# TEST REPORT

| | |
|---|---|
| Applicant Name : | Vanstone Electronic (Beijing) Co., Ltd. |
| Address : | 3F No.2 Building, Aisino Corporation Park 18A, Xingshikou Road, Haidian District, Beijing, China 100195 |
| Report Number : | SZXX1210918-48932E-EM |
| FCC ID: | OWLV71 |

**Test Standard (s)**

FCC PART 15B, CLASS B

**Sample Description**

| | |
|---|---|
| Product Type: | Wireless POS Terminal |
| Model No.: | V71 |
| Trade Mark: | Aisino |
| Date Received: | 2021-09-18 |
| Date of Test: | 2021-10-18 to 2021-10-19 |
| Report Date: | 2021-12-08 |

| | |
|---|---|
| Test Result: | Pass* |

* In the configuration tested, the EUT complied with the standards above.

**Prepared and Checked By:**

Black Ding
ECM Engineer

**Approved By:**

Candy Li
EMC Engineer

**Note:** This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.
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# Test Report Declaration

| | | |
|---|---|---|
| Applicant | : | Vanstone Electronic (Beijing) Co., Ltd. |
| Manufacturer | : | Vanstone Electronic (Beijing) Co., Ltd. |
| Product | : | Wireless POS Terminal |
| Model No. | : | V71 |
| Trade Mark | : | Aisino |

Measurement Procedure Used:

**FCC Rules and Regulations Part 15 Subpart B Class B**
**ANSI C63.4: 2014**

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

# 1. TEST RESULTS SUMMARY

| Test Items | Test Standard | Test Results |
|---|---|---|
| Conducted Emission (150kHz-30MHz) | FCC Part 15 Subpart B Class B | Pass |
| Radiated Emission (30-1000MHz) | FCC Part 15 Subpart B Class B | Pass |
| Radiated Emission (Above 1000MHz) | FCC Part 15 Subpart B Class B | Pass |

# 2. GENERAL INFORMATION

## 2.1.Description of Device (EUT)

| | | |
|---|---|---|
| Product | : | Wireless POS Terminal |
| Model No. | : | V71 |
| Rating | : | AC 100-240V, 50/60Hz<br>(The DC output line length is 1.5 meter.) |
| Adapter1 | : | Model: A18A-050100U-US2<br>Input: 100-240V~, 50/60Hz, Max 0.2A<br>Output: DC 5V, 1A |
| Adapter2 | : | Model: SW-0018<br>Input: 100-240V~, 50/60Hz, Max 0.2A<br>Output: DC 5V, 1A |
| Remark(s) | : | The EUT highest operating frequency is 2690MHz, the radiated emission measurement shall be made up to 13.45GHz |
| Applicant | : | Vanstone Electronic (Beijing) Co., Ltd. |
| Address | : | 3F No.2 Building, Aisino Corporation Park 18A, Xingshikou Road, Haidian District, Beijing, China 100195 |
| Manufacturer | : | Vanstone Electronic (Beijing) Co., Ltd. |
| Address | : | 3F No.2 Building, Aisino Corporation Park 18A, Xingshikou Road, Haidian District, Beijing, China 100195 |
| Date of sample received | : | September 18, 2021 |
| Date of Test | : | October 18, 2021 to October 19, 2021 |
| Sample Number | : | SZXX1210918-48932E-EM-S1 |

## 2.2.Test mode

Test mode 1: Charging+Print
Test mode 2: Data transmission

## 2.3.General disclaimer

1. Each test item follows test standard and with no deviation.
2. The test results presented in this report relate only to the object tested. The information supplied by the customer can affect the validity of results.

## 2.4.Accessory and Auxiliary Equipment

| | | |
|---|---|---|
| Notebook | : | Manufacturer: DELL<br>M/N: P48F<br>TYPE: P48F001<br>S/N: 6DCCRC2 |
| Adapter for Notebook | : | Manufacturer: DELL<br>M/N: PA-10<br>S/N: N/A |
| USB Cable | : | Unshielded detachable<br>1.5m |

## 2.5.Description of Test Facility

| | | |
|---|---|---|
| Name of Firm | : | Shenzhen Accurate Technology Co., Ltd. |
| Site Location | : | 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China |

## 2.6.Measurement Uncertainty

| | | |
|---|---|---|
| Radiated emission expanded uncertainty (30MHz-1000MHz) | : | *U=4.28dB, k=2* |
| Radiated emission expanded uncertainty (1GHz-18GHz) | : | *U=4.98dB, k=2* |
| Conduction Emission Expanded Uncertainty (150kHz-30MHz) | : | *U=2.72dB, k=2* |

# 3. MEASURING DEVICE AND TEST EQUIPMENT

## 3.1.For Conducted Emission Test

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | Rohde & Schwarz | ESPI3 | 100396 | Dec. 24, 2020 | 1 Year |
| 2. | L.I.S.N. | R & S | ENV216 | 101314 | Dec. 25, 2020 | 1 Year |
| 3. | 50Ω Coaxial Switch | Anritsu Corp | MP59B | 6200506474 | Dec. 25, 2020 | 1 Year |
| 4. | RF Coaxial Cable | Unknown | N-2m | No.2 | Dec. 25, 2020 | 1 Year |
| 5. | Conducted Emission Test Software: ES-K1 V1.71 | | | | | |

## 3.2.For Radiated Emission Measurement (Below 1GHz)

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Test Receiver | Rohde& Schwarz | ESR | 101817 | Dec. 24, 2020 | 1 Year |
| 2. | Amplifier | SONOMA INSTRUMENT | 310 N | 186131 | Dec. 25, 2020 | 1 Year |
| 3. | 50 Coaxial Switch | Anritsu Corp | MP59B | 6100237248 | Dec. 25, 2020 | 1 Year |
| 4. | Bilog Antenna | Schwarzbeck | VULB9163 | 9163-323 | Jan.05, 2020 | 3 Year |
| 5. | RF Coaxial Cable | Unknown | N-5m | No.3 | Dec. 25, 2020 | 1 Year |
| 6. | RF Coaxial Cable | Unknown | N-1m | No.5 | Dec. 25, 2020 | 1 Year |
| 7. | Radiated Emission Test Software: EZ_EMC V 1.1.4.2 | | | | | |

## 3.3.For Radiated Emission Measurement (Above 1GHz)

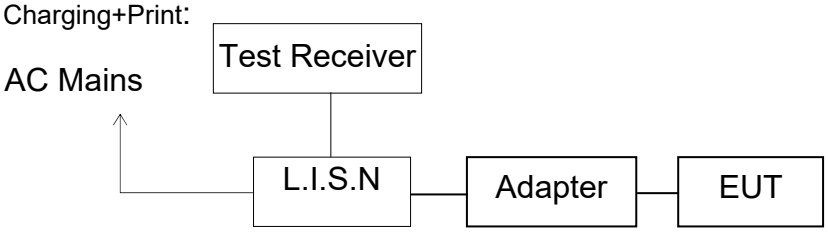
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|---|---|---|---|---|---|---|
| 1. | Horn Antenna | Schwarzbeck | BBHA9120D | 9120D-1067 | Jan. 05, 2020 | 3 Year |
| 2. | Preamplifier | A.H. Systems, inc. | PAM-0118P | 531 | July 08, 2021 | 1 Year |
| 3. | Spectrum Analyzer | Rohde&Schwarz | FSV40 | 101495 | Dec. 24, 2020 | 1 Year |
| 4. | RF Coaxial Cable | Unknown | N-5m | No.4 | Dec. 25, 2020 | 1 Year |
| 5. | RF Coaxial Cable | Unknown | N-1m | No.6 | Dec. 25, 2020 | 1 Year |
| 6. | Radiated Emission Test Software: EZ_EMC V 1.1.4.2 | | | | | |

# 4. CONDUCTED EMISSION MEASUREMENT

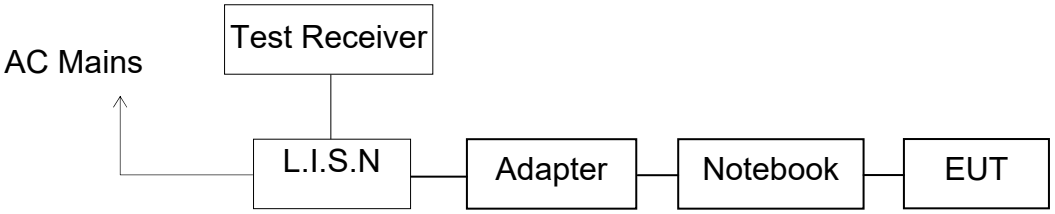
## 4.1.Block Diagram of Test Setup

### 4.1.1.Block diagram of connection between the EUT and simulators

Charging+Print:

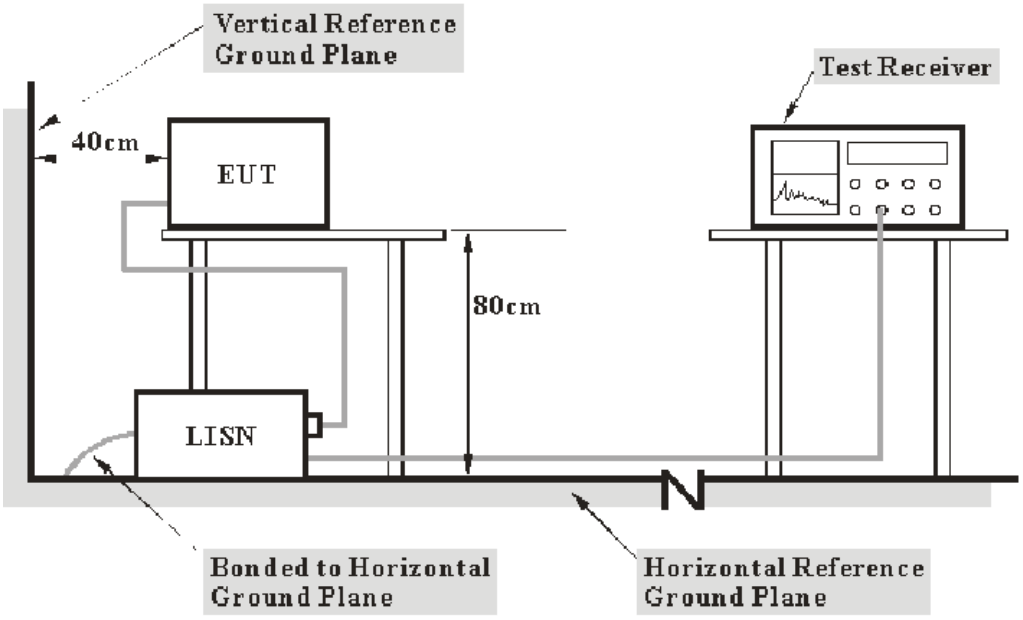



Data transmission:




(EUT: Wireless POS Terminal)

### 4.1.2.Test System Setup




Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

## 4.2.Power Line Conducted Emission Measurement Limits (Class B)

| Frequency (MHz) | Limit dB(μV) | |
|---|---|---|
| | Quasi-peak Level | Average Level |
| 0.15 - 0.50 | 66.0 – 56.0 * | 56.0 – 46.0 * |
| 0.50 - 5.00 | 56.0 | 46.0 |
| 5.00 - 30.00 | 60.0 | 50.0 |
| NOTE1: The lower limit shall apply at the transition frequencies.<br>NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz. | | |

## 4.3.Test mode description

Test mode 1: Charging+Print
Test mode 2: Data transmission

## 4.4.Manufacturer

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

4.4.1.Wireless POS Terminal (EUT)

Model Number : V71
Manufacturer : Vanstone Electronic (Beijing) Co., Ltd.

## 4.5.Operating Condition of EUT

4.5.1.Setup the EUT and simulator as shown as Section 4.1.

4.5.2.Turn on the power of all equipments.

4.5.3.Let the EUT work in test mode and measure it.

## 4.6. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2014 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

## 4.7. Data Explain

Margin = Limit (dBμV) - Level (dBμV)

## 4.8. Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150kHz to 30MHz is checked.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

Test mode1
For Adapter1

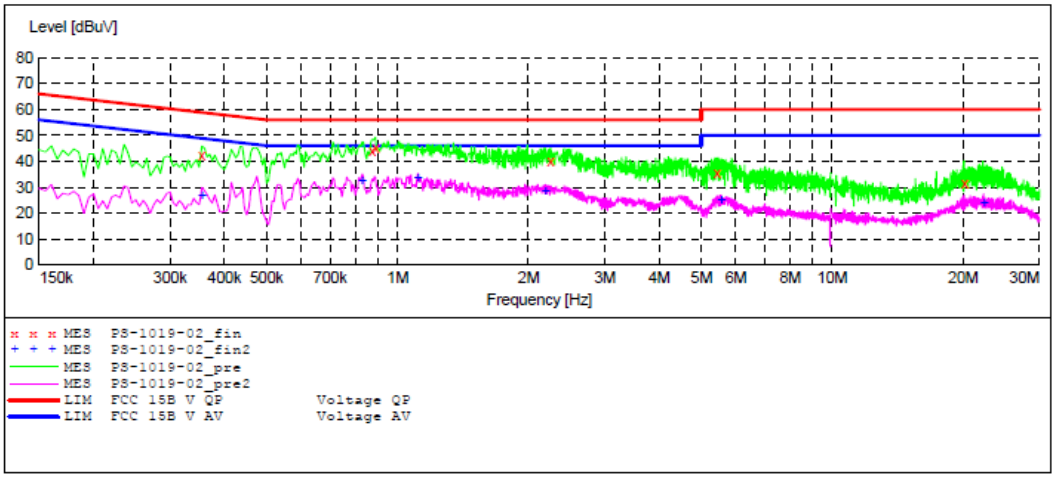
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                  Wireless POS Terminal  M/N:V71
Manufacturer:         Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:  Charging+Print
Test Site:            2#Shielding Room
Operator:             Black
Test Specification:   L 120V/60Hz
Comment:              SZXX1210918-48932E-EM
Start of Test:        2021-10-19 / 09:20:23
```

***SCAN TABLE: "V 150K-30MHz fin"***

```
  Short Description:              _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz   ENV216
                                  Average
```




***MEASUREMENT RESULT: "PS-1019-02_fin"***

2021-10-19 09:21

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.355000 | 41.90 | 10.9 | 59 | 17.1 | QP | L1 | GND |
| 0.875000 | 43.80 | 11.1 | 56 | 12.2 | QP | L1 | GND |
| 0.890000 | 45.00 | 11.1 | 56 | 11.0 | QP | L1 | GND |
| 2.250000 | 39.80 | 11.3 | 56 | 16.2 | QP | L1 | GND |
| 5.430000 | 35.30 | 11.5 | 60 | 24.7 | QP | L1 | GND |
| 20.150000 | 31.70 | 11.7 | 60 | 28.3 | QP | L1 | GND |

***MEASUREMENT RESULT: "PS-1019-02_fin2"***

2021-10-19 09:21

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.355000 | 27.10 | 10.9 | 49 | 21.9 | AV | L1 | GND |
| 0.830000 | 32.80 | 11.1 | 46 | 13.2 | AV | L1 | GND |
| 1.115000 | 33.50 | 11.2 | 46 | 12.5 | AV | L1 | GND |
| 2.190000 | 28.90 | 11.3 | 46 | 17.1 | AV | L1 | GND |
| 5.560000 | 24.90 | 11.5 | 50 | 25.1 | AV | L1 | GND |
| 22.325000 | 24.10 | 11.7 | 50 | 25.9 | AV | L1 | GND |

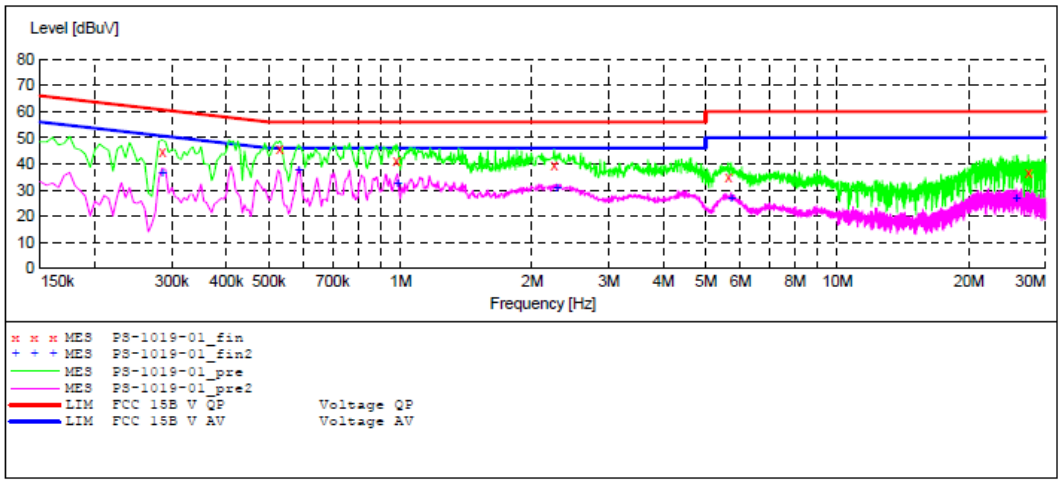
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                    Wireless POS Terminal  M/N:V71
Manufacturer:           Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:    Charging+Print
Test Site:              2#Shielding Room
Operator:               Black
Test Specification:     N 120V/60Hz
Comment:                SZXX1210918-48932E-EM
Start of Test:          2021-10-19 / 09:18:16
```

***SCAN TABLE: "V  150K-30MHz fin"***

```
  Short Description:                _SUB_STD_VTERM2 1.70
  Start       Stop        Step      Detector  Meas.     IF       Transducer
  Frequency   Frequency   Width               Time      Bandw.
  150.0 kHz   30.0 MHz    4.5 kHz   QuasiPeak 1.0 s     9 kHz    ENV216
                                    Average
```




***MEASUREMENT RESULT: "PS-1019-01_fin"***

2021-10-19 09:19

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.285000 | 44.30 | 10.9 | 61 | 16.7 | QP | N | GND |
| 0.530000 | 45.50 | 11.0 | 56 | 10.5 | QP | N | GND |
| 0.980000 | 41.40 | 11.1 | 56 | 14.6 | QP | N | GND |
| 2.250000 | 39.60 | 11.3 | 56 | 16.4 | QP | N | GND |
| 5.630000 | 34.80 | 11.5 | 60 | 25.2 | QP | N | GND |
| 27.375000 | 36.40 | 11.8 | 60 | 23.6 | QP | N | GND |

***MEASUREMENT RESULT: "PS-1019-01_fin2"***

2021-10-19 09:19

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.285000 | 36.80 | 10.9 | 51 | 14.2 | AV | N | GND |
| 0.585000 | 37.70 | 11.0 | 46 | 8.3 | AV | N | GND |
| 0.985000 | 32.70 | 11.1 | 46 | 13.3 | AV | N | GND |
| 2.280000 | 31.20 | 11.3 | 46 | 14.8 | AV | N | GND |
| 5.720000 | 27.10 | 11.5 | 50 | 22.9 | AV | N | GND |
| 25.675000 | 26.90 | 11.7 | 50 | 23.1 | AV | N | GND |

For Adapter2

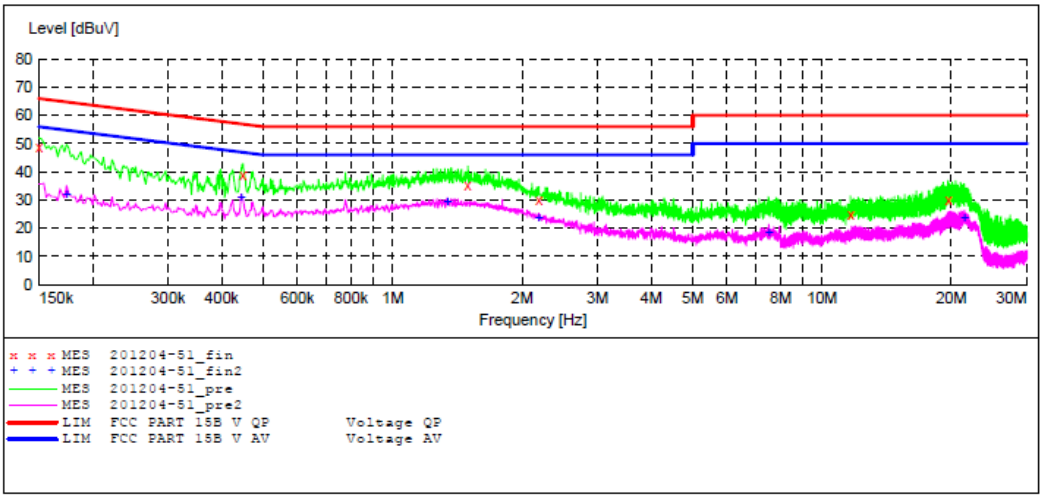
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                  Wireless POS Terminal  M/N:V71
Manufacturer:         Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:  Charging+Print
Test Site:            2#Shielding Room
Operator:             Black
Test Specification:   L  120V/60Hz
Comment:              SZXX1210918-48932E-EM
                      KELI
```

***SCAN TABLE: "V  150K-30MHz fin"***

```
Short Description:              _SUB_STD_VTERM2 1.70
Start      Stop       Step      Detector  Meas.     IF       Transducer
Frequency  Frequency  Width               Time      Bandw.
150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz    ENV216
                                Average
```




***MEASUREMENT RESULT: "201204-51_fin"***

2021-10-20 14:22

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.150000 | 48.80 | 10.8 | 66 | 17.2 | QP | L1 | GND |
| 0.448000 | 38.80 | 11.0 | 57 | 18.2 | QP | L1 | GND |
| 1.496000 | 35.30 | 11.2 | 56 | 20.7 | QP | L1 | GND |
| 2.190000 | 30.00 | 11.3 | 56 | 26.0 | QP | L1 | GND |
| 11.635000 | 24.70 | 11.6 | 60 | 35.3 | QP | L1 | GND |
| 19.650000 | 30.20 | 11.7 | 60 | 29.8 | QP | L1 | GND |

***MEASUREMENT RESULT: "201204-51_fin2"***

2021-10-20 14:22

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.174000 | 31.90 | 10.8 | 55 | 23.1 | AV | L1 | GND |
| 0.444000 | 30.90 | 11.0 | 47 | 16.1 | AV | L1 | GND |
| 1.342000 | 29.50 | 11.2 | 46 | 16.5 | AV | L1 | GND |
| 2.190000 | 24.00 | 11.3 | 46 | 22.0 | AV | L1 | GND |
| 7.515000 | 18.40 | 11.5 | 50 | 31.6 | AV | L1 | GND |
| 21.450000 | 23.70 | 11.7 | 50 | 26.3 | AV | L1 | GND |

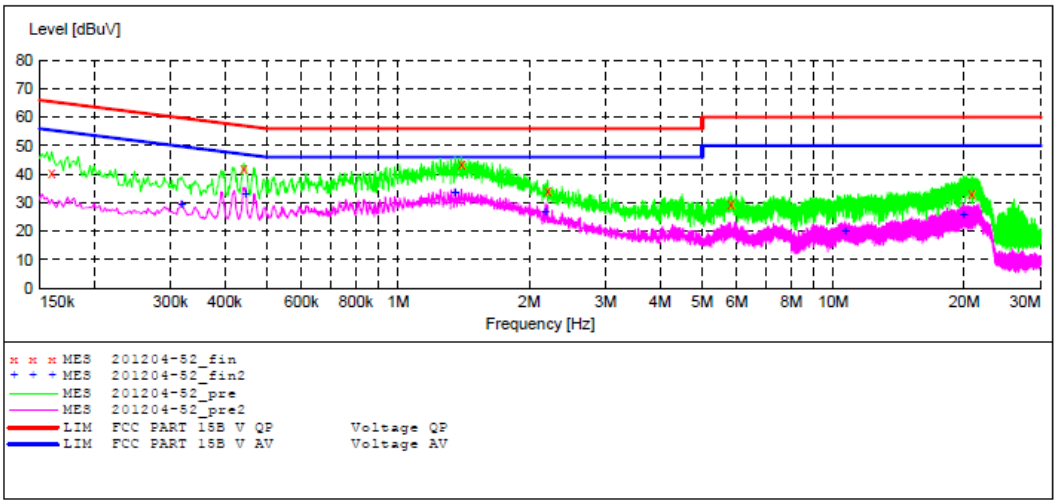
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                    Wireless POS Terminal  M/N:V71
Manufacturer:           Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:    Charging+Print
Test Site:              2#Shielding Room
Operator:               Black
Test Specification:     N  120V/60Hz
Comment:                SZXX1210918-48932E-EM
                        KELI
```

***SCAN TABLE: "V 150K-30MHz fin"***

```
  Short Description:                 _SUB_STD_VTERM2 1.70
  Start       Stop        Step       Detector  Meas.     IF       Transducer
  Frequency   Frequency   Width                Time      Bandw.
  150.0 kHz   30.0 MHz    4.5 kHz    QuasiPeak 1.0 s     9 kHz    ENV216
                                     Average
```




***MEASUREMENT RESULT: "201204-52_fin"***

2021-10-20 14:26

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.160000 | 40.60 | 10.8 | 66 | 25.4 | QP | N | GND |
| 0.442000 | 41.90 | 11.0 | 57 | 15.1 | QP | N | GND |
| 1.398000 | 43.50 | 11.2 | 56 | 12.5 | QP | N | GND |
| 2.205000 | 34.40 | 11.3 | 56 | 21.6 | QP | N | GND |
| 5.820000 | 29.70 | 11.5 | 60 | 30.3 | QP | N | GND |
| 20.770000 | 33.40 | 11.7 | 60 | 26.6 | QP | N | GND |

***MEASUREMENT RESULT: "201204-52_fin2"***

2021-10-20 14:26

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.318000 | 29.70 | 10.9 | 50 | 20.3 | AV | N | GND |
| 0.446000 | 33.30 | 11.0 | 47 | 13.7 | AV | N | GND |
| 1.350000 | 33.60 | 11.2 | 46 | 12.4 | AV | N | GND |
| 2.180000 | 26.70 | 11.3 | 46 | 19.3 | AV | N | GND |
| 10.645000 | 20.20 | 11.6 | 50 | 29.8 | AV | N | GND |
| 19.915000 | 25.70 | 11.7 | 50 | 24.3 | AV | N | GND |

## Test mode2

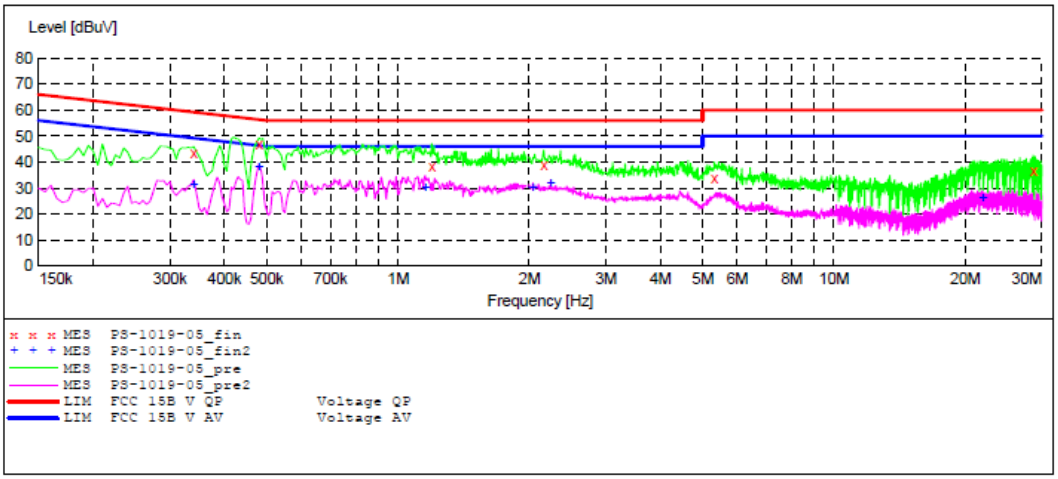
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                  Wireless POS Terminal  M/N:V71
Manufacturer:         Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:  Data Transimission
Test Site:            2#Shielding Room
Operator:             Black
Test Specification:   N 120V/60Hz
Comment:              SZXX1210918-48932E-EM
Start of Test:        2021-10-19 / 09:25:41
```

***SCAN TABLE: "V 150K-30MHz fin"***

```
Short Description:                _SUB_STD_VTERM2 1.70
Start       Stop        Step      Detector  Meas.     IF       Transducer
Frequency   Frequency   Width               Time      Bandw.
150.0 kHz   30.0 MHz    4.5 kHz   QuasiPeak 1.0 s     9 kHz    ENV216
                                  Average
```




***MEASUREMENT RESULT: "PS-1019-05_fin"***

2021-10-19 09:27

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.340000 | 42.00 | 10.9 | 59 | 17.0 | QP | N | GND |
| 0.480000 | 47.10 | 11.0 | 56 | 8.9 | QP | N | GND |
| 1.195000 | 38.50 | 11.2 | 56 | 17.5 | QP | N | GND |
| 2.160000 | 39.10 | 11.3 | 56 | 16.9 | QP | N | GND |
| 5.320000 | 33.60 | 11.4 | 60 | 26.4 | QP | N | GND |
| 28.675000 | 36.80 | 11.8 | 60 | 23.2 | QP | N | GND |

***MEASUREMENT RESULT: "PS-1019-05_fin2"***

2021-10-19 09:27

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.340000 | 31.50 | 10.9 | 49 | 17.5 | AV | N | GND |
| 0.480000 | 38.30 | 11.0 | 46 | 7.7 | AV | N | GND |
| 1.155000 | 30.60 | 11.2 | 46 | 15.4 | AV | N | GND |
| 2.040000 | 30.50 | 11.3 | 46 | 15.5 | AV | N | GND |
| 2.240000 | 32.00 | 11.3 | 46 | 14.0 | AV | N | GND |
| 21.975000 | 26.20 | 11.7 | 50 | 23.8 | AV | N | GND |

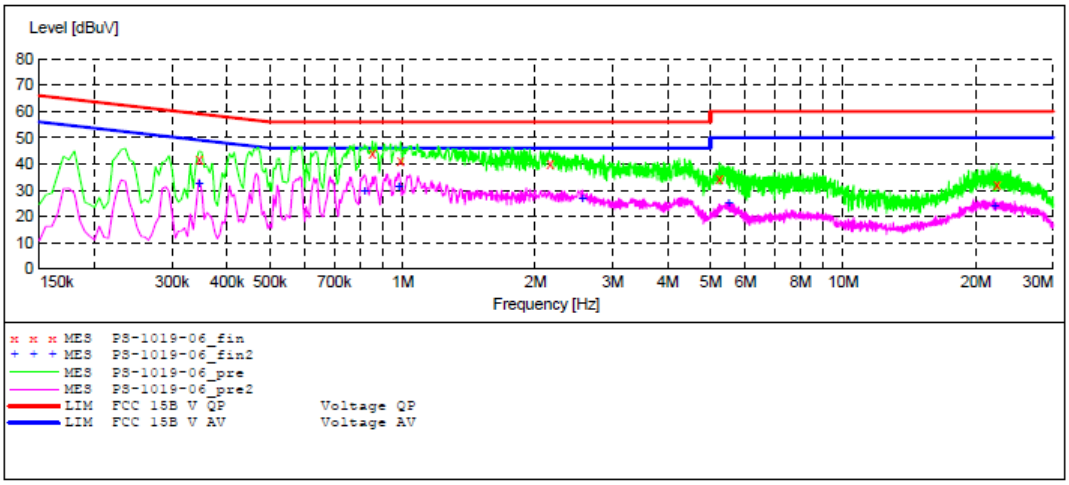
***ACCURATE TECHNOLOGY CO.,LTD***

***CONDUCTED EMISSION STANDARD FCC PART 15B***

```
EUT:                  Wireless POS Terminal  M/N:V71
Manufacturer:         Vanstone Electronic (Beijing) Co., Ltd.
Operating Condition:  Data Transimission
Test Site:            2#Shielding Room
Operator:             Black
Test Specification:   L  120V/60Hz
Comment:              SZXX1210918-48932E-EM
Start of Test:        2021-10-19 / 09:27:34
```

***SCAN TABLE: "V  150K-30MHz fin"***

```
Short Description:                _SUB_STD_VTERM2 1.70
Start      Stop       Step       Detector  Meas.     IF       Transducer
Frequency  Frequency  Width                Time      Bandw.
150.0 kHz  30.0 MHz   4.5 kHz    QuasiPeak 1.0 s     9 kHz    ENV216
                                 Average
```




***MEASUREMENT RESULT: "PS-1019-06_fin"***

2021-10-19 09:28

| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.345000 | 40.80 | 10.9 | 59 | 18.2 | QP | L1 | GND |
| 0.855000 | 44.10 | 11.1 | 56 | 11.9 | QP | L1 | GND |
| 0.990000 | 41.10 | 11.1 | 56 | 14.9 | QP | L1 | GND |
| 2.160000 | 40.30 | 11.3 | 56 | 15.7 | QP | L1 | GND |
| 5.240000 | 34.40 | 11.4 | 60 | 25.6 | QP | L1 | GND |
| 22.325000 | 32.20 | 11.7 | 60 | 27.8 | QP | L1 | GND |

***MEASUREMENT RESULT: "PS-1019-06_fin2"***

2021-10-19 09:28

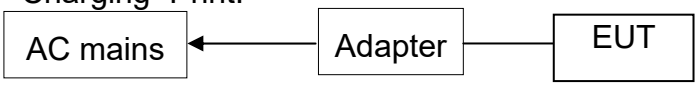
| Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
|---|---|---|---|---|---|---|---|
| 0.345000 | 32.50 | 10.9 | 49 | 16.6 | AV | L1 | GND |
| 0.820000 | 29.90 | 11.1 | 46 | 16.1 | AV | L1 | GND |
| 0.980000 | 31.50 | 11.1 | 46 | 14.5 | AV | L1 | GND |
| 2.560000 | 26.80 | 11.3 | 46 | 19.2 | AV | L1 | GND |
| 5.490000 | 25.10 | 11.5 | 50 | 24.9 | AV | L1 | GND |
| 22.100000 | 24.20 | 11.7 | 50 | 25.8 | AV | L1 | GND |

# 5. RADIATED EMISSION MEASUREMENT

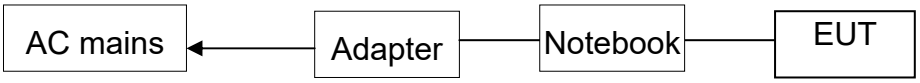
## 5.1.Block Diagram of Test Setup

### 5.1.1.Block diagram of connection between the EUT and simulators

Charging+Print:



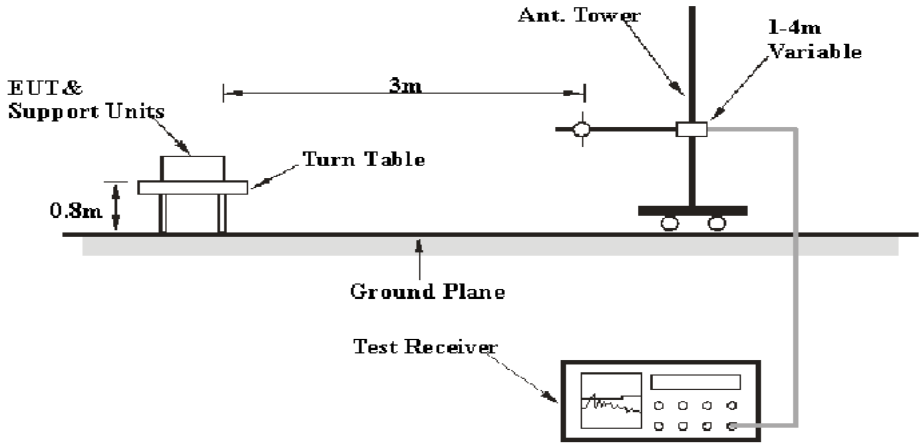

Data transmission:



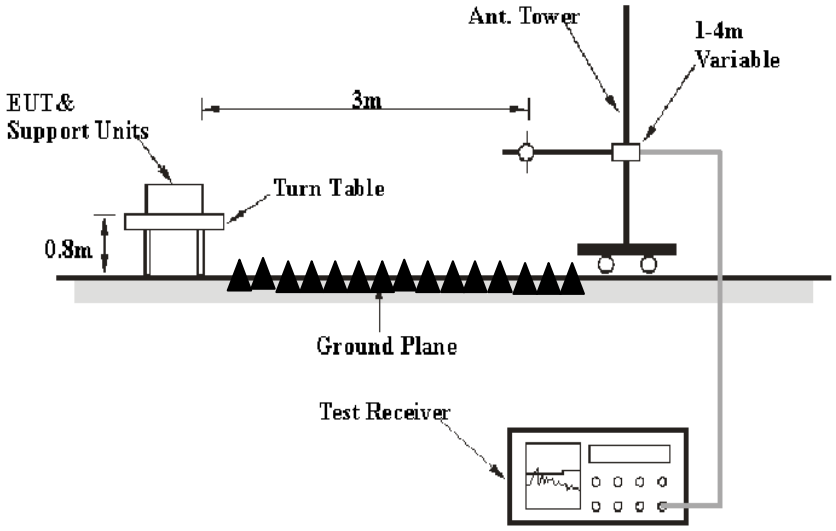

(EUT: Wireless POS Terminal)

### 5.1.2.Test System Setup

**Below 1GHz:**




**Above 1GHz:**



## 5.2.Radiated Emission Limit (Class B)

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

Below 1GHz:

| Frequency MHz | Distance Meters | Field Strengths Limit | |
|---|---|---|---|
| | | μV/m | dB(μV/m) |
| 30-88 | 3 | 100 | 40.0 |
| 88-216 | 3 | 150 | 43.5 |
| 216-960 | 3 | 200 | 46.0 |
| 960-1000 | 3 | 500 | 54.0 |
| Remark:<br>(1) Emission level dB(μV) = 20 log Emission level μV/m.<br>(2) The smaller limit shall apply at the cross point between two frequency bands.<br>(3) Distance is the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system. | | | |

Above 1GHz:

| Frequency MHz | Distance Meters | Field Strengths Limit(dBμV/m) | |
|---|---|---|---|
| | | Peak | Average |
| Above 1000MHz | 3 | 74.0 | 54.0 |

## 5.3.Test mode description

Test mode 1: Charging+Print

Test mode 2: Data transmission

## 5.4.Manufacturer

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

## 5.5.Operating Condition of EUT

5.5.1.Setup the EUT and simulator as shown as Section 5.1.

5.5.2.Turn on the power of all equipments.

5.5.3.Let the EUT work in test mode and measure it.

## 5.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4: 2014 on radiated emission measurement.

The bandwidth of the Receiver is set at 9kHz in 9kHz-30MHz, 120 kHz in 30-1000MHz, and 1MHz for above 1GHz.

The frequency range from 30MHz to 18GHz is investigated.

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|---|---|
| Below 1.705 ..... | 30. |
| 1.705–108 ..... | 1000. |
| 108–500 ..... | 2000. |
| 500–1000 ..... | 5000. |
| Above 1000 ..... | 5th harmonic of the highest frequency or 40 GHz, whichever is lower. |

## 5.7.Data Sample

Margin (dB) = Level(dBμv/m) - Limit (dBμv/m)
QP = Quasi-peak Reading

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

## 5.8.Radiated Emission Measurement Result

**PASS.**

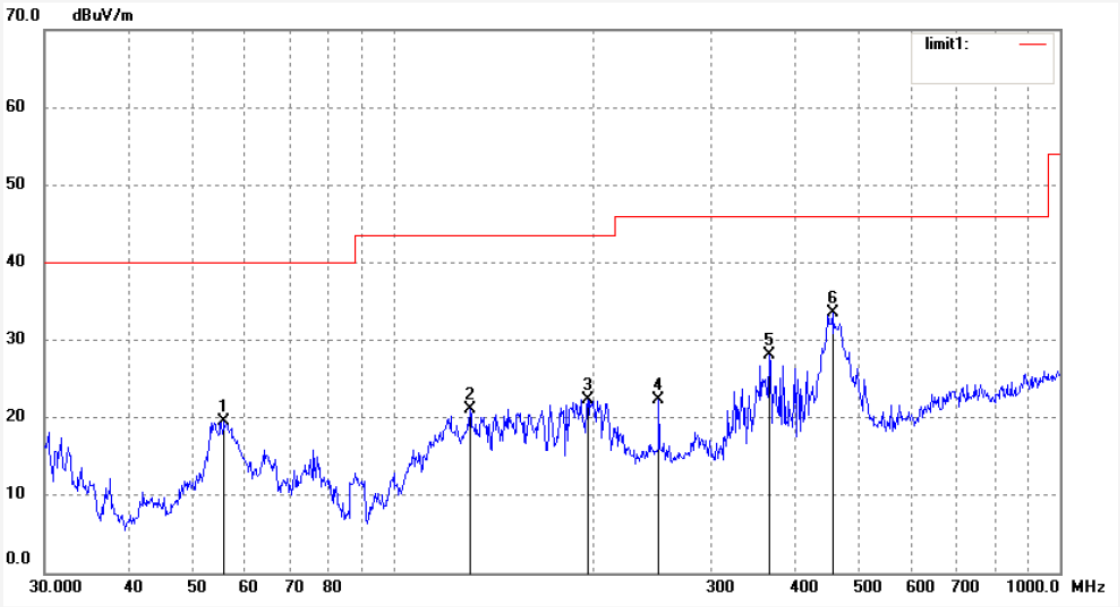
The frequency range from 30MHz to 18GHz is investigated.

The spectral diagrams are attached as below.

Test mode1
For Adapter1

| | |
|---|---|
| Job No.: ding #2529 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 13/50/57 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

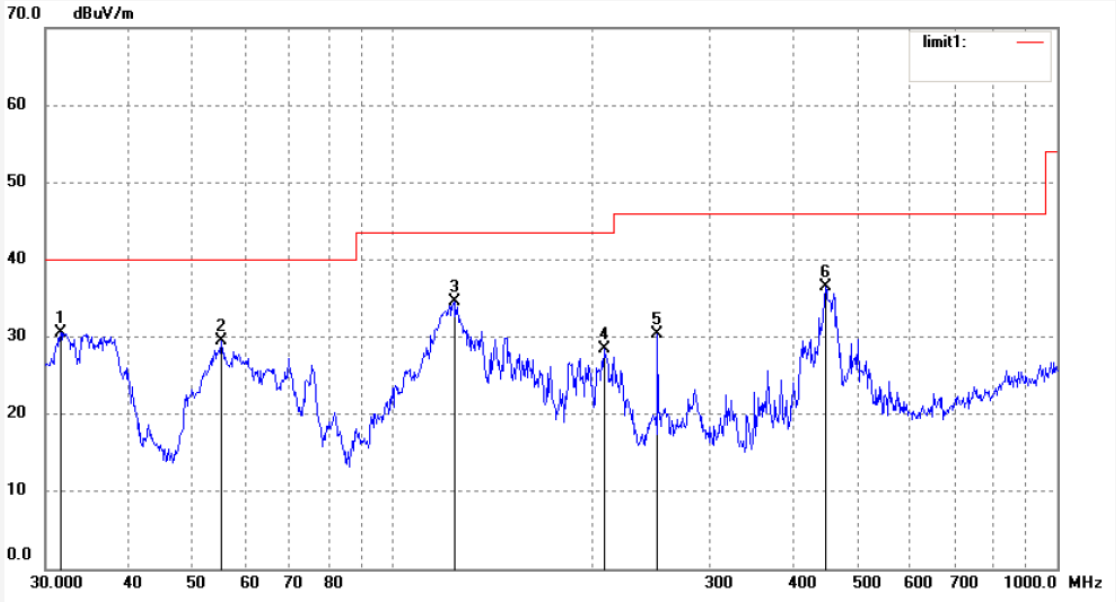
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 55.8046 | 37.14 | -17.60 | 19.54 | 40.00 | -20.46 | peak | | | |
| 2 | 130.3788 | 39.94 | -18.81 | 21.13 | 43.50 | -22.37 | peak | | | |
| 3 | 195.8220 | 39.97 | -17.63 | 22.34 | 43.50 | -21.16 | peak | | | |
| 4 | 250.3009 | 38.83 | -16.44 | 22.39 | 46.00 | -23.61 | peak | | | |
| 5 | 366.8231 | 41.22 | -13.11 | 28.11 | 46.00 | -17.89 | peak | | | |
| 6 | 455.9057 | 44.13 | -10.68 | 33.45 | 46.00 | -12.55 | peak | | | |

| | |
|---|---|
| Job No.: ding #2530 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 13/56/06 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

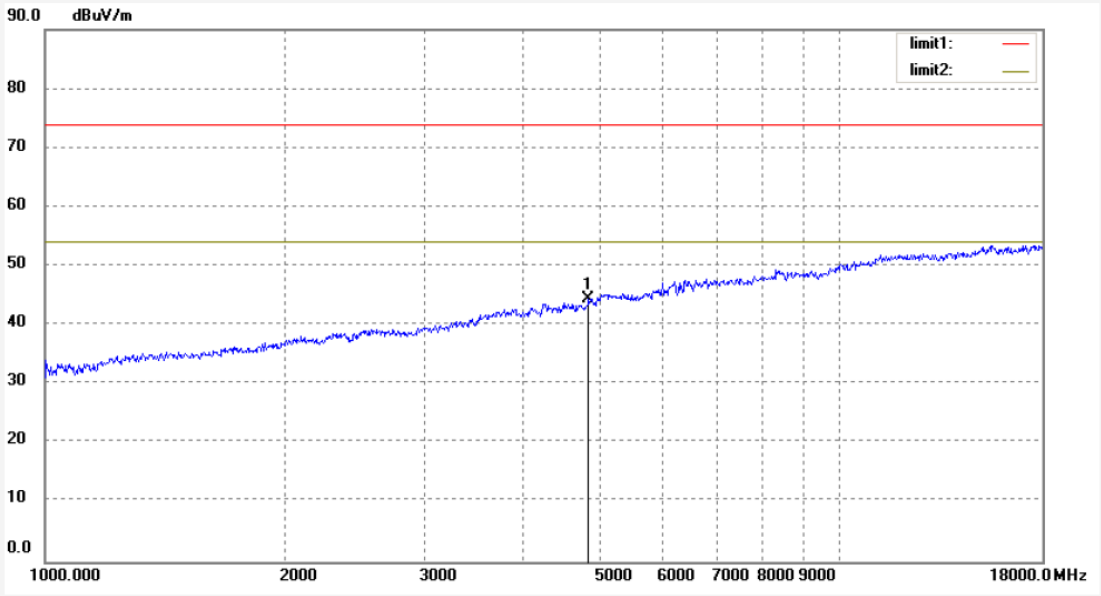
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31.6202 | 44.54 | -14.04 | 30.50 | 40.00 | -9.50 | peak | | | |
| 2 | 55.2207 | 47.14 | -17.73 | 29.41 | 40.00 | -10.59 | peak | | | |
| 3 | 123.6984 | 53.01 | -18.52 | 34.49 | 43.50 | -9.01 | peak | | | |
| 4 | 207.8498 | 45.91 | -17.49 | 28.42 | 43.50 | -15.08 | peak | | | |
| 5 | 250.3009 | 46.76 | -16.44 | 30.32 | 46.00 | -15.68 | peak | | | |
| 6 | 447.9821 | 47.14 | -10.73 | 36.41 | 46.00 | -9.59 | peak | | | |

| | |
|---|---|
| Job No.: DING #2539 | Polarization: Horizontal |
| Standard: FCC PK | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 10/34/59 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Print | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

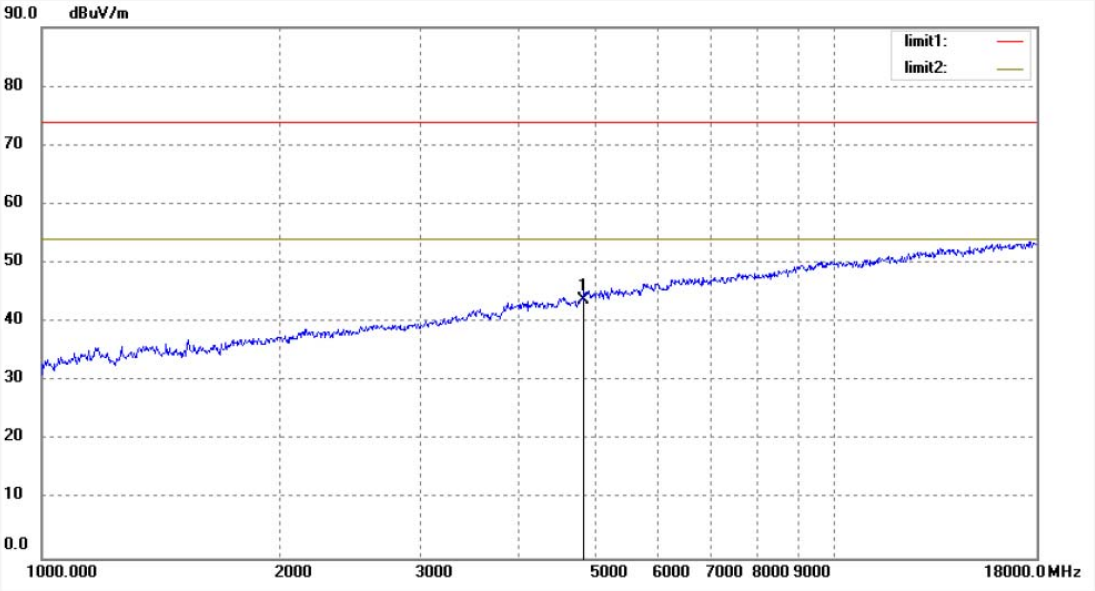
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4824.000 | 41.51 | 2.87 | 44.38 | 74.00 | -29.62 | peak | | | |

| | |
|---|---|
| Job No.: DING #2538 | Polarization: Vertical |
| Standard: FCC PK | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 10/33/24 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Print | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

Note: Report No.:SZXX1210918-48932E-EM

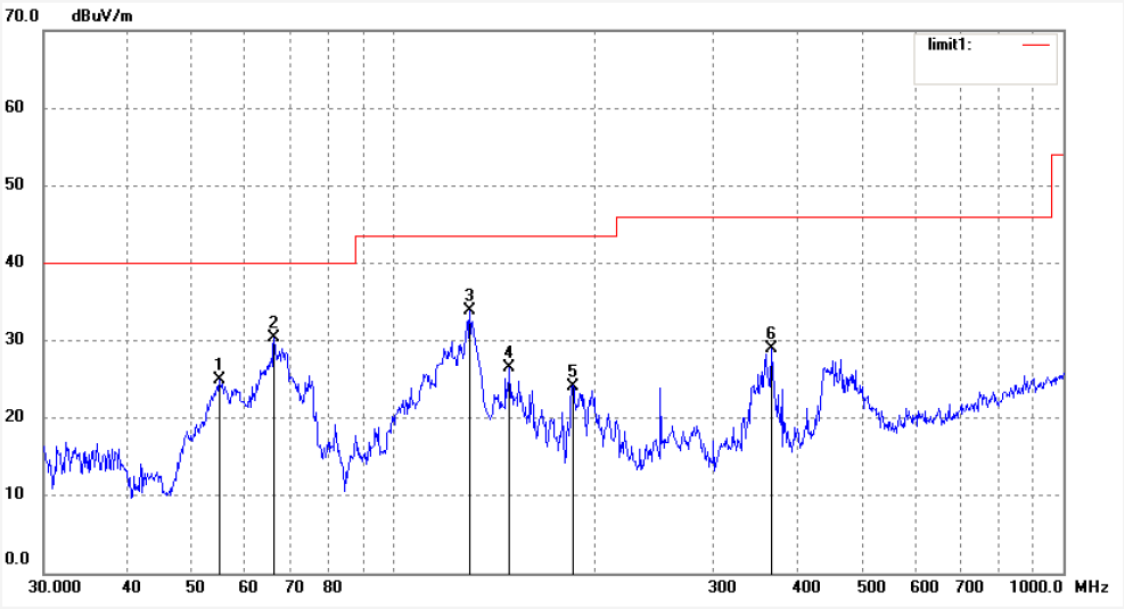



| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4824.000 | 40.97 | 2.87 | 43.84 | 74.00 | -30.16 | peak | | | |

## For Adapter2

| | |
|---|---|
| Job No.: ding #2603 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/19/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 12/49/16 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

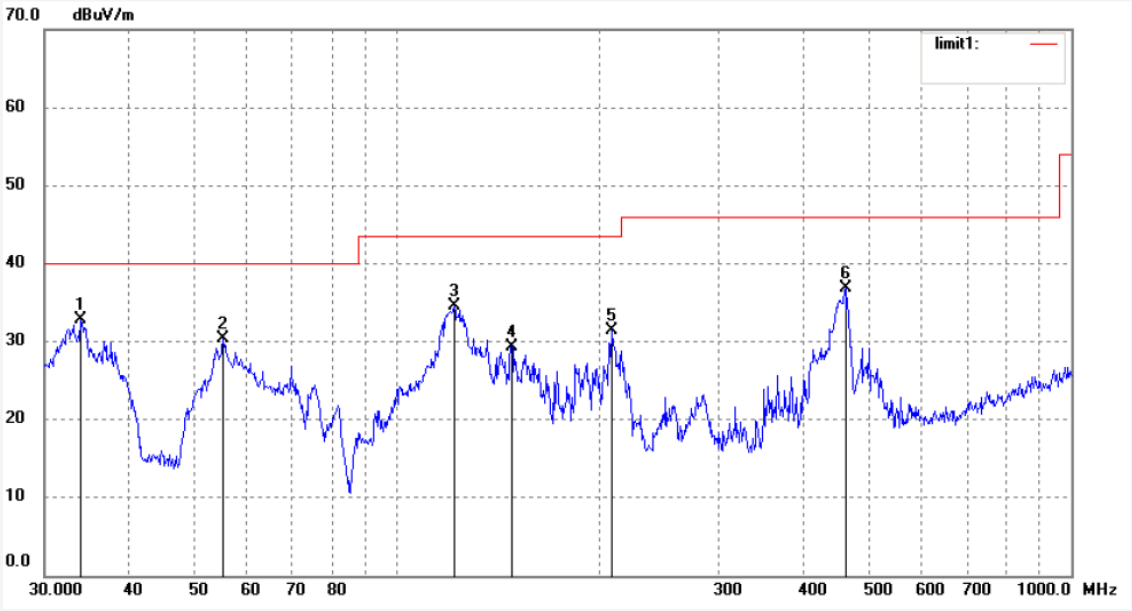
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 54.8348 | 42.39 | -17.39 | 25.00 | 40.00 | -15.00 | peak | | | |
| 2 | 66.2660 | 49.97 | -19.65 | 30.32 | 40.00 | -9.68 | peak | | | |
| 3 | 129.9225 | 52.68 | -18.79 | 33.89 | 43.50 | -9.61 | peak | | | |
| 4 | 148.9625 | 46.52 | -20.07 | 26.45 | 43.50 | -17.05 | peak | | | |
| 5 | 185.1379 | 41.96 | -17.81 | 24.15 | 43.50 | -19.35 | peak | | | |
| 6 | 366.8231 | 42.01 | -13.11 | 28.90 | 46.00 | -17.10 | peak | | | |

| | |
|---|---|
| Job No.: ding #2602 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/19/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 12/46/06 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

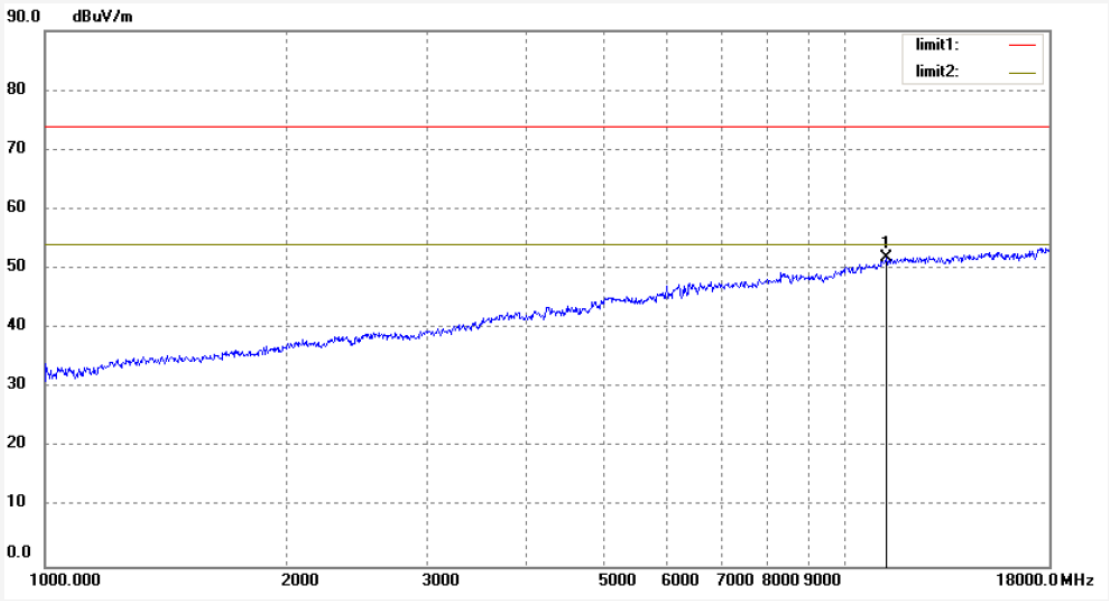
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 33.9174 | 47.58 | -14.74 | 32.84 | 40.00 | -7.16 | peak | | | |
| 2 | 55.2207 | 48.14 | -17.73 | 30.41 | 40.00 | -9.59 | peak | | | |
| 3 | 121.5485 | 52.86 | -18.26 | 34.60 | 43.50 | -8.90 | peak | | | |
| 4 | 147.9214 | 49.45 | -20.08 | 29.37 | 43.50 | -14.13 | peak | | | |
| 5 | 207.8498 | 48.91 | -17.49 | 31.42 | 43.50 | -12.08 | peak | | | |
| 6 | 462.3455 | 47.48 | -10.68 | 36.80 | 46.00 | -9.20 | peak | | | |

| | |
|---|---|
| Job No.: ding #2607 | Polarization: Horizontal |
| Standard: FCC PK | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/19/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 13/34/59 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

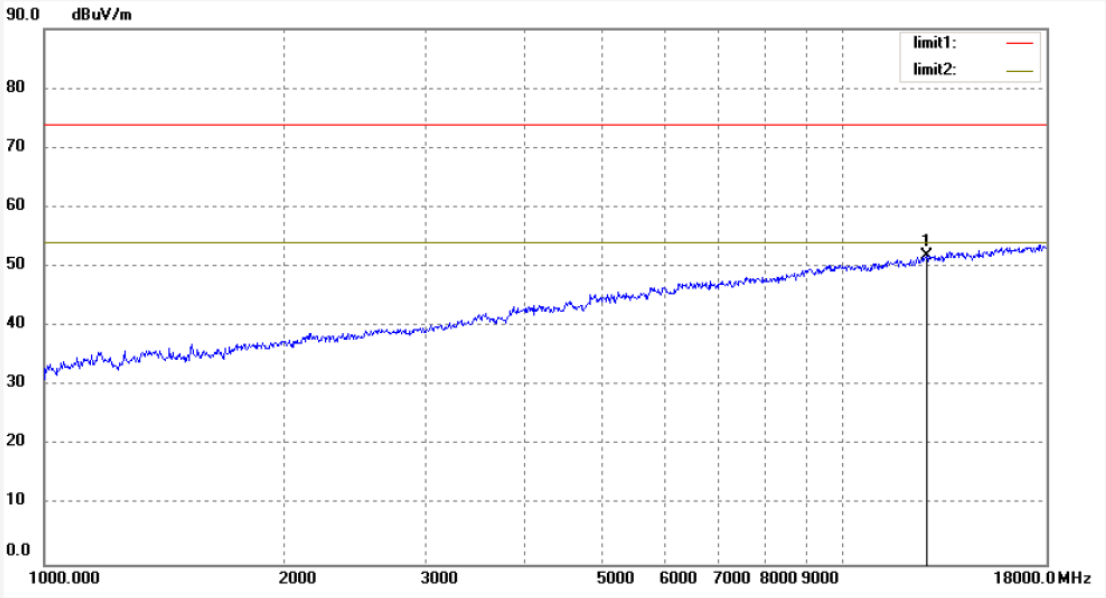
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11269.856 | 36.29 | 15.47 | 51.76 | 74.00 | -22.24 | peak | | | |

| | |
|---|---|
| Job No.: ding #2606 | Polarization: Vertical |
| Standard: FCC PK | Power Source: AC 120V/60Hz |
| Test item: Radiation Test | Date: 21/10/19/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 13/30/24 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Charging+Printing | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

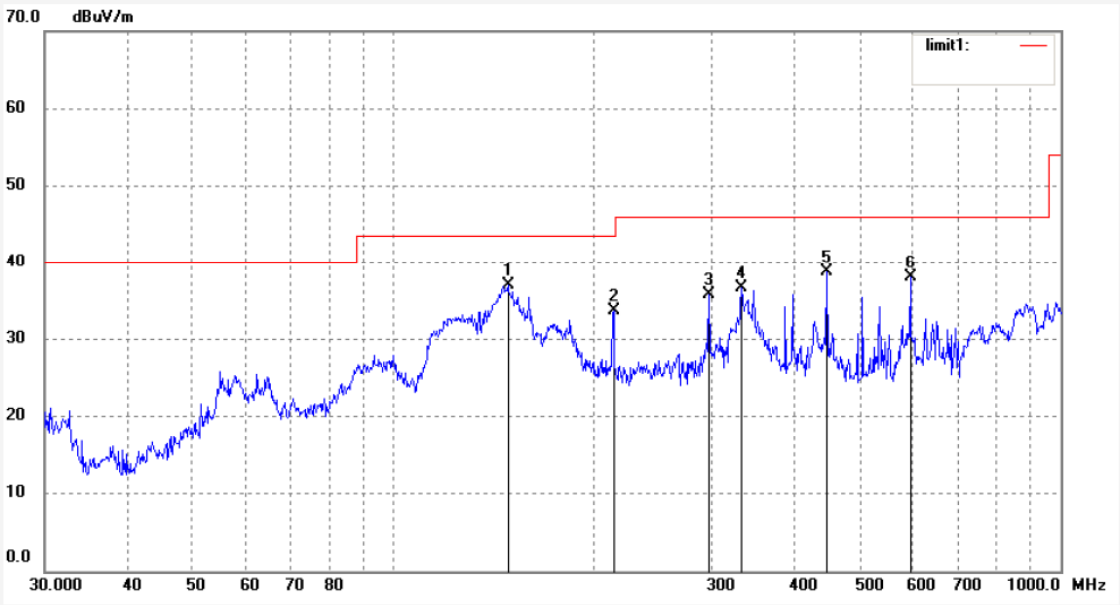
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12724.473 | 35.87 | 15.91 | 51.78 | 74.00 | -22.22 | peak | | | |

Test mode2

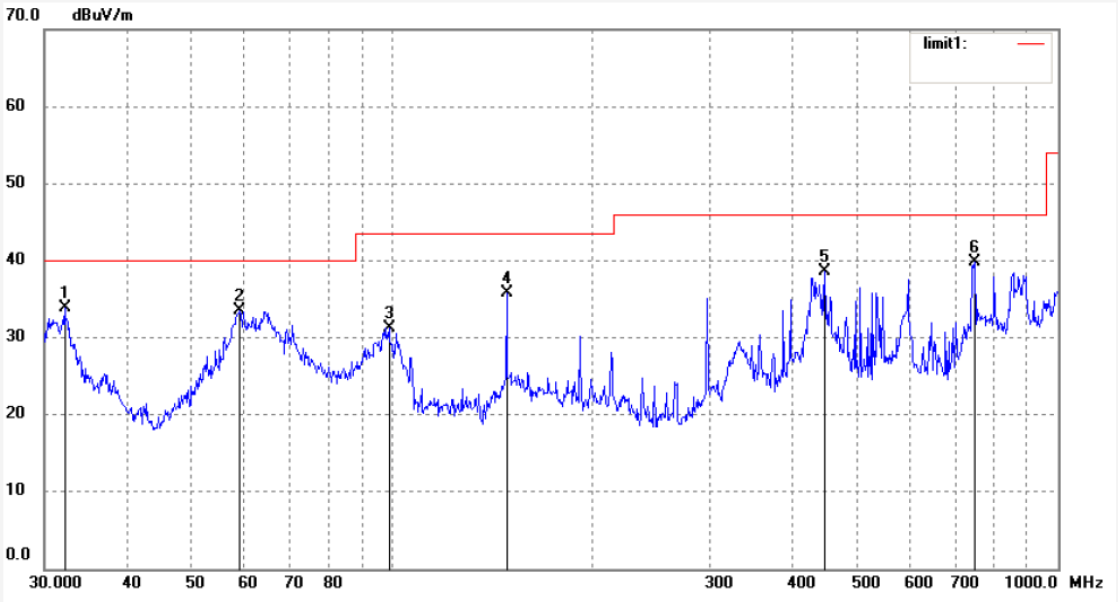
| | |
|---|---|
| Job No.: DING #2528 | Polarization: Horizontal |
| Standard: FCC Class B 3M Radiated | Power Source: DC 5V |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 15/48/26 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Data transmission | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |
| Note: Report No.:SZXX1210918-48932E-EM | |




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 148.4410 | 57.08 | -20.08 | 37.00 | 43.50 | -6.50 | peak | | | |
| 2 | 213.7633 | 50.92 | -17.26 | 33.66 | 43.50 | -9.84 | peak | | | |
| 3 | 297.2241 | 50.42 | -14.61 | 35.81 | 46.00 | -10.19 | peak | | | |
| 4 | 332.5187 | 50.36 | -13.74 | 36.62 | 46.00 | -9.38 | peak | | | |
| 5 | 446.4141 | 49.47 | -10.78 | 38.69 | 46.00 | -7.31 | peak | | | |
| 6 | 595.1327 | 46.02 | -7.91 | 38.11 | 46.00 | -7.89 | peak | | | |

| | |
|---|---|
| Job No.: DING #2527 | Polarization: Vertical |
| Standard: FCC Class B 3M Radiated | Power Source: DC 5V |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 15/44/38 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Data transmission | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

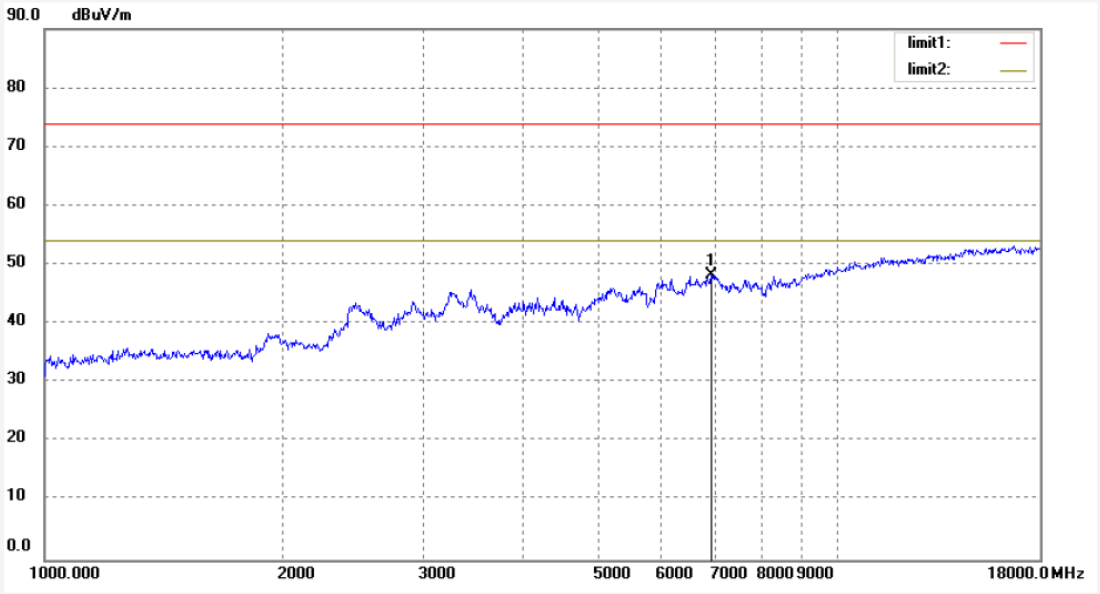
Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 32.1794 | 48.09 | -14.21 | 33.88 | 40.00 | -6.12 | peak | | | |
| 2 | 59.0251 | 51.98 | -18.49 | 33.49 | 40.00 | -6.51 | peak | | | |
| 3 | 98.8324 | 49.71 | -18.49 | 31.22 | 43.50 | -12.28 | peak | | | |
| 4 | 148.4410 | 55.85 | -20.08 | 35.77 | 43.50 | -7.73 | peak | | | |
| 5 | 446.4141 | 49.29 | -10.78 | 38.51 | 46.00 | -7.49 | peak | | | |
| 6 | 750.1082 | 45.70 | -5.89 | 39.81 | 46.00 | -6.19 | peak | | | |

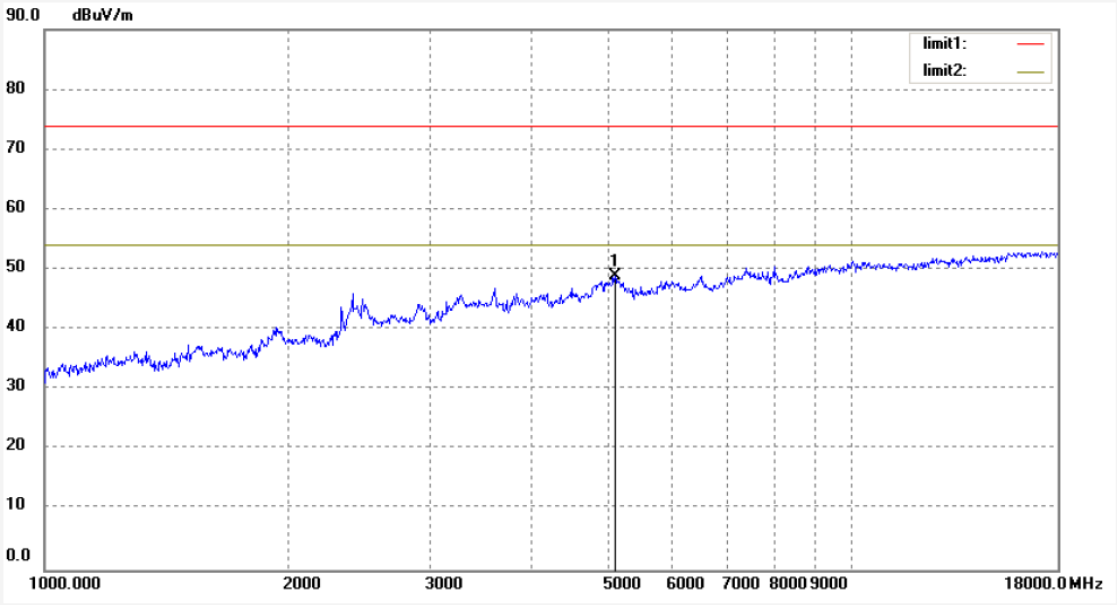
| | |
|---|---|
| Job No.: DING #2555 | Polarization: Horizontal |
| Standard: FCC PK | Power Source: DC 5V |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 10/56/46 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Data transmission | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |

Note: Report No.:SZXX1210918-48932E-EM




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6934.778 | 42.21 | 6.09 | 48.30 | 74.00 | -25.70 | peak | | | |

| | |
|---|---|
| Job No.: DING #2556 | Polarization: Vertical |
| Standard: FCC PK | Power Source: DC 5V |
| Test item: Radiation Test | Date: 21/10/18/ |
| Temp.( C)/Hum.(%) 23 C / 48 % | Time: 10/58/10 |
| EUT: Wireless POS Terminal | Engineer Signature: Black |
| Mode: Data transmission | Distance: 3m |
| Model: V71 | |
| Manufacturer: Vanstone Electronic (Beijing) Co., Ltd. | |
| Note: Report No.:SZXX1210918-48932E-EM | |




| No. | Freq. (MHz) | Reading (dBuV) | Factor (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5090.007 | 45.51 | 3.38 | 48.89 | 74.00 | -25.11 | peak | | | |

---------- THE END OF TEST REPORT ----------