

FCC TEST REPORT

FCC ID:2AH4J-LOCK420

Report No..... : ZHT-250604106W01-2

Product..... : Rently Smart Bolt Elite

Trademark..... : /

Model(s)..... : LOCK420-8Z, LOCK420-4Z

Model Difference..... : LOCK420-8Z and LOCK420-4Z is tested model, The models are identical in circuit, only different on the model names and battery capacity and size.

Applicant..... : Consumer 2.0

Address..... : 6300 Wilshire Blvd Suite 620, Los Angeles, CA 90048, United States

Manufacturer..... : Consumer 2.0

Address..... : 6300 Wilshire Blvd Suite 620, Los Angeles, CA 90048, United States

Prepared by..... : Guangdong Zhonghan Testing Technology Co., Ltd.

Address..... : Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Date of Receipt..... : June 4, 2025

Date of Test(s)..... : June 4, 2025 to June 11, 2025

Date of Issue..... : June 11, 2025

Standard..... : FCC Rules and Regulations Part 15 Subpart C Section 15.225

Test procedure..... : ANSI C63.10:2013

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

Prepared by

Reviewed by:

Approved by:

Leon Li

Baret Wu

Levi Lee

Leon Li/ Engineer

Baret Wu/ Director

Levi Lee/ Manager

Note: This device described above has been tested by ZHT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval of ZHT, this document may be altered or revised by ZHT, personal only, and shall be noted in the revision of the document.

Table of Contents

Page

1. VERSION	3
2. SUMMARY OF TEST RESULTS	4
3. GENERAL INFORMATION	5
3.1 GENERAL DESCRIPTION OF EUT	5
3.2 DESCRIPTION OF TEST MODES	6
3.3 TEST SETUP CONFIGURATION	6
3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	6
4. TEST FACILITY AND TEST INSTRUMENT USED	7
4.1 TEST FACILITY	7
4.2 INSTRUMENT LIST FOR ALL TEST ITEMS	7
4.3 TESTING SOFTWARE	9
5. CHANNEL BANDWIDTH	10
5.1 CONDUCTED EMISSION MEASUREMENT	10
5.2 RADIATED EMISSION MEASUREMENT	16
6.ANTENNA REQUIREMENT	23
7. TEST SETUP PHOTO	23
8. EUT CONSTRUCTIONAL DETAILS	24

1. VERSION

Report No.	Version	Description	Approved
ZHT-250604106W01-2	Rev.01	Initial issue of report	June 11, 2025

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
FCC part 15.203	Antenna requirement	PASS	
FCC part 15.207	AC Power Line Conducted Emission	PASS	
FCC part 15.209	Radiated Spurious Emission	PASS	

NOTE:

Class II Permissive Change: The original Rently Smart Bolt Elite and the new Rently Smart Bolt Elite only added diodes and triode on both sides and changed the color of the magnets.

Note: Report is for Class II Permissive Change only. Updated test data include Antenna Requirement, Conducted Emission and Radiated Emission. Other test data refer to the original report psi2503155-C01-R02, The original FCC ID issue date: 04/15/2025

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	Rently Smart Bolt Elite
Test Model No.:	LOCK420-8Z, LOCK420-4Z
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	Engineer sample
Operation Frequency:	13.56MHz
Channel Numbers:	1
Modulation Type:	ASK
Antenna Type:	PCB antenna
Antenna gain:	0dBi
Power supply:	Input: DC 5V via adapter, DC 6V powered by battery
Sample Number:	250604106YP001
Remark:The antenna gain is provided by the customer, if the data provided by the customer is not accurate, Guangdong Zhonghan Testing Technology Co., Ltd. does not assume any responsibility.	

3.2 DESCRIPTION OF TEST MODES

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: EUT use new battery during the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

3.3 TEST SETUP CONFIGURATION

Conducted Emission



Radiated Emission



3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E1	AC Adapter	Huizhou Jinhua Industrial Development Co., Ltd.	VCBAJACH	/	AE

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

4. TEST FACILITY AND TEST INSTRUMENT USED

4.1 TEST FACILITY

Guangdong Zhonghan Testing Technology Co., Ltd.
Add.: Room 104/201, Building 1, Yibaolai Industrial Park, Qiaotou, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

FCC Registration Number:255941
Designation Number: CN0325
IC Registered No.: 29832
CAB identifier: CN0143

4.2 INSTRUMENT LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
2	Loop Antenna	TESEQ	HLA6121	58357	Oct. 11, 2024	Oct. 10, 2025
3	Amplifier	Schwarzbeck	BBV 9743 B	00378	May 6, 2025	May 5, 2026
4	Amplifier	Schwarzbeck	BBV 9718 B	00040	May 7, 2025	May 6, 2026
5	Bilog Antenna	Schwarzbeck	VULB9162	00498	May 15, 2025	May 14, 2026
6	Horn Antenna	Schwarzbeck	BBHA9120D	02623	May 15, 2025	May 14, 2026
7	Horn Antenna	A.H.SYSTEMS	SAS574	588	Oct. 21, 2024	Oct. 20, 2025
8	Amplifier	AEROFLEX	100KHz-40GHz	097	Oct. 21, 2024	Oct. 20, 2025
9	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
10	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
11	WIDBAND RADIO COMMUNICATION TESTER	R&S	CMW500	109863	May 7, 2025	May 6, 2026
12	Single Generator	Agilent	N5182A	MY48180575	May 7, 2025	May 6, 2026
13	Power Sensor	MWRfTest	MW100-RFCB	/	May 7, 2025	May 6, 2026
14	Power Amplifier Shielding Room	EMToni	2m3m3m	/	Nov. 25, 2021	Nov. 24, 2026
15	CABLE	EMToni	DA800-NM-NM-11000MM	/	May 6, 2025	May 5, 2026

Conduction Test equipment

Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
Receiver	R&S	ESCI	100874	May 6, 2025	May 5, 2026
LISN	R&S	ENV216	102794	May 6, 2025	May 5, 2026
ISN CAT 6	Schwarzbeck	NTFM 8158	00318	May 7, 2025	May 6, 2026
ISN CAT 5	Schwarzbeck	CAT5 8158	00343	May 7, 2025	May 6, 2026
Capacitive Voltage Probe	Schwarzbeck	CVP 9222 C	00101	May 8, 2025	May 7, 2026
Current Transformer Clamp	Schwarzbeck	SW 9605	SW9605 #209	May 8, 2025	May 7, 2026
CABLE	EMToni	G223-NM-BNCM -2000MM	/	May 7, 2025	May 6, 2026

Conducted Test Instrument

Item	Equipment	Manufacturer	Model	Serial No.	Last Cal.	Next Cal.
1	Spectrum Analyzer	R&S	FSV40	101413	Oct. 21, 2024	Oct. 20, 2025
2	Spectrum Analyzer	KEYSIGHT	N9020A	MY53420208	May 7, 2025	May 6, 2026
3	Power Sensor	MWRFTest	MW100-RFCB	/	May 7, 2025	May 6, 2026

4.3 TESTING SOFTWARE

Project	Software name	Edition
RF Conducted	MTS 8310	2.0.0.0
Conducted Emission	EZ-EMC	EMC-CON 3A1.1+
Radiated Emission	EZ-EMC	FA-03A2 RE+

4.3 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF conducted power	$\pm 0.16\text{dB}$
3	Spurious emissions conducted	$\pm 0.21\text{dB}$
4	All radiated emissions (9k-30MHz)	$\pm 4.68\text{dB}$
5	All radiated emissions (<1G)	$\pm 4.68\text{dB}$
6	All radiated emissions (>1G)	$\pm 4.89\text{dB}$
7	Temperature	$\pm 0.5^{\circ}\text{C}$
8	Humidity	$\pm 2\%$
9	Occupied Bandwidth	$\pm 4.96\%$
10	Power Spectral Density	$\pm 0.71\text{dB}$

Decision Rule

- ☒ Uncertainty is not included
☐ Uncertainty is included

5. CHANNEL BANDWIDTH

5.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

5.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	QP	AVG	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

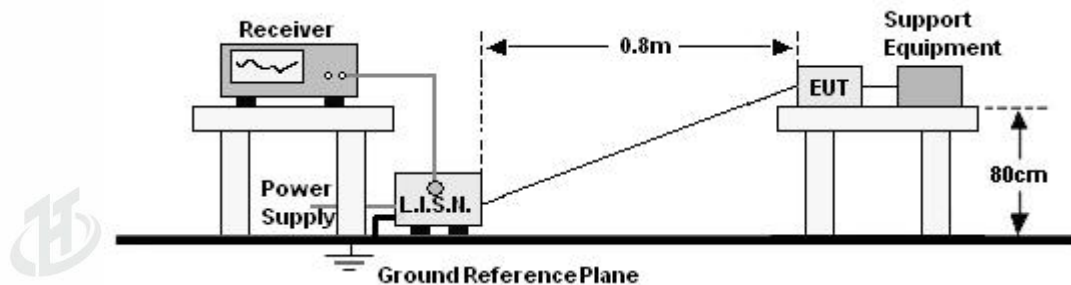
5.1.2 TEST PROCEDURE

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

5.1.3 DEVIATION FROM TEST STANDARD

No deviation

5.1.4 TEST SETUP

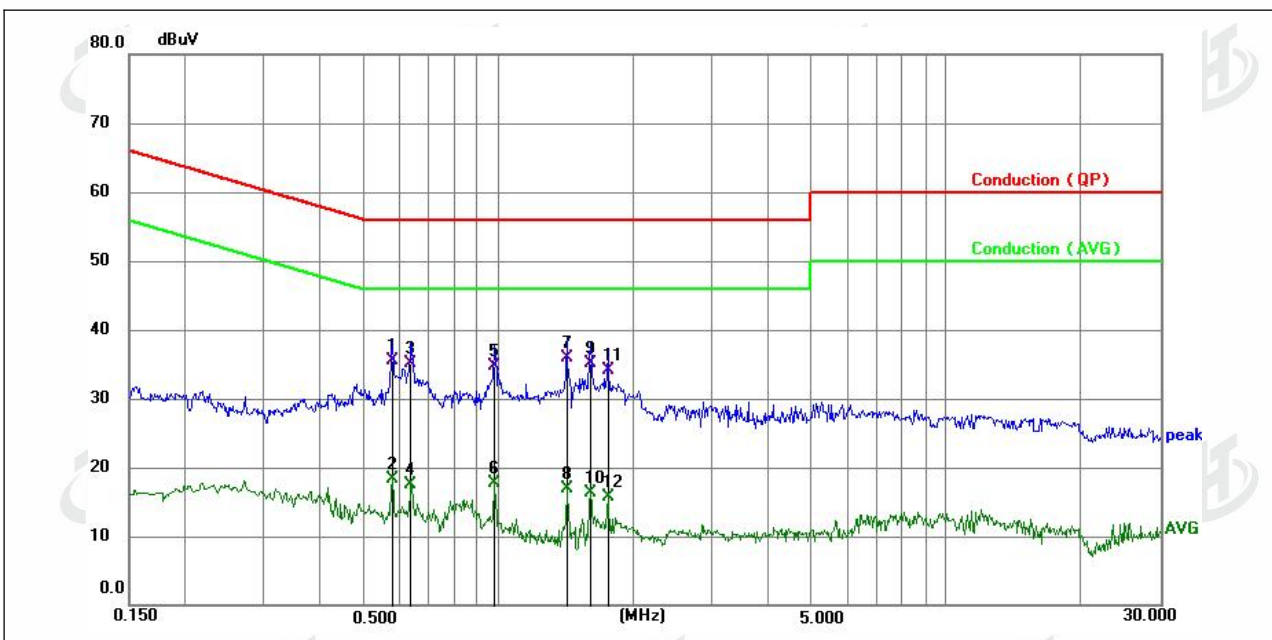


5.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

5.1.6 TEST RESULTS

Model: LOCK420-8Z			
Temperature:	24.3℃	Relative Humidity :	50%
Pressure:	101kPa	Phase :	L
Test Voltage:	AC 120V/60Hz		

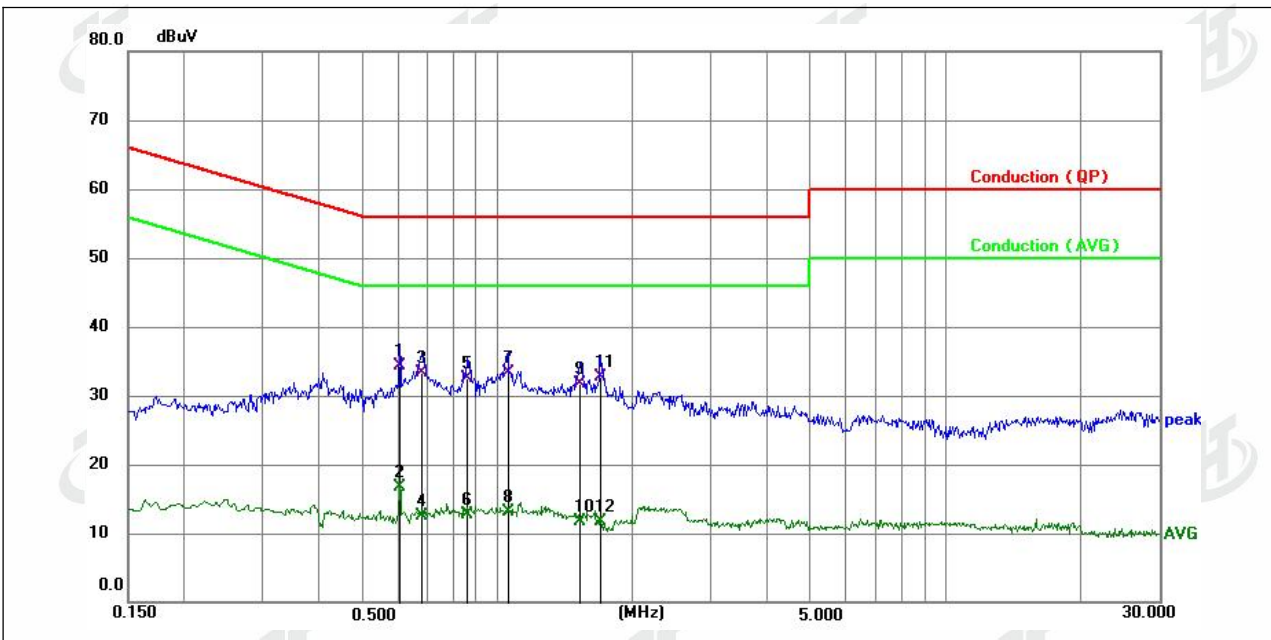


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5792	25.53	10.03	35.56	56.00	-20.44	QP
2	0.5792	8.22	10.03	18.25	46.00	-27.75	AVG
3	0.6370	25.14	10.03	35.17	56.00	-20.83	QP
4	0.6370	7.42	10.03	17.45	46.00	-28.55	AVG
5	0.9825	24.58	10.06	34.64	56.00	-21.36	QP
6	0.9825	7.61	10.06	17.67	46.00	-28.33	AVG
7 *	1.4190	25.86	10.07	35.93	56.00	-20.07	QP
8	1.4190	6.75	10.07	16.82	46.00	-29.18	AVG
9	1.6080	25.00	10.06	35.06	56.00	-20.94	QP
10	1.6080	6.33	10.06	16.39	46.00	-29.61	AVG
11	1.7610	24.02	10.06	34.08	56.00	-21.92	QP
12	1.7610	5.64	10.06	15.70	46.00	-30.30	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Model: LOCK420-8Z			
Temperature:	24.3°C	Relative Humidity :	50%
Pressure:	101kPa	Phase :	N
Test Voltage:	AC 120V/60Hz		

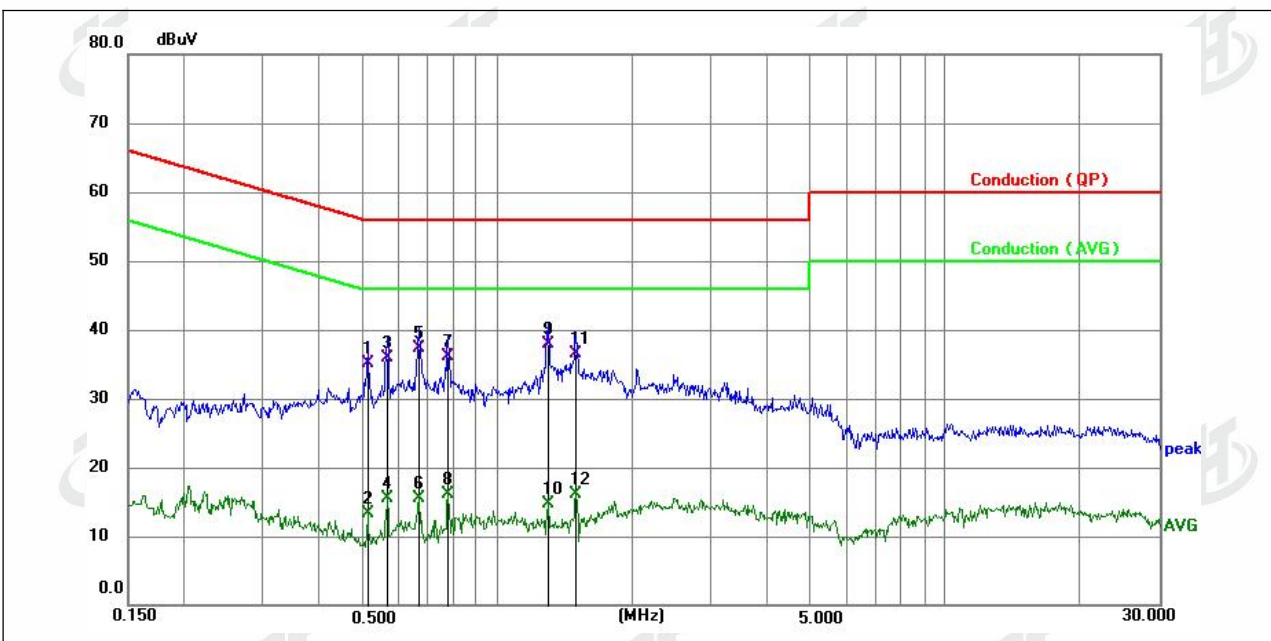


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5100	22.76	10.02	32.78	56.00	-23.22	QP
2	0.5100	6.44	10.02	16.46	46.00	-29.54	AVG
3	0.6045	22.75	10.03	32.78	56.00	-23.22	QP
4	0.6045	3.10	10.03	13.13	46.00	-32.87	AVG
5	0.7035	22.19	10.04	32.23	56.00	-23.77	QP
6	0.7035	3.33	10.04	13.37	46.00	-32.63	AVG
7	0.8830	21.76	10.05	31.81	56.00	-24.19	QP
8	0.8830	2.09	10.05	12.14	46.00	-33.86	AVG
9	1.5315	22.73	10.06	32.79	56.00	-23.21	QP
10	1.5315	2.64	10.06	12.70	46.00	-33.30	AVG
11 *	1.7020	23.05	10.06	33.11	56.00	-22.89	QP
12	1.7020	3.21	10.06	13.27	46.00	-32.73	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Model: LOCK420-4Z			
Temperature:	24.3℃	Relative Humidity :	50%
Pressure:	101kPa	Phase :	L
Test Voltage:	AC 120V/60Hz		



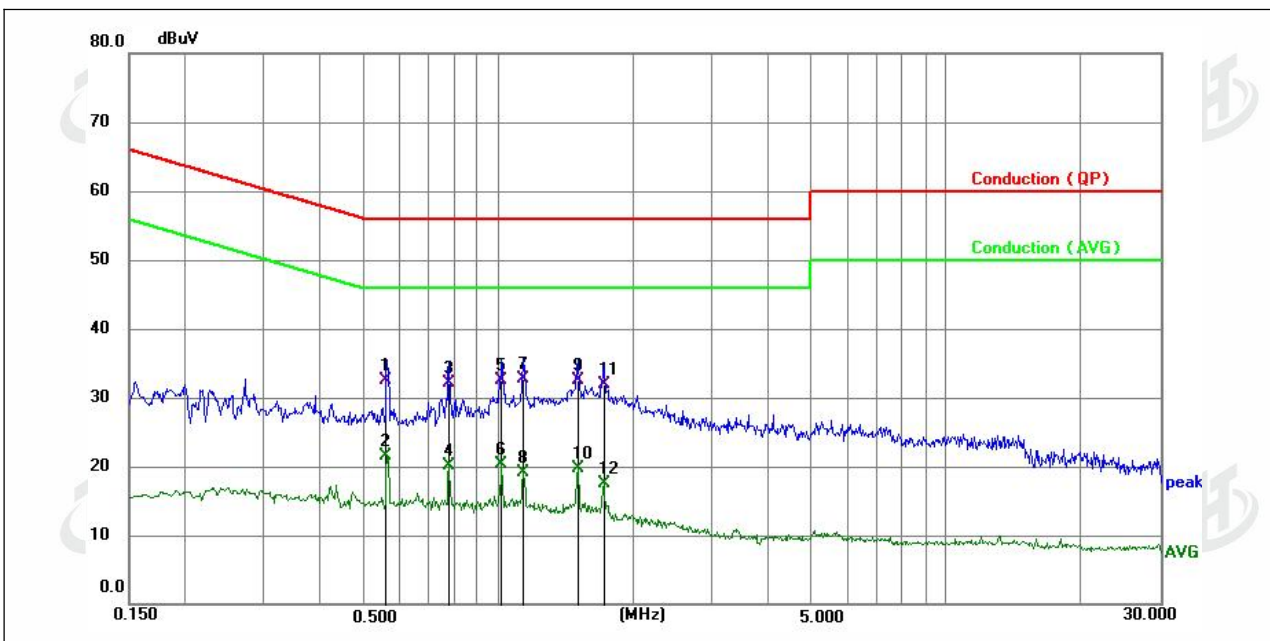
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.5127	25.05	10.02	35.07	56.00	-20.93	QP
2	0.5127	3.36	10.02	13.38	46.00	-32.62	AVG
3	0.5685	25.93	10.03	35.96	56.00	-20.04	QP
4	0.5685	5.41	10.03	15.44	46.00	-30.56	AVG
5	0.6673	27.20	10.03	37.23	56.00	-18.77	QP
6	0.6673	5.45	10.03	15.48	46.00	-30.52	AVG
7	0.7752	26.16	10.04	36.20	56.00	-19.80	QP
8	0.7752	6.08	10.04	16.12	46.00	-29.88	AVG
9 *	1.2975	27.78	10.06	37.84	56.00	-18.16	QP
10	1.2975	4.73	10.06	14.79	46.00	-31.21	AVG
11	1.4955	26.34	10.07	36.41	56.00	-19.59	QP
12	1.4955	6.02	10.07	16.09	46.00	-29.91	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor



Model: LOCK420-4Z			
Temperature:	24.3℃	Relative Humidity :	50%
Pressure:	101kPa	Phase :	N
Test Voltage:	AC 120V/60Hz		



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1 *	0.6045	24.25	10.03	34.28	56.00	-21.72	QP
2	0.6045	6.60	10.03	16.63	46.00	-29.37	AVG
3	0.6809	23.20	10.03	33.23	56.00	-22.77	QP
4	0.6809	2.49	10.03	12.52	46.00	-33.48	AVG
5	0.8610	22.45	10.05	32.50	56.00	-23.50	QP
6	0.8610	2.75	10.05	12.80	46.00	-33.20	AVG
7	1.0590	23.16	10.06	33.22	56.00	-22.78	QP
8	1.0590	2.99	10.06	13.05	46.00	-32.95	AVG
9	1.5315	21.73	10.06	31.79	56.00	-24.21	QP
10	1.5315	1.64	10.06	11.70	46.00	-34.30	AVG
11	1.7020	22.55	10.06	32.61	56.00	-23.39	QP
12	1.7020	1.71	10.06	11.77	46.00	-34.23	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

5.2 RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

5.2.1 RADIATED EMISSION LIMITS

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

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

5.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 25GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-chamber test. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8m; above 1GHz, the height was 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- g. For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.
The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

Note:

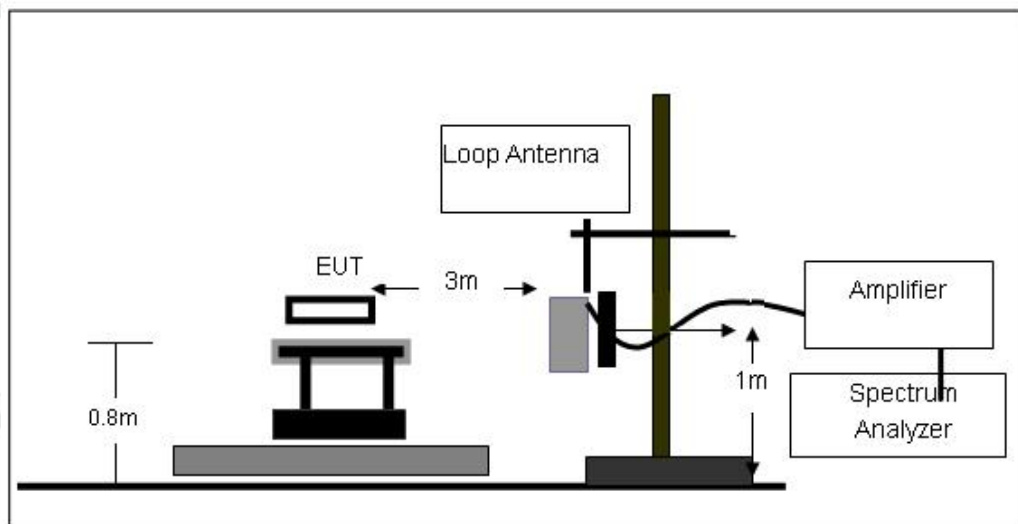
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

5.2.3 DEVIATION FROM TEST STANDARD

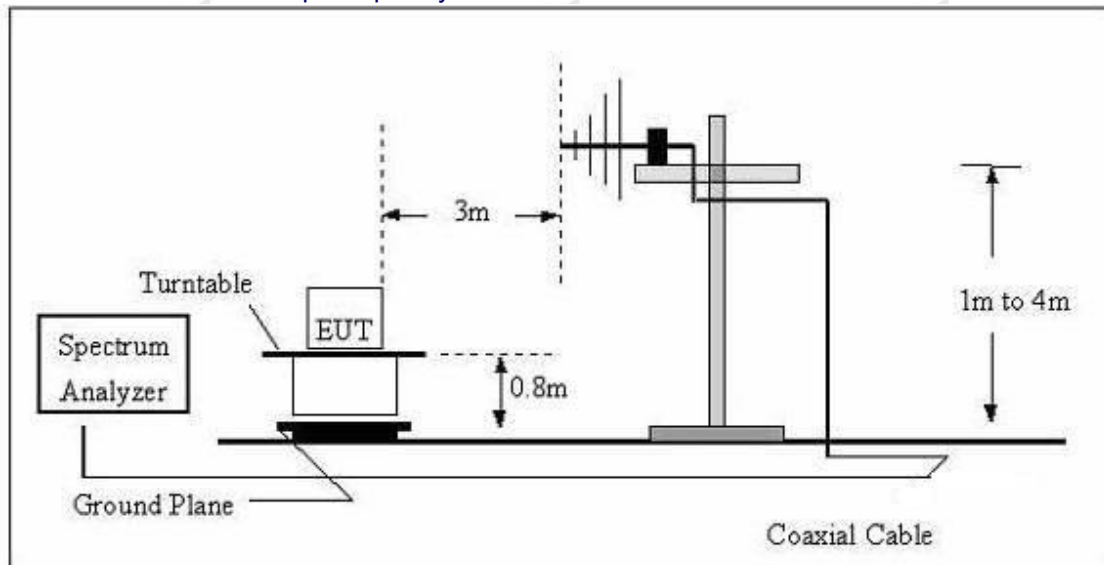
No deviation

5.2.4 TEST SETUP

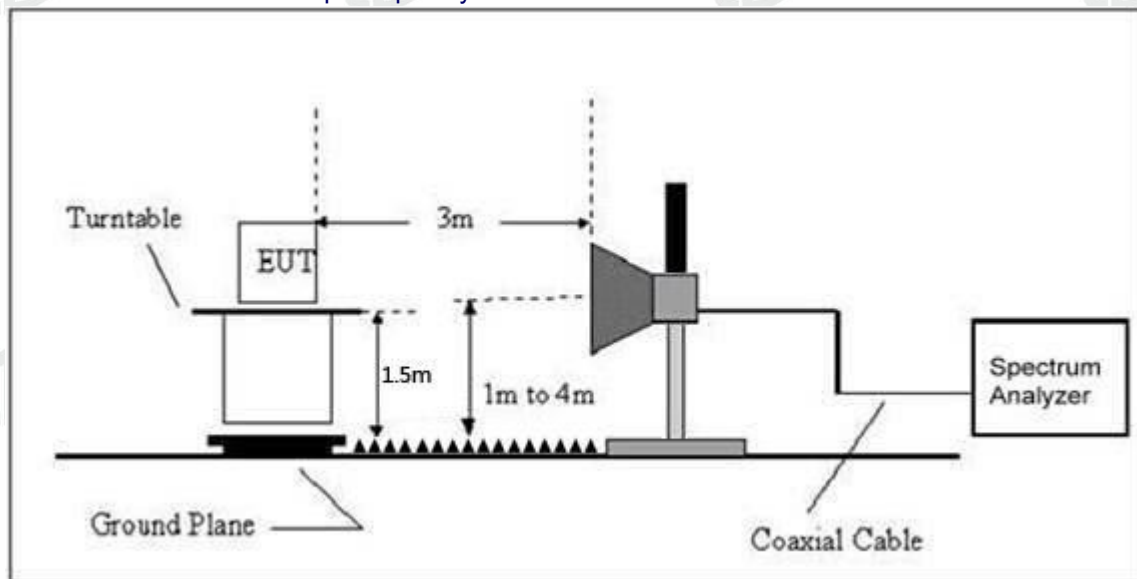
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



5.2.5 EUT OPERATING CONDITIONS

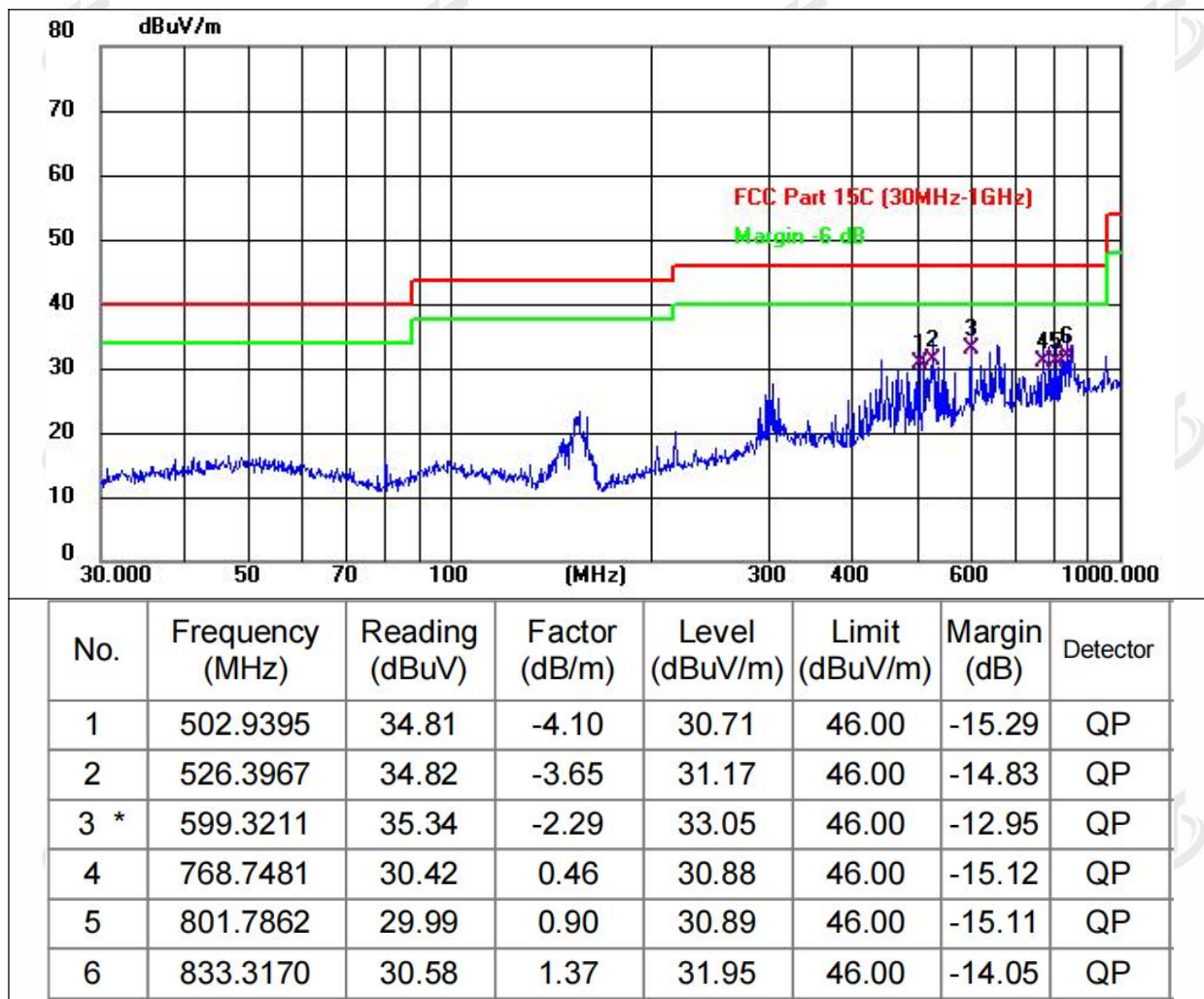
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

5.2.6 TEST RESULTS (Between 9KHz – 30 MHz)

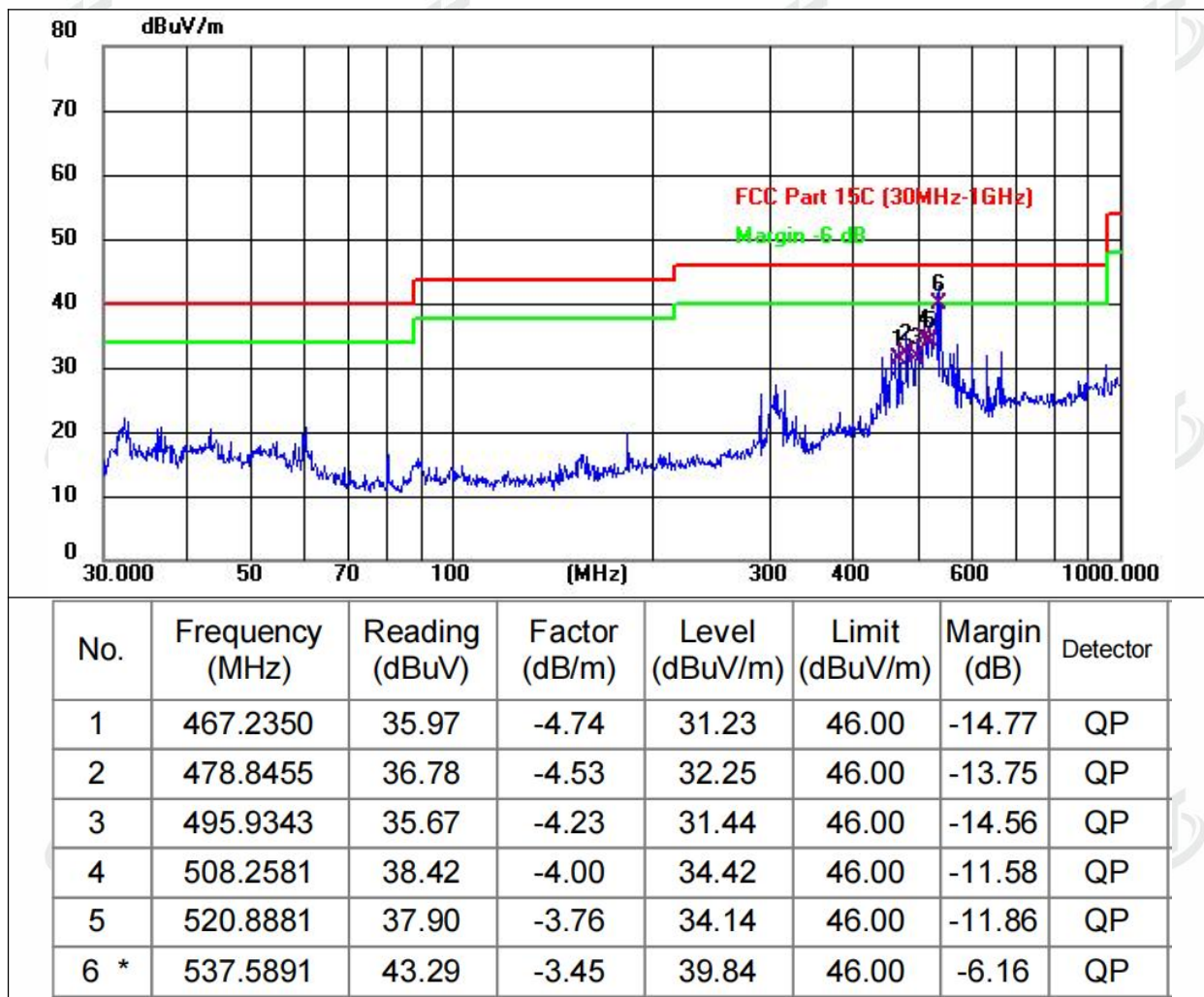
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Between 30MHz – 1GHz

Model: LOCK420-8Z			
Temperature:	25.2℃	Relative Humidity:	50%
Pressure:	1010kPa	Polarization:	Horizontal
Test Voltage:	DC 6 V		



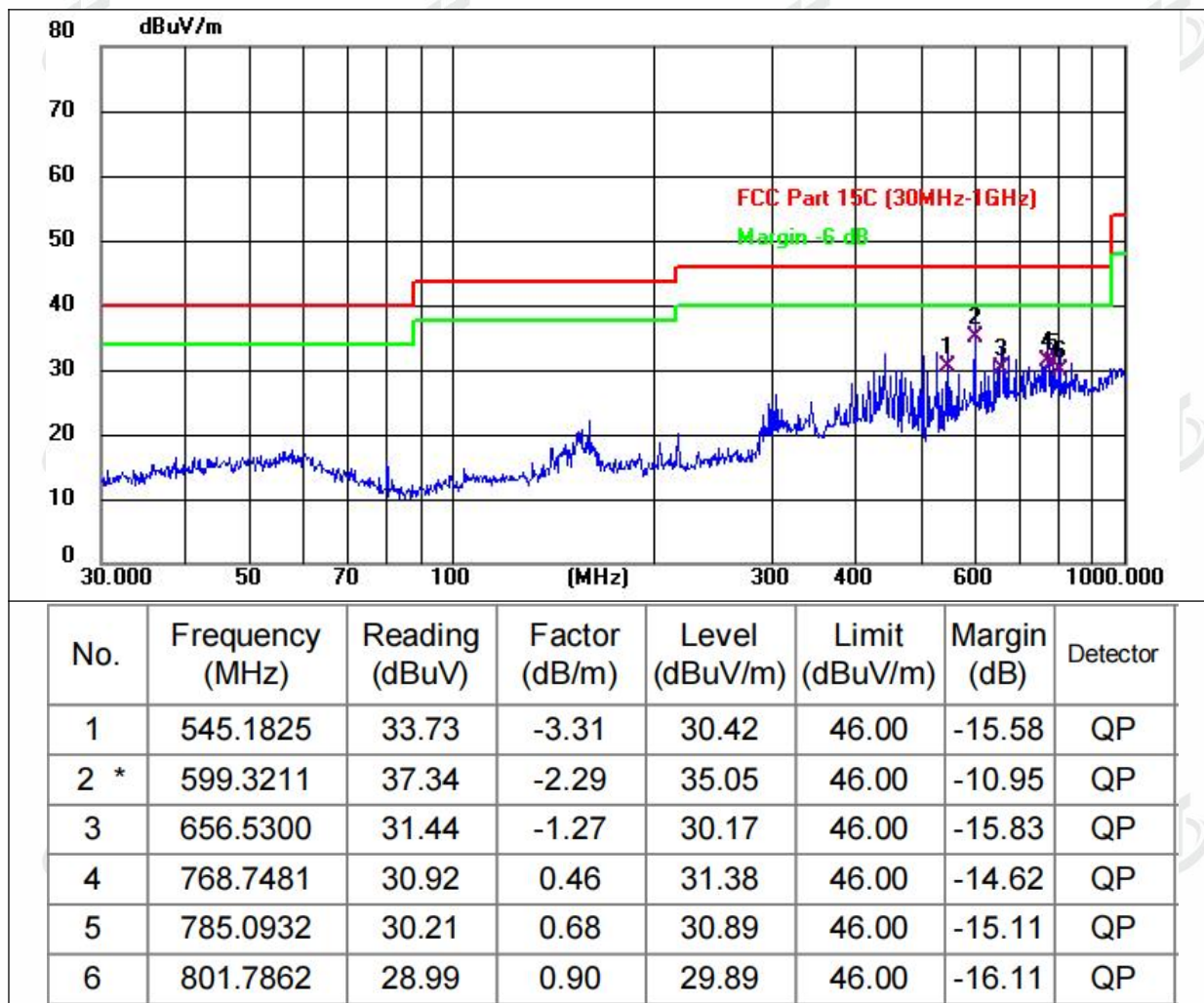
Model: LOCK420-8Z			
Temperature:	25.2℃	Relative Humidity:	50%
Pressure:	1010kPa	Polarization:	Vertical
Test Voltage:	DC 6 V		



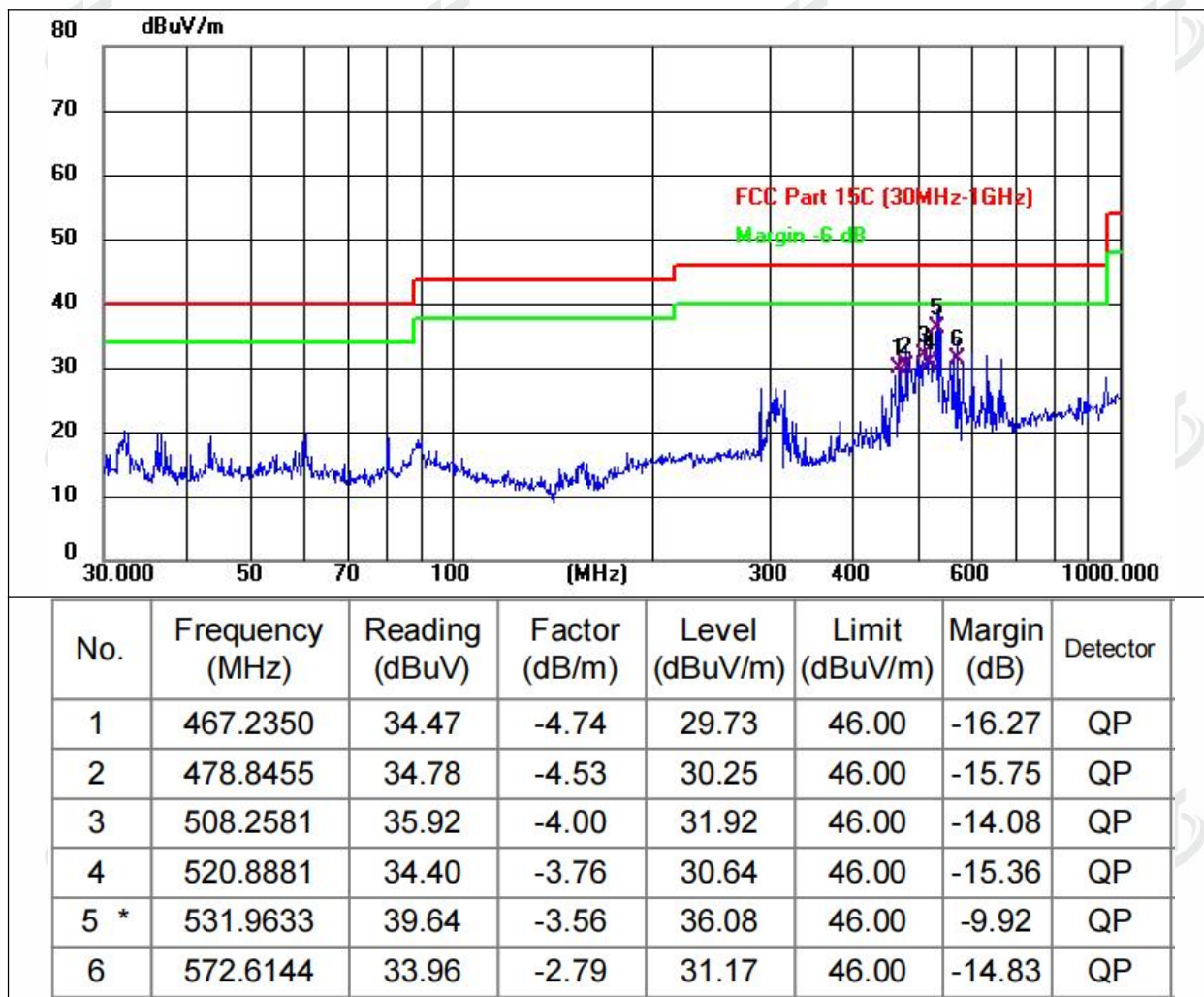
Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Model: LOCK420-4Z			
Temperature:	25.2℃	Relative Humidity:	50%
Pressure:	1010kPa	Polarization:	Horizontal
Test Voltage:	DC 6 V		



Model: LOCK420-4Z			
Temperature:	25.2℃	Relative Humidity:	50%
Pressure:	1010kPa	Polarization:	Vertical
Test Voltage:	DC 6 V		



Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

6.ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.	
EUT Antenna:	
The antennas is PCB antenna, the best case gain of the antennas is 0dBi, reference to the appendix II for details	

7. TEST SETUP PHOTO

Reference to the appendix I for details.

8. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

***** END OF REPORT *****