



Project No.: TM-2201000339P Report No.: TMTN2201000091NR FCC ID: XO8-FS915-1

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# FCC 47 CFR PART 15 SUBPART C ANSI C63.10: 2013

# **TEST REPORT**

For

# Fall Sensor

Model: FS915CA

Brand:

**Test Report Number:** TMTN2201000091NR

Issued to

Instant Care, Inc. 2080 Wineridge PI.Suite A, Escondido, California, United States, 92029

Issued by

**Compliance Certification Services Inc.** Tainan Lab. No.8, Jiucengling, Xinhua Dist., Tainan City, Taiwan Issued Date: March 16, 2022

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#### **REVISION HISTORY**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	February 23, 2022	Initial Issue	ALL	Gina Lin
01	March 09, 2022	See the following note rev.01	ALL	Gina Lin
02	March 15, 2022	See the following note rev.02	Page 6	Gina Lin
03	March 16, 2022	See the following note rev.03	Page 8, 26	Gina Lin
04	March 16, 2022	See the following note rev.04	Page 8	Gina Lin

#### Note:

- Rev.00 Issue Date: February 23, 2022 Original Report
- Rev.01 Issue Date: March 09, 2022
   Update general test procedure.
   Add test data of 20 dB.
   Revise typo.
- Rev.02 Issue Date: March 15, 2022 Revise typo.
- Rev.03 Issue Date: March 16, 2022
   Update measurement equipment & add remark 8 on page26.
- Rev.04 Issue Date: March 16, 2022 Update measurement equipment.



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Report No.: TMTN2201000091NR

### 1. TEST RESULT CERTIFICATION

Product: Fall Sensor

Model: FS915CA

Brand Name:



 Applicant:
 Instant Care, Inc.

 2080 Wineridge PI.Suite A,Escondido,California,United States, 92029

 Manufacturer:
 Vision Automobile Electronics Industrial Co Ltd.

No.78, Gongye 3rd Rd., Technology Industrial Park, Tainan, Taiwan, 70955

Tested: January 20, 2022 ~ January 27, 2022

## APPLICABLE STANDARDS

STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C ANSI C63.10: 2013	No non-compliance noted

#### **Statements of Conformity**

Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

FCC Standard Section	Report Section	Test Item	Result
15.203	2	Antenna Requirement	Pass
15.215(c)	7.1	20dB BANDWIDTH	Pass
-	7.2	DUTY CYCLE	-
15.249(a)	7.3	SPURIOUS EMISSION	Pass
15.207(a)	7.4	POWERLINE CONDUCTED EMISSIONS	N/A

#### We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements emission limits of FCC Rules Part 15.107, 15.109,15.207, 15.209 and 15.249.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

John Chan

John Chen Supervisor



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### 2. EUT DESCRIPTION

Product	Fall Sensor
Model Number	FS915CA
Brand Name	Instant Care
Received Date	January 18, 2022
Reported Date	February 14, 2022
Operation Frequency	915MHz± 20kHz
Transmit Peak Power	94.120 dBuV/m
Transmit Data Rate	19.2Kbps
Type of Modulation	FSK
Number of Channels	1 Channel
Power Supply	3Vdc (Powered from battery)
Antenna Type	Type: PCB Antenna Model: FS915CA Manufacturer: N/A Gain: -3.9dBi
MCU CHIP Brand /Model	(U3) Microchip / PIC16LF1825
RF Module Brand /Model	(U1) TI / CC115L
Firmware Version	Rev.0
Software Version	Rev.0
Temperature Range	-20°C ~ +60°C

#### Remark:

- 1. Client consigns only one model sample to test (Model Number: **FS915CA**). Therefore, the testing Lab. just guarantees the unit, which has been tested.
- 2. This submittal(s) (test report) is intended for FCC ID: XO8-FS915-1 filing to comply with Section 15.207, 15.209, 15.249.
- 3. Antenna requirement: permanently attached antenna.
- 4. For more details, please refer to the User's manual of the EUT.



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# 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.249.

## 3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

## 3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209, 15.249 under the FCC Rules Part 15 Subpart C.

## 3.3 GENERAL TEST PROCEDURES

#### **Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.10 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

#### **Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m & 1.5m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10.



#### 3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

1. Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 <b>-</b> 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 <b>-</b>	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(2)
13.36 - 13.41	322 - 335.4		

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

2. Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

### 3.5 DESCRIPTION OF TEST MODES

The EUT (**Model: FS915CA**) had been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

Note :

The field strength of spurious emission was measured in the following position:

1) The field strength of spurious emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis). The worst emission was found in lie-down position (X axis) and the worst case was recorded.



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# 4. INSTRUMENT CALIBRATION

### 4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

### 4.2 MEASUREMENT EQUIPMENT USED

#### Equipment Used for Emissions Measurement

Chamber Room #966						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	09/06/2021	09/05/2023	
Bilog Antenna With 6dB Attenator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A070506-1 & AT-N0681	10/07/2021	10/06/2022	
Cable	Suhner	SUCOFLEX104 PEA	20520/4PEA&O 6	01/29/2021	01/28/2022	
Double Ridged Guide Horn Antenna	ETS-LINDGRE N	3116	00078900	03/30/2021	03/29/2022	
EMI Test Receiver	R&S	ESCI	100960	02/05/2021	02/04/2022	
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	07/22/2021	07/21/2022	
Horn Antenna	Com-Power	AH-118	071032	05/04/2021	05/03/2022	
Pre-Amplifier	EMCI	EMC012645	980098	01/29/2021	01/28/2022	
Pre-Amplifier	HP	8447F	2443A01683	01/18/2022	01/17/2023	
Pre-Amplifier	Com-Power	PAM-840A	461378	07/05/2021	07/04/2022	
Type N coaxial cable	Suhner	CHA9513	6	01/18/2022	01/17/2023	
Notch Filter	MICRO-TRONI CS	BRM50702-01	018	N.C.R	N.C.R	
Software	Excel(ccs-o6-2020 v1.1) , e3(v6.101222)					

**Remark:** Each piece of equipment is scheduled for calibration once a year.



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### 4.3 MEASUREMENT UNCERTAINTY

Parameter	Uncertainty
Radiated Emission, 30 to 200 MHz Test Site : CB966	±3.1dB
Radiated Emission, 200 to 1000 MHz Test Site : CB966	±2.7dB
Radiated Emission, 1 to 6 GHz	± 2.7dB
Radiated Emission, 6 to 18 GHz	± 2.7dB
Radiated Emission, 18 to 26.5 GHz	± 2.7dB
Radiated Emission, 26 to 40 GHz	± 3.7dB
Power Line Conducted Emission	± 2.0dB

Uncertainty figures are valid to a confidence level of 95%, k=2



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# 5. FACILITIES AND ACCREDITATIONS

### 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

⊠ No.8, Jiucengling, Xinhua Dist., Tainan City 712, Taiwan (R.O.C.)

The sites are constructed in conformance with the requirements of ANSI C63.7:1992, ANSI C63.10: 2013 and CISPR Publication 22.

#### 5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 5.3 LABORATORY ACCREDITATIONS LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by Taiwan Accreditation Foundation for the specific scope of accreditation under Lab Code: 1109 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by TAF or any agency of the Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: TW1109).



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#### 5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

Taiwan TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Germany	TUV NORD
Taiwan	BSMI
USA	FCC



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## 6. SETUP OF EQUIPMENT UNDER TEST

#### 6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

### 6.2 SUPPORT EQUIPMENT

[RF]

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable	
1	N/A	N/A	N/A	N/A	N/A	
No.	Io. Signal cable description					
	0	•				

#### [EMC]

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable	
1	N/A	N/A	N/A	N/A	N/A	
No.	No. Signal cable description					
А	N/A	N/A				

#### Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.



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## 6.3 CONFIGURATION OF SYSTEM UNDER TEST

### [RF]



## 6.4 EUT OPERATING CONDITION

#### **RF Setup**

- 1. Set up a whole system as the setup diagram.
- 2. Turn on power.



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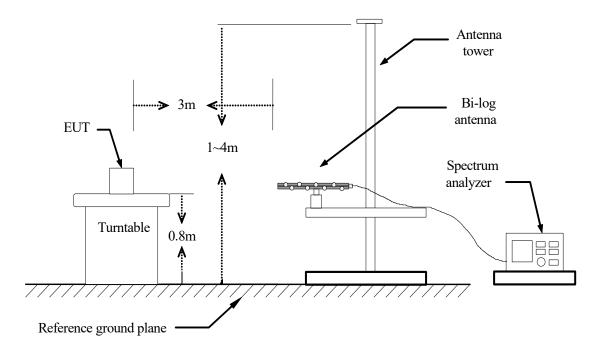
### 7. FCC PART 15.249 REQUIREMENTS

#### 7.1 20 dB BANDWIDTH

#### <u>LIMIT</u>

None; for reporting purposes only.

#### **TEST CONFIGURATION**



#### TEST PROCEDURE

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Set the spectrum analyzer in the following setting as: RBW is set to 10 kHz and VBW is set 300kHz.



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### **TEST RESULTS**

No non-compliance noted.

#### TEST DATA

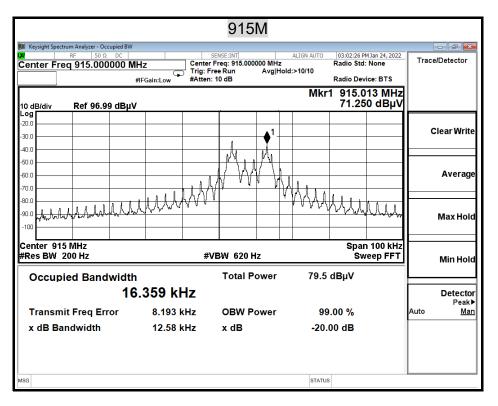
<b>Operation Mode:</b>	ТХ	Test Date:	2022/01/20
Temperature:	20.4°C	Tested by:	Peter Chu
Humidity:	56% RH	Polarity:	Ver. / Hor.

Frequency	20 dB Bandwidth
(MHz)	(kHz)
915	12.58



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#### TEST PLOT





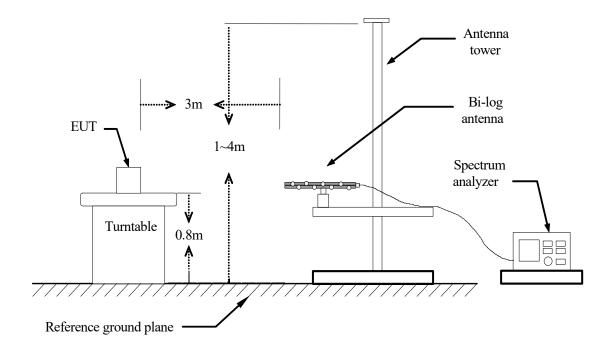
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# 7.2 DUTY CYCLE

#### <u>LIMIT</u>

Nil (No dedicated limit specified in the Rules)

#### **TEST CONFIGURATION**



#### **TEST PROCEDURE**

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Set center frequency of spectrum analyzer = operating frequency.
- 3. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 0Hz, a suitable Sweep Time.
- 4. Repeat above procedures until all frequency measured were complete.

### **TEST RESULTS**

No non-compliance noted.



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#### TEST DATA

<b>Operation Mode:</b>	ТΧ
Temperature:	20.4°C
Humidity:	56% RH

Test Date:	2022/01/20
Tested by:	Peter Chu
Polarity:	Ver. / Hor.

#### 915M

	us	Times	Ton	Total Ton time(ms)
Ton1	100000.000	1	100000.000	100.000
Ton2		0	0.000	
Ton3		0	0.000	
Тр				100.000

Ton	100.000	
Tp(Ton+Toff)	100.000	
Duty Cycle	1.000	
Duty Factor	0.000	



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#### TEST PLOT

			915	5M		
	ectrum Analyzer - Swept SA					- 6 💌
× Center F	RF 50 Ω DC Treq 915.000000 N	PNO: Fast ++-	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr	02:56:02 PM Jan 24, 2022 TRACE 1 2 3 4 5 6 TYPE WWWWW DET P P A N N N	Frequency
10 dB/div	Ref 106.99 dBµV	IFGain:Low	#Atten: 10 dB		Mkr1 97.20 ms 74.33 dBµV	Auto Tuno
og						Center Free
97.0						915.000000 MH
87.0						Start Fre
77.0	· · · ·				· · · • • 1	915.000000 MH
67.0					TRIG LVL	Stop Fre
57.0						915.000000 MH
47.0						CF Stej 2.440000000 GH
37.0						Auto <u>Ma</u>
27.0						<b>Freq Offse</b> 0 H
17.0						
Center 91 Res BW 1	15.000000 MHz 1.0 MHz	#VBW	3.0 MHz	Sweep 1	Span 0 Hz 100.0 ms (1001 pts)	
SG				STATU	s	



### 7.3 SPURIOUS EMISSION

## <u>LIMIT</u>

1. In the section 15.249(a):

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental Field Strength (mV/m)	Field Strength of Harmonics (µV/m)
902-928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

2. Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

**Remark:** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

3. In the above emission table, the tighter limit applies at the band edges.

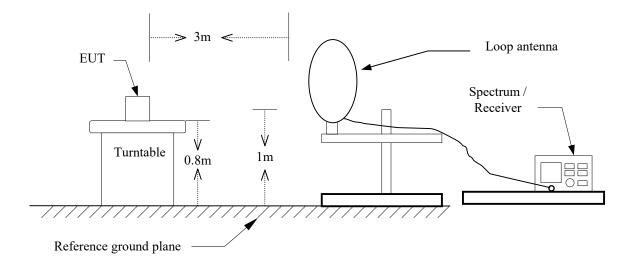
Frequency (MHz)	Field Strength (µV/m at 3-meter)	Field Strength (dBµV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54



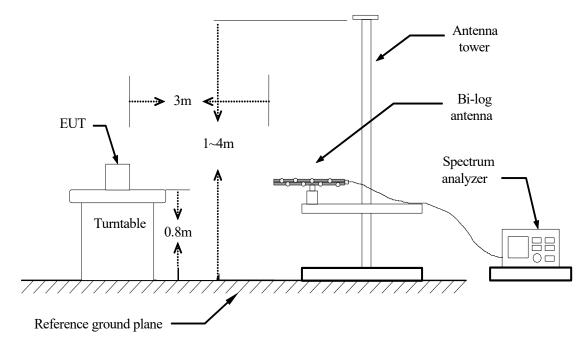
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#### **TEST CONFIGURATION**

9kHz ~ 30MHz



#### $30MHz \sim 1GHz$

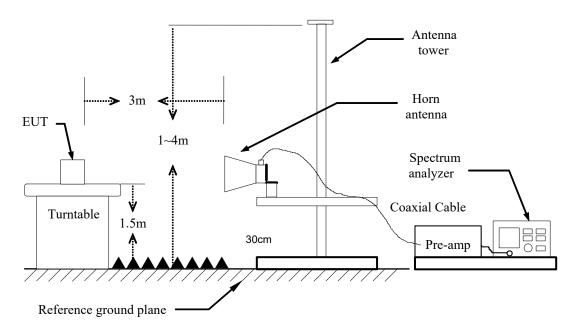




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## TEST PROCEDURE

- 1. The EUT is placed on a turntable, which is 0.8/1.5m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Below 1GHz:

Set the Receiver in the following setting as:

RBW=120kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

Set the spectrum analyzer in the following setting as:

- (a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO / Detector=Peak
- (b) AVERAGE: Peak Level + Duty Factor
- 7. Repeat above procedures until the measurements for all frequencies are complete.



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Test Date: 2022/01/27

Tested by: Peter Chu

Ver. / Hor.

Polarity:

Below	1 GHz	

Operatio	on Mode	: TX	
_			

**Temperature:** 23.6°C

**Humidity:** 53% RH

Vertical

80 Level (dBuV/m) Date: 2022-01-27 70 60 dB 50 40 30 2 20 10 0<sup>L</sup> 30 100. 200. 300. 400. 500. 600. 700. 800. 900. 1000 Frequency (MHz) Freq Reading C.F Result Limit Margin Detector PK MHz dBuV/m dBuV dB dBuV/m dB - -- ----- ------15.10 51.25 14.34 29.44 40.00 -10.56 QP 15.30 66.40 9.63 24.93 40.00 -15.07 QP 20.71 43.50 -16.11 112.56 6.68 27.39 QP 166.30 6.89 20.15 27.04 43.50 -16.46QP 201.80 5.86 20.49 26.35 43.50 -17.15OP 254.46 5.83 20.36 26.19 46.00 -19.81 QP

Remark:

No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz). 1.

Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument 2. using peak/quasi-peak detector mode.

Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by 3. the applicant.

Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if 4. no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m). 5.

That the limit for signals below 1GHz is a QP limit and peak readings are below the QP limit. 6.

7 The fundamental signal is not shown in the test data because measurements at fundamental frequency are shown separately and were ignored during the 30 - 1000 MHz scan.



Operati	on Mode	: тх
_		

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Test Date: 2022/01/27

Temperature:	23.6	°C			Teste	d by: Pete	er Chu	
Humidity:	53%	RH			Polar	ity: Ver.	/ Hor.	
Horizontal								
80 Level (d	lBuV/m)						Date: 2022	-01-27
70								
60								
50								-6dB-
40								
30	3	5 6						
20								
10								
030 10	0. 200.	. 300.	400. Fr	500. equency (MI	600. 70 Iz)	0. 800.	900.	1000
Freq R	eading	C.F	Result PK	Limit	Margin	Detector		
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
46.52	6.34	16.45	22.79	40.00	-17.21	QP		
81.40	5.44	14.96	20.40		-19.60	QP		
122.41 180.20	6.48 4.93	21.80 19.44	28.28 24.37		-15.22 -19.13	QP QP		
221.53	6.03	19.44	24.37	45.50	-19.13	QP QP		
256.45	5.59	20.56	26.15	46.00	-19.85	ų. ĮΡ		

Remark:

1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.

3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.

4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

6. That the limit for signals below 1GHz is a QP limit and peak readings are below the QP limit.

7. The fundamental signal is not shown in the test data because measurements at fundamental frequency are shown separately and were ignored during the 30 – 1000 MHz scan.



#### The fundamental signal

Operation Mode:	ТΧ
Temperature:	20.4°C
Humidity:	56% RH

Test Date:2022/01/20Tested by:Peter ChuPolarity:Ver. / Hor.

Horizontal

Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
915.000	82.994	28.735	6.795	24.404	0.000	94.120	114.000	-19.880	Р
915.000	82.410	28.735	6.795	24.404	0.000	93.536	94.000	-0.464	Q

Vertical

Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
915.000	75.170	28.735	6.795	24.404	0.000	86.296	114.000	-27.704	Р
915.000	74.080	28.735	6.795	24.404	0.000	85.206	94.000	-8.794	Q

#### Remark:

Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m). Average level=Peak level + Duty factor. Page: 25 / 36 Rev.: 04



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#### Above 1 GHz

<b>Operation Mode:</b>	ТΧ
Temperature:	20.4°C
Humidity:	56% RH

### Test Date: 2022/01/20 Tested by: Peter Chu Polarity: Ver. / Hor.

#### Horizontal

	Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
*	1061.56	57.14	24.76	2.65	44.86	0.77	40.46	74.00	-33.54	Р
*	1061.56	47.65	24.76	2.65	44.86	0.77	30.97	54.00	-23.03	А
	1829.86	57.55	29.24	3.50	44.29	0.41	46.40	74.00	-27.60	Р
	1829.86	50.19	29.24	3.50	44.29	0.41	39.04	54.00	-14.96	А
*	2744.90	56.15	30.15	4.12	43.49	0.25	47.17	74.00	-26.83	Р
*	2744.90	49.24	30.15	4.12	43.49	0.25	40.26	54.00	-13.74	А

#### Vertical

	Freq.	Reading	AF	Cable Loss	Pre-amp	Filter	Level	Limit	Margin	Mark
	(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(P/Q/A)
*	1059.21	56.85	24.75	2.64	44.86	0.78	40.16	74.00	-33.84	Р
*	1059.21	48.64	24.75	2.64	44.86	0.78	31.95	54.00	-22.05	А
	1830.04	56.50	29.24	3.50	44.29	0.41	45.35	74.00	-28.65	Р
	1830.04	49.00	29.24	3.50	44.29	0.41	37.85	54.00	-16.15	А
*	2745.04	54.40	30.15	4.12	43.49	0.25	45.42	74.00	-28.58	Р
*	2745.04	46.51	30.15	4.12	43.49	0.25	37.53	54.00	-16.47	А

#### Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
- 3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 6. Margin (dB) = Remark result (dBuV/m) Average limit (dBuV/m). Peak detector mode and average detector mode of the emission shown in Result column.
- 7. Average level=Peak level + Duty factor.
- 8. \* = Restricted bands of operation



## 7.4 POWERLINE CONDUCTED EMISSIONS

### <u>LIMIT</u>

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator 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, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range	Limits (dBµV)				
(MHz)	Quasi-peak	Average			
0.15 to 0.50	66 to 56	56 to 46			
0.50 to 5	56	46			
5 to 30	60	50			

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

#### MEASUREMENT EQUIPMENT USED

Conducted Emission room #1									
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due				
-	-	-	-	-	-				
-	-	-	-	-	-				
-	-	-	-	-	-				
Test S/W			-						

**Remark:** Each piece of equipment is scheduled for calibration once a year.

#### TEST RESULTS

※ Since the EUT is powered by battery , this test item is not applicable.

#### ===End of Test Report===