# **FCC Test Report**

**APPLICANT**: VinSmart Research and Manufacture

**Joint Stock Company** 

**EQUIPMENT**: SMARTPHONE

BRAND NAME : Iris

MODEL NAME : V341U

FCC ID : 2AVD3V341U

STANDARD : 47 CFR Part 15 Subpart B

CLASSIFICATION : Certification

The product was completed on May 27, 2020. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Reviewed by: Jason Jia / Supervisor

JasonJia

Approved by: James Huang / Manager

Sporton International (Kunshan) Inc.

No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 1 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

ACCREDITED
Cert #5145.02

Report No.: FC042410-01

## **TABLE OF CONTENTS**

RE	VISIO	N HISTORY	3
SU	MMAR	Y OF TEST RESULT	2
		ERAL DESCRIPTION	
••	1.1. 1.2. 1.3. 1.4. 1.5. 1.6. 1.7.	Applicant  Manufacturer  Product Feature of Equipment Under Test  Product Specification of Equipment Under Test  Modification of EUT  Test Location.  Test Software	5 5 6
2.	2.1. 2.2.	Applicable Standards  CONFIGURATION OF EQUIPMENT UNDER TEST  Test Mode  Connection Diagram of Test System	8 8
2	2.3. 2.4.	Support Unit used in test configuration and system  EUT Operation Test Setup	10
	3.1. 3.2.	Test of AC Conducted Emission Measurement Test of Radiated Emission Measurement	11 15
4.	LIST	OF MEASURING EQUIPMENT	19
5.	UNCE	ERTAINTY OF EVALUATION	20
ΑP	PEND	IX A. SETUP PHOTOGRAPHS	

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 2 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

## **REVISION HISTORY**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC042410-01	Rev. 01	Initial issue of report	Jun. 29, 2020

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 3 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

### **SUMMARY OF TEST RESULT**

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	15.56 dB at
					0.156 MHz
					Under limit
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	6.66 dB at
					175.500 MHz

#### **Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

#### **Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 4 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report No.: FC042410-01

## 1. General Description

## 1.1. Applicant

#### VinSmart Research and Manufacture Joint Stock Company

Lot CN1-06B-1&2, Hi-tech Industrial Park 1, Hoa Lac Hi-tech Park, Ha Bang, Thach That, Hanoi, Vietnam

### 1.2. Manufacturer

#### VinSmart Research and Manufacture Joint Stock Company

Lot CN1-06B-1&2, Hi-tech Industrial Park 1, Hoa Lac Hi-tech Park, Ha Bang, Thach That, Hanoi, Vietnam

## 1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	SMARTPHONE
Brand Name	Iris
Model Name	V341U
FCC ID	2AVD3V341U
	GSM/WCDMA/LTE
FLIT cumports Padies application	WLAN 2.4GHz 802.11b/g/n HT20
EUT supports Radios application	Bluetooth BR/EDR/LE
	FM Receiver and GNSS
IMEL Code	Conduction: 355202110003798
IMEI Code	Radiation: 355202110004069
HW Version	REV 1.0
SW Version	V340U_USA_U_M1_200531 test-keys
EUT Stage	Identical Prototype

#### Remark:

- 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
- 2. This is a variant report for V341U. The change note could be referred to the product equality declaration which is exhibit separately. Based on the similarity between current and previous project, only the related test cases from original report (Sporton Report Number FC042410) were verified for the differences.

Sporton International (Kunshan) Inc.
TEL: +86-512-57900158

FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 5 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

## 1.4. Product Specification of Equipment Under Test

Standards-	-related Product Specification
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 10: 699.7 MHz ~ 795.5 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band IV: 2112.4 MHz ~ 2152.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 14: 760.5 MHz ~ 765.5 MHz LTE Band 30: 2352.5 MHz ~ 2357.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GNSS: 1559 MHz ~ 1610 MHz FM: 88 MHz ~ 108 MHz
Antenna Type	WWAN: LDS Antenna WLAN: LDS Antenna Bluetooth: LDS Antenna GNSS: LDS Antenna FM: External Earphone Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: BPSK HSDPA/DC-HSDPA: QPSK HSUPA: QPSK HSPA+: 16QAM(16QAM uplink is not supported) DC-HSDPA: 64QAM LTE: QPSK / 16QAM 802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE: GFSK Bluetooth (1Mbps): GFSK Bluetooth (2Mbps): $\pi$ /4-DQPSK Bluetooth (3Mbps): 8-DPSK GNSS: BPSK FM

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 6 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report No. : FC042410-01

### 1.5. Modification of EUT

No modifications are made to the EUT during all test items.

### 1.6. Test Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Ku	nshan) Inc.	
Test Site Location	No. 1098, Pengxi North F Jiangsu Province 215300 TEL: +86-512-57900158 FAX: +86-512-57900958	People's Republic of Ch	•
	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
Test Site No.	CO01-KS 03CH02-KS	CN1257	314309

Report No.: FC042410-01

### 1.7. Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-KS	AUDIX	E3	6.2009-8-24a
2.	CO01-KS	AUDIX	E3	6.2009-8-24

## 1.8. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart B
- ANSI C63.4-2014

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.

 Sporton International (Kunshan) Inc.
 Page Number
 : 7 of 20

 TEL: +86-512-57900158
 Report Issued Date
 : Jun. 29, 2020

 FAX: +86-512-57900958
 Report Version
 : Rev. 01

FCC ID : 2AVD3V341U Report Template No.: BU5-FC15B Version 3.0

## 2. Test Configuration of Equipment Under Test

### 2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted	Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle + WLAN Idle(2.4G) + Earphone + Camera(Rear) + USB Cable (Charging from Adapter )
Emission	Mode 2: LTE Band 14 Rx(Middle) + Bluetooth Idle + WLAN Idle(2.4G) + Earphone + Camera(Front) + USB Cable (Charging from Adapter)
Radiated	Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle + WLAN Idle(2.4G) + Earphone + Camera(Rear) + USB Cable (Charging from Adapter)
Emissions	Mode 2: LTE Band 14 Rx(Middle) + Bluetooth Idle + WLAN Idle(2.4G) + Earphone + Camera(Front) + USB Cable (Charging from Adapter)

#### Remark:

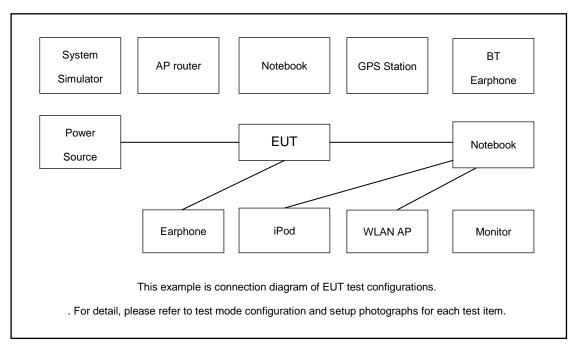
- 1. The worst case of AC is mode 2; only the test data of this mode is reported.
- 2. The worst case of RE is mode 2; only the test data of this mode is reported.
- Pre-scanned Low/Middle/High channel for GSM 850/LTE Band 14 Rx, the worst channel was recorded in this report.

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TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 8 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report No.: FC042410-01

## 2.2. Connection Diagram of Test System



The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 9 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

## 2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded,1.8m
3.	Bluetooth Earphone	Lenovo	LBH308	N/A	N/A	N/A
4.	Bluetooth	Xiaomi	LYEJ02LM	N/A	N/A	N/A
4.	Earphone	AldOIIII	LT EJUZLIVI	IN/A	IN/A	IN/A
5.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
6.	Notebook	Dell	Latitude3440	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
7.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A
8.	Hard disk	KINGSHARE	KSP6120G	Fcc DoC	Shielded, 1.2m	N/A
9.	SD Card	Kingston	8GB	N/A	N/A	N/A
10.	SD Card	SanDisk	Uitra	N/A	N/A	N/A

## 2.4. EUT Operation Test Setup

The EUT was in GSM or LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Turn on camera to capture images.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 10 of 20 Report Issued Date : Jun. 29, 2020 Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

### 3. Test Result

### 3.1. Test of AC Conducted Emission Measurement

#### 3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

#### <Class B Limit>

Frequency of emission	Conducted	limit (dBuV)
(MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

<sup>\*</sup>Decreases with the logarithm of the frequency.

#### 3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

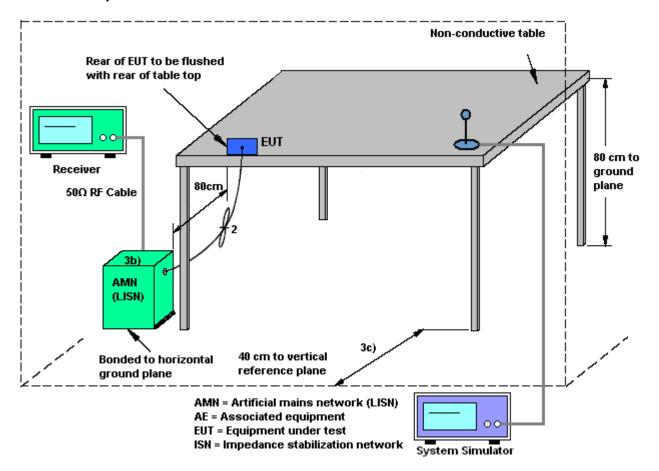
#### 3.1.3 Test Procedure

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

Report Template No.: BU5-FC15B Version 3.0

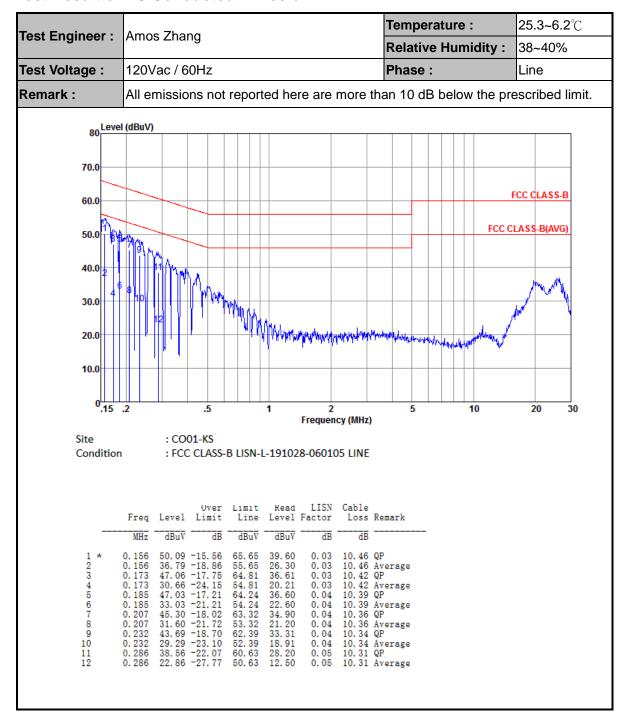
## C Test Report No. : FC042410-01

### 3.1.4 Test Setup



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 12 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

#### 3.1.5 Test Result of AC Conducted Emission



TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 13 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

Temperature: 25.3~6.2℃ Test Engineer: Amos Zhang **Relative Humidity:** 38~40% Test Voltage: 120Vac / 60Hz Phase: Neutral Remark: All emissions not reported here are more than 10 dB below the prescribed limit. 80 Level (dBuV) 70.0 FCC CLASS-B 60.0 FCC CLASS-B(AVG) 50.0 40.0 30.0 20.0 10.0 .5 10 20 30 Frequency (MHz) : CO01-KS Site Condition : FCC CLASS-B LISN-N-191028-060105 NEUTRAL 0ver Limit Read LISN Cable Freq Level Limit Line Level Factor Loss Remark MHz dBuV dΒ dBuV dBuV dB dB 47. 74 -17. 82 34. 74 -20. 82 45. 11 -19. 88 31. 03 -23. 96 42. 96 -20. 97 29. 06 -24. 87 41. 03 -21. 85 26. 33 -26. 55 40. 02 -22. 06 25. 52 -26. 56 37. 61 -23. 73 30. 11 -28, 33 10.46 QP 10.46 Average 10.43 QP 10.43 Average 65. 56 55. 56 64. 99 54. 99 63. 93 37. 20 24. 20 34. 60 20. 52 32. 50 18. 60 30. 60 0. 08 0. 08 0. 08 0. 08 0. 08 0.158 0.158 0.169 0.169 53. 93 62. 88 52. 88 62. 08 52. 08 61. 34 0. 08 0. 08 0. 08 0. 08 0. 08 0. 192 0. 219 10.38 10.35 15. 90 29. 60 15. 10 27. 19 219 0. 240 0. 240 10.34 QP 10.34 Av 10.34 Average 10.33 QP 0.09 0.263 10.33 Average

#### Note:

- 1. Level( $dB\mu V$ ) = Read Level( $dB\mu V$ ) + LISN Factor(dB) + Cable Loss(dB)
- 2. Over Limit(dB) = Level(dB $\mu$ V) Limit Line(dB $\mu$ V)

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 14 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

### 3.2. Test of Radiated Emission Measurement

#### 3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

#### <Class B Limit>

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

#### 3.2.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

#### 3.2.3. Test Procedures

- 1. The EUT was placed on a turntable with 0.8 meter above ground.
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation.
- 4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
- 7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
- 8. Emission level  $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

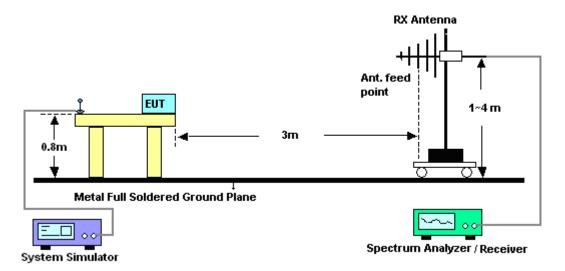
Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 15 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

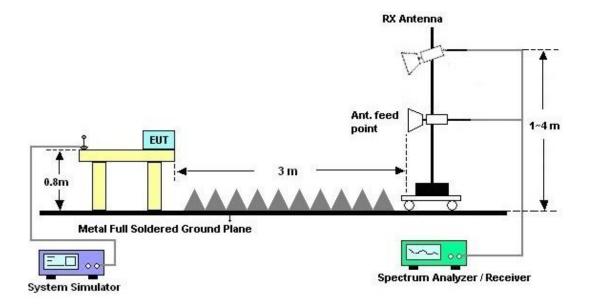
Report Template No.: BU5-FC15B Version 3.0

### 3.2.4. Test Setup of Radiated Emission

#### For radiated emissions from 30MHz to 1GHz



#### For radiated emissions above 1GHz

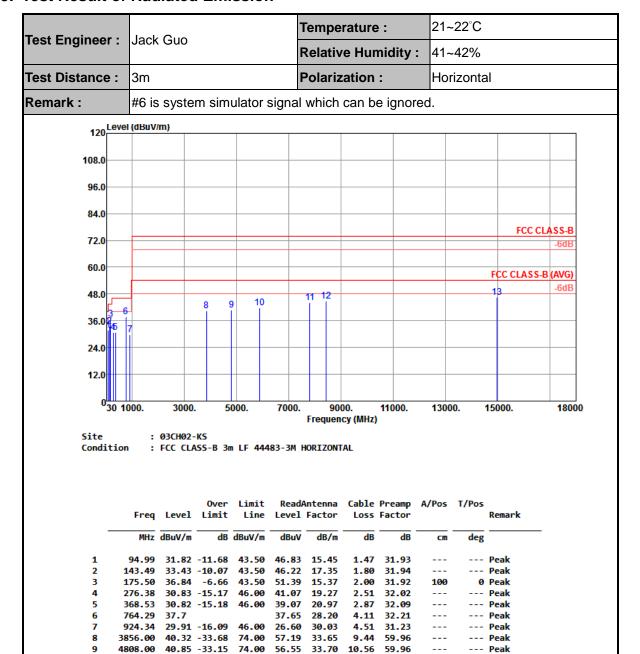


Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 16 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

### 3.2.5. Test Result of Radiated Emission



5880.00

8416.00

11

41.70 -32.30

44.73 -29.27

7808.00 44.02 -29.98 74.00

14967.00 46.44 -27.56 74.00

74.00

74.00

54.89

55.41

55.46

18.85

34.91

36.14

36.43

40.25

11.84

13.53

14.02

19.12

61.06

61.18

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 17 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

--- Peak

--- Peak

--- Peak

--- Peak

Report Template No.: BU5-FC15B Version 3.0



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		k Guo			Ī	Relativ	e Hur	nidity	: 41~	41~42%		
est Distance	: 3m				ı	Polariz	ation	:	Ver	tical		
emark :	#6 i	s syste	m sim	ulator	signal	which	can b	e ignor	ed.			
120	Level (dBu\	//m)										
120												
108.0												
96.0												
84.0												
											FCC (	CLASS-B
72.0												-6dB
60.0											FCC CLASS	S-B (AVG)
48.0								12				-6 <b>d</b> B
48.0	6		8 9	1	0	11						ΙÏΙ
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Site Condi	:	3000 03CH02- FCC CL/	-KS			Frequen	cy (MHz)		1300	0.	15000.	1800
Site	:	03CH02-	-KS			Frequen	cy (MHz)		1300	0.	15000.	1800
Site	:	03CH02-	-KS			Frequen	cy (MHz)		1300	0.	15000.	1800
Site	:	03CH02-	-KS ASS-B 31	n LF 444	183-3M \	Frequen Vertical	cy (MHz)	•			15000.	1800
Site	: tion :	03CH02-	-KS ASS-B 31 Over	n LF 444 Limit	183-3M \ Read	Frequen Vertical	cy (MHz)				15000.	1800
Site	: tion : Freq	03CH02- FCC CLA	-KS ASS-B 30 Over Limit	n LF 444 Limit Line	Read Level	Frequen VERTICAL Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos		1800
Site Condi	tion : Freq	03CH02- FCC CL/ Level	Over Limit  dB	Limit Line	Read, Level	Frequen VERTICAL Antenna Factor dB/m	Cable Loss	Preamp Factor	A/Pos	T/Pos deg	Remark 	1800
Site Condi	: tion : Freq MHz 40.67	03CH02- FCC CL/ Level dBuV/m	Over Limit  dB	Limit Line dBuV/m	Read, Level dBuV 41.30	Frequen VERTICAL  Antenna Factor  dB/m  19.31	Cable Loss  dB  0.88	Preamp Factor dB 31.96	A/Pos	T/Pos deg 0	Remark —	1800
Site Condi	Freq MHz 40.67 94.99	03CH02- FCC CL/ Level	Over Limit dB -10.47	Limit Line dBuV/m 40.00 43.50	Readd Level dBuV 41.30 46.22	Antenna Factor dB/m 19.31 15.45	Cable Loss dB 0.88 1.47	Preamp Factor	A/Pos	T/Pos deg 0	Remark 	1800
Site Condi	Freq MHz 40.67 94.99 111.48 191.02	03CH02- FCC CL/ Level dBuV/m 29.53 31.21 26.87 27.38	Over Limit dB -10.47 -12.29 -16.63 -16.12	Limit Line dBuV/m 40.00 43.50 43.50 43.50	Read, Level dBuV 41.30 46.22 40.09 42.36	Antenna Factor dB/m 19.31 15.45 17.11 14.83	Cable Loss dB 0.88 1.47 1.60 2.10	Preamp Factor  dB  31.96 31.93 31.93 31.91	A/Pos Cm 100	deg 0	Remark ————————————————————————————————————	1800
Site Condi	Freq MHz 40.67 94.99 111.48 191.02 367.56	03CH02- FCC CL/ Level dBuV/m 29.53 31.21 26.87 27.38 29.40	Over Limit ———————————————————————————————————	Limit Line dBuV/m 40.00 43.50 43.50 43.50	Read, Level dBuV 41.30 46.22 40.09 42.36 37.67	Antenna Factor	Cable Loss	Preamp Factor dB 31.96 31.93 31.91 32.09	A/Pos	deg 0 	Remark  Peak Peak Peak Peak Peak	1800
Site Condi: 1 2 3 4 5 6	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35	03CH02- FCC CLA Level dBuV/m 29.53 31.21 26.87 27.38 29.40 39.40	Over Limit dB -10.47 -12.29 -16.63 -16.12 -16.60	Limit Line dBuV/m 40.00 43.50 43.50 43.50 43.50	Read/ Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31	Antenna Factor dB/m 19.31 15.45 17.11 14.83 20.95 28.20	Cable Loss dB 0.88 1.47 1.60 2.10 2.87 4.11	Preamp Factor dB 31.96 31.93 31.93 31.91 32.09 32.22	A/Pos	deg 0  	Remark  Peak Peak Peak Peak Peak Peak Peak	1800
Site Condi: 1 2 3 4 5 6 7	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35 944.71	03CH02: FCC CL/ Level 29.53 31.21 26.87 27.38 29.40 39.40	Over Limit dB -10.47 -12.29 -16.63 -16.12 -16.60	Limit Line dBuV/m 40.00 43.50 43.50 43.60 46.00	Read, Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31 25.79	Antenna Factor dB/m 19.31 15.45 17.11 14.83 20.95 28.20 30.81	Cable Loss  ### dB  ### 0.88  1.47  1.60  2.10  2.10  4.11  4.56	Preamp Factor  dB  31.96 31.93 31.93 31.91 32.09 32.22 31.04	A/Pos	deg 0 	Remark Peak Peak Peak Peak Peak Peak Peak Pea	1800
Site Condi 1 2 3 4 5 6 7 8	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35 944.71 3648.00	03CH02- FCC CL/ Level	Over Limit  -10.47 -12.29 -16.63 -16.12 -16.60 -15.88 -34.21	Limit Line dBuV/m 40.00 43.50 43.50 43.50 46.00 74.00	Read, Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31 25.79 57.56	Antenna Factor dB/m 19.31 15.45 17.11 14.83 20.95 28.20 30.81 33.00	Cable Loss  dB  0.88 1.47 1.60 2.10 2.87 4.11 4.56 9.08	Preamp Factor dB 31.96 31.93 31.91 32.09 32.22 31.04 59.85	A/Pos  cm 100	deg 0	Remark Peak Peak Peak Peak Peak Peak Peak Pea	1800
Site Condi: 1 2 3 4 5 6 7 8 9	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35 944.71 3648.00	03CH02- FCC CL/ Level dBuV/m 29.53 31.21 26.87 27.38 29.40 39.40 39.40 39.79 40.83	Over Limit  -10.47 -12.29 -16.63 -16.12 -16.60 -15.88 -34.21 -33.17	Limit Line dBuV/m 40.00 43.50 43.50 43.50 46.00 74.00 74.00	Read, Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31 25.79 57.56 57.12	Antenna Factor	Cable Loss  dB  0.88 1.47 1.60 2.10 2.87 4.11 4.56 9.08 10.26	Preamp Factor  dB  31.96 31.93 31.91 32.09 32.22 31.04 59.85 60.00	A/Pos	deg 0   	Remark Peak Peak Peak Peak Peak Peak Peak Pea	1800
Site Condi 1 2 3 4 5 6 7 8	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35 944.71 3648.00 6192.00	03CH02- FCC CL/ Level	Over Limit  -10.47 -12.29 -16.63 -16.12 -16.60 -15.88 -34.21 -33.17 -31.47	Limit Line dBuV/m 40.00 43.50 43.50 43.50 46.00 74.00 74.00 74.00	Readd Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31 25.79 57.56 57.12	Antenna Factor  19.31 15.45 17.11 14.83 20.95 28.20 30.81 33.00 33.45 35.06	Cable Loss dB 0.88 1.47 1.60 2.10 2.87 4.11 4.56 9.08	Preamp Factor  dB  31.96 31.93 31.91 32.09 32.22 31.04 59.85 60.00 60.27	A/Pos  cm 100	deg 0   	Remark Peak Peak Peak Peak Peak Peak Peak Pea	1800
Site Condi 1 2 3 4 5 6 7 8 9	Freq MHz 40.67 94.99 111.48 191.02 367.56 762.35 944.71 3648.00 6192.00	03CH02- FCC CL/ Level dBuV/m 29.53 31.21 26.87 27.38 29.40 39.40 30.12 39.79 40.83 42.53	Over Limit  -10.47 -12.29 -16.63 -16.12 -16.60 -15.88 -34.21 -33.17 -31.47	Limit Line dBuV/m 40.00 43.50 43.50 43.50 46.00 74.00 74.00 74.00 74.00	Readd Level dBuV 41.30 46.22 40.09 42.36 37.67 39.31 25.79 57.56 57.12 55.77 54.95	Antenna Factor  19.31 15.45 17.11 14.83 20.95 28.20 30.81 33.00 33.45 35.06 36.49	Cable Loss  dB  0.88 1.47 1.60 2.10 2.87 4.11 4.56 9.08 10.26 11.97 14.16	Preamp Factor  31.96 31.93 31.93 31.91 32.09 32.22 31.04 59.85 60.00 60.27 61.20	A/Pos  100	deg 0   	Remark Peak Peak Peak Peak Peak Peak Peak Pea	1800

#### Note:

- 1. Level( $dB\mu V/m$ ) = Read Level( $dB\mu V$ ) + Antenna Factor(dB/m) + Cable Loss(dB) Preamp Factor(dB)
- 2. Over Limit(dB) = Level(dB $\mu$ V/m) Limit Line(dB $\mu$ V/m)

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Page Number : 18 of 20 Report Issued Date: Jun. 29, 2020 : Rev. 01 Report Version

Report Template No.: BU5-FC15B Version 3.0

## 4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Ma x 30dBm	Aug. 06, 2019	May 26, 2020	Aug. 05, 2020	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44G,MAX 30dB	Apr. 14, 2020	May 26, 2020	Apr. 13, 2021	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2019	May 26, 2020	May 29, 2020	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Jan. 27, 2020	May 26, 2020	Jan. 26, 2021	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2019	May 26, 2020	Nov. 09, 2020	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 08, 2020	May 26, 2020	Jan. 07, 2021	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Aug. 06, 2019	May 26, 2020	Aug. 05, 2020	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5G Hz	Apr. 14, 2020	May 26, 2020	Apr. 13, 2021	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	61601000247 3	N/A	NCR	May 26, 2020	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	May 26, 2020	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	May 26, 2020	NCR	Radiation (03CH02-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 15, 2020	May 27, 2020	Apr. 14, 2021	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2019	May 27, 2020	Oct. 10, 2020	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 28, 2019	May 27, 2020	Oct. 27, 2020	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2019	May 27, 2020	Oct. 10, 2020	Conduction (CO01-KS)

NCR: No Calibration Required

Sporton International (Kunshan) Inc.

TEL: +86-512-57900158 FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 19 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0

## 5. Uncertainty of Evaluation

#### **Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)**

Measuring Uncertainty for a Level of Confidence	2.9dB
of 95% (U = 2Uc(y))	2.900

#### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	4.9dB
of 95% (U = 2Uc(y))	4.906

### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	5.0dB
of 95% (U = 2Uc(y))	3.0db

#### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence	5.4.10
of 95% (U = 2Uc(y))	5.1dB

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FAX: +86-512-57900958 FCC ID: 2AVD3V341U Page Number : 20 of 20
Report Issued Date : Jun. 29, 2020
Report Version : Rev. 01

Report Template No.: BU5-FC15B Version 3.0