

TEST REPORT

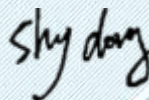
Report No..... : KS2405S1673E
FCC ID..... : 2BGDC-DP-P600B
Applicant..... : Ningbo Duopower New Energy Electrical Technology Co., Ltd.
Address..... : No.168 North Huancheng Road, Zhouxiang Town, Cixi City, Ningbo, China
Manufacturer..... : Ningbo Duopower New Energy Electrical Technology Co., Ltd.
Address..... : No.168 North Huancheng Road, Zhouxiang Town, Cixi City, Ningbo, China
Product Name..... : Portable Power Station
Trademark..... : 
Model/Type reference..... : DP-P600B
Standard..... : 47 CFR Part 15C
Date of Receipt..... : May 9, 2024
Date of Test Date..... : May 9, 2024 to August 21, 2024
Date of issue..... : August 22, 2024
Test result..... : Pass

Conclusion..... : The submitted sample was found to COMPLY with the standards above.

Prepared by:
(Printed name + Signature) Chad Lin



Approved by:
(Printed name + Signature) Sky Dong



Testing Laboratory Name...: KSIGN(Guangdong) Testing Co., Ltd.

Address..... : West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

TABLE OF CONTENTS**Page**

1. TEST SUMMARY	3
1.1. Test Standards	3
1.2. Report Version	3
1.3. Test Description	4
1.4. Test Facility	5
1.5. Measurement Uncertainty	5
2. GENERAL INFORMATION	6
2.1. General Description Of EUT	6
2.2. Accessory Equipment Information	6
2.3. Description of Test Modes	6
2.4. Measurement Instruments List	7
3. Evaluation Results (Evaluation)	11
3.1. Antenna requirement	11
4. Radio Spectrum Matter Test Results (RF)	12
4.1. Conducted Emission at AC power line	12
4.2. 20dB Occupied Bandwidth	15
4.3. Emissions in frequency bands (below 30MHz)	18
4.4. Emissions in frequency bands (30MHz - 1GHz)	25
5. EUT TEST PHOTOS	31
6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL	34

1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

47 CFR Part 15C: Radiated emission limits; general requirements

ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

1.2. Report Version

Revised No.	Date of issue	Description
01	August 22, 2024	Original

1.3. Test Description

Test Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15C	47 CFR Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15C	47 CFR Part 15.207(a)	Pass
20dB Occupied Bandwidth	47 CFR Part 15C	47 CFR Part 15.215(c)	Pass
Emissions in frequency bands (below 30MHz)	47 CFR Part 15C	47 CFR Part 15.209	Pass
Emissions in frequency bands (30MHz - 1GHz)	47 CFR Part 15C	47 CFR Part 15.209	Pass

1.4. Test Facility

KSIGN(Guangdong) Testing Co., Ltd .

West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L 13261

KSIGN(Guangdong) Testing Co., Ltd. has been assessed and proved to be in Compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 5457.01

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED# : 25693 CAB identifier.: CN0096

KSIGN(Guangdong) Testing Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

FCC-Registration No.: 294912 Designation Number: CN1328

KSIGN(Guangdong) Testing Co., Ltd. EMC Laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

1.5. Measurement Uncertainty

Test Items	Measurement Uncertainty
Conducted Emission (150k-30MHz)	± 3.34dB
RE(9kMz~30MHz)	± 2.20dB
RSE (30-1000MHz)	± 5.7dB

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %. Otherwise required by the applicant or Product Regulations. Decision Rule in this report did not consider the uncertainty.

2. GENERAL INFORMATION

2.1. General Description Of EUT

Test Sample Number:	1-1(Normal Sample), 1-2(Engineering Sample)
Product Name:	Portable Power Station
Trademark:	
Model / Type reference:	DP-P600B
Power Supply:	Input: 100-130V-50/60Hz, Battery: DC 22.4V Wireless charging :5W/7.5W/10W/15W
Operation Frequency:	115KHz-205KHz
Modulation Type:	ASK
Antenna Type:	Coil
Antenna Gain:	0dBi
Hardware Version:	1.0
Software Version:	1.0
Note: For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.	

Note:Antenna gain provided by the applicant Can affect the validity of results

2.2. Accessory Equipment Information

Title	Manufacturer	Model No.	Technical Parameters	Provided by
Wireless charging load	YBZ	N/A	5W, 7.5W, 10W, 15W	Laboratory

2.3. Description of Test Modes

No.	Title	Description of Mode
Test Mode1	Charging+Wireless charge mode(15W)	N/A
Test Mode2	Charging+Wireless charge mode(10W)	N/A
Test Mode3	Charging+Wireless charge mode(7.5W)	N/A
Test Mode4	Charging+Wireless charge mode(5W)	N/A
Test Mode5	Wireless charge mode(15W)	N/A
Test Mode6	Wireless charge mode(10W)	N/A
Test Mode7	Wireless charge mode(7.5W)	N/A
Test Mode8	Wireless charge mode(5W)	N/A
Test Mode9	Standby mode	N/A
Note: All test modes were pre-tested, The Mode 1 was the worst case and only the data of the worst case record in this report.		

2.4. Measurement Instruments List

Conducted Emission at AC power line

Test Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Suggest next calibration date	calibration laboratory
LISN	R&S	ENV432	1326.6105.02	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
EMI Test Receiver	R&S	ESR	102524	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Manual RF Switch	JS TOYO	/	MSW-01/002	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
ISN CAT6	Schwarzbeck	CAT5 8158	227	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Color Signal Generator	Philips	PM5418	672926	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Power Absorbing Clamp	R&S	MDS-21	100925	2024-01-22	2025-01-21	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
TV Tuner	SUNLIGHT	ST5075	/	2023-12-13	2024-12-12	Guangzhou LiSai Metrology & Test Co.,Ltd.
LISN	EVERFINE	LS-5	G657431CD1 431112	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Current Sensor Probe	Beijin ZHINAN	ZN23101	23013	2023-12-13	2024-12-12	Guangzhou LiSai Metrology & Test Co.,Ltd.
PV Artificial power network	Beijing KeHuan	KH8301	830120007	2024-07-24	2025-07-23	CCIC(Shenzhen) Metrology & Testing Service Co.,Ltd

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Emissions in frequency bands (below 30MHz) Emissions in frequency bands (30MHz - 1GHz)						
Test Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Suggest next calibration date	calibration laboratory
Color Signal Generator	Philips	PM5418	672926	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Log Periodic Antenna	Schwarzbeck	VULB 9163	1230	2024-01-30	2025-01-29	Guangzhou LiSai Metrology & Test Co. ,Ltd.
Pre-Amplifier	Schwarzbeck	BBV 9745	9745#129	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Broadcast Television Signal Generator	R&S	SFE100	141038	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Analog Signal Generator	Agilent	8648A	3847M00445	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
EMI Test Receiver	R&S	ESR	102525	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Loop Antenna	Beijin ZHINAN	ZN30900C	18050	2024-01-30	2025-01-29	Guangzhou LiSai Metrology & Test Co. ,Ltd.
Horn Antenna	Schwarzbeck	BBHA 9120 D	2023	2024-01-22	2025-01-21	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Pre-Amplifier	EMCI	EMC051835 SE	980662	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Spectrum Analyzer	Keysight	N9020A	MY46471971	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

20dB Occupied Bandwidth						
Test Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Suggest next calibration date	calibration laboratory
Wideband Radio Communication Tester	R&S	CMU200	115297	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Audio Analyzer	R&S	UPL16	100001	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Shielding box	Gxiong	GX-5915A	2201113	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
High Pass Filter	COM-MW Technology Co., Ltd	ZHPF-M1.2-9G-187	09203403	09203403	2024-01-20	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Band Stop Filter	COM-MW Technology Co., Ltd	ZBSF6-C820-920-188	09203401	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Splitter	COM-MW Technology Co., Ltd	ZPD-M1-8-2 103	09203407	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Coaxial Cable	BEBES	A40-2.92M2.92F-4.5M	1907021	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Hygrothermograph	Anymetre	JB913	/	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Climate Chamber	Angul	AGNH80L	1903042120	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Spectrum Analyzer	HP	8593E	3831U02087	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Dual Output DC Power Supply	Agilent	E3646A	MY40009992	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
RF Control Unit	Tonscend	JS0806-2	/	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Analog Signal Generator	HP	83752A	3344A00337	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Vector Signal Generator	Agilent	N5182A	MY50142520	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Wideband Radio Communication Tester	R&S	CMW500	157282	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch
Spectrum Analyzer	R&S	FSV40-N	101798	2024-01-20	2025-01-19	Zhejiang Kezheng Electronic Information Product Testing Co.,Ltd.Hangzhou Branch

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

3. Evaluation Results (Evaluation)

3.1. Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.
Antenna Information:	The antenna used in this product is a Coil Antenna.
Note: The antenna gain is 0dBi, and the antenna gain is provided by the applicant.	

4. Radio Spectrum Matter Test Results (RF)

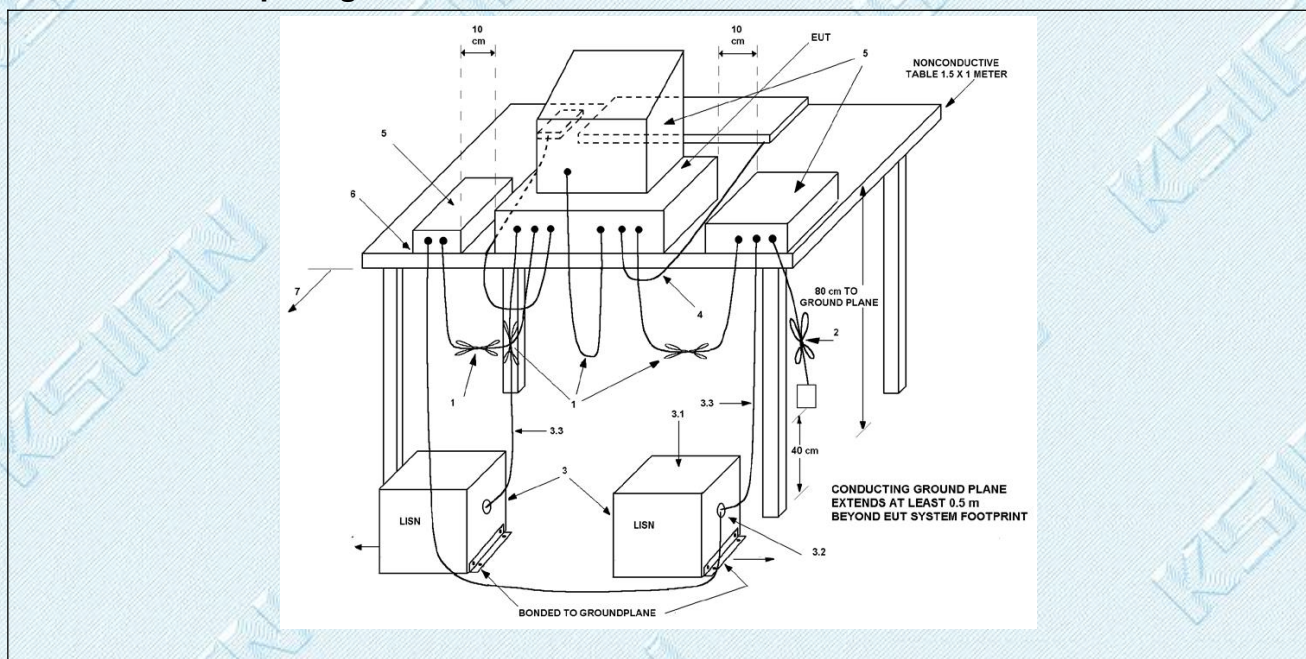
4.1. Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
*Decreases with the logarithm of the frequency.			
Test Method:	ANSI C63.10-2013 section 6.2		
Procedure:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

4.1.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	44.5 %
Atmospheric Pressure:	101 kPa
Final test mode:	Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6, Test Mode7, Test Mode8, Test Mode9

4.1.2. Test Setup Diagram:



Note:

- 1). QP Value (dB μ V) = QP Reading (dB μ V) + Factor (dB)
- 2). Factor (dB) = insertion loss of LISN (dB) + Cable loss (dB)
- 3). QPMargin (dB) = QP Limit (dB μ V) - QP Value (dB μ V)
- 4). AVMargin (dB) = AV Limit (dB μ V) - AV Value (dB μ V)

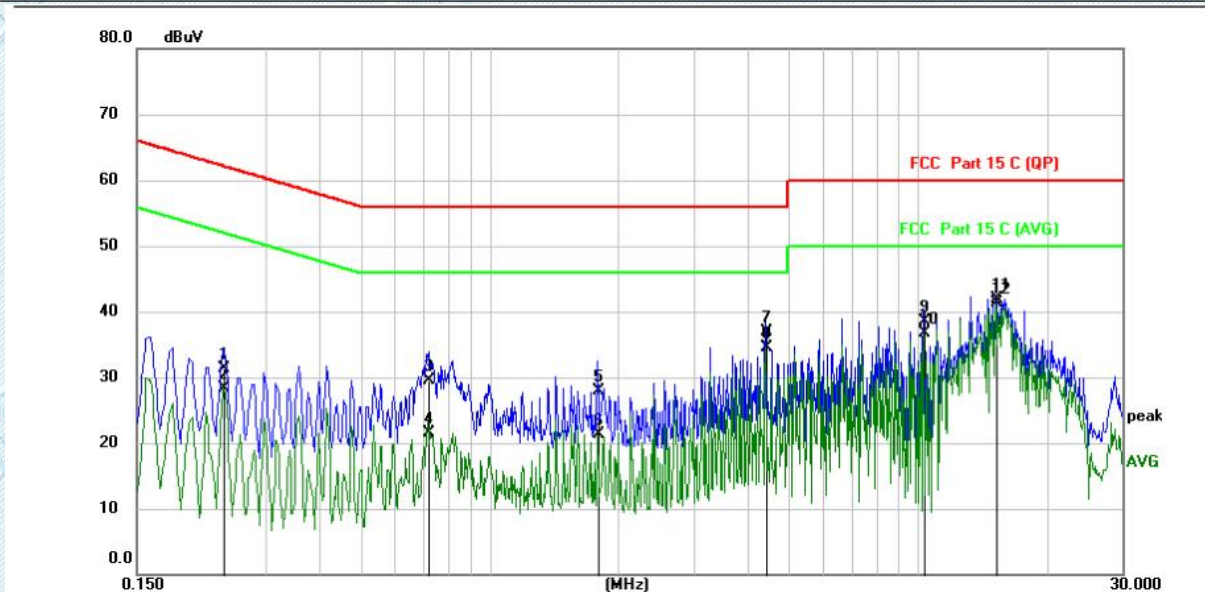
TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

4.1.3. Test Data:

Test Mode1 / Line: Line

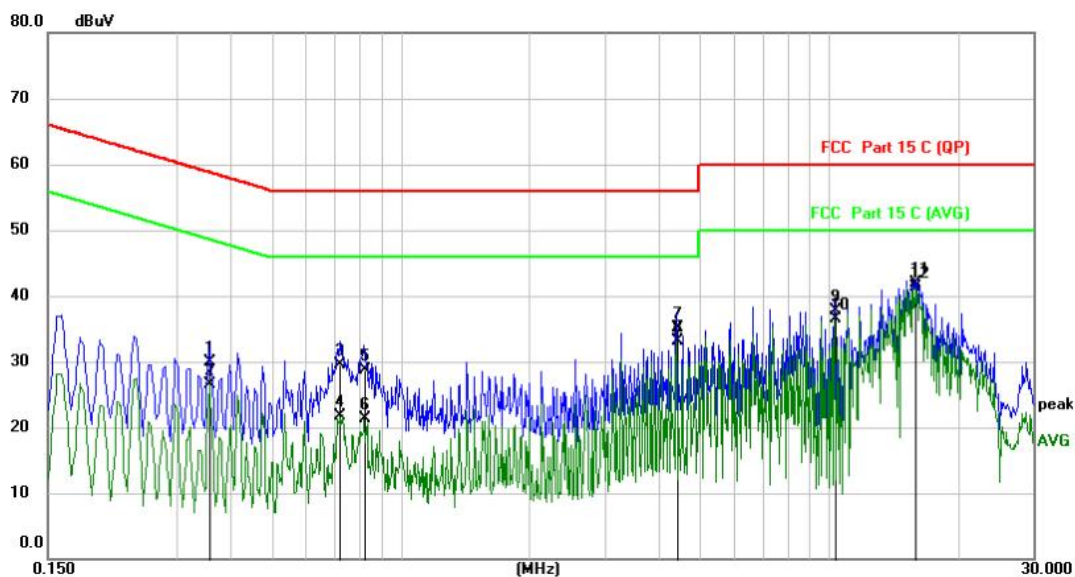


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.2380	10.57	20.72	31.29	62.17	-30.88	QP	
2	0.2380	7.59	20.72	28.31	52.17	-23.86	AVG	
3	0.7220	8.76	20.78	29.54	56.00	-26.46	QP	
4	0.7220	0.80	20.78	21.58	46.00	-24.42	AVG	
5	1.7900	7.11	20.85	27.96	56.00	-28.04	QP	
6	1.7900	0.43	20.85	21.28	46.00	-24.72	AVG	
7	4.4260	15.91	20.93	36.84	56.00	-19.16	QP	
8	4.4260	13.64	20.93	34.57	46.00	-11.43	AVG	
9	10.3260	17.44	21.15	38.59	60.00	-21.41	QP	
10	10.3260	15.58	21.15	36.73	50.00	-13.27	AVG	
11	15.1980	20.45	21.52	41.97	60.00	-18.03	QP	
12 *	15.1980	19.80	21.52	41.32	50.00	-8.68	AVG	

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Line: Neutral


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.3580	9.11	20.72	29.83	58.77	-28.94	QP	
2	0.3580	5.71	20.72	26.43	48.77	-22.34	AVG	
3	0.7220	8.78	20.76	29.54	56.00	-26.46	QP	
4	0.7220	1.04	20.76	21.80	46.00	-24.20	AVG	
5	0.8220	7.85	20.77	28.62	56.00	-27.38	QP	
6	0.8220	0.47	20.77	21.24	46.00	-24.76	AVG	
7	4.4220	14.14	20.87	35.01	56.00	-20.99	QP	
8	4.4220	12.26	20.87	33.13	46.00	-12.87	AVG	
9	10.3260	16.57	21.11	37.68	60.00	-22.32	QP	
10	10.3260	15.41	21.11	36.52	50.00	-13.48	AVG	
11	15.9180	20.30	21.56	41.86	60.00	-18.14	QP	
12 *	15.9180	19.72	21.56	41.28	50.00	-8.72	AVG	

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

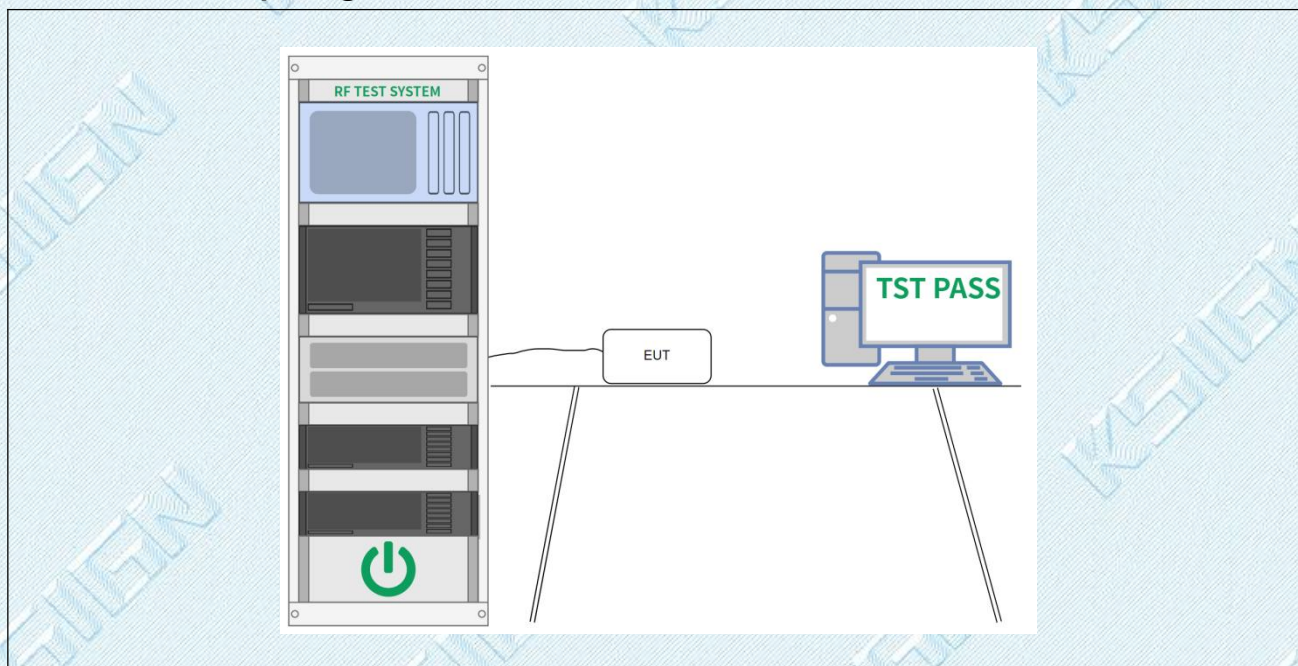
4.2. 20dB Occupied Bandwidth

Test Requirement:	47 CFR Part 15.215(c)
Test Limit:	Refer to 47 CFR 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.
Test Method:	ANSI C63.10-2013, section 6.9.2
Procedure:	a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the “-xx dB down amplitude” using $[(\text{reference value}) - \text{xx}]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j). j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

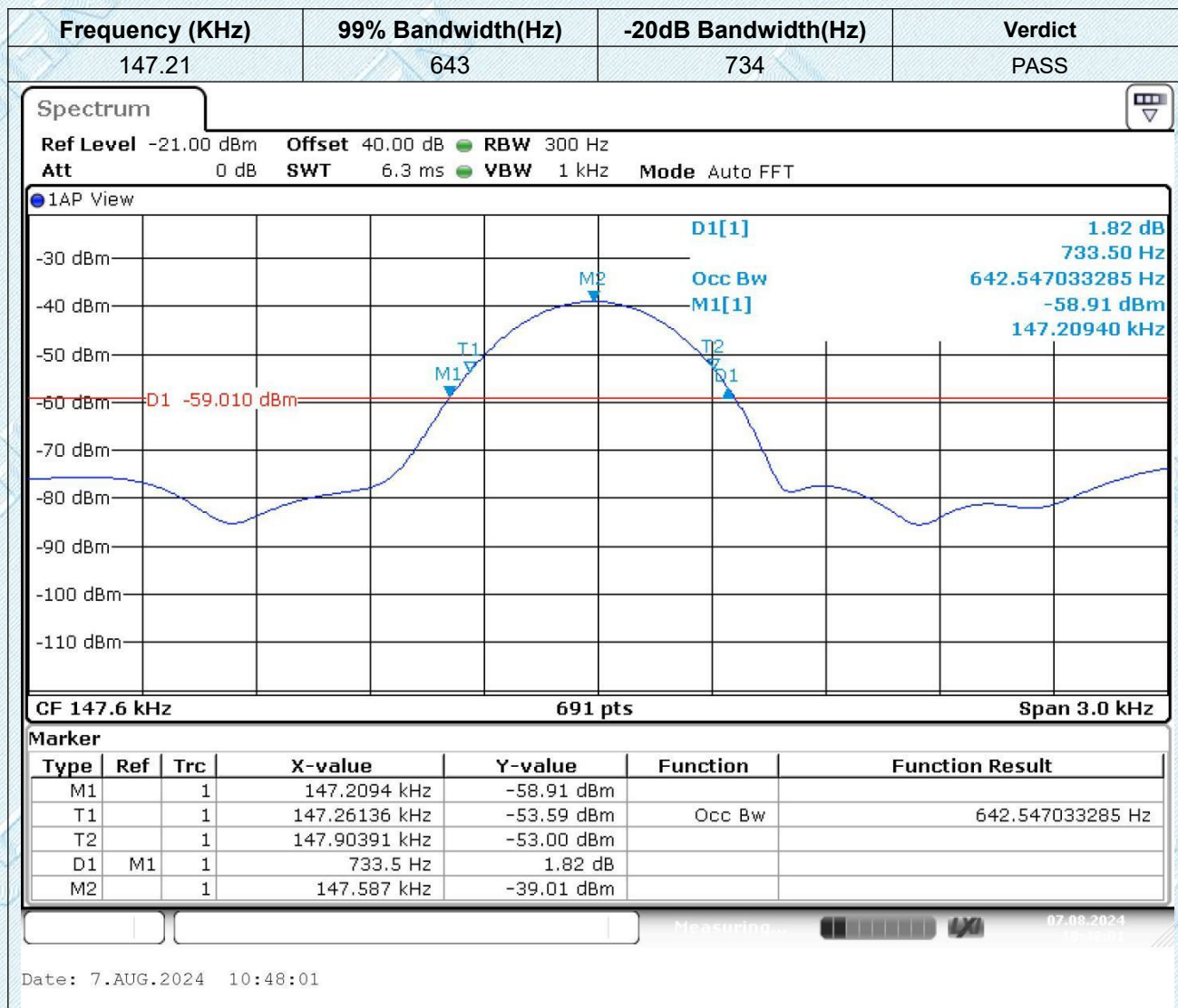
4.2.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	49 %
Atmospheric Pressure:	101 kPa
Final test mode:	Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6, Test Mode7, Test Mode8, Test Mode9

4.2.2. Test Setup Diagram:



4.2.3. Test Data:



TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

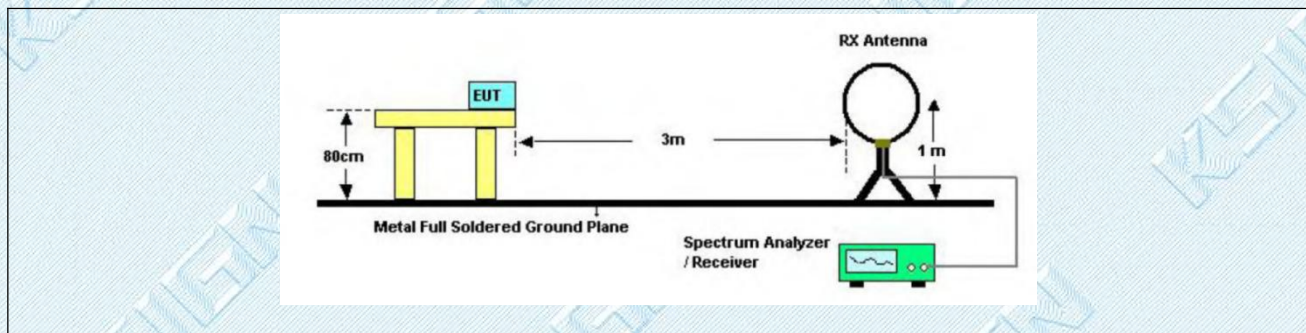
4.3. Emissions in frequency bands (below 30MHz)

Test Requirement:	47 CFR Part 15.209		
Test Limit:	Frequency (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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.			
Test Method:	ANSI C63.10-2013 section 6.4		
Procedure:	ANSI C63.10-2013 section 6.4		

4.3.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	44.5 %
Atmospheric Pressure:	101 kPa
Final test mode:	Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6, Test Mode7, Test Mode8, Test Mode9

4.3.2. Test Setup Diagram:



Note:

Correct Factor=Antenna Factor + Cable Loss -Preamplifier Factor

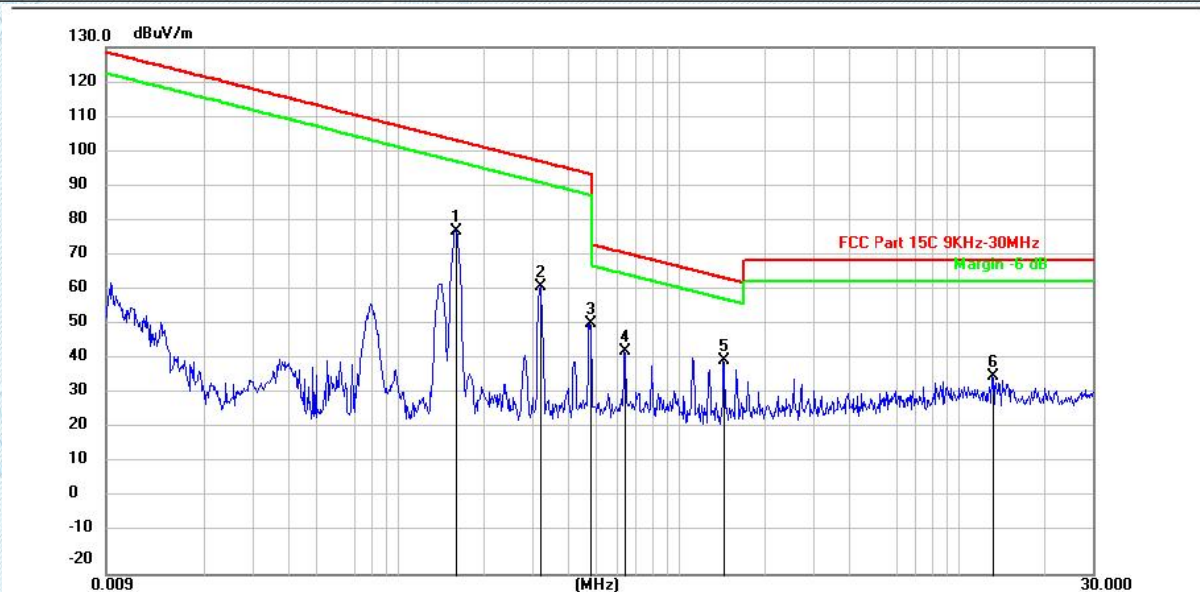
TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

4.3.3. Test Data:

Test Mode1 / Axis: X



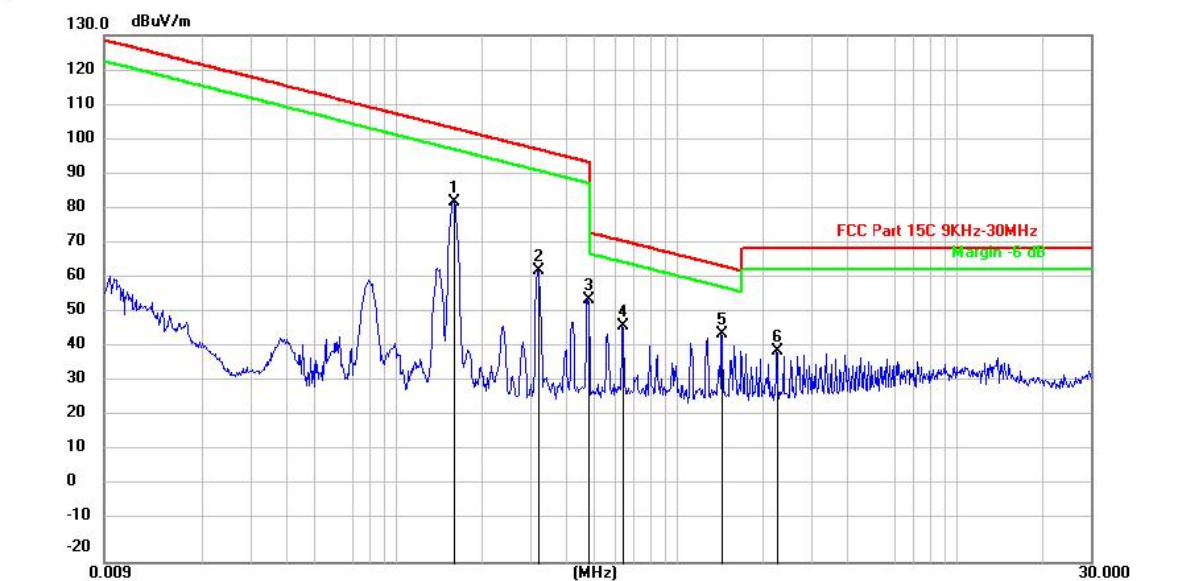
No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1598	88.65	-11.02	77.63	103.53	-25.90	peak
2		0.3201	72.91	-11.01	61.90	97.50	-35.60	peak
3		0.4802	62.28	-11.00	51.28	93.98	-42.70	peak
4		0.6390	54.22	-10.61	43.61	71.49	-27.88	peak
5	*	1.4392	50.60	-9.60	41.00	64.44	-23.44	peak
6		13.1262	44.93	-8.57	36.36	69.54	-33.18	peak

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Axis: Y

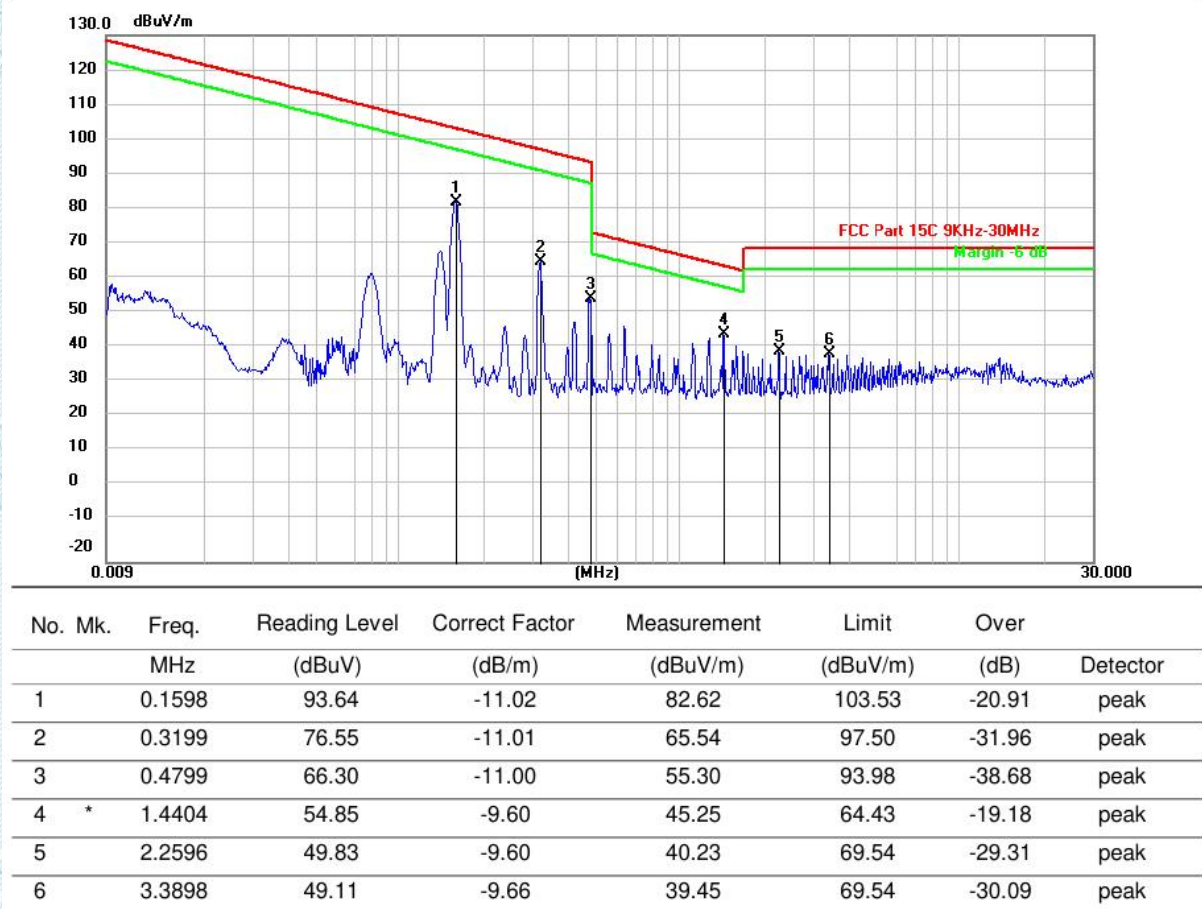


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1598	93.64	-11.02	82.62	103.53	-20.91	peak
2		0.3198	74.24	-11.01	63.23	97.51	-34.28	peak
3		0.4800	65.80	-11.00	54.80	93.98	-39.18	peak
4		0.6390	57.84	-10.61	47.23	71.49	-24.26	peak
5	*	1.4404	54.85	-9.60	45.25	64.43	-19.18	peak
6		2.2595	49.83	-9.60	40.23	69.54	-29.31	peak

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

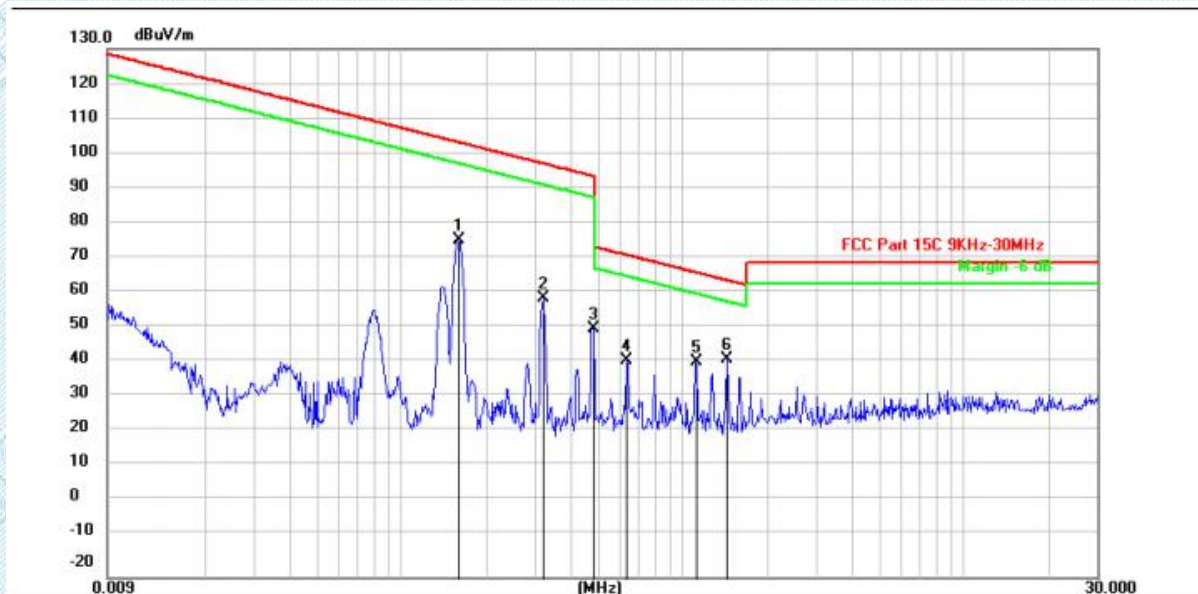
Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Axis: Z


TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

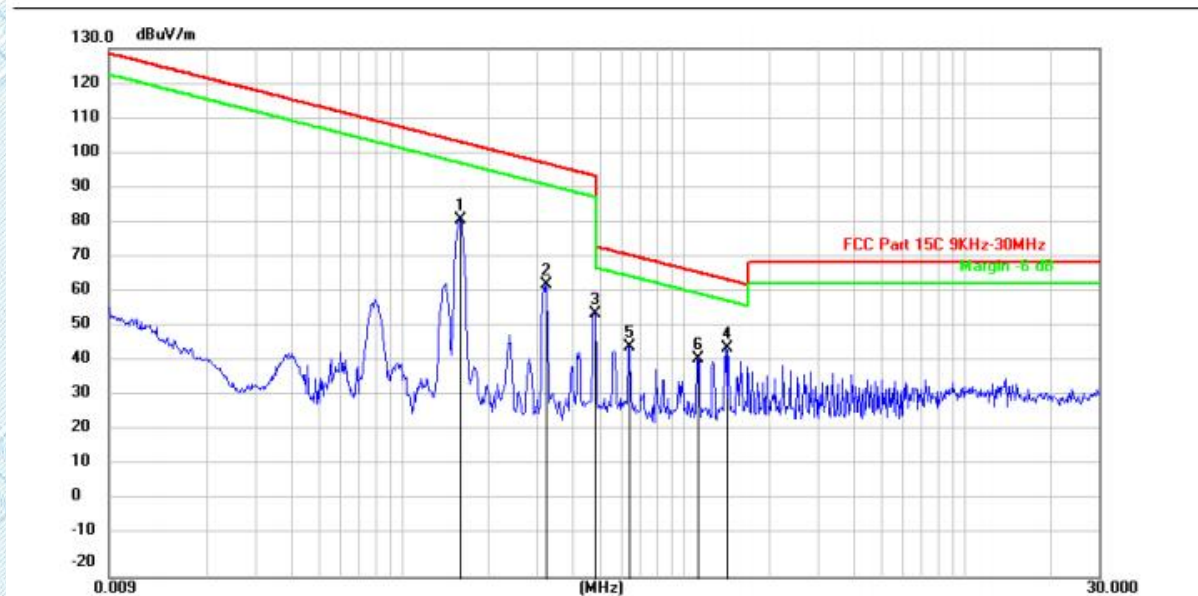
Test Mode5 / Axis: X


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1600	86.97	-11.02	75.95	103.52	-27.57	peak
2		0.3200	70.41	-11.01	59.40	97.50	-38.10	peak
3		0.4828	61.83	-11.00	50.83	93.93	-43.10	peak
4		0.6359	52.25	-10.61	41.64	71.54	-29.90	peak
5		1.1189	50.74	-9.60	41.14	66.63	-25.49	peak
6	*	1.4435	51.58	-9.60	41.98	64.42	-22.44	peak

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksgn.cn Web: www.gdksgn.com

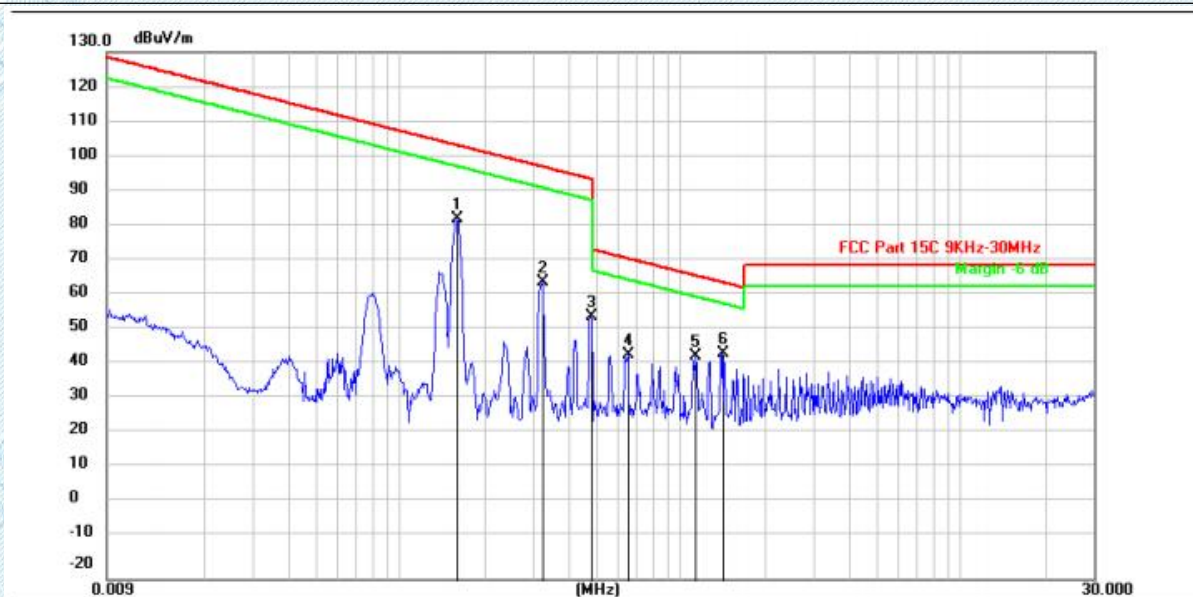
Test Mode5 / Axis: Y


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1600	92.64	-11.02	81.62	103.52	-21.90	peak
2		0.3245	74.03	-11.01	63.02	97.38	-34.36	peak
3		0.4800	65.80	-11.00	54.80	93.98	-39.18	peak
4	*	1.4127	54.81	-9.60	45.21	64.60	-19.39	peak
5		0.6411	56.07	-10.60	45.47	71.47	-26.00	peak
6		1.1189	51.58	-9.60	41.98	66.63	-24.65	peak

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode5 / Axis: Z


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1600	93.46	-11.02	82.44	103.52	-21.08	peak
2		0.3245	75.74	-11.01	64.73	97.38	-32.65	peak
3		0.4800	65.80	-11.00	54.80	93.98	-39.18	peak
4		0.6568	54.42	-10.56	43.86	71.26	-27.40	peak
5		1.1411	53.10	-9.60	43.50	66.46	-22.96	peak
6	*	1.4127	53.81	-9.60	44.21	64.60	-20.39	peak

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

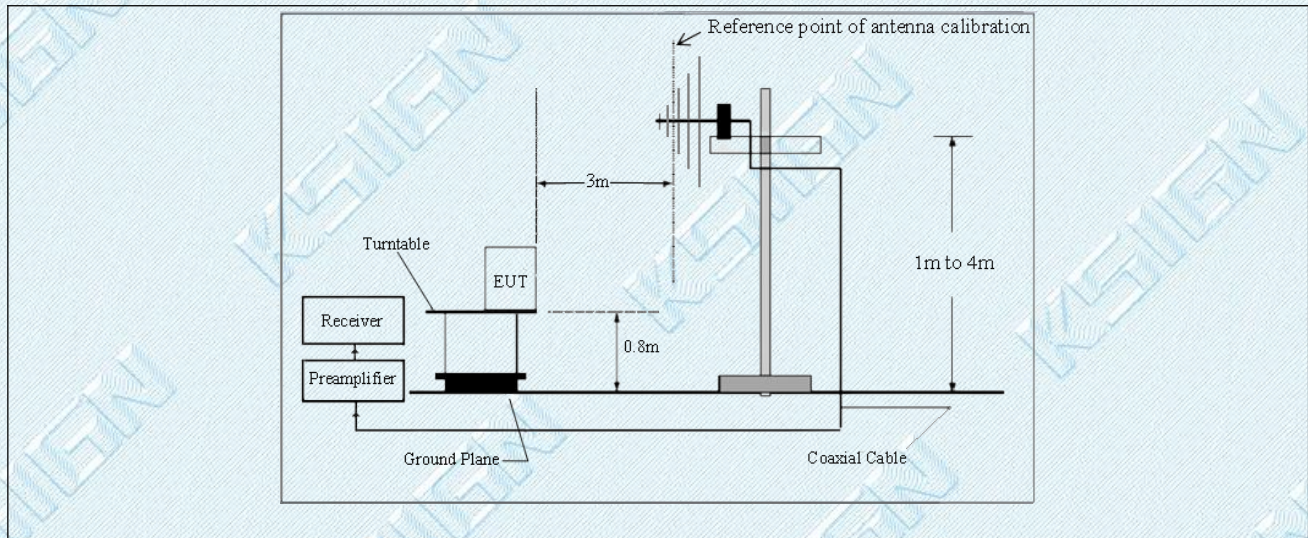
4.4. Emissions in frequency bands (30MHz - 1GHz)

Test Requirement:	47 CFR Part 15.209		
Test Limit:	Frequency (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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.			
Test Method:	ANSI C63.10-2013 section 6.5		
Procedure:	ANSI C63.10-2013 section 6.5		

4.4.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	44.5 %
Atmospheric Pressure:	101 kPa
Final test mode:	Test Mode1, Test Mode2, Test Mode3, Test Mode4, Test Mode5, Test Mode6, Test Mode7, Test Mode8, Test Mode9

4.4.2. Test Setup Diagram:

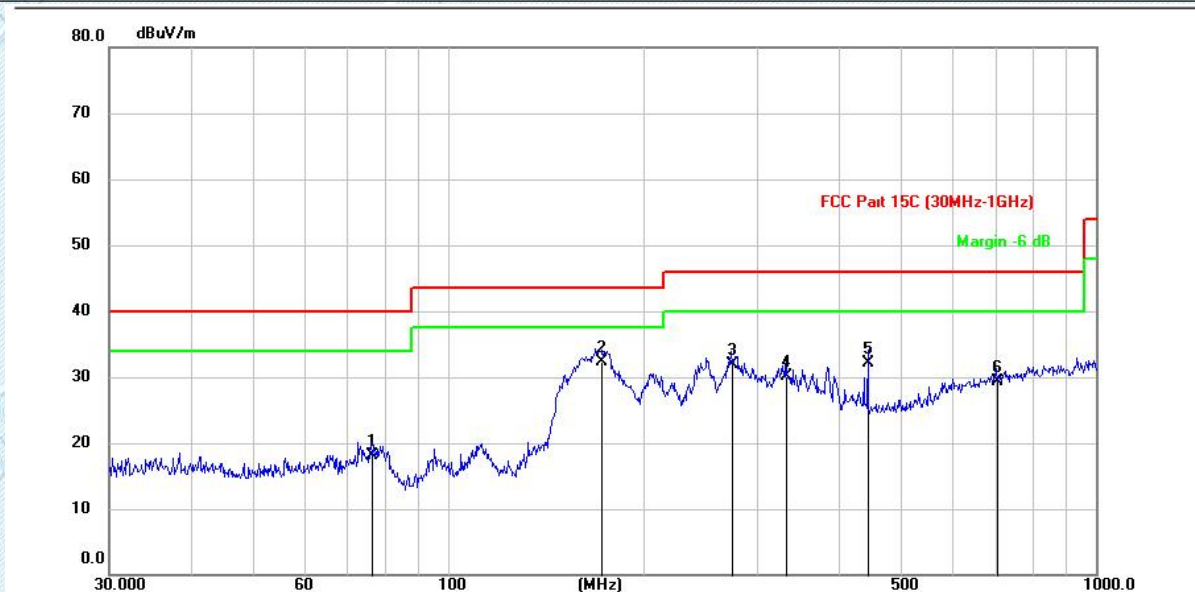


Note:

- 1). Level (dB μ V/m) = Reading (dB μ V) + Factor (dB/m)
- 2). Factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB)
- 3). Margin (dB) = Limit (dB μ V/m) - Level (dB μ V/m)

4.4.3. Test Data:

Test Mode1 / Polarization: Horizontal

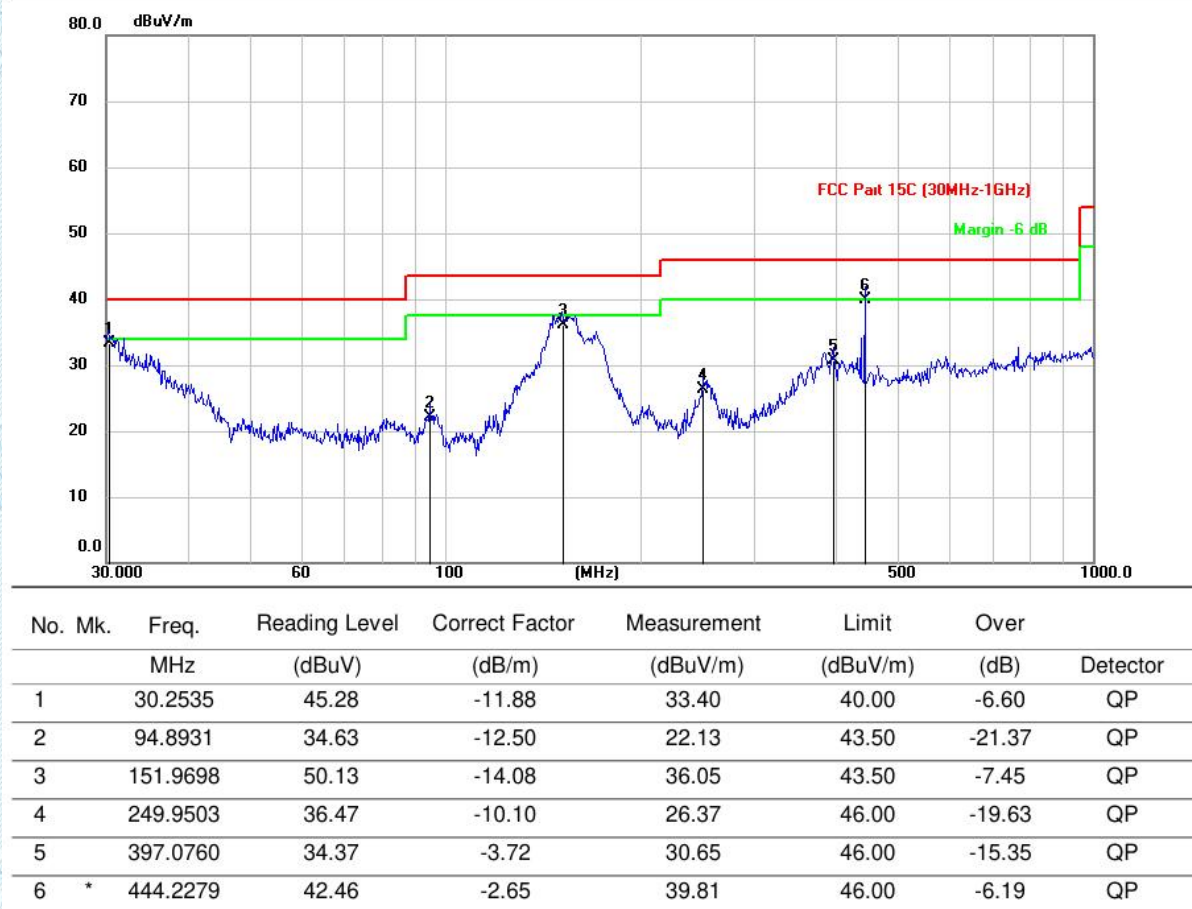


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		76.2977	32.13	-14.06	18.07	40.00	-21.93	QP
2	*	172.0549	45.16	-12.85	32.31	43.50	-11.19	QP
3		274.0977	41.19	-9.29	31.90	46.00	-14.10	QP
4		331.8198	36.77	-6.61	30.16	46.00	-15.84	QP
5		443.9164	34.66	-2.65	32.01	46.00	-13.99	QP
6		702.2531	27.21	2.16	29.37	46.00	-16.63	QP

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode1 / Polarization: Vertical


TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

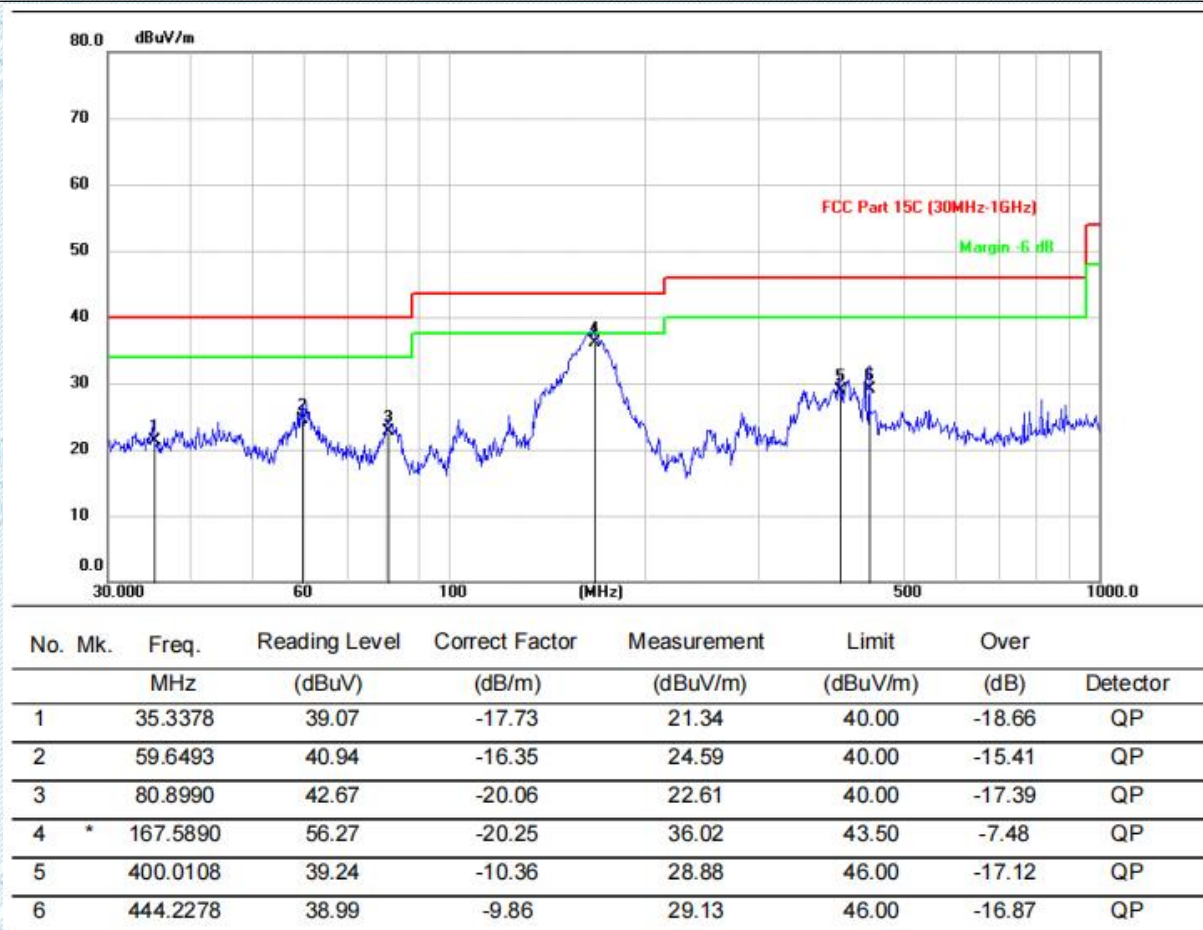
Test Mode5 / Polarization: Horizontal


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		141.4785	44.35	-21.11	23.24	43.50	-20.26	QP
2	*	176.0215	51.53	-19.77	31.76	43.50	-11.74	QP
3		277.2879	47.02	-16.54	30.48	46.00	-15.52	QP
4		312.9465	43.43	-14.90	28.53	46.00	-17.47	QP
5		401.5566	36.87	-10.40	26.47	46.00	-19.53	QP
6		444.2278	36.70	-9.86	26.84	46.00	-19.16	QP

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

Test Mode5 / Polarization: Vertical


TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

5. EUT TEST PHOTOS

Conducted Emission at AC power line



Emissions in frequency bands (below 30MHz)

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdkesign.cn Web: www.gdkesign.com

Emissions in frequency bands (30MHz - 1GHz)

TRF No. RF_R1

Add: West Side of 1/F., Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu, Shatou, Shajing, Bao'an District, Shenzhen, Guangdong, China

Tel: +(86) 0755-2985 2678 Fax: +(86) 0755-2985 2397 E-mail: info@gdksign.cn Web: www.gdksign.com

6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Refer to Appendix - EUT Photos for KS2405S1673E.docx

--THE END--

Important Notice

1. The results are valid only for the samples submitted.
2. The report is invalid without the "APPROVED Seal" and the "Riding Seam Seal".
3. This report is invalid without the signature of the main inspector, reviewer, or approver.
4. The testing report cannot be partially copied without the written consent of our laboratory.
5. If the report is not stamped with the "CMA" logo, it indicates that the report does not have any social certification effect in China.
6. Product information, customer information, and sample sources are all provided by the client, and we are not responsible for their authenticity.
7. The inspection basis or inspection items marked with "★" are not within the scope of CNAS, CMA and A2LA accreditation in this laboratory.
8. Reports that are transferred, copied, stolen, impersonated, altered, or tampered with in any media form without authorization are invalid.
9. If you have any objections to this report, you can appeal to our unit within 15 days after receiving the report. Failure to do so will not be accepted.
10. For situations where compliance decision needs to be made based on test result, such as when there are no relevant decision rules required by the regulations, standards, or technical specifications used, or when there are no relevant customer requirements, the report issued by our laboratory refer to ILAC-G8:09-2019 and CNAS-GL015:2022 using simple acceptance decision rules.

Laboratory: KSIGN(Guangdong) Testing Co., Ltd.

Address: First Floor West Side, Building C, Zone A, Fuyuan New Factory, Jiujiu Industrial Park, Minzhu Village, Shatou Community, Shajing Street, Bao'an District, Shenzhen City, Guangdong Province, P. R. China. 518104

Tel.: +(86) 0755-29852678

Fax.: +(86) 0755-29852397

E-mail: info@gdksign.cn

Web: www.gdksign.com