TEST REPORT

Product Name	:	Wireless Doorbell
Brand Mark	:	Defiant
Model No.	:	WLTRX-3015
FCC ID	:	BJ4-WLTRX3015
Report Number	:	BLA-EMC-202211-A0603
Date of Sample Receipt	:	2022/11/1
Date of Test	:	2022/11/1 to 2022/11/24
Date of Issue	:	2022/11/24
Test Standard	:	47 CFR Part 1.1307, Part 1.1310
Test Result	:	Pass

Prepared for:

HeathCo LLC.

2445 Nashville Road, Bowling Green, KY. 42101 USA

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

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Review by: Sweet

Approved by: Blue Zhong

Date: 2022/11/24

REPORT REVISE RECORD

Version No.	Date	Description
00	2022/11/24	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
RF Exposure	47 CFR Part 1.1307, Part 1.1310	CFR 47 Part 1.1310	CFR 47 Part 1.1310	PASS

2 GENERAL INFORMATION

Applicant	HeathCo LLC.
Address	2445 Nashville Road, Bowling Green, KY. 42101 USA
Manufacturer	HeathCo LLC.
Address	2445 Nashville Road, Bowling Green, KY. 42101 USA
Factory	N/A
Address	N/A
Product Name	Wireless Doorbell
Test Model No.	WLTRX-3015

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	V00
Software Version	V00

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20):11
Antenna Type:	PCB Antenna
Antenna gain:	Antenna:2.96dBi
Remark:The Antenna Gain is supplied by the customer.BlueAsia is not responsible for this data	

4 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

5 RF EXPOSURE COMPLIANCE REQUIREMENT

5.1 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: Pd = (Pout*G)/(4* Pi * R 2)
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.

5.2 TEST PROCEDURE

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

5.3 EUT RF EXPOSURE EVALUATION

Antenna Gain: 2.96dBi
Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.977 in linear scale.
Output Power Into Antenna & RF Exposure Evaluation Distance:

2.4G WIFI 802.11b(worst case):

Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit	Result
2437	14.73	29.71666	0.01169	1.0	PASS

Note: Refer to report No. BLA-EMC-202211-A0602 for EUT test Max Conducted Peak Output Power value.

The distance r (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation Requirement

----END OF REPORT----