

FCC Test Report

Report No.: HP190906DC012-FI

Applicant name: SHENZHEN UNICHAIN TECHNOLOGY CO., LTD

Applicant address: 3 Floor, HongXiangJia electronic commerce Pioneer Park, Shenzhen, China

Product name Wireless Remote Control Doorbell

FCC ID No.: 2AK8Q-HWD01888

Brand Name: TeckNet

Test model name: HWD01888

Additional model: RL-3883, RL-2R3883, HWD01878, RL-3883B, HWD01898, RL-2R3883B, HWD01899

Issued Date: 2019-12-17

Issued By: Hwa-Hsing (Dongguan) Testing Co., Ltd.

Lab Address: No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China

Test Location: No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China

FCC Designation Number: CN1255

Standards: FCC Part 15, Subpart C, Section 15.231a (2019-12)

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : , **Date:** Dec. 17, 2019

Tank Tan//Engineer

Approved by : , **Date:** Dec. 17, 2019

Harry Li/ Supervisor

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Release Control Record

Issue No.	Description	Date Issued
HP190906DC012-FI	Original release.	Dec. 17, 2019

1 Summary of Test Results

The EUT has been tested according to the following specifications:

Applied standard: FCC part 15, Subpart C (section 15.231)			
Clause	Test Item	Result/Remarks	Verdict
§15.203	Antenna Requirement	Meets the requirements of Standard	Pass
§15.207 (a)	AC Power Conducted Emission	Battery only	N/A
§15.209 §15.231(b)	Radiated Emission	Meets the requirements of Standard	Pass
§15.231 (a)	Deactivation Testing	Not apply	Pass
§15.231(c)	Emission Bandwidth Measurement	Meets the requirements of Standard	Pass

Note:

1. There is no deviation to the applied test methods and requirements covered by the scope of this report.
2. EUT (TX) only power supply by battery, and the EMC test data please see the FCC Part 15B report(The report No.: HP190906DC012-FS).

1.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUTs specified in CISPR 16-4-2:

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.66 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.47 dB
Radiated Emissions above 1 GHz	Above 1GHz	4.84 dB
Temperature		±1°C
Humidity		±5.0 %
Voltages(DC)		±1.0 %
Voltages(AC, <10kHz)		±2.0 %

1.2 Modification Record

There were no modifications required for compliance.

2 General Information

2.1 General Description of EUT

Product name	Wireless Remote Control Doorbell
Brand name	TeckNet
Test Model	HWD01888
Series Models	RL-3883, RL-2R3883, HWD01878, RL-3883B, HWD01898, RL-2R3883B, HWD01899
Models difference	Only difference of the model name use for trade purpose.
Operating Software	N/A
Power Supply Rating	RX Sensor: AC 85V~265V 50Hz~60Hz TX Controller: DC3V battery
Modulation type	FSK
Operating frequency	433.92MHz
Antenna type	Integral Antenna, with 3dBi gain
Accessory Device	N/A
Cable Supplied	N/A

1. For a more detailed features description, please refer to the manufacturer's specification or the User's Manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.
3. Please refer to the EUT photo document (Reference No.: HS190906DC012) for detailed product photo.
4. Wireless Remote Control Doorbell System model name definition(With TX and RX):

Wireless Remote Control Doorbell System model name definition (With TX and RX)		Marketing and users use matching programs	Models difference and note
Applicant Model name	Market Model Name		
RL-3883	HWD01878	1TX+1RX	Only difference of the model name use for trade purpose. And with different quantities of the same model products for sale
RL-2R3883	HWD01888	1TX+2RX	
RL-3883B	HWD01898	2TX+1RX	
RL-2R3883B	HWD01899	2TX+2RX	

2.2 Operating Modes of EUT and description of EUT

Sample	Mode	Frequency
TX	Transmitting	433.92MHz
RX	Receiving	433.92MHz

EUT Description:

TX:Remote Controller	Operation mode	TX Frequency
	Transmitting only	433.92MHz
DC3V battery		
RX:Sensor	Operation mode	RX Frequency
	Receiving only	433.92MHz
AC 85V~265V 50Hz~60Hz		

2.3 Test mode applicability and tested channel detail

EUT configure mode	Applicable to					Description
	RE ≥ 1G	RE < 1G	PLC	EB	DT	
1	√	√	-	√	√	TX: DC 3V from Battery RX: AC 230V /50Hz

Where:

RE ≥ 1G: Radiated Emission above 1GHz

RE < 1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

EB: 20dB Bandwidth measurement

DT: Deactivation Time measurement

Radiated Emission: EUT has been pre-test the positioned of each 3 axis.

Pretest mode: 433.92MHz TX

The worst case was found when positioned on **Z-plane**

X-plane	-
Y-plane	-
Z-plane	Worst mode

Radiated emission test (above 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Available channel	Operating frequency (MHz)	Modulation type
-	1	433.92	FSK

Radiated emission test (below 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Available channel	Operating frequency (MHz)	Modulation type
-	1	433.92	FSK

Emission bandwidth measurement:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, packet type, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Available channel	Operating frequency (MHz)	Modulation type
-	1	433.92	FSK

Deactivation time measurement:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT configure mode	Available channel	Operating frequency (MHz)	Modulation type
-	1	433.92	FSK

Test condition:

Applicable to	Environmental conditions	Test voltage	Tested by
RE≥1G	25deg. C, 62%RH	TX: DC 3V from Battery	Tank Tan
RE<1G	25deg. C, 62%RH	TX: DC 3V from Battery RX: AC 230V /50Hz	Tank Tan
EB	24deg. C, 60%RH	TX: DC 3V from Battery	Tank Tan
DT	24deg. C, 60%RH	TX: DC 3V from Battery	Tank Tan

2.4 General description of applied standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C Section 15.231a(2019-12)

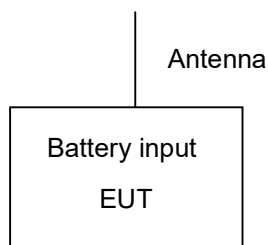
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

3 Configuration and Connections with EUT

3.1 Connection Diagram of EUT and Peripheral Devices

Configuration 1: TX



3.2 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	N/A	N/A	N/A	N/A	N/A	N/A

Note:

1. N/A
2. Items E~G acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	DC Line	1	0.6	No	0	

4 Test types and results

4.1 Radiated emission measurement

4.1.1 Limits of radiated emission measurement

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/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

According to §15.231(b), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)
40.66–40.70	2,250	225
70–130	1,250	125
130–174	¹ 1,250 to 3,750	¹ 125 to 375
174–260	3,750	375
260–470	¹ 3,750 to 12,500	¹ 375 to 1,250
Above 470	12,500	1,250

Note:

- ¹ Linear interpolation.
- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test instruments

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Loop antenna (9kHz~30MHz)	Daze	ZN30900A	0708	2019-10-18	2020-10-17
EMI Test Receiver Rohde&Schwarz	ESCI 7	100962	2019-5-20	2019-10-18	2020-10-17
Broadband antenna Schwarzbeck	VULB 9168	00937	2018-11-18	2019-10-18	2020-10-17
3m Semi-anechoic Chamber MAORUI	9m*6m*6m	NSEMC003	2018-10-20	2018-10-19	2020-10-18
Signal Amplifier Com-power	PAM-103	18020051	2018-11-29	2019-10-18	2020-10-17
Attenuator Rohde&Schwarz	TS2GA-6dB	18101101	N/A	N/A	N/A
Test software FARAD	EZ_EMCV1.1.4.2	N/A	N/A	N/A	N/A
Digital Multimeter FLUKE	15B+	43512617WS	2018-11-10	2019-10-18	2020-10-17
Horn Antenna Schwarzbeck	BBHA 9170	01959	2018-11-18	2019-10-18	2020-10-17
Spectrum Analyzer Rohde&Schwarz	FSV-40N	101783	2018-12-11	2019-10-18	2020-10-17
Broadband Coaxial Preamplifier Schwarzbeck	BBV 9718	00025	2018-10-29	2019-10-18	2020-10-17
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170242	2018-05-5	2019-10-18	2020-10-17
Pre-Amplifier EMCI	EMC 184045	980102	2018-11-20	2019-10-18	2020-10-17
Spectrum Keysight	N9020A	MY51240612	2018-10-29	2019-10-18	2020-10-17

- Note:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA.
 2. The test was performed in Chamber

4.1.3 Test procedures

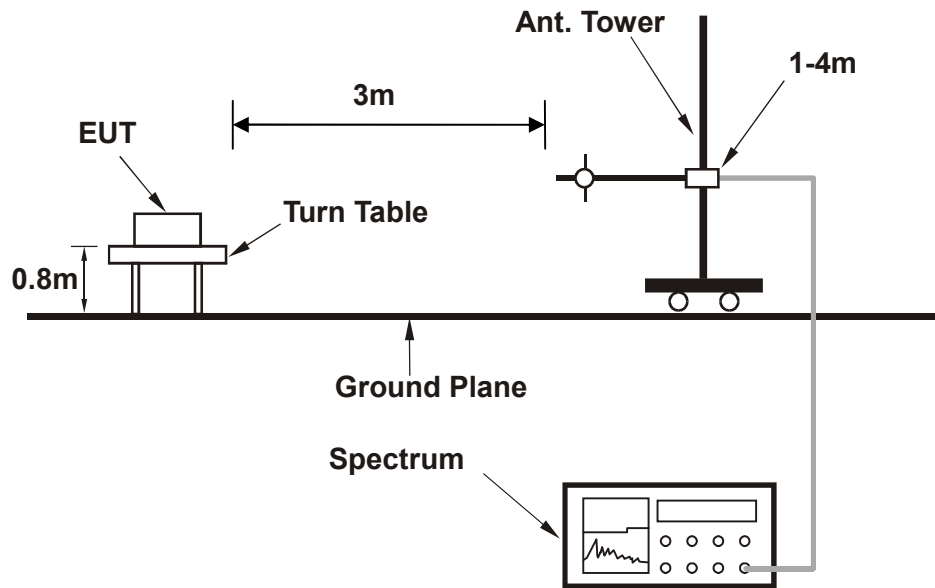
The basic test procedure was in accordance with ANSI C63.10 (section 12).

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters Semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

4.1.4 Deviation from test standard

No deviation

4.2 Test setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.1 EUT operating conditions

- Placed the EUT on the testing table.
- Enable EUT under transmission condition continuously at specific channel frequency.

4.2.2 Test Results

Frequency Range	25MHz ~ 1GHz(below 1GHz)		
Operation Channel	433.92MHz TX		
Input Power	Power supply by battery	Environmental Conditions	27°C, 60%RH
Tested by	Tank Tan	Test Date	2019/09/13

Antenna Polarity & Test Distance : Horizontal at 3 m									
No	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Detector
1	52.7600	33.40	-14.36	19.04	40.00	-20.96	256	187	QP
2	63.0916	32.98	-14.78	18.20	40.00	-21.80	186	142	QP
3	152.6641	33.13	-13.09	20.04	43.50	-23.46	218	264	QP
4	434.0650	92.95	-8.74	84.21	100.82	-16.61	150	265	Peak
5	434.0650*	84.21		75.04	80.82	-5.78	150	265	AVG
6	607.7867	32.68	-5.31	27.37	46.00	-18.63	200	323	QP
7	750.1083	32.79	-2.40	30.39	46.00	-15.61	200	83	QP
8	932.2715	31.08	1.76	32.84	46.00	-13.16	197	155	QP

Antenna Polarity & Test distance: Vertical at 3m									
No	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Detector
1	44.5868	41.44	-14.62	26.82	40.00	-13.18	100	213	QP
2	64.2074	35.64	-14.95	20.69	40.00	-19.31	100	176	QP
3	73.8756	38.14	-16.98	21.16	40.00	-18.84	107	153	QP
4	157.0074	33.50	-12.58	20.92	43.50	-22.58	121	297	QP
5	434.0650	85.96	-8.74	77.22	100.82	-23.60	121	297	peak
6	434.0650*	77.22		68.05	80.82	-12.77	150	224	AVG
7	760.7036	31.51	-1.30	30.21	46.00	-15.79	100	251	QP
8	942.1305	31.83	1.47	33.30	46.00	-12.70	114	108	QP

Remarks:

- The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) at frequency below 1GHz.
- Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- Margin value = Emission level – Limit value.
- For the test results, the EUT had been tested from 9KHz ~5GHz. But only the worst case was shown in test report.
- Fundamental AV value =PK Emission +20*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) = 20 log (21.15/60.80) = -9.17dB, Please see page 22~23 for plotted duty.

Frequency Range	1GHz ~ 25GHz(Above 1GHz)		
Operation Channel	2440MHz TX		
Input Power	Power supply by battery	Environmental Conditions	27°C, 60%RH
Tested by	Tank Tan	Test Date	2019/07/3

Antenna Polarity & Test Distance : Horizontal at 3 m									
No	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Detector
1	1711.700	51.32	-2.79	48.53	80.82	-32.29	186	213	peak
2*	1711.700	48.53		39.36	60.82	-21.46	186	213	AVG
3	3037.100	52.31	1.34	53.65	80.82	-27.17	262	178	peak
4*	3037.100	53.65		44.48	60.82	-16.34	262	178	AVG
5	5193.400	45.90	8.92	54.82	80.82	-26.00	200	151	peak
6*	5193.400	54.82		45.65	60.82	-15.17	200	151	AVG
Antenna Polarity & Test distance: Vertical at 3m									
No	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Detector
1	1761.800	49.40	-2.62	46.78	80.82	-34.04	100	143	peak
2*	1761.800	46.78		37.61	60.82	-23.21	100	143	AVG
3	3037.597	55.11	1.34	56.45	80.82	-24.37	100	225	peak
4*	3037.597	56.45		47.28	60.82	-13.54	100	225	AVG
5	5198.300	46.71	9.07	55.78	80.82	-25.04	168	278	peak
6*	5198.300	55.78		46.61	60.82	-14.21	168	278	AVG

Remarks:

- 1 The resolution bandwidth of test receiver/spectrum analyzer is 1MHz for Peak detection (PK) at frequency above 1GHz.
- 2 Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
- 3 Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
- 4 Margin value = Emission level – Limit value.
- 5 * Fundamental AV value =PK Emission +20*log(duty cycle)Where the duty factor is calculated from following formula:20 log (Duty cycle) = 20 log (21.15/60.80) = -9.17dB, Please see page 22~23 for plotted duty.

4.3 Duty cycle

4.3.1 Limits of duty cycle

Without limit of duty cycle, only use to calculate the factor.

4.3.2 Test instruments

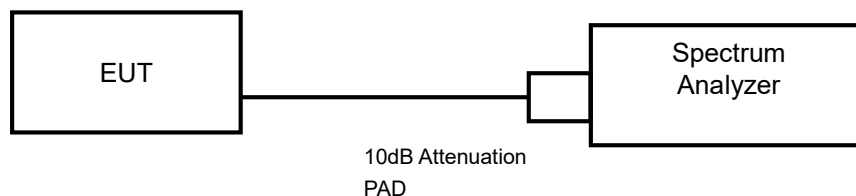
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Broadband antenna Schwarzbeck	VULB 9168	00937	2018-11-18	2019-10-18	2020-10-17
3m Semi-anechoic Chamber MAORUI	9m*6m*6m	NSEMC003	2018-10-20	2018-10-19	2020-10-18
Signal Amplifier Com-power	PAM-103	18020051	2018-11-29	2019-10-18	2020-10-17
Attenuator Rohde&Schwarz	TS2GA-6dB	18101101	N/A	2019-10-18	2020-10-17
Test software FARAD	EZ_EMCV1.1.4.2	N/A	N/A	2019-10-18	2020-10-17
Spectrum Keysight	N9020A	MY51240612	2018-10-29	2019-10-18	2020-10-17

- Note:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA.
2. The test site was performed in Chambe

4.3.3 Test procedures

The basic test procedure was in accordance with ANSI C63.10

4.3.4 Test setup



4.3.5 Test results

$T_p = 60.80\text{ms}$

$T_{on} = 21.15\text{ms}$

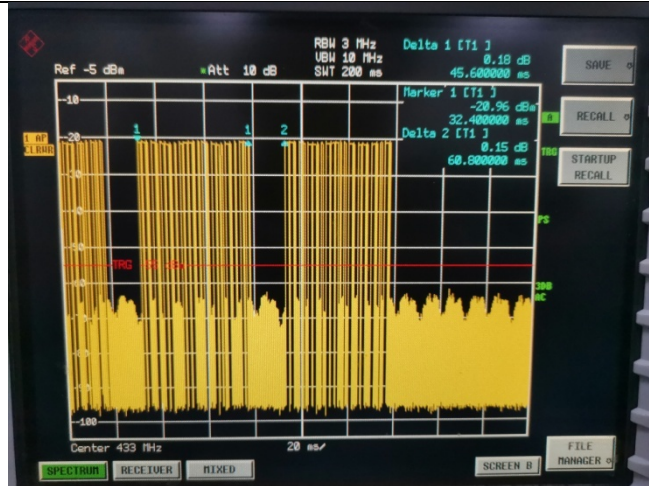
$T_{off} = T_p - T_{on} = 60.80 - 21.15\text{ms} = 39.65\text{ms}$

Duty Cycle = $T_{on} / T_{periods} \times 100\% = 21.15 / 60.80 \times 100\% = 34.78\%$

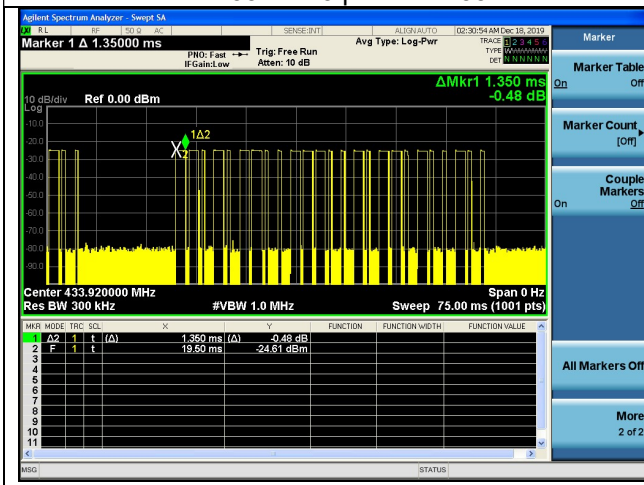
Factor = $20 \times \log(T_{on} / T_p) = -9.17\text{dB}$

The pulse desensitization correction factor:

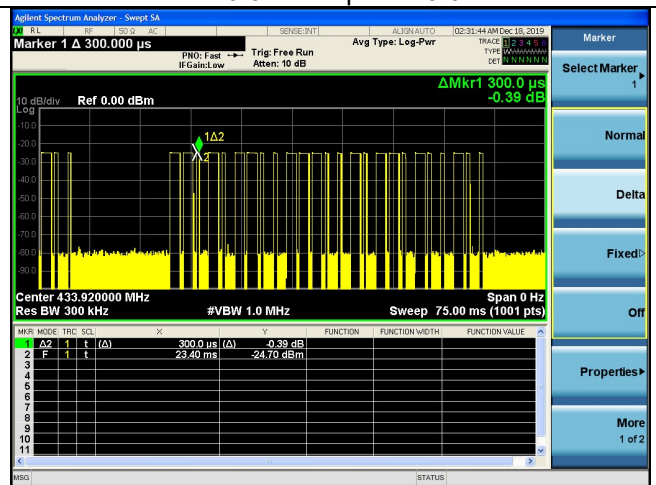
$RBW(3\text{MHz}) > (2/PW)$ therefore PDCF is not needed. $2/PW = 2/0.30 = 6.66\text{kHz}$



$T_{on1} = 1.35\text{ms}$
Total = $1.35\text{ms} \times 13 \text{ pulse} = 17.55\text{ms}$



$T_{on2} = 0.3\text{ms}$
Total = $0.3\text{ms} \times 12 \text{ pulse} = 3.6\text{ms}$



4.4 20dB Bandwidth measurement

4.4.1 Limit of 20dB bandwidth measurement

According to FCC 15.231(c), 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. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Limit=Fundamental Frequency×0.25%=433.92MHz×0.25%=1084.8 kHz

4.4.2 Test instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Broadband antenna Schwarzbeck	VULB 9168	00937	2019-10-18	2020-10-17
3m Semi-anechoic Chamber MAORUI	9m*6m*6m	NSEMC003	2018-10-20	2020-10-19
Signal Amplifier Com-power	PAM-103	18020051	2019-10-18	2020-10-17
Test software FARAD	FARAD	EZ_EMCV1.1.4.2	N/A	N/A
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	2019-10-18	2020-10-17
Loop Antenna	HLA 6121	45745	2019-10-18	2020-10-17
Preamplifier EMCI	EMC001340	980201	2019-10-18	2020-10-17
Horn Antenna Schwarzbeck	BBHA 9170	01959	2019-10-18	2020-10-17
Broadband Coaxial Preamplifier Schwarzbeck	BBV 9718	00025	2019-10-18	2020-10-17
Horn Antenna Schwarzbeck	BBHA 9170	BBHA9170242	2019-05-05	2020-05-04
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower&Turn Table Controller MF	MF-7802	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA.

2. The test was performed in Hwa-Hsing (Dongguan) Testing Co., Ltd.

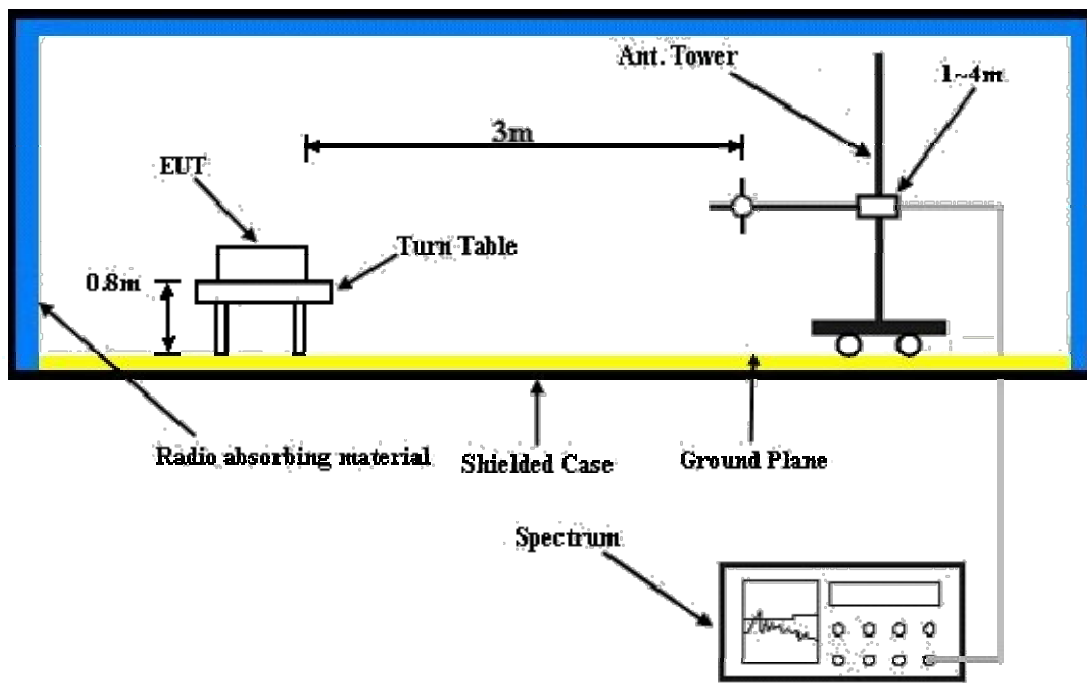
4.4.3 Test procedure

The spectrum analyzer was receiving the maximum emission level. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.4.4 Deviation from test standard

No deviation.

4.4.5 Test Setup

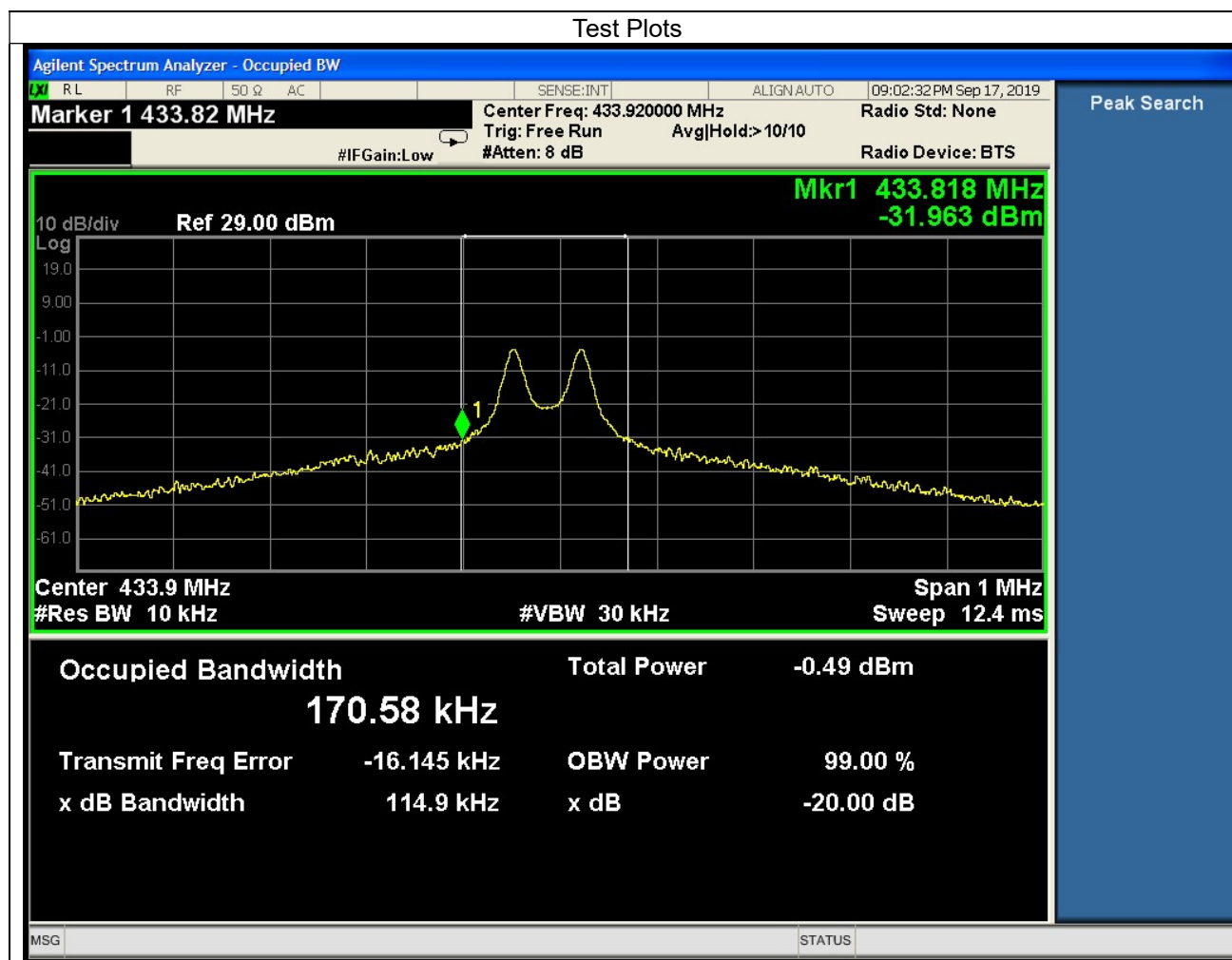


4.4.6 EUT operating conditions

- Placed the EUT on the testing table.
- Enable EUT under transmission condition continuously at specific channel frequency.

4.4.7 Test Results

Frequency (MHz)	20dB bandwidth (kHz)	Maximum limit (kHz)	Pass/Fail
433.92	114.9	1084.8	PASS



4.5 Deactivation test

4.5.1 Limits of deactivation test

15.231 (a)(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

15.231 (a)(2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.

4.5.2 Test instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Broadband antenna Schwarzbeck	VULB 9168	00937	2019-10-18	2020-10-17
3m Semi-anechoic Chamber MAORUI	9m*6m*6m	NSEMC003	2018-10-20	2020-10-19
Signal Amplifier Com-power	PAM-103	18020051	2019-10-18	2020-10-17
Spectrum Keysight	N9020A	MY51240612	2019-10-18	2020-10-17
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower&Turn Table Controller MF	MF-7802	NA	NA	NA

NOTE: 1.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA and NIM/CHINA

2. The test site was performed in Chamber

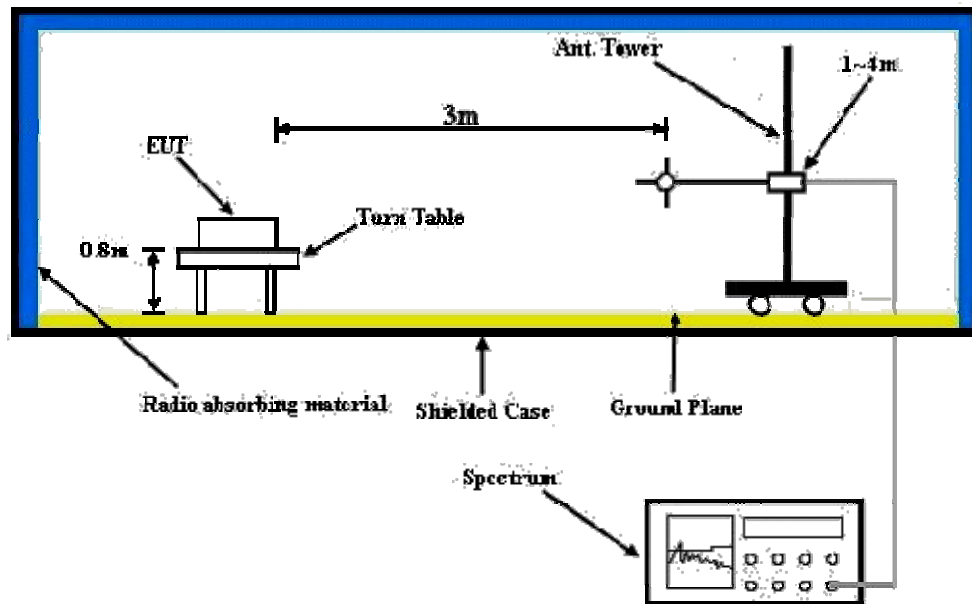
4.5.3 Test Procedure

With the EUT's antenna attached, the EUT's output signal was received by the test antenna, which was connected to the spectrum analyzer. Set the center frequency to 433.92MHz, than set the spectrum analyzer to Zero Span for the release time reading. During the testing, the transmission duration was measured and recorded.

4.5.4 Deviation from test standard

No deviation.

4.5.5 Test Setup

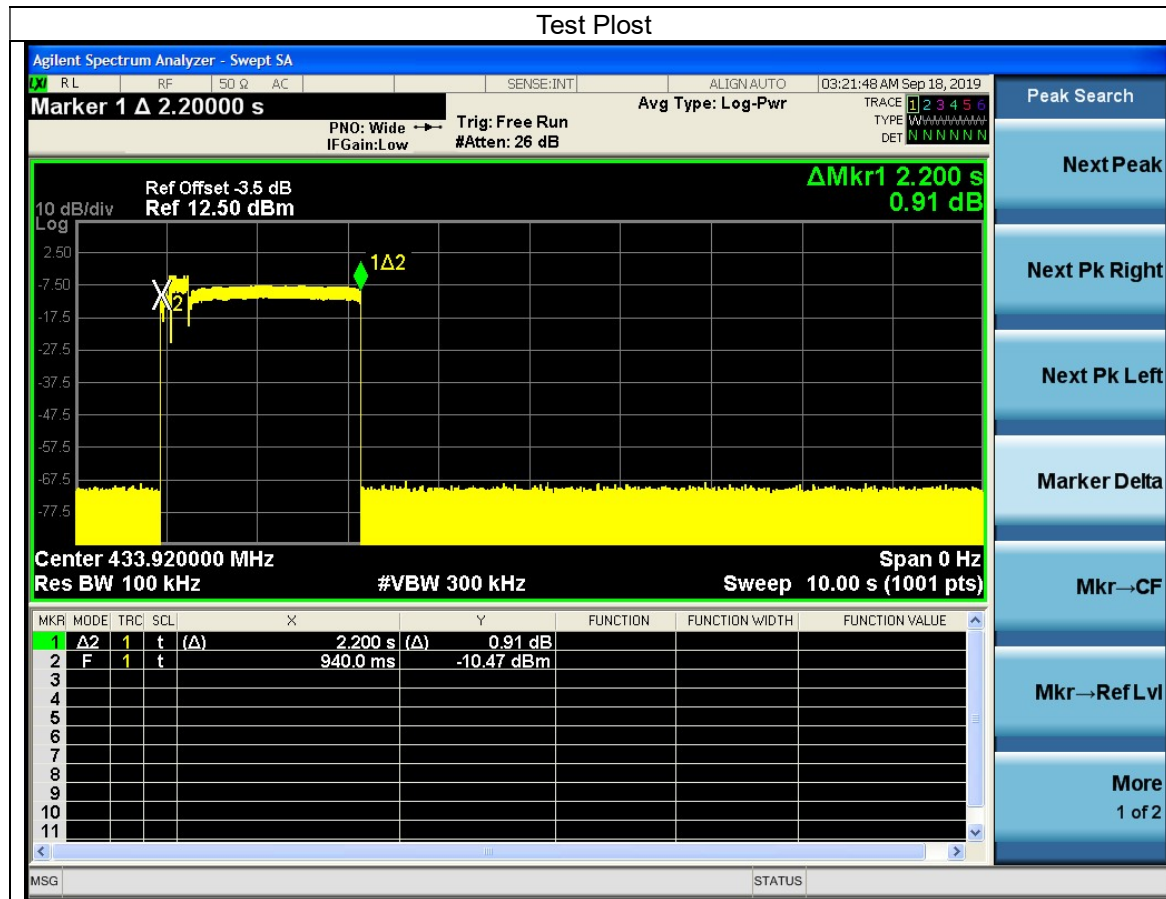


4.5.6 EUT operating conditions

- a. Placed the EUT on the testing table.
- b. Enable EUT under transmission condition continuously at specific channel frequency.

4.5.7 Test Results

Frequency (MHz)	Maximum limit (Sec.)	Pass/Fail
433.85	5	PASS



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

6 Appendix – Information on the Testing Laboratories

We, [Hwa-Hsing \(Dongguan\) Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values "HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT", commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: customerservice.dg@hwa-hsing.com

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The address and road map of all our labs can be found in our web site also.

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