

# RF Exposure Evaluation of

E.U.T. : Bluetooth intercom headset  
Model No. : R1A  
Serial Model : R1+  
FCC ID : 2A3C2QR1

for

APPLICANT : Taiwan Protect Ltd.  
ADDRESS : NO. 337-1, Sec.1, Zhongyang Rd., Wuchi  
Dist., Taichung City 43546, Taiwan

Test Performed by

## **ELECTRONICS TESTING CENTER, TAIWAN**

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Report Number : 20-03-RBF-021-MPE

# TEST REPORT CERTIFICATION

Applicant : Taiwan Protect Ltd.  
NO. 337-1, Sec.1, Zhongyang Rd., Wuchi Dist., Taichung City 43546,  
Taiwan

Manufacturer : Taiwan Protect Ltd.  
NO. 337-1, Sec.1, Zhongyang Rd., Wuchi Dist., Taichung City 43546,  
Taiwan

## Description of EUT

- a) Type of EUT : Bluetooth intercom headset
- b) Trade Name : AiTouch
- c) Model No. : R1A
- d) Serial Model : R1+
- e) Power Supply : DC 3.7V
- f) Frequency Range : BR 2402~2480MHz  
EDR 2402~2480MHz  
BLE 2402~2480MHz

Regulation Applied : FCC KDB447498 D01. The equipment fulfills the requirements on power density for general population/uncontrolled exposure and therefore fulfills the requirements of section 1.1310 of FCC 47 CFR Part 1.

Note: 1. The result of the testing report relate only to the item tested.

2. The testing report shall not be reproduced expect in full, without the written approval of ETC

Date Test Item Received : 3/31/2020  
Date Test Campaign Completed : 8/10/2021  
Date of Issue : 11/2/2021

Test Engineer :

*Brian Huang*

(Brian Huang, Engineer)



Approve & Authorized Signer :

*Vincent Chang*

Vincent Chang, Supervisor  
EMC Dept. II

## Product Information:

Type of EUT: Bluetooth intercom headset

FCC ID: 2A3C2QR1

Model: R1A

Serial Model: R1+

Description: Motorcycle Helmet Bluetooth Headset

Maximum conducted output power (rated): **3.15 dBm or 2.065 mW**

The following table lists the provided authorized antennas:

Model	Antenna Type	Antenna Gain	
		(dBi)	Numeric
N/A	PIFA Antenna	1.0	1.26

Below is an example of the RF Exposure Statement:

**IMPORTANT NOTE:** To comply with the FCC RF exposure compliance requirements, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 0.5 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. No change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

## RF Exposure Evaluation

According to FCC KDB 447498 Section 4.3 - General SAR test exclusion guidance

For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[ \frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} \cdot \sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR,}$$

where

1. f(GHz) is the RF channel transmit frequency in GHz
2. Power and distance are rounded to the nearest mW and mm before calculation
3. The result is rounded to one decimal place for comparison
4. The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

Mode	Frequency Band (MHz)	Average Output Power (dBm)	Output Power (mW)	FCC Extremity SAR Test Exclusion Threshold (mW)	Antenna Gain (dBi)	EIRP (mW)	IC Extremity SAR Test Exclusion Threshold (mW)
BLE	2402-2480	3.15	2.065	25	1.0	2.60	10

## Conducted Test Equipment

Equipment	Manufacturer	Model No.	Calibration Date	Next Cal. Date
Spectrum Analyzer	Rohde & Schwarz	FSP40 (13040903-001)	2020/01/15	2021/01/14

## Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Uncertainty
Conducted Measurement	9kHz ~ 40GHz	$\pm 0.88\text{dB}$ ( $9\text{kHz} \leq f \leq 30\text{MHz}$ )
		$\pm 0.88\text{dB}$ ( $30\text{MHz} < f \leq 1\text{GHz}$ )
		$\pm 1.04\text{dB}$ ( $1\text{GHz} \leq f \leq 18\text{GHz}$ )
		$\pm 1.2\text{dB}$ ( $18\text{GHz} \leq f \leq 40\text{GHz}$ )

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

The test result(s) does not consider the uncertainty of measurement when the test standard(s) and/or test method which refer by the labs has the limit or judgments for the test result(s).

## Antenna Information

Antenna Type	Gain (dBi)
PCB	1.0

Note : The Antenna information was declared by manufacturer.