

RF Exposure Evaluation Report

Product : V-Mark Zigbee HA1.2 Temp tag
Trade mark : V-MARK
Model/Type reference : VTS03W02
Serial Number : N/A
Report Number : EED32K00242502
FCC ID : 2AQ7V-VTSCFDAHATT
Date of Issue : Sep. 17, 2018
47 CFR Part 1.1307
Test Standards : 47 CFR Part 2.1093
KDB 447498D01v06
Test result : PASS

Prepared for:

V-Mark Enterprises Ltd.
400-601 West Broadway, Vancouver,
British Columbia, Canada

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By:

Tom chen

Tom chen (Test Project)

Compiled by:

Kevin Lan

Kevin Lan (Project Engineer)

Reviewed by:

Kevin Yang

Kevin yang (Reviewer)

Approved by:

Sheek Luo

Sheek Luo (Lab supervisor)

Date:

Sep. 17, 2018

Check No.:1022562054



2 Version

Version No.	Date	Description
00	Sep. 17, 2018	Original

3 Contents

	Page
1 COVER PAGE.....	1
2 VERSION.....	2
3 CONTENTS.....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION.....	4
4.2 GENERAL DESCRIPTION OF EUT.....	4
4.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD.....	4
4.4 TEST LOCATION.....	5
4.5 DEVIATION FROM STANDARDS.....	5
4.6 ABNORMALITIES FROM STANDARD CONDITIONS.....	5
4.7 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	5
5 SAR EVALUATION.....	6
5.1 RF EXPOSURE COMPLIANCE REQUIREMENT.....	6
5.1.1 Standard Requirement.....	6
5.1.2 Limits.....	6
5.1.3 EUT RF Exposure.....	6
PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS.....	7

4 General Information

4.1 Client Information

Applicant:	V-Mark Enterprises Ltd.
Address of Applicant:	400-601 West Broadway, Vancouver, British Columbia, Canada
Manufacturer:	Senpu Fishing Tackle Co., Ltd.
Address of Manufacturer:	Floor 2 No 2 Building Fucheng Industrial Park, 82nd Shilian lu, Shiji Town, Panyu District, GuangZhou

4.2 General Description of EUT

Product Name:	V-Mark Zigbee HA1.2 Temp tag
Model No.(EUT):	VTS03W02
Trade Mark:	V-MARK
EUT Supports Radios application:	2405MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2405MHz to 2480MHz
Modulation Type:	OQPSK
Sample Type:	Portable production
Test Power Grade:	N/A
Test Software of EUT:	N/A
Antenna Type:	PCB Inverted F Antenna
Antenna Gain:	2dBi
Power Supply:	Sealed ER14335 lithium-thionyl chloride battery:3.6V,1600mAh
Conducted Peak Output Power:	4.50dBm(declared by the Manufacturer)
Firmware version of the sample:	V1.1.7(manufacturer declare)
Hardware version of the sample:	C(manufacturer declare)
Test Voltage:	battery:3.6V,1600mAh
Sample Received Date:	Sep. 04, 2018
Sample tested Date:	Sep. 04, 2018 to Sep. 14, 2018
The tested sample(s) and the sample information are provided by the client.	

Report No. : EED32K00242502

Page 5 of 7

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

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.

5.1.2 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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ 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

5.1.3 EUT RF Exposure

The Max Conducted Peak Output Power is 4.50dBm (declared by the Manufacturer);

4.50dBm logarithmic terms convert to numeric result is nearly 2.818mW

According to the formula. calculate the test result:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}]$

General RF Exposure = $(2.818\text{mW} / 5 \text{ mm}) \times \sqrt{2.480\text{GHz}} = 0.89$ ①

SAR requirement:

$S = 3.0$

② ;

① $<$ ②.

So the SAR report is not required.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00242501 for EUT external and internal photos.

*** End of Report ***

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 CTI, this report can't be reproduced except in full.