



1 Cover Page

RF Exposure Evaluation Report

Application No.: SHEM2106006437CR
FCC ID: 2A2IG-ACRRP001
IC: 27606-ACRRP001
Applicant: Appcessori Corporation
Address of Applicant: 915 Broadway ST, Suite 100, Vancouver, WA 98660, USA
Manufacturer: Appcessori Corporation
Address of Manufacturer: 915 Broadway ST, Suite 100, Vancouver, WA 98660, USA
Factory: Inventec Appliances(Pudong) Corporation
Address of Factory: No. 789 PuXing Road, Minhang Distract, Shanghai, 201114, China.
Equipment Under Test (EUT):
EUT Name: Rayz Rally Pro
Model No.: SP-01
Trade mark: Rayz
Standard(s) : FCC Rules 47 CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06
RSS-102 Issue 5 Amendment 1 (February 2, 2021)
Date of Receipt: 2021-06-22
Date of Test: 2021-06-23 to 2021-08-27
Date of Issue: 2021-08-31

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlan Zhan

Parlan Zhan
E&E Section Manager

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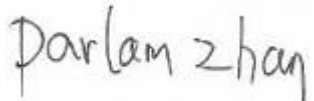
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Revision Record			
Version	Description	Date	Remark
00	Original	2021-08-31	/

Authorized for issue by:			
			
		Micheal Niu / Project Engineer	
			
		Parlam Zhan / Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 3.7V by Rechargeable Lithium ion Battery Pack Lithium ion Battery Pack charged by DC 5V Adapter Battery Model: AEC813548 Nominal Voltage: 3.7V Rated Capacity: 1600mAh
Test voltage:	AC 120V/60Hz
Serial Number:	POP214GLLP009M
Firmware version:	DVT3Ma4

3.2 Technical Specifications

BT

Antenna Gain:	0.5dBi(Provided by manufacturer)
Antenna Type:	Chip Antenna
Bluetooth Version:	V4.2 Dual mode
Channel Spacing:	1MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels:	79
Operation Frequency:	2402MHz to 2480MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)

BLE

Antenna Gain:	0.5dBi(Provided by manufacturer)
Antenna Type:	Chip Antenna
Bluetooth Version:	V4.2 Dual mode
Channel Spacing:	2MHz
Modulation Type:	GFSK
Number of Channels:	40
Operation Frequency:	2402MHz to 2480MHz



3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

CAB Identifier: CN0072.

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1600, C-1707, T-1499, G-10216 respectively.



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4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

4.2 IC Radiofrequency radiation exposure limits:

According to RSS-102 section 2.5.2, RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

For 2.4G device, the limit of worse case is 2.68 W



5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM210600634701&SHEM210600634702.

BT

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
GFSK	2402	2.18	1.65
	2441	1.18	1.31
	2480	-1.10	0.78
π /4DQPSK	2402	3.83	2.42
	2441	3.03	2.01
	2480	1.06	1.28
8DPSK	2402	4.35	2.72
	2441	3.59	2.29
	2480	1.64	1.46

BLE

Test Mode	Test Channel	Power[dBm]	Peak Power (mW)
BLE	2402	2.86	1.93
BLE	2440	1.81	1.52
BLE	2480	-1.23	0.75



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5.2 MPE Calculation

According to the formula $S=P/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

For BT:

The max. antenna gain is 0.5 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
2.72	1.122	20	0.00061	1	Pass

For BLE:

The max. antenna gain is 0.5 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
1.93	1.122	20	0.00043	1	Pass

According to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

For IC:

BT mode: E.I.R.P. = $P \cdot G = 0.00272 \times 1.122 = 0.003W < 2.68W$

For BLE mode: E.I.R.P.= P*G= 0.00193×1.122=0.002W<2.68W

So the device is exclusion from SAR test.

--End of the Report--



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