



RADIO TEST REPORT

Applicant	:	Guangdong Times Sunshade Technology Co., Ltd.
Address of Applicant	:	Tianan Zhigu Science and Technology Industrial Park, No. 18 Chuangxing Avenue, Qingyuan High-tech Industrial Development Zone
Manufacturer	:	Guangdong Times Sunshade Technology Co., Ltd.
Address of Manufacturer	:	Tianan Zhigu Science and Technology Industrial Park, No. 18 Chuangxing Avenue, Qingyuan High-tech Industrial Development Zone
Equipment under Test	:	Remote control
Model No.	:	WS520-01A, WS520-15A, WS520-02A, WS520-06A, WS520-01D, WS520-15D
FCC ID	:	2BOBV-WS52001A
IC	:	33711-WS52001A
Test Standard(s)	:	47 CFR Part 15 Subpart C, RSS-210 Issue 11 June 25, 2024, ANSI C63.10-2020, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021)
Report No.	:	DDT-RE25091721-1E03
Issue Date	:	2025/11/20
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Equipment under Test	:	Remote control
Model No.	:	WS520-01A, WS520-15A, WS520-02A, WS520-06A, WS520- 01D, WS520-15D
Manufacturer	:	Guangdong Times Sunshade Technology Co., Ltd.
Address of Manufacturer	:	Tianan Zhigu Science and Technology Industrial Park,No. 18 Chuangxing Avenue, Qingyuan High-tech Industrial Development Zone

Test Standard Used:

47 CFR Part 15 Subpart C,
RSS-210 Issue 11 June 25, 2024,
ANSI C63.10-2020,
RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021)

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE25091721-1E03		
Date of Receipt:	2025/09/25	Date of Test:	2025/09/25~2025/11/03

Created: Johnson Huang	Reviewed: Tiger Mo	Approved: Damon Hu
		
2025/11/20	2025/11/20	2025/11/20

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Version	Revision Content	Issue Date	Approved
V0	Initial issue	2025/11/20	Damon Hu

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	On Time and Duty Cycle	ANSI C63.10 clause 7.5	/	Pass
2	20dB Bandwidth and 99% Bandwidth	47 CFR Part 15 15.215, RSS-Gen clause 6.7	/	Pass
3	Stop Transmitting Time Test	47 CFR Part 15 15.231(a)(1), RSS-210 A.1.2	/	Pass
4	Radiated Emission	47 CFR Part 15 15.231(b), RSS-210 A.1.3, RSS-Gen clause 8.9, RSS-Gen clause 8.10	/	Pass
5	Field Strength Of The Fundamental Signal	47 CFR Part 15 15.231(b), RSS-210 A.1.3	/	Pass
6	Power Line Conducted Emissions	47 CFR Part 15: 15.207, RSS-Gen clause 8.8	/	N/A
7	Antenna Requirement	47 CFR Part 15 15.203, RSS-Gen clause 6.8	/	Pass

Note1: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

Note2: The sample has three types of antenna. The difference lies in the antenna, display screen and the number of buttons, only needs to verify that Transmitter unwanted emissions in the spurious domain for testing, to verify that the product meets the standard requirements.

2. General Test Information

2.1. Description of EUT

EUT Name	:	Remote control
Model Number	:	WS520-01A, WS520-15A, WS520-02A, WS520-06A, WS520-01D, WS520-15D
Difference of model number	:	The difference lies in the antenna, display screen and the number of buttons.
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	Button cell 3V

Radio Technology	:	SRD
Operation frequency	:	433.92 MHz
Modulation	:	FSK

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. 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.

“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test



2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below, the pathloss of external cable: 0.5dB (According to the manufacturer's claims):

Tested mode, channel information		
Mode	Channel	Frequency (MHz)
TX mode	/	433.92

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25 °C
Humidity range:	40-75%
Pressure range:	86 kPa to106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20240, G-20118

2.8. Measurement uncertainty

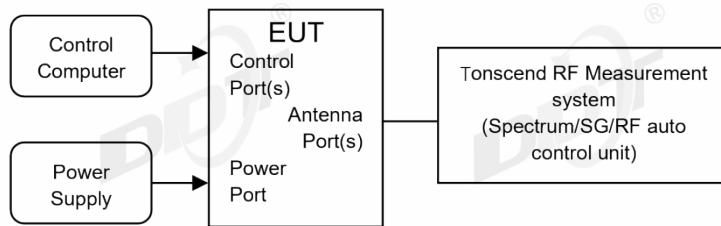
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 1.66 dB ($8 \text{ GHz} \leq f < 26.5 \text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz) 4.40 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz) 3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3 Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☐ RF Connected Test (RF Measurement System 2#)				
SPECTRUM ANALYZER	R&S	FSU26	201124	2026/07/06
Power Sensor	R&S	NRP-Z22	101254	2026/07/06
Test Software	Tonscend	JS1120-3	V3.6.21	N/A

4. On Time and Duty Cycle

4.1. Block diagram of test setup



4.2. Limits

None: for reporting purposes only.

4.3. Test procedure

Set the Centre frequency of the spectrum analyzer to the transmitting frequency;

Set the span=0MHz, RBW=10MHz, VBW=10MHz, Sweep time=100ms;

Trace mode = Single hold.

Test Engineer:	Zeng Zhongyao	Test Site:	RF Measurement System 2#
Ambient Condition:	23.5 °C, 55%RH	Test Date:	2025/10/13
Test Power Supply:	Battery	Sample Number:	S25091721-004

Note 1: The transmitter duty cycle was measured using a spectrum analyser in the time domain and calculated by below Equation:
 $\delta(\text{dB}) = 20\log(\Delta) = 20\log(1) = 0 \text{ dB}$
 δ is the duty cycle correction factor (dB)
 Δ is the duty cycle (dimensionless)
 Note 2: In cases where the pulse train exceeds 0.1 s, the measured field strength shall be determined during a 0.1 s interval

Duty Cycle

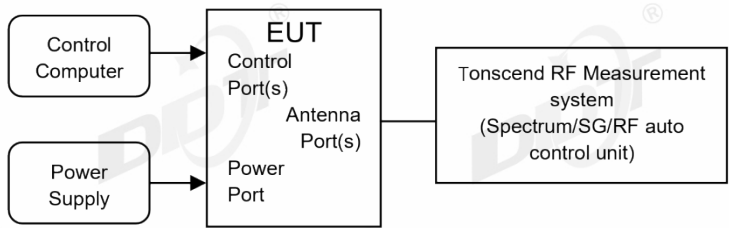
Ref 5 dBm Att 30 dB RBW 10 MHz VBW 10 MHz SMT 100 ns Delta 1 [T1] -0.14 dB 100.000000 ns

Marker 1 [T1] -7.31 dBm 0.000000 s

Center 433.92 MHz 10 ns/

5. 20dB Bandwidth and 99% Bandwidth

5.1. Block diagram of test setup



5.2. Limits

The bandwidth of the emission shall be no wider than 0.25% of the center frequency of devices operation above 70MHz and below 900MHz.

5.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Set the spectrum analyzer as follows:

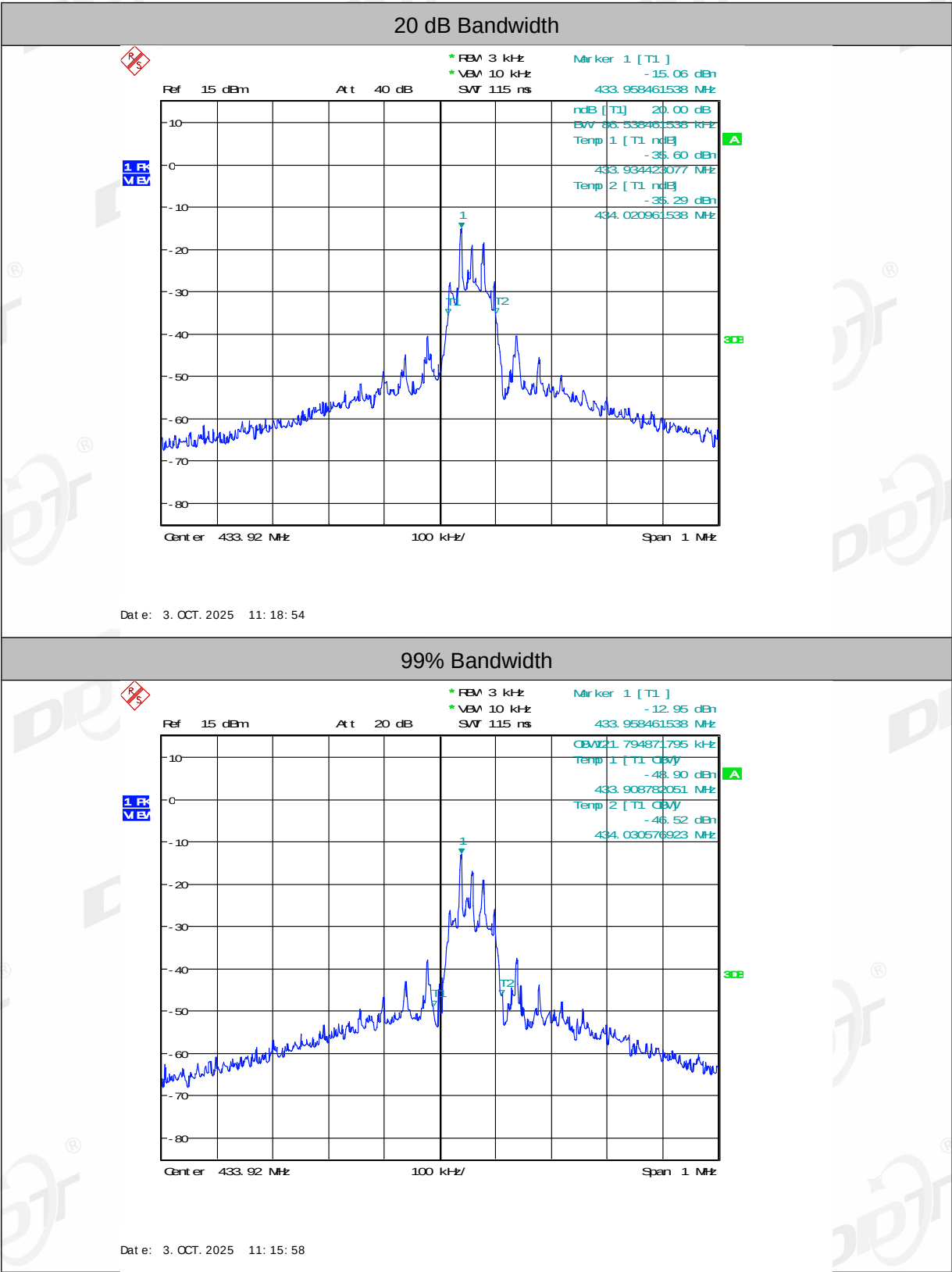
RBW:	1% to 5% of the OBW
VBW:	approximately three times RBW
Span:	between 2 times and 5 times the OBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode:	Max hold
- (3) Allow the trace to stabilize, measure the 20 dB bandwidth of signal.
- (4) Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

5.4. Test result

Test Engineer:	Zeng Zhongyao	Test Site:	RF Measurement System 2#	
Ambient Condition:	23.5 °C, 55%RH	Test Date:	2025/10/03	
Test Power Supply:	Battery	Sample Number:	S25091721-004	

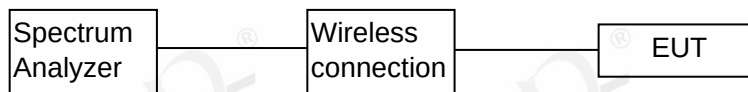
Frequency [MHz]	20 dB Bandwidth [kHz]	99% Bandwidth [kHz]	Limit	Verdict
433.92	86.54	121.79	433.92MHz*0.25%=1084.8kHz	PASS

5.5. Test graphs



6 Stop Transmitting Time Test

6.1. Block diagram of test setup



6.2. Limits

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

6.3. Test procedure

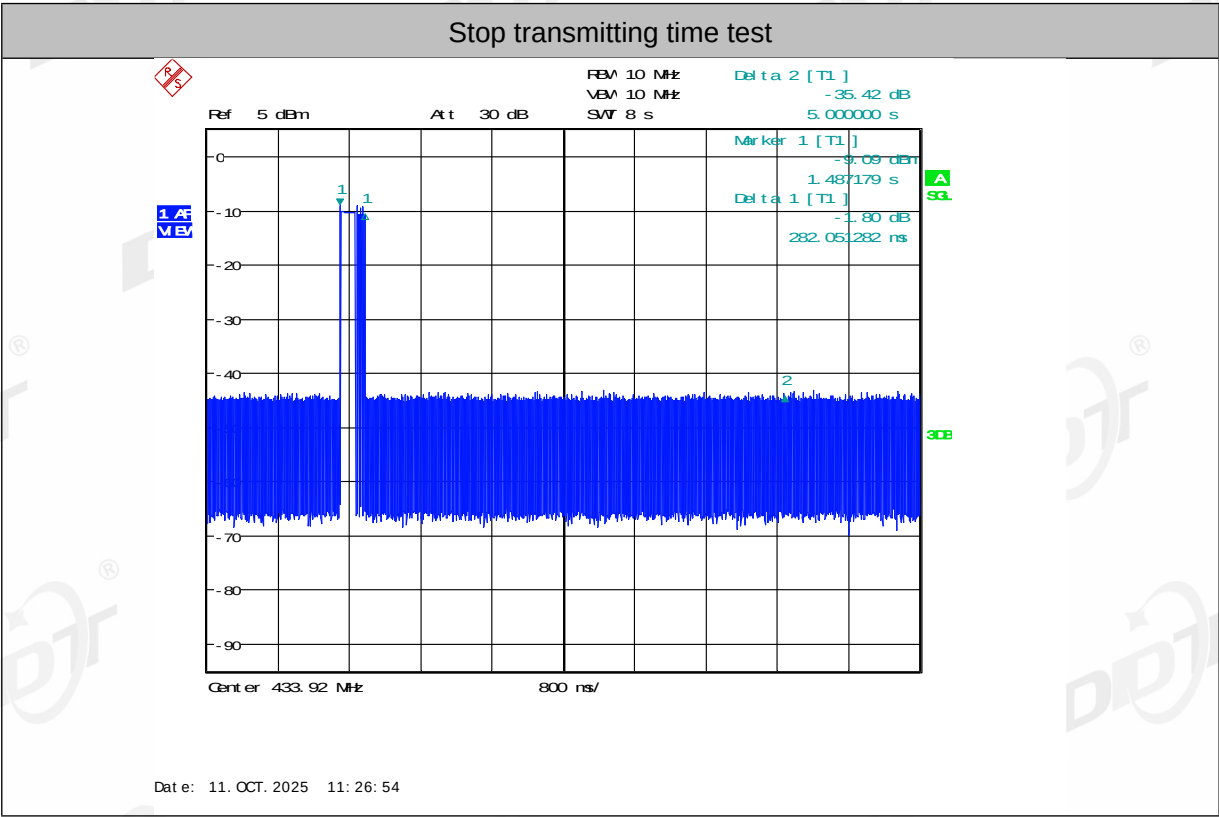
- (1) The EUT's RF signal was coupled to spectrum analyzer by antenna connected to spectrum analyzer.
- (2) Set the spectrum to zero span mode, and centered of EUT frequency.
- (3) Measure the stop transmitting time after release EUT button.

6.4. Test result

Test Engineer:	Zeng Zhongyao	Test Site:	RF Measurement System 2#
Ambient Condition:	23.5 °C, 55%RH	Test Date:	2025/10/11
Test Power Supply:	Battery	Sample Number:	S25091721-004

Frequency (MHz)	Burst Duration (ms)	Limit
433.92	282.05	≤5s

6.5. Test graphs



7 Antenna Requirements

7.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, 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.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

7.2. Result

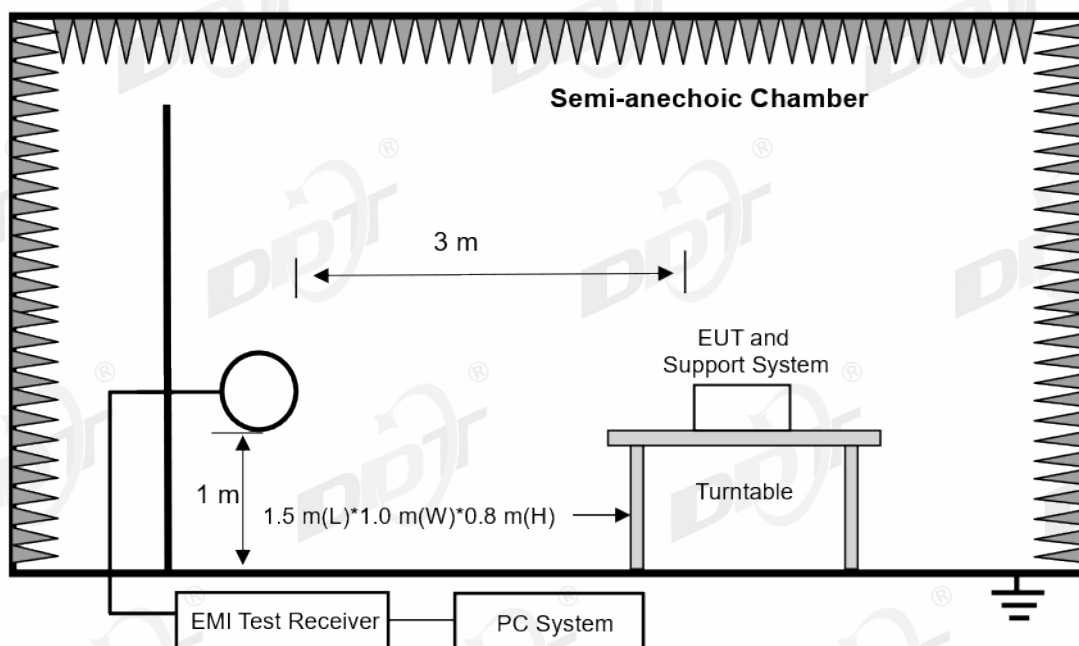
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

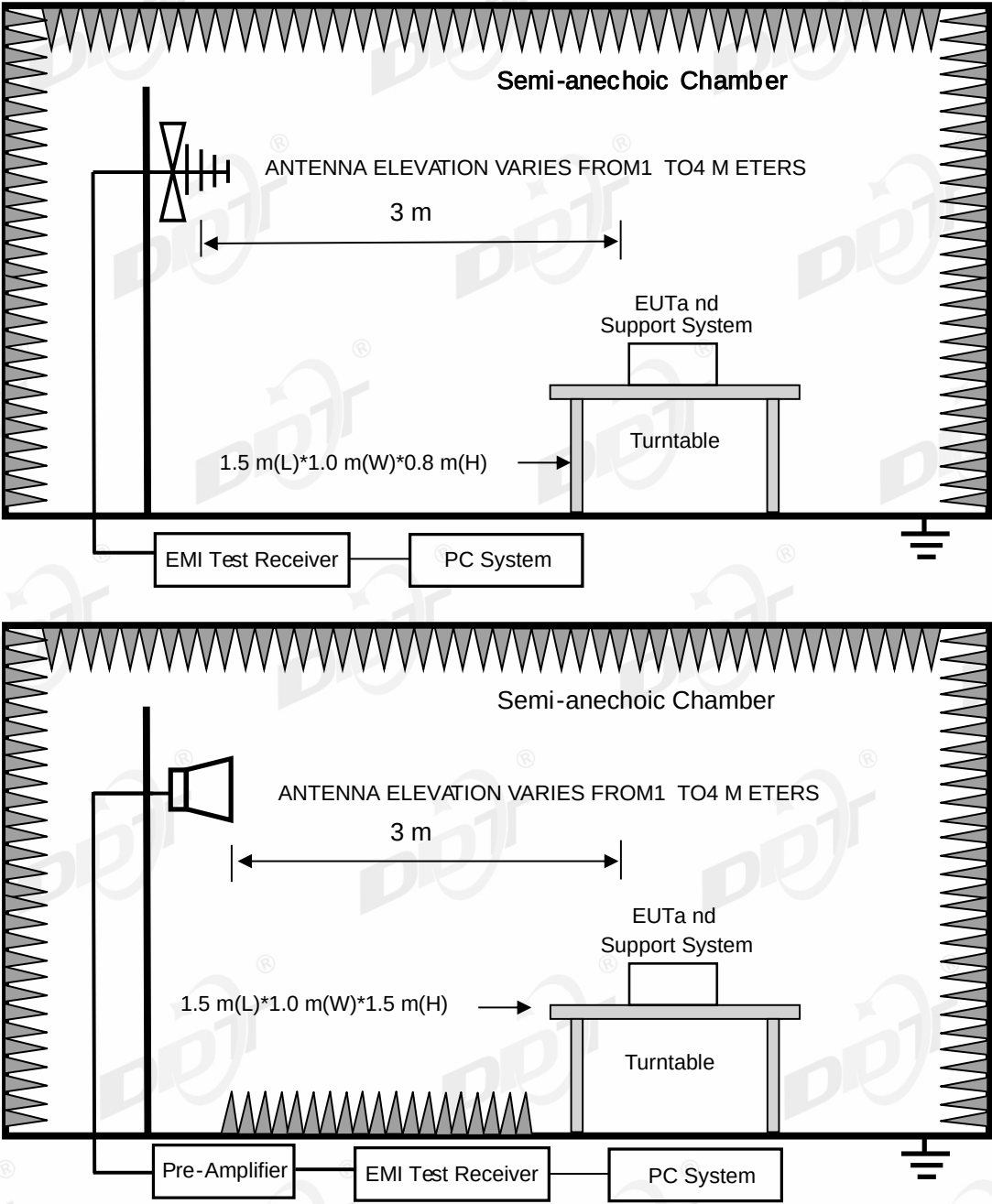
8. Radiated Emission

8.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2026/03/28
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2026/03/28
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	/
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/03/28
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2026/03/28
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2026/03/28
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2026/08/10
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2026/03/28
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2026/03/28
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2026/03/28
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2026/03/28
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2026/04/01
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2026/07/25
Hochgewinn-Hornantenne	SCHWARZBEC K	BBHA 9120 D	DDT-ZC02129	2026/08/11
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2026/08/18
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2026/03/28

8.2. Block diagram of test setup





8.3. Limits

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	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
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2

4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.G
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

RSS-Gen section 8.10 Restricted frequency bands*

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	240-285	3.5-4.4
0.495-0.505	12.57675-12.57725	322-335.4	4.5-5.15
2.1735-2.1905	13.36-13.41	399.9-410	5.35-5.46
3.020-3.026	16.42-16.423	608-614	7.25-7.75
4.125-4.128	16.69475-16.69525	960-1427	8.025-8.5
4.1772&4.17775	16.80425-16.80475	1435-1626.5	9.0-9.2
4.2072&4.20775	25.5-25.67	1645.5-1646.5	9.3-9.5
5.677-5.683	37.5-38.25	1660-1710	10.6-12.7
6.215-6.218	73-74.6	1718.8-1722.2	13.25-13.4
6.26775-6.26825	74.8-75.2	2200-2300	14.47-14.5
6.31175-6.31225	108-138	2310-2390	15.35-16.2
8.291-8.294	149.9-150.05	2483.5-2500	17.7-21.4
8.362-8.366	156.52475-156.52525	2655-2900	22.01-23.12
8.37625-8.38675	156.7-156.9	3260-3267	23.6-24.0
8.41425-8.41475	162.0125-167.17	3332-3339	31.2-31.8
12.29-12.293	167.72-173.2	3345.8-3358	36.43-36.5
			Above 38.6

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

(2) FCC 15.209 Limit.

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT	
MHz	Meters	uV/m	dB(uV)/m

0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0
Above 1000	3	74.0 dB(uV)/m (Peak)	
		54.0 dB(uV)/m (Average)	

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dBuV/m}) = \text{Limit}_{300\text{m}}(\text{dBuV/m}) + 40\text{Log}(300\text{m}/3\text{m}) = \text{Limit}_{300\text{m}}(\text{dBuV/m}) + 80$$

$$\text{Limit}_{3\text{m}}(\text{dBuV/m}) = \text{Limit}_{30\text{m}}(\text{dBuV/m}) + 40\text{Log}(30\text{m}/3\text{m}) = \text{Limit}_{30\text{m}}(\text{dBuV/m}) + 40$$

(3) Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions include fundamental emission shall not exceed FCC 15.231 section (e) limit of comply with FCC 15.209 limit which permit higher emission level.

RSS-210 Issue 9 Annex D

(b) exceed 11,000 $\mu\text{V/m}$ measured at 3 m with an average detector. The peak level of any emission within this specified frequency band shall not exceed 55,000 $\mu\text{V/m}$ measured at 3 m; and

(c) The field strength of emissions on any frequencies outside this specified band shall not exceed the general field strength limits specified in RSS-Gen.

8.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

8.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.

(2) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
30MHz-1GHz	Trilog Broadband Antenna	3m

The Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m(Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10-2020 on Radiated Emission test.

(5) The emissions from 9kHz to 1GHz were measured based on CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz, for emissions from 9kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9kHz to 1GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
30MHz-1GHz	120kHz

(7) X axis, Y axis, Z axis are tested, and worse setup X axis is reported

8.6. Test result

PASS. (See below detailed test result)

8.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-01A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

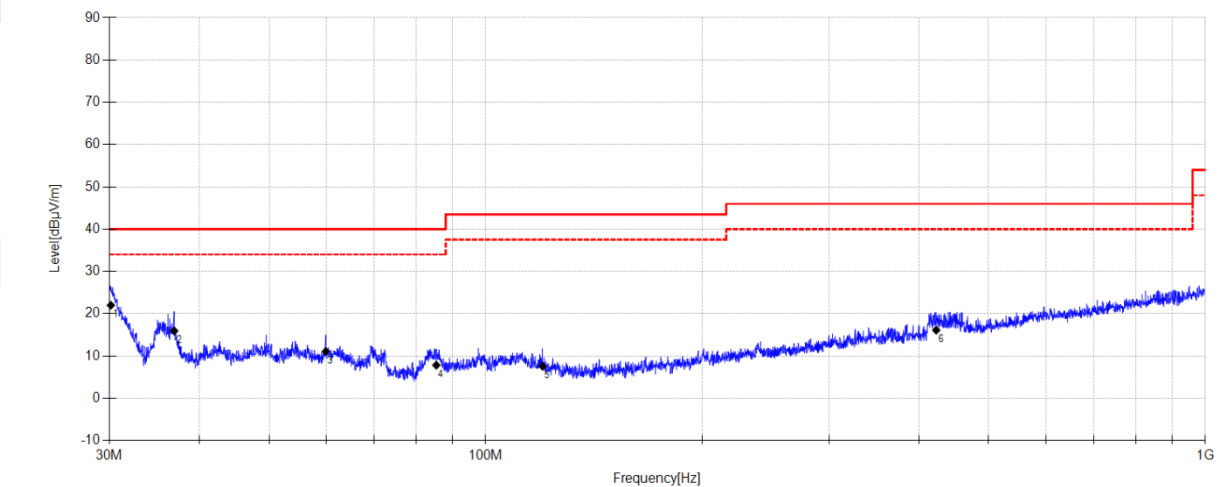
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\3

Memo:

Sample Numbre:S25091721-008



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.148	40.05	10.47	3.78	22.00	40.00	18.00	QP	Horizontal
2	36.920	32.18	12.18	3.88	15.94	40.00	24.06	QP	Horizontal
3	59.977	26.93	12.40	4.06	11.09	40.00	28.91	QP	Horizontal
4	85.400	26.71	9.20	4.22	7.83	40.00	32.17	QP	Horizontal
5	119.991	25.77	9.70	4.42	7.57	43.50	35.93	QP	Horizontal
6	422.723	27.24	15.62	5.78	16.12	46.00	29.88	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-01A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

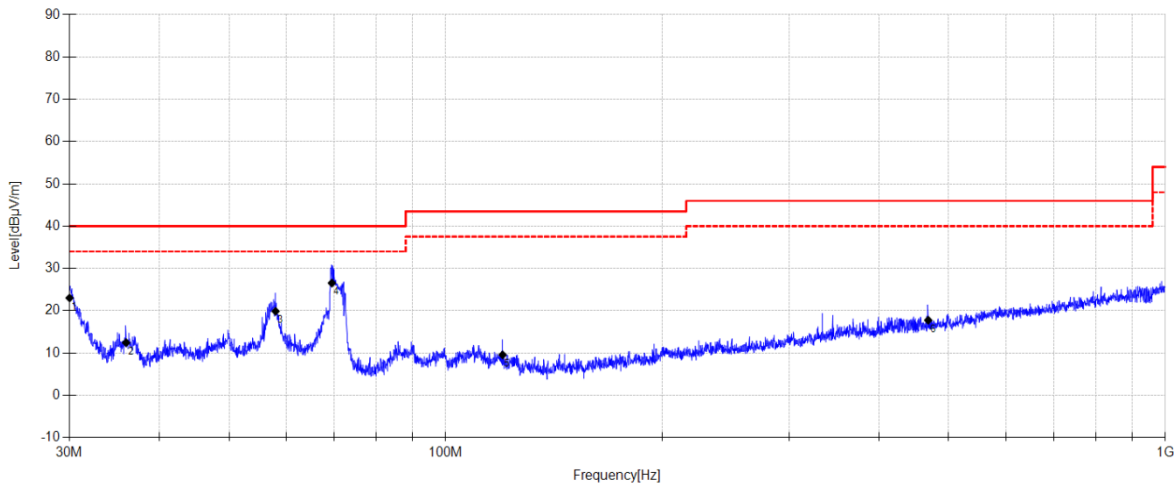
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\4

Memo:

Sample Numbel:S25091721-008



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.021	41.04	10.50	3.78	23.02	40.00	16.98	QP	Vertical
2	35.974	29.01	11.88	3.86	12.45	40.00	27.55	QP	Vertical
3	58.032	35.15	12.98	4.04	19.87	40.00	20.13	QP	Vertical
4	69.491	44.57	10.11	4.16	26.54	40.00	13.46	QP	Vertical
5	119.991	27.77	9.70	4.42	9.57	43.50	33.93	QP	Vertical
6	468.290	28.32	16.07	5.94	17.76	46.00	28.24	QP	Vertical

Note:

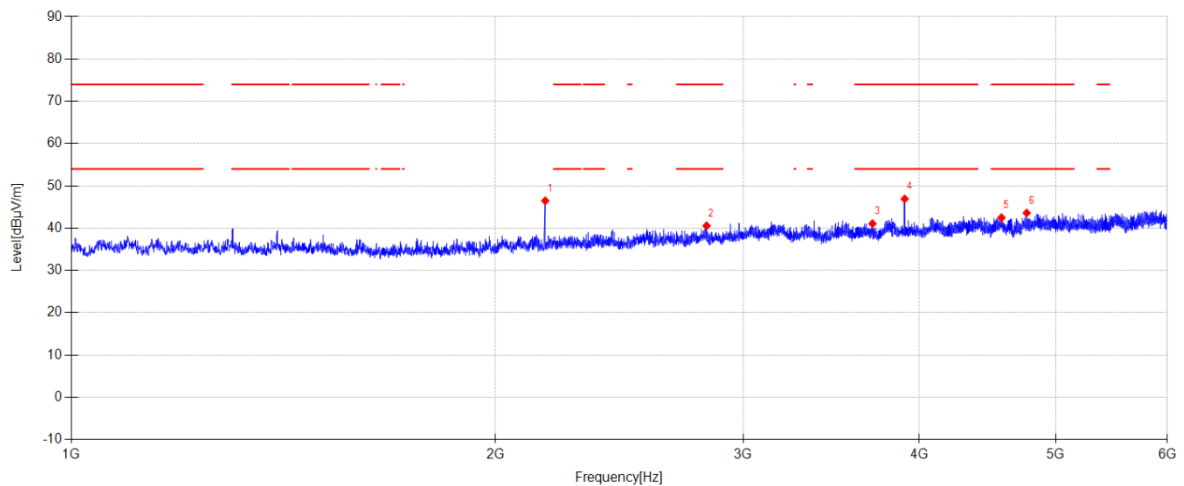
1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-10-21 **Tested By:** Lin Guoyuan
EUT: Remote control **Model Number:** WS520-01A
Test Mode: TX 433.92MHz Mode **Power Supply:** Battery
Condition: Temp:23.9°C;Humi:54.9% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\1
Memo: Sample Numbler:S25091721-008

**Suspected Data List**

NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2170.000	53.99	27.34	3.54	-38.39	46.48	-	-	PK	Horizontal
2	2825.000	46.52	28.90	4.25	-39.11	40.56	74.00	33.44	PK	Horizontal
3	3705.000	46.23	29.89	4.53	-39.58	41.07	74.00	32.93	PK	Horizontal
4	3905.500	51.19	30.83	4.56	-39.66	46.92	74.00	27.08	PK	Horizontal
5	4575.000	45.53	31.75	4.96	-39.76	42.48	74.00	31.52	PK	Horizontal
6	4767.500	46.11	32.17	5.09	-39.78	43.59	74.00	30.41	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-01A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

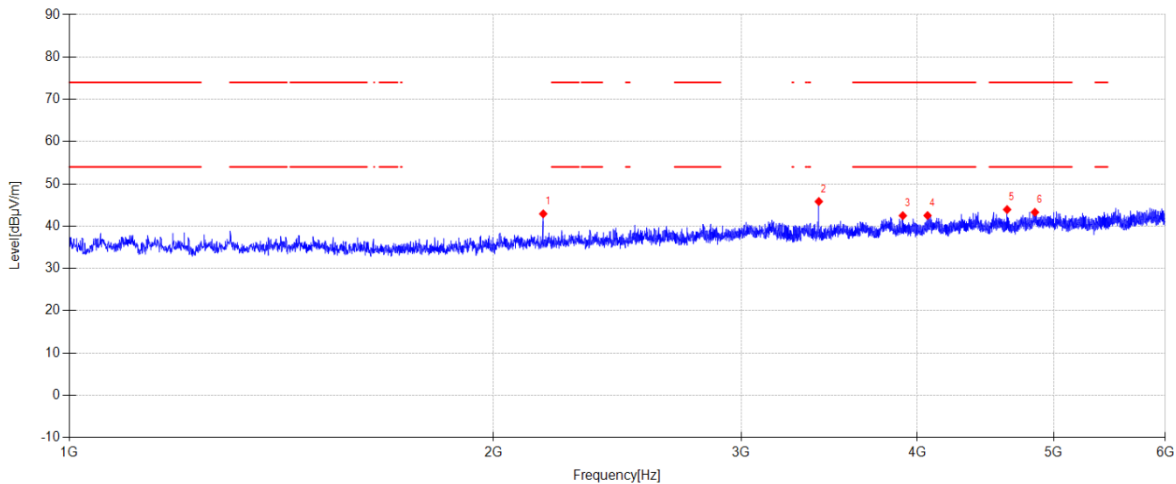
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\2

Memo:

Sample Numbler:S25091721-008



Suspected Data List										
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2170.000	50.42	27.34	3.54	-38.39	42.91	-	-	PK	Vertical
2	3405.000	51.31	29.48	4.49	-39.46	45.82	-	-	PK	Vertical
3	3906.500	46.76	30.82	4.56	-39.66	42.48	74.00	31.52	PK	Vertical
4	4067.500	46.43	31.17	4.62	-39.71	42.51	74.00	31.49	PK	Vertical
5	4632.500	47.08	31.60	5.00	-39.76	43.92	74.00	30.08	PK	Vertical
6	4848.000	45.04	32.87	5.15	-39.78	43.28	74.00	30.72	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-29

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-01D

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

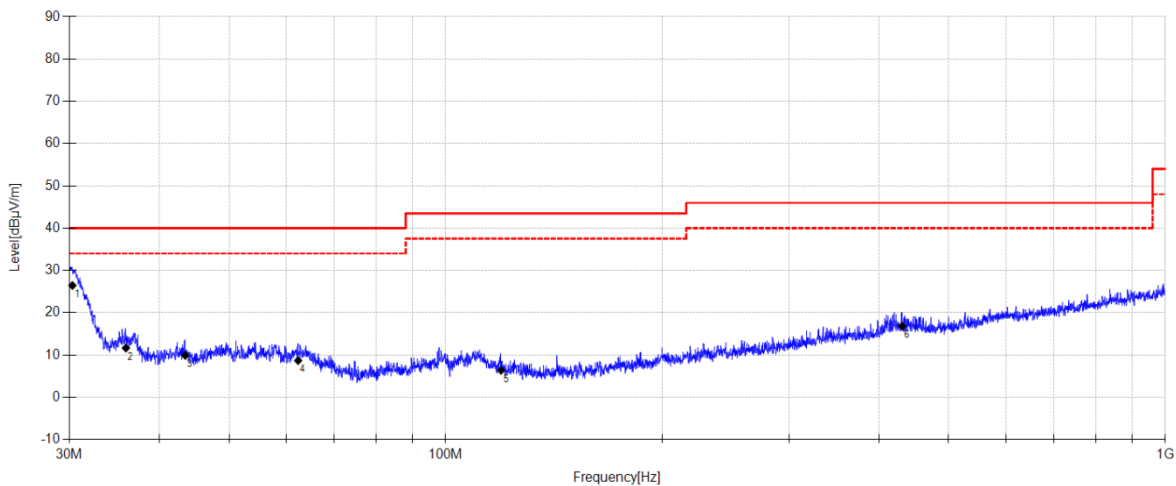
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\23

Memo:

Sample Numbler:S25091721



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.296	44.53	10.44	3.78	26.45	40.00	13.55	QP	Horizontal
2	35.949	28.22	11.87	3.86	11.65	40.00	28.35	QP	Horizontal
3	43.472	24.71	13.56	3.94	9.91	40.00	30.09	QP	Horizontal
4	62.378	24.37	12.52	4.09	8.68	40.00	31.32	QP	Horizontal
5	119.403	24.29	10.00	4.41	6.38	43.50	37.12	QP	Horizontal
6	430.802	27.69	15.86	5.81	16.83	46.00	29.17	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-29

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-01D

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

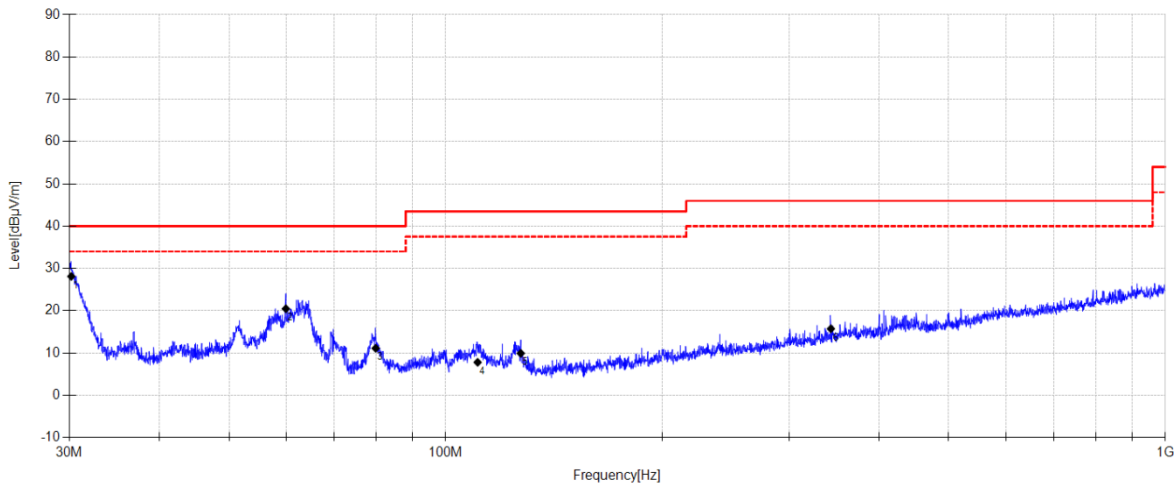
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\24

Memo:

Sample Numbler:S25091721



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.190	46.18	10.46	3.78	28.12	40.00	11.88	QP	Vertical
2	59.977	36.31	12.40	4.06	20.47	40.00	19.53	QP	Vertical
3	79.953	31.12	8.11	4.19	11.12	40.00	28.88	QP	Vertical
4	110.773	23.85	11.90	4.36	7.80	43.50	35.70	QP	Vertical
5	127.181	29.09	8.71	4.46	9.93	43.50	33.57	QP	Vertical
6	343.013	28.15	14.56	5.46	15.73	46.00	30.27	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-02A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

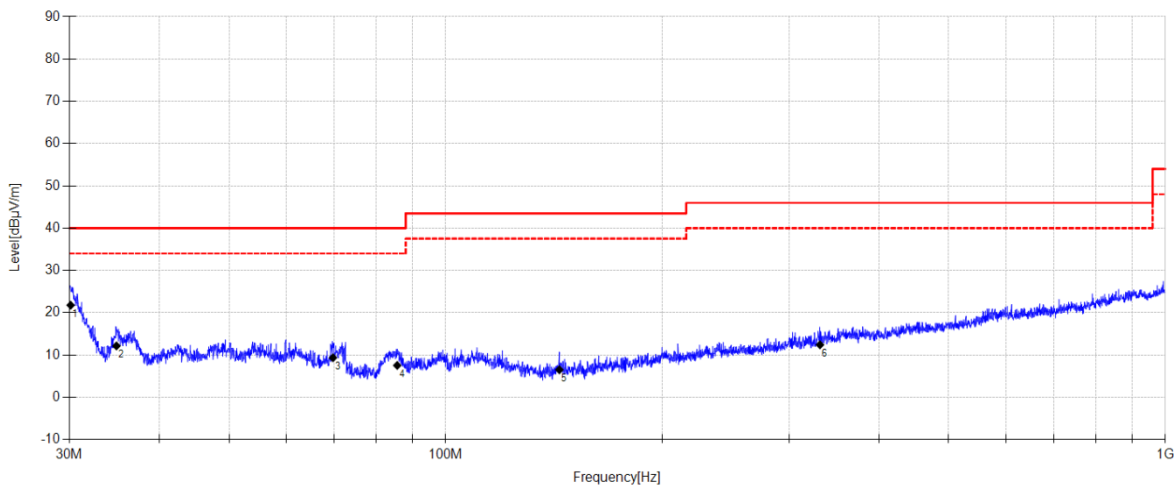
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\7

Memo:

Sample Numbler:S25091721-008



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.126	39.83	10.47	3.78	21.78	40.00	18.22	QP	Horizontal
2	34.881	29.3	11.30	3.85	12.15	40.00	27.85	QP	Horizontal
3	69.735	27.57	9.91	4.17	9.35	40.00	30.65	QP	Horizontal
4	85.640	26.54	9.08	4.22	7.54	40.00	32.46	QP	Horizontal
5	143.885	25.66	8.65	4.55	6.52	43.50	36.98	QP	Horizontal
6	331.196	25.06	14.38	5.41	12.42	46.00	33.58	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-02A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

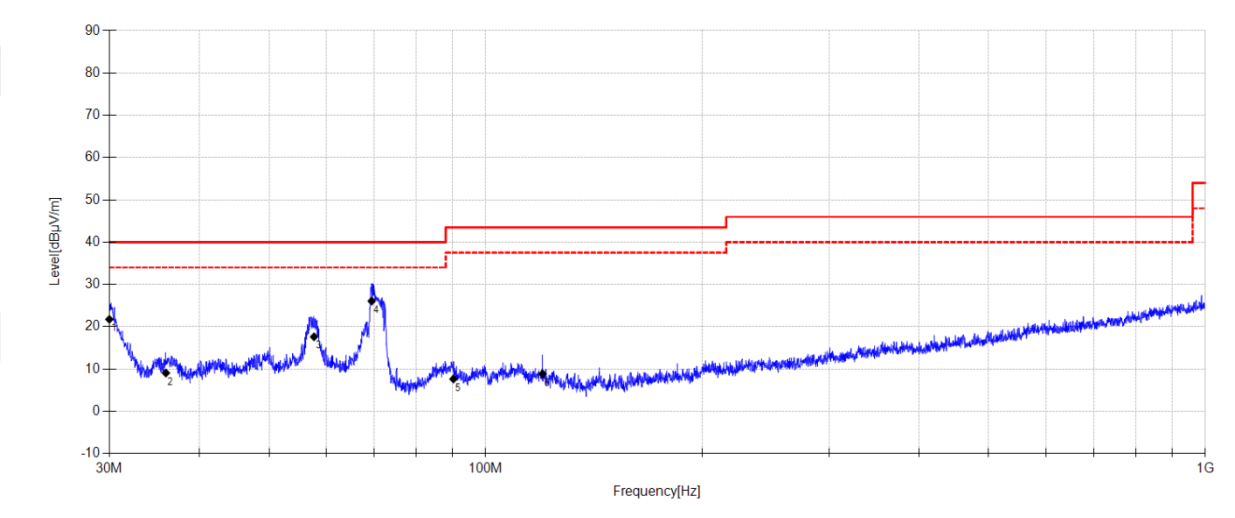
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\8

Memo:

Sample Numbler:S25091721-008



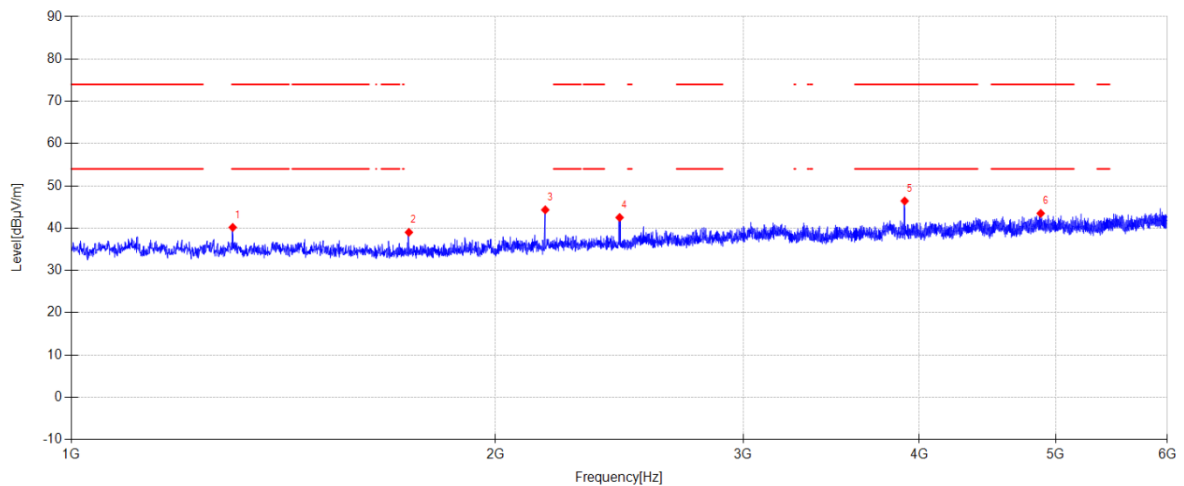
Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.000	39.77	10.50	3.78	21.75	40.00	18.25	QP	Vertical
2	35.949	25.64	11.87	3.86	9.07	40.00	30.93	QP	Vertical
3	57.748	32.96	12.92	4.04	17.62	40.00	22.38	QP	Vertical
4	69.443	44.05	10.15	4.16	26.06	40.00	13.94	QP	Vertical
5	90.201	26.01	9.68	4.25	7.64	43.50	35.86	QP	Vertical
6	119.991	27.06	9.70	4.42	8.86	43.50	34.64	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-10-21 **Tested By:** Lin Guoyuan
EUT: Remote control **Model Number:** WS520-02A
Test Mode: TX 433.92MHz Mode **Power Supply:** Battery
Condition: Temp:23.9°C;Humi:54.9% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\5
Memo: Sample Numbler:S25091721-008

**Suspected Data List**

NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1302.000	48.34	26.07	2.71	-36.94	40.18	74.00	33.82	PK	Horizontal
2	1736.500	48.08	25.55	3.11	-37.73	39.01	-	-	PK	Horizontal
3	2170.000	51.84	27.34	3.54	-38.39	44.33	-	-	PK	Horizontal
4	2450.500	50.17	27.21	3.84	-38.70	42.52	-	-	PK	Horizontal
5	3905.500	50.70	30.83	4.56	-39.66	46.43	74.00	27.57	PK	Horizontal
6	4878.500	45.10	33.01	5.17	-39.79	43.49	74.00	30.51	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-02A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

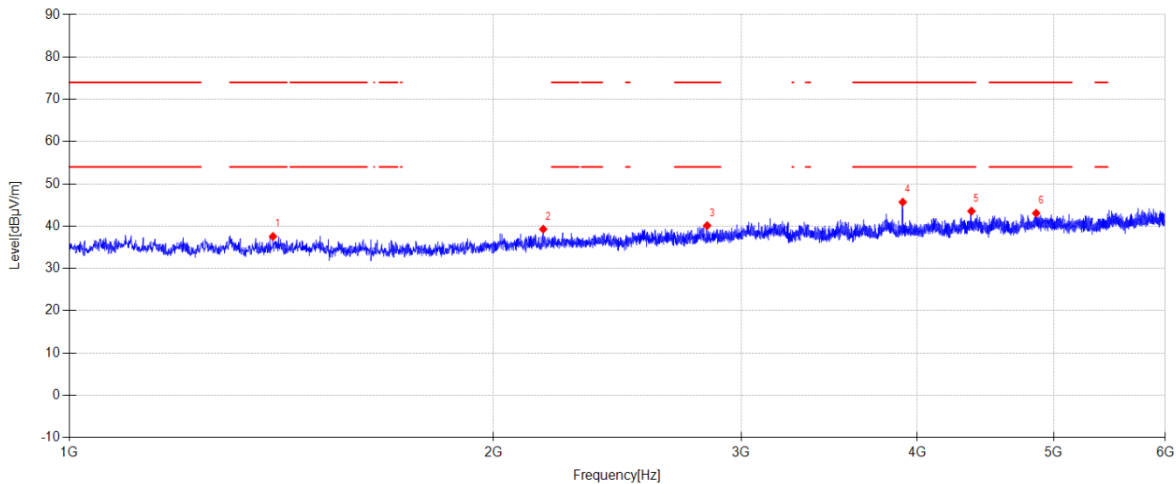
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\6

Memo:

Sample Numbler:S25091721-008



Suspected Data List										
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1395.000	45.77	26.11	2.80	-37.11	37.57	74.00	36.43	PK	Vertical
2	2170.000	46.80	27.34	3.54	-38.39	39.29	-	-	PK	Vertical
3	2837.000	46.19	28.80	4.26	-39.12	40.13	74.00	33.87	PK	Vertical
4	3906.000	49.95	30.83	4.56	-39.66	45.68	74.00	28.32	PK	Vertical
5	4370.000	46.92	31.54	4.82	-39.74	43.54	74.00	30.46	PK	Vertical
6	4858.000	44.76	32.93	5.15	-39.79	43.05	74.00	30.95	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-06A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

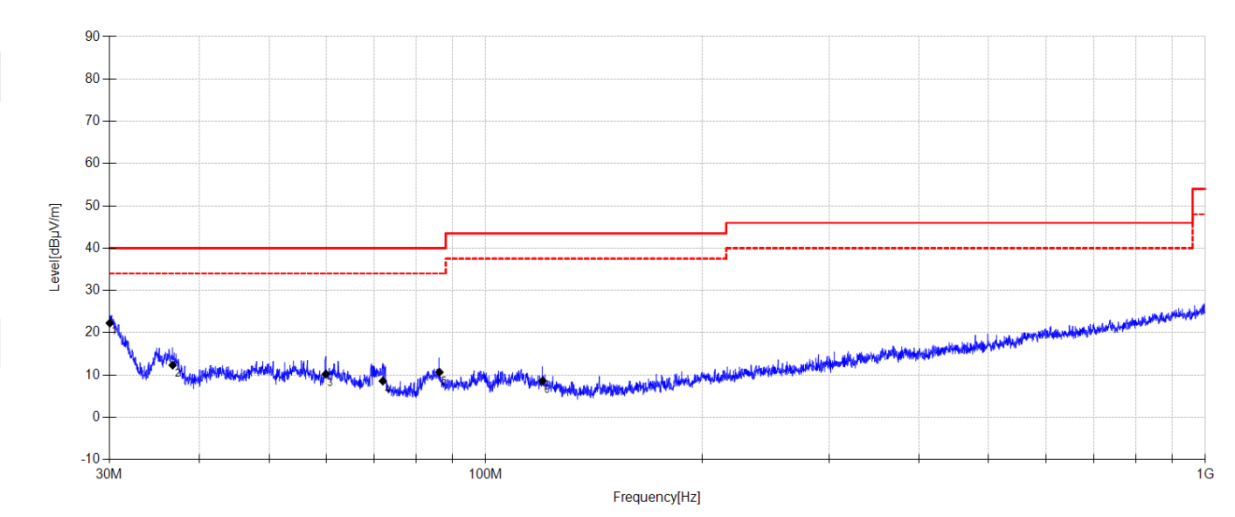
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\13

Memo:

Sample Numbler:S25091721-007



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.042	40.31	10.49	3.78	22.28	40.00	17.72	QP	Horizontal
2	36.739	28.64	12.12	3.87	12.33	40.00	27.67	QP	Horizontal
3	59.977	26.06	12.40	4.06	10.22	40.00	29.78	QP	Horizontal
4	71.971	27.21	9.50	4.17	8.58	40.00	31.42	QP	Horizontal
5	86.242	29.85	8.88	4.23	10.66	40.00	29.34	QP	Horizontal
6	119.991	26.81	9.70	4.42	8.61	43.50	34.89	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-06A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

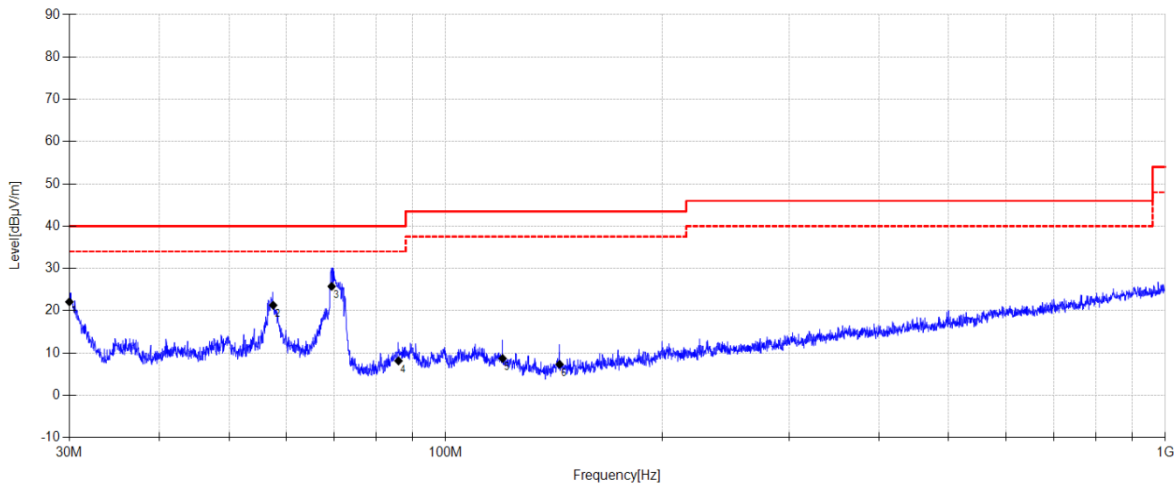
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\14

Memo:

Sample Numbel:S25091721-007



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.000	40.11	10.50	3.78	22.09	40.00	17.91	QP	Vertical
2	57.586	36.68	12.88	4.04	21.30	40.00	18.70	QP	Vertical
3	69.443	43.74	10.15	4.16	25.75	40.00	14.25	QP	Vertical
4	86.001	27.31	8.90	4.23	8.14	40.00	31.86	QP	Vertical
5	119.991	26.91	9.70	4.42	8.71	43.50	34.79	QP	Vertical
6	143.986	26.49	8.61	4.56	7.32	43.50	36.18	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-15A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

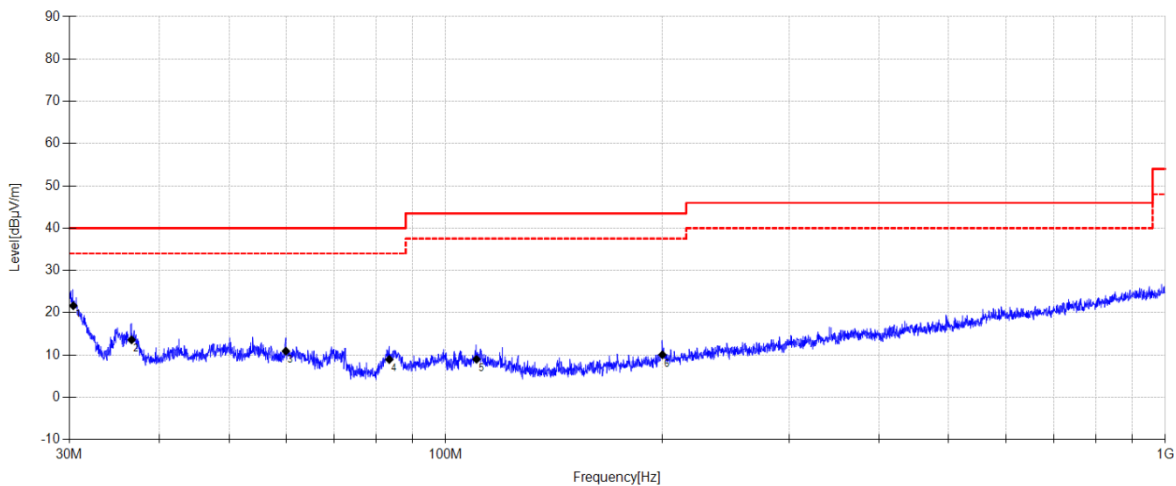
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\9

Memo:

Sample Numbel:S25091721-006



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.381	39.75	10.42	3.79	21.66	40.00	18.34	QP	Horizontal
2	36.610	29.95	12.08	3.87	13.60	40.00	26.40	QP	Horizontal
3	59.977	26.76	12.40	4.06	10.92	40.00	29.08	QP	Horizontal
4	83.505	28.13	8.90	4.21	8.94	40.00	31.06	QP	Horizontal
5	110.385	25.04	11.90	4.36	8.99	43.50	34.51	QP	Horizontal
6	200.050	26.28	11.29	4.88	10.05	43.50	33.45	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-15A

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

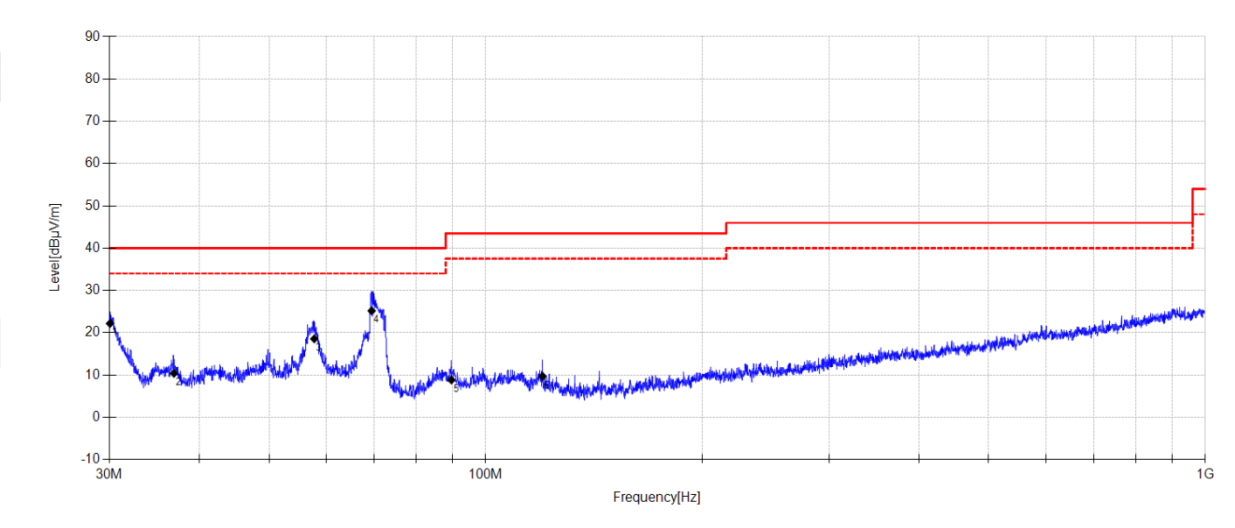
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\10

Memo:

Sample Numbler:S25091721-006



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.063	40.21	10.49	3.78	22.18	40.00	17.82	QP	Vertical
2	36.894	26.64	12.17	3.88	10.39	40.00	29.61	QP	Vertical
3	57.789	33.87	12.94	4.04	18.55	40.00	21.45	QP	Vertical
4	69.443	43.16	10.15	4.16	25.17	40.00	14.83	QP	Vertical
5	89.633	27.44	9.44	4.25	8.83	43.50	34.67	QP	Vertical
6	119.991	27.88	9.70	4.42	9.68	43.50	33.82	QP	Vertical

Note:

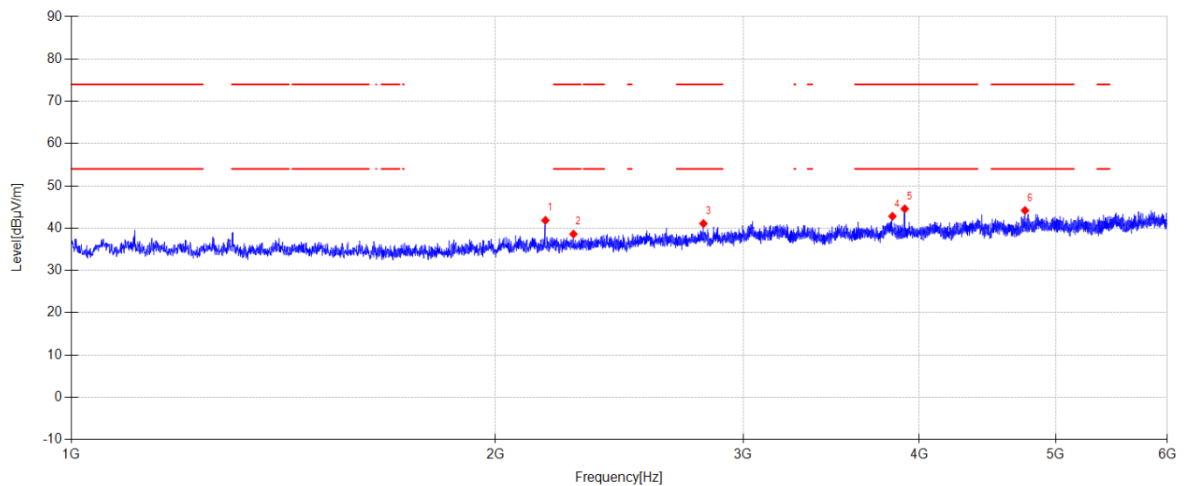
1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-10-21 **Tested By:** Lin Guoyuan
EUT: Remote control **Model Number:** WS520-15A
Test Mode: TX 433.92MHz Mode **Power Supply:** Battery
Condition: Temp:23.9°C;Humi:54.9% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\3
Memo: Sample Numbler:S25091721-006

**Suspected Data List**

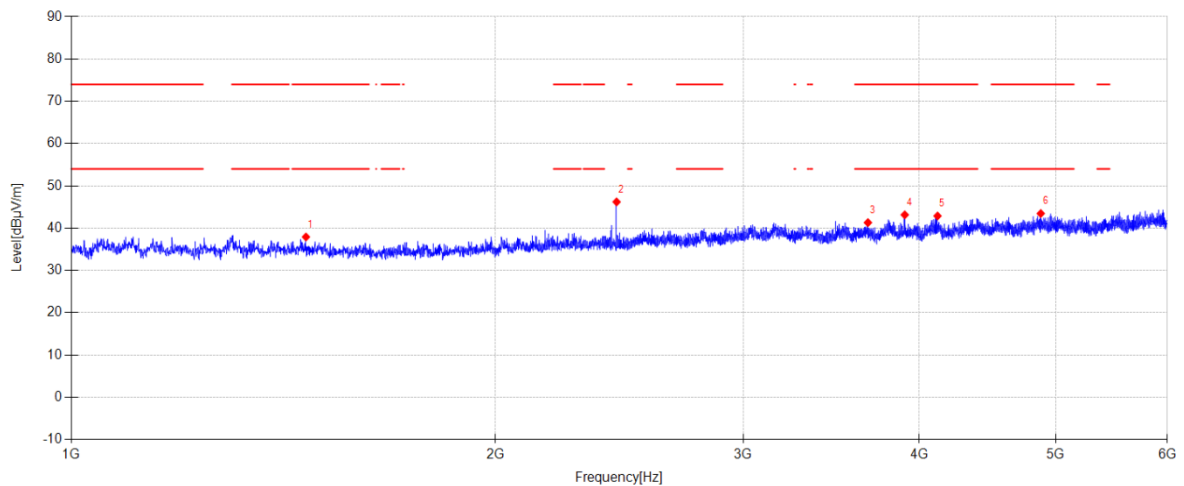
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2170.500	49.34	27.35	3.54	-38.39	41.84	-	-	PK	Horizontal
2	2272.500	46.00	27.45	3.65	-38.50	38.60	74.00	35.40	PK	Horizontal
3	2810.500	46.92	29.02	4.23	-39.09	41.08	74.00	32.92	PK	Horizontal
4	3828.000	47.33	30.56	4.55	-39.63	42.81	74.00	31.19	PK	Horizontal
5	3906.000	48.84	30.83	4.56	-39.66	44.57	74.00	29.43	PK	Horizontal
6	4754.500	46.69	32.19	5.08	-39.78	44.18	74.00	29.82	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-10-21 **Tested By:** Lin Guoyuan
EUT: Remote control **Model Number:** WS520-15A
Test Mode: TX 433.92MHz Mode **Power Supply:** Battery
Condition: Temp:23.9°C;Humi:54.9% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2025 report date\Q25091721-1E\FCC ABOVE 1G\4
Memo: Sample Numbler:S25091721-006

**Suspected Data List**

NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	1467.500	46.42	25.87	2.87	-37.24	37.92	74.00	36.08	PK	Vertical
2	2438.500	53.81	27.25	3.83	-38.68	46.21	-	-	PK	Vertical
3	3677.500	46.67	29.68	4.53	-39.57	41.31	74.00	32.69	PK	Vertical
4	3906.000	47.42	30.83	4.56	-39.66	43.15	74.00	30.85	PK	Vertical
5	4121.000	46.67	31.27	4.65	-39.71	42.88	74.00	31.12	PK	Vertical
6	4878.500	45.07	33.01	5.17	-39.79	43.46	74.00	30.54	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-15D

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

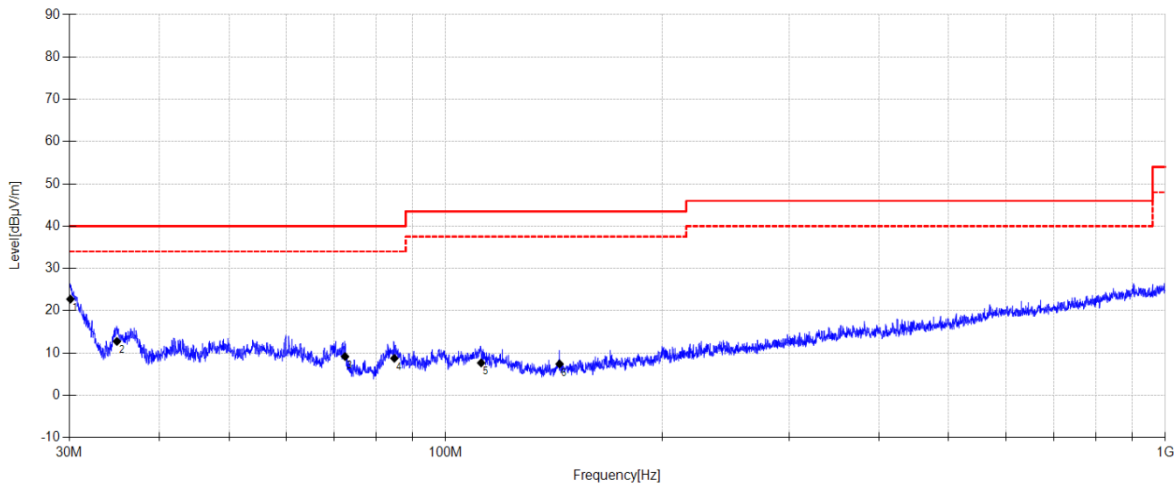
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\17

Memo:

Sample Numbler:S25091721-007



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.105	40.78	10.48	3.78	22.74	40.00	17.26	QP	Horizontal
2	34.930	29.9	11.30	3.85	12.75	40.00	27.25	QP	Horizontal
3	72.477	27.93	9.36	4.17	9.16	40.00	30.84	QP	Horizontal
4	84.863	27.5	9.33	4.22	8.75	40.00	31.25	QP	Horizontal
5	112.022	23.62	11.98	4.37	7.66	43.50	35.84	QP	Horizontal
6	143.986	26.57	8.61	4.56	7.40	43.50	36.10	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-10-21

Tested By:

Lin Guoyuan

EUT:

Remote control

Model Number:

WS520-15D

Test Mode:

TX 433.92MHz Mode

Power Supply:

Battery

Condition:

Temp:23.9°C;Humi:54.9%

Test Site:

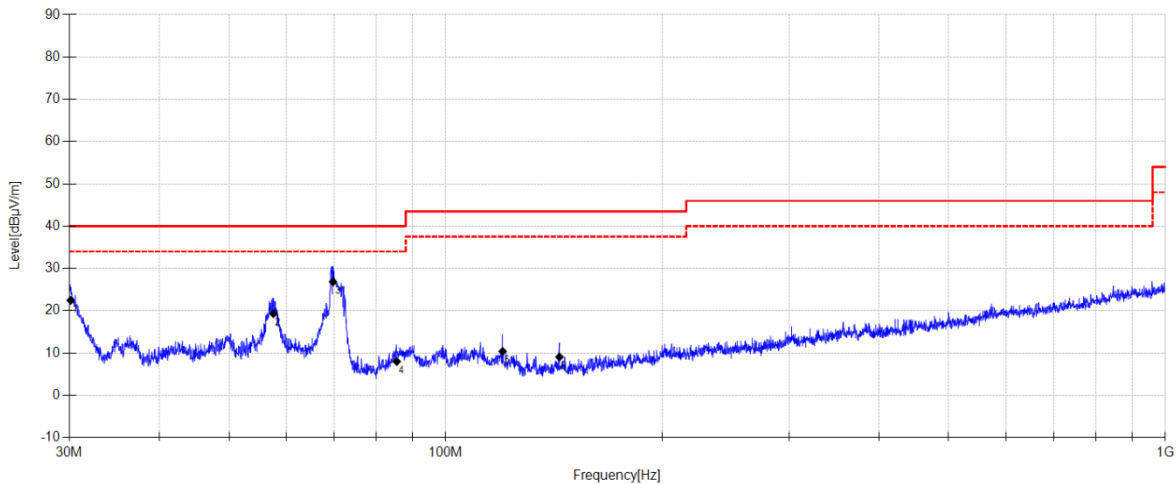
DDT 3# Chamber

File Path:

d:\ts\2025 report date\Q25091721-1E\FCC BELOW 1G\18

Memo:

Sample Numbler:S25091721-007



Final Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	30.126	40.49	10.47	3.78	22.44	40.00	17.56	QP	Vertical
2	57.627	34.67	12.89	4.04	19.30	40.00	20.70	QP	Vertical
3	69.735	45.06	9.91	4.17	26.84	40.00	13.16	QP	Vertical
4	85.520	26.93	9.14	4.22	7.99	40.00	32.01	QP	Vertical
5	119.991	28.6	9.70	4.42	10.40	43.50	33.10	QP	Vertical
6	143.885	28.2	8.65	4.55	9.06	43.50	34.44	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

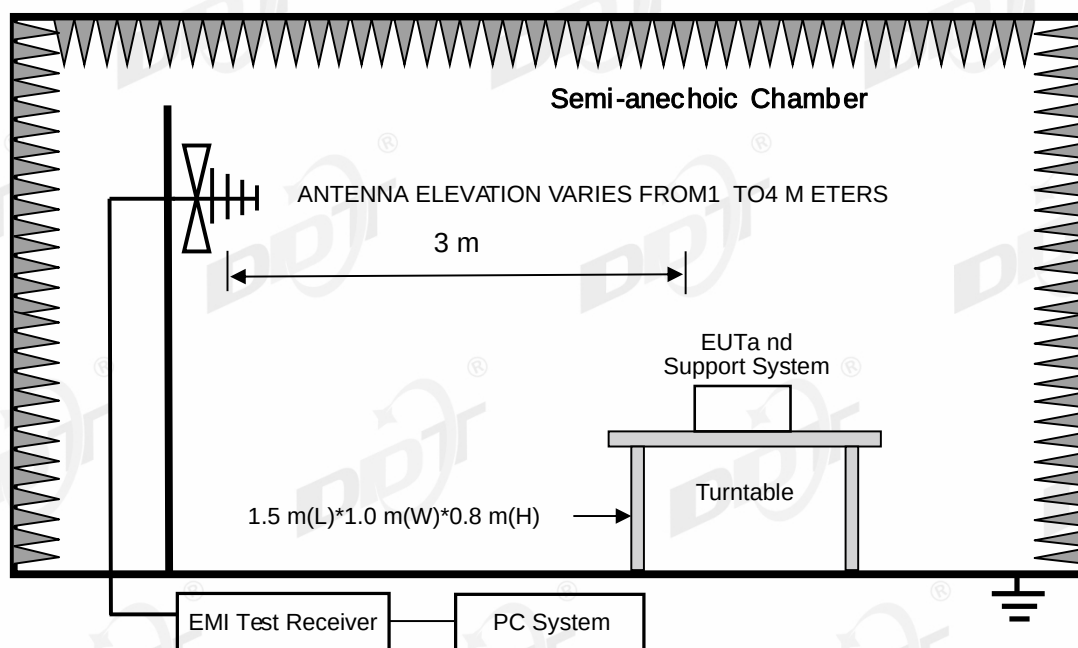
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

9. Field Strength Of The Fundamental Signal

9.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2026/03/28
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2026/03/28
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	/
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/03/28
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2026/03/28
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2026/03/28
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2026/08/10
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2026/03/28
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2026/03/28
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2026/03/28
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2026/03/28
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2026/04/01
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2026/07/25
Hochgewinn-Hornantenne	SCHWARZBEC K	BBHA 9120 D	DDT-ZC02129	2026/08/11
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2026/08/18
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2026/03/28

9.2. Block diagram of test setup



9.3. Limits

(3) FCC 15.231 section (a) limit

Fundamental Frequency (MHz)	Field Strength of Fundamental
433.92	AV: 80.83 dBuV/m @3m PK: 100.83dBuV/m @3m

9.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

9.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.

(2) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
30MHz-1GHz	Trilog Broadband Antenna	3m

The Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m(Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10-2020 on Radiated Emission test.
- (5) The emissions from 9kHz to 1GHz were measured based on CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz, for emissions from 9kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1GHz, peak emissions also be measured and need comply with Peak limit.
- (6) The emissions from 9kHz to 1GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
30MHz-1GHz	120kHz

- (7) X axis, Y axis, Z axis are tested, and worse setup X axis is reported.

9.6. Test result

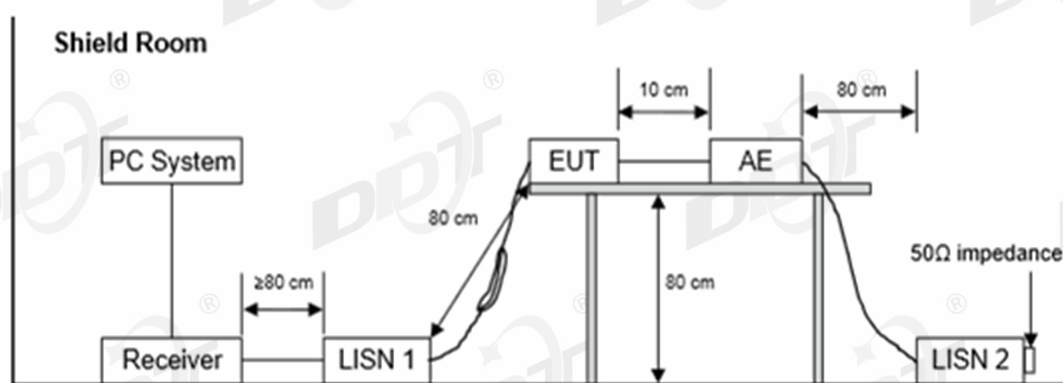
Suspected Data List										
Freq. [MHz]	Model	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
433.92	WS520-01A	91.13	16.12	5.82	-32.53	80.54	100.83	20.29	PK	Horizontal
		/	/	/	/	80.54	80.83	0.29	AV	Horizontal
		91.15	16.12	5.82	-32.53	80.56	100.83	20.27	PK	Vertical
		/	/	/	/	80.56	80.83	0.27	AV	Vertical
	WS520-01D	91.13	16.12	5.82	-32.53	80.54	100.83	20.29	PK	Horizontal
		/	/	/	/	80.54	80.83	0.29	AV	Horizontal
		91.14	16.12	5.82	-32.53	80.55	100.83	20.28	PK	Vertical
		/	/	/	/	80.55	80.83	0.28	AV	Vertical
	WS520-02A	91.12	16.12	5.82	-32.53	80.53	100.83	20.3	PK	Horizontal
		/	/	/	/	80.53	80.83	0.3	PK	Horizontal
		91.12	16.12	5.82	-32.53	80.53	100.83	20.3	AV	Vertical
		/	/	/	/	80.53	80.83	0.3	PK	Vertical
	WS520-06A	91.15	16.12	5.82	-32.53	80.56	100.83	20.27	AV	Horizontal
		/	/	/	/	80.56	80.83	0.27	PK	Horizontal
		91.14	16.12	5.82	-32.53	80.55	100.83	20.28	AV	Vertical
		/	/	/	/	80.55	80.83	0.28	PK	Vertical
	WS520-15A	91.13	16.12	5.82	-32.53	80.54	100.83	20.29	AV	Horizontal
		/	/	/	/	80.54	80.83	0.29	PK	Horizontal
		91.13	16.12	5.82	-32.53	80.54	100.83	20.29	PK	Vertical
		/	/	/	/	80.54	80.83	0.29	AV	Vertical
	WS520-15D	91.15	16.12	5.82	-32.53	80.56	100.83	20.27	PK	Horizontal
		/	/	/	/	80.56	80.83	0.27	AV	Horizontal
		91.14	16.12	5.82	-32.53	80.55	100.83	20.28	PK	Vertical
		/	/	/	/	80.55	80.83	0.28	AV	Vertical

10. Power Line Conducted Emissions

10.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
EMI Test Receiver	R&S	ESCI	DDT-ZC00235	2026/07/06
Two Line V-Network	R&S	ENV216	DDT-ZC00535	2026/07/06
Artificial mains	R&S	ESH2-Z5	DDT-ZC00538	2026/07/06
Pulse Limiter	SCHWARZBECK	ESH3-Z2	DDT-ZC00539	2026/07/06
CE Cable 1	R&S	ESU8/RF2	DDT-ZC00566	2026/07/06
EMI Test Software	Audix/TW	e3	DDT-ZC01252	/

10.2. Block diagram of test setup



10.3. Limits

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

10.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

10.5. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

10.6. Test result

N/A

Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ Battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

12. Photos of the EUT

Please refer to DDT-Q25091721-2E appendix I

-----End Report-----