



# FCC 47 CFR PART 15 SUBPART C ISED RSS-210 ISSUE 10

#### **CERTIFICATION TEST REPORT**

For

**Vest Sensor Terminal** 

**MODEL NUMBER: VSTA10** 

FCC ID: 2BBEG-VSTA10

IC: 31079-VSTA10

REPORT NUMBER: E04A23080794F00801

**ISSUE DATE: Dec. 28, 2023** 

Prepared for

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Prepared by

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This report is based on a single evaluation of the submitted sample(s) of the above mentioned Product, it does not imply an assessment of the production of the products.

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TRF No.: 04-E001-0B TRF Originator: GTG TRF Date: 2023-12-13 Web: www.gtggroup.com E-mail: info@gtggroup.com Tel.: 86-400 755 8988

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# **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	Dec. 28, 2023	Initial Issue	

Summary of Test Results				
Clause	Test Items	FCC Rules	Test Results	
1	Occupied Bandwidth	RSS-Gen Clause 6.6	PASS	
2	Radiated Emissions	CFR 47 FCC§15.209(a) ISED RSS-Gen 8.9 ISED RSS-210 7.2	PASS	
3	Conducted Emission Test for AC Power Port	CFR 47 FCC §15.207 ISED RSS-Gen Clause 8.8	N/A	
4	Antenna Requirement	CFR 47 FCC §15.203 ISED RSS-Gen Clause 6.3	Pass	

Note 1: N/A: In this whole report not applicable.

Note 2: This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

Note 3: The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C, ISED RSS-210 Issue 10 and ISED RSS-GEN Issue 5 > when <Accuracy Method> decision rule is applied.

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## 1. ATTESTATION OF TEST RESULTS

**Applicant Information** 

Company Name: HAI ROBOTICS Co., Ltd.

Address: Room 201,301,401,Building B,Anluo Technology Industrial

Park, Nanchang Community, Xixiang Street, Bao'an District,

Shenzhen City, Guangdong Province, P.R. China

**Manufacturer Information** 

Company Name: HAI ROBOTICS Co., Ltd.

Address: Room 201,301,401,Building B,Anluo Technology Industrial

Park, Nanchang Community, Xixiang Street, Bao'an District,

Shenzhen City, Guangdong Province, P.R. China

**EUT Information** 

EUT Name: Vest Sensor Terminal

Model: VSTA10
Serial Model: N/A
Brand: N/A

Sample Received Date: Aug. 25, 2023

Sample Status: Normal

Sample ID: A23080794 007

Date of Tested: Aug. 25, 2023 to Dec. 28, 2023

APPLICABLE STANDARDS		
STANDARD	TEST RESULTS	
CFR 47 FCC PART 15 SUBPART C	PASS	
ISED RSS-210 Issue 10	PASS	
ISED RSS-GEN Issue 5	PASS	

Prepared By:

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Shawa Wen

Labolatory Managel

Project Engineer

Alan He

**Laboratory Leader** 

Checked By:

# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, ISED RSS-210 Issue 10 and RSS-GEN Issue 5.

# 3. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 6947.01)
	Guangdong Global Testing Technology Co., Ltd.
	has been assessed and proved to be in compliance with A2LA.
	FCC (FCC Designation No.: CN1343)
	Guangdong Global Testing Technology Co., Ltd.
	has been recognized to perform compliance testing on equipment
Accreditation Certificate	subject to Supplier's Declaration of Conformity (SDoC) and
	Certification rules
	ISED (Company No.: 30714)
	Guangdong Global Testing Technology Co., Ltd.
	has been registered and fully described in a report filed with ISED.
	The Company Number is 30714 and the test lab Conformity
	Assessment Body Identifier (CABID) is CN0148.

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

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## 4. CALIBRATION AND UNCERTAINTY

#### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

#### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Items	k	Uncertainty
DTS Bandwidth	1.96	±9.2 PPM
20dB Emission Bandwidth	1.96	±9.2 PPM

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

Test Item	Measurement Frequency Range	K	U(dB)
Radiated emissions	9 kHz ~ 30 MHz	2	4.16
Radiated emissions	30 MHz ~ 1 GHz	2	3.79

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

EUT Name	Vest Sensor Terminal			
Model	VSTA10			
Series Model	N/A			
Product Description	Operation Frequency		125 KHz	
Product Description	Modulation Type		ООК	
Ratings	5V/2.5W			
	Power Adapter	Input	1	
Power Supply		Output	1	
	Battery	1		
Antenna Type	Internal Antenna			
Hardware Version	SVF1A_RTS1_B230119			
Software Version V2.0				

# 5.2. MAXIMUM FIELD STRENGTH

Frequency (MHz)	Max Peak field strength (dBµV/m)	
125	58.49	

# 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

Frequency (KHz)	Antenna Type	Antenna Gain (dBi)
125	Internal antenna	/

Note: The value of the antenna gain was declared by customer.

# **5.4. TEST ENVIRONMENT**

Environment Parameter	Selected Values During Tests		
Relative Humidity	55 ~ 65 %		
Atmospheric Pressure:	1025 Pa		
Temperature	TN	-20 ~ 55 °C	
	VL	N/A	
Voltage:	VN	DC 5V	
	VH	N/A	

Note: VL= Lower Extreme Test Voltage

VN= Nominal Voltage

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VH= Upper Extreme Test Voltage TN= Normal Temperature

# 5.5. DESCRIPTION OF TEST SETUP

# **SUPPORT EQUIPMENT**

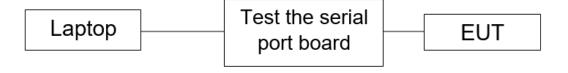
Equipment	Manufacturer	Model No.
Vest Sensor Terminal	HAI ROBOTICS Co., Ltd.	VSTA10
PC	Lenovo	T14
Test the serial port board	N/A	N/A

# **TEST SETUP**

The EUT can work in engineering mode with the software in the laptop.

# **SETUP DIAGRAM FOR TESTS**

Radiated emissions:



# 6. MEASURING INSTRUMENT AND SOFTWARE USED

Test Equipment of Conducted RF					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40	102257	2023/09/18	2024/09/17
Spectrum Analyzer	KEYSIGHT	N9020A	MY51285127	2023/09/18	2024/09/17
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY61253075	2023/09/18	2024/09/17
Vector Signal Generator	Rohde & Schwarz	SMM100A	101899	2023/09/18	2024/09/17
RF Control box	MWRF-test	MW100-RFCB	MW220926GTG	2023/09/18	2024/09/17
Wideband Radio Communication Tester	Rohde & Schwarz	CMW270	102792	2023/09/18	2024/09/17
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	103235	2023/09/18	2024/09/17
temperature humidity chamber	Espec	SH-241	SH-241-2014	2023/09/18	2024/09/17
RF Test Software	MWRF-test	MTS8310E (Ver. V2/0)	N/A	N/A	N/A

Test Equipment of Radiated emissions below 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
3m Semi-anechoic Chamber	ETS	9m*6m*6m	Q2146	2022/08/30	2025/08/29
EMI Test Receiver	Rohde & Schwarz	ESCI3	101409	2023/09/18	2024/09/17
Spectrum Analyzer	KEYSIGHT	N9020A	MY51283932	2023/09/18	2024/09/17
Pre-Amplifier	HzEMC	HPA-9K0130	HYPA21001	2023/09/18	2024/09/17
Biconilog Antenna	Schwarzbeck	VULB 9168	01315	2022/10/10	2025/10/09
Biconilog Antenna	ETS	3142E	00243646	2022/03/23	2025/03/22
Loop Antenna	ETS	6502	243668	2022/03/30	2025/03/29
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A

# 7. ANTENNA PORT TEST RESULTS

# 7.1. Occupied Bandwidth

#### **LIMITS**

FCC Part15 Subpart C RSS-Gen Clause 6.7 Issue 5			
Section	Test Item	Limit	
ISED RSS-Gen Clause 6.7 Issue 5	99 % Occupied Bandwidth	For reporting purposes only.	

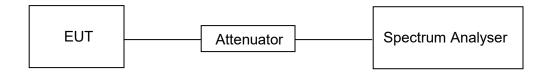
#### **TEST PROCEDURE**

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1 % to 5 % of the occupied bandwidth
VBW	approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 99 % relative to the maximum level measured in the fundamental emission.

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

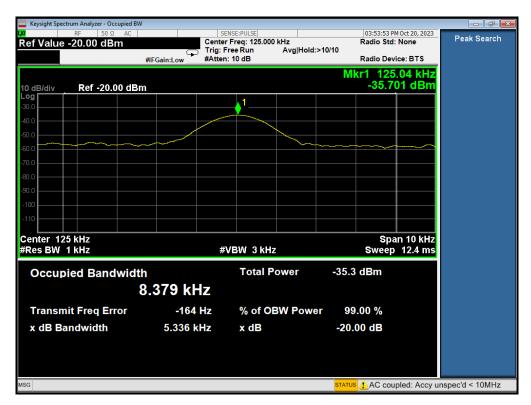
Temperature	24.1°C	Relative Humidity	51 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5V

#### **RESULTS**

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Frequency	20 bandwidth	99 % bandwidth
(kHz)	(kHz)	(kHz)
125	5.336	8.379



# 8. RADIATED EMISSION TEST RESULTS

#### **LIMITS**

FCC Reference:	15.209(a)
ISED Canada Reference:	RSS-Gen 8.9 & RSS-210 7.2
Test Method Used:	ANSI C63.10 Sections 6.3, 6.4

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:

FCC Part 15.209				
	Field Streng	jth	Field Strength Limitation Frequency tion at 3m	
Frequency	Limitation		Measurement Dist	
(MHz)	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 - 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 - 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 - 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

### Restricted bands of operation

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 - 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 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )

Note: 1. Emission level in dBuV/m=20 log (uV/m)

- 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
- 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of  $\xi$  15.205, and the emissions located in restricted bands also comply with 15.209 limit.

IC Restricted bands please refer to ISED RSS-GEN Clause 8.10

Table 7 – Restricted frequency bands <sup>kos 1</sup>				
MHz	MHz	GHz		
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2		
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5		
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7		
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4		
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5		
4.17725 - 4.17775	240 – 285	15.35 - 16.2		
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4		
5.677 - 5.683	399.9 - 410	22.01 - 23.12		
6.215 - 6.218	608 - 614	23.6 - 24.0		
6.26775 - 6.26825	960 - 1427	31.2 - 31.8		
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5		
8.291 - 8.294	1645.5 - 1646.5	Above 38.6		
8.362 - 8.366	1660 - 1710			
8.37625 - 8.38675	1718.8 - 1722.2			
8.41425 - 8.41475	2200 - 2300			
12.29 - 12.293	2310 - 2390			
12.51975 - 12.52025	2483.5 - 2500			
12.57675 - 12.57725	2655 - 2900			
13.36 - 13.41	3260 - 3267			
16.42 - 16.423	3332 - 3339			
16.69475 - 16.69525	3345.8 - 3358			
16.80425 - 16.80475	3500 - 4400			
25.5 - 25.67	4500 - 5150			
37.5 - 38.25	5350 - 5460			
73 - 74.6	7250 - 7750			
74.8 - 75.2	8025 - 8500			
108 – 138				

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

#### **TEST SETUP AND PROCEDURE**

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.
- 2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 80 cm above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.
- 5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.
- 6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode remeasured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.
- 7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.
- 8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of  $377\Omega$ . For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

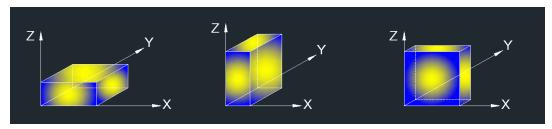
Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

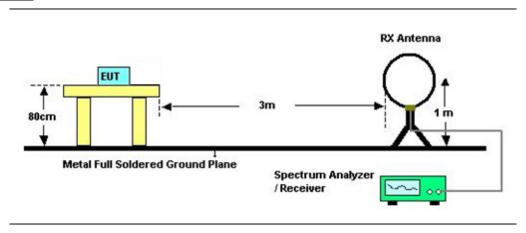
- 1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 80 cm above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

X axis, Y axis, Z axis positions:

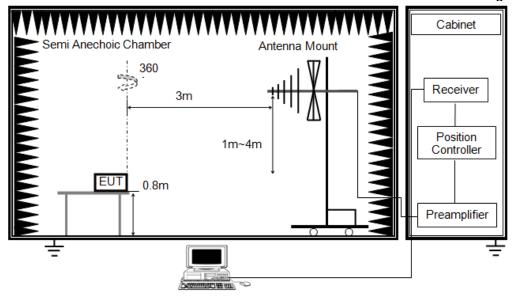


Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

#### **TEST SETUP**



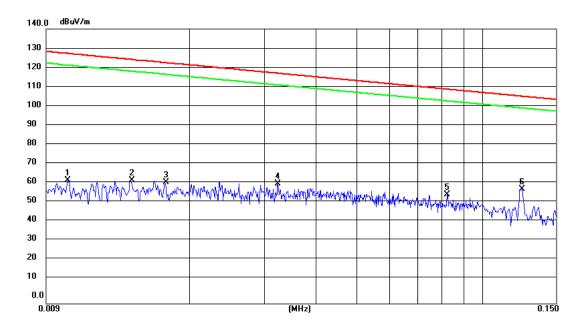
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# **TEST ENVIRONMENT**

Temperature	24.3 °C	Relative Humidity	54 %
Atmosphere Pressure	101 kPa	Test Voltage	DC 5V

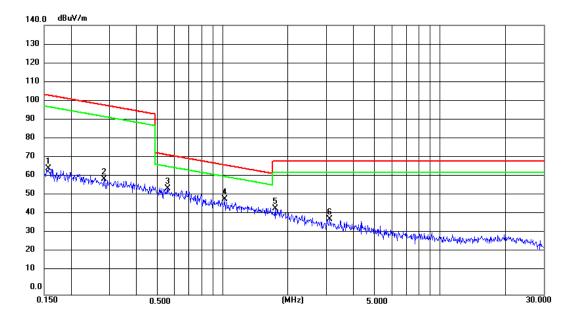
# **RESULTS**



Mode:	125kHz	Antenna:	coplanar
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No.	Frequency	Reading	Correct	Measure-	Limit	Over	Detector	Comment
	(MHz)	Level(dBuV)	Factor(dB/m)	ment(dBuV/m)	(dBuV/m)	(dB)		
1	0.0102	42.37	20.43	62.80	127.41	-64.61	peak	
2	0.0144	42.56	20.37	62.93	124.42	-61.49	peak	
3	0.0173	41.44	20.33	61.77	122.83	-61.06	peak	
4	0.0324	41.22	20.11	61.33	117.38	-56.05	peak	
5	0.0824	36.02	19.70	55.72	109.28	-53.56	peak	
6 *	0.1246	38.88	19.61	58.49	105.69	-47.20	peak	

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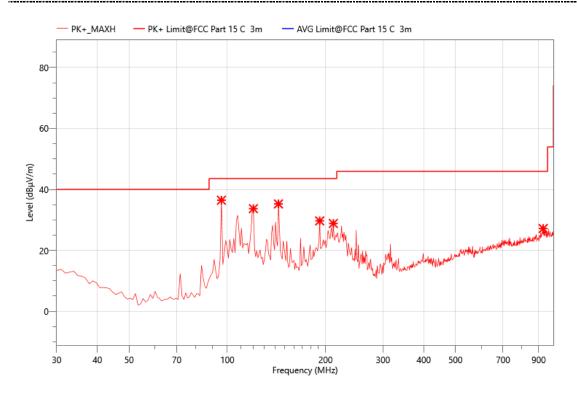
Mode: 125kHz Antenna: coplanar	
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No.	Frequency (MHz)	Reading Level(dBuV)	Correct Factor(dB/m)	Measure- ment(dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector	Comment
1	0.1565	46.04	19.65	65.69	103.71	-38.02	peak	
2	0.2833	40.59	19.62	60.21	98.56	-38.35	peak	
3 *	0.5581	35.72	19.58	55.30	72.67	-17.37	peak	
4	1.0211	30.45	19.44	49.89	67.44	-17.55	peak	
5	1.7437	25.35	19.51	44.86	69.50	-24.64	peak	
6	3.1066	19.69	19.64	39.33	69.50	-30.17	peak	

Note: (1) All Readings are Peak Value.

- (2) Emission Level= Reading Level + Probe Factor +Cable Loss.
- (3) The average measurement was not performed when the peak measured data under the limit of average detection.
  - (4) EUT lying on the table position is the worst case result in the report.

Mode:	125KHz
Power:	DC 5V
TE:	Berny
Date	2023/12/13
T/A/P	24.3°C/54%/101Kpa

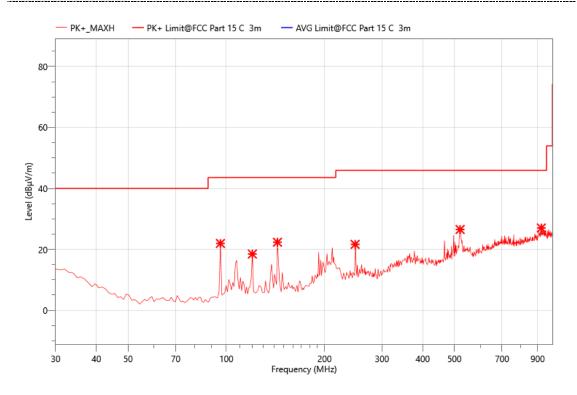


# Critical\_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	95.960	60.95	-24.49	36.46	43.50	7.04	PK+	Н
2	120.210	58.28	-24.59	33.69	43.50	9.81	PK+	Н
3	143.490	58.76	-23.52	35.24	43.50	8.26	PK+	Н
4	191.990	52.25	-22.57	29.68	43.50	13.82	PK+	Н
5	211.390	50.06	-21.22	28.84	43.50	14.66	PK+	Н
6	929.190	30.20	-3.02	27.18	46.00	18.82	PK+	Н

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

Mode:	125KHz
Power:	DC 5V
TE:	Berny
Date	2023/12/13
T/A/P	24.3°C/54%/101Kpa



# Critical\_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	95.960	46.43	-24.49	21.94	43.50	21.56	PK+	V
2	120.210	43.06	-24.59	18.47	43.50	25.03	PK+	V
3	143.490	45.87	-23.52	22.35	43.50	21.15	PK+	V
4	248.250	40.81	-19.16	21.65	46.00	24.35	PK+	V
5	520.820	37.70	-11.17	26.53	46.00	19.47	PK+	V
6	923.370	30.35	-3.32	27.03	46.00	18.97	PK+	V

Note: [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

## 9. AC POWER LINE CONDUCTED EMISSIONS

#### **LIMITS**

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

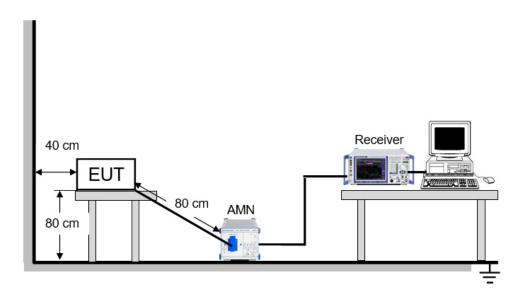
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

# **TEST PROCEDURE**

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	°C	Relative Humidity	%
Atmosphere Pressure	kPa	Test Voltage	

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# **TEST RESULTS**

N/A.

#### 10. ANTENNA REQUIREMENTS

### **APPLICABLE REQUIREMENTS**

Please refer to FCC §15.203, ISED RSS-Gen Clause 6.3

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### Please refer to FCC §15.247(b)(4)

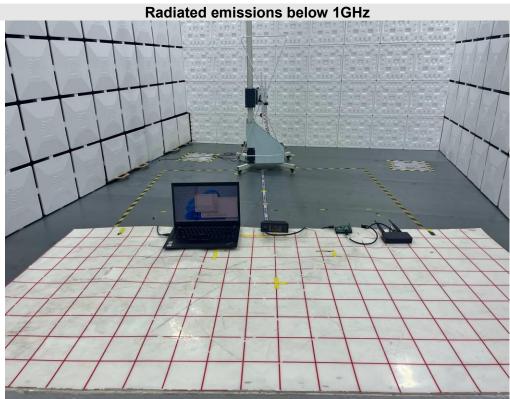
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **RESULTS**

Complies

# **APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION**







# **APPENDIX: PHOTOGRAPHS OF THE EUT**



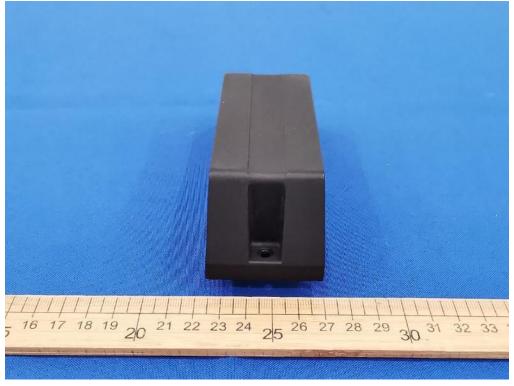


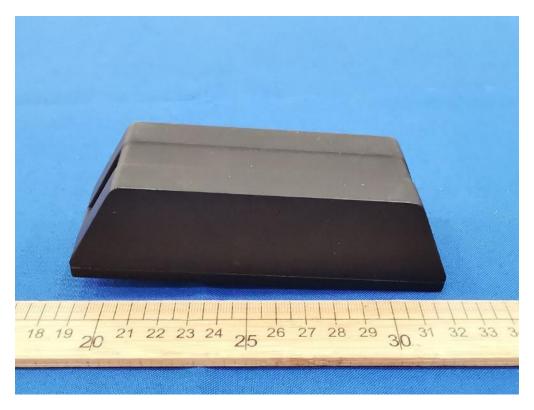






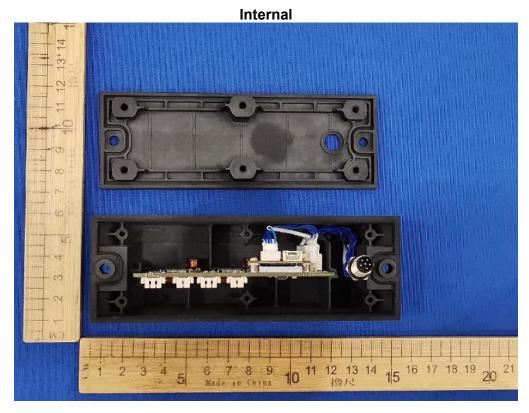


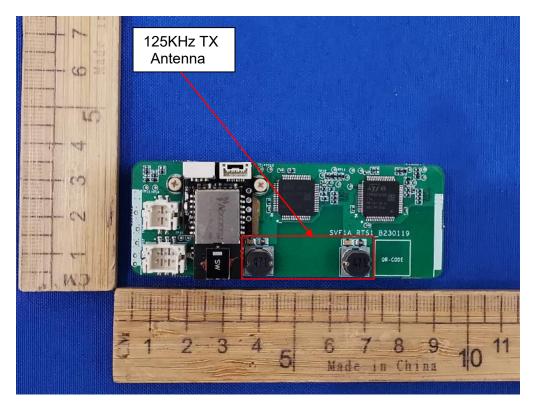


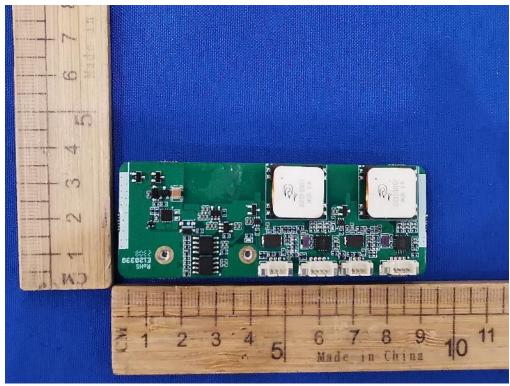


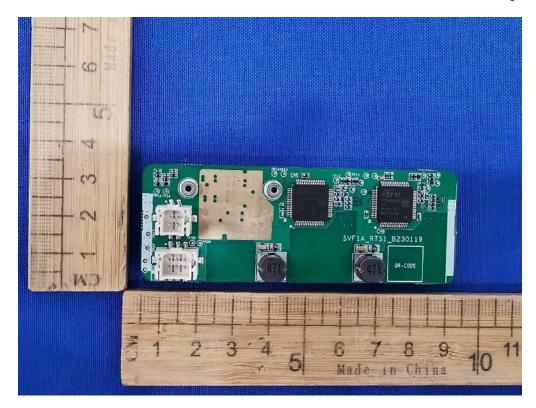


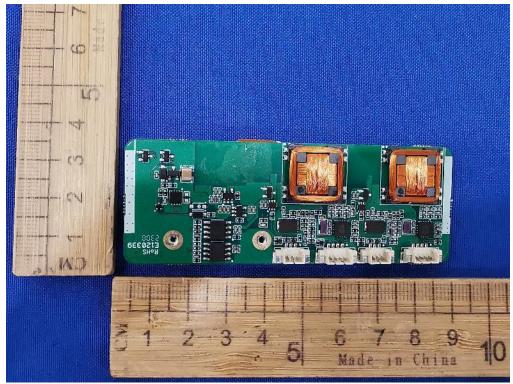


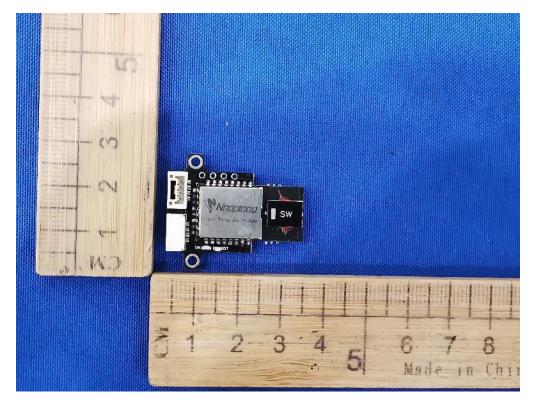


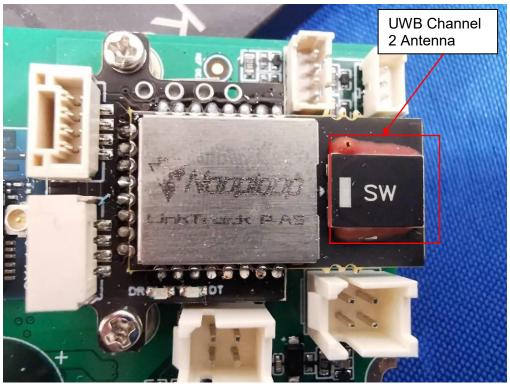




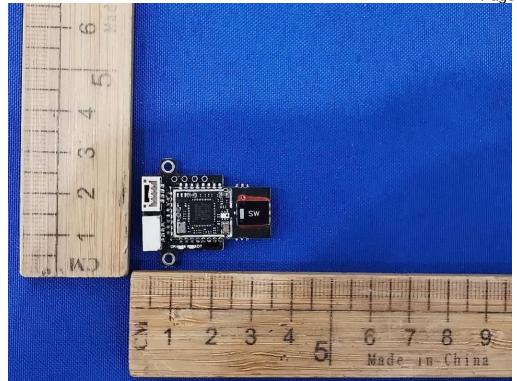


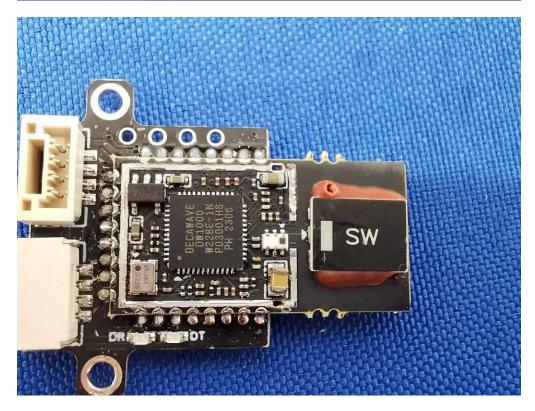




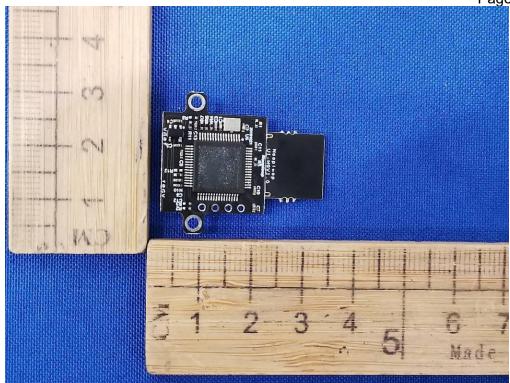


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**END OF REPORT**