

MPE REPORT

FCC ID:2AWPP-ASH110

Date of issue: Sept. 10, 2020

Report number: MTi20081713-1E3

Sample description: Smart Hub

Model(s): ASH110

Applicant: Vesync Corporation

Address: 960 N Tustin St # 189, Orange, CA 92867, USA

Date of test: Aug. 25, 2020 - Sept. 10, 2020

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.com>

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TEST RESULT CERTIFICATION	
Applicant's name:	Vesync Corporation
Address:	960 N Tustin St # 189, Orange, CA 92867, USA
Manufacture's name:	Dusun Electron Ltd.
Address:	No. 640 FengQing Street, Deqing, Huzhou, Zhejiang, China
Product name:	Smart Hub
Trademark:	ARIZE
Model and/or type reference:	ASH110
Serial model:	N/A
RF exposure procedures:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:

Danny Xu

Sept. 10, 2020

Reviewed by:

Leo Su

Sept. 10, 2020

Approved by:

Tom Xue

Sept. 10, 2020

RF EXPOSURE EVALUATION

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)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging 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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

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

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

P_d the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.



Measurement Result

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power		Tune-up power		Max				Antenna		Evaluation result at 20cm			Power density Limits
		(dBm)		(dBm)		tune-up power				Gain		Power density(mW/cm2)			(mW/cm 2)
						(dBm)		(mW)		Numeric					
		Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Ant A	Ant B	Sum	
2412	802.11 b	15.78	16.91	15±1	17±1	16	18	39.810717	63.096	2.8	2.8	0.02218	0.03515	/	
2437		14.54	17.14	15±1	17±1	16	18	39.810717	63.096	2.8	2.8	0.02218	0.03515	/	1
2462		15.79	17.23	15±1	17±1	16	18	39.810717	63.096	2.8	2.8	0.02218	0.03515	/	1
2412	802.11 g	14.62	14.47	15±1	14±1	16	15	39.810717	31.623	2.8	2.8	0.02218	0.01762	/	1
2437		15.3	14.63	15±1	14±1	16	15	39.810717	31.623	2.8	2.8	0.02218	0.01762	/	1
2462		14.93	14.69	15±1	14±1	16	15	39.810717	31.623	2.8	2.8	0.02218	0.01762	/	1
2412	802.11 n H20	12.67	12.5	13±1	12±1	14	13	25.118864	19.953	2.8	2.8	0.01399	0.01111	0.02511	1
2437		13.18	12.54	13±1	12±1	14	13	25.118864	19.953	2.8	2.8	0.01399	0.01111	0.02511	1
2462		12.91	12.45	13±1	12±1	14	13	25.118864	19.953	2.8	2.8	0.01399	0.01111	0.02511	1
2422	802.11 n H40	12.75	12.57	12±1	12±1	13	13	19.952623	19.953	2.8	2.8	0.01111	0.01111	0.02223	1
2437		12.01	12.27	12±1	12±1	13	13	19.952623	19.953	2.8	2.8	0.01111	0.01111	0.02223	1
2452		11.74	11.86	12±1	12±1	13	13	19.952623	19.953	2.8	2.8	0.01111	0.01111	0.02223	1

Zigbee

Channe l Freq. (MHz)	modulation n	conduct ed power	Tune- up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeri c		
2405	GFSK	4.024	4±1	5	3.162	3.41	2.19	0.0014	1
2440		3.753	4±1	5	3.162	3.41	2.19	0.0014	1
2475		3.473	4±1	5	3.162	3.41	2.19	0.0014	1

LTE(date refer FCC ID: XMR201707BG96)

band (MHz)	modulation	conduct ed power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain			
				(dBm)	(dBm)	(mW)	(dBi)	Numeri c	(mW/cm2)
Band 2	16-QAM	23.927	23±1	24	251.189	1.00	1.26	0.0629	1



Simultaneous transmit

LTE+Zigbee+2.4G WiFi=0.0629+0.0014+0.03515=0.09945

Conclusion:

For the max result: $0.09945 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----