



RADIO TEST REPORT

Applicant	:	Tonly Technology Co., Ltd.
Address of Applicant	:	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, P.R. China
Manufacturer	:	Tonly Technology Co., Ltd.
Address of Manufacturer	:	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, P.R. China
Equipment under Test	:	LoRa Backpack
Model No.	:	LBP-001
FCC ID	:	ZVAOH000038
IC	:	9976A-OH000038
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C, ANSI C63.10-2020, RSS-247 Issue 4 July 24, 2025, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021), ANSI C63.10-2020+Cor.1-2023+C63.10a- 2024+Errata to C63.10a-2024
Report No.	:	DDT-RE26030330-2E03
Issue Date	:	2026/04/24
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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Address of Applicant	:	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, P.R. China
Equipment under Test	:	LoRa Backpack
Model No.	:	LBP-001
Manufacturer	:	Tonly Technology Co., Ltd.
Address of Manufacturer	:	Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, P.R. China

Test Standard Used:
FCC Rules and Regulations Part 15 Subpart C,
ANSI C63.10-2020,
RSS-247 Issue 4 July 24, 2025,
RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021),
ANSI C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024

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-RE26030330-2E03		
Date of Receipt:	2026/03/05	Date of Test:	2026/03/05 - 2026/04/17

Created: Chen Ziqin	Reviewed: Zoe Peng	Approved: Ella Gong
		
2026/04/15	2026/04/24	2026/04/24

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	2026/04/24	Ella Gong

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	6 dB Bandwidth and 99% Bandwidth	47 CFR Part 15 15.247(a)(2), RSS-247 clause 6.3.1, RSS-Gen clause 6.7	/	Pass
2	Peak Output Power	47 CFR Part 15 15.247(b)(3), RSS-247 clause 6.3.2	/	Pass
3	Power Spectral Density	47 CFR Part 15 15.247(e), RSS-247 clause 6.3.1	/	Pass
4	RF Conducted Spurious Emissions	47 CFR Part 15 15.247(d), RSS-247 clause 6.6	/	Pass
5	Radiated Emission	47 CFR Part 15 15.205, 47 CFR Part 15 15.209, 47 CFR Part 15 15.247(d), RSS-247 clause 6.6, RSS-Gen clause 8.9, RSS-Gen clause 8.10	/	Pass
6	Band Edge Compliance	47 CFR Part 15 15.205, 47 CFR Part 15 15.209, 47 CFR Part 15 15.247(d), RSS-247 clause 6.6, RSS-Gen clause 8.9, RSS-Gen clause 8.10	/	Pass
7	Antenna Requirement	47 CFR Part 15 15.203, RSS-Gen clause 6.8	/	Pass
8	Power Line Conducted Emissions	47 CFR Part 15 15.207(a), RSS-Gen clause 8.8	/	Pass

Note: 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.

2. General Test Information

2.1. Description of EUT

EUT Name	: LoRa Backpack
Model Number	: LBP-001
Difference of model number	: /
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 5V from USB cable
Antenna Type	: FPC Antenna
Max Antenna Gain(dBi)	: 1.92

Radio Specification	: Lora
Operation Frequency	: 2402 MHz to 2480 MHz
Modulation	: GFSK

Lora Channel information					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	27	2429	54	2456
1	2403	28	2430	55	2457
2	2404	29	2431	56	2458
3	2405	30	2432	57	2459
4	2406	31	2433	58	2460
5	2407	32	2434	59	2461
6	2408	33	2435	60	2462
7	2409	34	2436	61	2463
8	2410	35	2437	62	2464
9	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478

23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454	/	
26	2428	53	2455	/	

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:

Test software: sscom.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table:

The pathloss of external cable: 0.5dB (According to the manufacturer's claims)

Tested mode, Tx Power Setting, Channel, and Frequency			
Mode	Setting Tx Power	Channel	Frequency (MHz)
GFSK	8	CH0	2402
	8	CH19	2440
	8	CH39	2480

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:	+15°C to +35 °C
Humidity range:	20% to 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

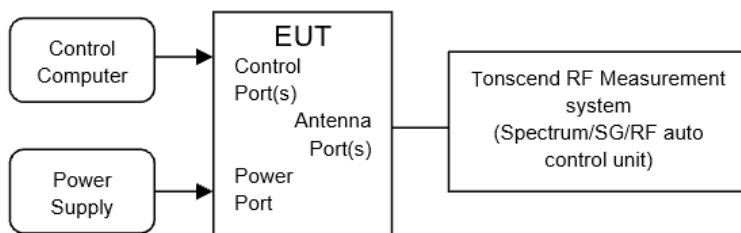
Test Item	Uncertainty
Bandwidth	1.9%
Peak Output Power (Conducted) (Spectrum analyzer)	0.98 dB
Peak Output Power (Conducted) (Power Sensor)	1.18 dB
Power Spectral Density (Base EIRP)	1.51 dB
Power Spectral Density (Spectrum analyzer)	0.98 dB
Frequencies Stability	1.9 kHz
Conducted spurious emissions	1.21 dB ($9\text{ kHz} \leq f < 7\text{ GHz}$);
	3.31 dB ($7\text{ GHz} \leq f < 40\text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	5.5×10^{-8}
Time	0.11%
Temperature	0.3 °C
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.28 dB (Antenna Polarize: V)
	4.14 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.22 dB (1 - 6 GHz)
	4.52 dB (6 GHz - 18 GHz)
	4.58 dB (18 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.32dB (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 5#)				
Signal &Spectrum analyzer	R&S	FSV40-N	102836	2027/02/27
Wideband Radio Communication Tester	R&S	CMW500	132871	2027/01/15
EXG Vector Generator	Agilent	N5172B	MY53051914	2027/01/07
MXG Vector Signal Generator	Agilent	N5173B	MY62220219	2027/03/19
RF Control Unit	Tonscend	JS0806-2	23180620727	2027/03/17
Electronic thermometer	Youshang	YSWS3020	DDT-ZC02228	2026/08/12
Test Software	Tonscend	JS1120-3	V3.6.21	N/A

4. 6 dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz

4.3. Test procedure

- (1) The test according to ANSI C63.10 clause 11.8.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously
- (4) Use the following spectrum analyzer settings for 6 dB Bandwidth:

RBW:	100 kHz
VBW:	$\geq [3 \times \text{RBW}]$
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold
- (5) Allow the trace to stabilize, measure the 6 dB bandwidth of signal, and record the results in the report.

4.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2℃,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
Lora	Ant1	2402	1.78	2401.09	2402.86	0.5	PASS
	Ant1	2441	1.78	2440.10	2441.87	0.5	PASS
	Ant1	2480	1.78	2479.09	2480.87	0.5	PASS

Lora Ant1_2402

Spectrum

Ref Level 20.00 dBm Offset 13.19 dB RBW 100 kHz
 Att 20 dB SWT 1 ms VBW 300 kHz Mode Sweep

1Pk View

CF 2.402 GHz 1001 pts Span 4.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.401088 GHz	3.58 dBm		
M2		1	2.40272 GHz	9.46 dBm		
D3	M1	1	1.776 MHz	0.05 dB		

Date: 3 APR 2026 19:54:10

Lora Ant1_2441

Spectrum

Ref Level 20.00 dBm Offset 13.16 dB RBW 100 kHz
 Att 20 dB SWT 1 ms VBW 300 kHz Mode Sweep

1Pk View

CF 2.441 GHz 1001 pts Span 4.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.440096 GHz	3.98 dBm		
M2		1	2.441736 GHz	9.75 dBm		
D3	M1	1	1.776 MHz	1.02 dB		

Date: 7 APR 2026 12:35:38

Lora Ant1_2480

Spectrum

Ref Level 20.00 dBm Offset 13.36 dB RBW 100 kHz
 Att 20 dB SWT 1 ms VBW 300 kHz Mode Sweep

1Pk View

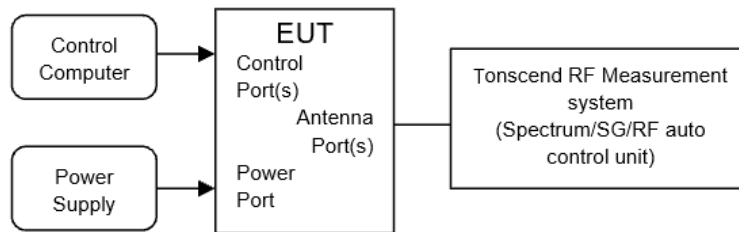
CF 2.48 GHz 1001 pts Span 4.0 MHz

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.479088 GHz	4.39 dBm		
M2		1	2.480452 GHz	10.35 dBm		
D3	M1	1	1.78 MHz	0.42 dB		

Date: 3 APR 2026 20:02:57

5. 99% Bandwidth

5.1. Block diagram of test setup



5.2. Limits

Just for Report.

5.3. Test procedure

- (1) The test according to ANSI C63.10 clause 6.9.3.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously
- (4) Use the following spectrum analyzer settings for the 99% Bandwidth:

RBW:	1% to 5% of the OBW
VBW:	approximately three times RBW
Span:	between 1.5 times and 5.0 times the OBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold
- (5) Allow the trace to stabilize, measure the 99% bandwidth of signal, and record the results in the report.

5.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2℃,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

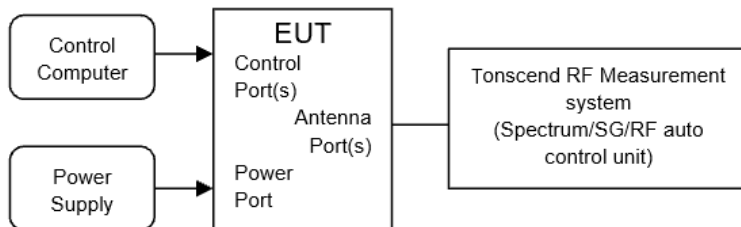
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
Lora	Ant1	2402	1.6823	2401.1369	2402.8192	---	---
	Ant1	2441	1.7023	2440.1329	2441.8352	---	---
	Ant1	2480	1.6863	2479.1329	2480.8192	---	---

5.5. Test graphs



6. Maximum Peak Output Power

6.1. Block diagram of test setup



6.2. Limits

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. If transmitting antennas of directional gain greater than 6dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi, the e.i.r.p shall not exceed 4W.

6.3. Test procedure

- (1) The test according to ANSI C63.10 clause 11.9.1.1.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
- (4) Use the following spectrum analyzer settings for the maximum peak output power measurement:

RBW:	≥DTS bandwidth
VBW:	≥3 x RBW
Span	≥3 x RBW
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

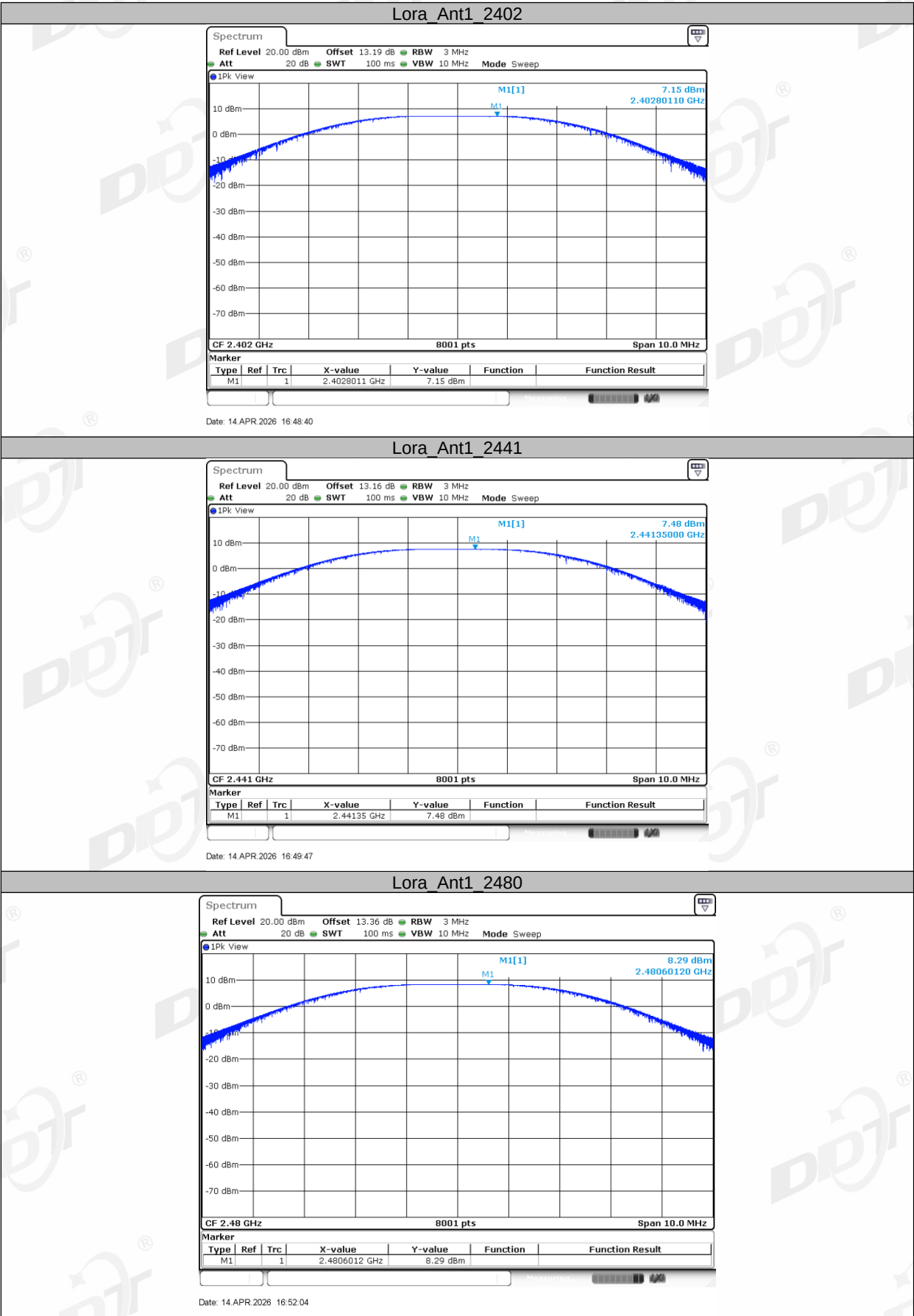
- (5) Allow the trace to stabilize, use peak marker function to determine the peak amplitude level.

6.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2℃,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

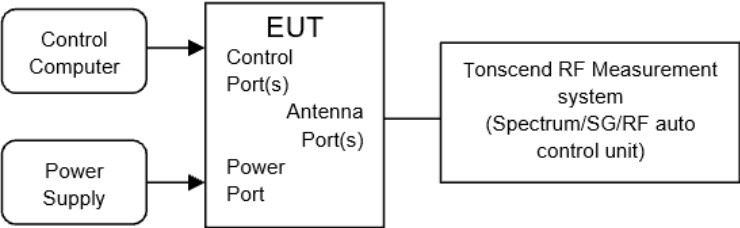
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
Lora	Ant1	2402	7.15	≤30	9.07	≤36	PASS
	Ant1	2441	7.48	≤30	9.40	≤36	PASS
	Ant1	2480	8.29	≤30	10.21	≤36	PASS

6.5. Test graphs



7. Power Spectral Density

7.1. Block diagram of test setup



7.2. Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.3. Test procedure

- (1) The test according to ANSI C63.10 clause 11.10.2.
 - (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
 - (3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
 - (4) Use the following spectrum analyzer settings for Power Spectral Density measurement:

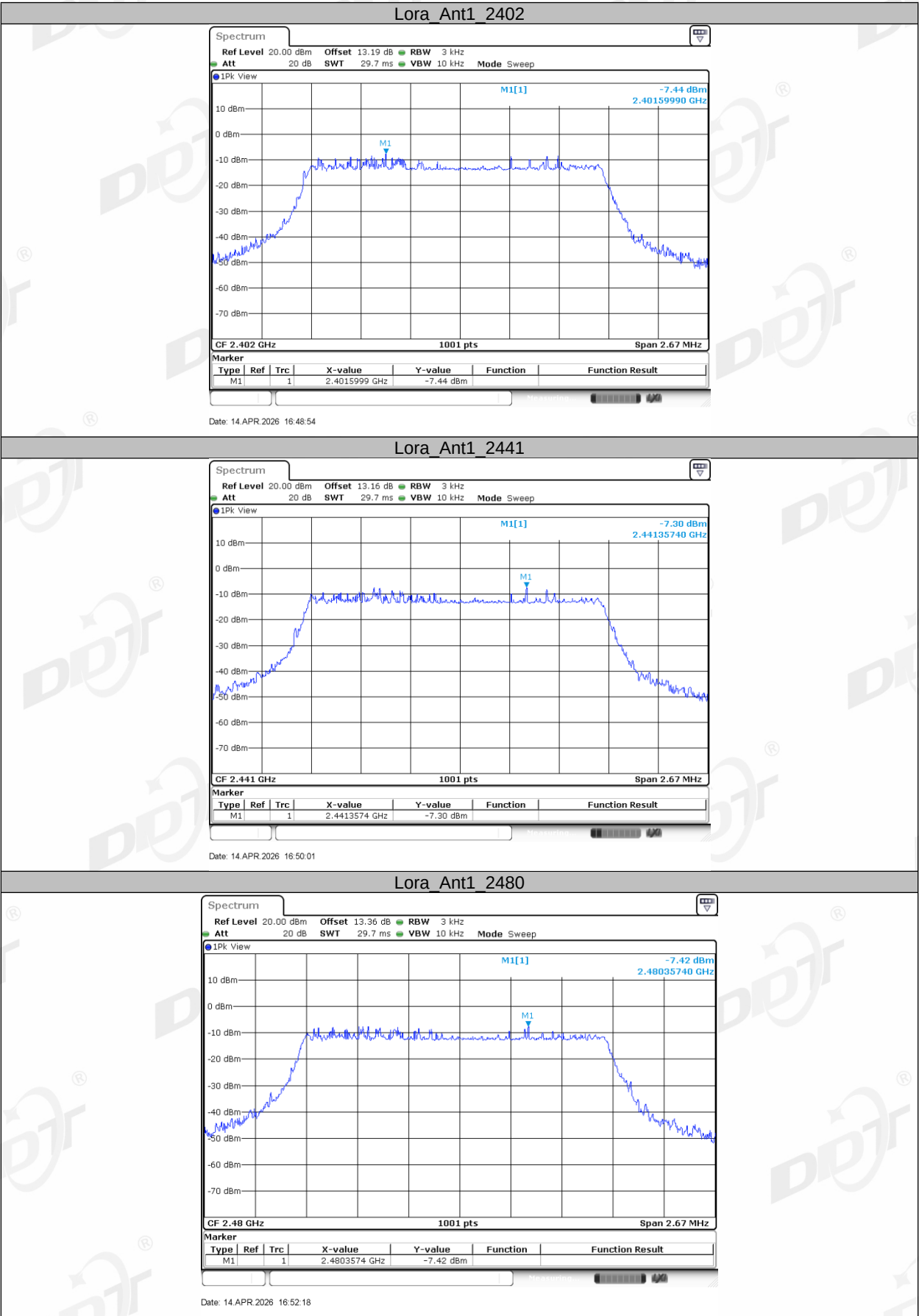
Center frequency	DTS Channel center frequency
RBW:	$3\text{ kHz} \leq \text{RBW} \leq 100\text{ kHz}$
VBW:	$\geq 3\text{RBW}$
Span	1.5 times the DTS bandwidth
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold
 - (5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
- If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

7.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2°C,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

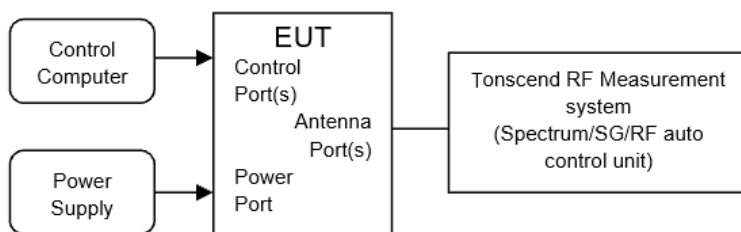
Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
Lora	Ant1	2402	-7.44	≤8.00	PASS
	Ant1	2441	-7.30	≤8.00	PASS
	Ant1	2480	-7.42	≤8.00	PASS

7.5. Test graphs



8. Band Edge Compliance (Conducted Method)

8.1. Block diagram of test setup



8.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

8.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Establish a reference level by using the following procedure:

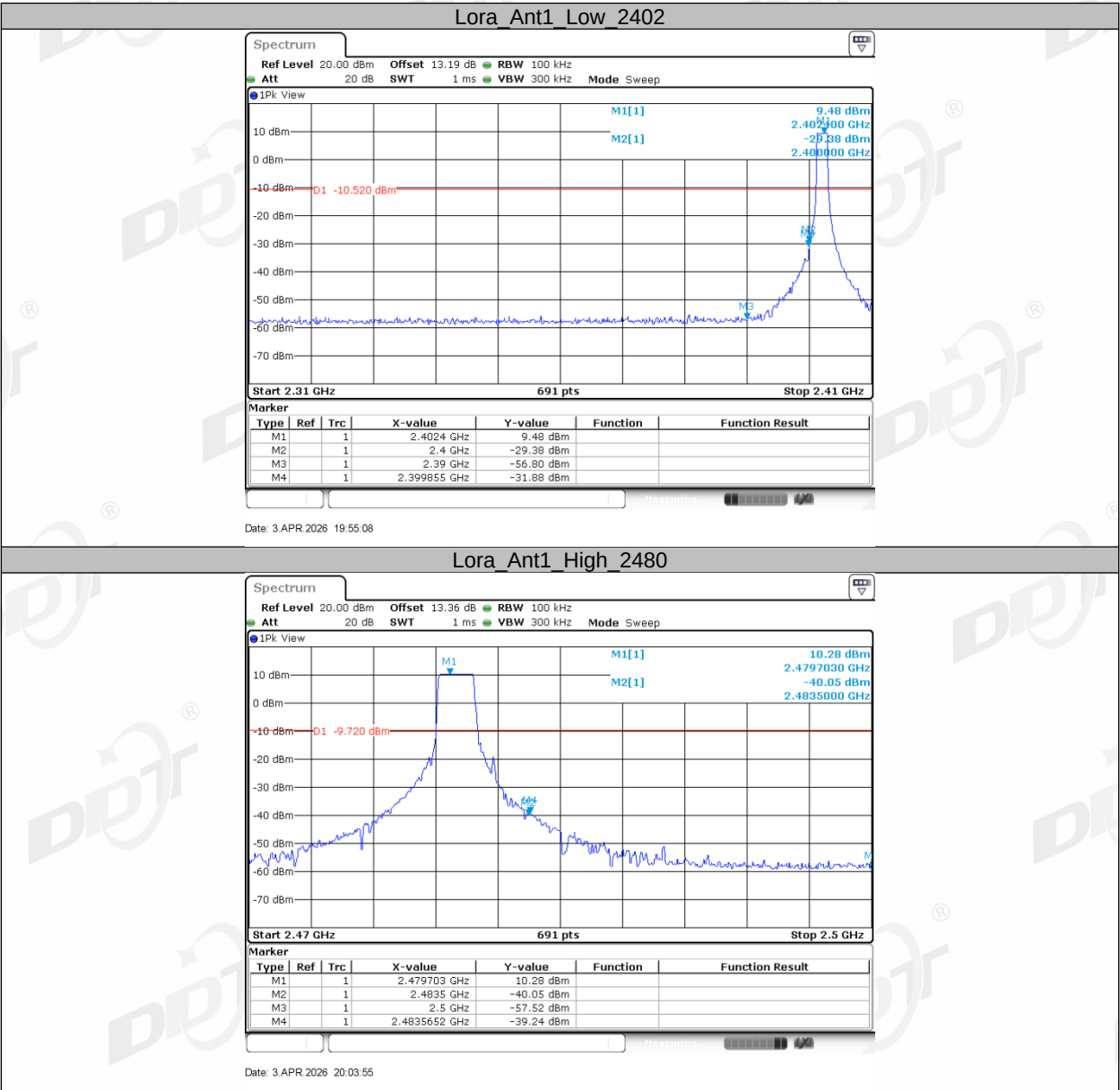
RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold
- (3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
- (4) Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

8.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2°C,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

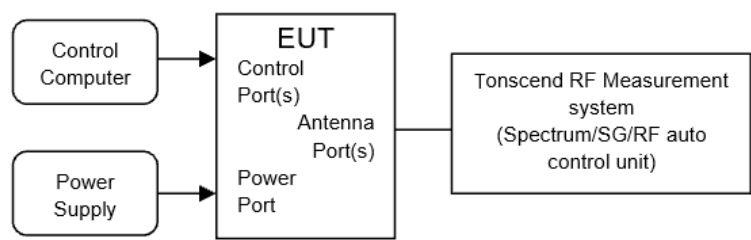
Mode	Frequency [MHz]	Measured Range	Verdict
GFSK	2402	2.310 GHz - 2.410 GHz	Pass
	2480	2.470 GHz - 2.500 GHz	Pass

8.5. Test graphs



9. RF Conducted Spurious Emissions

9.1. Block diagram of test setup



9.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

9.3. Test procedure

- (1) Connect EUT’s antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{Span}/\text{RBW}$
Detector Mode:	Peak
Sweep time:	Auto
Trace mode	Max hold

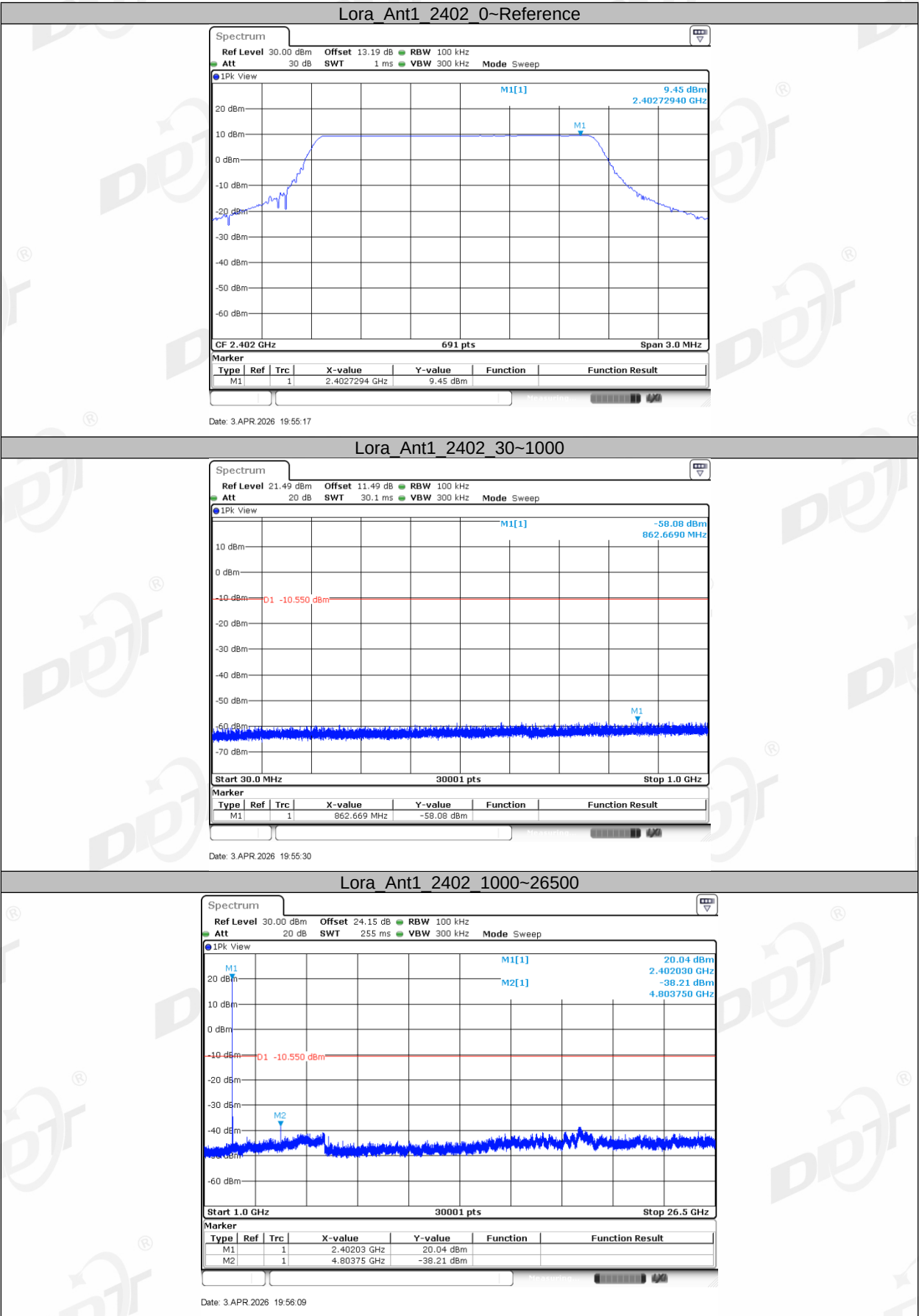
Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

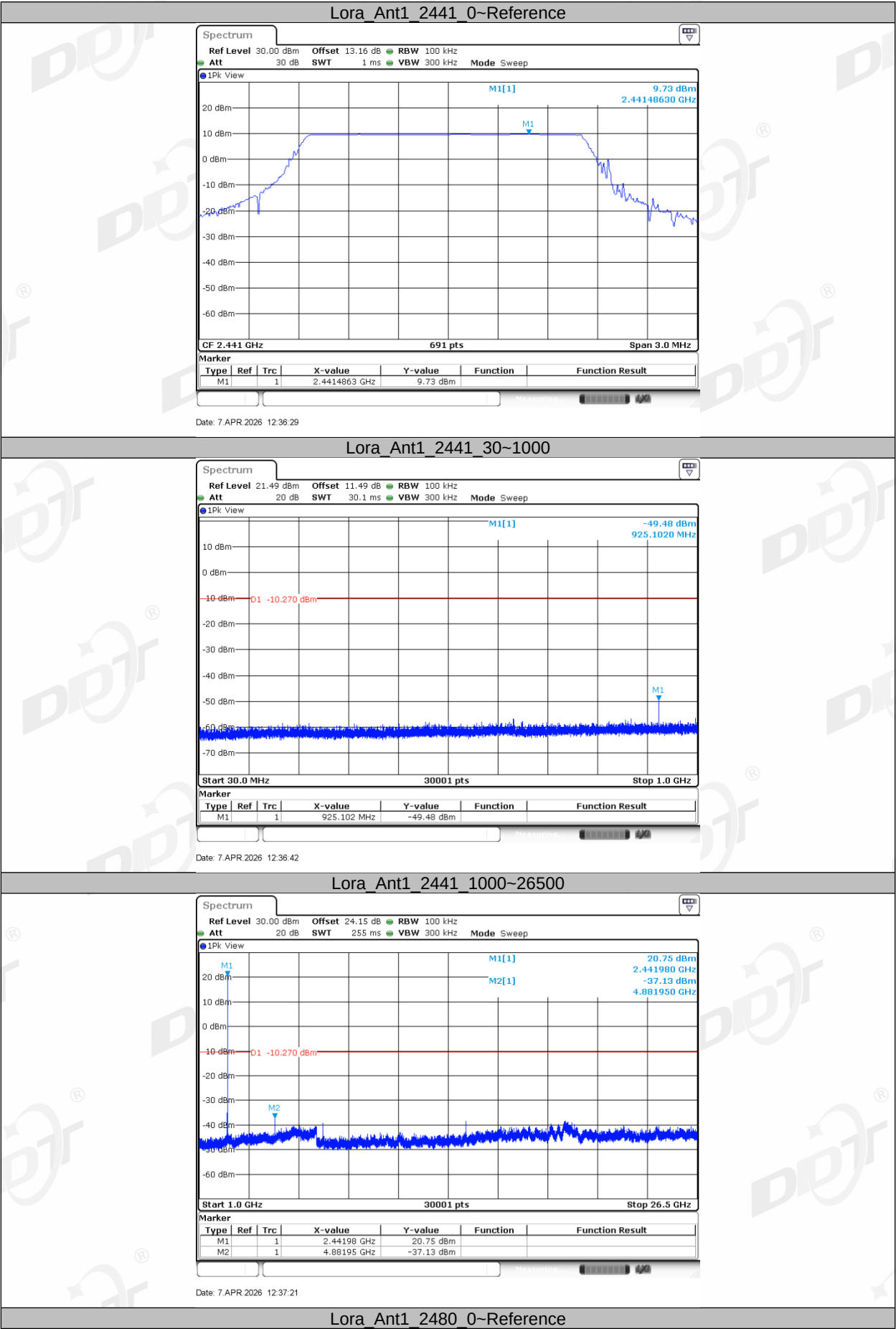
9.4. Test result

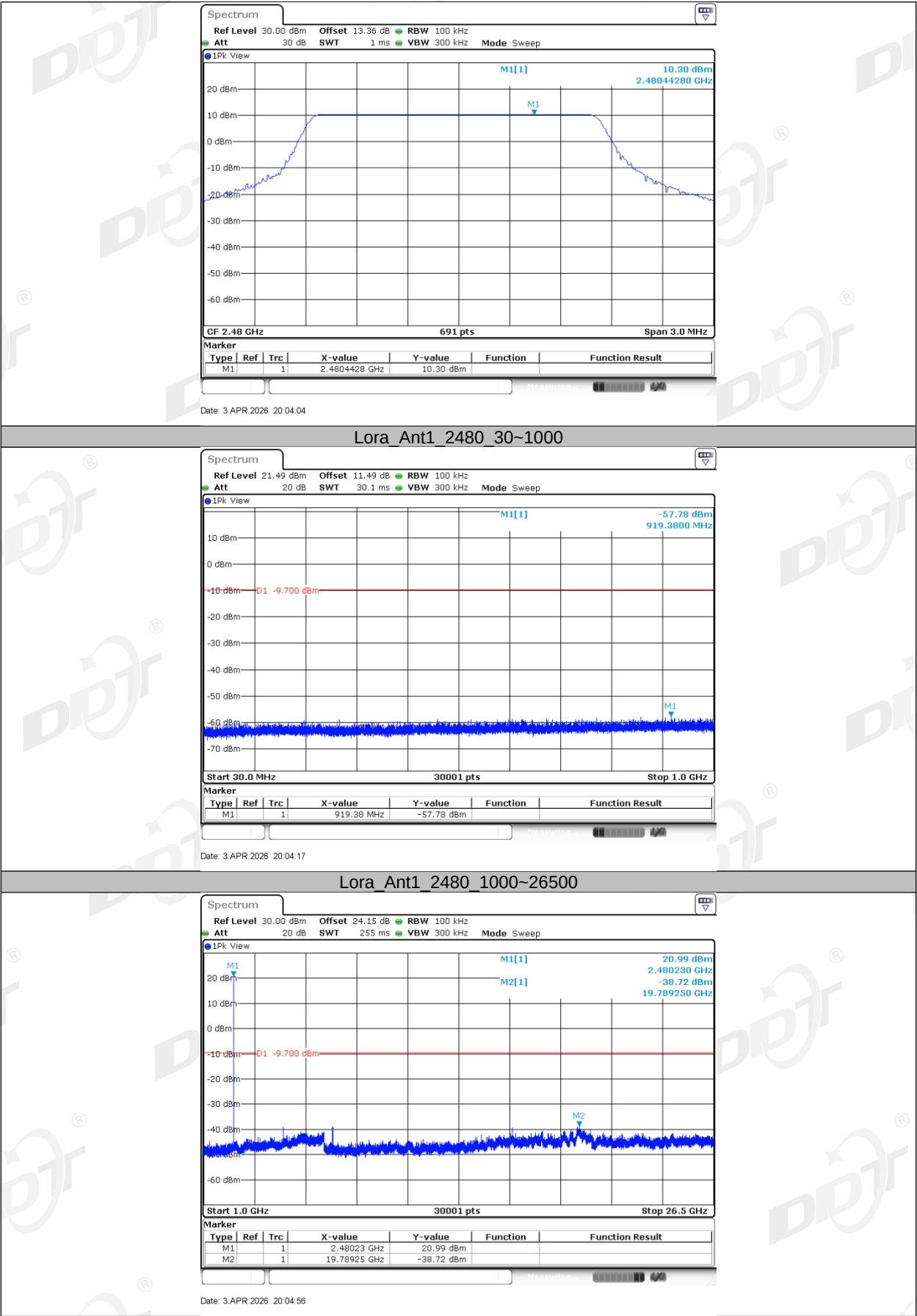
Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2°C,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

Mode	Frequency [MHz]	Verdict
GFSK	2402	Pass
	2440	Pass
	2480	Pass

9.5. Test graphs

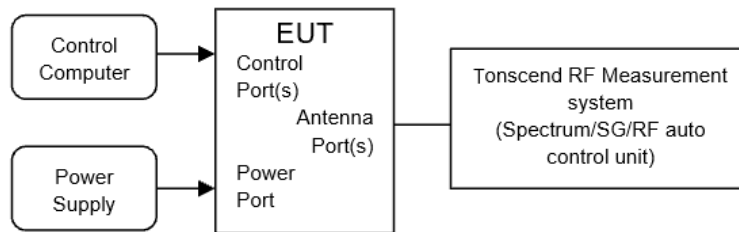






10. Duty Cycle

10.1. Block diagram of test setup



10.2. Limit

Just for Report.

10.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.
set the Spectrum Analyzer as below:
 - Centre Frequency: The centre frequency of the middle hopping channel.
 - Resolution BW: 10 MHz.
 - Video BW: 10 MHz.
 - Span: Zero span.
 - Detector: Peak.
 - Trace Mode: Clear Write.
 - Sweep: Video Trigger
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

10.4. Test result

Test Engineer:	Tan Shaofeng	Test Site:	RF Test System 5#
Ambient Condition:	24.3-27.2°C,39.2-44.2%RH	Test Date:	2026.4.7
Test Power Supply:	DC 5V from PC	Sample Number:	DDT-Q26030329

Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
Lora	Ant1	2402	35.00	145.00	24.14	6.17
	Ant1	2441	34.50	144.50	23.88	6.22
	Ant1	2480	35.00	144.50	24.22	6.16

10.5. Test graphs



11. Antenna Requirements

11.1. 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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.

11.2. Result

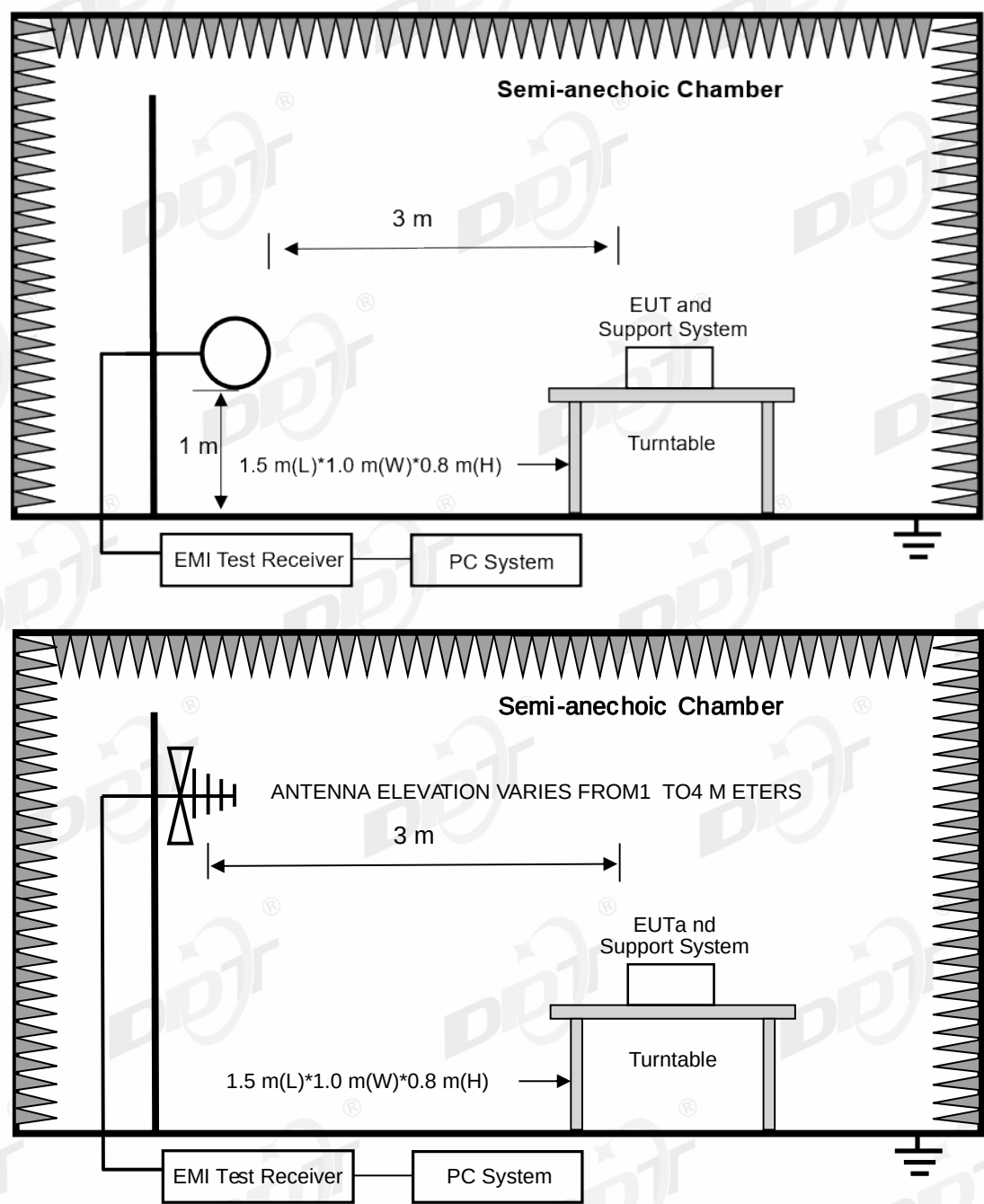
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

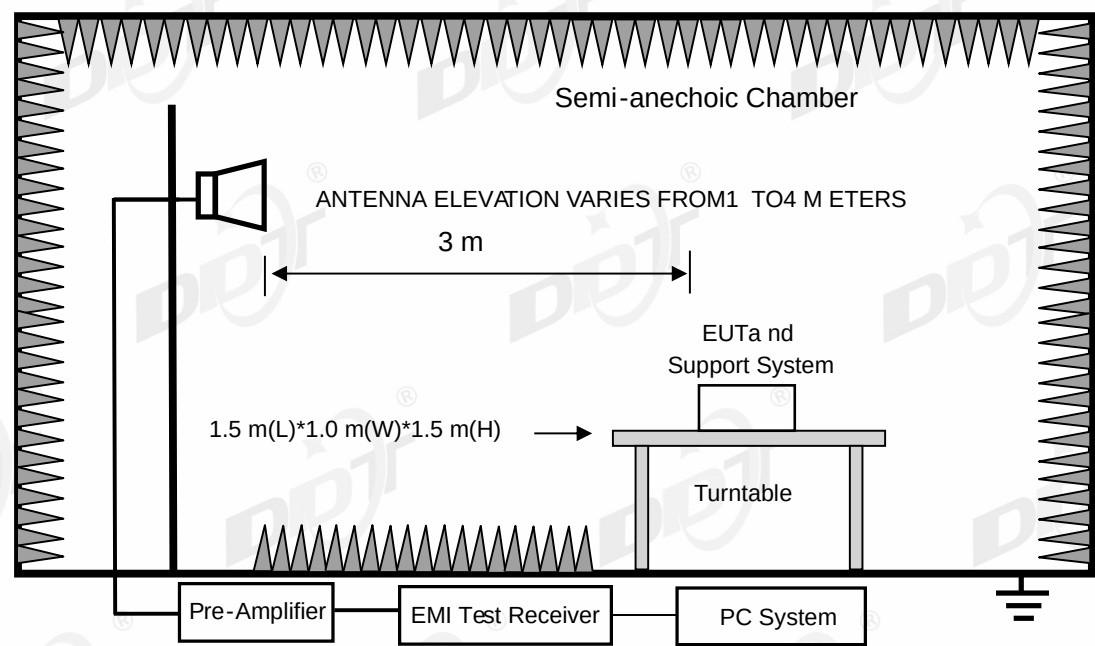
12. Radiated Emission

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2027/02/27
RF cable	Zhongke Junchuang	Z805UF-NJ-NJ-10M	DDT-ZC05591	2026/10/10
RF cable	Zhongke Junchuang	Z805UF-NJ-NJ-3M	DDT-ZC05590	2026/10/10
RF cable	Zhongke Junchuang	JCTB510-NJW-NJW-0.6M	DDT-ZC04595	2026/10/10
RF cable	Zhongke Junchuang	JCT40P-2.92J-2.92J-1M	DDT-ZC03802	2026/10/10
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/10/10
RF cable	Zhongke Junchuang	JCT40P-2.92J-2.92J-5M	DDT-ZC03800	2026/10/10
Radiation disturbance fully automated test software	Tonscend	JS32-RE	DDT-ZC02739	/
Pre-amplifier	SONOMA	310N	DDT-ZC01969	2026/07/06
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2026/08/10
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2027/02/27
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2027/02/27
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2027/02/27
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2026/07/25
Hochgewinn-Hornantenne	SCHWARZBECK	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	2027/02/27
Band Reject Filter Group	Tonscend	JS0806-F	DDT-ZC05733	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC05922	2027/01/06
Broadband Preamplifier	HPX	BP-01G-18G	DDT-ZC05923	2027/01/06
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Signal & Spectrum analyzer	R&S	FSV40-N	DDT-ZC04979	2026/07/04
SPECTRUM ANALYZER	R&S	FSU26	DDT-ZC00236	2026/07/06

12.2. Block diagram of test setup





12.3. 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
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&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	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

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

²Above 38.6

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 & RSS-Gen section 8.9 Limit

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT	
MHz	Meters	uV/m	dBuV/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 dBuV/m(Peak)	
		54.0 dBuV/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 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

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

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

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

12.4. Assistant equipment used for test

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

12.5. Test procedure

(1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.

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

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna(1 GHz-18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna(18 GHz-40 GHz)	1 m

According to ANSI C63.10 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3 m 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 from 9 kHz to 25 GHz:

(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 1 m to 4 m (Except loop antenna, it's fixed 1 m 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.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m 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 equipment and all of the interface cables were changed according to ANSI C63.10 on Radiated Emission test.

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

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

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10 clause 4.1.5.2.2 procedure for average measure.

(8) For portable device, X axis, Y axis, Z axis are tested, and worse setup is reported.

(9) According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

(10) For 30 MHz ~ 25 GHz: (Scan with all mode, the worst case is reported)

(11) For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in worst mode.

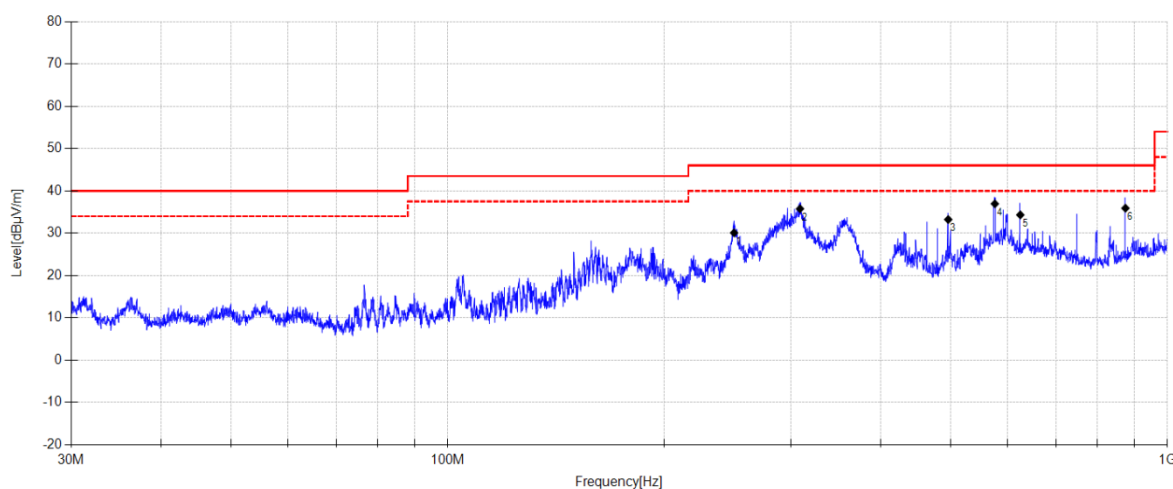
12.6. Test result

PASS. (See below detailed test result)

12.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date: 2026-04-10 **Tested By:** Cao Jie
Test Mode: TX Lora Mode **Power Supply:** Battery
Condition: Temp:24.4°C;Humi:61.7% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2026 report data\Q26030329-2E\FCC Below 1G\10
Memo: Sample Number:S26030329-001



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	250.020	45.49	11.90	5.08	30.07	46.00	15.93	QP	Horizontal
2	308.769	49.26	13.60	5.32	35.77	46.00	10.23	QP	Horizontal
3	496.004	43.13	16.66	6.03	33.22	46.00	12.78	QP	Horizontal
4	575.900	44.73	18.69	6.31	36.94	46.00	9.06	QP	Horizontal
5	624.699	42.05	18.72	6.46	34.32	46.00	11.68	QP	Horizontal
6	874.657	39.55	21.33	7.07	35.90	46.00	10.10	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:

2026-04-10

Tested By:

Cao Jie

Test Mode:

TX Lora Mode

Power Supply:

Battery

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

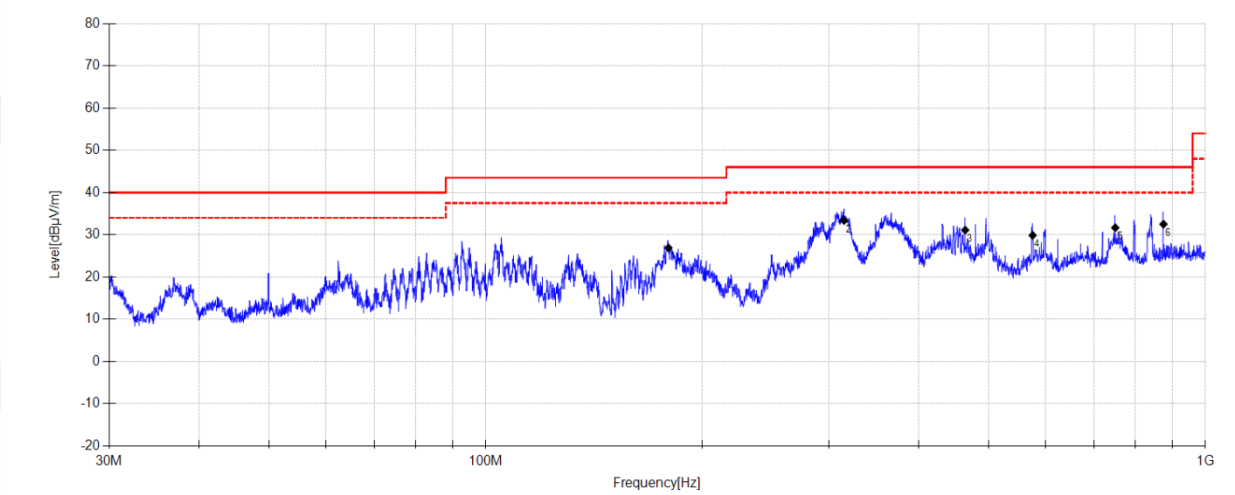
DDT 3# Chamber

File Path:

d:\ts\2026 report data\Q26030329-2E\FCC Below 1G\11

Memo:

Sample Number:S26030329-001



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	179.448	44.86	9.64	4.76	26.88	43.50	16.62	QP	Vertical
2	314.670	46.66	13.78	5.34	33.37	46.00	12.63	QP	Vertical
3	463.716	41.53	16.20	5.92	31.09	46.00	14.91	QP	Vertical
4	575.496	37.69	18.65	6.31	29.86	46.00	16.14	QP	Vertical
5	749.626	37.64	20.03	6.78	31.65	46.00	14.35	QP	Vertical
6	874.657	36.15	21.33	7.07	32.50	46.00	13.50	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:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2480MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

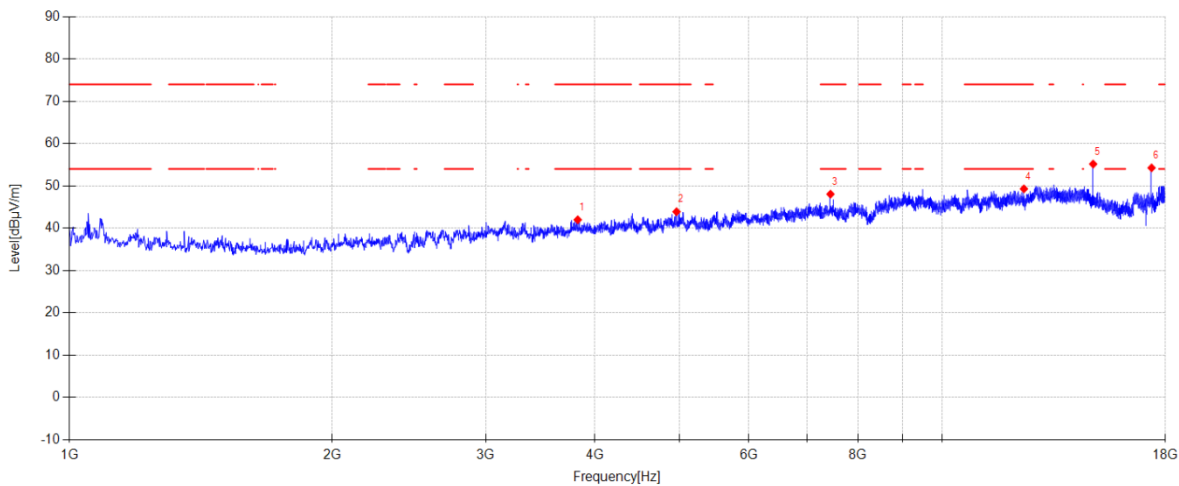
DDT 3# Chamber

File Path:

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Memo:

Sample Number:S26030329-001



Suspected Data List										
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3822.000	46.43	30.64	4.55	-39.63	41.99	74.00	32.01	PK	Horizontal
2	4959.300	45.38	33.08	5.22	-39.80	43.88	74.00	30.12	PK	Horizontal
3	7443.000	45.51	36.61	5.78	-39.86	48.04	74.00	25.96	PK	Horizontal
4	12396.800	41.66	39.11	7.81	-39.28	49.30	74.00	24.70	PK	Horizontal
5	14880.500	45.77	39.74	8.20	-38.55	55.16	-	-	PK	Horizontal
6	17359.100	45.00	38.87	9.37	-38.98	54.26	-	-	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:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2480MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

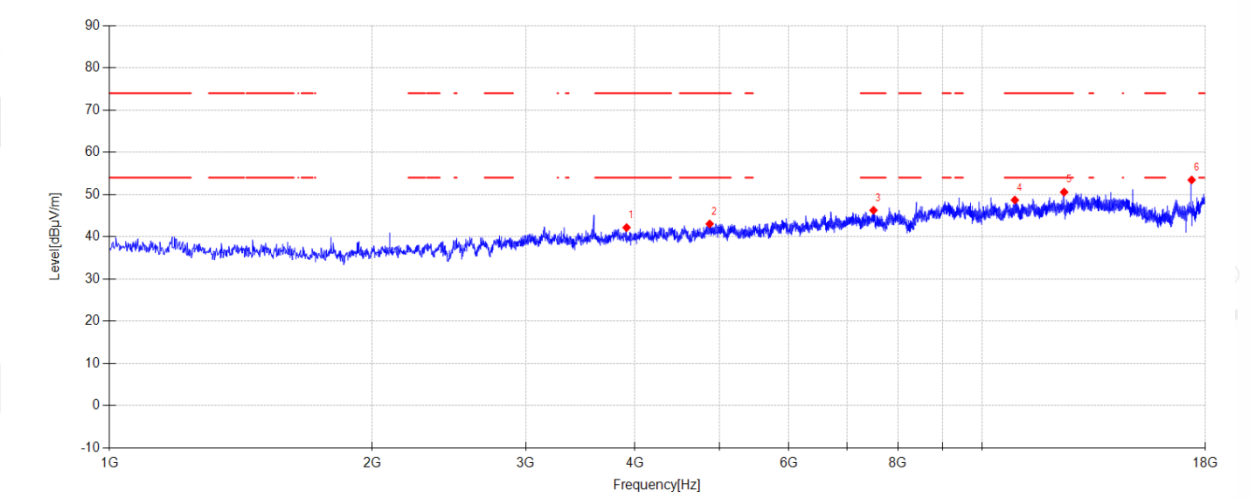
DDT 3# Chamber

File Path:

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Memo:

Sample Number:S26030329-001



Suspected Data List										
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3912.100	46.52	30.75	4.56	-39.66	42.17	74.00	31.83	PK	Vertical
2	4870.900	44.69	32.98	5.16	-39.79	43.04	74.00	30.96	PK	Vertical
3	7502.500	43.44	36.87	5.80	-39.85	46.26	74.00	27.74	PK	Vertical
4	10892.300	41.41	39.55	7.33	-39.61	48.68	74.00	25.32	PK	Vertical
5	12403.600	42.92	39.12	7.81	-39.28	50.57	74.00	23.43	PK	Vertical
6	17362.500	44.15	38.90	9.37	-38.98	53.44	-	-	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:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2441MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

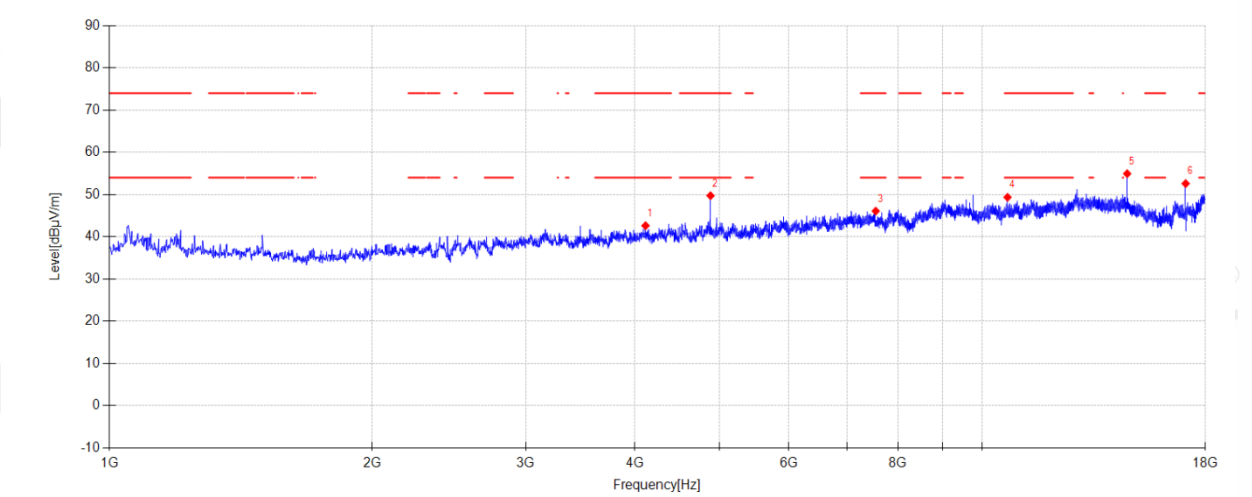
DDT 3# Chamber

File Path:

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Memo:

Sample Number:S26030329-001



Suspected Data List										
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	4112.700	46.47	31.20	4.65	-39.71	42.61	74.00	31.39	PK	Horizontal
2	4881.100	51.32	33.02	5.17	-39.79	49.72	74.00	24.28	PK	Horizontal
3	7546.700	43.86	36.25	5.81	-39.85	46.07	74.00	27.93	PK	Horizontal
4	10683.200	42.34	39.45	7.18	-39.63	49.34	74.00	24.66	PK	Horizontal
5	14647.600	45.18	40.15	8.24	-38.64	54.93	-	-	PK	Horizontal
6	17088.800	43.28	38.80	9.35	-38.84	52.59	-	-	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:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2441MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

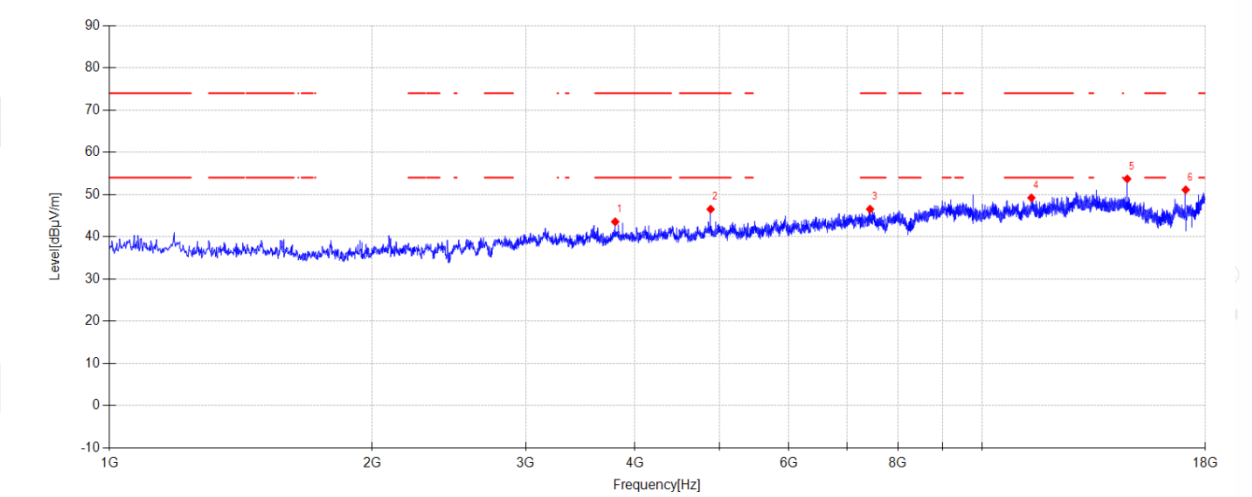
DDT 3# Chamber

File Path:

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Memo:

Sample Number:S26030329-001



Suspected Data List										
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3796.500	47.80	30.82	4.54	-39.62	43.54	74.00	30.46	PK	Vertical
2	4882.800	48.11	33.03	5.17	-39.79	46.52	74.00	27.48	PK	Vertical
3	7434.500	44.00	36.63	5.77	-39.86	46.54	74.00	27.46	PK	Vertical
4	11378.500	41.71	39.54	7.56	-39.60	49.21	74.00	24.79	PK	Vertical
5	14649.300	43.95	40.15	8.24	-38.64	53.70	-	-	PK	Vertical
6	17092.200	41.79	38.83	9.35	-38.85	51.12	-	-	PK	Vertical

Note:

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

TR-4-E-009 Radiated Emission Test Result

Test Date:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2402MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

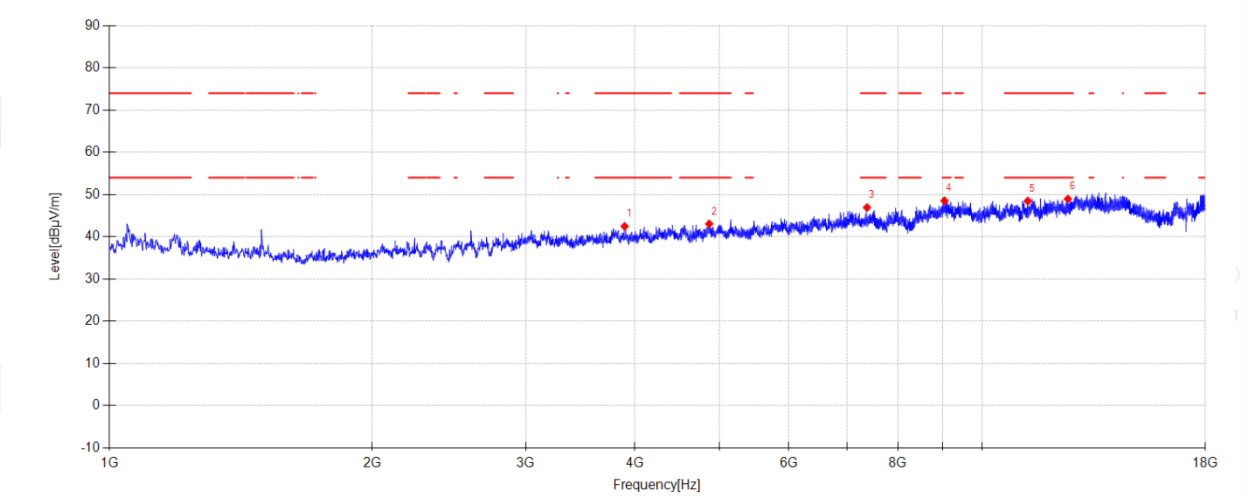
DDT 3# Chamber

File Path:

d:\ts\2026 report data\Q26030329-2E\FCC ABOVE 1G SRD 0405\29

Memo:

Sample Number:S26030329-001



Suspected Data List										
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3891.700	46.77	30.80	4.56	-39.66	42.47	74.00	31.53	PK	Horizontal
2	4864.100	44.71	32.96	5.16	-39.79	43.04	74.00	30.96	PK	Horizontal
3	7375.000	44.18	36.85	5.75	-39.86	46.92	74.00	27.08	PK	Horizontal
4	9044.400	41.52	38.86	6.79	-38.65	48.52	74.00	25.48	PK	Horizontal
5	11268.000	41.88	38.66	7.52	-39.60	48.46	74.00	25.54	PK	Horizontal
6	12526.000	40.78	39.54	7.80	-39.18	48.94	74.00	25.06	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:

2026-04-05

Tested By:

Cao Jie

Test Mode:

TX Lora 2402MHz Mode

Power Supply:

DC 5V

Condition:

Temp:24.4°C;Humi:61.7%

Test Site:

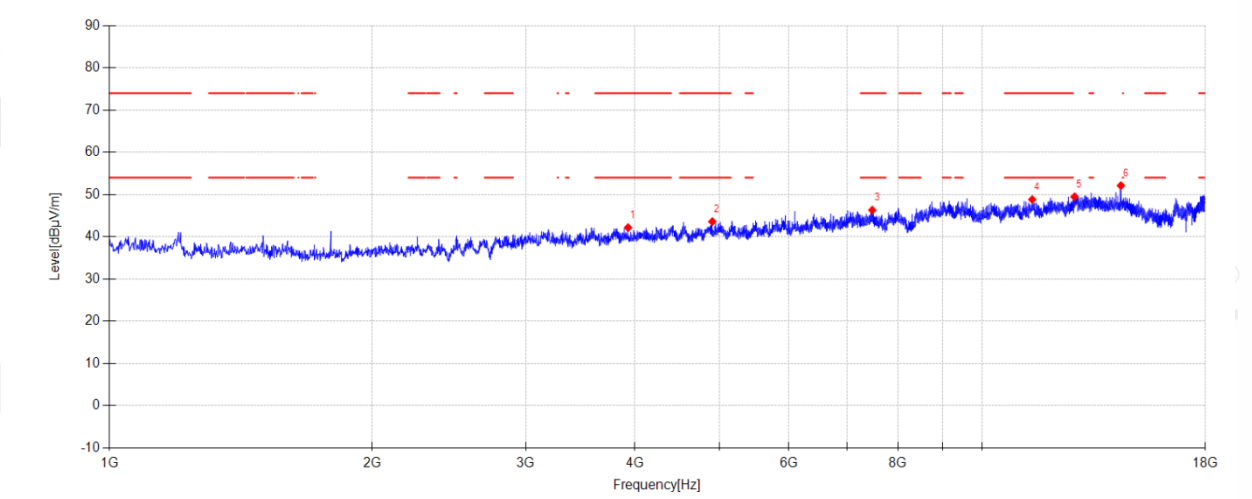
DDT 3# Chamber

File Path:

d:\ts\2026 report data\Q26030329-2E\FCC ABOVE 1G SRD 0405\30

Memo:

Sample Number:S26030329-001



Suspected Data List										
NO.	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3927.400	46.71	30.57	4.56	-39.67	42.17	74.00	31.83	PK	Vertical
2	4904.900	45.07	33.10	5.19	-39.79	43.57	74.00	30.43	PK	Vertical
3	7478.700	43.60	36.77	5.79	-39.85	46.31	74.00	27.69	PK	Vertical
4	11402.300	41.06	39.78	7.57	-39.60	48.81	74.00	25.19	PK	Vertical
5	12745.300	41.03	39.62	7.80	-39.00	49.45	-	-	PK	Vertical
6	14407.900	42.16	40.41	8.28	-38.74	52.11	-	-	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.

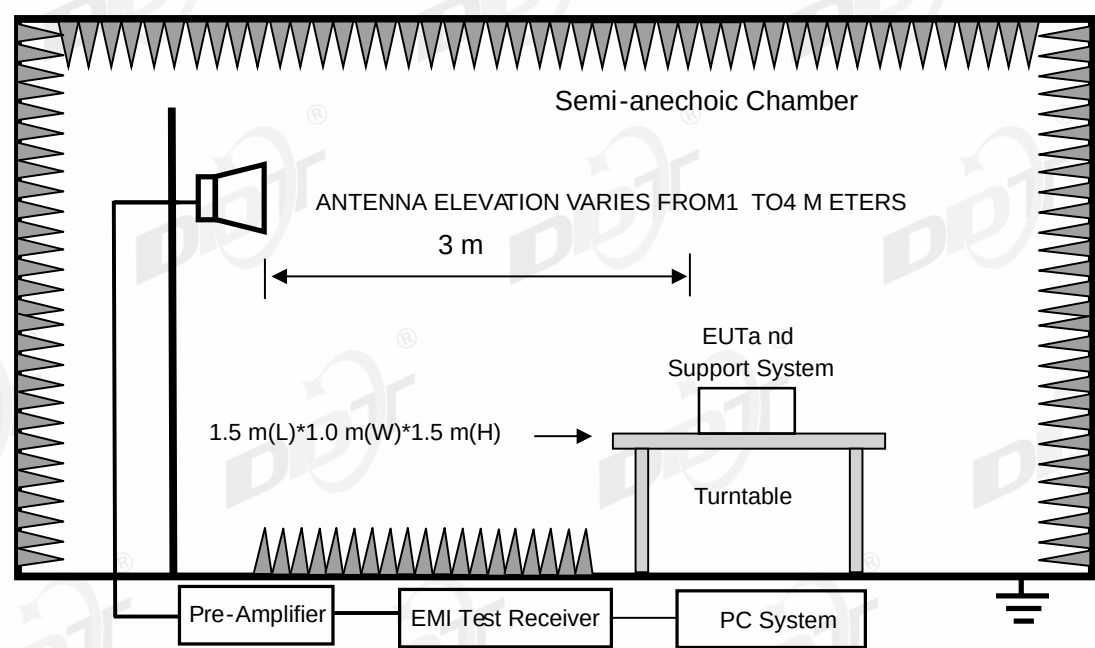
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13. Band Edge Compliance

13.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2027/02/27
RF cable	Zhongke Junchuang	Z805UF-NJ-NJ-10M	DDT-ZC05591	2026/10/10
RF cable	Zhongke Junchuang	Z805UF-NJ-NJ-3M	DDT-ZC05590	2026/10/10
RF cable	Zhongke Junchuang	JCTB510-NJW-NJW-0.6M	DDT-ZC04595	2026/10/10
RF cable	Zhongke Junchuang	JCT40P-2.92J-2.92J-1M	DDT-ZC03802	2026/10/10
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2026/10/10
RF cable	Zhongke Junchuang	JCT40P-2.92J-2.92J-5M	DDT-ZC03800	2026/10/10
Radiation disturbance fully automated test software	Tonscend	JS32-RE	DDT-ZC02739	/
Pre-amplifier	SONOMA	310N	DDT-ZC01969	2026/07/06
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2026/08/10
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2027/02/27
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2027/02/27
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2027/02/27
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2026/07/25
Hochgewinn-Hornantenne	SCHWARZBECK	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	2027/02/27
Band Reject Filter Group	Tonscend	JS0806-F	DDT-ZC05733	/
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC05922	2027/01/06
Broadband Preamplifier	HPX	BP-01G-18G	DDT-ZC05923	2027/01/06
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2027/03/05
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2027/03/04
Signal & Spectrum analyzer	R&S	FSV40-N	DDT-ZC04979	2026/07/04
SPECTRUM ANALYZER	R&S	FSU26	DDT-ZC00236	2026/07/06

13.2. Block diagram of test setup



13.3. Limits

All restriction band should comply with 15.209 and RSS-Gen section 8.9 limits, other emission should be at least 20 dB below the fundamental.

13.4. Assistant equipment used for test

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

13.5. Test procedure

Same with Radiated Emission except change investigated frequency range.
Remark: All restriction band have been tested, and only the worst case is shown in report.

13.6. Test result

PASS. (See below detailed test result)

13.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2026-04-15

Tested By:

Li Xiongbín

Test Mode:

TX Lora 2480MHz Mode

Power Supply:

DC 5V

Condition:

Temp:26.8°C;Humi:57.4%

Test Site:

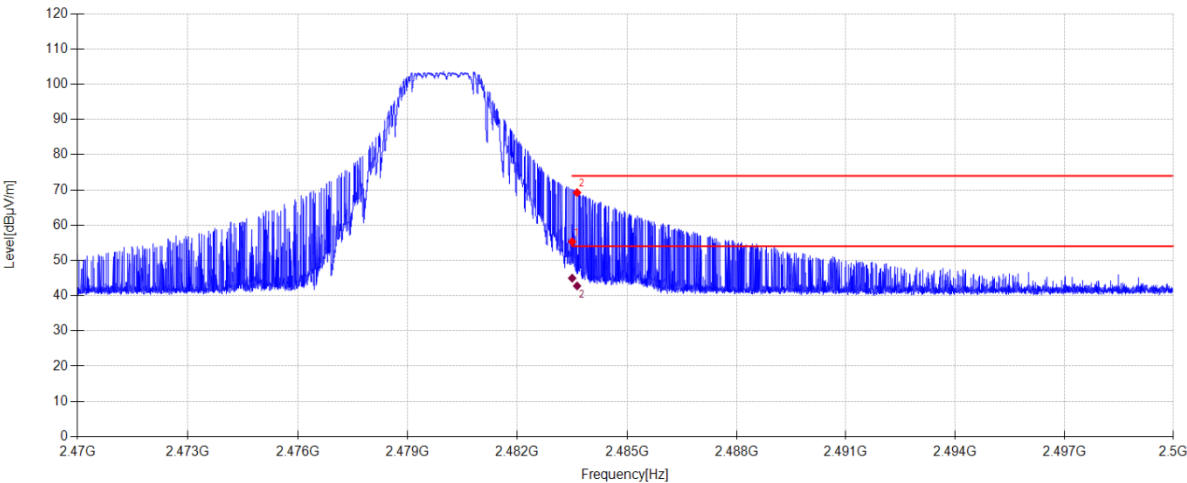
4# Fully Anechoic Room

File Path:

d:\ts\2026 report date\Q26030329-2E\FCC Above 1G 2.4G\42

Memo:

Sample Number:S26030329-001



Suspected Data List									
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	56.13	27.70	-28.53	55.30	74.00	18.70	PK	Horizontal
2	2483.635	70.06	27.70	-28.53	69.23	74.00	4.77	PK	Horizontal

Final Data List									
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	45.78	27.70	-28.53	44.95	54.00	9.05	AV	Horizontal
2	2483.635	43.58	27.70	-28.53	42.75	54.00	11.25	AV	Horizontal

Note:

1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2026-04-15

Tested By:

Li Xiongbín

Test Mode:

TX Lora 2480MHz Mode

Power Supply:

DC 5V

Condition:

Temp:26.8°C;Humi:57.4%

Test Site:

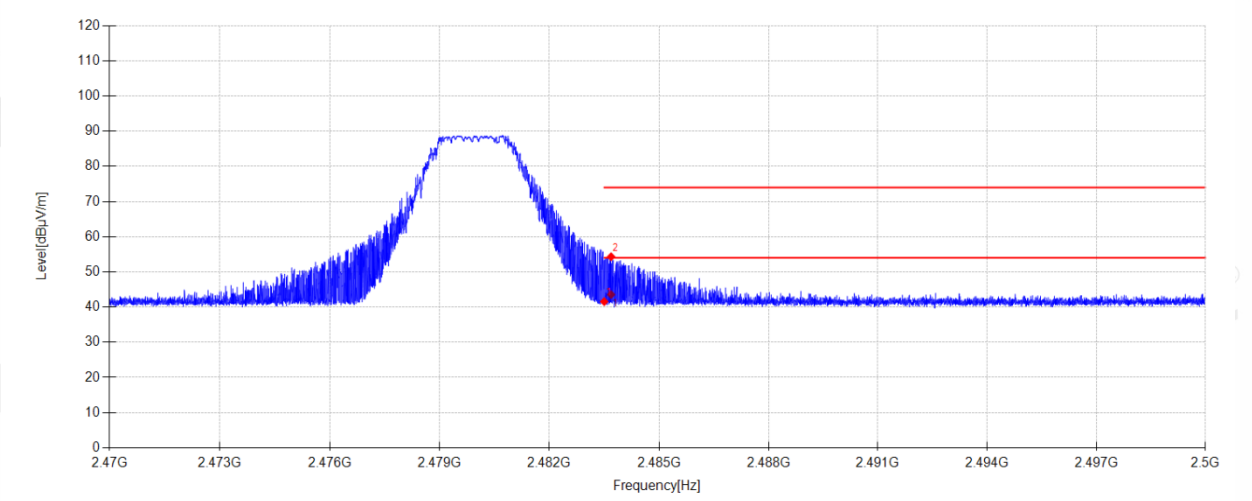
4# Fully Anechoic Room

File Path:

d:\ts\2026 report date\Q26030329-2E\FCC Above 1G 2.4G\43

Memo:

Sample Number:S26030329-001



Suspected Data List									
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	42.39	27.70	-28.53	41.56	74.00	32.44	PK	Vertical
2	2483.689	55.14	27.70	-28.53	54.31	74.00	19.69	PK	Vertical

Final Data List									
NO	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.689	44.37	27.70	-28.53	43.54	54.00	10.46	AV	Vertical

Note:

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

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

TR-4-E-009 Radiated Emission Test Result

Test Date:

2026-04-15

Tested By:

Li Xiongbín

Test Mode:

TX Lora 2480MHz Mode

Power Supply:

DC 5V

Condition:

Temp:26.8°C;Humi:57.4%

Test Site:

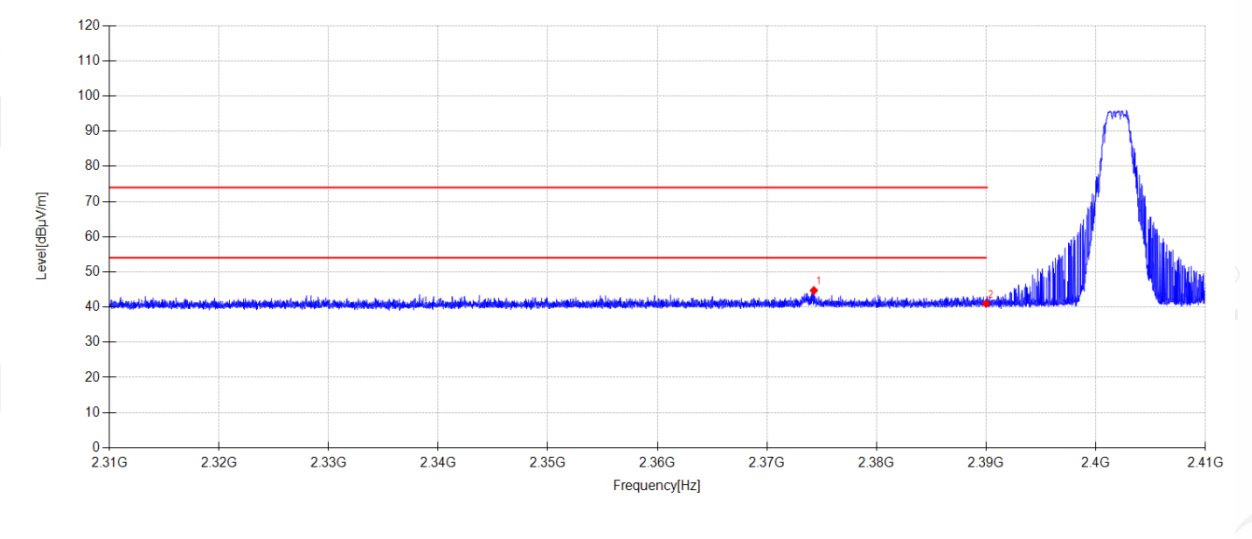
4# Fully Anechoic Room

File Path:

d:\ts\2026 report date\Q26030329-2E\FCC Above 1G 2.4G\44

Memo:

Sample Number:S26030329-001



Suspected Data List									
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2374.280	45.95	27.39	-28.61	44.73	74.00	29.27	PK	Horizontal
2	2390.000	42.14	27.43	-28.56	41.01	74.00	32.99	PK	Horizontal

Note:

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

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

TR-4-E-009 Radiated Emission Test Result

Test Date:

2026-04-15

Tested By:

Li Xiongbín

Test Mode:

TX Lora 2402MHz Mode

Power Supply:

DC 5V

Condition:

Temp:26.8°C;Humi:57.4%

Test Site:

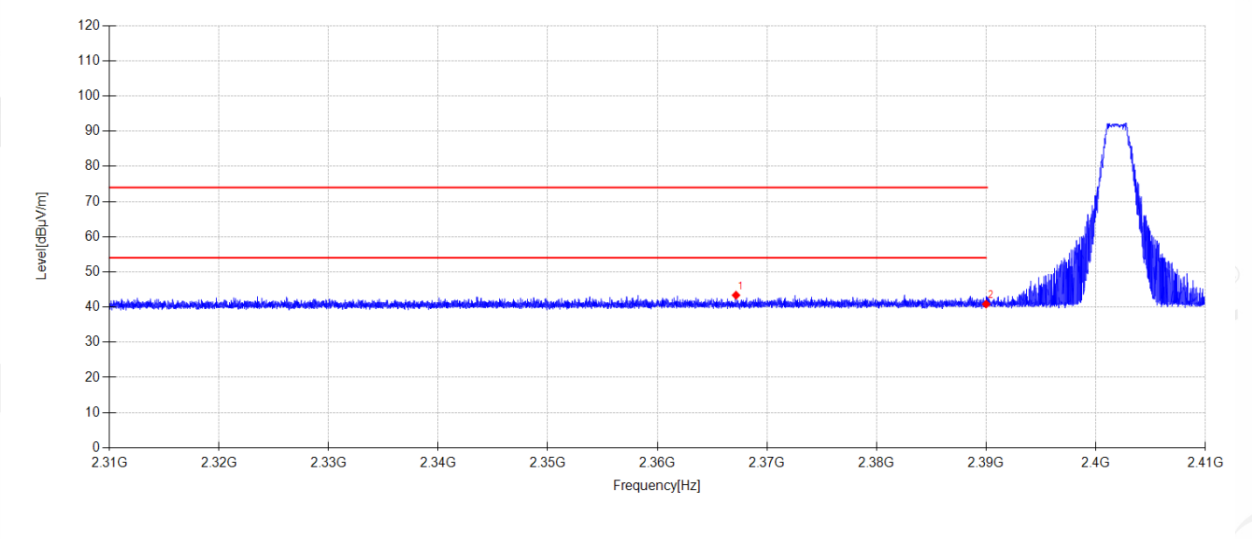
4# Fully Anechoic Room

File Path:

d:\ts\2026 report date\Q26030329-2E\FCC Above 1G 2.4G\45

Memo:

Sample Number:S26030329-001



Suspected Data List									
NO	Freq. [MHz]	Reading [dBV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2367.180	44.64	27.36	-28.63	43.37	74.00	30.63	PK	Vertical
2	2390.000	41.97	27.43	-28.56	40.84	74.00	33.16	PK	Vertical

Note:

1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

15. Photos of the EUT

Please refer to DDT-Q26030330-1E appendix I

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