



## MPE Test Report

**Report No.:** LGD-ESH-P22111124B-3

**FCC ID:** PII-31405

**Product:** RF Module with 902-928 MHz ISM frequency band

**Model:** ETII RF V2

**Received Date:** Nov.18, 2022

**Test Date:** Nov.18, 2022 to Dec.14, 2022

**Issued Date:** Dec.14, 2022

**Applicant:** Vantage Controls Inc.

**Address:** 2240 Campbell Creek Blvd Ste #110, Richardson, TX, United States 75082

**Manufacturer:** SHANGHAI LEGRAND ELECTRICAL CO.,LTD

**Address:** 1&2/F, Building 1, No. 1358 Xiangyang Road, Minhang District  
ShangHai, CHINA(201108)

**Issued By:** BUREAU VERITAS ADT (Shanghai) Corporation

**Lab Address:** No. 829, Xinzhuan Road, Shanghai, P.R.China (201612)



Test Lab  
Cert 2343.01

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### Release Control Record

Issue No.	Description	Date Issued
LGD-ESH-P22111124B-3	Original release	Dec.14, 2022



## 1 Certificate of Conformity

**Product:** RF Module with 902-928 MHz ISM frequency band

**Brand:** Vantage

**Model:** ETII RF V2

**Applicant:** Vantage Controls Inc.

**Test Date:** Nov.18, 2022 to Dec.14, 2022

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :

, Date:

Dec.14, 2022

Yan ZHOU

Project Engineer

Approved by :



Sean YU

RF Supervisor

, Date:

Dec.14, 2022

## 2 General Information

### 2.1 General Description of EUT

Product	RF Module with 902-928 MHz ISM frequency band
Brand	Vantage
Model	ETII RF V2
Difference	--
Power Rating	1.8Vdc- 3.6Vdc
Modulation Type	FSK
Modulation Technology	FHSS
Operating Frequency	907.3MHz-916.9MHz
Number of Channel	25
Output Power	15.136 dBm
Antenna Type	Monopole antenna
Antenna Connector	IPEX
Antenna Gain	1.58 dBi

Note:

1. For more details, please refer to the User's manual of the EUT.



## 2.2 Test Facility

**Laboratory Name:** Bureau Veritas ADT (ShangHai) Corporation

**Laboratory Address:** No.829, Xin Zhuan Road, Song Jiang District, Shanghai, China

**Test Location:** No.829, Xin Zhuan Road, Song Jiang District, Shanghai, China

**A2LA Lab Code:** 2343.01

**FCC-Recognized Accredited Testing Lab:** CN1213

**ISED Recognized Lab:** 6392A

**FCC Accredited Test Site Number:** 176467

### 3 RF Exposure

#### 3.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1,500	-	-	F/1500	30
1,500-100,000	-	-	1.0	30

F = Frequency in MHz

#### 3.2 MPE Calculation Formula

Power density (S) is calculated according to the formula:

$$S = PG / (4\pi R^2)$$

Where S = power density in mW/cm<sup>2</sup>

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

#### 3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as Mobile Device.

#### 3.4 Calculation Result of Maximum Permissible Exposure

The tuned conducted Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
FHSS	907.3-916.9	14.2	±1	13.2	15.2

The measured conducted Power

Mode	Frequency (MHz)	Max. Conducted Output power(dBm)
FHSS	916.9	15.136

Frequency Band (MHz)	Max. Conducted output power(dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
907.3-916.9	15.2	1.58	20	0.0095	1

**Conclusion:**

**The calculation result of MPE is less than the limit.**

**--- END ---**