

RF Exposure Evaluation Report

Report Reference No......: **MTEB23090025-H**

FCC ID.....: **YMX-ATS2853**

Compiled by
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Date of issue.....: **Sep.04,2023**

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

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Nanshan, Shenzhen, Guangdong, China.

Applicant's name.....: **XIAMEN COMFORT SCIENCE & TECHNOLOGY GROUP
CO., LTD.**

Address: (5/F)NO.168, QIANPU ROAD, SIMING DISTRICT,
XIAMEN, Fujian CHINA

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: Bluetooth Module

Trade Mark: N/A

Model/Type reference.....: ATS2853

Listed Models: N/A

Modulation Type: GFSK, $\pi/4$ DQPSK, 8DPSK
GFSK

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

Hardware Version.....: V0.2

Software Version: V2.14

Rating: DC 3.8V

Result.....: PASS

TEST REPORT

Equipment under Test : Bluetooth Module

Model /Type : ATS2853

Listed Models : N/A

Remark : N/A

Applicant : **XIAMEN COMFORT SCIENCE & TECHNOLOGY GROUP CO., LTD.**

Address : (5/F)NO.168, QIANPU ROAD,SIMING DISTRICT,XIAMEN, Fujian CHINA

Manufacturer : **Xiamen Healthcare Electronic Co.,Ltd.**

Address : 65-66#, 62-63# BUILDING, SIMING ZONE, TONGAN INDUSTRIAL DISTRICT, XIAMEN CITY, FUJIAN PROVINCE, P.R.CHINA

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	2023.09.04	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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$
 ≤ 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)	2.930	2.930 ± 1	3.93
Middle(2441MHz)	0.658	0.658 ± 1	1.658
Highest(2480MHz)	-3.214	-3.214 ± 1	-2.214

π /4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.373	1.373 ± 1	2.373
Middle(2441MHz)	-0.941	-0.941 ± 1	0.059
Highest(2480MHz)	-3.870	-3.870 ± 1	-2.87

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.332	1.332 ± 1	2.332
Middle(2441MHz)	-0.717	-0.717 ± 1	0.283
Highest(2480MHz)	-3.858	-3.858 ± 1	-2.858

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2402MHz)	2.930	3.93	2.47	0.76	3.0	Yes

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.634	2.634 ± 1	3.634
Middle(2440MHz)	2.666	2.666 ± 1	3.666
Highest(2480MHz)	2.878	2.878 ± 1	3.878

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold	SAR Test Exclusion
		(dBm)	(mW)			
Highest(2480MHz)	2.878	3.878	2.44	0.77	3.0	Yes

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