

Radio Exposure Evaluation Report

FCC ID : H8N-CME1000

Equipment : Wi-Fi Extender Mini

Model Name : CME1000

Applicant : Askey Computer Corp.
10F, No.119, Jiankang Road, Zhonghe Dist., New Taipei City, Taiwan

Manufacturer : Askey Computer Corp.
10F, No.119, Jiankang Road, Zhonghe Dist., New Taipei City, Taiwan

Standard : 47 CFR FCC Part 2 Subpart J, section 2.1091

The product was received on Feb. 18, 2021, and testing was started from Feb. 22, 2021 and completed on Apr. 22, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR FCC Part 2 Subpart J, section 2.1091 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory
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Photographs of EUT V02



History of this test report

Report No.	Version	Description	Issued Date
FA121021	01	Initial issue of report	May 11, 2021
FA121021	02	Revise typo This report is the latest version replacing for the report issued on May 11, 2021	Jun. 09, 2021
FA121021	03	Removed brand name This report is the latest version replacing for the report issued on Jun. 09, 2021	Jul. 09, 2021



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

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:

None

Reviewed by: Howard Lee
Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
5GHz WLAN	5150-5250 5250-5350 5470-5725 5725-5850	5180-5240 5260-5320 5500-5700 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) 802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
6GHz WLAN	5925-7125	6115-7095 6125-7085 6145-7025 6185-6985	802.11ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	Askey	AP5685W-D315	PIFA antenna	I-PEX
2	Askey	AP5685W-D315	PIFA antenna	I-PEX
3	Askey	AP5685W-D315	Dipole antenna	I-PEX
4	Askey	AP5685W-D315	Dipole antenna	I-PEX
5	Askey	AP5685W-D315	PIFA antenna	I-PEX
6	Askey	AP5685W-D315	PIFA antenna	I-PEX

Ant.	Port	Gain (dBi)								
		2.4G	5G				6G			
			U-NII-1	U-NII-2A	U-NII-2C	U-NII-3	U-NII- 5	U-NII-6	U-NII-7	U-NII-8
1	1	3.00	3.41	3.41	4.01	4.74	-	-	-	-
2	2	1.99	1.08	1.08	0.88	0.62	-	-	-	-
3	1	-	-	-	-	-	5.09	4.71	4.71	4.72
4	2	-	-	-	-	-	5.09	4.71	4.71	4.72
5	3	-	-	-	-	-	5.09	4.71	4.71	4.72
6	4	-	-	-	-	-	5.09	4.71	4.71	4.72

Ant.	Port	Directional Gain (dBi)				
		2.4G	5G			
			U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
1	1	5.52	5.33	5.33	5.60	5.93
2	2	5.52	5.33	5.33	5.60	5.93

Note 1: The above information was declared by manufacturer.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

*VHT= Very High Throughput

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For 6GHz function:

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Ant. 3 (port 1), Ant. 4 (port 2), Ant. 5 (port 3) and Ant. 6 (port 4) could transmit/receive simultaneously.

1.2 Testing Location

Test Lab. : Sporton International Inc. Hsinhua Laboratory		
☒	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)
		TEL: 886-3-327-3456 FAX: 886-3-327-0973
Test site Designation No. TW3785 with FCC.		
☐	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)
		TEL: 886-3-318-0787 FAX: 886-3-318-0287
Test site Designation No. TW0008 with FCC.		

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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
1500-100,000	-	-	5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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
1500-100,000	-	-	1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

Multiple Transmitters Condition

Co-location as simultaneously transmitting (co-transmitting) and the evaluation shall be consider that simultaneous transmissions from co-located devices the individual transmitters are evaluated separately. After sum of the individual value (basic restriction / reference level) are measured/calculated also have to under basic restriction / reference level.

Co-transmitting mode: 2.4GHz WLAN+5GHz WLAN Mode+6GHz WLAN

2.2 MPE Calculation Method

The MPE was calculated at 21 cm to show compliance with the power density limit.
The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

WiFi 2.4G Function:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;D1D ; BF	5.52	26.50	32.02	0.50	32.52	1.78649	21	0.32236	1.00000

WiFi 5G Function:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
5.2G;D1D ; BF	5.33	28.86	34.19	0.50	34.69	2.94442	21	0.53130	1.00000
5.3G;D1D ; BF	5.33	23.87	29.20	0.50	29.70	0.93325	21	0.16840	1.00000
5.6G;D1D ; BF	5.60	23.96	29.56	0.50	30.06	1.01391	21	0.18295	1.00000
5.8G;D1D ; BF	5.93	27.50	33.43	0.50	33.93	2.47172	21	0.44601	1.00000

WiFi 6G Function:

Mode	Rad. EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
6.7G;D1D ; BF	27.51	0.50	28.01	0.63241	21	0.11411	1.00000

WiFi 2.4GHz + WiFi 5G + WiFi 6G Function:

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;D1D ; BF	5.52	26.50	32.02	0.50	32.52	1.78649	21	0.32236	1.00000	0.32236
5.2G;D1D ; BF	5.33	28.86	34.19	0.50	34.69	2.94442	21	0.53130	1.00000	0.53130
6.7G;D1D ; BF	-	-	27.51	0.50	28.01	0.63241	21	0.11411	1.00000	0.11411
									Sum Ratio	0.96777
									Ratio Limit	1

—————THE END—————