

TEST REPORT

FCC SAR Exclusion Report for BT Dongle Certification

APPLICANT

Goonies Co., Ltd.

REPORT NO.

HCT-SR-2305-FC022

DATE OF ISSUE

May 31, 2023

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TEST REPORT

FCC BT LE Test for
BT Dongle

REPORT NO.

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Applicant

Goonies Co., Ltd.

46, Dallaenae-ro, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

EUT Type Model Name

BT Dongle

BT Dongle

FCC ID

2BA5PBDONGLE

FCC Classification

Digital Transmission System(DTS)

FCC Rule Part(s)

47CFR §2.1093

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

This test results were applied only to the test methods required by the standard.

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	May 31, 2023	Initial Release

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

Test Report Statement:

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme) / A2LA(American Association for Laboratory Accreditation), which signed the ILAC-MRA

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr



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1. EUT DESCRIPTION

Model Name	BT Dongle
EUT Type	BT Dongle
Power Supply	DC 3.30 V
Frequency Range	2 402 MHz – 2 480 MHz
Max. Target Power	-14 dBm (0.04 mW) (including tolerance)
Modulation Type	GFSK
Number of Channels	40 Channels
Antenna Specification	Antenna type: Chip Antenna Type Peak Gain: 0.50 dBi
Bluetooth Version	4.0
EUT Serial Numbers	Radiated: 000001 Conducted: 000002
Note	-

2. TEST METHODOLOGY

2.1 FCC

Body SAR for Test Exclusions Applied _Bluetooth LE

The module is a wireless device mounted near the vehicle's console box and has a minimum separation distance of 5 mm from the user in the vehicle. Please check the technical document for details.

- Closest distances antenna molding to inside of center console (passenger side): 5 mm

Per FCC KDB 447498 D01 General RF Exposure Guidance v06 sec.4.3.1. Standalone SAR test exclusion considerations:

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.

According to the FCC KDB 447498 D01 v06 section 4.3.1,b) for 100 MHz to 6 GHz and test separation distances > 50 mm.

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

The result is rounded to one decimal place for comparison

The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50) \cdot (f(\text{MHz})/150)]\}$ mW, for 100 MHz to 1500 MHz

2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz.

Calculation Result:

Tx frequency range: 2 402 MHz ~ 2 480 MHz

Body SAR Consideration Min. separation distance: 5 mm

Maximum Ave. Output Power: 0.04 mW

The Highest RF channel frequency: 2 480 MHz

Mode	Frequency	Maximum Allowed Power	Separation Distance	≤ 3.0 for 1 g SAR
	[MHz]	[mW]	[mm]	
Bluetooth LE	2 480	0.04	5	0.013

Based on the maximum output power of Bluetooth and antenna to use separation distance, Bluetooth SAR Test was not required.

***Note:** "The test exclusion conditions of the SAR test were satisfied by evaluating the exemption threshold power according to the FCC KDB 447498 D01v06, sec.4.3.1."