

RF Exposure Evaluation Report

Report Reference No......: **MTEB22111612-H**

FCC ID.....: **2A9FZ-HMBT01**

Compiled by

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Supervised by

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Date of issue.....: **November 23,2022**

Representative Laboratory Name .: **Shenzhen Most Technology Service Co., Ltd.**

Address: No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park,
Nanshan, Shenzhen, Guangdong, China.

Applicant's name.....: **AllInOne Smart IOT TECHNOLOGY CO.,LTD**

Address: D215, Building D, Hongwan Business Centre, Gushu Community,
Xixiang Street,Baoan District, Shen Zhen

Test specification/ Standard: **47 CFR Part 1.1307**

47 CFR Part 2.1093

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description: ALL_IN_ONE HMBT01

Trade Mark: N/A

Manufacturer: AllInOne Smart IOT TECHNOLOGY CO.,LTD

Model/Type reference.....: ALL_IN_ONE HMBT01

Listed Models: N/A

Modulation Type: GFSK

Operation Frequency.....: From 2402MHz to 2480MHz

Hardware Version.....: V1.0

Software Version: V1.0

Rating: DC 3.7V by Battery

Result.....: **PASS**

TEST REPORT

Equipment under Test : ALL_IN_ONE HMBT01

Model /Type : ALL_IN_ONE HMBT01

Listed Models : N/A

Remark : N/A

Applicant : AllInOne Smart IOT TECHNOLOGY CO.,LTD

Address : D215, Building D, Hongwan Business Centre, Gushu Community,
Xixiang Street,Baoan District, Shen Zhen

Manufacturer : AllInOne Smart IOT TECHNOLOGY CO.,LTD

Address : D215, Building D, Hongwan Business Centre, Gushu Community,
Xixiang Street,Baoan District, Shen Zhen

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.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2022-11-23	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

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 Exclusion Threshold condition, listed below, is satisfied.

2.1.2 Limits

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:

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

 ≤ 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 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

2.1.3 EUT RF Exposure

Measurement Data

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	4.210	4.210 ± 1	5.210
Middle(2441MHz)	4.011	4.011 ± 1	5.011
Highest(2480MHz)	4.023	4.023 ± 1	5.023

$\pi/4$ DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	4.162	4.162 ± 1	5.162
Middle(2441MHz)	4.360	4.360 ± 1	5.360
Highest(2480MHz)	4.101	4.101 ± 1	5.101

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	4.300	4.300 ± 1	5.300
Middle(2441MHz)	4.125	4.125 ± 1	5.125
Highest(2480MHz)	4.251	4.251 ± 1	5.251

Worst case: $\pi/4$ DQPSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Middle(2441MHz)	4.360	5.360	3.43	1.07	3.0	Yes

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	3.013	3.013 ± 1	4.013
Middle(2440MHz)	3.415	3.415 ± 1	4.415
Highest(2480MHz)	3.031	3.031 ± 1	4.031

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Middle(2440MHz)	3.415	4.415	2.76	0.86	3.0	Yes

.....THE END OF REPORT.....