



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. : CQASZ20190600475E-02
Applicant: Shanghai Laisi Information Technology Co.,Ltd
Address of Applicant: 1001,21No.1158ZhongxinRDSongjiangdistrictShanghai, China
Equipment Under Test (EUT):
Product: SMART ROPE T20
All Model No.: LS-T20NA, LS-T20LNA
Test Model No.: LS-T20NA
Brand Name: 75PAI
FCC ID: 2ATWS2019A6
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Test: 2019-06-19 to 2019-06-25
Date of Issue: 2019-06-25
Test Result : PASS*

Tested By:

Daisy Qin

(Daisy Qin)

Reviewed By:

Aaron Ma

(Aaron Ma)

Approved By:

Jack Ai

(Jack Ai)



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

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20190600475E-02	Rev.01	Initial report	2019-06-25

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3 General Information

3.1 Client Information

Applicant:	Shanghai Laisi Information Technology Co.,Ltd
Address of Applicant:	1001,21No.1158ZhongxinRDSongjiangdistrictShanghai, China
Manufacturer:	ACETECH Electronic Industrial (Xiamen) Co.,Ltd
Address of Manufacturer:	No. 553 Xinmin Avenue, Xitang Industrial Zone, Xinmin Town, Tong'an District, Xiamen China

3.2 General Description of EUT

Product Name:	SMART ROPE T20
All Model No.:	LS-T20NA, LS-T20LNA
Test Model No.:	LS-T20NA
Trade Mark:	75PAI
Hardware Version:	V11
Software Version:	T20_A0_V1.28_A00_0521_TX
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Product Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Test Software of EUT:	BTUartTester (manufacturer declare)
Antenna Type:	Integral antenna
Antenna Gain:	0dBi
Power Supply:	lithium battery:DC3.7V, Charge by DC5.0V

Note:

All model: LS-T20NA, LS-T20LNA

Only the model LS-T20NA was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.

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

4.1.3 EUT RF Exposure

Measurement Data

GFSK mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	3.23	2.5±1	3.5	2.239
Middle(2440MHz)	3.54	3.0±1	4.0	2.512
Highest(2480MHz)	3.74	3.0±1	4.0	2.512

Worst case: GFSK						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	3.23	2.5±1	3.5	2.239	0.69	3.0
Middle (2440MHz)	3.54	3.0±1	4.0	2.512	0.78	
Highest (2480MHz)	3.74	3.0±1	4.0	2.512	0.79	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20190600475E-01