



RF Exposure Evaluation

For

Guangzhou BDE Technology Inc.

BDE Multi-Protocol Sub-1GHz Wireless Module Based on CC1312R

Test Model: BDE-RFM206

Additional Model No.: BDE-RFM206-IN

Prepared for : Guangzhou BDE Technology Inc.
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Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : June 03, 2026
Number of tested samples : 2
Sample No. : A260528004-1, A260528004-2
Serial number : Prototype
Date of Test : June 03, 2026 ~ September 08, 2026
Date of Report : September 09, 2026



**RF Exposure Evaluation****Report Reference No.** : LCSA06016005EB**Date of Issue** : September 09, 2026**Testing Laboratory Name** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Address** : 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China**Testing Location/ Procedure** : Full application of Harmonised standards ☒
Partial application of Harmonised standards ☐
Other standard testing method ☐**Applicant's Name** : Guangzhou BDE Technology Inc.**Address** : B2-403, Chuangyi Building, 162 Science Avenue, Huangpu District, Guangzhou 510663, China**Test Specification****Standard** : FCC KDB publication 447498 D01 General RF Exposure Guidance v06
FCC CFR 47 part1 1.1310
FCC CFR 47 part2 2.1093**Test Report Form No.** : TRF-4-E-214 A/0**TRF Originator** : Shenzhen LCS Compliance Testing Laboratory Ltd.**Master TRF** : Dated 2011-03**Shenzhen LCS Compliance Testing Laboratory Ltd. All rights reserved.**

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EUT Description : BDE Multi-Protocol Sub-1GHz Wireless Module Based on CC1312R**Trade Mark** : N/A**Test Model** : BDE-RFM206**Ratings** : Please Refer to Page 6**Result** : Pass**Compiled by:****Supervised by:****Approved by:**

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RF Exposure Evaluation

Test Report No. : LCSA06016005EB	<u>September 09, 2026</u> Date of issue
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Test Model.....	: BDE-RFM206
EUT.....	: BDE Multi-Protocol Sub-1GHz Wireless Module Based on CC1312R
Applicant.....	: Guangzhou BDE Technology Inc.
Address.....	: B2-403, Chuangyi Building, 162 Science Avenue, Huangpu District, Guangzhou 510663, China
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Test Result:	Pass
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	September 09, 2026	Initial Issue	---



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**1. Product Information**

EUT	: BDE Multi-Protocol Sub-1GHz Wireless Module Based on CC1312R
Test Model	: BDE-RFM206
Additional Model No.	: BDE-RFM206-IN
Model Declaration	: See model list
Ratings	: DC 3.3V
Hardware Version	: V1.0
Software Version	: V1.0
Frequency Range	: 50kbps, 100kbps: 902.2MHz ~ 927.8MHz 150kbps, 200kbps: 902.4MHz ~ 927.6MHz
Equipment Type	: FHSS
Channel Number	: 129 Channels (50kbps, 100kbps) 64 Channels (150kbps, 200kbps)
Modulation Type	: 2-GFSK
Antenna Description	: PCB Antenna, -7.08dBi(Max.)
Exposure category	: General population/uncontrolled environment
EUT Type	: Production Unit
Note: For a more detailed antenna description, please refer to the antenna specifications or the antenna report provided by the customer.	

Model list:

Model Name	FCC ID	Part Number	Flash	ROM	Antenna Options	Operating Temperature(°C)
BDE-RFM206	2ABRU-RFM206	BDE-RFM206	352KB	256KB	PCB Antenna	-40~85
		BDE-RFM206-IN				-40~105

Identities and differences:

The above models have same PCB board and structure, The differences between the above models mainly lie in the operating temperature.





2. Evaluation Method

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: “Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The 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 (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.”

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

- f (GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

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 according to f) in section 4.1 is applied to determine SAR test exclusion.

When one of the following test exclusion conditions is satisfied for all combinations of simultaneous transmission configurations, further equipment approval is not required to incorporate transmitter modules in host devices that operate in the mixed mobile and portable host platform exposure conditions. The grantee is responsible for documenting this according to Class I permissive change requirements. Antennas that qualify for standalone SAR test exclusion must apply the estimated standalone SAR to determine simultaneous transmission test exclusion.

a) The $[\sum \text{ of (the highest measured or estimated SAR for each standalone antenna configuration, adjusted for maximum tune-up tolerance) } / 1.6 \text{ W/kg}] + [\sum \text{ of MPE ratios}] \leq 1.0$.

b) The SAR to peak location separation ratios of all simultaneously transmitting antenna pairs operating in portable device exposure conditions are all ≤ 0.04 , and the $[\sum \text{ of MPE ratios}] \leq 1.0$.

3. Limit

3. 1 Refer Evaluation Method

[ANSI C95.1–1999](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

[FCC KDB publication 447498 D01 General RF Exposure Guidance v06](#): Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1093](#): Radiofrequency radiation exposure evaluation: portable devices



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**4. Conducted Power**

Mode	Channel	Frequency (MHz)	Peak Conducted Output Power (dBm)
50kbps	0	902.2	13.426
	64	915.0	13.492
	128	927.8	13.386
100kbps	0	902.2	13.435
	64	915.0	13.494
	128	927.8	13.409
150kbps	0	902.4	13.447
	32	915.2	13.518
	63	927.6	13.411
200kbps	0	902.4	11.244
	32	915.2	13.513
	63	927.6	13.409

5. Manufacturing Tolerance

2-GFSK 50kbps(Peak)			
Channel	Channel 0	Channel 64	Channel 128
Target (dBm)	13.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
2-GFSK 100kbps(Peak)			
Channel	Channel 0	Channel 64	Channel 128
Target (dBm)	13.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
2-GFSK 150kbps(Peak)			
Channel	Channel 0	Channel 32	Channel 63
Target (dBm)	13.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
2-GFSK 200kbps(Peak)			
Channel	Channel 0	Channel 32	Channel 63
Target (dBm)	11.0	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

6. Evaluation Results**6.1 10-g extremity SAR Test Exclusion Evaluation**

Frequency (MHz)	Antenna Distance (mm)	RF output power		10-g extremity SAR Test Exclusion Threshold	SAR Test Exclusion
		dBm	mW		
902-928	5	14.0	25.1189	4.7660 < 7.5	Yes

Remark:

1. Output power including tune up tolerance;
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to f) in section 4.1 is applied to determine SAR test exclusion.
3. According to the manufacturer's user manual, the module is approved for use only in host devices classified as limb-worn devices; therefore, it is evaluated against the 10-g extremity SAR test exclusion limits specified in KDB 447498 D01 v06.





6.2 REFERENCE INFORMATION

Maximum Antenna Gain: -7.08Bi

the conducted power is maximum compare with EIRP or ERP; the conducted power including power tolerance is 14.0dBm

SAR evaluation is not considered if separation distance between antenna installed in host and human body is higher than or equal to minimum separation distance as below:

Frequency (MHz)	Maximum RF output power		Minimum separation distance (mm)
	(dBm)	(mW)	FCC KDB 447498 D01
902-928	14.0	25.1189	10

6.3 Simultaneous Transmission MPE Evaluation

The EUT equipped with one antenna. So no need consider simultaneous transmission.

7. Conclusion

The Evaluation results comply with the 10-g extremity SAR Exclusion Threshold per KDB 447498 D01 v06.

8. Description of Test Facility

NVLAP Accreditation Code is 600167-0.

FCC Designation Number is CN5024.

CAB identifier is CN0071.

CNAS Registration Number is L4595.

Test Firm Registration Number: 254912.

9. Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Output power	:	1GHz-40GHz	±0.57dB	(1)

(1). This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

-----THE END OF REPORT-----

