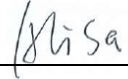

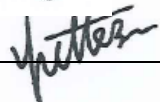




RF Exposure Evaluation Report

Report Reference No.	MTEB23090179-H	
FCC ID	2BA3N-BIPCR2	
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.....	Sep.19,2023	
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	Shandong New Beiyang Information Technology Co.,Ltd	
Address	169 Huoju Road, HDZ, Weihai, Shandong, 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.	
Shenzhen Most Technology Service Co., Ltd. All rights reserved.		
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Test item description	Fanless Embedded Android Computer	
Trade Mark	SNBC	
Model/Type reference.....	BIPC-R200	
Listed Models	N/A	
Modulation Type	b: DSSS ,CCK ; g/n: BPSK,QPSK,QAM GFSK/ GFSK, π/4DQPSK, 8DPSK	
Operation Frequency	From 2412MHz~2462MHz 2402MHz to 2480MHz	
Hardware Version.....	V1.2	
Software Version	2023.05.24	
Rating	DC 12V	
Result.....	PASS	

TEST REPORT

Equipment under Test : Fanless Embedded Android Computer

Model /Type : BIPC-R200

Listed Models : N/A

Remark : N/A.

Applicant : Shandong New Beiyang Information Technology Co.,Ltd

Address : 169 Huoju Road, HDZ, Weihai, Shandong, China

Manufacturer : Shandong New Beiyang Information Technology Co.,Ltd

Address : 169 Huoju Road, HDZ, Weihai, Shandong, 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	2023-09-19	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

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	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/f ²)	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/f ²)	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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$ Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d is 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

WIFI and BT do not support simultaneous transmission.

Antenna Gain: 1.91dBi

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

BLE

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402)	2.762	2.762 ± 1	3.762
Middle(2440MHz)	2.799	2.799 ± 1	3.799
Highest(2480MHz)	2.976	2.976 ± 1	3.976

BLE

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Middle(2480MHz)	3.976	2.50	1.91	0.00077	1.0	Pass

Note: 1) Refer to report MTEB23090179-R for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (2.50 * 1.55) / (4 * 3.1416 * 20^2) = 0.00077$

WIFI 2.4G

802.11b			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	11.47	11.47 ± 1	12.47
Middle(2437MHz)	11.47	11.47 ± 1	12.47
Highest(2462MHz)	11.80	11.80 ± 1	12.8

802.11g			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	11.76	11.76±1	12.76
Middle(2437MHz)	11.83	11.83±1	12.83
Highest(2462MHz)	12.04	12.04±1	13.04

802.11n(H20)			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2412MHz)	12.10	12.10±1	13.1
Middle(2437MHz)	10.98	10.98±1	11.98
Highest(2462MHz)	11.84	11.84±1	12.84

WIFI 2.4G

Worst case: 802.11n(H20)						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Middle(2412MHz)	13.1	20.42	1.91	0.00629	1.0	Pass

Note: 1) Refer to report MTEB23090179-R2 for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (20.42 * 1.55) / (4 * 3.1416 * 20^2) = 0.00629$

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	2.768	2.768±1	3.768
Middle(2441MHz)	0.063	0.063±1	1.063
Highest(2480MHz)	-4.627	-4.627±1	-3.627

π /4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	1.860	1.860 ± 1	2.86
Middle(2441MHz)	-0.737	-0.737 ± 1	0.263
Highest(2480MHz)	-5.310	-5.310 ± 1	-4.31

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power
			(dBm)
Lowest(2402MHz)	0.460	0.460 ± 1	1.46
Middle(2441MHz)	1.594	1.594 ± 1	2.594
Highest(2480MHz)	0.872	0.872 ± 1	1.872

Worst case: GFSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit	Result
Highest(2402 MHz)	3.768	2.38	1.91	0.00073	1.0	Pass

Note: 1) Refer to report MTEB23090179-R1 for EUT test Max Conducted average Output Power value.

Note: 2) $P_d = (P_{out} * G) / (4 * \pi * R^2) = (2.38 * 1.55) / (4 * 3.1416 * 20^2) = 0.00073$

Note: 3) EUT's Bluetooth module is more than 20cm away from the human body.

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