

TEST REPORT

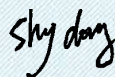
Report No..... : KS2306S3130E06
FCC ID..... : 2A639-P1000-R
Applicant..... : AUO Display Plus Corporation
Address..... : No. 1, Gongye E. 3rd Rd., East Dist., Hsinchu Science Park, Hsinchu City, Taiwan
Manufacturer..... : AUO Display Plus Corporation
Address..... : No. 1, Gongye E. 3rd Rd., East Dist., Hsinchu Science Park, Hsinchu City, Taiwan
Product Name..... : Panel PC
Model/Type reference..... : PA1000-R, PA1000-X(X is A-Z)
Standard..... : 47 CFR Part 15.225
Date of Receipt..... : June 14, 2023
Date of Test Date..... : June 14, 2023 to February 19, 2024
Date of issue..... : February 19, 2024
Test result..... : Pass

Conclusion..... : When determining of test conclusion, measurement uncertainty of tests have been considered.

Prepared by:
(Printed name + Signature) Pai Zheng



Approved by:
(Printed name + Signature) Tom Chen



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

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

47 CFR Part 15.225: Operation within the band 13.110–14.010 MHz

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	February 19, 2024	Original

1.3. Test Description

Test Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.225	47 CFR 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.225	47 CFR 15.207(a)	Pass
20dB Bandwidth	47 CFR Part 15.225	47 CFR 15.215(c)	Pass
Frequency Tolerance	47 CFR Part 15.225	47 CFR 15.231(e)	Pass
Field Strength of The Fundamental Signal	47 CFR Part 15.225	47 CFR 15.225(a)	Pass
Emission Mask	47 CFR Part 15.225	47 CFR 15.225(b), 15.225(c)	Pass
Emissions in frequency bands (below 30MHz)	47 CFR Part 15.225	47 CFR 15.225(d)	Pass
Emissions in frequency bands (30M-1GHz)	47 CFR Part 15.225	47 CFR 15.225(d)	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: L13261

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)	$\pm 3.34\text{dB}$
RSE (30-1000MHz)	$\pm 5.7\text{dB}$

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 %.

2. GENERAL INFORMATION

2.1. General Description Of EUT

Test Sample Number:	1-1(Normal Sample), 1-2(Engineering Sample)
Product Name:	Panel PC
Model / Type reference:	PA1000-R, PA1000-X(X is A-Z)
Model Difference:	The difference product models are model names and software APP. Different model names are available to meet market demands. Other power supply methods, appearance, internal structures, circuits and key components are the same, and do not affect safety and electromagnetic compatibility performance.
Power Supply:	DC 12V from adapter/POE
Operation Frequency:	13.56MHz
Number of Channels:	1
Modulation Type:	ASK
Antenna Type:	Coil
Antenna Gain:	0dBi
Max TX Power:	68.33dBuV/m
Hardware Version:	YKT-MP-M-C-V230
Software Version:	V7.3

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

2.2. Accessory Equipment Information

The EUT was tested as an independent device.

2.3. Description of Test Modes

No.	Title	Description of Mode
Test Mode1	NFC	Keep EUT in NFC mode

2.4. Operation channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel
1	13.56	/	/	/

2.5. Measurement Instruments List

Conducted Emission at AC power line				
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
LISN	R&S	ENV432	1326.6105.02	2025-01-19
EMI Test Receiver	R&S	ESR	102524	2025-01-19
Manual RF Switch	JS TOYO	/	MSW-01/002	2025-01-19
ISN CAT6	Schwarzbeck	CAT5 8158	227	2025-01-19
Color Signal Generator	Philips	PM5418	672926	2025-01-19
Power Absorbing Clamp	R&S	MDS-21	100925	2025-01-19

20dB Bandwidth Frequency Tolerance				
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Wideband Radio Communication Tester	R&S	CMU200	115297	2025-01-19
Audio Analyzer	R&S	UPL16	100001	2025-01-19
Shielding box	Gxiong	GX-5915A	2201113	2025-01-19
High Pass Filter	COM-MW Technology Co., Ltd	ZHPF-M1.2-9G-1 87	09203403	2025-01-19
Band Stop Filter	COM-MW Technology Co., Ltd	ZBSF6-C820-920 -188	09203401	2025-01-19
Splitter	COM-MW Technology Co., Ltd	ZPD-M1-8-2103	09203407	2025-01-19
Coaxial Cable	BEBES	A40-2.92M2.92F-4.5M	1907021	2025-01-19
Hygrothermograph	Anymetre	JB913	/	2025-01-19
Climate Chamber	Angul	AGNH80L	1903042120	2025-01-19
Spectrum Analyzer	HP	8593E	3831U02087	2025-01-19
Dual Output DC Power Supply	Agilent	E3646A	MY40009992	2025-01-19
RF Control Unit	Tonscend	JS0806-2	/	2025-01-19
Analog Signal Generator	HP	83752A	3344A00337	2025-01-19
Vector Signal Generator	Agilent	N5182A	MY50142520	2025-01-19
Wideband Radio Communication Tester	R&S	CMW500	157282	2025-01-19
Spectrum Analyzer	R&S	FSV40-N	101798	2025-01-19

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Field Strength of The Fundamental Signal Emission Mask Emissions in frequency bands (below 30MHz) Emissions in frequency bands (30M-1GHz)				
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Color Signal Generator	Philips	PM5418	672926	2025-01-19
Ultra-Broadband logarithmic period Antenna	Schwarzbeck	VULB 9163	1230	2025-02-18
Pre-Amplifier	Schwarzbeck	BBV 9745	9745#129	2025-01-19
Broadcast Television Signal Generator	R&S	SFE100	141038	2025-01-19
Analog Signal Generator	Agilent	8648A	3847M00445	2025-01-19
EMI Test Receiver	R&S	ESR	102525	2025-01-19
Loop Antenna	Beijin ZHINAN	ZN30900C	18050	2025-01-19
Horn Antenna	Schwarzbeck	BBHA 9120 D	2023	2026-02-19
Pre-Amplifier	EMCI	EMC051835SE	980662	2025-01-19
Spectrum Analyzer	Keysight	N9020A	MY46471971	2025-01-19

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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.
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4. Radio Spectrum Matter Test Results (RF)

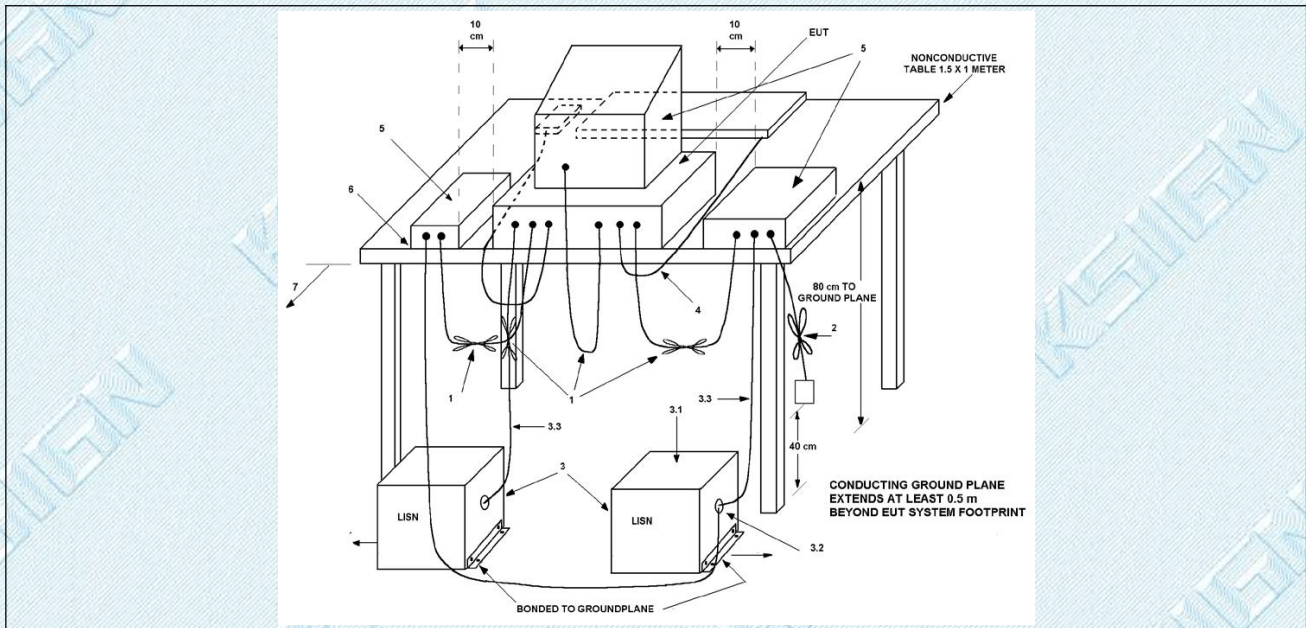
4.1. Conducted Emission at AC power line

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:

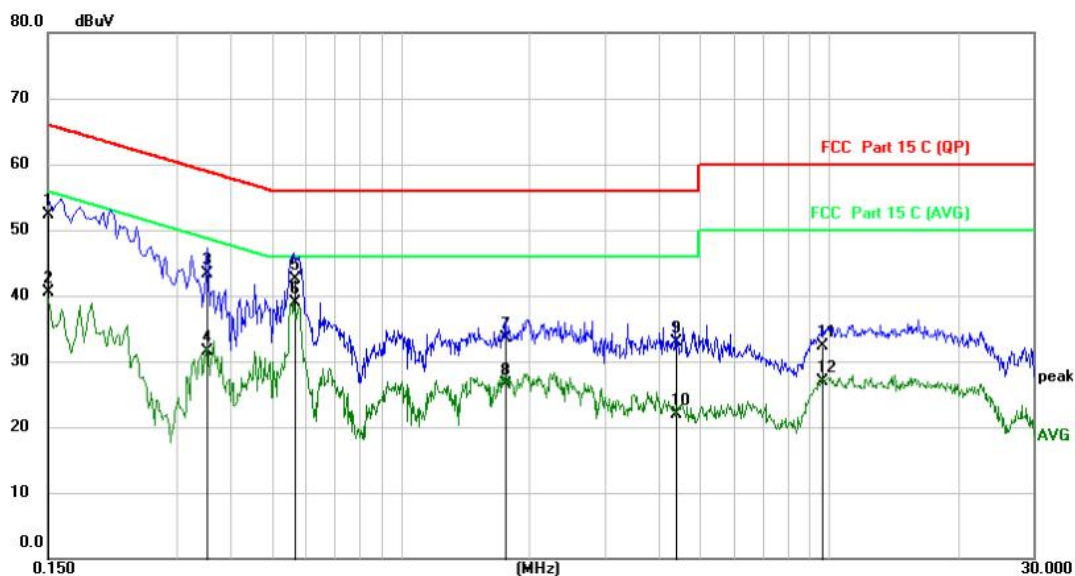
Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.1.2. Test Setup Diagram:



4.1.3. Test Data:

Test Mode1 / Line: Line / BW: 0.2 / CH: M

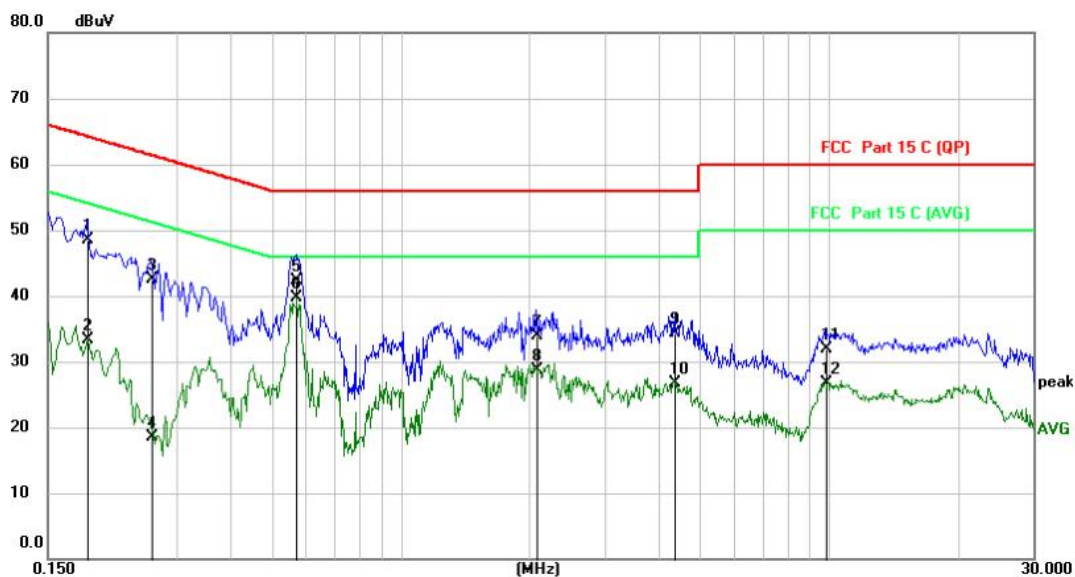


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1500	41.15	11.16	52.31	66.00	-13.69	QP	
2	0.1500	29.34	11.16	40.50	56.00	-15.50	AVG	
3	0.3537	32.25	11.01	43.26	58.88	-15.62	QP	
4	0.3537	20.59	11.01	31.60	48.88	-17.28	AVG	
5	0.5655	31.44	11.00	42.44	56.00	-13.56	QP	
6 *	0.5655	27.95	11.00	38.95	46.00	-7.05	AVG	
7	1.7540	22.29	11.15	33.44	56.00	-22.56	QP	
8	1.7540	15.38	11.15	26.53	46.00	-19.47	AVG	
9	4.3900	21.42	11.48	32.90	56.00	-23.10	QP	
10	4.3900	10.43	11.48	21.91	46.00	-24.09	AVG	
11	9.6178	19.87	12.45	32.32	60.00	-27.68	QP	
12	9.6178	14.50	12.45	26.95	50.00	-23.05	AVG	

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Test Mode1 / Line: Neutral / BW: 0.2 / CH: M


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1859	37.53	11.06	48.59	64.22	-15.63	QP	
2	0.1859	22.27	11.06	33.33	54.22	-20.89	AVG	
3	0.2620	31.42	11.03	42.45	61.37	-18.92	QP	
4	0.2620	7.53	11.03	18.56	51.37	-32.81	AVG	
5	0.5700	31.34	11.01	42.35	56.00	-13.65	QP	
6 *	0.5700	28.65	11.01	39.66	46.00	-6.34	AVG	
7	2.0659	22.81	11.17	33.98	56.00	-22.02	QP	
8	2.0659	17.56	11.17	28.73	46.00	-17.27	AVG	
9	4.3778	22.89	11.46	34.35	56.00	-21.65	QP	
10	4.3778	15.29	11.46	26.75	46.00	-19.25	AVG	
11	9.8500	19.50	12.45	31.95	60.00	-28.05	QP	
12	9.8500	14.18	12.45	26.63	50.00	-23.37	AVG	

Note:

1. Measurement = Reading level + Correct Factor
2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

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4.2. 20dB Bandwidth

Test Requirement:	47 CFR 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 “-ixx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value,

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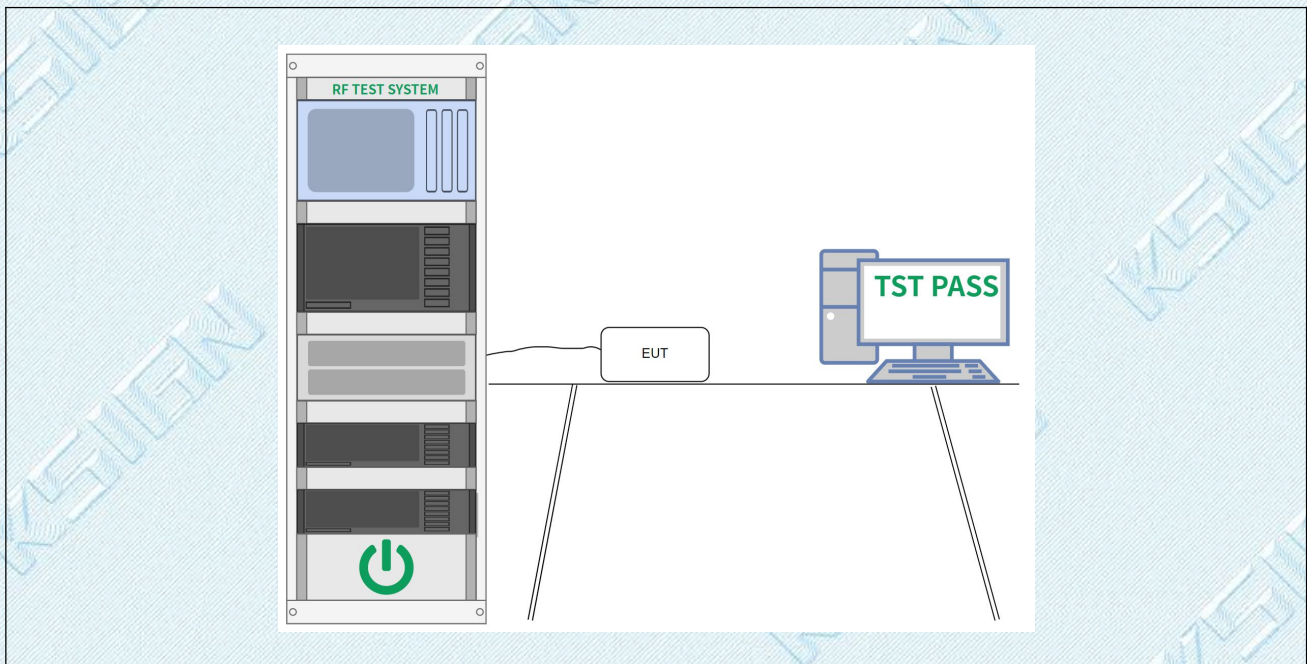
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	then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “ixx 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).
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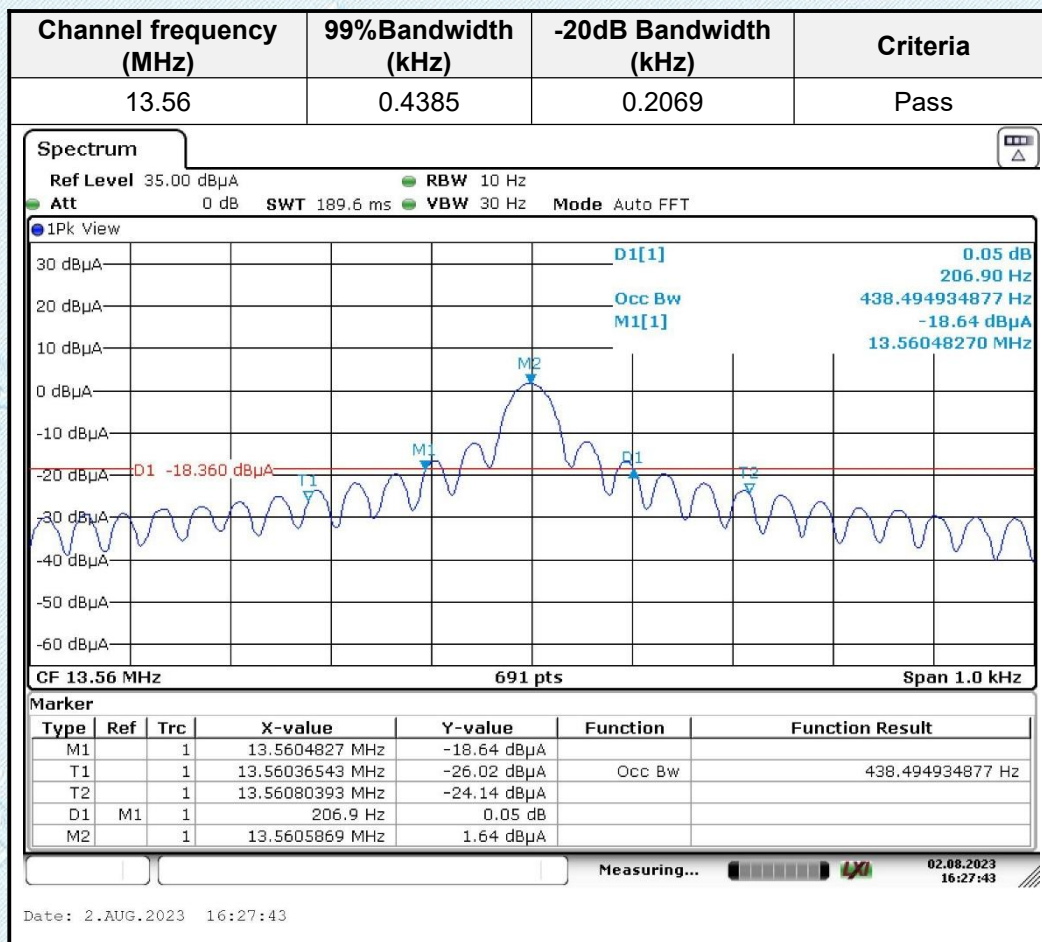
4.2.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.2.2. Test Setup Diagram:



4.2.3. Test Data:



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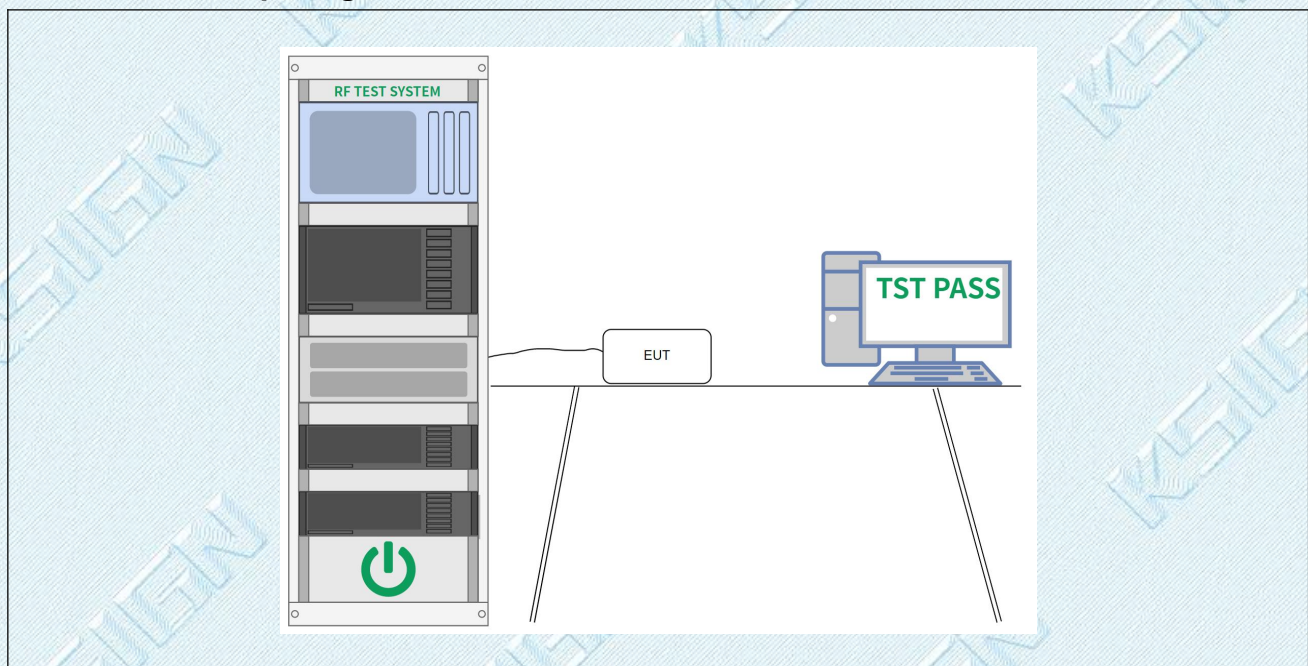
4.3. Frequency Tolerance

Test Requirement:	47 CFR 15.231(e)
Test Limit:	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.
Test Method:	ANSI C63.10-2013, Section 6.8
Procedure:	Refer to ANSI C63.10-2013, Section 6.8

4.3.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.3.2. Test Setup Diagram:



4.3.3. Test Data:

Voltage vs. Frequency Stability (Test Temperature: 20℃)

Voltage(V)	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
12.0	13.56052	0.00061	0.001356	PASS
10.2	13.56060			
13.8	13.56061			

Temperature vs. Frequency Stability (Test Voltage: 12.0V)

Temperature	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
- 20℃	13.56052	0.00061	0.001356	PASS
-10℃	13.56059			
0℃	13.56061			
10℃	13.56060			
20℃	13.56058			
30℃	13.56060			
40℃	13.56061			
50℃	13.56055			

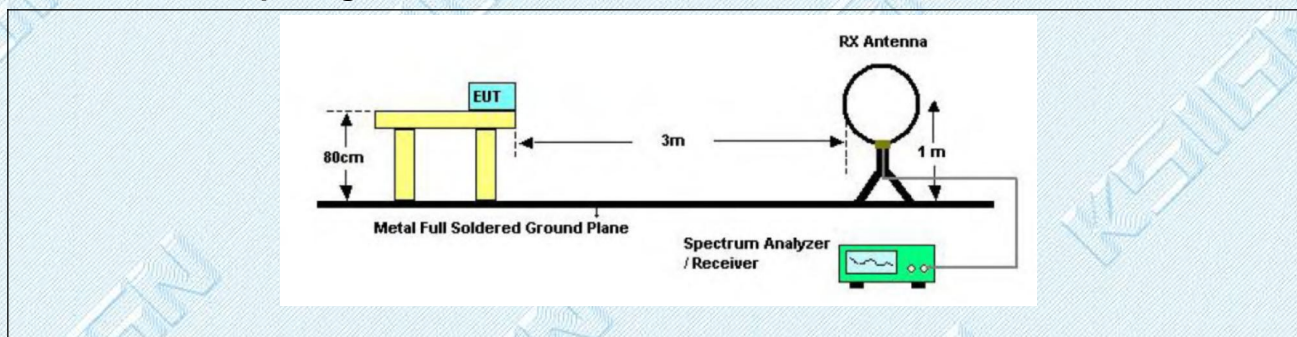
4.4. Field Strength of The Fundamental Signal

Test Requirement:	47 CFR 15.225(a)
Test Limit:	The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
Test Method:	ANSI C63.10-2013, Section 6.4
Procedure:	Refer to ANSI C63.10-2013, Section 6.4

4.4.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.4.2. Test Setup Diagram:



4.4.3. Test Data:

Frequency (MHz)	Read Level (dBuV)	Correct Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dBuV/m)	Polarization	Test value
13.56	96.38	-29.04	67.34	124	56.66	Horizontal	Peak
13.56	97.37	-29.04	68.33	124	55.67	Vertical	Peak

Note:

1. Measurement = Reading level + Correct Factor

2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

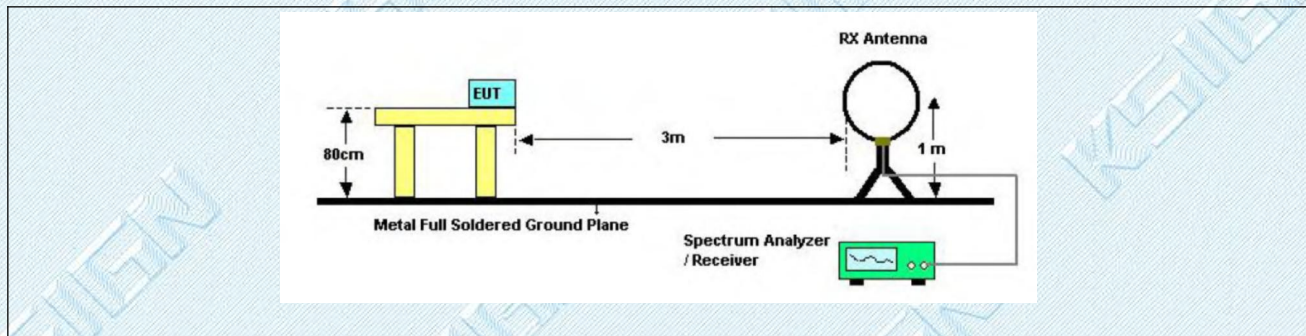
4.5. Emission Mask

Test Requirement:	47 CFR 15.225(b), 15.225(c)
Test Limit:	(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.
Test Method:	ANSI C63.10-2013, Section 6.4
Procedure:	Refer to ANSI C63.10-2013, Section 6.4

4.5.1. E.U.T. Operation:

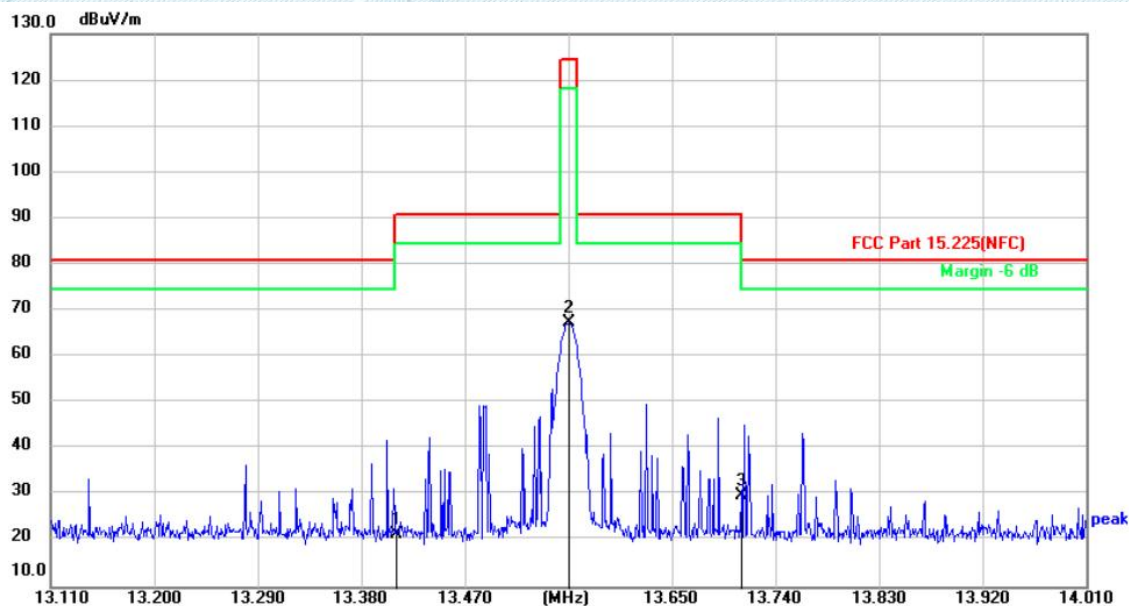
Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.5.2. Test Setup Diagram:



4.5.3. Test Data:

Test Mode1 / Polarization: Horizontal

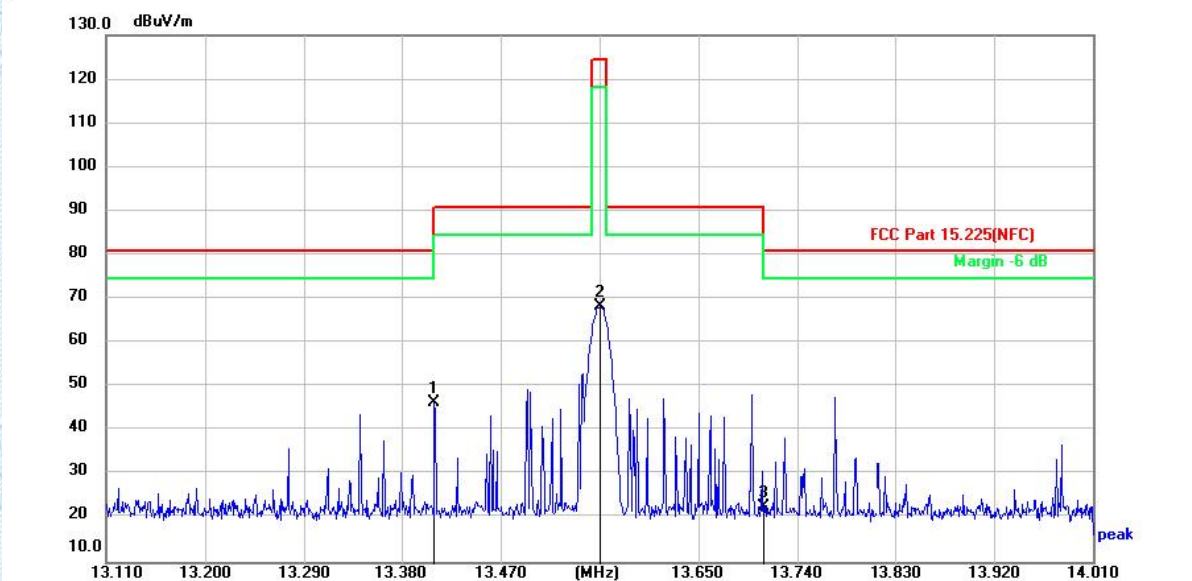


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector
1		13.4100	50.73	-29.03	21.70	80.50	58.80	peak
2		13.5605	96.38	-29.04	67.34	124.00	56.66	peak
3	*	13.7100	58.89	-29.04	29.85	80.50	50.65	peak

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Test Mode1 / Polarization: Vertical


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	*	13.4105	75.38	-29.03	46.35	90.50	44.15	peak
2		13.5607	97.37	-29.04	68.33	124.00	55.67	peak
3		13.7100	51.65	-29.04	22.61	80.50	57.89	peak

Note:

1. Measurement = Reading level + Correct Factor

2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

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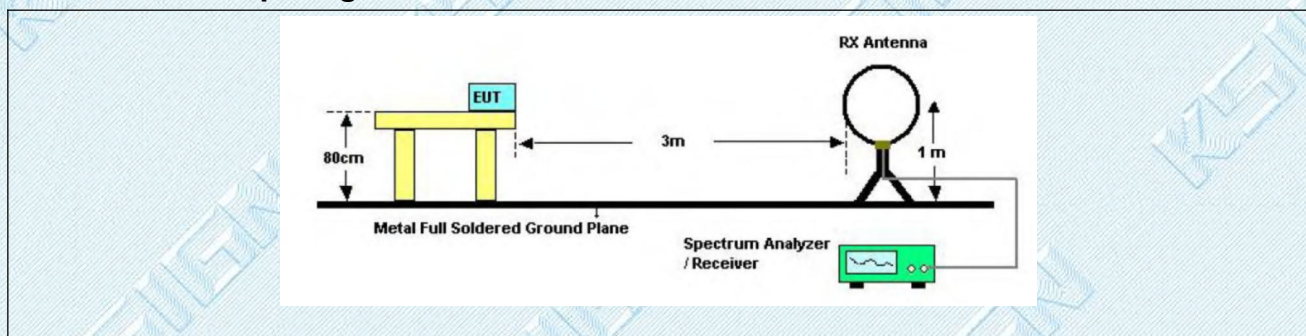
4.6. Emissions in frequency bands (below 30MHz)

Test Requirement:	47 CFR 15.225(d)		
Test Limit:	Refer to 47 CFR Part 15.225(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.		
	47 CFR Part 15.209:		
	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.			
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:	Refer to ANSI C63.10-2013 section 6.4		

4.6.1. E.U.T. Operation:

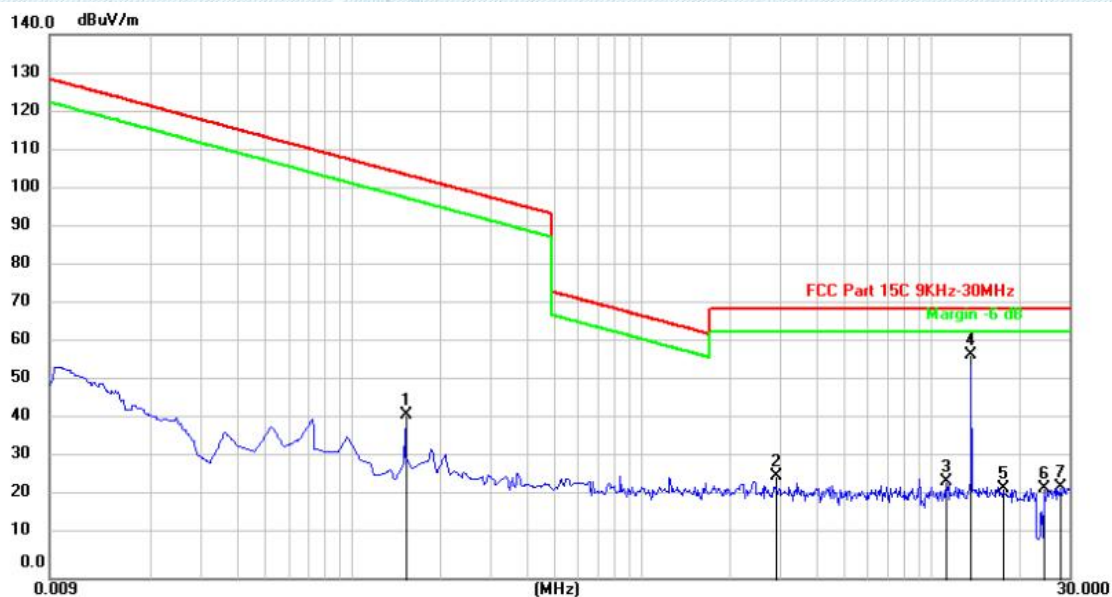
Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode 1

4.6.2. Test Setup Diagram:



4.6.3. Test Data:

Test Mode1 / Polarization: Horizontal

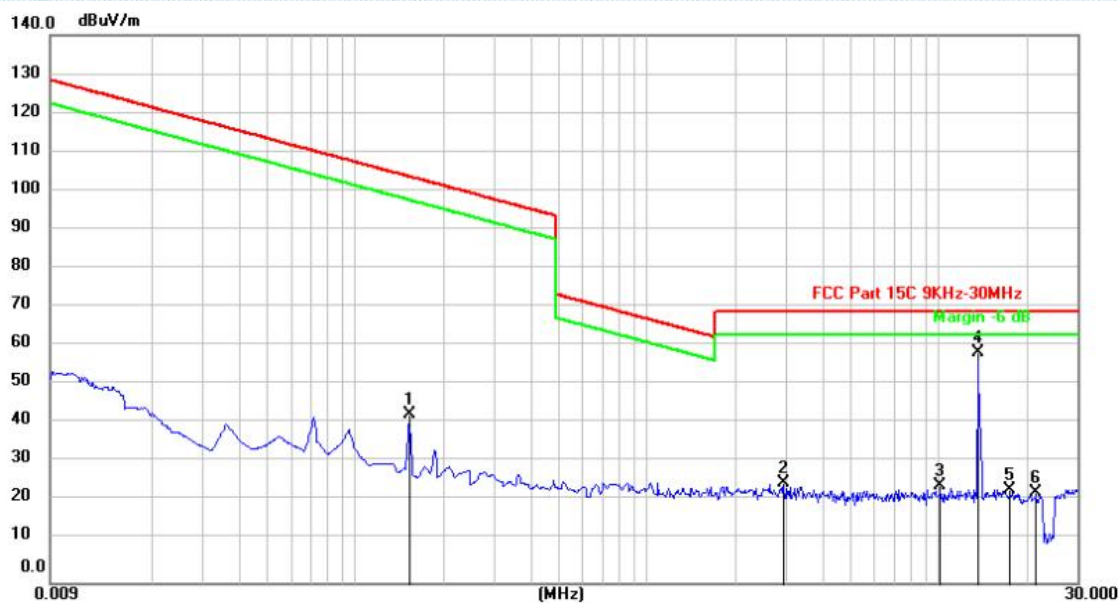


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		0.1529	71.64	-29.36	42.28	103.92	-61.64	peak
2		2.9021	56.74	-30.30	26.44	69.54	-43.10	peak
3		11.2571	54.34	-29.31	25.03	69.54	-44.51	peak
4	*	13.5600	86.97	-29.34	57.63	69.54	-11.91	peak
5		17.7406	52.76	-29.38	23.38	69.54	-46.16	peak
6		24.3553	52.63	-29.40	23.23	69.54	-46.31	peak
7		27.9790	42.08	-18.50	23.58	69.54	-45.96	peak

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Test Mode1 / Polarization: Vertical


No. Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1	0.1529	72.63	-29.36	43.27	103.92	-60.65	peak
2	2.9379	56.08	-30.30	25.78	69.54	-43.76	peak
3	10.0840	54.18	-29.30	24.88	69.54	-44.66	peak
4 *	13.5600	88.16	-29.34	58.82	69.54	-10.72	peak
5	17.5197	53.32	-29.38	23.94	69.54	-45.60	peak
6	21.3226	52.62	-29.40	23.22	69.54	-46.32	peak

Note:

1. Measurement = Reading level + Correct Factor

2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

TRF RF_R1

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4.7. Emissions in frequency bands (30M-1GHz)

Test Requirement:	47 CFR 15.225(d)																								
Test Limit:	Refer to 47 CFR Part 15.225(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.																								
	47 CFR Part 15.209:																								
	<table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table>	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
	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.																									
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:	a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel. h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case. i. Repeat above procedures until all frequencies measured was complete. Remark:																								

TRF RF_R1

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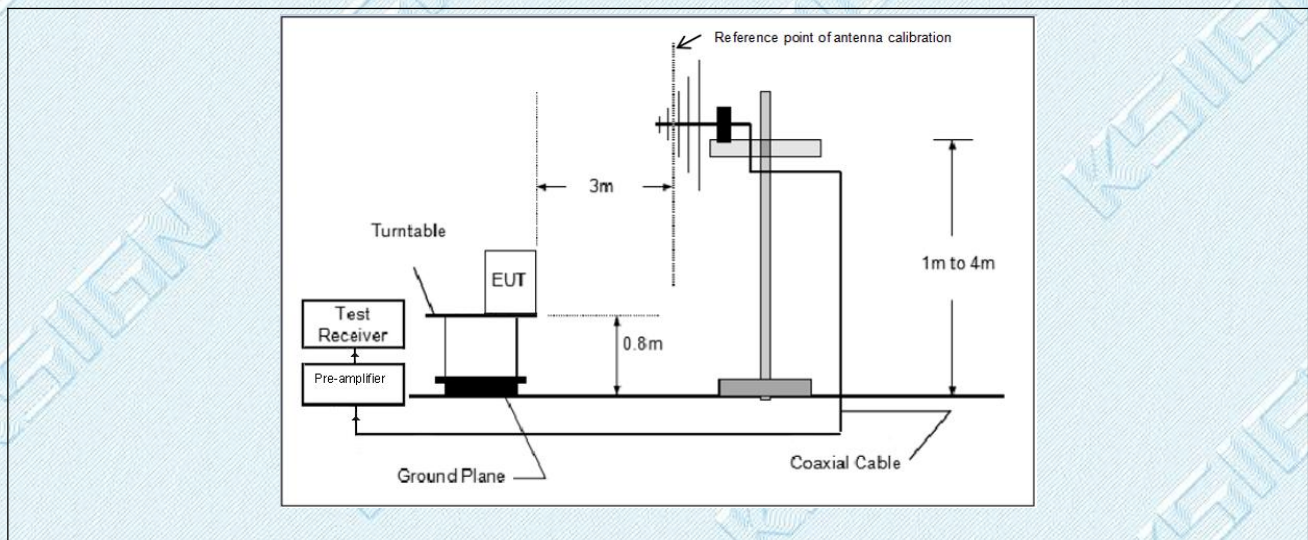
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	1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. 3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
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4.7.1. E.U.T. Operation:

Operating Environment:	
Temperature:	24.4 °C
Humidity:	45.6 %
Atmospheric Pressure:	102 kPa
Final test mode:	Test Mode1

4.7.2. Test Setup Diagram:



4.7.3. Test Data:

Test Mode1 / Polarization: Horizontal / BW: 0.2 / CH: M

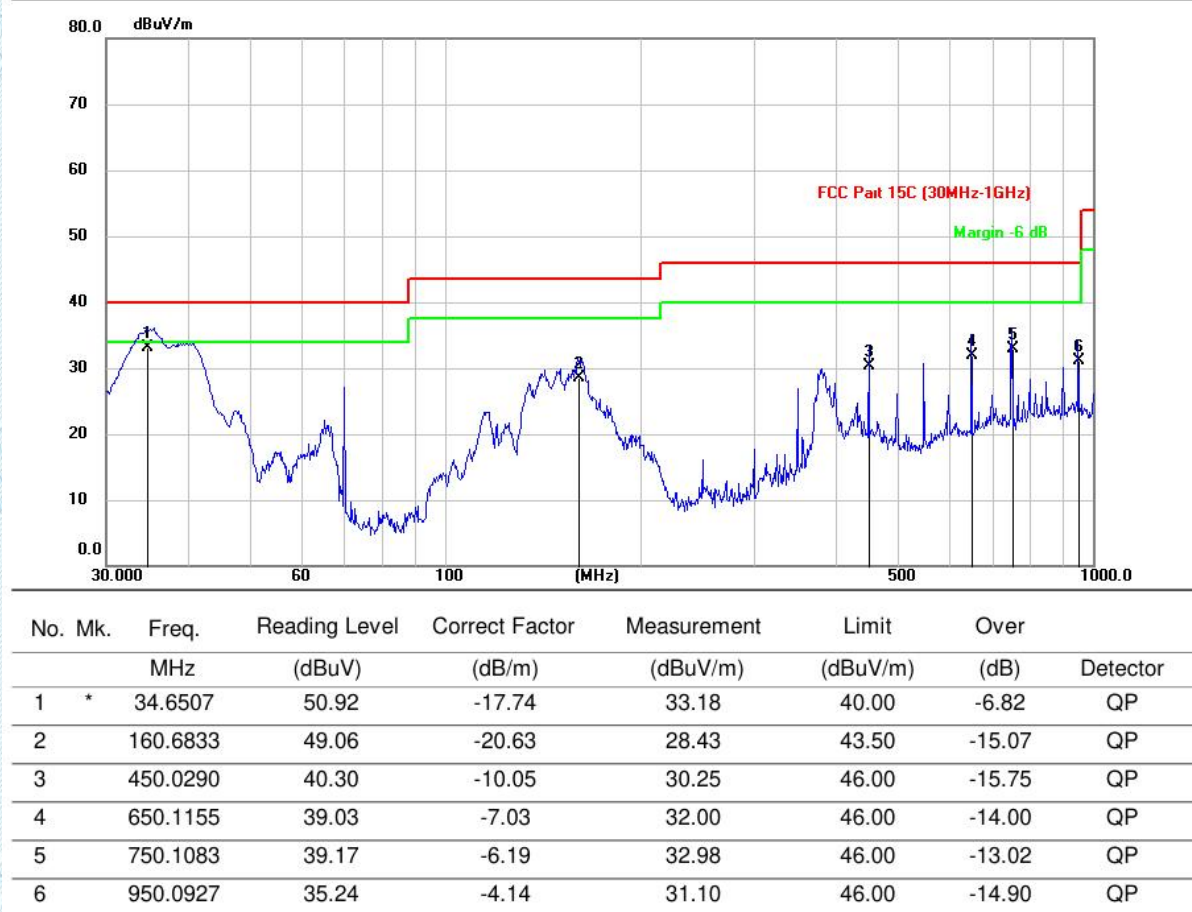


No.	Mk.	Freq. MHz	Reading Level (dBuV)	Correct Factor (dB/m)	Measurement (dBuV/m)	Limit (dBuV/m)	Over (dB)	Detector
1		162.3257	48.18	-20.58	27.60	43.50	-15.90	QP
2		386.9050	43.12	-10.87	32.25	46.00	-13.75	QP
3		445.4758	44.03	-10.06	33.97	46.00	-12.03	QP
4		742.5190	40.45	-6.22	34.23	46.00	-11.77	QP
5	*	850.1405	39.59	-4.56	35.03	46.00	-10.97	QP
6		950.0926	36.89	-4.14	32.75	46.00	-13.25	QP

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Test Mode1 / Polarization: Vertical / BW: 0.2 / CH: M

Note:

1. Measurement = Reading level + Correct Factor
2. Correct Factor = Antenna Factor + Cable Loss - Preamplifier Factor

TRF RF_R1

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5. EUT TEST PHOTOS

Conducted Emission at AC power line



Emissions in frequency bands (below 30MHz)



Emissions in frequency bands (30M-1GHz)

TRF RF_R1

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6. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Refer to Appendix - EUT Photos for KS2306S3130E.

--THE END--

Important Notice

1.	The results are valid only for the samples submitted.
2.	The report is invalid without the "APPROVED" and the "seal for riding".
3.	The test report is invalid without the signatures of Approver, Reviewer and Testing engineer.
4.	The test report can not be partially copied unless prior written approval is issued from our lab.
5.	If the report is not stamped with the CMA seal, it indicates that the report does not have the role of proof for society.
6.	Product information, customer information and sample sources are provided by the client, and we are not responsible for their authenticity;
7.	The test basis or test items marked ★ are not within the scope of CNAS accreditation and CMA accreditation of our laboratory.
8.	The report is invalid when anything of following happens – illegal transfer, reproduce, embezzlement, imposture, modification or tampering in any media form.
9.	If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of.
10.	For cases where compliance is determined based on test values, when relevant specifications, standards, documents, and customers have no relevant requirements and no other special instructions, the test report issued by this laboratory is carried out in full value and adopts ILAC-G8:09 /2019 "Simple Acceptance Rule" for judgment.