



FCC RADIO EXPOSURE TEST REPORT

FCC ID : 2AWNEKDE20101

Equipment : Home Entertainment Hub

Brand Name : E1 by Ericsson

Model Name : KDE20101

Applicant : Ericsson AB
21-23 Torshamnsgatan Stockholm, 16480 Sweden

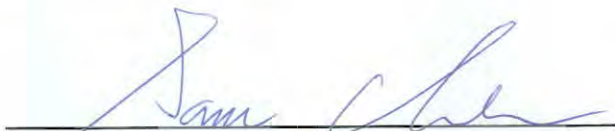
Manufacturer : CyberTAN Technology Inc.
No. 99, Park Avenue III Science-based Industrial
Park Hsinchu Taiwan 308

Standard : 47 CFR Part 2.1091

The product was received on Mar. 30, 2020, and testing was started from Mar. 30, 2020 and completed on May 04, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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


Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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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:

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.

Reviewed by: Sam Chen

Report Producer: Wendy Pan



1 General Description

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)
Zigbee	2400-2483.5	2405-2475	O-QPSK

1.1.1 The EUT Support Function Information

Module	Function	Camera
AX (Contain module FCC ID: PD9AX200NG)	WLAN 2.4GHz, WLAN 5GHz and Bluetooth	Support
AI	WLAN 2.4GHz, Zigbee	Does not support

1.2 Testing Location

Testing Location		
☐	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

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)*	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)*	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

2.2 MPE Calculation Method

The MPE was calculated at 20 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

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)
AI Module (WLAN 2.4GHz)	2.60	15.27	17.87	0.50	18.37	0.06871	20	0.01367	1.00000
AI Module (Zigbee)	2.40	20.70	23.10	0.50	23.60	0.22909	20	0.04557	1.00000



Simultaneous Transmission Analysis Mode:

1. AX module (WLAN 2.4GHz + Bluetooth) + AI module (WLAN 2.4GHz + Zigbee)

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)
AX Module (WLAN 2.4GHz)	3.00	29.95	32.95	0.50	33.45	2.21309	20	0.44027	1.00000	0.44027
AX Module (Bluetooth)	3.00	10.79	13.79	0.50	14.29	0.02685	20	0.00534	1.00000	0.00534
AI Module (WLAN 2.4GHz)	2.60	15.27	17.87	0.50	18.37	0.06871	20	0.01367	1.00000	0.01367
AI Module (Zigbee)	2.40	20.70	23.10	0.50	23.60	0.22909	20	0.04557	1.00000	0.04557
									Sum Ratio	0.50485
									Ratio Limit	1

2. AX module (WLAN 5GHz + Bluetooth) + AI module (WLAN 2.4GHz + Zigbee)

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)
AX Module (WLAN 5GHz)	3.30	23.14	26.44	0.50	26.94	0.49431	20	0.09834	1.00000	0.09834
AX Module (Bluetooth)	3.00	10.79	13.79	0.50	14.29	0.02685	20	0.00534	1.00000	0.00534
AI Module (WLAN 2.4GHz)	2.60	15.27	17.87	0.50	18.37	0.06871	20	0.01367	1.00000	0.01367
AI Module (Zigbee)	2.40	20.70	23.10	0.50	23.60	0.22909	20	0.04557	1.00000	0.04557
									Sum Ratio	0.16292
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—THE END—