





Test Report No.: FM181229N003-2

# RF EXPOSURE REPORT

Applicant	Fox & Summit USA, LLC
Address	2378 Peck Rd City of Industry, CA 90601 United States

Manufacturer or Supplier	GUANGDONG ROULE ELECTRONICS CO., LTD.
Address	No. 12, Pingdong 3rd Road, Nanping Industry Community, Zhuhai City, GuangDong, China
Product	Wi-Fi Window/Door sensor
Brand Name	N/A
Model	FS-WDS200
Additional Model & Model Difference	N/A
Date of tests	Dec. 29, 2018 ~ Apr. 24, 2019
<input checked="" type="checkbox"/> FCC Part 2 (Section 2.1093) <input checked="" type="checkbox"/> KDB 447498 D01 <input checked="" type="checkbox"/> IEEE C95.1	

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Breeze Jiang Project Engineer / EMC Department	Approved by Glyn He Supervisor / EMC Department
	 Date: May 17, 2019

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM181229N003-2	Original release	May 17, 2019

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## 1. CERTIFICATION

<b>FCC ID:</b>	2AR57-WDS-F
<b>PRODUCT:</b>	Wi-Fi Window/Door sensor
<b>BRAND NAME:</b>	N/A
<b>MODEL NO.:</b>	FS-WDS200
<b>ADDITIONAL NO.:</b>	N/A
<b>TEST SAMPLE:</b>	Engineering Sample
<b>APPLICANT:</b>	Fox & Summit USA, LLC
<b>STANDARDS:</b>	FCC Part 2 (Section 2.1093)
	KDB 447498 D01
	IEEE C95.1

## 2. RF EXPOSURE DEFINE

The corresponding SAR Exclusion Threshold condition, listed below:

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  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  $\leq 7.5$  for 10-g extremity SAR, 16 where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  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) At 100 MHz to 6 GHz and for test separation distances  $> 50$  mm, the SAR test exclusion threshold is determined according to the following:
- a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100MHz to 1500 MHz
  - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at  $> 1500$  MHz and  $\leq 6$  GHz
- 3) At frequencies below 100 MHz, the following may be considered for SAR test exclusion.
- a) The threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$  for test separation distances  $> 50$  mm and  $< 200$  mm.
  - b) The threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$  for test separation distances  $\leq 50$  mm.
  - c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable.

## 3. CLASSIFICATION

The antenna of this product, under normal use condition, is at less than 20cm away from the body of the user. So, this device is classified as **Portable Device**.



## 4. SAR TEST EXCLUSION THRESHOLDS

The tuned conducted Average Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
802.11b	2412-2462	7	+/-1	6	8
802.11g	2412-2462	7	+/-1	6	8
802.11n(HT20)	2412-2462	7	+/-1	6	8

The measured conducted Average Power

Mode	Frequency (MHz)	Averaged Power (dBm)
802.11b	2437	7.69
802.11g	2437	7.99
802.11n(HT20)	2437	7.92

### SAR Test Exclusion Thresholds

Frequency (MHz)	Maximum source-based time averaged conducted output power (dBm)	Minimum separation distance (mm)	Result of Eq. 1	Limit for 1-g SAR	Limit for 10-g extremity SAR	Verdict
2402-2480	8	5	1.96	3.0	7.5	Exempt from SAR

### Conclusion

Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.