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RF Exposure Evaluation Report

Report No.: CQASZ20260500959E-02

Applicant: Ultimea Technology (Shenzhen) Limited

Address of Applicant: 20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China

Equipment Under Test (EUT):

EUT Name: Wireless Subwoofer Adapter

Model No.: UG100

Test Model No.: UG100

Brand Name: ULTIMEA

FCC ID: 2A900-UG100G

Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB447498 D01 General RF Exposure Guidance v06

Date of Receipt: 2026-05-12

Date of Test: 2026-05-12 to 2026-06-17

Date of Issue: 2026-06-29

Test Result: **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo Lei
(Timo Lei)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20260500959E-02	Rev.01	Initial report	2026-06-29

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3 General Information

3.1 Client Information

Applicant:	Ultimea Technology (Shenzhen) Limited
Address of Applicant:	20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China
Manufacturer:	Ultimea Technology (Shenzhen) Limited
Address of Manufacturer:	20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China
Factory:	Zhong Shan City Richsound Electronic Industrial Ltd.
Address of Factory:	No 16, East ShaGang Road, GangKou Town, ZhongShan City, Guangdong, 528447, China

3.2 General Description of EUT

Product Name:	Wireless Subwoofer Adapter
Model No.:	UG100
Test Model No.:	UG100
Trade Mark:	ULTIMEA
Software Version:	14
Hardware Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Modulation Type:	GFSK
Number of Channel:	79
Product Type:	☒ Mobile ☐ Portable ☐ Fix Location
Test Software of EUT:	FCC_Tool_V3.01
Antenna Type:	PIFA antenna
Antenna Gain:	2.31dBi
Power Supply:	Powered by DC 5V for USB

4 RF Exposure Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 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: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

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.

4.1.2 Test Procedure

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

4.2 1.1.3 EUT RF Exposure Evaluation

1) For 2.4G SRD

$$EIRP = E_{Meas} + 20 \log(d_{Meas}) - 104.7$$

where

$EIRP$ is the equivalent isotropically radiated power, in dBm
 E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m
 d_{Meas} is the measurement distance, in m

Measurement Data

GFSK mode				
Test channel	EIRP (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-5.77	-5.5±1	-4.5	0.35
Middle(2441MHz)	-4.74	-4.5±1	-3.5	0.45
Highest(2480MHz)	-6.73	-6.5±1	-5.5	0.28

The worst case:

Maximum tune-up Power (mW)	Power Density at R = 20 cm (mW/cm²)	Limit	Result
0.45	0.0000895244	1.0	PASS

Note: 1) Refer to report No. CQASZ20260500959E-01 for EUT test Max EIRP value.

2) $Pd = (Pout * G) / (4 * \pi * R^2) = 0.45 / (4 * 3.1416 * 20^2) = 0.0000895244$