RF Test Report

FCC ID: 2AUDF-DB325A

IC: 29207-DB325A

Report No.	:	TBR-C-202411-0215-32
Applicant	:	Shenzhen ADDX Innovation Technology co., LTD.
Equipment Under Test (EUT)		
EUT Name	:	Smart Battery Video Doorbell
Model No.	:	DB3
Series Model No.	:	ER04353
Brand Name	:	----
Sample ID	:	HC-C-202411-0215-01-01-1#&HC-C-202411-0215-01-01-2#
Receipt Date	:	2024-11-27
Test Date	:	2024-11-27 to 2024-12-19
Issue Date	:	2024-12-19
Standards	:	FCC Part 15, Subpart C (15.231(a)) RSS-210 Issue 10 December 2019 RSS-Gen Issue 5 April 2018+Amendment 1(March 2019)+Amendment 2(February 2021)
Test Method	:	ANSI C63.10:2013
Conclusions	:	**PASS**

In the configuration tested, the EUT complied with the standards specified above,

Tested By	:	ZKN ZHOU
Reviewed By	:	Wade Lv
Approved By	:	Ivan Su

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Contents

Revision History

Report No.	Version	Description	Issued Date
TBR-C-202411-0215-32	Rev.01	Initial issue of report	2024-12-19

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen ADDX Innovation Technology co., LTD.
Address	:	NO. 2013, Building 9B-3. Shenzhen Bay, Technology and Ecological Park, Nanshan District, shenzhen, China
Manufacturer	:	Shenzhen ADDX Innovation Technology co., LTD.
Address	:	NO. 2013, Building 9B-3. Shenzhen Bay, Technology and Ecological Park, Nanshan District, shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Smart Battery Video Doorbell	
Models No.	:	DB3, ER04353	
HVIN	:	DB325A	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name.	
Product Description	:	Operation Frequency:	433.92MHz
		Output Power:	74.40dBuV/m (PK Max.) 57.29dBuV/m (AV Max.)
		Antenna Gain:	-1.38dBi Spring Antenna
		Modulation Type:	OOK
Power Rating	:	Input: DC 5V/1.5A DC 3.7V by 4500mAh 16.65Wh Rechargeable Li-ion battery	
Software Version	:	V1.9.7	
Hardware Version	:	DB325_C01_V2	

Remark:

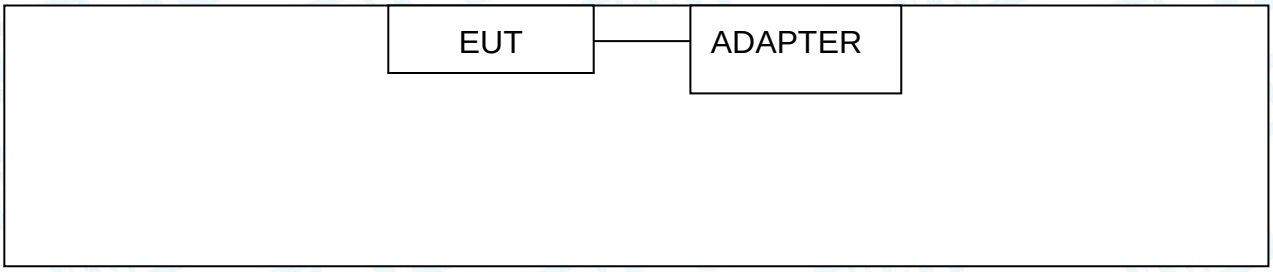
(1) The antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

(2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

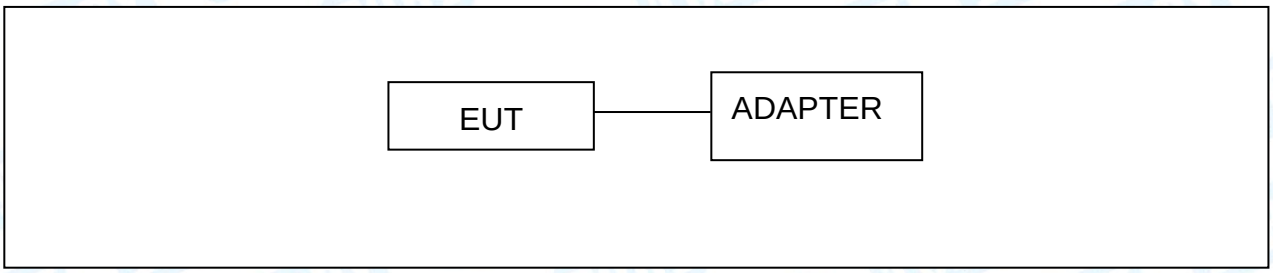
(3) The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

1.3 Block Diagram Showing the Configuration of System Tested

Conducted Test



Radiated Test



1.4 Description of Support Units

Equipment Information				
Name	**Model**	**FCC ID/SDOC**	**Manufacturer**	**Used "√"**
Adapter	----	----	HUAWEI	----
Cable Information				
Number	**Shielded Type**	**Ferrite Core**	**Length**	**Note**
Cable 1	----	----	0.3M	----
Remark: The cable and adapter is provided by Toby test lab.				

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

Test Items	Note
Conducted Emission	Normal Mode
Radiated Emission	Continuously transmitting
Bandwidth	Continuously transmitting
Duty Cycle	Continuously transmitting
Release Time	Normal Mode

Note:

(1) During the testing procedure, the continuously transmitting mode was programmed by the customer.

(2) The EUT is considered a Mobile unit, and it was pre-tested on the positioned of each 3 axis: X axis, Y axis and Z axis. The worst case was found positioned on Z-plane. There for only the test data of this Z-plane were used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of transmitting mode.

RF Power Setting in Test SW:	DEF

1.7 Measurement Uncertainty

The reported uncertainty of measurement y ± U，where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2，providing a level of confidence of approximately 95 %.

Test Item	**Parameters**	**Expanded Uncertainty (U_{Lab})**
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.50 dB ±3.10 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.20 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F., Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025：2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.

2. Test Summary

Standard Section		Test Item	Test Sample(s)	Judgment	Remark
FCC Part 15 Subpart (15.231(a))&RSS 210					
FCC	IC				
15.203	/	Antenna Requirement	HC-C-202411-0215-01-01-1#	PASS	**N/A**
15.207	RSS-GEN 8.8	Conducted Emission	HC-C-202411-0215-01-01-2#	PASS	**N/A**
15.231	RSS-210 Annex A RSS-GEN 8.9/8.10	Release Time	HC-C-202411-0215-01-01-1#	PASS	**N/A**
		Radiation Emission	HC-C-202411-0215-01-01-2#	PASS	**N/A**
		20dB bandwidth & 99% Occupied bandwidth	HC-C-202411-0215-01-01-1#	PASS	**N/A**
		Duty Cycle	HC-C-202411-0215-01-01-1#	PASS	**N/A**
Note: N/A is an abbreviation for Not Applicable.					

3. Test Software

Test Item	Test Software	Manufacturer	Version No.
Conducted Emission	EZ-EMC	EZ	CDI-03A2
Radiation Emission	EZ-EMC	EZ	FA-03A2RE

4. Test Equipment and Test Site

Test Site				
No.	**Test Site**	**Manufacturer**	**Specification**	**Used**
TB-EMCSR001	Shielding Chamber #1	YIHENG	7.5*4.0*3.0 (m)	√
TB-EMCSR002	Shielding Chamber #2	YIHENG	8.0*4.0*3.0 (m)	√
TB-EMCCA001	3m Anechoic Chamber #A	ETS	9.0*6.0*6.0 (m)	X
TB-EMCCB002	3m Anechoic Chamber #B	YIHENG	9.0*6.0*6.0 (m)	√

Conducted Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jun. 17, 2024	Jun. 16, 2025
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jun. 17, 2024	Jun. 16, 2025
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jun. 17, 2024	Jun. 16, 2025
LISN	Rohde & Schwarz	ENV216	101131	Jun. 17, 2024	Jun. 16, 2025
Radiation Emission Test (B Site)					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Aug. 29, 2024	Aug. 28, 2025
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 17, 2024	Jun. 16, 2025
EMI Test Receiver	Rohde & Schwarz	ESU-8	100472/008	Feb. 23, 2024	Feb. 22, 2025
Bilog Antenna	SCHWARZBECK	VULB 9168	1225	Nov. 13, 2023	Nov. 12, 2025
Horn Antenna	SCHWARZBECK	BBHA 9120 D	2463	Jun. 14, 2024	Jun. 13, 2026
Horn Antenna	SCHWARZBECK	BBHA 9170	1118	Feb. 27, 2024	Feb. 26, 2026
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jun. 14, 2024	Jun. 13, 2026
HF Amplifier	Tonscend	TAP9E6343	AP21C806117	Aug. 29, 2024	Aug. 28, 2025
HF Amplifier	Tonscend	TAP051845	AP21C806141	Aug. 29, 2024	Aug. 28, 2025
HF Amplifier	Tonscend	TAP0184050	AP21C806129	Aug. 29, 2024	Aug. 28, 2025
Highpass Filter	CD	HPM-6.4/18G	---	N/A	N/A
Highpass Filter	CD	HPM-2.8/18G	---	N/A	N/A
Highpass Filter	XINBO	XBLBQ-HTA67(8-25G)	22052702-1	N/A	N/A
Antenna Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 17, 2024	Jun. 16, 2025
MXA Signal Analyzer	KEYSIGHT	N9020B	MY60110172	Aug. 29, 2024	Aug. 28, 2025
MXA Signal Analyzer	Agilent	N9020A	MY47380425	Aug. 29, 2024	Aug. 28, 2025
Vector Signal Generator	Agilent	N5182A	MY50141294	Aug. 29, 2024	Aug. 28, 2025
Analog Signal Generator	Agilent	N5181A	MY48180463	Aug. 29, 2024	Aug. 28, 2025
Vector Signal Generator	KEYSIGHT	N5182B	MY59101429	Aug. 29, 2024	Aug. 28, 2025

Analog Signal Generator	KEYSIGHT	N5173B	MY61252685	Aug. 29, 2024	Aug. 28, 2025
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Aug. 29, 2024	Aug. 28, 2025
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Aug. 29, 2024	Aug. 28, 2025
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Aug. 29, 2024	Aug. 28, 2025
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Aug. 29, 2024	Aug. 28, 2025
RF Control Unit	Tonsced	JS0806-1	21C8060380	N/A	N/A
RF Control Unit	Tonsced	JS0806-2	21F8060439	Aug. 29, 2024	Aug. 28, 2025
Power Control Box	Tonsced	JS0806-4ADC	21C8060387	N/A	N/A

5. Conducted Emission Test

5.1 Test Standard and Limit

5.1.1Test Standard

FCC 15.207

RSS Gen 8.8

5.1.2 Test Limit

Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

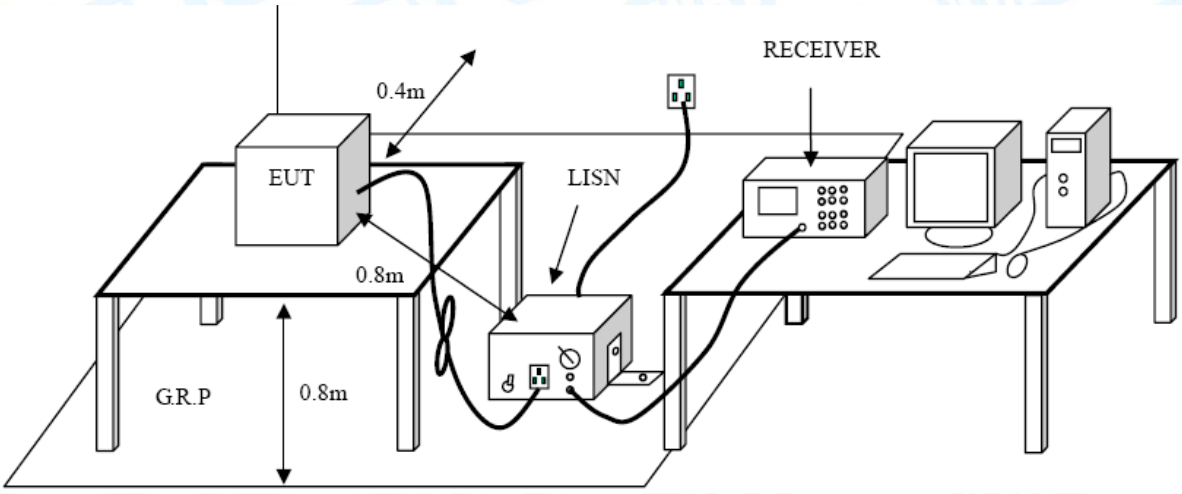
Notes:

(1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

5.2 Test Setup



5.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

The EUT must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

5.4 Deviation From Test Standard

No deviation

5.5 Test Data

Please refer to the Attachment A inside test report.

6. Radiated Emission Test

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC 15.231

RSS 210 Annex 1

6.1.2 Test Limit

According to FCC 15.231(a) requirement:

In addition to the provisions of Section 15.205, the field strength of emissions from intentional radiators operated under this Section shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolt/meter) at 3m	Field Strength of Spurious Emissions (microvolt/meter) at 3m
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

Table A2 — Reduced field strength limits for momentarily operated devices

Fundamental frequency (MHz), excluding restricted frequency bands specified in RSS-Gen	Field strength of the fundamental emissions (μV/m at 3 m)
70-130	500
130-174	500 to 1,500*
174-260**	1,500
260-470**	1,500 to 5,000*
Above 470	5,000

** Linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths are as follows:

(1) for the band 130~174 MHz, uV/m at 3 meters= 56.81818(F)-6136.3636;

(2) for the band 260~470 MHz, uV/m at 3 meter= 41.6667(F)-7083.3333.

(3) The maximum permitted unwanted emissions level is 20 dB below the maximum permitted fundamental level. In addition field strength of any emissions which appear inside of the restriction band shall not exceed the general radiated emissions limits in FCC Part15.209.

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note:

(1) The tighter limit applies at the band edges.

(2) For above 30MHz:

Emission Level(dBuV/m)=20log Emission Level(uV/m)

For 0.009~0.490MHz:

Emission Level(dBuV/m)=20log Emission Level(uV/m) +40log(300/3)

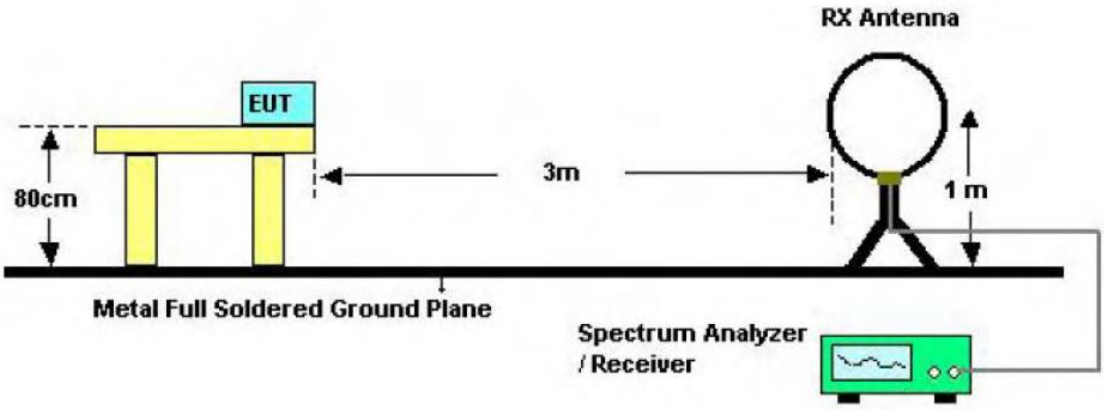
For 0.049~30MHz:

Emission Level(dBuV/m)=20log Emission Level(uV/m) +40log(30/3)

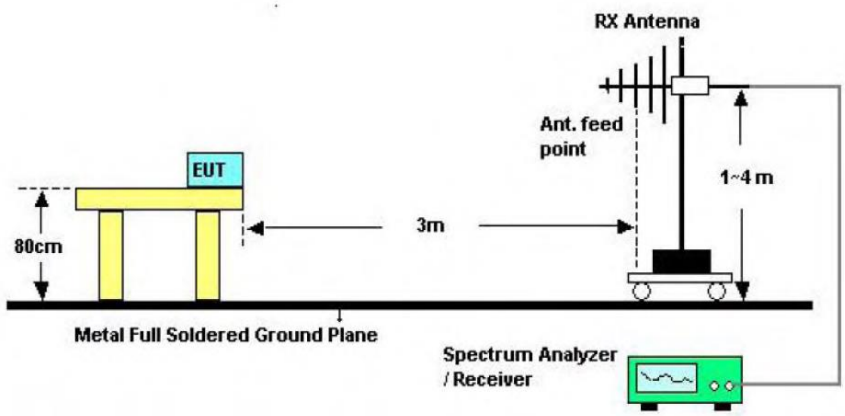
So the field strength of emission limits have been calculated in below table.

Fundamental Frequency (MHz)	Field Strength of Fundamental (microvolt/meter) at 3m
433.92 MHz	80.82 (Average)
433.92 MHz	100.82 (Peak)

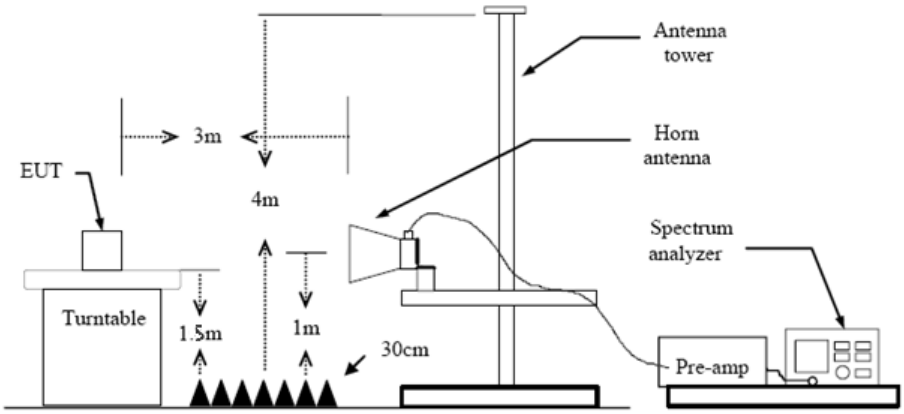
6.2 Test Setup



Below 30MHz Test Setup



Bellow 1000MHz Test Setup



Above 1GHz Test Setup

6.3 Test Procedure

(1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.

(2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.

(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

(4) 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.

(5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

(6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.

(7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

(8) For the actual test configuration, please see the test setup photo.

6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

6.6 Test Data

Please refer to the Attachment B.

7. Bandwidth

7.1 Test Standard and Limit

7.1.1 Test Standard

FCC 15.231

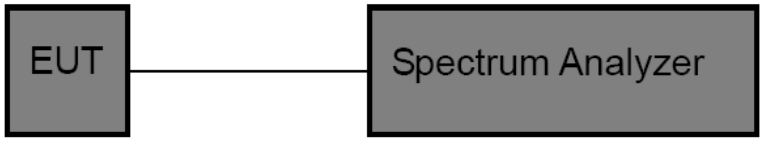
RSS 210 Annex 1

7.1.2 Test Limit

The 99%bandwidth of the emissions shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz. So the emission bandwidth limits have been calculated in below table.

Fundamental Frequency	20 dB & 99%Bandwidth Limits (MHz)
433.92MHz	1.0848

7.2 Test Setup



7.3 Test Procedure

(1) Set Spectrum Analyzer Center Frequency= Fundamental Frequency, RBW=10 kHz, VBW= 30 kHz, Span= 1 MHz.

(2) Measured the spectrum width with power higher than 20 dB below carrier.

7.4 Deviation From Test Standard

No deviation

7.5 EUT Operating Condition

The Equipment Under Test was Programmed to be in continuously transmitting mode.

7.6 Test Data

Please refer to the Attachment C.

8. Release Time Measurement

8.1 Test Standard and Limit

8.1.1 Test Standard

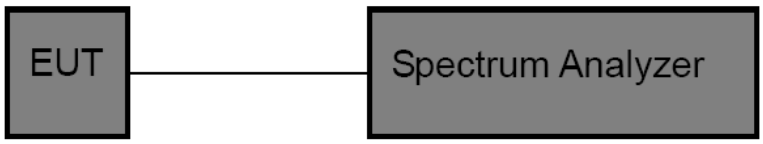
FCC 15.231

RSS 210 Annex A&D

8.1.2 Test Limit

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

8.2 Test Setup



8.3 Test Procedure

(1) Setup the EUT as show in the block diagram above.

(2) Set Spectrum Analyzer Centre Frequency= Fundamental Frequency, RBW=100 kHz, VBW= 300 kHz, Span= 0 Hz. Sweep Time= 5 Seconds.

(3) Setup the EUT as normal operation and press Transmitter button.

(4) Set Spectrum Analyzer View, Delta Mark time.

8.4 Deviation From Test Standard

No deviation

8.5 EUT Operating Condition

The EUT was set to work in transmitting mode.

8.6 Test Data

Please refer to the Attachment D.

9. Duty Cycle

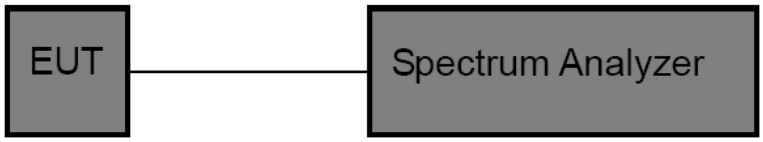
9.1 Test Standard and Limit

9.1.1 Test Standard

FCC 15.231

RSS 210 Annex A&D

9.2 Test Setup



9.3 Test Procedure

(1) The EUT was placed on a turntable which is 0.8m above ground plane.

(2) Set EUT operating in continuous transmitting mode.

(3) Set the Spectrum Analyzer to the transmitter carrier frequency, and set the spectrum analyzer resolution bandwidth (RBW) to 100 kHz and video bandwidth (VBW) to 300 kHz, Span was set to 0 Hz.

(4) The Duty Cycle was measured and recorded.

9.4 Deviation From Test Standard

No deviation

9.5 EUT Operating Condition

The EUT was programmed to be in transmitting mode.

9.6 Test Data

Please refer to the Attachment E.

10. Antenna Requirement

10.1 Standard Requirement

10.1.1 Standard

FCC Part 15.203

RSS GEN

10.1.2 Requirement

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.

10.1 Deviation From Test Standard

No deviation

10.2 Antenna Connected Construction

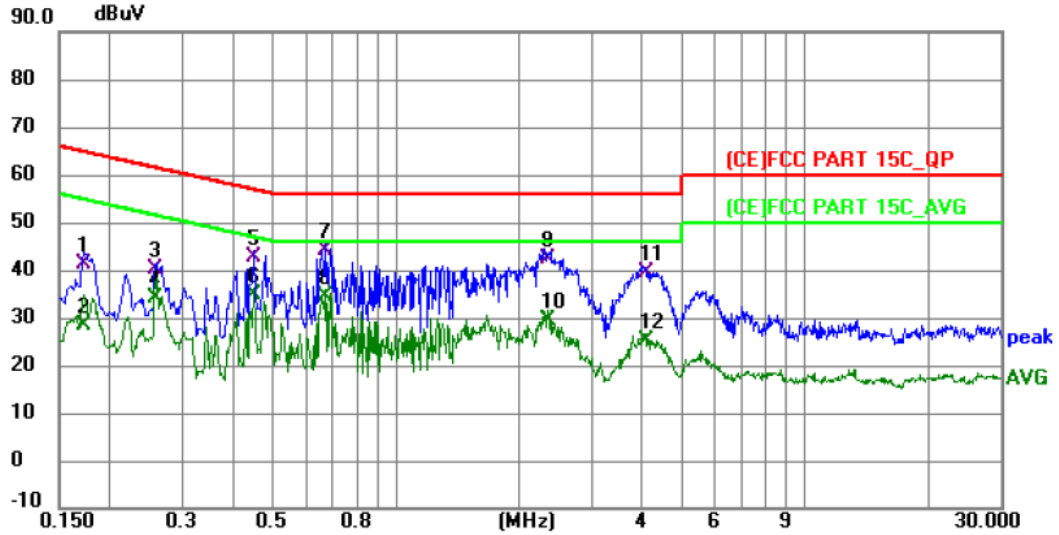
The gains of the antenna used for transmitting is -1.38dBi, and the antenna connector is de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

The EUT antenna is a Spring Antenna. It complies with the standard requirement.

Antenna Type
☒Permanent attached antenna
☐Unique connector antenna
☐Professional installation antenna

Attachment A--Conducted Emission Test Data

Test Voltage:	AC 120V/60Hz
Terminal:	Line
Test Mode:	Mode 1
Remark:	Only showed the worst mode test data.

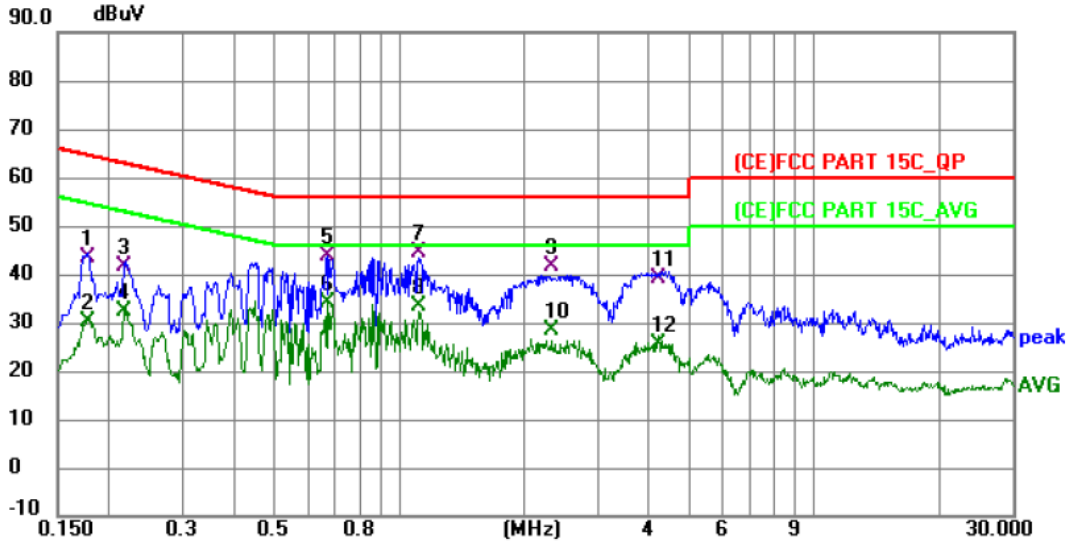


Temperature: 24.5 ℃ Humidity: 48 %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.172	31.87	9.55	41.42	64.86	-23.44	QP
2		0.172	18.87	9.55	28.42	54.86	-26.44	AVG
3		0.258	30.59	9.49	40.08	61.50	-21.42	QP
4		0.258	24.49	9.49	33.98	51.50	-17.52	AVG
5		0.447	33.04	9.47	42.51	56.93	-14.42	QP
6		0.447	25.42	9.47	34.89	46.93	-12.04	AVG
7		0.672	34.67	9.49	44.16	56.00	-11.84	QP
8	*	0.672	24.95	9.49	34.44	46.00	-11.56	AVG
9		2.350	32.85	9.59	42.44	56.00	-13.56	QP
10		2.350	19.99	9.59	29.58	46.00	-16.42	AVG
11		4.088	29.82	9.53	39.35	56.00	-16.65	QP
12		4.088	15.69	9.53	25.22	46.00	-20.78	AVG

Remark:
1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Test Voltage:	AC 120V/60Hz
Terminal:	Neutral
Test Mode:	Mode 1
Remark:	Only showed the worst mode test data.



Temperature: 24.5 ℃ Humidity: 48 %RH

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.177	33.81	9.53	43.34	64.63	-21.29	QP
2		0.177	20.71	9.53	30.24	54.63	-24.39	AVG
3		0.217	32.04	9.49	41.53	62.93	-21.40	QP
4		0.217	22.77	9.49	32.26	52.93	-20.67	AVG
5		0.667	34.26	9.48	43.74	56.00	-12.26	QP
6		0.667	24.78	9.48	34.26	46.00	-11.74	AVG
7	*	1.122	34.88	9.47	44.35	56.00	-11.65	QP
8		1.122	23.79	9.47	33.26	46.00	-12.74	AVG
9		2.324	32.08	9.54	41.62	56.00	-14.38	QP
10		2.324	18.87	9.54	28.41	46.00	-17.59	AVG
11		4.209	29.73	9.51	39.24	56.00	-16.76	QP
12		4.209	15.85	9.51	25.36	46.00	-20.64	AVG

Remark:
1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) =QuasiPeak/Average (dBuV)-Limit (dBuV)

Attachment B--Radiated Emission Test Data

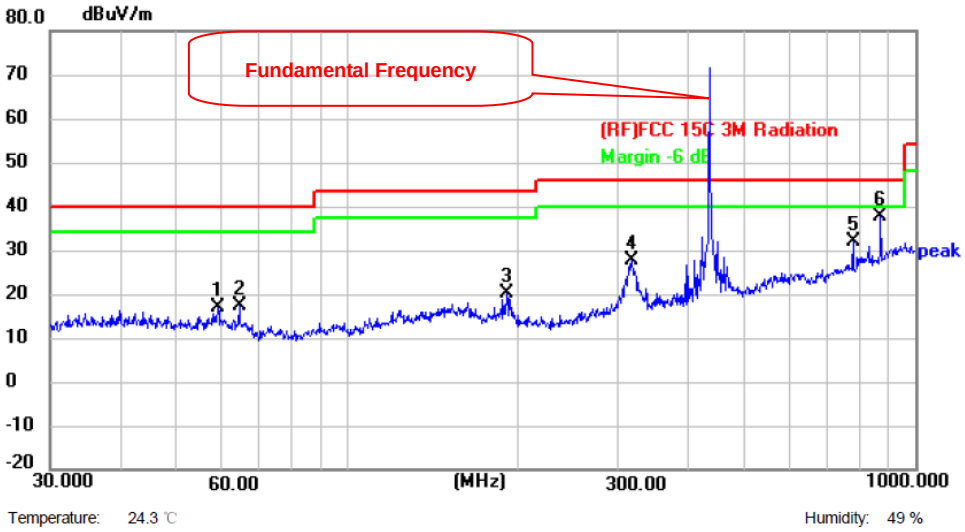
9 KHz to 30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

30MHz-1GHz

Test Voltage:	DC 5V
Ant. Pol.	Horizontal
Test Mode:	TX Mode
Remark:	No report for the emission which more than 10 dB below the prescribed limit.



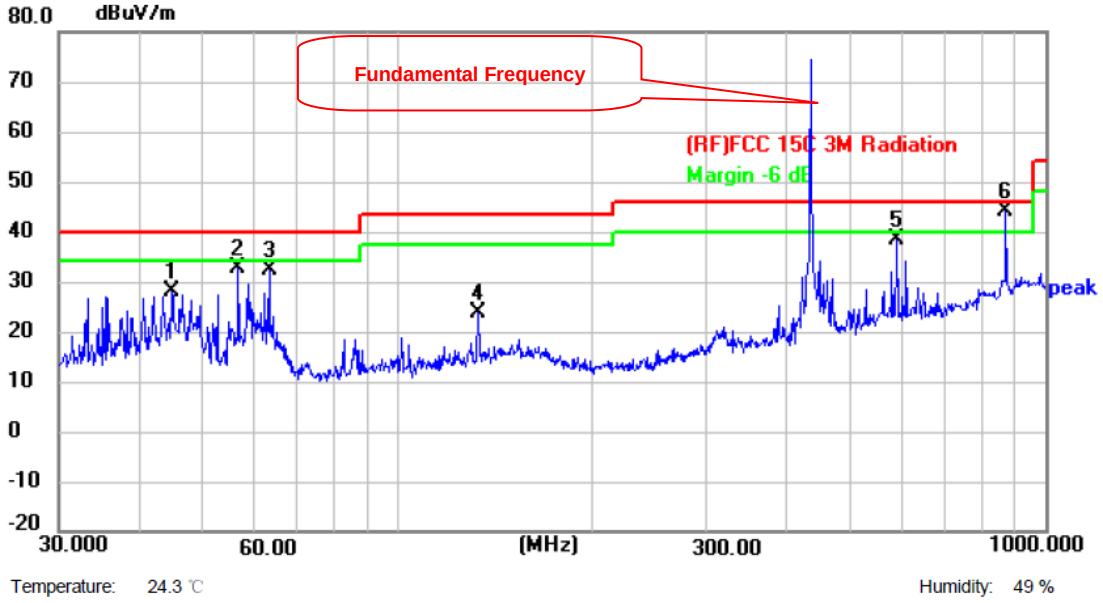
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	59.2323	41.22	-24.08	17.14	40.00	-22.86	peak
2	64.6594	41.88	-24.68	17.20	40.00	-22.80	peak
3	191.0738	44.76	-24.73	20.03	43.50	-23.47	peak
4	317.7011	48.09	-20.36	27.73	46.00	-18.27	peak
5	776.8778	43.46	-11.53	31.93	46.00	-14.07	peak
6 *	869.1302	47.14	-9.34	37.80	46.00	-8.20	peak

Emission Level= Read Level+ Correct Factor

Average Value=Peak Value-17.11

Frequency (MHz)	Peak Level (dBuV/m)	AV Factor (dBuV/m)	Average value (dBuV/m)	Average Limit (dBuV/m)	Peak Limit (dBuV/m)	Conclusion
433.9200	71.65	-17.11	54.54	80.82	100.82	PASS
869.1302	37.80	-17.11	20.69	60.82	80.82	PASS

Test Voltage:	DC 5V
Ant. Pol.	Vertical
Test Mode:	TX Mode
Remark:	No report for the emission which more than 10 dB below the prescribed limit.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.9004	51.69	-23.75	27.94	40.00	-12.06	peak
2	56.7917	56.98	-24.28	32.70	40.00	-7.30	peak
3	63.3132	57.08	-24.68	32.40	40.00	-7.60	peak
4	133.1511	46.51	-22.59	23.92	43.50	-19.58	peak
5	590.9737	52.51	-14.13	38.38	46.00	-7.62	peak
6 *	869.1302	53.47	-9.34	44.13	46.00	-1.87	peak

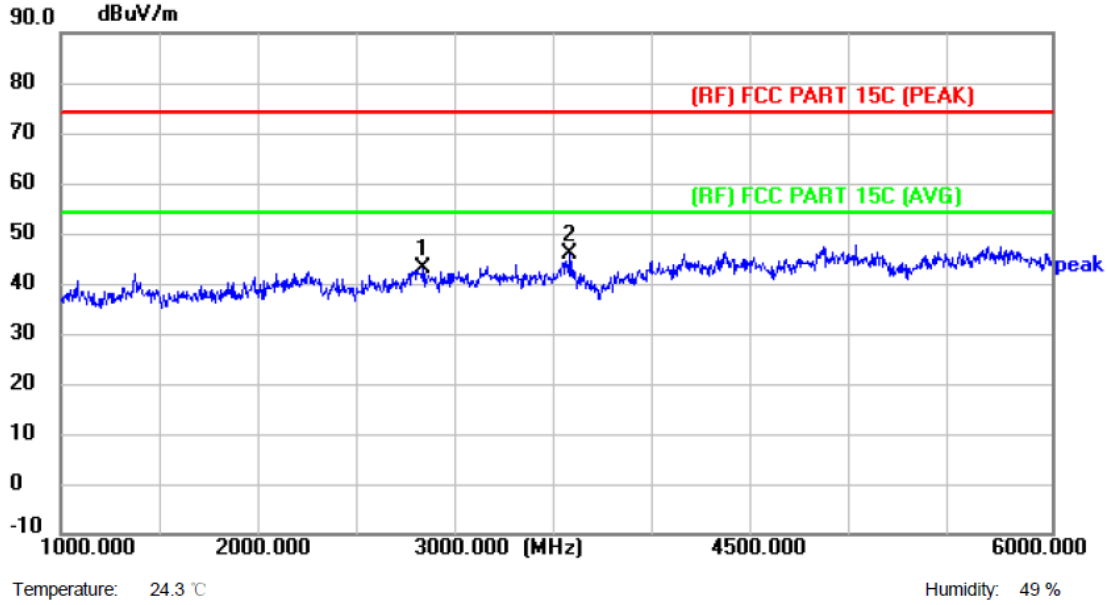
Emission Level= Read Level+ Correct Factor

Average Value=Peak Value-17.11

Frequency (MHz)	Peak Level (dBuV/m)	AV Factor (dBuV/m)	Average value (dBuV/m)	Average Limit (dBuV/m)	Peak Limit (dBuV/m)	Conclusion
433.9200	74.40	-17.11	57.29	80.82	100.82	PASS
869.1302	44.13	-17.11	27.02	60.82	80.82	PASS

Above 1G

Test Voltage:	DC 5V
Ant. Pol.	Horizontal
Test Mode:	TX Mode
Remark:	The peak value＜average limit, So only show the peak value.



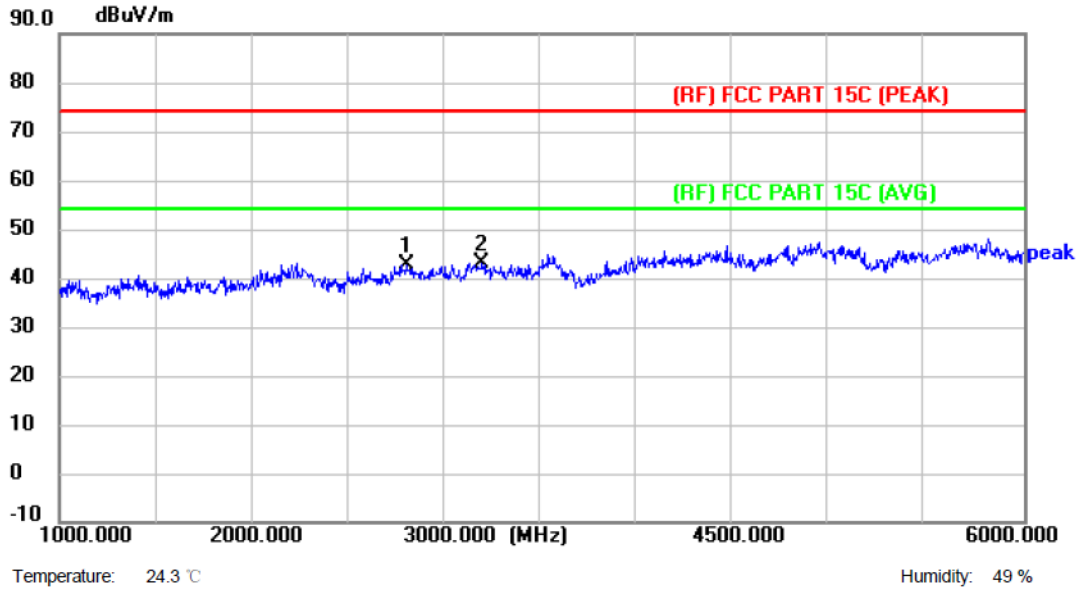
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2825.000	52.02	-9.08	42.94	74.00	-31.06	peak
2 *	3570.000	53.15	-7.11	46.04	74.00	-27.96	peak

Emission Level= Read Level+ Correct Factor

Average Value=Peak Value-17.11

Frequency (MHz)	Peak Level (dBμV/m)	AV Factor(dBμV/m)	Average Level (dBμV/m)	Limit(dBμV/m) (average)	Limit(dBμV/m) (Peak)	Conclusion
2825.000	42.94	-17.11	25.83	54	74	PASS
3570.000	46.04	-17.11	28.93	54	74	PASS

Test Voltage:	DC 5V
Ant. Pol.	Vertical
Test Mode:	TX Mode
Remark:	The peak value＜average limit, So only show the peak value.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2800.000	51.13	-8.47	42.66	74.00	-31.34	peak
2 *	3190.000	51.03	-7.83	43.20	74.00	-30.80	peak

Emission Level= Read Level+ Correct Factor

Average Value=Peak Value-17.11

Frequency (MHz)	Peak Level (dBμV/m)	AV Factor(dBμV/m)	Average Level (dBμV/m)	Limit(dBμV/m) (average)	Limit(dBμV/m) (Peak)	Conclusion
2800.000	42.66	-17.11	25.55	54	74	PASS
3190.000	43.20	-17.11	26.09	54	74	PASS

Other harmonics emissions are lower than 20dB below the allowable limit.

Note: (1) All Readings are Peak Value and AV. And AV is calculated by the following:

Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.

Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values.

Average Values=Peak Values+20log (Duty Cycle)

(2) Emission Level= Reading Level + Probe Factor +Cable Loss

(3) 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.

Pulse Desensitization Correction Factor

Note:

1)The Smallest Pulse Width (PW)= 0.4ms

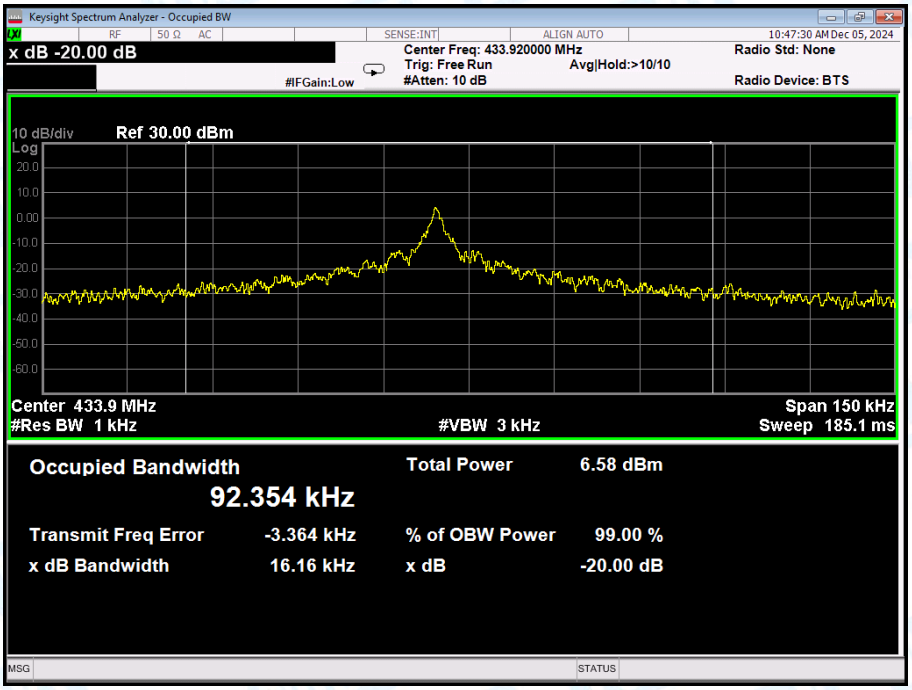
(2) 2/PW=2/0.4(ms)=5kHz<100 kHz

Because 2/PW<RBW, so the PDCF is not needed.

Attachment C--Bandwidth Data

Temperature	:	23.5℃
Relative Humidity	:	46%
Pressure	:	1020hPa
Test Power	:	DC 5V

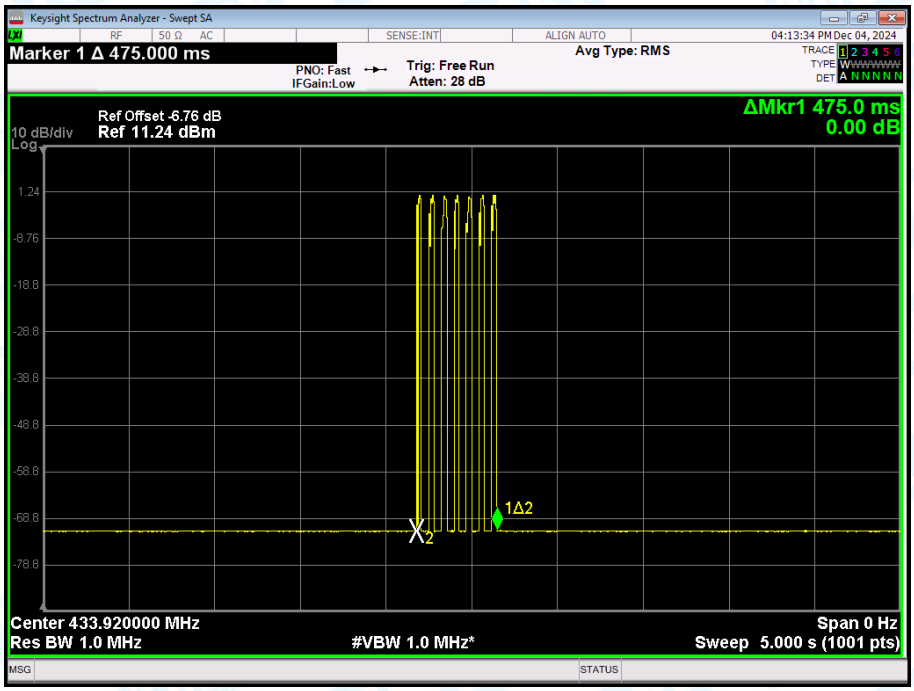
Frequency (MHz)	20dB Bandwidth (kHz)	99% OBW (kHz)	20dB Bandwidth Limit (kHz)	Result
433.92	16.16	92.354	1084.8	PASS



Attachment D--Release Time Measurement Data

Temperature	:	23.5℃
Relative Humidity	:	46%
Pressure	:	1020hPa
Test Power	:	DC 5V

Release Time(s)	Limit (s)	Result
0.475	5	PASS



Attachment E--Duty Cycle Data

Please refer the following pages:

Plot 1: transmit once in 100ms, and each cycle is 72.30ms there are three kinds of pulse in each cycle, the large pulses total 1, the medium pulses total 8, the little pulses total 17.

Plot 2: one large pulse in a time period of 1.06ms

Plot 3: one medium pulse in a time period of 0.66ms

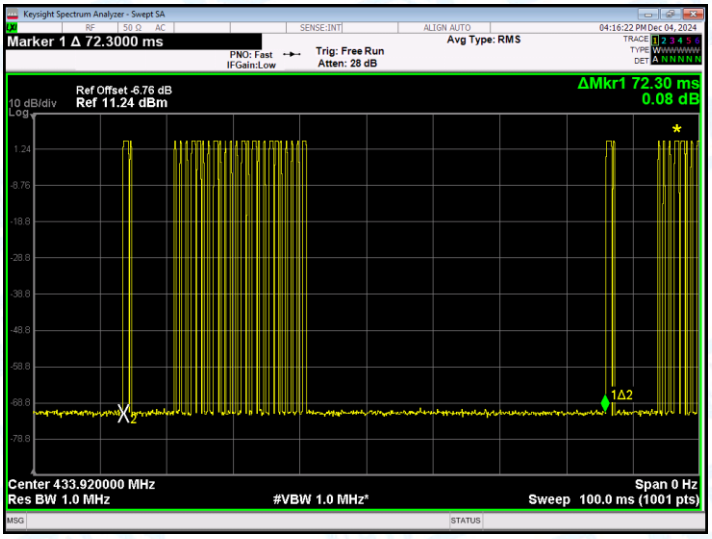
Plot 4: one little pulse in a time period of 0.22ms

Duty Cycle=ON/Total= (1.06+0.66*8+0.22*17)/72.30=10.08/72.30=13.94%

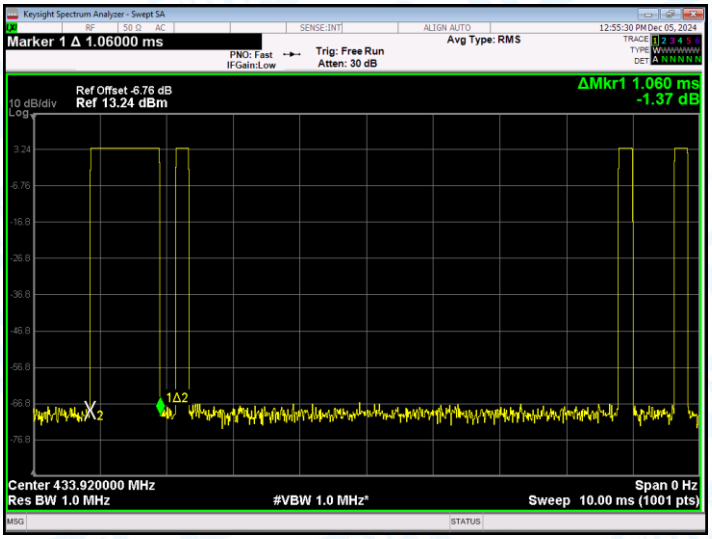
20log (Duty Cycle) =-17.11

Average=Peak Value + 20log (Duty Cycle), AV=PK-17.11

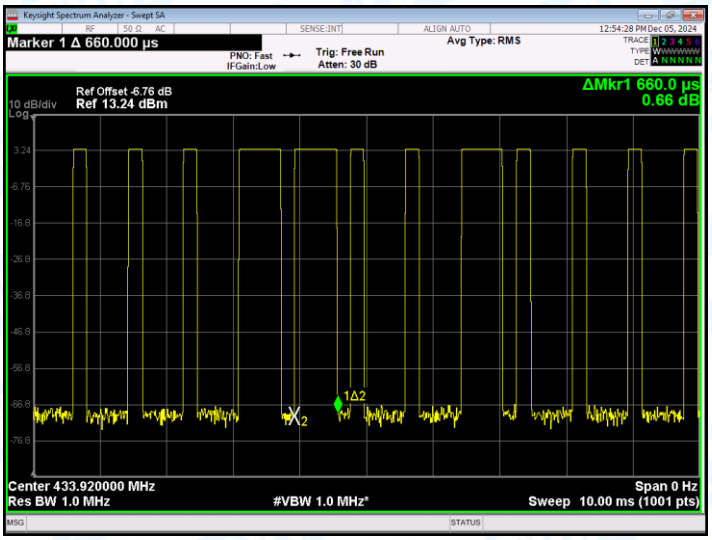
Plot 1



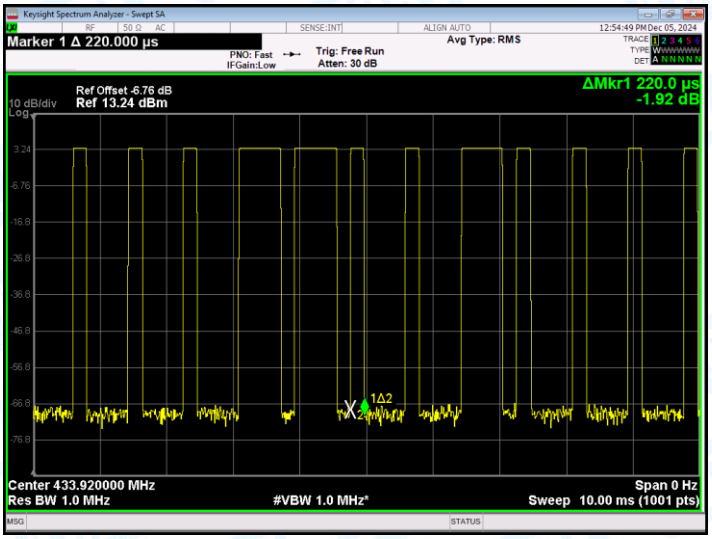
Plot 2



Plot 3



Plot 4



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