 D01 General RF Exposure Guidance v06

Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm²)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

3.4 Power Density Calculation (Worst Case)

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. Output Power (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail	Power Density / Limit
WLAN 2.4G	2437.00	20	22.38	2.74	325.09	0.0647	1.000	Pass	0.065