FCC 47 CFR PART 15 SUBPART C
ANSI C63.10: 2020
TEST REPORT

For

Wireless Door Sensor

Model: ENVV00019

Brand: Envisacor Technologies Inc. ,

Test Report Number:
TMTN2503000304NR

Issued to

Envisacor Technologies Incorporated
726319 Sideroad 22B RR4, Meaford, Canada, N4L 1W7

Issued by

Compliance Certification Services Inc.
Tainan Lab.
No. 168, Ln. 523, Sec. 3, Zhongzheng Rd., Rende Dist.,
Tainan City, 717017, Taiwan
Issued Date: May 07, 2025

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REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 07, 2025	Initial Issue	ALL	Polly Wang

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Report No.: TMTN2503000304NR

1. TEST RESULT CERTIFICATION

Product:	Wireless Door Sensor
Model:	ENVV00019
Data Applies To:	N/A
Brand Name:	Envisacor Technologies Inc. ,
Applicant:	**Envisacor Technologies Incorporated** 726319 Sideroad 22B RR4, Meaford, Canada, N4L 1W7
Manufacturer:	**Vision Automobile Electronics Industrial Co Ltd.** No.78, Gongye 3rd Rd., Technology Industrial Park, Tainan, Taiwan, 70955
Tested:	April 07, 2025

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C ANSI C63.10: 2020	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.

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 conducted and radiated emission limits of FCC Rules Part 15.207, 15.209 and Part 15.231.
The test results of this report relate only to the tested sample identified in this report.

Approved by:

John Chen

John Chen
Asst Supervisor

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2. TEST RESULT SUMMARY

FCC Standard Section	Report Section	Test Item	Result
15.203	3	Antenna Requirement	Non-detachable
-	8.1	Occupied Bandwidth (99%)	-
15.231(c)	8.2	20dB Bandwidth	Pass
15.231(a)(1)	8.3	Limit of Transmission Time	Pass
-	8.4	Duty Cycle	-
15.231(b)	8.5	Radiated Emissions	Pass
15.207(a)	8.6	Powerline Conducted Emissions	-

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3. EUT DESCRIPTION

Product.	Wireless Door Sensor
Model Number	ENVV00019
Data Applies To	N/A
Brand Name	Envisacor Technologies Inc. ,
Received Date	March 19, 2025
Reported Date	April 17, 2025
Operation Frequency	433.92MHZ ± 20kHz
Transmit Peak Power	61.98 dBμV/m
Number of Channels	1 Channel
Type of Modulation	ASK
Power Supply	3Vdc (Powered from battery)
Antenna Type	Type: PCB on Board Antenna Model: HD2106 Manufacturer: N/A Gain: -11dBi
MCU CHIP Brand /Model	(U2) Microchip / MAX7044 (AEJW)
RF Module Brand /Model	(U1) Microchip / PIC12F635
Hardware 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: **ENVV00019**). Therefore, the testing Lab. just guarantees the unit, which has been tested.
2. This submittal(s) (test report) is intended for FCC ID: **2AG7TENVV00019** filing to comply with Section 15.207, 15.209 and 15.231 of the FCC Part 15, Subpart C Rules.

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4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 (2013) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.231

4.1 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.

4.2 EUT EXERCISE

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

4.3 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 1.5m high is for radiated emission above 1GHz and 0.8m for below 1GHz. 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.

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4.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) 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
[1]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 -	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		

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

(b) 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.

4.5 DESCRIPTION OF TEST MODES

The EUT (Model: **ENVV00019**) had been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

Note：

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 (Z axis) and the worst case was recorded.

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5. INSTRUMENT CALIBRATION

5.1 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.

5.2 MEASUREMENT EQUIPMENT USED

Chamber 1166 Room (Radiation Test)					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	08/29/2024	08/28/2025
Band Reject Filter	MICRO-TRONICS	HPM13525	006	01/15/2025	01/14/2026
Bilog Antenna with 6dB Attenuator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A021306 & AT-N0682	09/27/2024	09/26/2025
Cable	EMCI	EM102-KMKM	CB1166-01	01/15/2025	01/14/2026
EMI Test Receiver	R&S	ESCI 7	100856	06/13/2024	06/12/2025
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	07/26/2024	07/25/2025
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-778(98006)	04/25/2024	04/24/2025
Pre-Amplifier	EMCI	EMC012645	980098	01/15/2025	01/14/2026
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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5.3 MEASUREMENT UNCERTAINTY

Measurement	Uncertainty
AC Powerline Conducted Emission	±2.21dB
Channel Bandwidth	±2.87 %
RF output power (Spectrum)	±2.88dB
RF Output power (Power Meter & Power sensor)	±0.243dB
Power Density	±2.87dB
Conducted Badnedge	±2.87dB
Conducted Spurious Emission	±2.88dB
Channel Separation	±2.87dB
In-Band Emission (Channel Mask)	±2.88dB
Frequency Stability	±0.03 ppm

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

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6. FACILITIES AND ACCREDITATIONS

6.1 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.)

☒ No. 168, Ln. 523, Sec. 3, Zhongzheng Rd., Rende Dist., Tainan City 717, Taiwan

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

6.2 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.”

6.3 TABLE OF ACCREDITATIONS AND LISTINGS

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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6.4 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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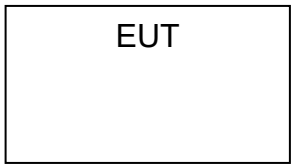
7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

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

【RF】



7.2 SUPPORT EQUIPMENT

【RF】

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

No.	Signal cable description	
A	N/A	---

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. shd. = shielded; unshd. = unshielded

7.3 EUT OPERATING CONDITION

RF Setup

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

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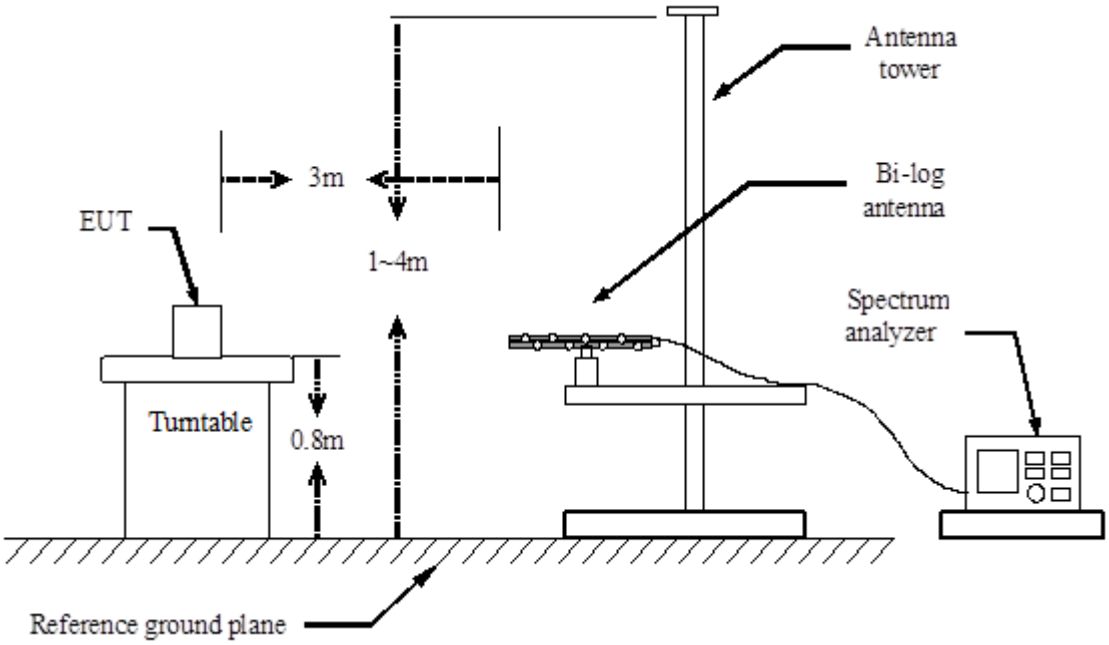
8. FCC PART 15.231 REQUIREMENTS

8.1 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST CONFIGURATION



TEST PROCEDURE

1. The spectrum shall be set as follows :
   Span : The minimum span to fully display the emission and approximately 20dB below peak level.
   RBW : The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%.
   VBW: The video bandwidth shall be set to 3 times the resolution bandwidth.
   Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.
2. Compute the combined power of all signal responses contained in the trace by covering all the data points.
3. For 99% occupied BW, place the markers at the frequency at which 0.5% of the power lies to the right of the right marker and 0.5% of the power lies to the left of the left marker.
4. The 99% BW is the bandwidth between the right and left markers.

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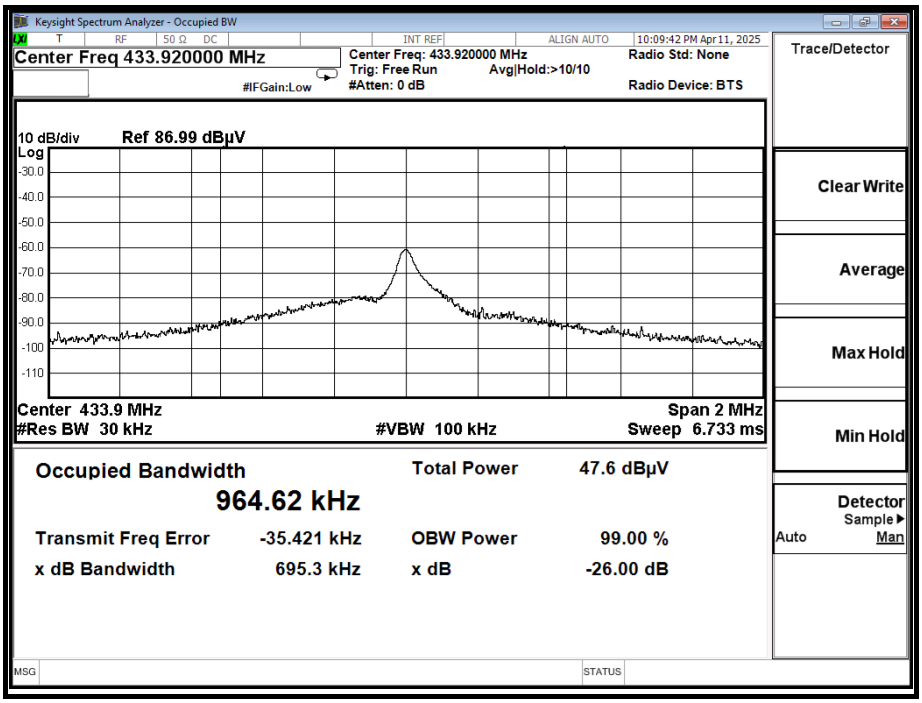
TEST RESULTS

Model Name	ENVV00019	Test By	Ted.Huang
Temp & Humidity	24.4℃, 56%	Test Date	2025/04/07

Frequency (MHz)	99% Bandwidth (kHz)
433.92	964.62

99% BANDWIDTH



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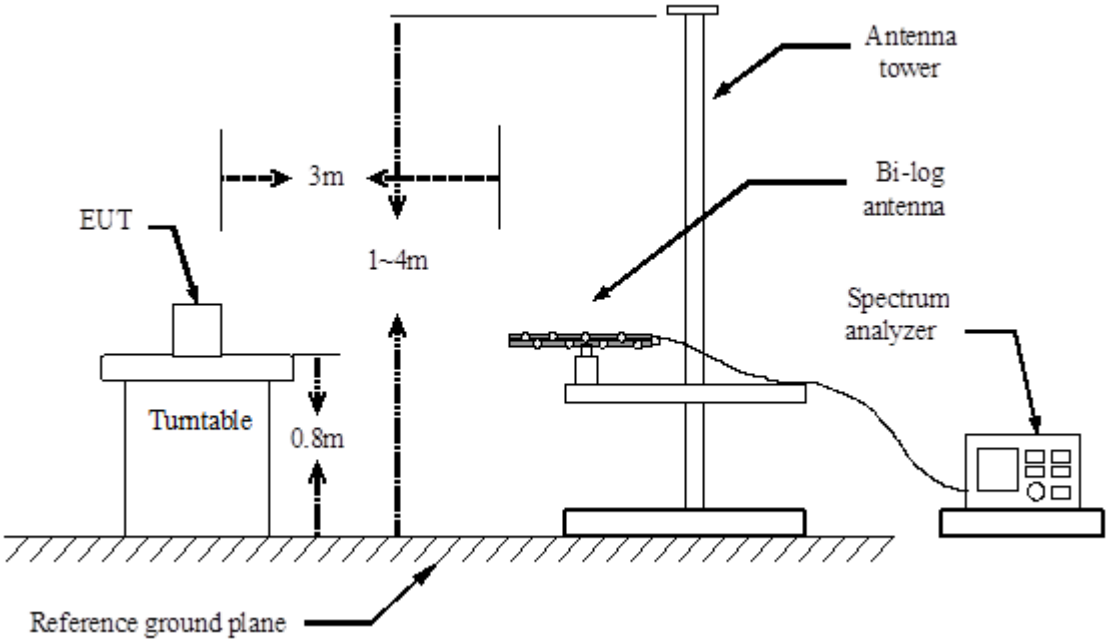
8.2 20dB BANDWIDTH

LIMIT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier.

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. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Set the spectrum analyzer in the following setting as:
   RBW is set to 1%~5%OBW and VBW is set 3×RBW.

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TEST RESULTS

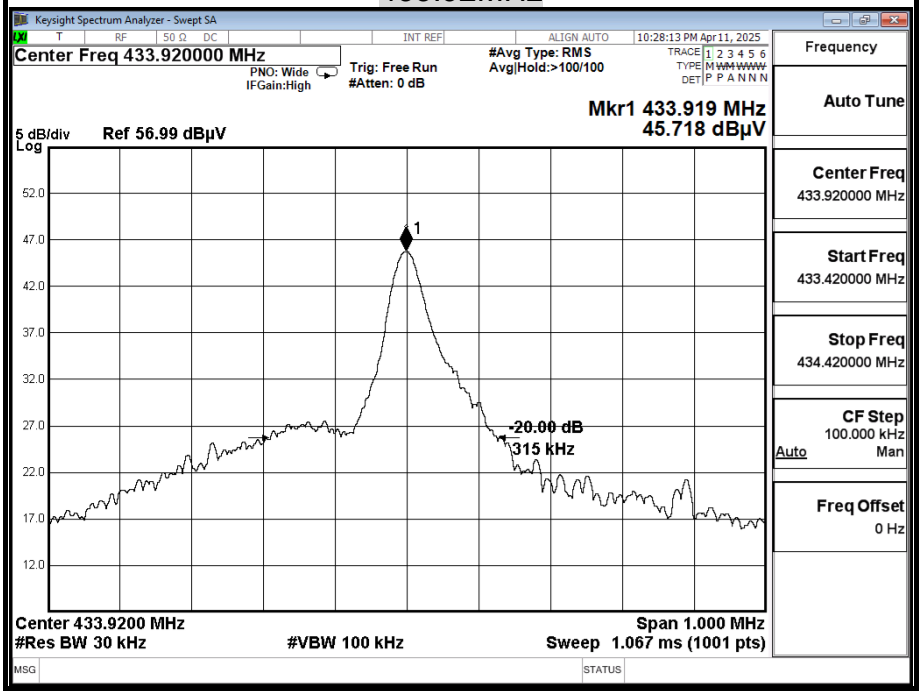
No non-compliance noted.

TEST DATA

Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)	Result
433.92	315	1084.8	PASS

TEST PLOT

433.92MHz



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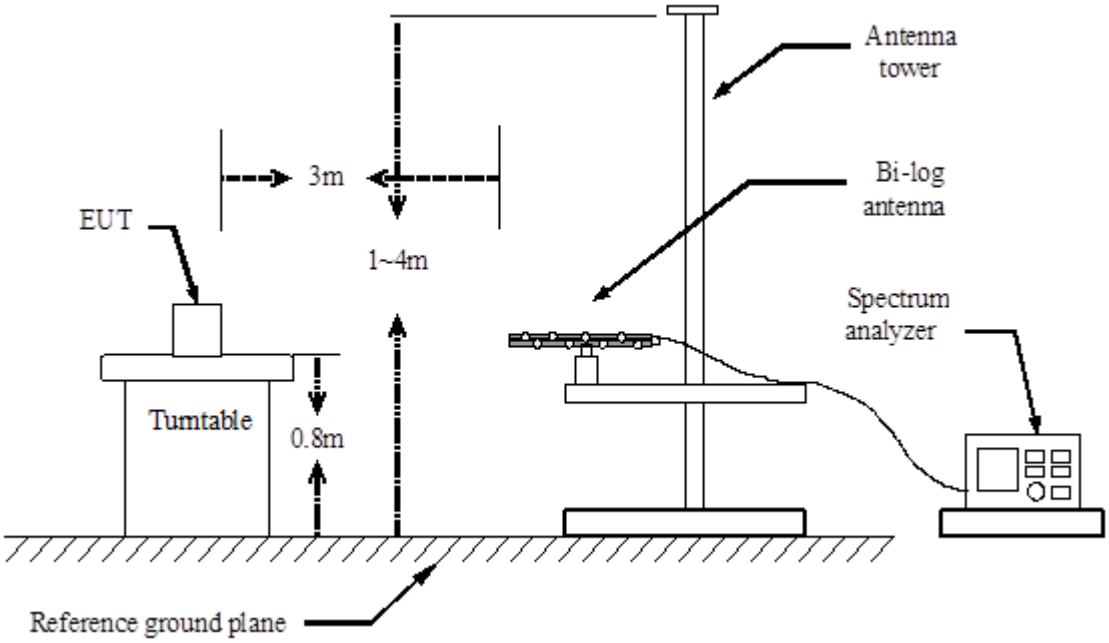
8.3 LIMIT OF TRANSMISSION TIME

LIMIT

According to 15.231, a manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

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=1MHz, VBW=3MHz, Span = 0Hz, a suitable Sweep Time.
4. Repeat above procedures until all frequency measured were complete.

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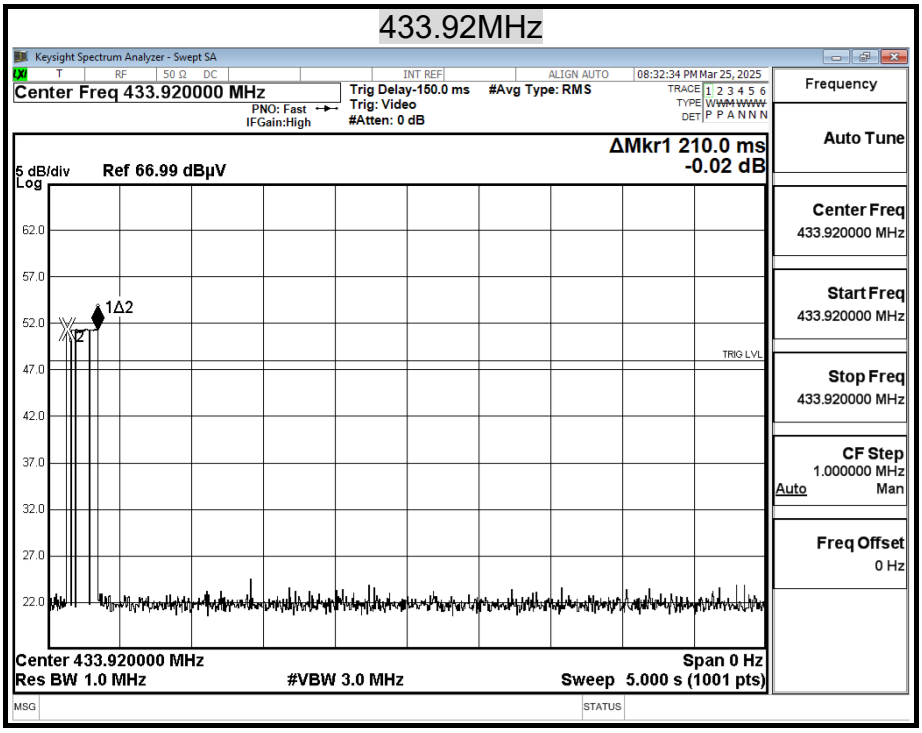
TEST RESULTS

No non-compliance noted.

TEST DATA

Frequency (MHz)	Transmission Time (s)	Limit (Second)	Result
433.92	0.215	5	PASS

TEST PLOT



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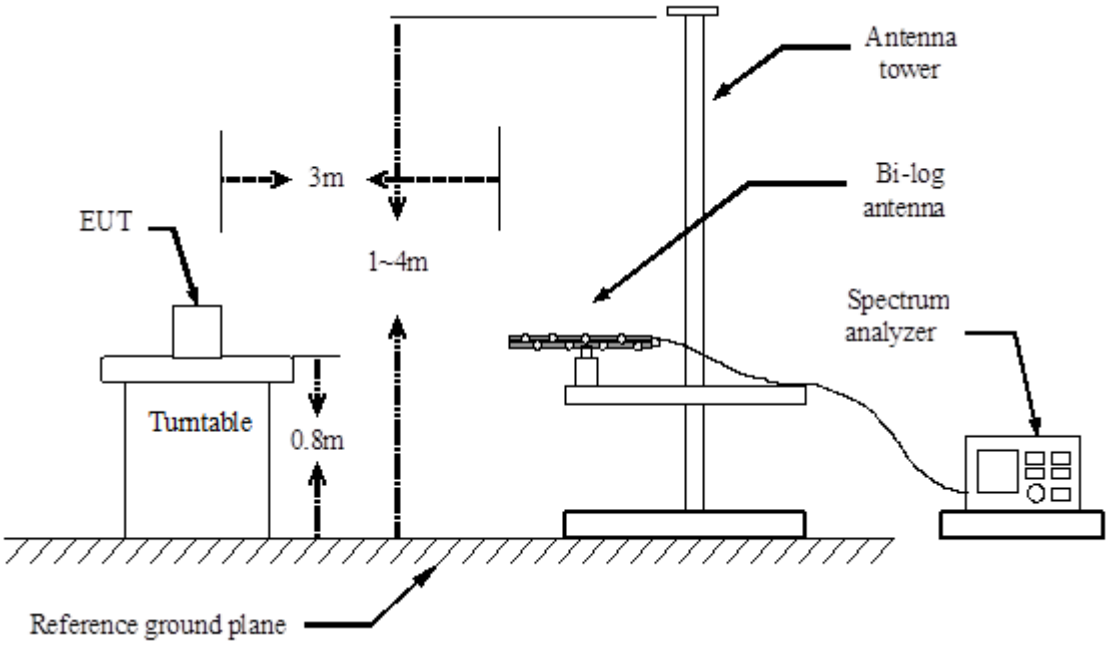
8.4 DUTY CYCLE

LIMIT

Nil (No dedicated limit specified in the Rules)

TEST CONFIGURATION



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TEST RESULTS

No non-compliance noted.

TEST DATA

	us	Times	Ton	Total Ton time(ms)
Ton1	275.000	25	6875.000	12.250
Ton2	125.000	43	5375.000	
Ton3			0.000	
Tp				33.600

Ton	12.250
Tp(Ton+Toff)	33.600
Duty Cycle	0.365
Duty Factor	-8.764

36.45833333 %

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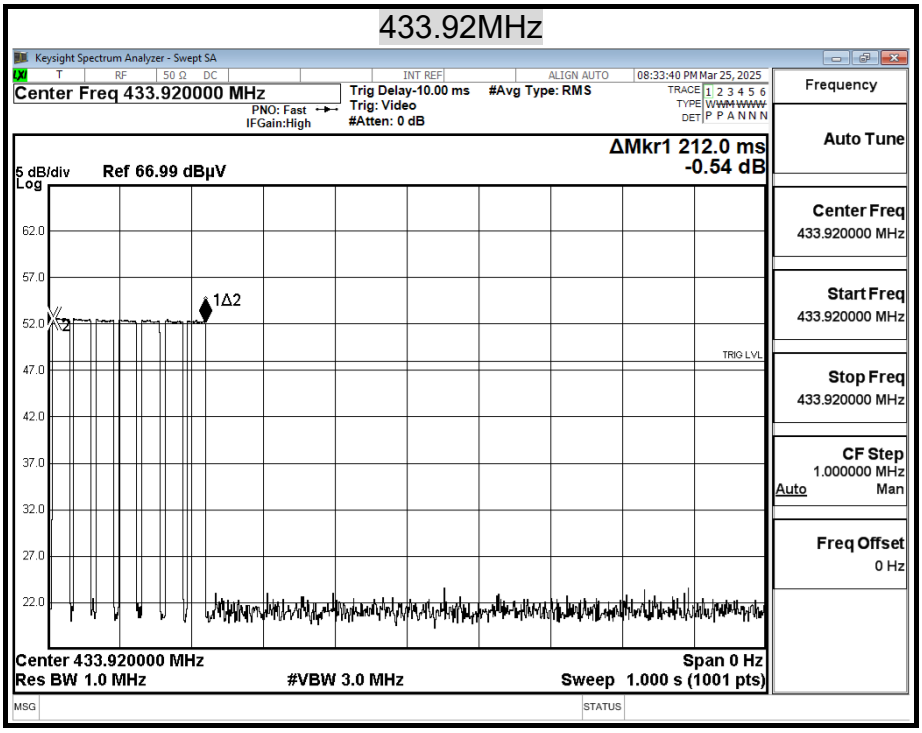
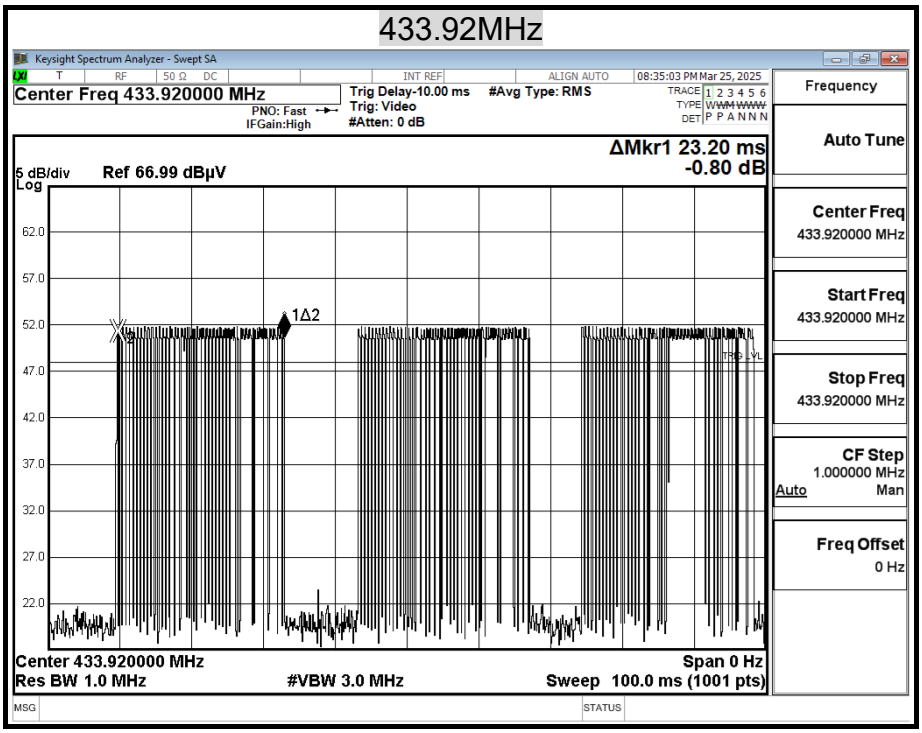
TEST PLOT

Ton1



Ton2



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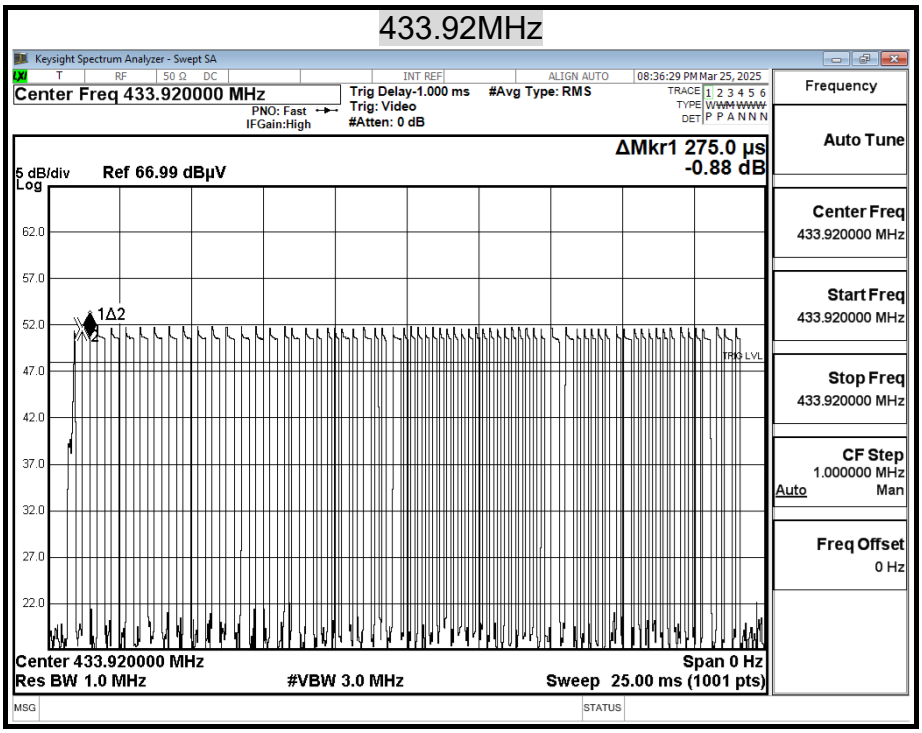
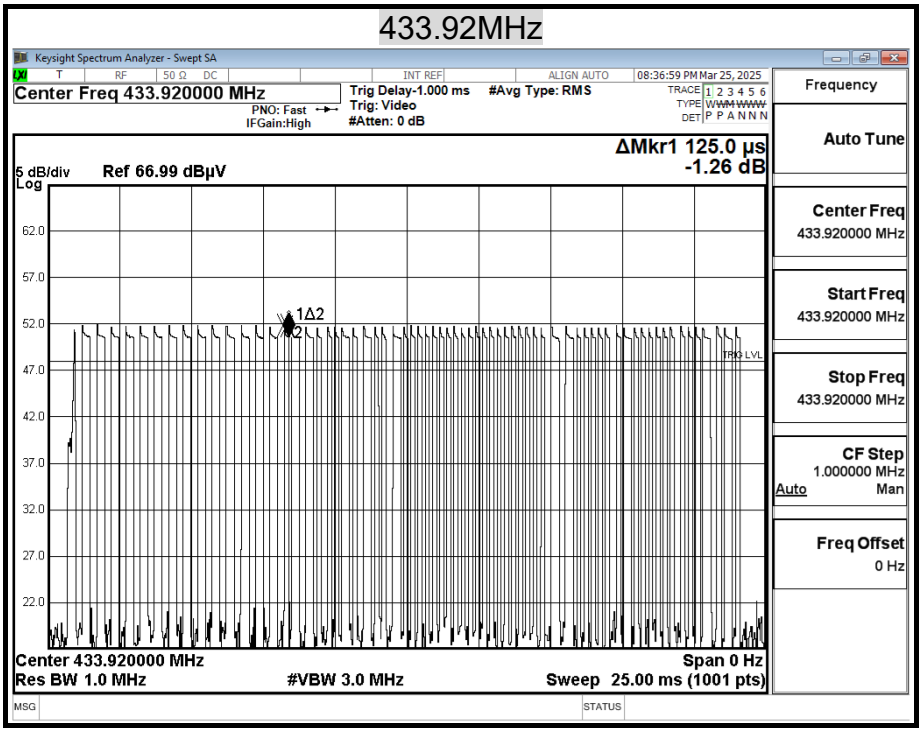
Report No.: TMTN2503000304NR

Ton3



Ton4



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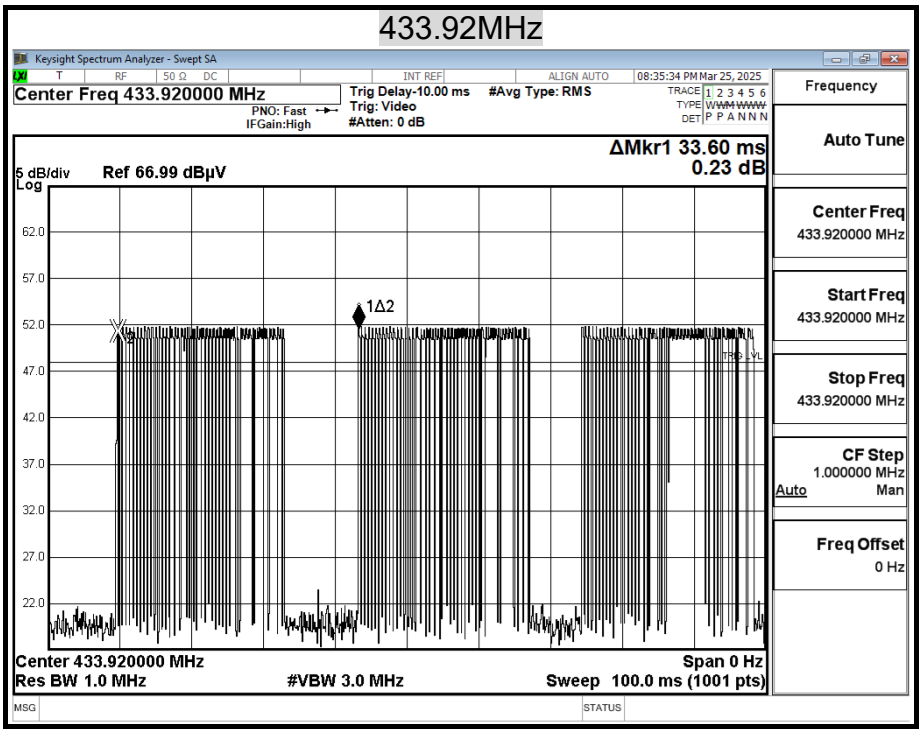
Report No.: TMTN2503000304NR

TP



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8.5 RADIATED EMISSIONS

LIMIT

1. 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 (mV/m)	Field Strength (dBμV/m at 3-meter)	Measurement Distance (m)
30-88	100*	40	3
88-216	150*	43.5	3
216-960	200*	46	3
Above 960	500	54	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.

2. For intentional device, according to § 15.231, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the following table.

Fundamental Frequency (MHz)	Field Strength of Fundamental (μV/M)	Field Strength of Spurious Emission (μV/M)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750**	125 to 375**
174-260	3750	375
260-470	3750 to 12500**	375 to 1250**
Above 470	12500	1250

Note :
1. " ※※ " linear interpolations.
2. Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follows: for the band 130-174 MHz, uV/m at 3 meters = 56.81818(F) - 6136.3636; for the band 260-470 MHz, uV/m at 3 meters = 41.6667(F) - 7083.3333. The maximum permitted unwantedemission level is 20dB below the maximum permitted fundamental level.
3. 433.92MHz Field Strength of Fundamental = 41.6667*312 - 7083.3333 = 10333.3473uV/m
20log(10333.3473) = 80.28dBuV/m

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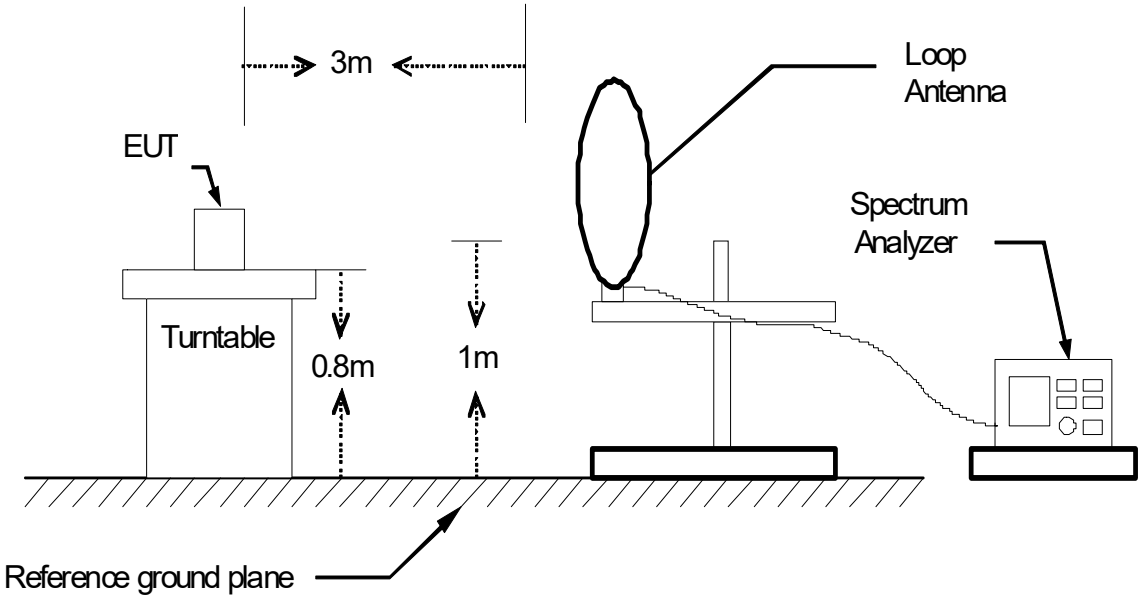
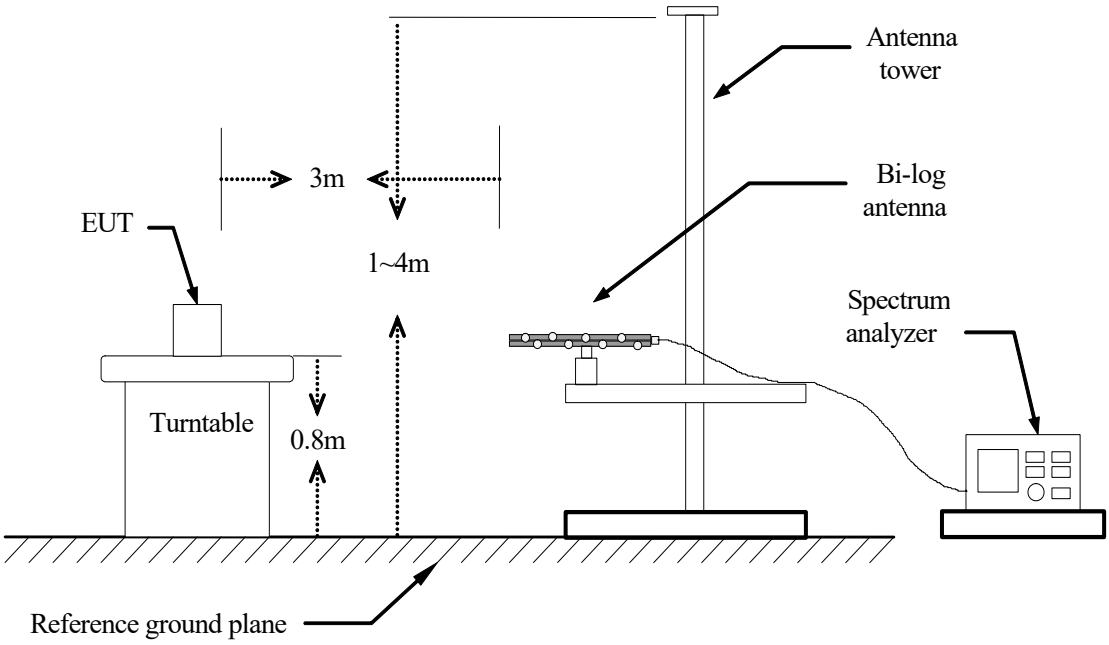
TEST CONFIGURATION

Below 1 GHz

9kHz ~ 30MHz



30MHz ~ 1GHz



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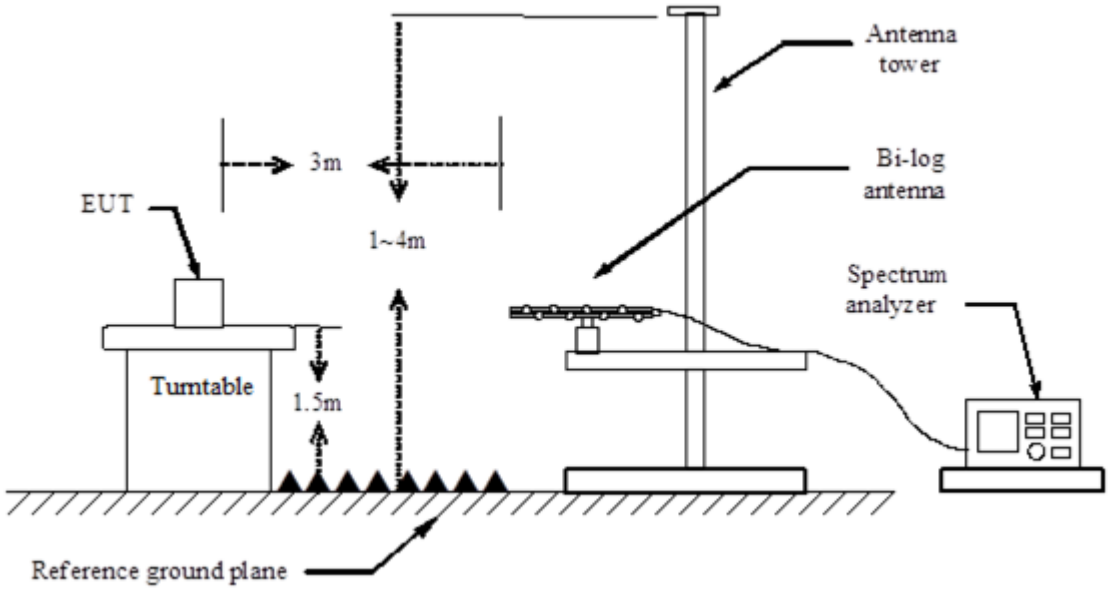
Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m/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. Silicon-Labs 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:
   Below 1GHz:
   RBW=100kHz / VBW=300kHz / Sweep=AUTO
   Above 1GHz:
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: Peak Level + Duty Factor
7. Repeat above procedures until the measurements for all frequencies are complete.
8. No emission is found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz)
9. Average level=Peak level + Duty factor
10. In order to comply the KDB 41477 requirement, although the test data is done in chamber, there has made the comparison with open site test area, and confirming the data is valid.

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Report No.: TMTN2503000304NR

TEST RESULTS

Below 1GHz

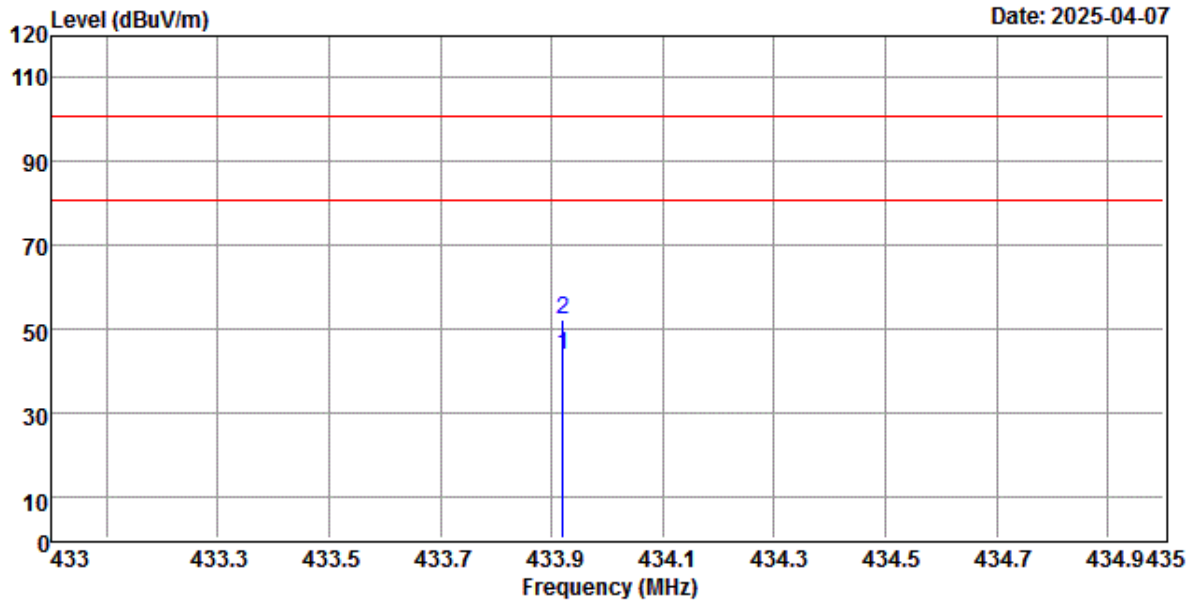
The fundamental signal

Operation Mode: TX **Test Date:** 2025/04/07

Temperature: 23.4℃ **Tested by:** Ted.Huang

Humidity: 58% RH **Polarity:** Ver.

Vertical



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
433.92	—	—	43.60	80.83	-37.23	Average
433.92	25.74	26.62	52.36	100.83	-48.47	Peak

Remark:

1.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz

2.C.F = Antenna Factor + Cable Loss

3.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result - Limit

4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

6.Average Result=Peak Result + Duty Factor

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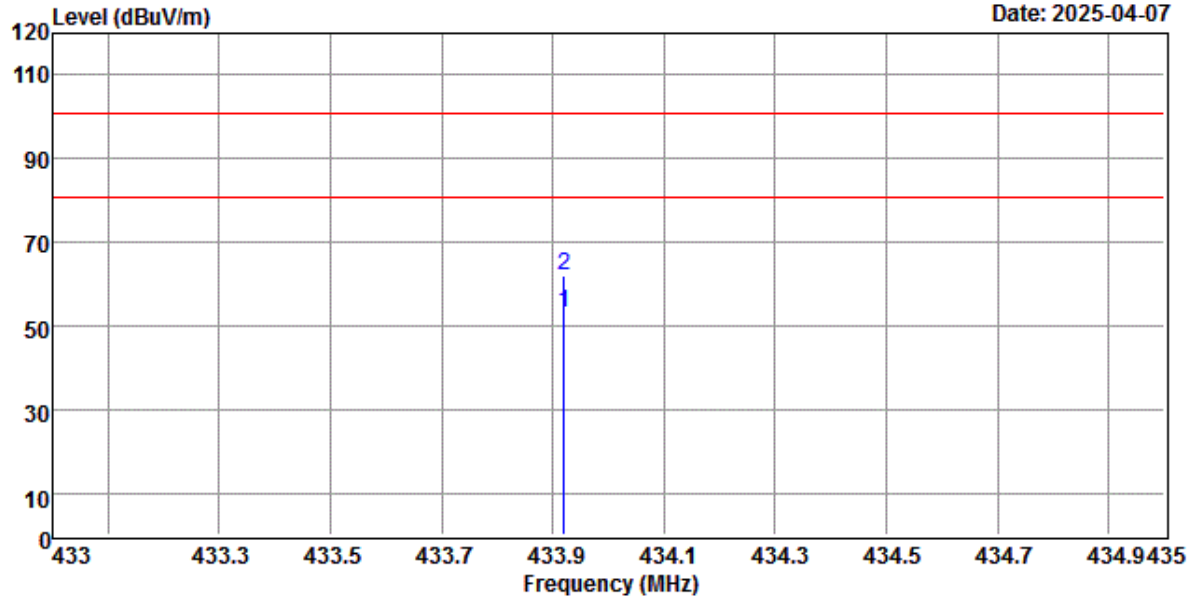
Report No.: TMTN2503000304NR

Operation Mode:	TX	**Test Date:**	2025/04/07
Temperature:	23.4℃	**Tested by:**	Ted.Huang
Humidity:	58% RH	**Polarity:**	Hor.

Horizontal



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
433.92	—	—	53.22	80.83	-27.61	Average
433.92	35.36	26.62	61.98	100.83	-38.85	Peak

Remark:

1.Spectrum analyzer setting P(Peak): RBW=100kHz, VBW=300kHz

2.C.F = Antenna Factor + Cable Loss

3.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result - Limit

4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

6.Average Result=Peak Result + Duty Factor

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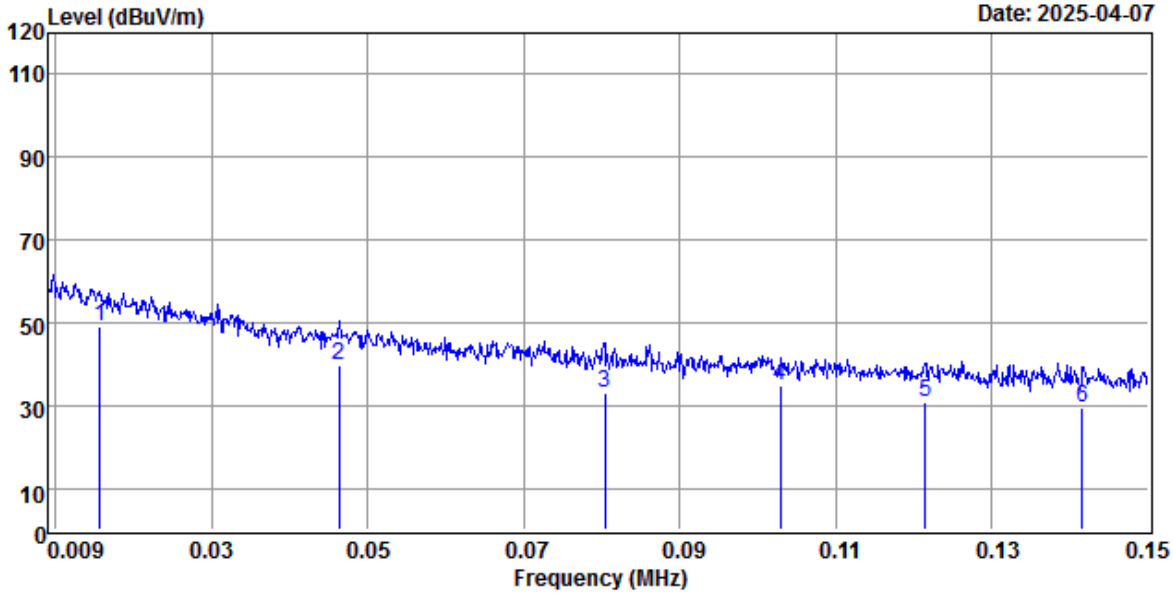
Below 1GHz (9kHz ~ 150kHz)

3m

Product Name	Wireless Door Sensor	Test Date	2025/04/07
Model	ENVV00019	Test By	Ted Huang
Test Mode	TX	TEMP& Humidity	23.4℃/58%



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.02	31.61	17.58	49.19	------	------	Average
0.05	27.98	11.85	39.83	------	------	Average
0.08	23.25	9.86	33.11	------	------	Average
0.10	24.49	10.25	34.74	------	------	QP
0.12	20.61	10.25	30.86	------	------	Average
0.14	19.15	10.25	29.40	------	------	Average

Remark:

1.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).
2.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).
3.C.F = Antenna Factor + Cable Loss
4.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result - Limit
5.The other emission levels were 10dB below the limit
6.The test distance is 3m.

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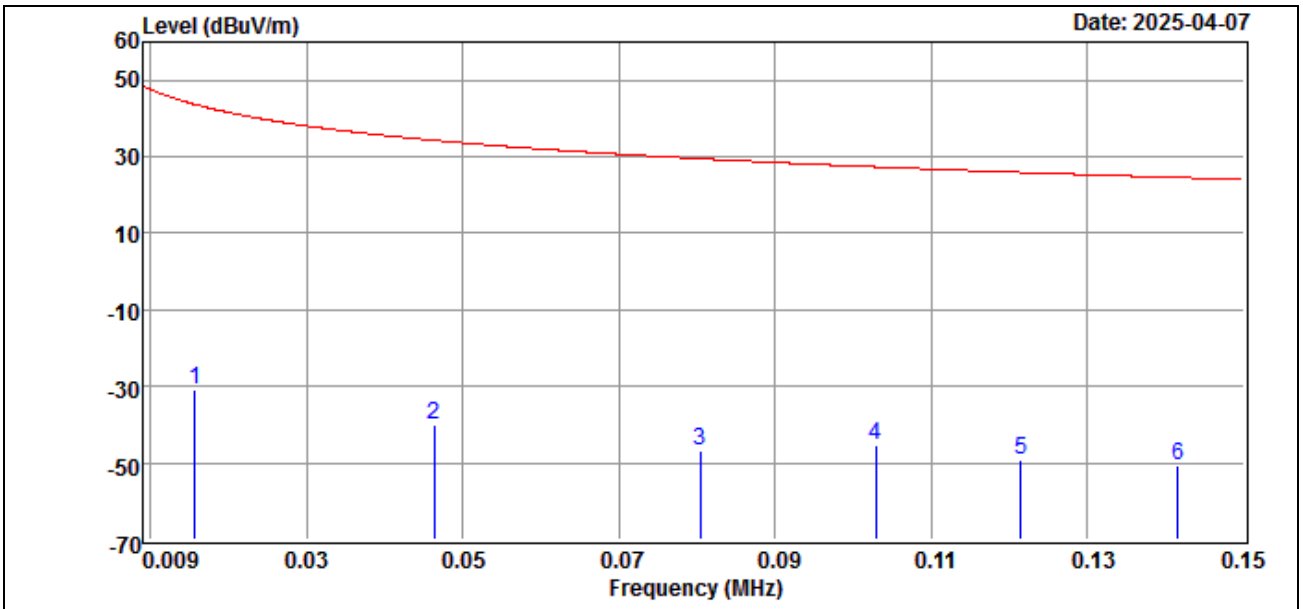
Standard

Product Name	Wireless Door Sensor	Test Date	2025/04/07
Model	ENVV00019	Test By	Ted Huang
Test Mode	TX	TEMP& Humidity	23.4℃/58%



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.02	-48.39	17.58	-30.81	43.73	-74.54	Average
0.05	-52.02	11.85	-40.17	34.28	-74.45	Average
0.08	-56.75	9.86	-46.89	29.51	-76.40	Average
0.10	-55.51	10.25	-45.26	27.36	-72.62	QP
0.12	-59.39	10.25	-49.14	25.92	-75.06	Average
0.14	-60.85	10.25	-50.60	24.59	-75.19	Average

Remark:

1.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).
2.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).
3.C.F = Antenna Factor + Cable Loss
4.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result - Limit
5.The other emission levels were 10dB below the limit
6.The test distance is 3m.

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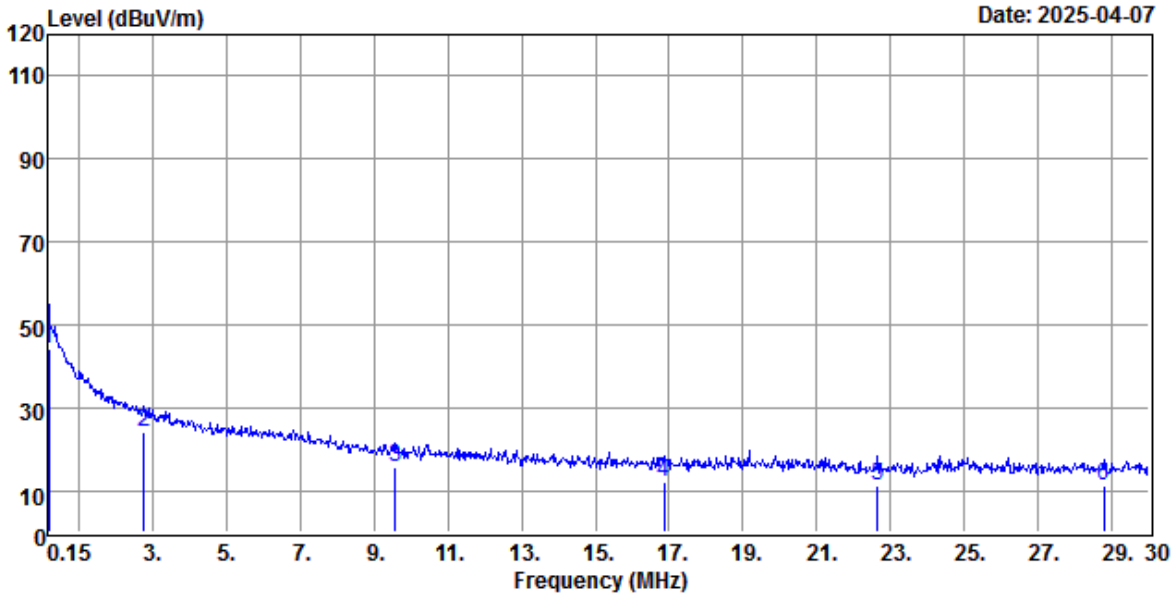
Report No.: TMTN2503000304NR

Below 1GHz (0.15MHz ~ 30MHz)

3m

Product Name	Wireless Door Sensor	Test Date	2025/04/07
Model	ENVV00019	Test By	Ted Huang
Test Mode	TX	TEMP& Humidity	23.4℃/58%



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.18	33.81	10.25	44.06	------	------	Average
2.78	13.84	10.30	24.14	------	------	QP
9.58	3.37	12.05	15.42	------	------	QP
16.87	-0.07	12.29	12.22	------	------	QP
22.66	-0.28	11.33	11.05	------	------	QP
28.78	0.88	10.45	11.33	------	------	QP

Remark:

1.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).
2.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).
3.C.F = Antenna Factor + Cable Loss
4.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result - Limit
5.The other emission levels were 10dB below the limit
6.The test distance is 3m.

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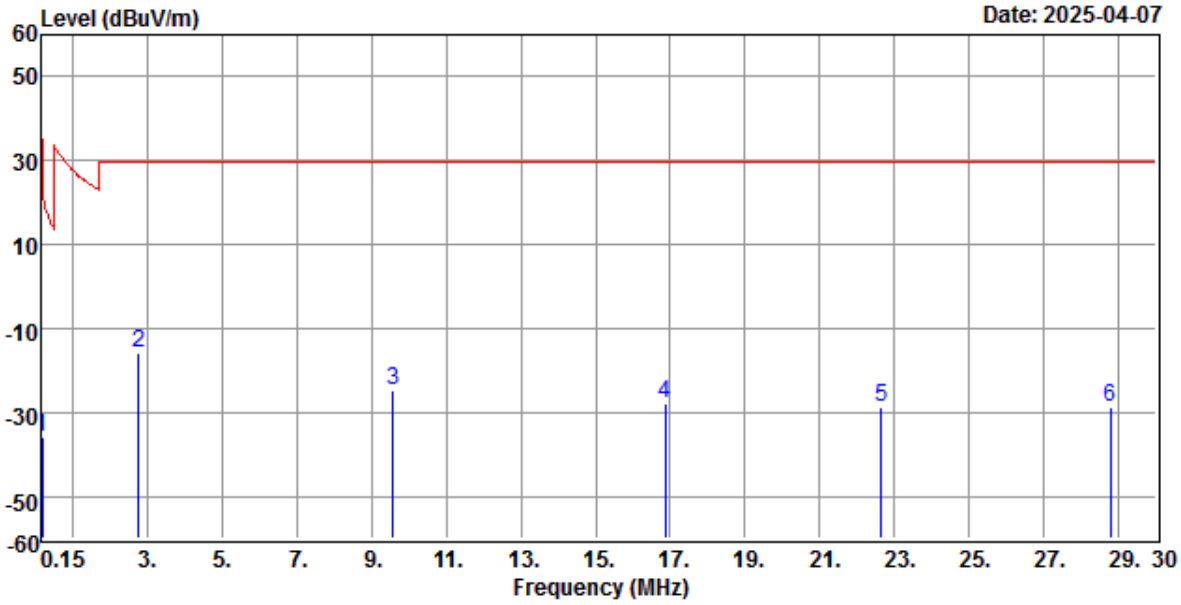
Standard

Product Name	Wireless Door Sensor	Test Date	2025/04/07
Model	ENVV00019	Test By	Ted Huang
Test Mode	TX	TEMP& Humidity	23.4℃/58%



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
0.18	-46.19	10.25	-35.94	22.51	-58.45	Average
2.78	-26.16	10.30	-15.86	29.54	-45.40	QP
9.58	-36.62	12.05	-24.57	29.54	-54.11	QP
16.87	-40.07	12.29	-27.78	29.54	-57.32	QP
22.66	-40.27	11.33	-28.94	29.54	-58.48	QP
28.78	-39.11	10.45	-28.66	29.54	-58.20	QP

Remark:

1.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).
2.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).
3.C.F = Antenna Factor + Cable Loss
4.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result - Limit
5.The other emission levels were 10dB below the limit
6.The test distance is 3m.

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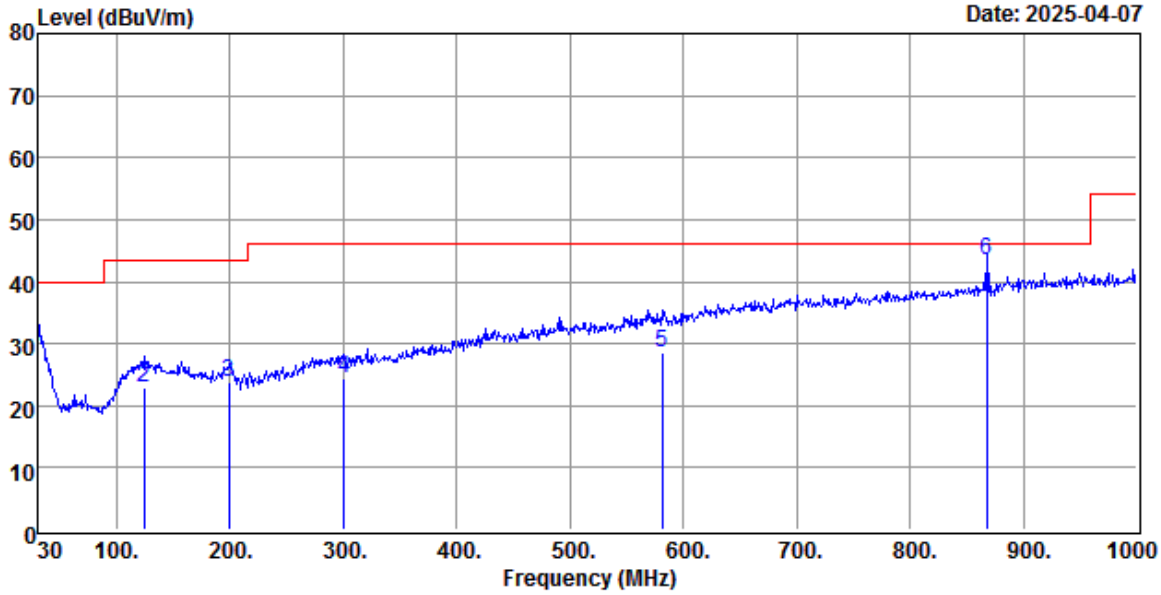
Report No.: TMTN2503000304NR

Below 1GHz (30MHz ~ 1GHz)

Product Name	Wireless Door Sensor	Test Date	2025/04/07
Model	ENVV00019	Test By	Ted Huang
Test Mode	TX	TEMP& Humidity	23.4℃/58%

Horizontal

(The chart below shows the highest readings taken from the final data.)



Freq	Reading	C.F	Result PK	Limit	Margin	Detector
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
30.00	1.02	28.55	29.57	40.00	-10.43	QP
124.09	0.96	22.06	23.02	43.50	-20.48	QP
198.78	1.87	21.81	23.68	43.50	-19.82	QP
300.63	1.48	22.90	24.38	46.00	-21.62	QP
580.96	-0.88	29.29	28.41	46.00	-17.59	QP
867.84	9.52	33.98	43.50	46.00	-2.50	QP

Remark:

1.Test Receiver setting RBW=200Hz for Quasi-peak detection (QP) and Average detection(AV) at frequency 9~150(kHz).
2.Test Receiver setting RBW=9kHz for Quasi-peak detection (QP) and Average detection(AV) at frequency 0.15~30(MHz).
3.C.F = Antenna Factor + Cable Loss
4.The result basic equation calculation is as follow:
Result = Reading + C.F, Margin = Result - Limit
5.The other emission levels were 10dB below the limit
6.The test distance is 3m.

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Report No.: TMTN2503000304NR

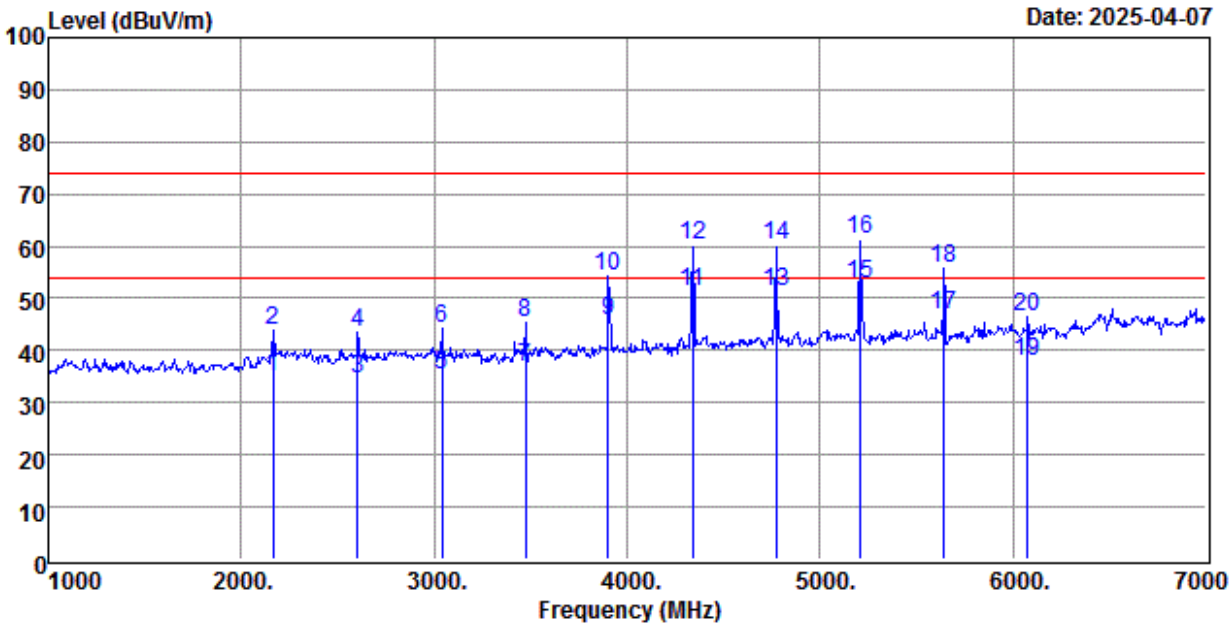
Above 1 GHz

Operation Mode: TX **Test Date:** 2025/04/07

Temperature: 23.4℃ **Tested by:** Ted.Huang

Humidity: 58% RH **Polarity:** Ver.

Vertical



Freq MHz	Reading dBuV	C.F dB	Result PK dBuV/m	Limit dBuV/m	Margin dB	Detector
2164.00	—	—	35.05	54.00	-18.95	Average
2164.00	50.47	-6.66	43.81	74.00	-30.19	Peak
2602.00	—	—	34.57	54.00	-19.43	Average
2602.00	48.81	-5.48	43.33	74.00	-30.67	Peak
3040.00	—	—	35.30	54.00	-18.70	Average
3040.00	47.78	-3.72	44.06	74.00	-29.94	Peak
3472.00	—	—	36.78	54.00	-17.22	Average
3472.00	48.69	-3.15	45.54	74.00	-28.46	Peak
3904.00	—	—	45.57	54.00	-8.43	Average
3904.00	55.58	-1.26	54.32	74.00	-19.68	Peak
4342.00	—	—	51.32	54.00	-2.68	Average
4342.00	60.08	0.00	60.08	74.00	-13.92	Peak
4774.00	—	—	51.41	54.00	-2.59	Average
4774.00	58.59	1.58	60.17	74.00	-13.83	Peak
5212.00	—	—	52.70	54.00	-1.30	Average
5212.00	58.60	2.86	61.46	74.00	-12.54	Peak
5644.00	—	—	46.89	54.00	-7.11	Average
5644.00	51.93	3.73	55.66	74.00	-18.34	Peak
6076.00	—	—	37.88	54.00	-16.12	Average
6076.00	41.60	5.04	46.64	74.00	-27.36	Peak

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Report No.: TMTN2503000304NR

Remark:

1.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz

2.C.F = Antenna Factor + Cable Loss + Filter Loss - Amp Gain

3.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result - Limit

4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

6.Average Result=Peak Result + Duty Factor

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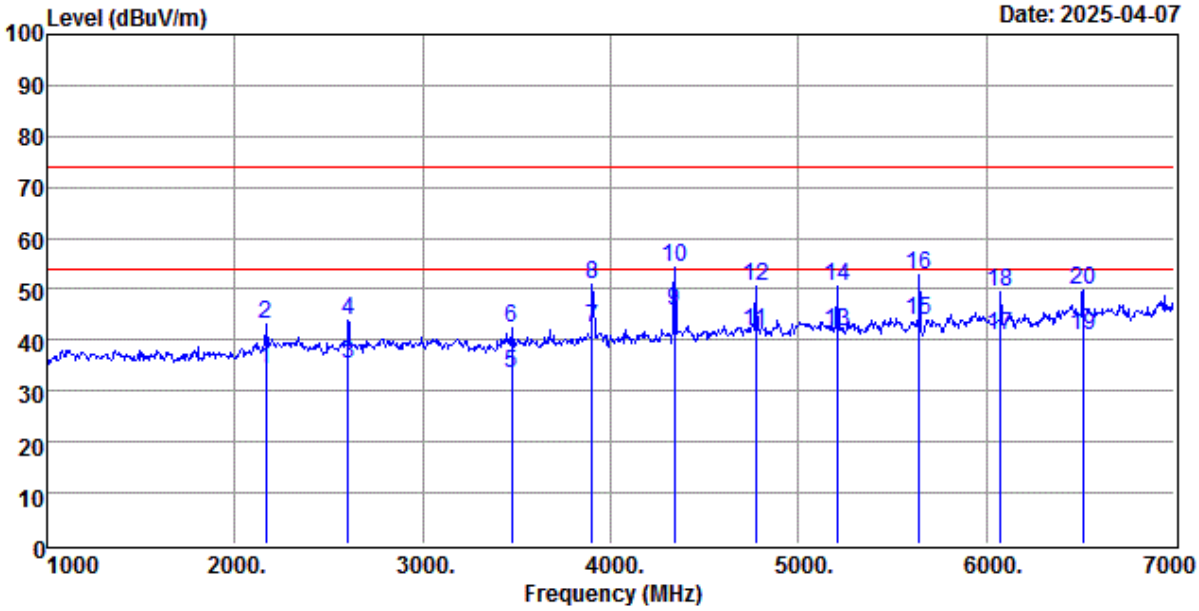
Report No.: TMTN2503000304NR

Operation Mode: TX
Test Date: 2025/04/07
Temperature: 23.4℃
Tested by: Ted.Huang
Humidity: 58% RH
Polarity: Hor.

Horizontal



Freq MHz	Reading dBuV	C.F dB	Result PK dBuV/m	Limit dBuV/m	Margin dB	Detector
2164.00	—	—	34.30	54.00	-19.70	Average
2164.00	49.72	-6.66	43.06	74.00	-30.94	Peak
2602.00	—	—	35.15	54.00	-18.85	Average
2602.00	49.39	-5.48	43.91	74.00	-30.09	Peak
3472.00	—	—	33.60	54.00	-20.40	Average
3472.00	45.51	-3.15	42.36	74.00	-31.64	Peak
3904.00	—	—	42.20	54.00	-11.80	Average
3904.00	52.21	-1.26	50.95	74.00	-23.05	Peak
4342.00	—	—	45.74	54.00	-8.26	Average
4342.00	54.41	0.00	54.41	74.00	-19.59	Peak
4774.00	—	—	41.68	54.00	-12.32	Average
4774.00	48.86	1.58	50.44	74.00	-23.56	Peak
5212.00	—	—	41.81	54.00	-12.19	Average
5212.00	47.71	2.86	50.57	74.00	-23.43	Peak
5644.00	—	—	43.93	54.00	-10.07	Average
5644.00	48.97	3.73	52.70	74.00	-21.30	Peak
6076.00	—	—	40.71	54.00	-13.29	Average
6076.00	44.43	5.04	49.47	74.00	-24.53	Peak
6514.00	—	—	41.03	54.00	-12.97	Average
6514.00	42.47	7.32	49.79	74.00	-24.21	Peak

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Report No.: TMTN2503000304NR

Remark:

1.Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz

2.C.F = Antenna Factor + Cable Loss + Filter Loss - Amp Gain

3.The result basic equation calculation is as follow:

Result = Reading + C.F, Margin = Result - Limit

4.The other emission levels were 10dB below the limit

5.The test distance is 3m.

6.Average Result=Peak Result + Duty Factor

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8.6 POWERLINE CONDUCTED EMISSIONS

LIMIT

For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	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 Due
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
Software	-			

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

TEST RESULTS

※ This EUT is not connected to AC Source directly. No applicability for this test.

=== END of Report ===

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