



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460803

Page: 1 of 7

RF EXPOSURE EVALUATION REPORT

Application No.: SZCR2412004608ET (SGS SZ NO.: T52410360025EM)
Applicant: Cayman Luca, LLC
Address of Applicant: 551 Becker Dr., Roanoke Rapids, North Carolina 27870, United States
Manufacturer/ Importer: Tingle Bear Company
Supplier: KINDER TOYS COMPANY LIMITED
Equipment Under Test (EUT):
EUT Name: TINGLEBEAR
Item No.: TB1BL001
Country of Origin: China
Country of Destination: USA
Requested Age Grading: 0+
FCC ID: 2BMW8TB-001
Standard(s) : 47 CFR PART 1, Subpart I, Section 1.1310
47 CFR PART 2, Subpart J, Section 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2024-12-06
Date of Evaluation: 2024-12-12 to 2024-12-18
Date of Issue: 2024-12-30

Evaluation Result:

Pass*

* In the configuration evaluated, the EUT complied with the standards specified above.

Kenx. Xu

Kenx Xu
EMC Laboratory Manager



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Report No.: SZCR241200460803

Page: 2 of 7

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-12-30		Original

Authorized for issue by:				
		Martin Tang		
		Martin Tang/Project Engineer		
		Eric Fu		
		Eric Fu/Reviewer		

2 Contents

	Page
1 Cover Page	1
2 Contents	3
3 General Information	4
3.1 General Description of E.U.T.	4
3.2 Details of E.U.T.	4
3.3 Separation Distance	5
3.4 Test Location	5
3.5 Test Facility	5
3.6 Deviation from Standards	5
3.7 Abnormalities from Standard Conditions	5
4 Technical Requirements Specification	6
4.1 RF Exposure Evaluation	6
4.1.1 Limit & Test Method	6
4.1.2 Conclusion	6
5 EUT Constructional Details (EUT Photos)	7



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3 General Information

3.1 General Description of E.U.T.

Product Type:	<input checked="" type="checkbox"/> Portable device
	<input type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

3.2 Details of E.U.T.

Power supply:	Rechargeable battery DC3.7V,4000mAh,14.8Wh ,Charged by DC 5V
Cable(s):	USB cable:about 100cm unshielded
BT:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.1 Classic
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	PCB Antenna
Antenna Gain:	2.5dBi
BLE:	
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V5.1 LE
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Data Rate:	1Mb/s
Antenna Type:	PCB Antenna
Antenna Gain:	2.5dBi

Remark:The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

3.3 Separation Distance

Minimum test separation distance:	5mm
Remark: This minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.	

3.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

3.5 Test Facility

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

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISCED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

3.6 Deviation from Standards

None

3.7 Abnormalities from Standard Conditions

None



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4 Technical Requirements Specification

4.1 RF Exposure Evaluation

4.1.1 Limit & Test Method

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})]}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation¹⁷
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

4.1.2 Conclusion

For BT:

The Max. power (including tune-up tolerance) is 1.81 dBm on the highest channel 2.402 GHz (*)
1.81 dBm logarithmic terms convert to numeric result is nearly 1.52 mW

According to the formula, calculate the test exclusion thresholds:

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})]}{[\sqrt{f(\text{GHz})}]}$$

$$\text{General RF Exposure} = (1.52 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.47 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$(1) < (2)$

So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR241200460801

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460803

Page: 7 of 7

For BLE:

The Max. power (including tune-up tolerance) is 0.38 dBm on the highest channel 2.44 GHz (*)
0.38 dBm logarithmic terms convert to numeric result is nearly 1.09 mW

According to the formula, calculate the test exclusion thresholds:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$$

$$[\sqrt{f(\text{GHz})}]$$

$$\text{General RF Exposure} = (1.09 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.44 \text{ GHz}} = 0.34 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(*) Max. power refer to Report No.: SZCR241200460802

5 EUT Constructional Details (EUT Photos)

Refer to Appendix_ external and internal photos for SZCR2412004608ET

--End of the Report--



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