



Fangguang Inspection & Testing Co., Ltd.
Phone: +86-510-68790033
Web: www.fgtest.cn



RF Exposure Evaluation Declaration

Report No.: S202005114008E05

Report Version: V02

Issue Date: 07-28-2020

Applicant: kantiantech Inc.
Address: NO.3 JinPin Street, Ya An Road, NanKai District. Tianjin
China

FCC ID: 2AWHIWSPRK1
IC: 26041-WSPRK1
Application Type: Certification
Product: WYZE SPRINKLER CONTROLLER
Model No.: WSPRK1
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (15.247)
IC Rule(s): RSS-247 Issue 2, RSS-GEN Issue 5
Test Procedure(s): ANSI C63.10-2013, KDB 558074 D01v05r02
Test Date: May 19 ~ June 22, 2020

Reviewed By

Line Chen

(Line Chen)
Senior Test Engineer

Approved By

Roy Cheng

(Roy Cheng)
Senior Test Engineer



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date
S202005114008E05	Rev. 02	The original reported AV power is changed to PK power, and the power setting value is the same as the history report.	07-28-2020

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	WYZE SPRINKLER CONTROLLER
Model Name:	WSPRK1
Input Voltage Range:	AC 24V~, 60Hz, 800mA
Wi-Fi Specification:	802.11b/g/n-HT20/n-HT40
Bluetooth Version:	V3.0/4.0
Antenna Type:	FPC Antenna
Antenna Gain:	2.64dBi
Adapter Information:	Model: HMQ-SM2401 Rated Input: 120V~, 60Hz , Max. Input current: 800mA, Rated Output: 24V~, 1.0A

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	WYZE SPRINKLER CONTROLLER
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum PK Output Power (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
802.11b/g/n	2412 ~ 2462	19.30	0.0311	1
DH5/2DH5/3DH5	2402 ~ 2480	9.95	0.0036	1
BLE	2402 ~ 2480	7.26	0.0019	1

Note: the device can not transmit with WIFI and BT simultaneously, so MPE is not evaluated in this configuration

CONCLUSION:

The Max Power Density at R (20 cm) = 0.0311mW/cm² < 1mW/cm².

So the EUT complies with the requirement.

_____ The End _____