

RF EXPOSURE Test Report

Report No. : MTi251015011-0102E4
Date of issue : 2025-11-04
Applicant : Shenzhen Bexile Technology Co., Ltd
Product : wireless carplay adapter
Model(s) : B11, B01, B12, B16, B18, C12, C16, C18, M1, Q1J,
G08, EC28
FCC ID : 2BSAT-B11

Shenzhen Microtest Co., Ltd.

TEST REPORT

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Table of contents

1	RF EXPOSURE EVALUATION	4
2	Measurement Result	5

Test Result Certification		
Applicant	Shenzhen Bexile Technology Co., Ltd	
Applicant Address	2F205, Building A, No. 5 Minle Road, Pinghu Community, Pinghu Street, Longgang District, Shenzhen	
Manufacturer	Shenzhen Bexile Technology Co., Ltd	
Manufacturer Address	2F205, Building A, No. 5 Minle Road, Pinghu Community, Pinghu Street, Longgang District, Shenzhen	
Factory	Shenzhen Bexile Technology Co., Ltd	
Factory Address	2F205, Building A, No. 5 Minle Road, Pinghu Community, Pinghu Street, Longgang District, Shenzhen	
Product description		
Product name	wireless carplay adapter	
Trademark	N/A	
Model name	B11	
Series Model(s)	B01, B12, B16, B18, C12, C16, C18, M1, Q1J, G08, EC28	
Standards	47 CFR Part 2.1091	
Test method	KDB 447498 D01 v06	
Testing Information		
Date of test	2025-10-27 to 2025-10-30	
Test Result	Pass	
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Approved by:	Lewis Lian	<i>Lewis Lian</i>

1 RF EXPOSURE EVALUATION

According to FCC 1.1310: 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 §1.1307(b)

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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

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

2 Measurement Result

BT:

Operation Frequency: 2402-2480MHz,
Power density limited: 1mW/ cm²

Antenna Type: PCB antenna

Antenna gain: 4.29dBi

R=20cm

$mW=10^{(dBm/10)}$

Antenna gain Numeric= $10^{(dBi/10)}=10^{(4.29/10)}=2.69$

BT:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
		(dBm)		tune-up power (dBm)	(mW)	Gain (dBi)	Numeric		
2402	GFSK	0.36	0±1	1	1.259	4.29	2.69	0.0007	1
2441		-0.32	0±1	1	1.259	4.29	2.69	0.0007	1
2480		-1.67	-1±1	0	1.000	4.29	2.69	0.0005	1
2402	π/4-DQPSK	0.64	0±1	1	1.259	4.29	2.69	0.0007	1
2441		-0.09	0±1	1	1.259	4.29	2.69	0.0007	1
2480		-1.38	-1±1	0	1.000	4.29	2.69	0.0005	1
2402	8DPSK	1.11	1±1	2	1.585	4.29	2.69	0.0008	1
2441		0.52	0±1	1	1.259	4.29	2.69	0.0007	1
2480		-0.90	0±1	1	1.259	4.29	2.69	0.0007	1

2.4G WIFI:

Operation Frequency: WIFI 802.11b: 2412-2462MHz,
Power density limited: 1mW/ cm²

Antenna Type: PCB antenna

Antenna gain: 4.29dBi

R=20cm

$mW=10^{(dBm/10)}$

Antenna gain Numeric= $10^{(dBi/10)}=10^{(4.29/10)}=2.69$

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna	Evaluation result at 20cm	Power density Limits (mW/cm ²)
		(dBm)		tune-up power (dBm)	(mW)	Gain Numeric	Power density(mW/cm ²)	
2412	802.11b	24.23	24±1	25	316.228	2.69	0.1689	1
2437		22.84	22±1	23	199.526	2.69	0.1066	1
2462		23.02	23±1	24	251.189	2.69	0.1342	1

802.11A:

U-NII Band 1: 5180MHz to 5240MHz;

U-NII Band 3: 5745MHz to 5825MHz;

ANT Gain: U-NII Band 1: 0.6dBi; U-NII Band 3: 2.67dBi;

Power density limited: 1mW/ cm2

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power (dBm)	(mW)	Gain Numeric	Power density(mW/cm2)	(mW/cm2)
5180	11A	14.95	14±1	15	31.623	1.15	0.0072	1
5200		15.02	15±1	16	39.811	1.15	0.0091	1
5240		14.54	14±1	15	31.623	1.15	0.0072	1
5745		13.71	13±1	14	25.119	1.85	0.0092	1
5785		12.31	12±1	13	19.953	1.85	0.0073	1
5825		13.63	13±1	14	25.119	1.85	0.0092	1

Conclusion:

SIMULTANEOUS TRANSMISSIONS

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE. To comply with the MPE, the fraction of the MPE in terms of E2, H2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity. In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

Simultaneous transmit:

Operating Band	The MPE ratio
BR&EDR	0.0008
2.4G WIFI	0.1689
5G WIFI	0.0092

So the simultaneous transmitting antenna pairs as below:

BR&EDR +2.4G WIFI = 0.0008+ 0.1689=0.1697

For the max result: 0.1697≤ 1.0, No SAR is required.

Statement

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***** END OF REPORT *****