



Shenzhen Huaxia Testing Technology Co., Ltd

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640
Fax: +86-755-26648637
Website: www.cqa-cert.com

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RF Exposure Evaluation Report

Report No.: CQASZ20210500628E-02
Applicant: Dongguan Liesheng Electronic Co., Ltd.
Address of Applicant: Room 401-410, Building 1, No.86 Hongtu Road, Nancheng District, Dongguan City, Guangdong, China.
Equipment Under Test (EUT):
EUT Name: Haylou GS
Model No.: Haylou-LS09A
Brand Name: Haylou
FCC ID: 2AMQ6-LS09A
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-05-13
Date of Test: 2021-05-13 to 2021-05-31
Date of Issue: 2021-05-31
Test Result: **PASS***

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

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Jun Li
(Jun Li)

Approved By: Sheek Luo
(Sheek Luo)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210500628E-02	Rev.01	Initial report	2021-05-31

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3 General Information

3.1 Client Information

Applicant:	Dongguan Liesheng Electronic Co., Ltd.
Address of Applicant:	Room 401-410, Building 1, No.86 Hongtu Road, Nancheng District, Dongguan City, Guangdong, China.
Manufacturer:	Dongguan Liesheng Electronic Co., Ltd.
Address of Manufacturer:	Room 401-410, Building 1, No.86 Hongtu Road, Nancheng District, Dongguan City, Guangdong, China.
Factory:	Dongguan Zhengrong Electronics co. Ltd
Address of Factory:	No.4 Shugang Acenue, Hongmei Town, Dongguan City, Guangdong Province

General Description of EUT

Product Name:	Haylou GS
All Model No.:	Haylou-LS09A
Trade Mark:	Haylou
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps, 2Mbps
Number of Channel:	40
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	RTLB8762C_RFTestTool_v1.0.1.2
Antenna Type:	Integral antenna
Antenna Gain:	-1.67dBi
EUT Power Supply:	lithium battery:DC3.8V 220mAh, Charge by DC5.0V

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 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 is applied to determine SAR test exclusion

2) For BLE

Measurement Data

GFSK(1Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.58	-2.5±1	-1.5	0.708
Middle(2440MHz)	-1.57	-2.5±1	-1.5	0.708
Highest(2480MHz)	-1.14	-2±1	-1	0.794
GFSK(2Mbps) mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-2.73	-4±1	-3	0.501
Middle(2440MHz)	-2.64	-4±1	-3	0.501
Highest(2480MHz)	-2.12	-3±1	-2	0.631

Worst case: GFSK(1Mbps) mode						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-1.58	-2.5±1	-1.5	0.708	0.219	3.0
Middle (2440MHz)	-1.57	-2.5±1	-1.5	0.708	0.221	
Highest (2480MHz)	-1.14	-2±1	-1	0.794	0.250	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210500628E-01 BDR and BLE can not simultaneous transmitting at same time.