



FCC TEST REPORT

FCC ID: 2BOLB-BERT110AP

Product	:	WLAN SMART PLUG
Model Name	:	BERT110AP
Brand	:	N/A
Report No.	:	PTC25033100801E-FC04
Prepared for		
Best Energy Reduction Technologies LLC		
489 Devon Park Drive Suite 302, Wayne, PA 19087, United States		
Prepared by		
Precise Testing & Certification Co., Ltd.		
Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.		



TEST RESULT CERTIFICATION

Applicant's name : Best Energy Reduction Technologies LLC

Address : 489 Devon Park Drive Suite 302, Wayne, PA 19087, United States

Manufacture's name : NIE-TECH Co., Ltd

Address : Jinlian commercial center 9001, Jinxiu road No.2, ChanganTown,Dongguan City, GuangDongProv., CHINA

Product name : WLAN SMART PLUG

Model name : BERT110AP

Test procedure : FCC CFR47 Part 1.1307(b)(1)

Test Date : Apr. 02, 2025 to Aug. 07, 2025

Date of Issue : Aug. 07, 2025

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.: PTC25033100801E-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	:	WLAN SMART PLUG
Model Name	:	BERT110AP
Specification	:	Bluetooth BLE 802.11b/g/n HT20/HT40 802.11a/n HT20/HT40
Operation Frequency	:	2412-2462MHz for 802.11b/g/ n(HT20) 2422-2452MHz for 802.11 n(HT40) 5G Wifi: 5180-5240MHz 5.8G Wifi: 5745-5825MHz
Number of Channel	:	40 channels For DTS 11 channels for 802.11b/g/ n(HT20) 7 channels for 802.11n(HT40) 4 channels for 802.11a/n20 5180-5240 MHz 5 channels for 802.11a/n20 5745MHz~5825MHz 2 channels for 802.11n40 5190-5230 MHz 2 channels for 802.11n40 5755MHz~5795MHz
Type of Modulation	:	GFSK, For DTS DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n/a
Antenna installation	:	PCB Antenna
Antenna Gain	:	2.4G:0.9dBi 5G:3.33 dBi
Power supply	:	Input: 125V 60Hz Output: 125V 15A 60Hz
Hardware Version	:	1.6
Software Version	:	3.5.4



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

Mode	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
2480(BLE_2 M)	1.23	8.44	8.44±1	8.7902	0.002151	1	Pass
2412(11G)	1.23	15.5	15.5±1	44.6684	0.010933	1	Pass
5240(11A)	2.15	13.77	13.77±1	29.9916	0.012845	1	Pass

Conclusion:

1. Calculate in the worst-case mode.
2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
3. Both WLAN and BT can't transmit simultaneously.

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