

RF Exposure Evaluation Report

Product : UWB Anchor
Trade mark : N/A
Model/Type reference : AN02
Serial Number : N/A
Report Number : EED32R80573704
FCC ID : 2BFQ6AN02R1
Date of Issue : Sep. 30, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

Iiwari

Kidekuja 2 Vuokatti 88610 Finland

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Park, Zone 70, Bao'an District,
Shenzhen, Guangdong, China

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Compiled by:

Keven Tan.

Keven Tan

Aaron Ma

Aaron Ma

Reviewed by:

Frazer. Li

Frazer Li

Date:

Sep. 30, 2025



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1 Contents

	Page
1 CONTENTS	2
2 GENERAL INFORMATION	3
2.1 CLIENT INFORMATION	3
2.2 GENERAL DESCRIPTION OF EUT	3
2.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD	3
2.4 TEST LOCATION	4
2.5 DEVIATION FROM STANDARDS	4
2.6 ABNORMALITIES FROM STANDARD CONDITIONS	4
2.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER	4
3 SAR EVALUATION	5
3.1 RF EXPOSURE COMPLIANCE REQUIREMENT	5
3.1.1 Limits	5
3.1.2 Test Procedure	5
3.1.3 EUT RF Exposure Evaluation	6

2 General Information

2.1 Client Information

Applicant:	iiwari
Address of Applicant:	Kidekuja 2 Vuokatti 88610 Finland
Manufacturer:	KKM Technology Company Limited
Address of Manufacturer:	6A-3CDE, Baoneng Science and Technology Industrial Park, Long Hua district, Shenzhen 518109, Guang Dong, China.
Factory:	KKM Technology Company Limited
Address of Factory:	6A-3CDE, Baoneng Science and Technology Industrial Park, Long Hua district, Shenzhen 518109, Guang Dong, China.

2.2 General Description of EUT

Product Name:	UWB Anchor
Model No.(EUT):	AN02
Trade Mark:	N/A

2.3 Product Specification subjective to this standard

Frequency Range:	BLE: 2402MHz~2480MHz 2.4G Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz UWB: 6240MHz to 8237MHz
Modulation Type:	BLE: GFSK 2.4G Wi-Fi: IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM,QPSK, BPSK) UWB: BPM-BPSK
Test Power Grade:	Default
Test Software of EUT:	BLE: nrfghostudio_win-64_1.21.2_installer 2.4GWIFI: EspRFTTestTool_v2.8_Manual UWB: N/A
Antenna Type:	PCB Antenna
Antenna Gain:	BLE:2.24 dBi, 2.4G Wi-Fi: 3.42dBi UWB: 6489.6MHz: 2.48dBi, 7987.2MHz: 1.54dBi
Power Supply:	DC 12V
Sample Received Date:	Apr. 28, 2025
Sample tested Date:	Apr. 28, 2025 to Jul. 03, 2025

2.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

2.5 Deviation from Standards

None.

2.6 Abnormalities from Standard Conditions

None.

2.7 Other Information Requested by the Customer

None.

3 SAR Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3.1.3 EUT RF Exposure Evaluation

For Stand alone:

BLE:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio
@2.4GHz	20	2.77	2.24	2.86	1.9320	3060	0.0006

2.4G Wi-Fi:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio
@2.4GHz	20	12.73	3.42	14.00	25.1189	3060	0.0082

For UWB:

Frequency (MHz)	Field strength of the fundamental signal (dBuV/m@3m)	EIRP (dBm)	EIRP (mW)	Limit (mW)	MPE Ratio2	Result
6610.26	62.72	-48.43	0.0000144	1.00	0.003	PASS
6420.8	51.49	-59.66	0.0000011	1.00	0.0009	PASS

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP = EIRP - 2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.3$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 20cm;
- ⑥ The test data please refer to the report of EED32R80573701, EED32R80573702 and only the worst case data was recorded in the report.

For Simultaneous Transmission:

As MPE ratio (BLE+2.4G Wi-Fi+UWB)=0.0006+0.0082+0.003+0.0009=0.0127 < 1, it's deemed to fulfil the RF exposure requirement.

Statement

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2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
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*** End of Report ***