



FCC TEST REPORT

FCC ID: 2BTTG-D221

Product	:	D221
Model Name	:	D221
Brand	:	Desloc
Report No.	:	PTC25121907811E-FC04
Prepared for		
Hangzhou Key to the Future Technology Co., Ltd.		
Room 102-2, Building 1, No. 7 Jianghui South Road, Changhe Street, Binjiang District, Hangzhou City, Zhejiang Province, China, 310051		
Prepared by		
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TEST RESULT CERTIFICATION

Applicant's name : Hangzhou Key to the Future Technology Co., Ltd.
Address : Room 102-2, Building 1, No. 7 Jianghui South Road, Changhe Street, Binjiang District, Hangzhou City, Zhejiang Province, China, 310051
Manufacture's name : Zhejiang Desman Intelligent Technology Co., LTD
Address : Floor 1-3, Building 1, No.7 Jianghui South Road, Binjiang District, Hangzhou City, Zhejiang Province, China, 310051
Product name : D221
Model name : D221
Test procedure : FCC CFR47 Part 1.1307(b)(1)
Test Date : Apr. 15, 2026 to Apr. 26 2026
Date of Issue : Apr. 26 2026
Test Result : PASS

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Engineer:

A handwritten signature in black ink, appearing to read 'Jack Zhou'.

Jack Zhou / Engineer

Technical Manager:

A handwritten signature in black ink, appearing to read 'Simon Pu'.

Simon Pu / Manager



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Report No.: PTC25121907811E-FC04

2 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	15.247 (i)	PASS
Remark:		
N/A: Not Applicable		



3 General Information

3.1 General Description of E.U.T.

Product Name	:	D221
Model Name	:	D221
Specification	:	WiFi 2.4G: 2412-2462MHz BLE: 2402-2480MHz NFC: 13.56MHz
Power supply	:	Input:DC4.8-6V, 200mA
Hardware Version	:	N/A
Software Version	:	N/A



4 RF Exposure

Test Requirement : FCC Part 1.1307(b)(1)

Evaluation Method : KDB 447498 D01 General RF Exposure Guidance v06

4.1 Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

4.2 The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

Frequency Range	Electric Field	Magnetic Field	Power Density (S)	Averaging Time
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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



4.3 MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = \frac{30 \times P \times G}{377 \times d^2} \theta \phi$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

4.4 Test Result

For NFC:

Refer to the test report PTC25121907811E-FC03, the measured maximum E Fields is 48.84dBuV/m@3m =-46.36 dBm EIRP.

Mode	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
2402(BLE_2M)	-16.4	0.0229	0.80	0.80±1	1.5136	0.00001	1	Pass
2437(11G)	2.53	1.7906	14.19	14.19±1	33.0370	0.01177	1	Pass
NFC	0	1.00	-46.36	-46.36±1	0.00003	0.00000	0.979	Pass

4.5 simultaneous MPE Result

2.4G WIFI MPE ratio	BLE MPE ratio	NFC MPE ratio	Simultaneous MPE ratio	MPE Limits ratio	Test result
0.01177	0.00001	0.00000	0.01178	1	PASS

Conclusion:

Both of the 2.4G WIFI,BLE and NFC can transmit simultaneously, the formula of calculated the exposure is:

(CPD1/LPD1)+(CPD2/LPD2)+.....etc.<1

CPD=Calculation Power Density; LPD= Limit of Power Density

Therefore, the calculation of this situation is (0.01177/1) +(0.00001/1) + (0.000000/0.979)=0.01178.

which is less than the "1" limit.

*****THE END REPORT*****