

MRT Technology (Suzhou) Co., Ltd Phone: +86-512-66308358

Web: www.mrt-cert.com

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# **RF Exposure Evaluation Declaration**

**FCC ID**: 2APPT-2960

**Applicant:** Airthings ASA

**Product:** View Plus / View Pollution / View Radon

**Model No.:** 2960 / 2980 / 2989

Brand Name: Airthings

FCC Rule Part(s): FCC Part 2.1091

Reviewed By: Sherry Jiang

**Sherry Jiang** 

Approved By:

Robin Wu





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	Note
2103RSU015-U4	Rev. 01	Initial Report	06-08-2021	Valid





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#### 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	View Plus / View Pollution / View Radon	
Model No.	2960 / 2980 / 2989	
Brand Name	Airthings	
SRD Radio	Various bands in the 865-928MHz range (region dependent)	
Wi-Fi Specification	802.11b/g/n-HT20	
Bluetooth Version	v5.1 Single mode	
Operating Temp.	4 ~ 40°C	
Rated Input	5VDC (USB cable) or batteries	

Remark: The differences between the three products (models) are:

View Plus: Sensors for PM2.5, Radon, CO2, VOC, Temp, Humidity, Air Pressure, Noise, Light

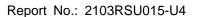
View Pollution: Sensors for PM2.5, Temp, Humidity, Light View Radon: Sensors for Radon, Temp, Humidity, Light

The RF characteristics are the same. so we chose View Plus for testing.

### 1.2. Product Specification Subjective to this Report

Wi-Fi 2.4G			
Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462MHz		
Channel Number	802.11b/g/n-HT20: 11		
Modulation 802.11b: DSSS			
	802.11g/n: OFDM		
Antenna Type	Chip antenna		
Antenna Gain	1.6 dBi		
BLE	BLE		
Frequency Range	2402 ~ 2480MHz		
Channel Number	40		
Type of modulation	GFSK		
Data Rate	1Mbps & 2Mbps		
Antenna Type	PCB antenna		
Antenna Gain	3.3 dBi		
SRD			
Operating Frequency	905.6 ~ 926 MHz		
Type of Modulation	FSK		
Antenna Type	PCB antenna		
Antenna Gain	5 dBi		

Note: Above information is declared by manufacturer.





## 2. RF Exposure Evaluation

#### 2.1. Limits for FCC:

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	Electric Field	Magnetic Field	Power Density	Average Time	
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm <sup>2</sup> )	(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:  $Pd = (Pout*G)/(4*pi*r^2)$ 

Where

Pd = power density in mW/cm<sup>2</sup>

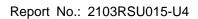
Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

Pd is the limit of MPE, 1mW/cm<sup>2</sup>. 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 for FCC

Product	View Plus / View Pollution / View Radon
Test Item	RF Exposure Evaluation

#### FCC:

Test Mode	Frequency Band	Maximum	E.I.R.P	Power Density at	Limit
	(MHz)	Average Output	Including	R = 20 cm	(mW/cm <sup>2</sup> )
		Power (dBm)	Tune-up	(mW/cm <sup>2</sup> )	
			(dBm)		
Wi-Fi 2.4G	2412 ~ 2462	15.30	19.10	0.0162	1
Bluetooth-LE	2400 ~ 2483.5	5.47	9.27	0.0017	1
SRD	905.6 ~ 926	13.50	19.00	0.0158	1

#### **CONCLUSION:**

The Max Power Density at R (20 cm) = (0.0162+0.0017+0.0158) mW/cm<sup>2</sup>=0.0337 mW/cm<sup>2</sup> < 1 mW/cm<sup>2</sup>.

The device is excluded for SAR test and complies with the FCC exposure requirements since the maximum conducted peak output power is lower than the SAR test exclusion thresholds. So, the EUT complies with RF Exposure requirement.

 The End	
THE LITE	





# Appendix A - EUT Photograph

Refer to "2103RSU015-UE" file.