

TEST REPORT

Product Name : Plug In Diffuser
Model Number : 44098
FCC ID : 2BFWC-44098

Prepared for : Majestic-M&A International Co.,Ltd.
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R.O.C.

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Report Number : EDG2402260220E00202R
Date(s) of Tests : February 26, 2024 to April 01, 2024
Date of issue : April 01, 2024

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1. TEST RESULT CERTIFICATION

Applicant : Majestic-M&A International Co.,Ltd.
 Address : 14F-2, No 77, Sec.1, Chung Hua Rd, Taipei 100, Taiwan, R.O.C.
 EUT : Plug In Diffuser
 Model Name : 44098
 Trademark : 

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 15.247(i), § 2.1093	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093.

The test results of this report relate only to the tested sample identified in this report

Date of Test : February 26, 2024 to April 01, 2024

Prepared by : Warren Deng

Warren Deng /Editor

Reviewer : Tim Dong

Tim Dong /Supervisor

Approve & Authorized Signer : 

Sam Lv / Manager



Modified History

Version	Report No.	Revision Date	Summary
	EDG2402260220E00202R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Plug In Diffuser
Model Number:	44098
Sample:	2#
Device Type:	2.4G WIFI
Data Rate:	802.11b 802.11g 802.11n(20MHz channel bandwidth)
Modulation:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range(s) :	2412-2462MHz for 802.11b/g/n(HT20);
Number of Channels:	11 channels for 802.11b/g/n(HT20);
Transmit Power Max:	15.95dBm(0.039355 W)
Antenna Gain:	1.96 dBi
Power supply:	AC 100-240V, 50/60Hz
Evaluation applied:	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

3. Test Requirement:

RF EXPOSURE EVALUATION

According to §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,²⁴ where

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

4. Measurement Result

Antenna gain:
2.4G: 1.96 dBi

802.11b: Antenna A

Channel	Channel Freq. (MHz)	Output Power (dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Power density Limits (mW/cm ²)
1	2412	13.75	15.71	15±1	16	39.81	0.012437	1
6	2437	13.8	15.76	15±1	16	39.81	0.012437	1
11	2462	13.99	15.95	15±1	16	39.81	0.012437	1

802.11g: Antenna A

Channel	Channel Freq. (MHz)	Output Power (dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Power density Limits (mW/cm ²)
1	2412	11.04	13.00	13±1	14	25.12	0.007847	1
6	2437	11.16	13.12	13±1	14	25.12	0.007847	1
11	2462	11.3	13.26	13±1	14	25.12	0.007847	1

802.11n HT20: Antenna A

Channel	Channel Freq. (MHz)	Output Power (dBm)	E.I.R.P(dBm)	Target Power W/tolerance (dBm)	Max tune up power(dBm) tolerance	Max tuneup power(mW) tolerance	Power Density at R=20cm (mW/cm ²)	Power density Limits (mW/cm ²)
1	2412	10.95	12.91	12±1	13	19.95	0.006233	1
6	2437	10.91	12.87	12±1	13	19.95	0.006233	1
11	2462	11.26	13.22	13±1	14	25.12	0.007847	1

According to KDB 447498, no stand-alone required for WIFI antenna, and no simultaneous SAR measurement is required.

*** End of Report ***