RF Exposure Evaluation Report

Report No.:	JYTSZ-R12-2501013
Applicant:	CoreHW Semiconductor Oy
Address of Applicant:	Visiokatu 1, 33720 Tampere, Finland

Equipment Under Test (EUT)

Product Name:	CoreLocator
Model No.:	CHW-LOC4000
Trade mark:	CoreHW
FCC ID:	2BPQS-LOC4000
Applicable standards:	FCC CFR Title 47 Part 2 (§2.1091)
Date of sample receipt:	22 May, 2025
Date of Test:	23 May, to 16 Jul., 2025
Date of report issue:	05 Aug., 2025
Test Result:	PASS

Project by:	Lucas Ping ***Project Engineer***	***Date:***	*05 Aug., 2025*
Reviewed by:	Vita Liang ***Senior Engineer***	***Date:***	*05 Aug., 2025*
Approved by:	James Wei ***Manager***	***Date:***	*05 Aug., 2025*

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

1 Version

Version No.	Date	Description
00	*16 Jul., 2025*	*Original*
01	*05 Aug., 2025*	*Updated page 4 and 7*

2 Contents

3 General Information

3.1 Client Information

Applicant:	CoreHW Semiconductor Oy
Address:	Visiokatu 1, 33720 Tampere, Finland
Manufacturer/Factory:	CoreHW Semiconductor Oy
Address:	Visiokatu 1, 33720 Tampere, Finland

3.2 General Description of E.U.T.

Product Name:	CoreLocator				
Model No.:	CHW-LOC4000				
BLE Specification					
Operation Frequency:	2402MHz-2480MHz				
Channel Numbers:	40				
Channel Separation:	2MHz				
Modulation Technology:	GFSK				
Antenna Type:	Internal Antenna				
Antenna Gain:	-1.25 dBi (declare by applicant)				
5GWi-Fi Specification					
Operation Frequency:	Band 1: 5150 MHz - 5250 MHz				
	Band 2: 5250 MHz - 5350 MHz				
	Band 3: 5470 MHz - 5725 MHz				
	Band 4: 5725 MHz - 5850 MHz				
Channel Numbers:	Band 1, 2: 4 , Band 3: 11, Band 4: 5 (802.11a, n-HT20)				
	Band 1, 2, 4: 2 , Band 3: 5 (802.11n-HT40)				
Modulation Technology: (IEEE 802.11a/802.11n)	OFDM-BPSK, QPSK, 16QAM, 64QAM				
Antenna Type:	Internal Antenna				
Antenna Gain: (declare by applicant)	ANT1	W52: 4.2 dBi	W53: 4.3 dBi	W56: 4.7 dBi	W58: 4.7 dBi
	ANT2	W52: 3.4 dBi	W53: 4.6 dBi	W56: 4.7 dBi	W58: 4.7 dBi

3.3 Operating Modes

Operating mode	Detail description
2.4G WIFI mode	Keep the EUT in continuously transmitting in 2.4G WIFI mode
5G WIFI mode	Keep the EUT in continuously transmitting in 5G WIFI mode

3.4 Additions to, deviations, or exclusions from the method

No

3.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

3.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://jyt.lets.com

4 Technical Requirements Specification

4.1 Limits

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)

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 Exposures				
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				
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

4.2 Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

4.3 Result

Mode	Maximum Tune-up power (dBm)	Maximum Output power (mW)	Antenna Gain (dBi)	Antenna Gain (numeric)	Distance (cm)	Result (mW/cm^2)	Limits for General Population/ Uncontrolled Exposure (mW/cm^2)	Ratio
BLE								
2402	8.5	6.46	-1.25	0.75	20.00	0.001	1.0	0.001
5.2G Wi-Fi								
802.11a	17.5	56.23	4.2	2.63	20.00	0.029	1.0	0.032
5.3G Wi-Fi								
802.11a	17.5	56.23	4.6	2.88	20.00	0.032	1.0	0.032
5.6G Wi-Fi								
802.11a	18.0	63.10	4.7	2.95	20.00	0.037	1.0	0.038
5.8G Wi-Fi								
802.11a	18.0	63.10	4.7	2.95	20.00	0.037	1.0	0.038

Simultaneous transmission(Worse mode):

ANT No.	Mode	Ratio	Total Ratio	Limit
1	BLE	0.001	0.038	1.00
2	5.6G WIFI/5.8G WIFI	0.037		

Note: Just the worst case mode was shown in report.

4.4 Conclusion

The device is satisfies RF exposure evaluation.

------End of report------