RF Exposure Evaluation Report

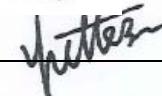|	
Report Reference No.....................:	**MTWC21120963-H**
FCC ID.. :	2A34L-MZ-BT01
Compiled by (position+printed name+signature)..:	File administrators Alisa Luo
Supervised by (position+printed name+signature)..:	Test Engineer Sunny Deng
Approved by (position+printed name+signature).:	Manager Yvette Zhou
Date of issue......................................:	**January 06, 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............................:	**HangZhou MoZhong Technology Co., Ltd.**
Address .... :	NO.32 XianXing Rd, XianLin Industrial Park,Yuhang Area, HangZhou, ZheJiang, China.
Test specification/ Standard ....:	**47 CFR Part 1.1307**
	47 CFR Part 1.1310
	KDB447498D01 General RF Exposure Guidance v06
TRF Originator..................................:	Shenzhen Most Technology Service Co., Ltd.
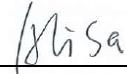
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Test item description ....:	F-6985 V2.0
Trade Mark ....:	C-CHIP
Manufacturer ....:	**SHENZHENSHI XINZHONGXIN TECHNOLOGY CO., LTD.**
Model/Type reference........................:	MZ-BT01
Listed Models ....:	N/A
Modulation Type ....:	GFSK, π/4DQPSK, 8DPSK
Operation Frequency........................:	From 2402MHz to 2480MHz for BT
Hardware Version..............................:	V1.0
Software Version ....:	V1.0
Rating ....:	DC5V
Result...:	**PASS**

T E S T   R E P O R T

Equipment under Test	:	F-6985 V2.0
Model /Type	:	MZ-BT01
Listed Models	:	N/A
Remark		N/A.
Applicant	:	**HangZhou MoZhong Technology Co., Ltd.**
Address	:	NO.32 XianXing Rd, XianLin Industrial Park,Yuhang Area, HangZhou, ZheJiang, China.
Manufacturer	:	**SHENZHENSHI XINZHONGXIN TECHNOLOGY CO., LTD.**
Address		Block 1, Dong Huan Industrial Park, NanPu Road, ShangLiao Community, XinQiao Street, Bao'an District, Shenzhen City, Guangdong Province, China.

Test Result:	PASS

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	2022.01.06	Initial Issue	Alisa Luo

1. Revision History

2．SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 Standard Requirement

According to §1.1307(e)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

KDB447498 D01: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

2.1.2 Limits

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $Pd = (Pout*G)/(4* Pi * R2)$ Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

Antenna Gain: 0dBi
Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.4 in linear scale. Output Power
Into Antenna & RF Exposure Evaluation Distance:

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.23	-1.23±1	-0.23
Middle(2441MHz)	-2.35	-2.35±1	-1.35
Highest(2480MHz)	-2.42	-2.42±1	-1.42

π/4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-1.55	-1.55±1	-0.55
Middle(2441MHz)	-3.02	-3.02±1	-2.02
Highest(2480MHz)	-2.41	-2.41±1	-1.41

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	-3.23	-3.23±1	-2.23
Middle(2441MHz)	-2.53	-2.53±1	-1.53
Highest(2480MHz)	-3.56	-3.56±1	-2.56

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402	0.289	0.289±1	1.289
Middle(2440MHz)	0.288	0.288±1	1.288
Highest(2480MHz)	0.123	0.123±1	1.123

BT classic

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Highest(2402 MHz)	-0.23	0.95	0	0.0002	1.0	Pass

Note: 1) Refer to report **MTWC21120963-R2** for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(0.95*1)/(4*3.1416*20^2)=0.0002

BLE

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Maximum Peak Conducted Output Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Highest(2402 MHz)	1.289	1.35	0	0.0003	1.0	Pass

Note: 1) Refer to report **MTWC21120963-R1** for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(1.35*1)/(4*3.1416*20^2)=0.0003

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