FCC RF EXPOSURE REPORT

For

Wireless Module

MODEL NUMBER: WXT3BM1613

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Prepared for

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Revision History

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V0	August 7, 2025	Initial Issue	

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Hui Zhou Gaoshengda Technology Co.,LTD
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Manufacturer Information

Company Name:	Hui Zhou Gaoshengda Technology Co.,LTD
Address:	No.6 Qiaoguang Road, Chenjiang Street, Zhongkai High-tech Zone, Huizhou City, Guangdong Province, Huizhou, Guangdong, 516227 China

EUT Information

EUT Name:	Wireless Module
Model:	WXT3BM1613
Brand:	GSD
Sample Received Date:	November 13, 2024
Sample Status:	Normal
Sample ID:	8187624
Date of Tested:	November 13, 2024 to March 5, 2025

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
447498 D04 Interim General RF Exposure Guidance v01	**PASS**

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 47 CFR FCC Part 1 Subpart I, section 1.1307 and KDB 447498 D04 Interim General RF Exposure Guidance v01.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.

4. DESCRIPTION OF EUT

EUT Name:		Wireless Module
Model:		WXT3BM1613
Product Description (BLE)	Frequency Range:	2402 MHz to 2480 MHz
	Type of Modulation:	GFSK
	Data Rate:	1Mbps/2Mbps
Product Description (BT)	Frequency Range:	2402 MHz to 2480 MHz
	Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
	Type of Modulation:	GFSK, Ⅱ/4DQPSK, 8DPSK
Product Description (2.4G WLAN)	Frequency Range:	2412 MHz to 2472 MHz
	Type of Modulation:	IEEE 802.11b: DSSS(CCK, DQPSK, DBPSK) IEEE 802.11g/n: OFDM(64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA(1024-QAM, 64-QAM, 16-QAM, QPSK, BPSK)
	Radio Technology:	IEEE 802.11b/g/n HT20/11n HT40/ax HE20/ax HE40
Product Description (5G RLAN)	Frequency Range:	5180 MHz to 5320 MHz, 5500 MHz to 5700 MHz, 5745 MHz to 5825 MHz,
	Type of Modulation:	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE 802.11a/n HT20/HT40/ ac VHT20/VHT40/VHT80/VHT160 ax HE20/HE40/HE80/HE160
Product Description (6G RLAN)	Frequency Range:	5945 MHz to 6425 MHz,
	Type of Modulation:	IEEE 802.11ax: OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
	Radio Technology:	IEEE 802.11ax HE20/HE40/HE80/HE160
Product Description (ZigBee)	Frequency Range:	2405 MHz to 2480 MHz
	Type of Modulation:	OQPSK
	Data Rate:	250kbps
Product Description (Low Power Wide band Radio in 5GHz (5.8G))	Frequency Range:	5.8GHz
	Type of Modulation:	FMCW
Normal Test Voltage:		DC 3.3 V

5. REQUIREMENT

LIMIT AND CALCULATION METHOD

According to 447498 D04 Interim General RF Exposure Guidance v01,

2.1.4 MPE-Based Exemption

An alternative to the SAR-based exemption is provided in § 1.1307(b)(3)(i)(C), for a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to λ/2π, where λ is the free-space operating wavelength in meters. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power.10 For this case, a RF source is an RF exempt device if its ERP (watts) is no more than a frequency-dependent value, as detailed tabular form in Appendix B. These limits have been derived based on the basic specifications on Maximum Permissible Exposure (MPE) considered for the FCC rules in § 1.1310(e)(1).

MPE-based Exemption

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

$$P_{\text{th}}\ (\text{mW}) = \begin{cases} ERP_{20\ \text{cm}}(d/20\ \text{cm})^x & d \le 20\ \text{cm} \\ ERP_{20\ \text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases} \qquad (\text{B.2})$$

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 ERP_{20cm} is per Formula (B.1).

CALCULATED RESULTS

For Single RF Source

Operating Mode	Max. Tune up Power	Max. Antenna Gain	EIRP	ERP	ERP	Distance	Limit Threshold
	(dBm)	(dBi)	(dBm)	(dBm)	(mW)	(cm)	(mW)
BLE/BT	15.5	5.5	21	18.85	76.736	20	3060
ZigBee	20.5	5.5	26	23.85	242.661	20	3060
WIFI 2.4G	21	5.7	26.7	24.55	285.102	20	3060
WIFI 5G	20	5.8	25.8	23.65	231.739	20	3060
WIFI 6G	12.5	5.8	18.3	16.15	41.210	20	3060
Low Power Wide band Radio in 5GHz (5.8G)	10.09	5.5	15.59	13.44	22.080	20	3060

Worst case Simultaneous Operations

Operating Mode	ERP	Limit Threshold	Ratio	Sum of Ratios	Limit of Ratios
	(mW)	(mW)			
WIFI 2.4G	285.102	3060	0.09317	0.1689	1
ZigBee	242.661	3060	0.07573		

Note:
1. The calculated distance is 20 cm.
2. The power comes from operation description.
3. Only WIFI 2.4G & BT, WIFI 2.4G & Zigbee, WIFI 5G & BT, WIFI 5G & Zigbee, WIFI 6G & BT, WIFI 6G & Zigbee, Low Power Wide band Radio in 5GHz (5.8G) & BT, Low Power Wide band Radio in 5GHz (5.8G) & Zigbee can transmit simultaneously. (declared by client)
4. For Low Power Wide band Radio in 5GHz (5.8G), based on Maximum Field Strength is 110.49dBuV/m@3m of ANT4, EIRP = 110.79 – 95.2 dBm = 15.59 dBm, Conducted Power = 15.59 – 5.5 = 10.09 dBm.

END OF REPORT