

RF EXPOSURE Test Report

Report No. : MTi250410007-0101E3
Date of Issue : 2025-05-14
Applicant : La Crosse Technology Ltd.
Product : Bluetooth Clock Movement
Model(s) : KV2008
FCC ID : OMO-KV2008

Shenzhen Microtest Co., Ltd.

TEST REPORT

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TEST REPORT

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Test Result Certification		
Applicant	La Crosse Technology Ltd.	
Applicant Address	La Crosse Technology Ltd., 2809 Losey Boulevard South, La Crosse WI 54601 USA	
Manufacturer	GUANGDONG KINSTA ELECTRONIC CO., LTD	
Manufacturer Address	No. 8, North Industrial Avenue, Shuizhai Town Economic Development Zone, Wuhua County, Meizhou City, Guangdong Province, China	
Product description		
Product name	Bluetooth Clock Movement	
Trademark	LA CROSSE[®] TECHNOLOGY	
Model name	KV2008	
Series Model(s)	N/A	
Standards	47 CFR Part 2.1091	
Test method	KDB 447498 D01 v06	
Testing Information		
Date of test	2025-04-26 to 2025-04-28	
Test Result	Pass	
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Reviewed by:	David Lee	<i>David. Lee</i>
Approved by:	Lewis Lian	<i>Lewis Lian</i>

1 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.



2 Measurement Result

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm²

Antenna Type: PCB Antenna

Antenna gain: 2.338 dBi

R=20cm

$mW=10^{(dBm/10)}$

Antenna gain Numeric= $10^{(dBi/10)}=10^{(2.338/10)}=1.71$

BT:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
		(dBm)		tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	0.38	0±1	1	1.259	2.338	1.71	0.0004	1
2441		1.32	1±1	2	1.585	2.338	1.71	0.0005	1
2480		1.62	1±1	2	1.585	2.338	1.71	0.0005	1
2402	π/4-DQPSK	1.13	1±1	2	1.585	2.338	1.71	0.0005	1
2441		2.12	2±1	3	1.995	2.338	1.71	0.0007	1
2480		2.36	2±1	3	1.995	2.338	1.71	0.0007	1

BLE:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	BLE-2M	0.46	0±1	1	1.259	2.338	1.71	0.0004	1
2440		1.45	1±1	2	1.585	2.338	1.71	0.0005	1
2480		1.82	1±1	2	1.585	2.338	1.71	0.0005	1

Conclusion:

Simultaneous:

For the max result: $0.0007 \leq 1.0$ test exclusion threshold, No SAR is required.

Statement

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2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
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***** END OF REPORT *****