



MEASUREMENT REPORT

FCC PART 15C

Report No.: S2025062326390107

Issue Date: 09-11-2025

Applicant: Lumi United Technology Co., Ltd
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
FCC ID: 2AKIT-DLD06
Product: Smart Lock U400
Model No.: DL-D06E
FCC Classification: FCC Part 15 Low Power Communication Device Transmitter
FCC Rule Part(s): Part 15 Subpart C
Test Procedure(s): ANSI C63.10-2013
Result: Pass
Item Receipt Date: 2025-02-07
Test Date: 2025-02-20 to 2025-04-02

Compiled By

Chuang Li

(Chuang Li)

Senior Test Engineer

Approved By

Line Chen

(Line Chen)

Engineer Manager

The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s). The test report shall not be reproduced except in full without the written approval of Fangguang Inspection & Testing Co., Ltd. Wuxi Branch.

The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

Revision History

Report No.	Version	Description	Issue Date
S2025062326390107	Rev. 01	/	09-11-2025

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§2.1033 General Information

Applicant:	Lumi United Technology Co., Ltd
Applicant Address:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
Manufacturer:	Lumi United Technology Co., Ltd
Manufacturer Address:	B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China
Test Site:	Fanguang Inspection & Testing Co., Ltd.
LAB ID:	CN5037
Test Site Address:	No.8 Ningyun Rd.,Xinwu District Wuxi,Jiangsu 214000 China
FCC Rule Part(s):	Part 15 Subpart C
FCC ID:	2AKIT-DLD06
Test Device Serial No.:	S/N.: / ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	FCC Part 15 Low Power Communication Device Transmitter

1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2. Fangguang Test Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,LTD located at No.8 Ningyun Rd.,Xinwu District Wuxi,Jiangsu 214000 China. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.10-2013.

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	Smart Lock U400
Model Name:	DL-D06E
Additional Model:	DL-D06D, DL-D16E, DL-D16D, DL-D17D, DL-D15D
Model difference descriptions:	Refer to section 2.11
Trade Name:	Aqara
Input Voltage Range:	DC 7.3V by battery
Temperature Range:	-18°C ~ +55°C
Hardware Version:	V1.0.0
Software Version:	3.0.1.7
EUT sample number:	S20250623263901-1-1, S20250623263901-1-2, S20250623263901-1-3
Note:	This information is provided by the Customer and its authenticity is the responsibility of the Customer.

2.2. Product Specification Subjective to this Report

Operating Frequency	13.56MHz
Type of modulation	ASK
Antenna Specification:	PCB Antenna
Antenna Gain:	/
Note:	The EUT antenna gain is provided by the applicant. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions. After evaluated the difference descriptions of the models, the test model is DL-D06E & DL-D06D, for model DL-D06D the Radiated Spurious Emission the worst case mode had been tested.

2.3. Device Capabilities

This device contains the following capabilities: 13.56 MHz.

2.4. Description of EUT Test Software

The EUT is tested in the engineering mode.

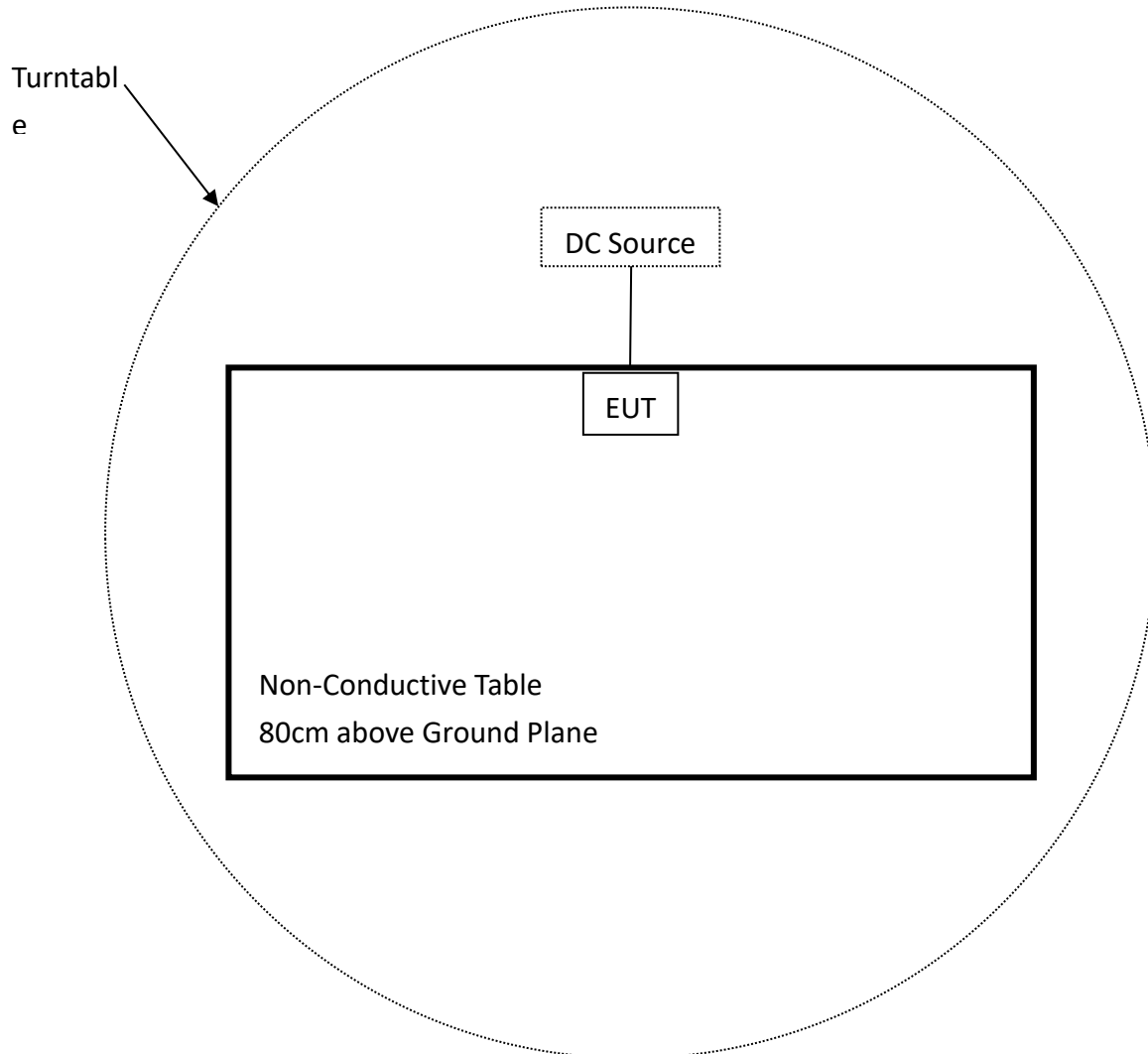
2.5. Test Mode

Mode No.	Description of the modes
1	Intermittent Transmitting (13.56MHz TX)
2	Continuously Transmitting (13.56MHz TX)

NOTE: 1.Mode 1 is the EUT inducted with card; Mode 2 is the EUT has independent emission.

2.6. Test Configuration / Block Diagram of Test Setup

For Radiated Emissions (Below 30 MHz & Above 30 MHz):



2.7. Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.8. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.9. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

2.10. Calculation with all conversion and correction factors used

For AC Line Conducted Emissions Test:

Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

For Radiated Emissions Below 1GHz Test:

Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

For Radiated Emissions Above 1GHz Test:

Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB).

2.11. Model difference descriptions

Smart Lock U400	Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Model	DL-D06E	DL-D16E	DL-D06D	DL-D16D	DL-D17D	DL-D15D
Color	Black	Silver	Black	Silver	Shadow Black	Satin Nickel
Finishing	Matte (Spray Coating)		Matte (Spray Coating)		Matte (Electroplating + Brushed)	
Package content	Li-ion Battery × 1		Li-ion Battery × 1 + Aqara Hub M100 × 1		Li-ion Battery × 2	
External Panel						
Shape	Curved		Flat		Flat	
Main Body Material	Aluminium		Aluminium		Zinc	
Gliding Plate Material	Aluminium		Zinc		Zinc	
Keypad Material	PC + PET		PMMA		PMMA	
Internal Panel						
Main Body Material	Plastic					
Knob	Aluminium		Aluminium		Zinc	

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013) were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. The turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-25GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	FWXGJC-2016-181	1 year	2026/07/08
Two-Line V-Network	R&S	ENV 216	FWXGJC-2016-182	1 year	2026/07/09
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-385	1 year	2026/08/24

Radiated Emission

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Loop Antenna	Schwarzbeck	FMZB 1519B	FWXGJC-2018-015	3 year	2026/06/12
Bi-Log Antenna	R&S	VULB 9168	FWXGJC-2024-055	1 year	2026/06/21
Broadband Horn Antenna	R&S	HF907	FWXGJC-2016-267-07	1 year	2026/06/21
Broadband Horn Antenna	Schwarzbeck	BBHA9170	FWXGJC-2018-016	3 year	2026/06/21
EMI Receiver	R&S	ESR26	FWXGJC-2016-267-01	1 year	2026/07/16
Pre-Amplifier	Tonscend	TAP0118048	FWXGJC-2024-056	1 year	2026/06/21
Pre-Amplifier	R&S	EMC184055 SE	FWXGJC-2018-018	3 year	2026/07/16
Hygrothermograph	Mittel	HTC-1	FWXDA-2016-387	1 year	2026/08/24
Anechoic Chamber	SAEMC	FSAC318	FGZZ-2024-035	3 year	2027/06/02

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2026/07/13
RF Control Unit	Toncend	JS0806-2	FWXGJC-2018-013	1 year	2025/07/26
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-386	1 year	2026/08/24
Spectrum Analyzer	R&S	FSV30	1321.3008K30-104381-rH	1 year	2025/09/22
Pulse power sensor	Anritsu	MA2411B	1126150	1 year	2025/12/07
Power meter	Anritsu	ML2495A	1204003	1 year	2025/12/07

Auxiliary Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Filter	Toncend	ZBSF6	07247867	1 year	2026/07/16
Filter	Toncend	ZHPF6	07233297	1 year	2026/07/16
Attenuator	Toncend	10dB	/	1 year	2026/07/16
RF Cable	Toncend	T-1	/	1 year	2026/07/16

Test Software

Test Software	Manufacturer	Version	Asset No.	Function
JS32	Tonscend	V5.0.0	FWXWA-2019-004	RE
EMI Test Software	R&S	9.26.00	/	Conducted Emission
RF Test Software	Tonscend	3.3.10	/	Conducted Test

5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.68dB
Radiated Emission Measurement (9kHz - 30MHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.06dB
Radiated Emission Measurement (30MHz -1GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.01dB
Radiated Emission Measurement (1-18GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 4.97dB
Radiated Emission Measurement (18-40GHz)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 5.32dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 30MHz-1GHz: 1.00 dB 1GHz-12.75GHz: 1.30 dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.60dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.80dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.20MHz
Frequency Stability
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.1×10^{-6} MHz

6. TEST RESULT

6.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.203	Antenna Requirement	Must meet the antenna requirement in 15.203	Radiated	Pass	Section 6.2
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	N/A	Section 6.3
15.225	Field Strength of Fundamental	Fundamental must meet the radiated limits detailed in 15.225	Radiated	Pass	Section 6.4
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 6.5
15.225(e)	Frequency Tolerance	Must meet the requirement in 15.225(e)	Radiated	Pass	Section 6.6
15.215(c)	20dB Emission Bandwidth	Must meet the requirement in 15.215(c)	Radiated	Pass	Section 6.7

Notes:

- 1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

6.2. ANTENNA REQUIREMENT

6.2.1. Applicable Standard

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.

6.2.2. Antenna Connected Construction

The EUT has a PCB antenna for 13.56 MHz, the antenna was permanently attached, fulfill the requirement of this section, please refer to the EUT photos.

Result: Pass.

6.3. AC Conducted Emissions Measurement

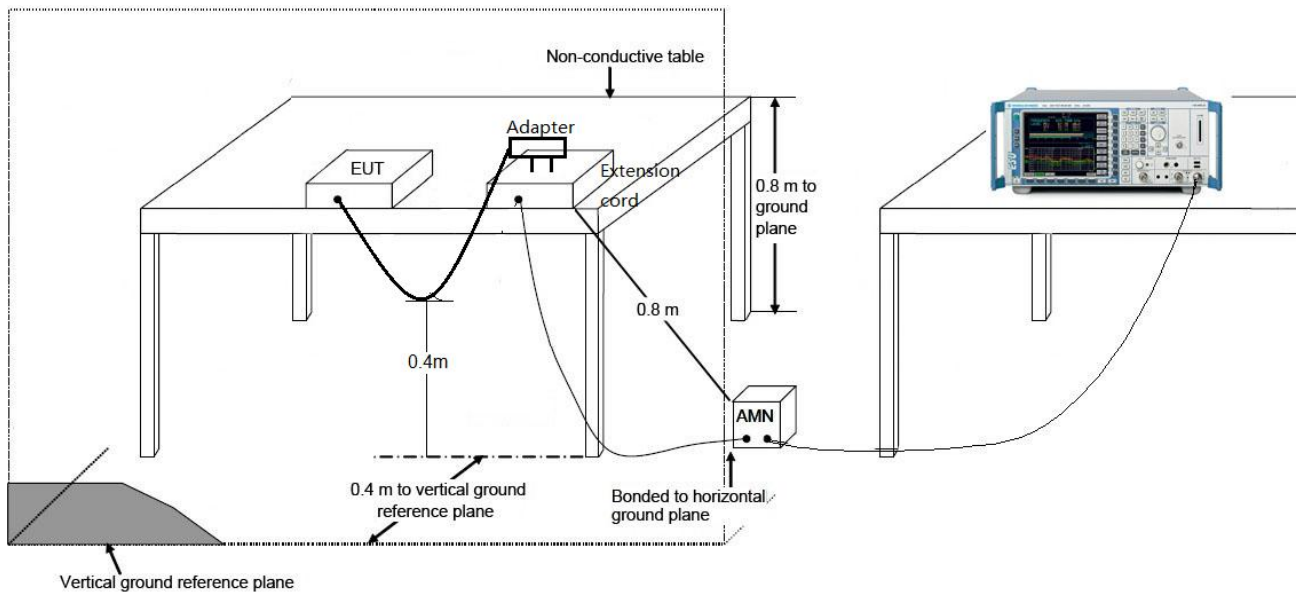
6.3.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	Average (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.3.2. Test Setup



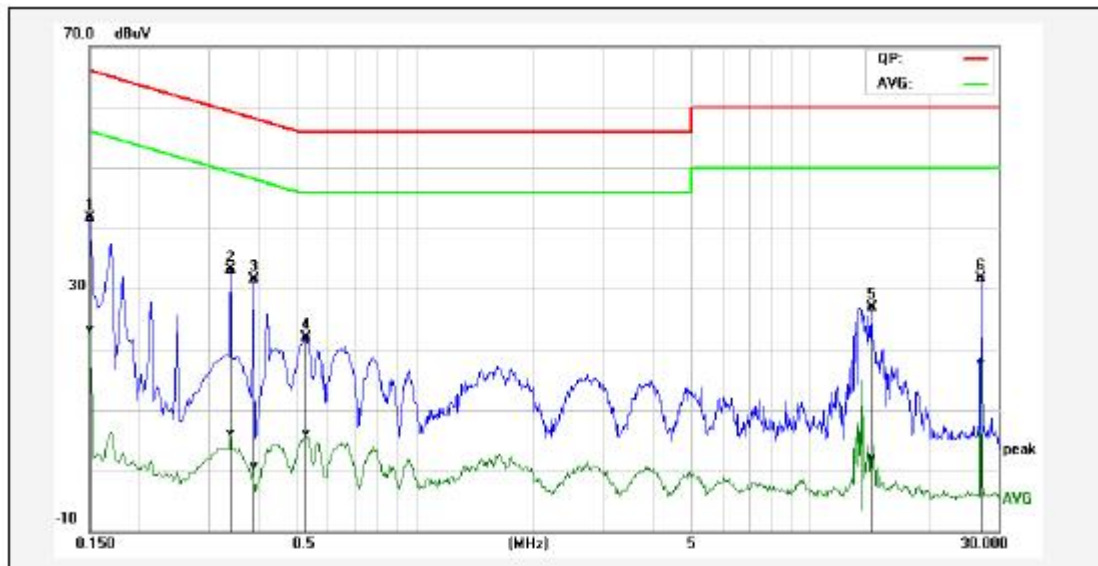
6.3.3. Test Result

Note: Pre-scan all modes , only the worst case mode 1 test results was recorded in the report.

Product	Smart Lock U400	Model No.	DL-D06E
Environmental Conditions	23.1 °C/51%RH/101.0kPa	Test Voltage	AC 120V/60Hz
Tested By	Hongyuan Wang	Line	L
Tested Date	2025-02-26	Sample No:	S20250623263901-1-1

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

REMARKS: L = Live Line

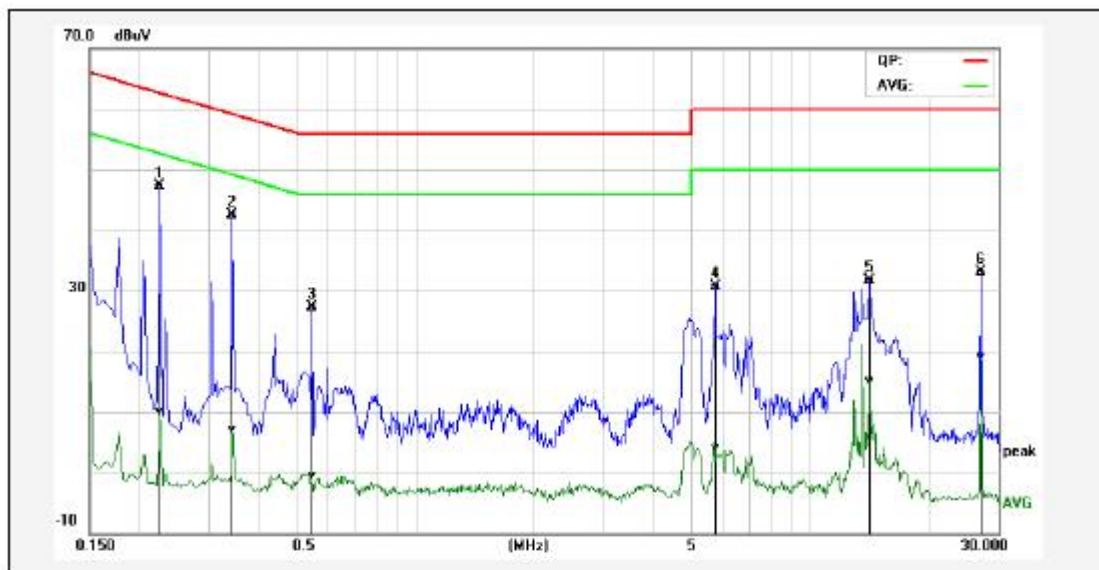


No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.1500	41.71	23.39	0.00	41.71	23.39	65.99	56.00	-24.28	-32.61	Pass
2	0.3420	33.02	6.01	0.00	33.02	6.01	59.15	49.15	-26.13	-43.14	Pass
3	0.3899	31.58	0.78	0.00	31.58	0.78	58.06	48.07	-26.48	-47.29	Pass
4	0.5299	21.97	6.06	0.00	21.97	6.06	56.00	46.00	-34.03	-39.94	Pass
5	14.3060	26.95	2.11	0.00	26.95	2.11	60.00	50.00	-33.05	-47.89	Pass
6	27.1260	31.66	17.72	0.00	31.66	17.72	60.00	50.00	-28.34	-32.28	Pass

Product	Smart Lock U400	Model No.	DL-D06E
Environmental Conditions	23.1°C/51%RH/101.0kPa	Test Voltage	AC 120V/60Hz
Tested By	Hongyuan Wang	Line	N
Tested Date	2025-02-26	Sample No:	S20250623263901-1-1

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

REMARKS: N = Neutral Line.



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1*	0.2260	47.40	10.08	0.00	47.40	10.08	62.59	52.60	-15.19	-42.52	Pass
2	0.3460	42.55	7.06	0.00	42.55	7.06	59.06	49.06	-16.51	-42.00	Pass
3	0.5500	27.27	-0.58	0.00	27.27	-0.58	56.00	46.00	-28.73	-46.58	Pass
4	5.7500	30.74	4.06	0.00	30.74	4.06	60.00	50.00	-29.26	-45.94	Pass
5	14.2020	31.73	15.13	0.00	31.73	15.13	60.00	50.00	-28.27	-34.87	Pass
6	27.1220	33.06	19.18	0.00	33.06	19.18	60.00	50.00	-26.94	-30.82	Pass

6.4. Field Strength of Fundamental

6.4.1. Applicable Standard

FCC Part 15 Subpart C Paragraph 15.225

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

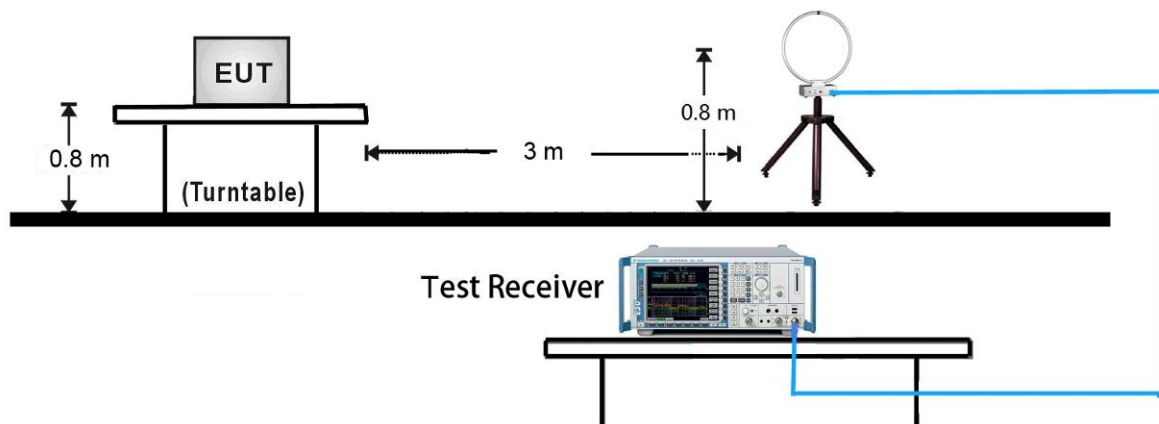
(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

6.4.2. Test Setup

9kHz ~ 30MHz Test Setup:



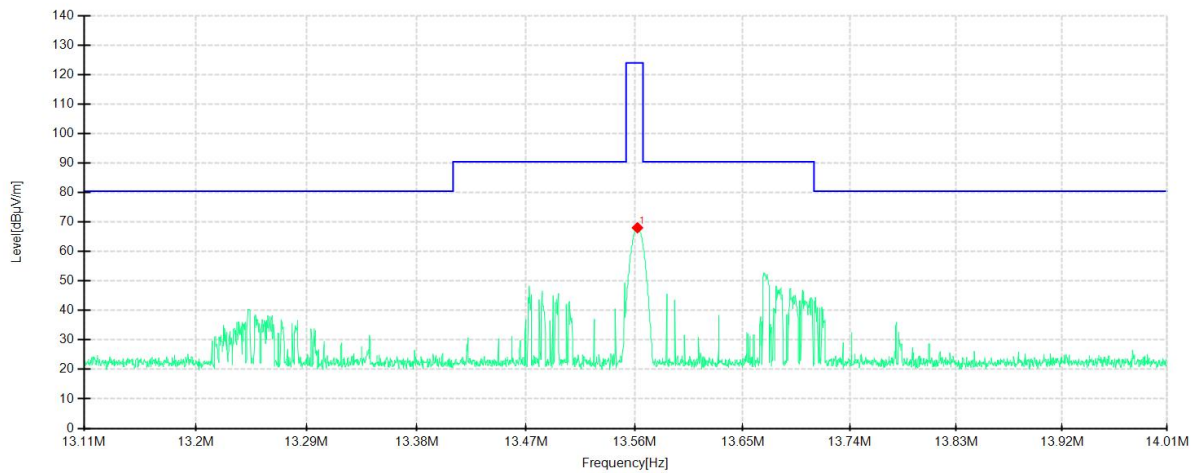
6.4.3. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

6.4.4. Test Result

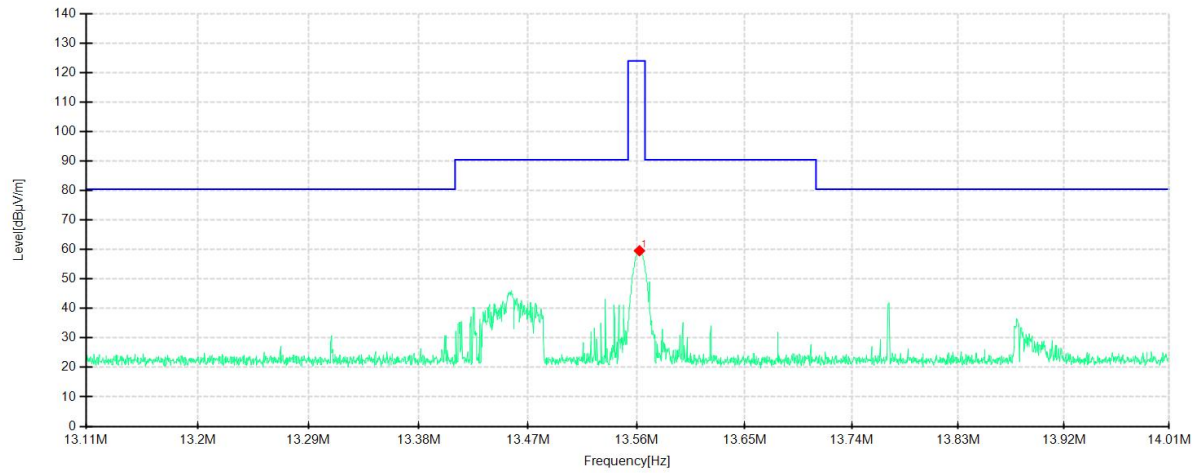
Project Information			
Model:	DL-D06E	Test date:	2025-02-20
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	21.7°C/47%RH/101.0kPa	Engineer:	Chuang Li



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13.562	46.99	68.06	21.07	123.99	55.93	100	21	X

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Project Information			
Model:	DL-D06E	Test date:	2025-02-20
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	21.7°C/47%RH/101.0kPa	Engineer:	Chuang Li

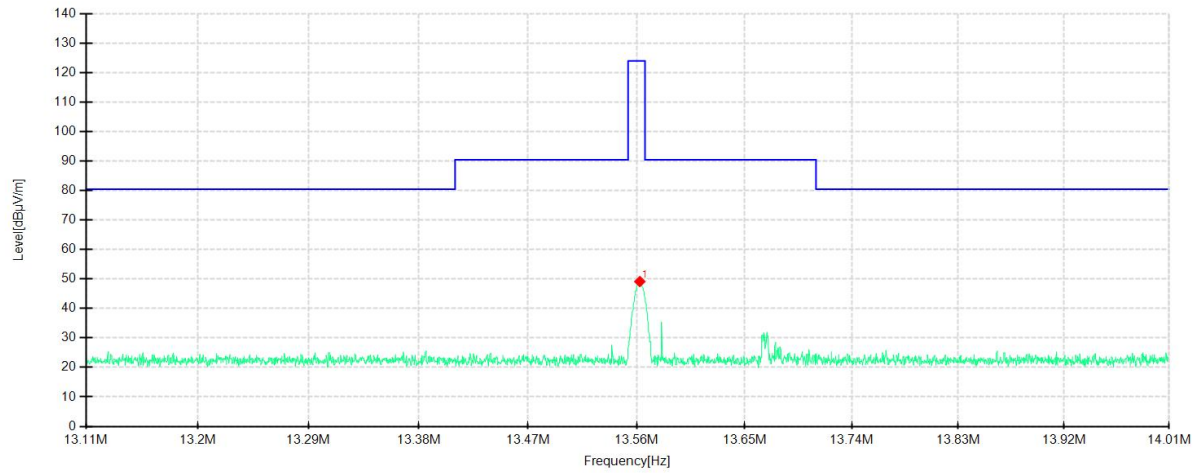


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13.562	38.50	59.57	21.07	123.99	64.42	100	241	Y

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Project Information

Model:	DL-D06E	Test date:	2025-02-20
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	21.7°C/47%RH/101.0kPa	Engineer:	Chuang Li



Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	13.562	28.07	49.14	21.07	123.99	74.85	100	303	Z

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6.5. Radiated Emissions

6.5.1. Applicable Standard

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300 _(note 1)
0.490 - 1.705	24000/F (kHz)	30 _(note 1)
1.705 - 30	30	30 _(note 1)
30 - 88	100	3 _(note 2)
88 - 216	150	3 _(note 2)
216 - 960	200	3 _(note 2)
Above 960	500	3 _(note 2)

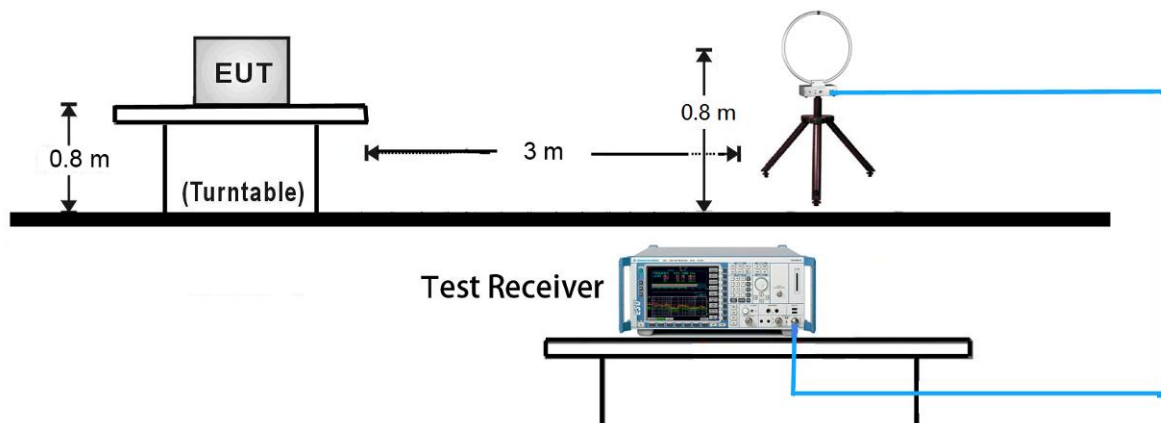
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device;

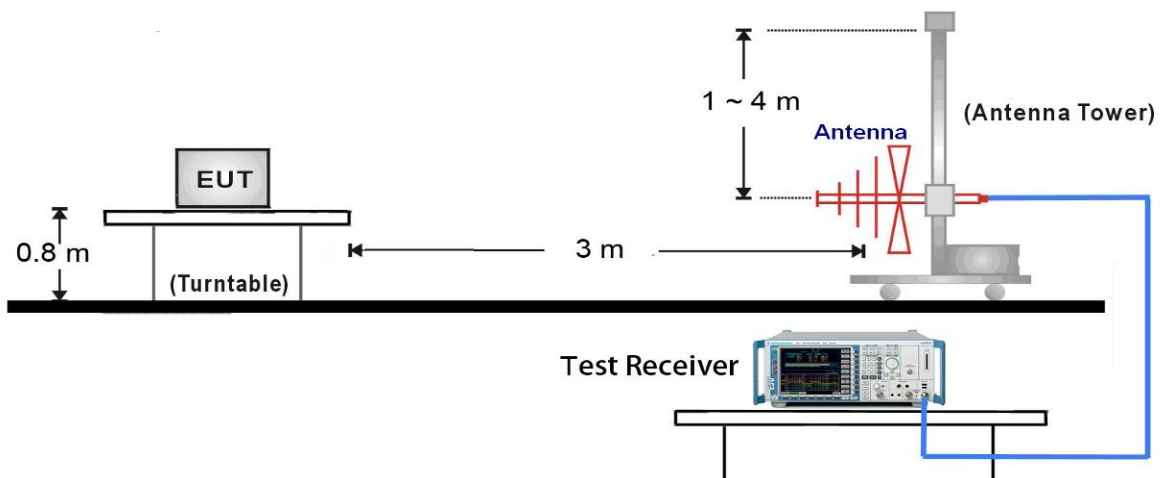
and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

6.5.2. Test Setup

9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:



6.5.3. Test Procedure Used

ANSI C63.10 Section 6.3 (General Requirements)

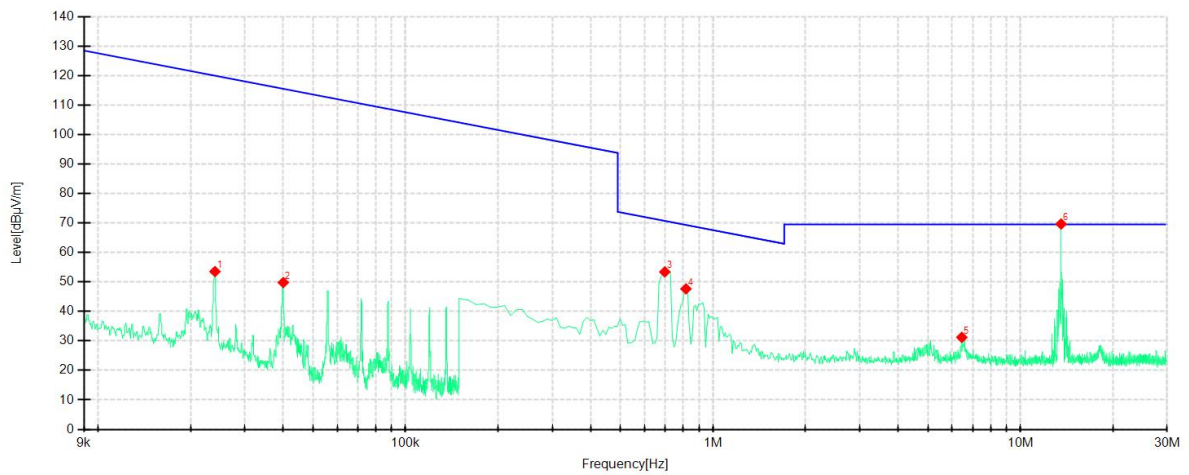
ANSI C63.10 Section 6.4 (Standard test method below 30MHz)

ANSI C63.10 Section 6.5 (Standard test method above 30MHz)

6.5.4. Test Result

9kHz-30MHz

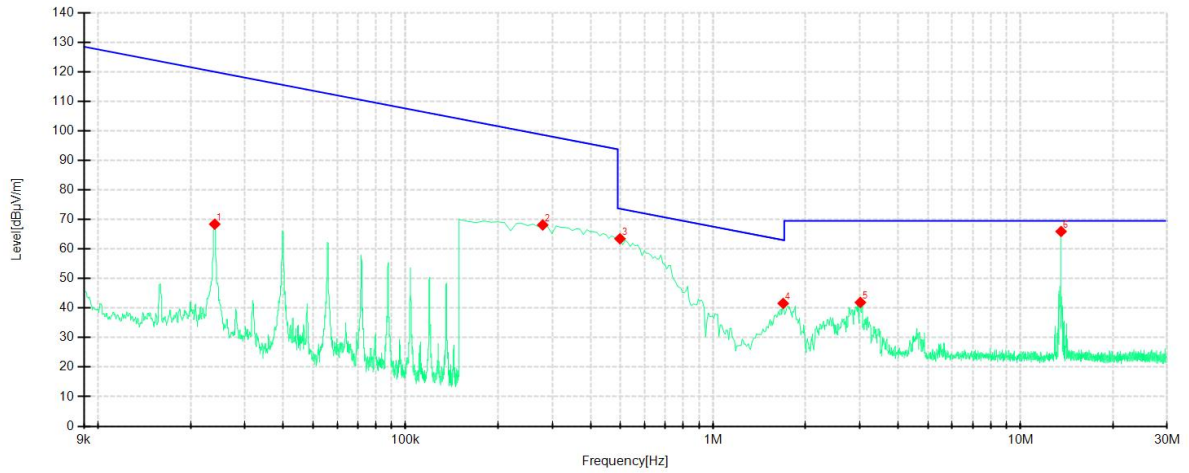
Project Information			
Model:	DL-D06E	Test date:	2025-02-27
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	22.0°C/49%RH/101.0kPa	Engineer:	Chuang Li



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0240	34.56	53.55	18.99	120.00	66.45	100	113	X
2	0.0400	32.14	49.84	17.70	115.56	65.72	100	113	X
3	0.6973	33.27	53.43	20.16	70.74	17.31	100	197	X
4	0.8167	27.42	47.68	20.26	69.36	21.68	100	281	X
5	6.4484	10.55	31.23	20.68	69.54	38.31	100	152	X
6	13.562	48.62	69.69	21.07	69.54	/	100	14	X

Note:NO.6 is the fundamental frequency point.

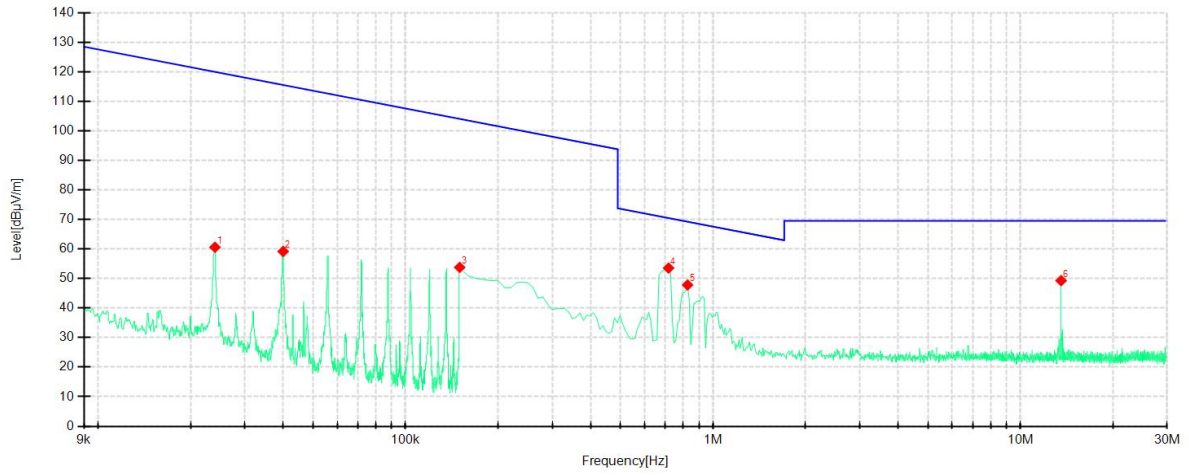
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Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0239	49.44	68.44	19.00	120.02	51.58	100	302	Y
2	0.2794	48.77	68.15	19.38	98.68	30.53	100	186	Y
3	0.4983	43.52	63.49	19.97	73.65	10.16	100	197	Y
4	1.6923	21.20	41.58	20.38	63.04	21.46	100	197	Y
5	3.0156	21.41	41.92	20.51	69.54	27.62	100	221	Y
6	13.562	44.88	65.95	21.07	69.54	/	100	102	Y

Note:NO.6 is the fundamental frequency point.

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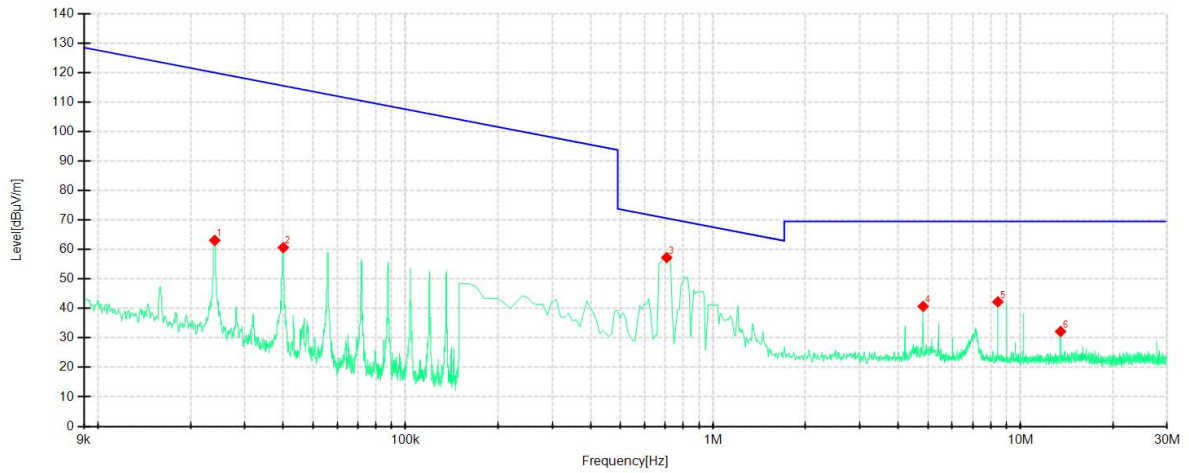


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0240	41.61	60.60	18.99	120.00	59.40	100	21	Z
2	0.0400	41.49	59.19	17.70	115.57	56.38	100	220	Z
3	0.1500	35.87	53.79	17.92	104.08	50.29	100	31	Z
4	0.7172	33.39	53.56	20.17	70.49	16.93	100	221	Z
5	0.8266	27.57	47.83	20.26	69.26	21.43	100	268	Z
6	13.562	28.24	49.31	21.07	69.54	/	100	149	Z

Note:NO.6 is the fundamental frequency point.

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Project Information			
Model:	DL-D06E	Test date:	2025-02-27
Mode:	Mode 2	Voltage:	DC 7.3V
Environment:	22.0°C/49%RH/101.0kPa	Engineer:	Chuang Li

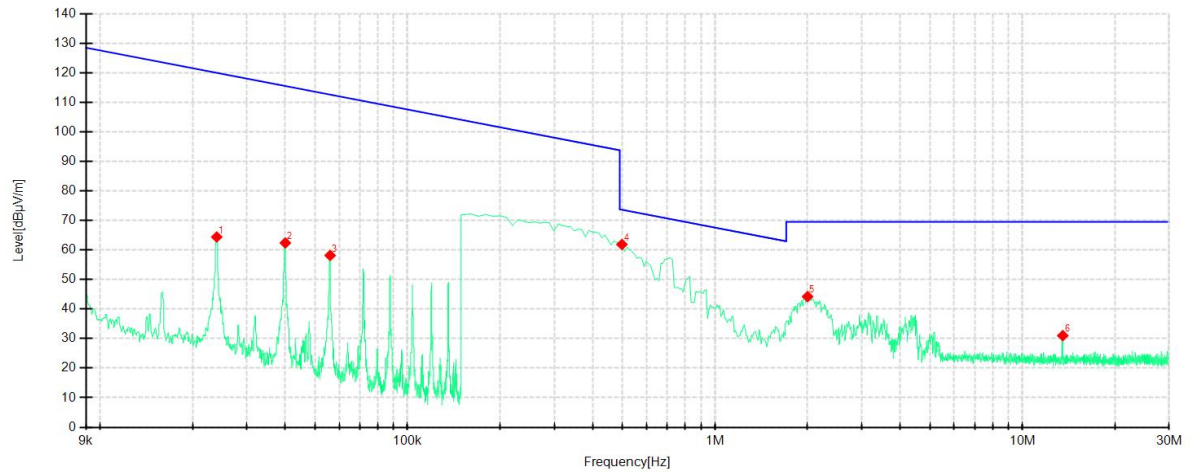


Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0239	44.10	63.10	19.00	120.02	56.92	100	312	X
2	0.0400	42.97	60.67	17.70	115.56	54.89	100	21	X
3	0.7072	37.09	57.26	20.17	70.61	13.35	100	3	X
4	4.8265	20.08	40.70	20.62	69.54	28.84	100	48	X
5	8.4483	21.41	42.25	20.84	69.54	27.29	100	48	X
6	13.512	11.13	32.19	21.06	69.54	/	100	35	X

Note:NO.6 is the fundamental frequency point.

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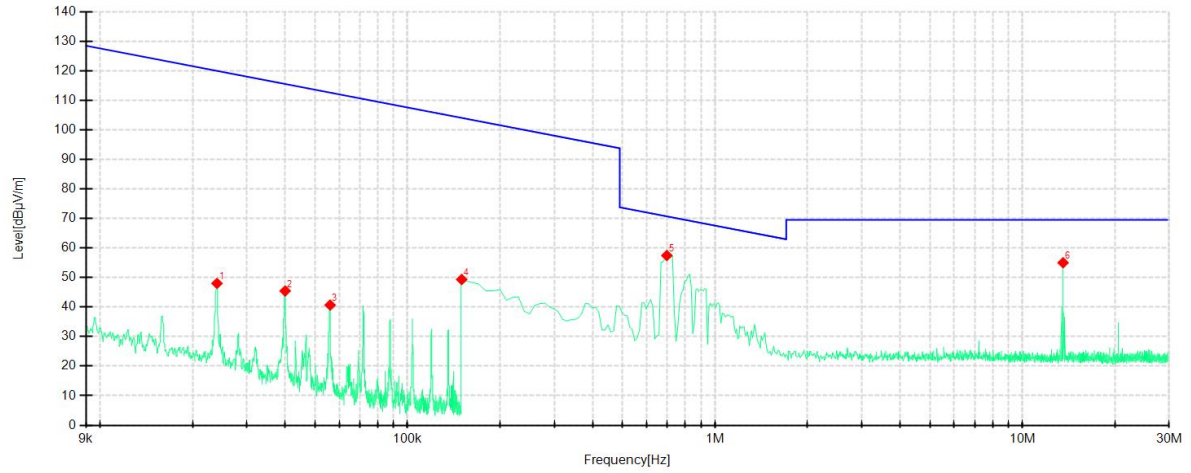
Project Information			
Model:	DL-D06E	SN:	S20250623263901-1-1
Mode:	Mode 2	Voltage:	DC 7.3V
Environment:	21.7°C/47%RH/101.0kPa	Engineer:	Zhao yaru
Test date:	2025-02-20	Engineer:	Chuang Li



Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0239	45.43	64.43	19.00	120.02	55.59	100	136	Y
2	0.0400	44.71	62.41	17.70	115.56	53.15	100	242	Y
3	0.0560	41.06	58.17	17.11	112.64	54.47	100	305	Y
4	0.4983	41.92	61.89	19.97	73.65	11.76	100	339	Y
5	2.0007	23.83	44.24	20.41	69.54	25.30	100	339	Y
6	13.532	9.96	31.02	21.06	69.54	/	100	339	Y

Note:NO.6 is the fundamental frequency point.

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Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	0.0240	29.04	48.03	18.99	120.00	71.97	100	324	Z
2	0.0400	27.76	45.46	17.70	115.57	70.11	100	324	Z
3	0.0560	23.58	40.69	17.11	112.64	71.95	100	358	Z
4	0.1500	31.44	49.36	17.92	104.08	54.72	100	94	Z
5	0.6973	37.32	57.48	20.16	70.74	13.26	100	176	Z
6	13.562	33.96	55.03	21.07	69.54	/	100	339	Z

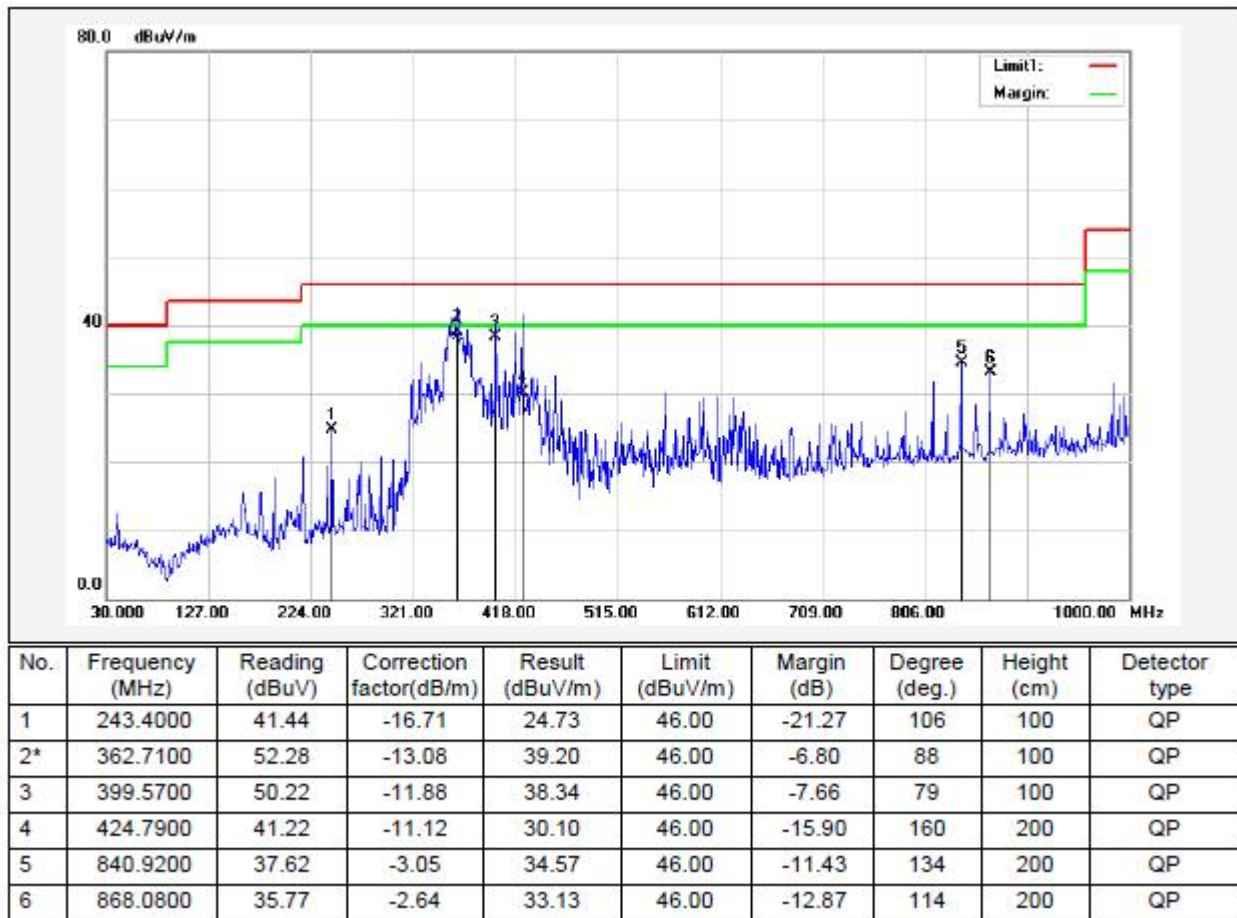
Note:NO.6 is the fundamental frequency point.

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30MHz-1GHz

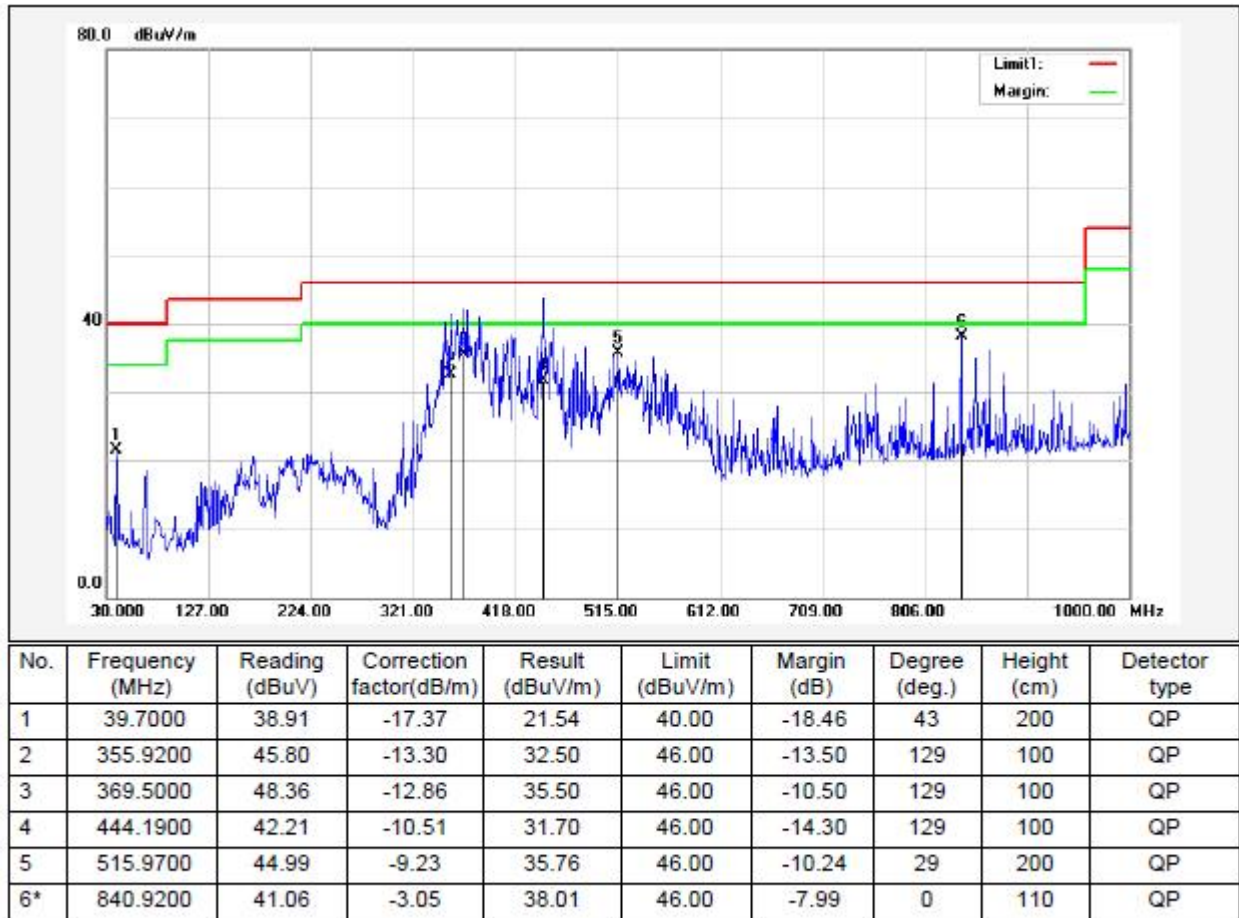
Project Information			
Model:	DL-D06E	Test date:	2025-03-06
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	22.0°C/49%RH/101.0kPa	Engineer:	Chuang Li

Polarity: Horizontal



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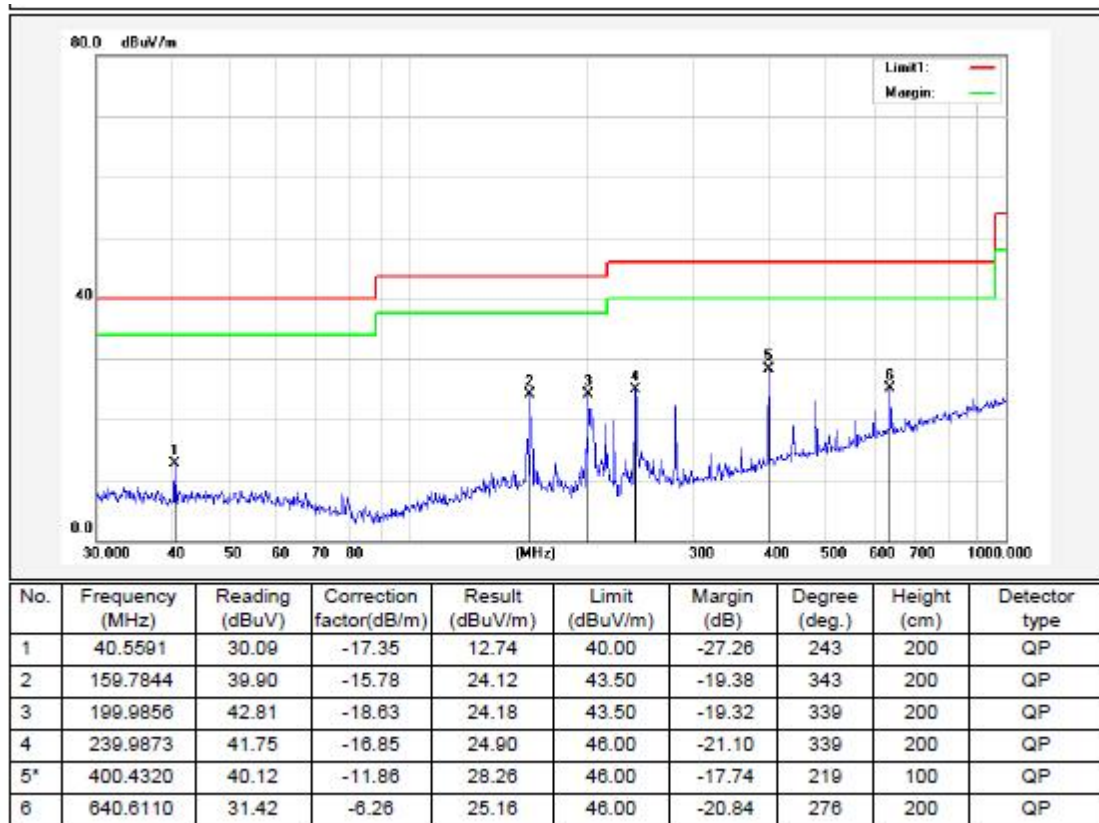
Polarity: Vertical



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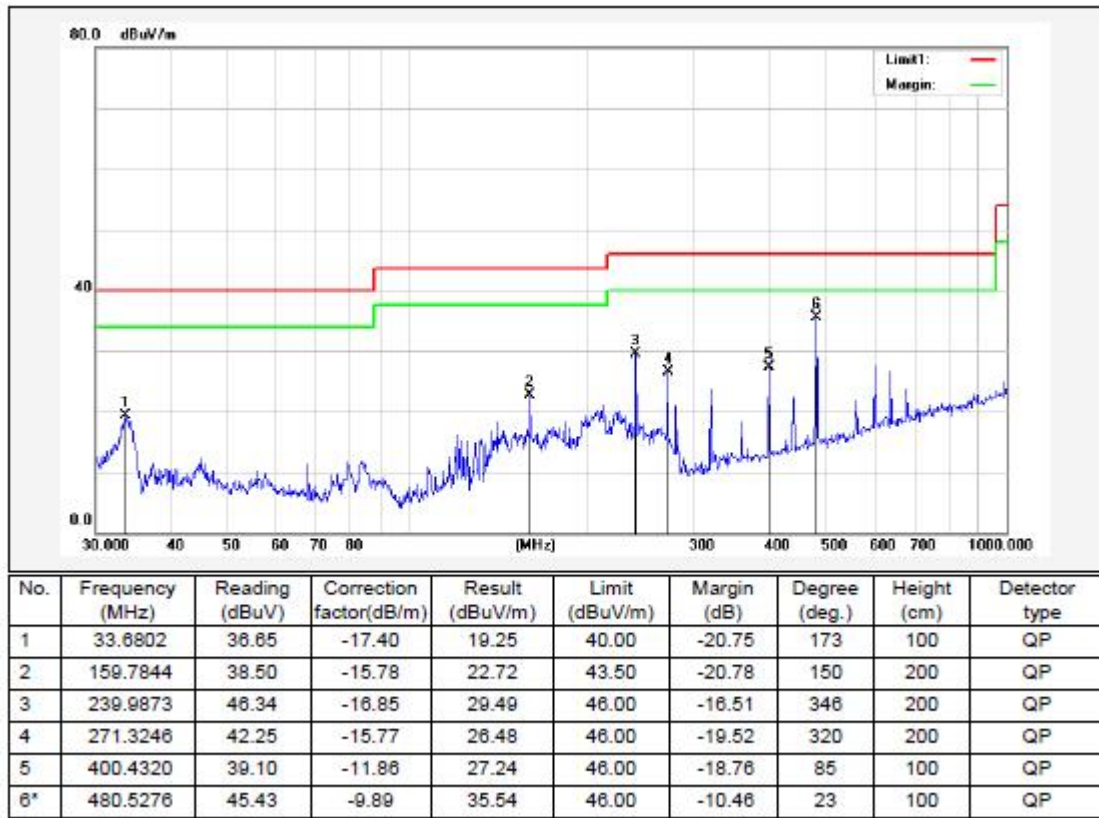
Project Information			
Model:	DL-D06E	Test date:	2025-03-06
Mode:	Mode 2	Voltage:	DC 7.3V
Environment:	22.0°C/49%RH/101.0kPa	Engineer:	Chuang Li

Polarity: Horizontal



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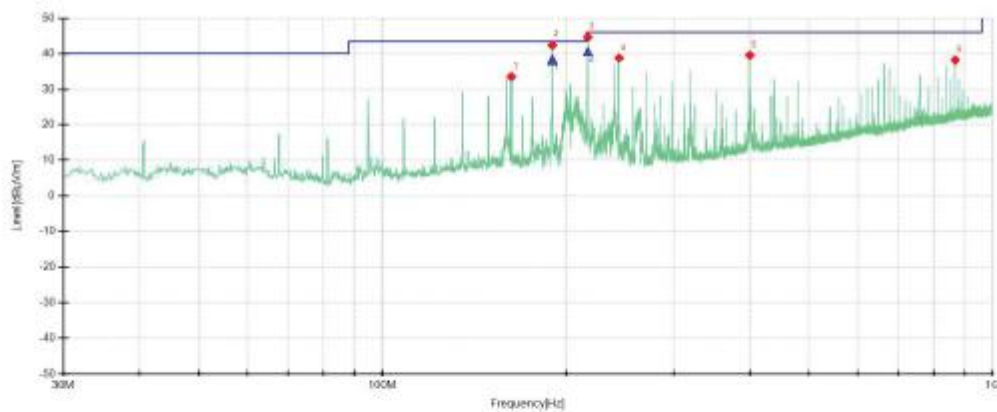
Polarity: Vertical



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Note: Pre-scan all test modes recorded the worst case mode 1 test results in the report for model DL-D06D.

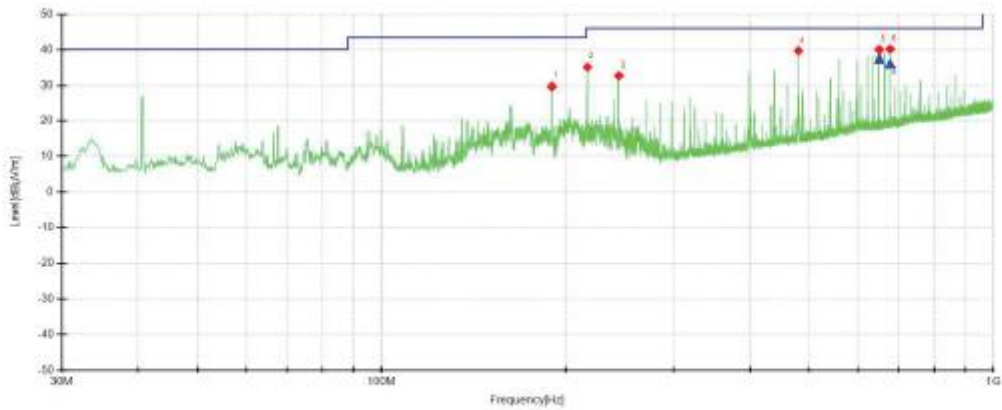
Project Information			
Model:	DL-D06D	Test date:	2025-04-02
Mode:	Mode 1	Voltage:	DC 7.3V
Environment:	22.7°C/51%RH/101.0kPa	Engineer:	Chuang Li



Suspected Data List											
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	162.6641	62.11	33.54	-28.57	43.50	9.96	QP	100	339	Horizontal	PASS
2	189.8275	73.24	42.42	-30.82	43.50	1.08	QP	100	339	Horizontal	PASS
3	216.9909	75.61	44.63	-30.98	46.00	1.37	QP	100	171	Horizontal	PASS
4	244.1543	68.21	38.72	-29.49	46.00	7.28	QP	100	171	Horizontal	PASS
5	399.9800	63.62	39.51	-24.11	46.00	6.49	QP	100	171	Horizontal	PASS
6	868.0635	53.93	38.18	-15.75	46.00	7.82	QP	100	194	Horizontal	PASS

Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	189.8741	-30.82	69.03	38.21	43.50	5.29	100	6.4	Horizontal	PASS
2	217.0317	-30.98	71.55	40.57	46.00	5.43	100	351.1	Horizontal	PASS

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Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Trace	Height [cm]	Angle [°]	Polarity	Verdict
1	189.8275	60.51	29.69	-30.82	43.50	13.81	QP	100	230	Vertical	PASS
2	216.9909	66.10	35.12	-30.98	46.00	10.88	QP	200	92	Vertical	PASS
3	244.1543	62.16	32.67	-29.49	46.00	13.33	QP	200	92	Vertical	PASS
4	480.0150	61.56	39.67	-21.89	46.00	6.33	QP	100	230	Vertical	PASS
5	650.9989	58.88	40.03	-18.85	46.00	5.97	QP	100	87	Vertical	PASS
6	678.1623	58.38	40.15	-18.23	46.00	5.85	QP	100	100	Vertical	PASS

Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading [dBμV/m]	Level [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity	Verdict
1	651.0554	-18.85	56.25	37.40	46.00	8.60	100	165.3	Vertical	PASS
2	678.1819	-18.23	54.29	36.06	46.00	9.94	100	33.3	Vertical	PASS

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6.6. Frequency Tolerance

6.6.1. Applicable Standard

FCC Part 15 Subpart C Paragraph 15.225

(e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+ 50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

6.6.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.8

6.6.3. Test Result

Project Information			
Model:	DL-D06E	Test date:	2025-02-20
Environment:	21.7°C/47%RH/101.0kPa	Engineer:	Chuang Li

Temperature Variation

startup

Transmitting Frequency (MHz)	Temperature (Degree C)	Voltage (V)	Frequency (MHz)	Deviation(%)	Limit(±) (%)
13.56	-20	7.3	13.56009	0.00065	0.01
	-10	7.3	13.56024	0.00177	0.01
	0	7.3	13.56034	0.00248	0.01
	10	7.3	13.56077	0.00565	0.01
	20	7.3	13.56002	0.00015	0.01
	30	7.3	13.56057	0.00418	0.01
	40	7.3	13.56071	0.00525	0.01
	50	7.3	13.56088	0.00647	0.01

2min

Transmitting Frequency (MHz)	Temperature (Degree C)	Voltage (V)	Frequency (MHz)	Deviation(%)	Limit(±) (%)
13.56	-20	7.3	13.55995	-0.00040	0.01
	-10	7.3	13.56010	0.00070	0.01
	0	7.3	13.56015	0.00109	0.01
	10	7.3	13.55991	-0.00063	0.01
	20	7.3	13.56075	0.00553	0.01
	30	7.3	13.56044	0.00324	0.01
	40	7.3	13.56082	0.00608	0.01
	50	7.3	13.56044	0.00323	0.01

5min

Transmitting Frequency (MHz)	Temperature (Degree C)	Voltage (V)	Frequency (MHz)	Deviation(%)	Limit(±) (%)
13.56	-20	7.3	13.56013	0.00094	0.01
	-10	7.3	13.56019	0.00137	0.01
	0	7.3	13.56075	0.00551	0.01
	10	7.3	13.56055	0.00406	0.01
	20	7.3	13.56085	0.00625	0.01
	30	7.3	13.56035	0.00255	0.01
	40	7.3	13.56013	0.00099	0.01
	50	7.3	13.56009	0.00066	0.01

10min

Transmitting Frequency (MHz)	Temperature (Degree C)	Voltage (V)	Frequency (MHz)	Deviation(%)	Limit(±) (%)
13.56	-20	7.3	13.56057	0.00420	0.01
	-10	7.3	13.56017	0.00126	0.01
	0	7.3	13.56058	0.00427	0.01
	10	7.3	13.56084	0.00617	0.01
	20	7.3	13.56047	0.00348	0.01
	30	7.3	13.56051	0.00373	0.01
	40	7.3	13.56081	0.00598	0.01
	50	7.3	13.56018	0.00134	0.01

Frequency tolerance (Voltage variation)

Transmitting Frequency (MHz)	Temperature (Degree C)	Voltage (V)	Frequency (MHz)	Deviation(%)	Limit(±) (%)
13.56	20	6.21	13.56013	0.00095	0.01
	20	7.30	13.56085	0.00623	0.01
	20	8.40	13.56074	0.00547	0.01

6.7. 20dB Emission Bandwidth

6.7.1. Applicable Standard

FCC Part 15 Subpart C Paragraph 15.215

(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

6.7.2. Test Procedure Used

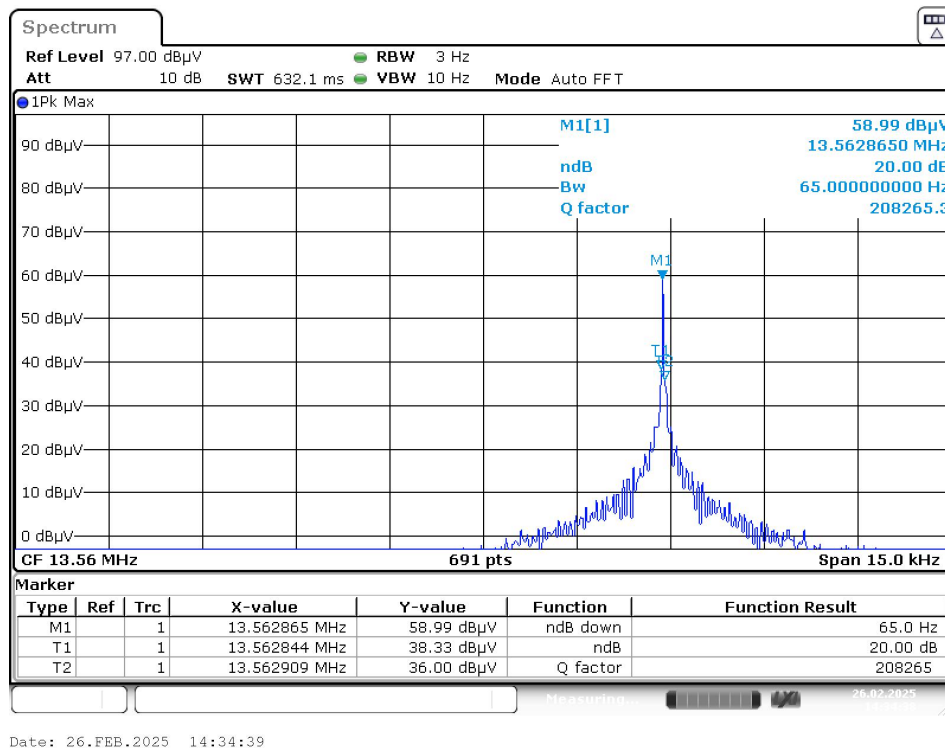
ANSI C63.10-2013 – Section 6.9.2

6.7.3. Test Result

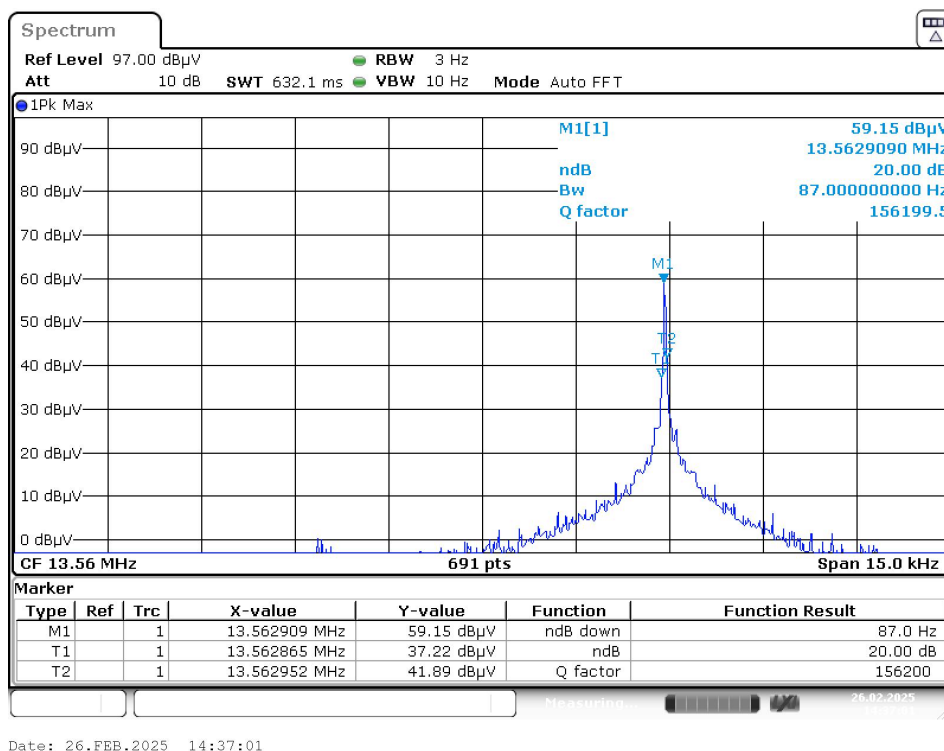
Project Information			
Model:	DL-D06E	Test date:	2025-02-26
Environment:	22.0°C/49%RH/101.0kPa	Engineer:	Chuang Li

Note: This report records the worst polarity X results of the loop antenna.

Test mode	Frequency (MHz)	20dB Bandwidth (Hz)	Test Result
Mode 1	13.56	65	Complied
Mode 2	13.56	87	Complied



Mode 1



Mode 2

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7. CONCLUSION

The data collected relate only the item(s) tested and show that the **EUT** is in compliance with Part 15C of the FCC Rules.

Statement

1. This report is invalid for the following states: without the special inspection and testing stamp or the official stamp of our institution; without the signature of the report authorized officer; if the report is altered.
2. It is forbidden to copy partial contents of the report except in full without the approval of our institution.
3. The client shall provide the test sample(s) and commission information and be responsible for their authenticity.
4. The report content is only applicable to the tested sample(s) this time.
5. If there are any objections to the report content, please submit them to our company in writing within 15 days from the date of receiving the report.
6. If the reports include both Chinese and English versions, when there are any inconsistencies caused by language, the Chinese version shall prevail.
7. This report is issued by the following laboratory premises:
No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China

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