FCC AND ISED CERTIFICATION TEST REPORT

Applicant:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China
Manufacturer:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China
Product Description:	Interactive Intelligent Panel
Brand Name:	N/A
Tested Model:	CG65GA, CG75GA, CG86GA, CG98GA
FCC ID:	2AFG6-CGXXGA
IC ID:	22166-CGXXGA
Report No.:	JCF240627074-001
Received Date:	Jun. 27, 2024
Tested Date:	Jun. 27, 2024 - Aug. 24, 2024
Issued Date:	Aug. 24, 2024
Test Standards:	FCC Rules and Regulations Part 15 Subpart C, RSS-210 Issue 11 June 2024
Test Procedure：	ANSI C63.10: 2013, RSS-Gen Issue 5, A2 (February 2021)
Test Result:	Pass

Prepared By:

Kennys Zhang

Kennys Zhang/Engineer **Date:** Aug. 24, 2024

Reviewed By:

Roger Li

Roger Li/Engineer **Date:** Aug. 24, 2024

Approved By:

Talent Zhang

Talent Zhang/Engineer **Date:** Aug. 24, 2024

Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Guangzhou Jingce Testing Technology Co., Ltd. the test report shall not be reproduced except in full.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Aug. 24, 2024	Original Report	/

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1. Test Report Declare

Applicant:	Guangzhou Shirui Electronics Co., Ltd.
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Manufacturer:	Guangzhou Shirui Electronics Co., Ltd.
Address:	192 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China
Product Name:	Interactive Intelligent Panel
Brand Name:	N/A
Model Name:	CG65GA, CG75GA, CG86GA, CG98GA
Difference Description:	Compared with CG65GA, CG75GA and CG86GA, CG98GA is only different in size and rating, and the rest is exactly the same.

We Declare:

The equipment described above is tested by Guangzhou Jingce Testing Technology Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangzhou Jingce Testing Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests except as provided information by clients.

2. Summary of Test Results

Summary of Test Results			
Clause	**Test Items**	**FCC/ISED Rules**	**Test Result**
1	20 dB Bandwidth and 99 % Occupied Bandwidth	FCC Part 15: 15.215 ANSI C63.10:2013 RSS-210 Issue 11 RSS-Gen Issue 5	Pass
2	Frequency tolerance	FCC Part 15:15.225 ANSI C63.10:2013 RSS-210 Issue 11 RSS-Gen Issue 5	Pass
3	Radiated Emission	FCC Part 15: 15.209 FCC Part 15: 15.225 ANSI C63.10:2013 RSS-210 Issue 11 RSS-Gen Issue 5	Pass
4	Power Line Conducted Emissions	FCC Part 15: 15.207 ANSI C63.10:2013 RSS-210 Issue 11 RSS-Gen Issue 5	Pass
5	Antenna requirement	FCC Part 15: 15.203 ANSI C63.10:2013 RSS-210 Issue 11 RSS-Gen Issue 5	Pass
Note: All models' RF hardware and software, including modules, crystal oscillator, antenna, function exactly the same. According to the pretest results, the differences between the models only affect the results of the Radiated Emission (30MHz-1GHz) and Power Line Conducted Emissions. Therefore, in addition to the two test projects, the results of four models (CG65GA, CG75GA, CG86GA, CG98GA) are recorded, and the remaining projects only record the test results of the worst model: CG98GA.			

3. Test Laboratory

Guangzhou Jingce Testing Technology Co., Ltd.

Add.: No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, People's Republic of China

Association for Laboratory Accreditation(A2LA). Certificate Number: 6594.03

FCC Designation Number: CN1381. Test Firm Registration Number: 486550

IC Test Firm Registration Number: 31808

Conformity Assessment Body identifier: CN0173

4. Equipment Under Test

4.1. Description of EUT

EUT Name:	Interactive Intelligent Panel
Model Number:	CG65GA, CG75GA, CG86GA, CG98GA
EUT Function Description:	Please refer to the user manual of this device
Power Supply:	CG65GA: AC 100-240V~ 50/60Hz 4.0A, CG75GA: AC 100-240V~ 50/60Hz 4.0A, CG86GA: AC 100-240V~ 50/60Hz 5.0A CG98GA: AC 100-240V~ 50/60Hz 5.0A
Hardware Version:	N/A
Software Version:	N/A
Radio Specification:	NFC
Operation Frequency:	13.56 MHz
Modulation:	ASK
Antenna Type:	PCB Loop antenna

Note 1: EUT is the ab. of equipment under test.

Note 2: The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.

4.2. Test Channel Configuration and Channel List

Tested mode, channel, information	
Mode	Frequency (MHz)
ASK	13.56

4.3. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

/	Normal Conditions	Extreme Conditions
Temperature range:	21-25 ℃	0 ℃ to +40 ℃
Humidity range:	40-75 %	40-75 %
Pressure range:	86-106 kPa	86-106kPa
Power supply	NV: AC 120V 60Hz	AC 108V and 132 V
Note: The Extreme temperature range and extreme voltages are declared by the manufacturer.		

4.4. Description of Available Antennas

Test Mode	Transmit and Receive Mode	Description
ASK	☒ 1TX	Antenna 1 can be used as transmitting

5. Description of Test Setup

5.1. Accessory

Description of Accessories	Manufacturer	Model Number	Description	Remark
/	/	/	/	/

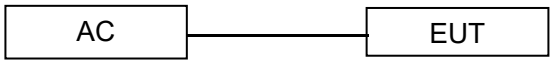
5.2. Support Equipment

Equipment	Brand Name	Model Name	P/N
/	/	/	/

5.3. Test Setup

The EUT can work in normal operation.

5.4. Setup Diagram for Tests



6. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
AC Power Conduction emission	1.37 dB
All Radiated emissions	4.6dB
Conducted emissions	3.09 dB
Occupied Channel Bandwidth	1.1%
Conducted Output power	0.82dB
Power Spectral Density	0.82dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k = 2.	

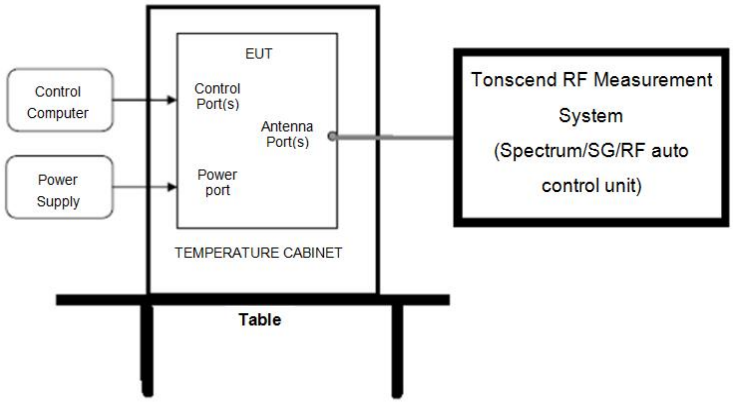
7. Measuring Instrument and Software Used

TS Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	Spectrum Analyzer	Keysight	N9030B	MY56320512	Sep. 12, 2023	Sep. 11, 2024
☑	Vector Signal Generator	Keysight	N5182B	MY57300334	Sep. 12, 2023	Sep. 11, 2024
☑	Signal Generator	Keysight	N5171B	MY57280639	Sep. 12, 2023	Sep. 11, 2024
☑	DC POWER	Keysight	E342A	MY59020356	Jun. 29, 2024	Jun. 28, 2025
☑	Incubator thermometer	GWS	EL-02JA	21107288	Sep. 12, 2023	Sep. 11, 2024
☑	Control unit(Power sensor)	Tonscend	JS0806-2	/	Sep. 12, 2023	Sep. 11, 2024
☑	Wideband radio communication tester	R&S	CMW500	163478	Jul. 03, 2024	Jul. 02, 2025
Software						
Used	Description	Manufacturer	Name		Version	

☑	Test software	TS+	JS1120-3		V3.3.10	
RSE Test System						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	EMI Receiver	R&S	ESW	101685	Sep. 12, 2023	Sep. 11, 2024
☑	Bilog Antenna	Schwarzbeck	VULB 9163	01416	May. 22, 2024	May. 21, 2025
☑	Horn Antenna 1	Schwarzbeck	BBHA 9120 D	02910	Sep. 26, 2023	Sep. 25, 2024
☑	Horn Antenna 2	ETS	BBHA 9170	1090	Sep. 04, 2023	Sep. 03, 2024
☑	loop-antenna	Schwarzbeck	FMZB 1513-60	00030	Jan. 14,2024	Jan. 13, 2025
☑	Signal Pre-Amplifier	Tonscend	TAP01018050	AP23I8060293	Oct. 19, 2023	Oct. 18, 2024
☑	3m Fully-anechoic Chamber	YIHENG	9m*6m*6m	001	Sep. 05, 2023	Sep. 04, 2026
☑	Temperature & Humidity	Temperature	HTC-1	/	Nov. 02, 2023	Nov. 01, 2024
Software						
Used	Description	Manufacturer	Name		Version	
☑	Test software	TS+	TS+		V3.0.0.4	
Conducted Emission Test For AC Power Port						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	LISN	R&S	ENV216	102509	Sep. 12, 2023	Sep. 11, 2024
☑	EMI Receiver	R&S	ESR	102154	Sep. 12, 2023	Sep. 11, 2024
Software						
Used	Description	Manufacturer	Name		Version	
☑	Test software	EZ	EZ-EMC		EMEC-3A1	
Other Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
☑	Temperature & Humidity	Temperature	HTC-1	/	Nov. 02, 2023	Nov. 01, 2024

8. 20 dB Occupied Bandwidth and 99 % Occupied Bandwidth

8.1. Block diagram of test setup



8.2. Limit

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.

8.3. Test Procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Set the spectrum analyzer as follows:

RBW:	10kHz
VBW:	30kHz
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

Allow the trace to stabilize, measure the 20dB and 99% bandwidth of signal.

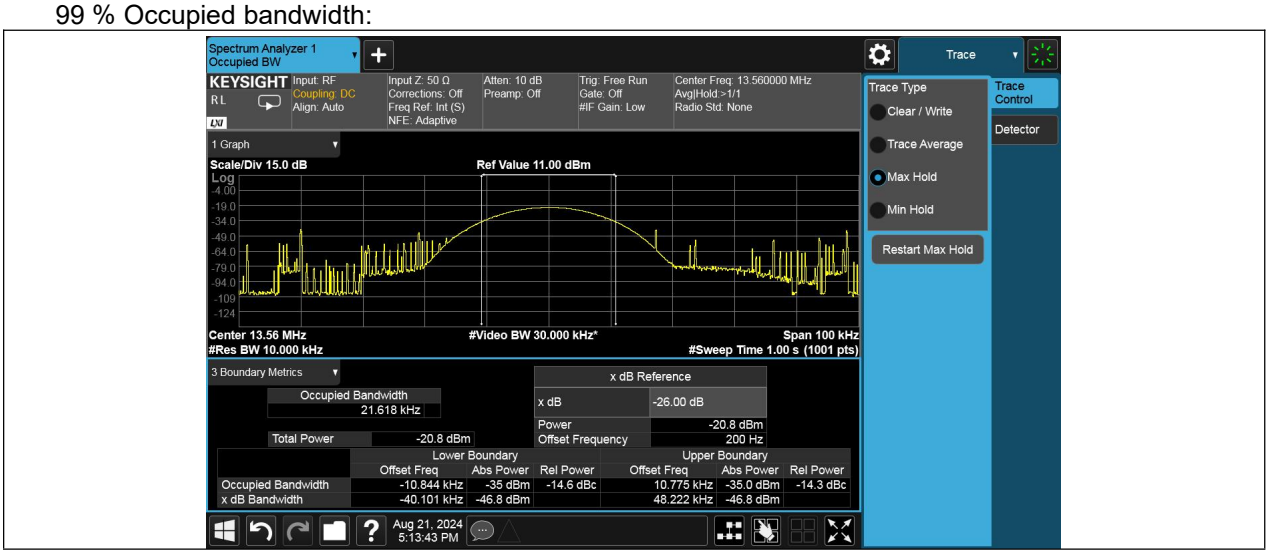
8.4. Results

Mode	Freq. (MHz)	20dB bandwidth Result (kHz)	99% bandwidth Result (kHz)	Conclusion
ASK	13.56	25.2	21.618	PASS

8.5. Original test data

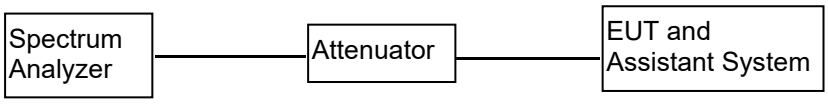
20 dB Occupied Bandwidth:

99 % Occupied bandwidth:



9. Frequency Tolerance

9.1. Block diagram of test setup



9.2. Limits

As contained in § 15.225 the frequency tolerance of the carrier signal shall be maintained within ±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.

9.3. Test Procedure

(1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the channel under test.

Resolution BW: 10 kHz.

Video BW: 10 kHz.

Span: 1MHz.

Detector: Peak.

Trace Mode: Max Hold.

(2) When the trace is complete, find the peak value of the power envelope and record the frequency.

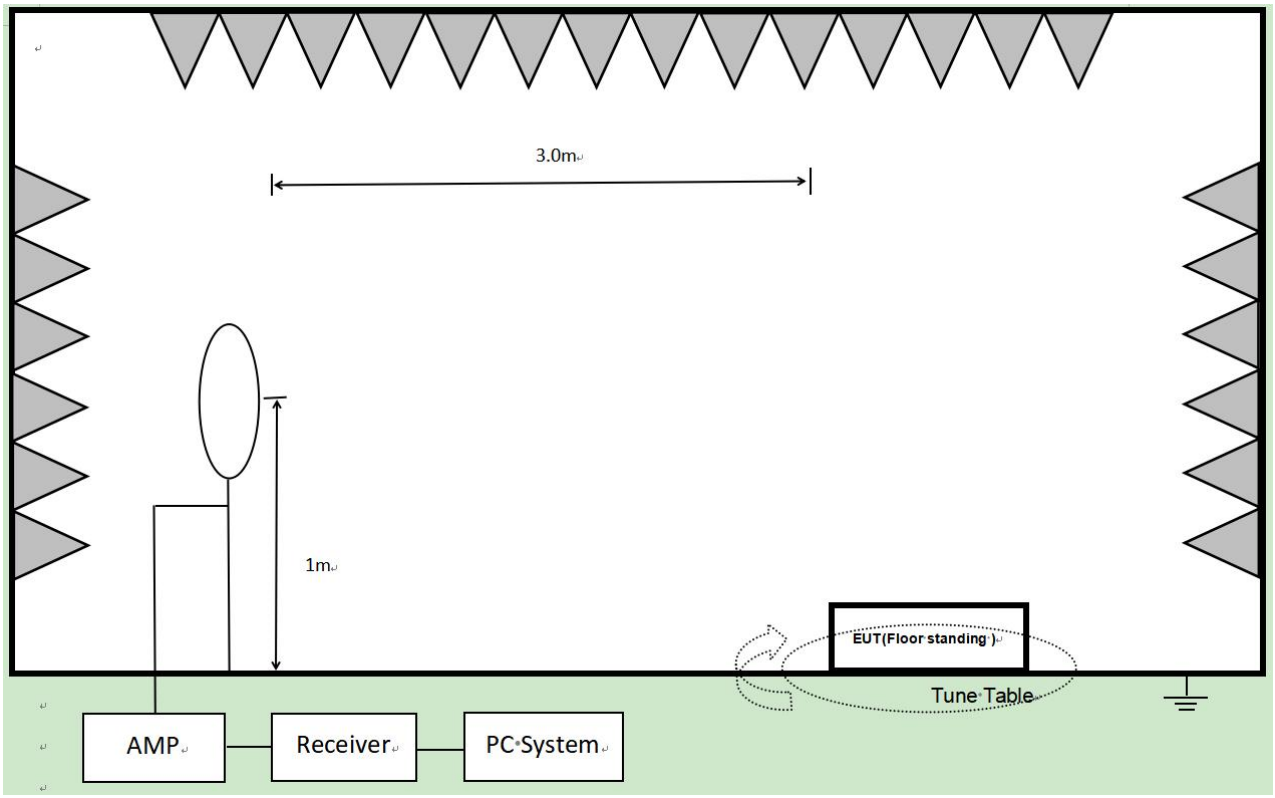
9.4. Results

	Condition		Result			Limit
	Temperature (℃)	Voltage (V)	Measured (MHz)	Tolerance (kHz)	Tolerance (ppm)	ppm
Mode	-20	NV	13.55995	0.05	3.69	100
	-10	NV	13.56016	0.16	11.80	100
	0	NV	13.55974	0.26	19.17	100
	10	NV	13.55992	0.08	5.90	100
	20	NV	13.56009	0.09	6.64	100
	30	NV	13.56009	0.09	6.64	100
	40	NV	13.55996	0.04	2.95	100
	50	NV	13.56003	0.03	2.21	100
	NT	102V	13.56001	0.01	0.74	100
	NT	138V	13.56007	0.07	5.16	100
Note: NT:20℃,NV:120V						

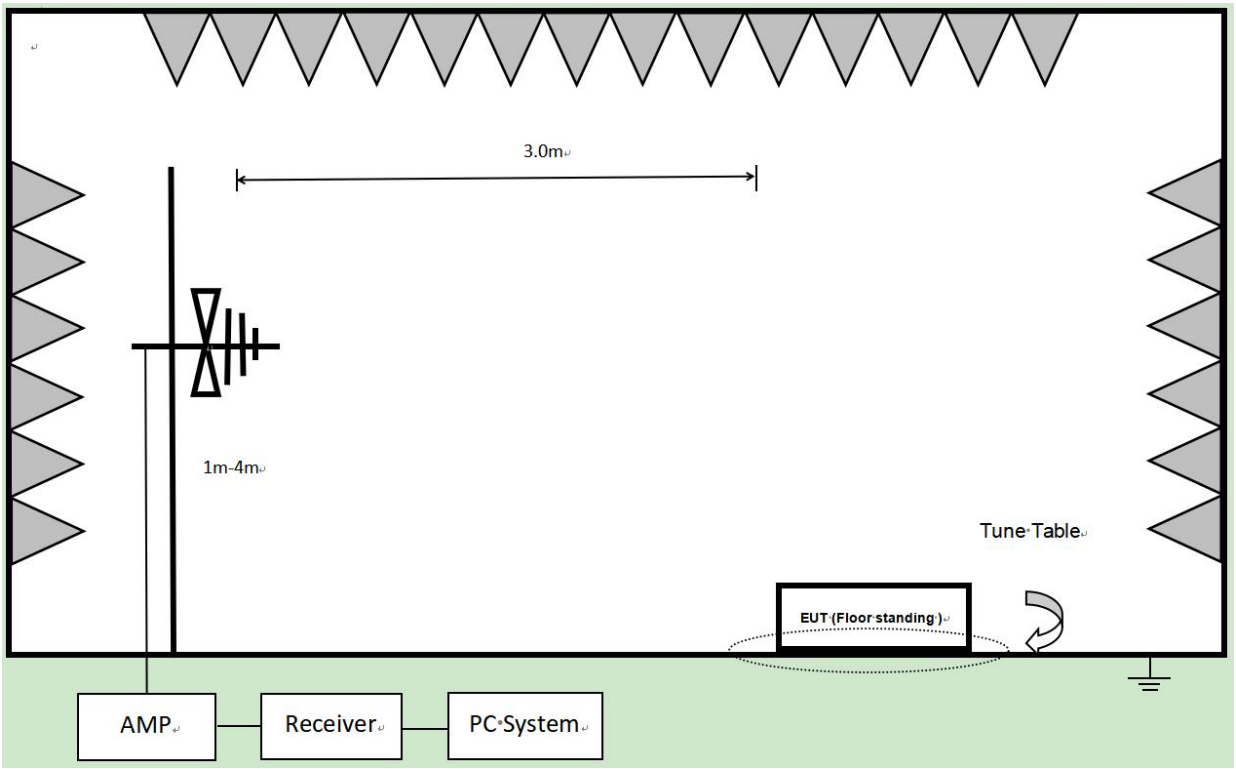
10. Radiated Emission

10.1. Block diagram of test setup

In 3m Anechoic Chamber, test setup diagram for 9kHz - 30MHz:



In 3m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



10.2. Limit

Operation within the band 13.110-14.010 MHz as contained in §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.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 13.110	30	30	29.54
13.110 ~ 13.410	30	106	40.51
13.410~ 13.553	30	334	50.47
13.553~13.567	30	15848	84.00
13.567~13.710	30	334	50.47
13.710~14.010	30	106	40.51
14.010~30	30	30	29.54
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000MHz.Radiated emissions limits in these three bands are based on measurements employing an average detector.

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

$Limit_{3m}(dBuV/m) = Limit_{300m}(dBuV/m) + 40Log(300m/3m) = Limit_{300m}(dBuV/m) + 80$

$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m) = Limit_{30m}(dBuV/m) + 40$

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT dB(μV)/m
0.009 ~ 0.490	3	147.6-20log(F)
0.490 ~ 1.705	3	127.6-20log(F)
1.705 ~ 13.110	3	69.54
13.110 ~ 13.410	3	80.51
13.410 ~ 13.553	3	90.47
13.553 ~ 13.567	3	124.00
13.567 ~ 13.710	3	90.47
13.710 ~ 14.010	3	80.51
14.010 ~ 30	3	69.54
30 ~ 88	3	40.00
88 ~ 216	3	43.50
216 ~ 960	3	46.00
960 ~ 1000	3	54.00

10.3. Test Procedure

(1) EUT was placed on a non-metallic table, 100 cm above the ground plane inside a semi-anechoic chamber.

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

Test frequency range	Test antenna used	Test antenna distance
9kHz-30MHz	Active Loop antenna	3m
30MHz-1GHz	Trilog Broadband Antenna	3m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9kHz to 1GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m(Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions. Spectrum frequency from 9kHz to 1GHz (tenth harmonic of fundamental frequency) was investigated.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2013 on Radiated Emission test.

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

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

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

10.4. Results

Pass. (See below detailed test result)

Below 30MHz

Frequency (MHz)	Result @3m (dBuV/m)	Limit @3m (dBuV/m)	Detector	Conclusion
0.0098	58.29	127.72	Average	PASS
0.0098	58.29	147.72	Peak	PASS
0.0620	70.98	111.74	Average	PASS
0.0620	70.98	131.74	Peak	PASS
0.2396	51.84	100.01	Average	PASS
0.2396	51.84	120.01	Peak	PASS
0.3690	45.94	96.26	Average	PASS
0.3690	45.94	116.26	Peak	PASS
0.6676	45.98	71.12	QP	PASS
1.7525	36.25	69.54	QP	PASS
13.5571	59.87	124.00	QP	PASS

Refer to appendix A

Note: EMI = Trace + Cable(Loss) + ERP Factor + Transducer

Margin = EMI - Limit

Above 30MHz test data:

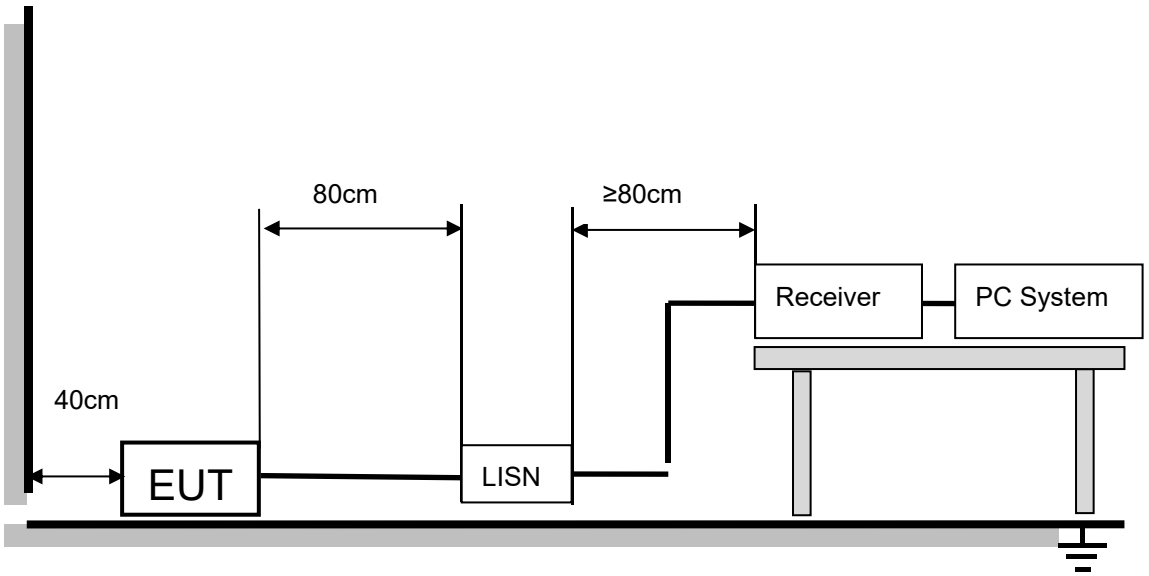
Refer to appendix B

Note: EMI = Trace + Cable(Loss) + ERP Factor + Transducer

Margin = EMI - Limit

11. AC Power Line Conducted Emissions

11.1. Block diagram of test setup



The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

11.2. Limits

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8.

Frequency (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

11.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

11.4. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

11.5. Original test data

AC Power Line Conducted Emission Test Data Refer to appendix C.

12. Antenna Requirements

12.1. Limits

Please refer to FCC §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. 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.

12.2. Result

The antenna used for this product is PCB Loop antenna and that no antenna other than that furnished by the responsible party shall be used with the device.

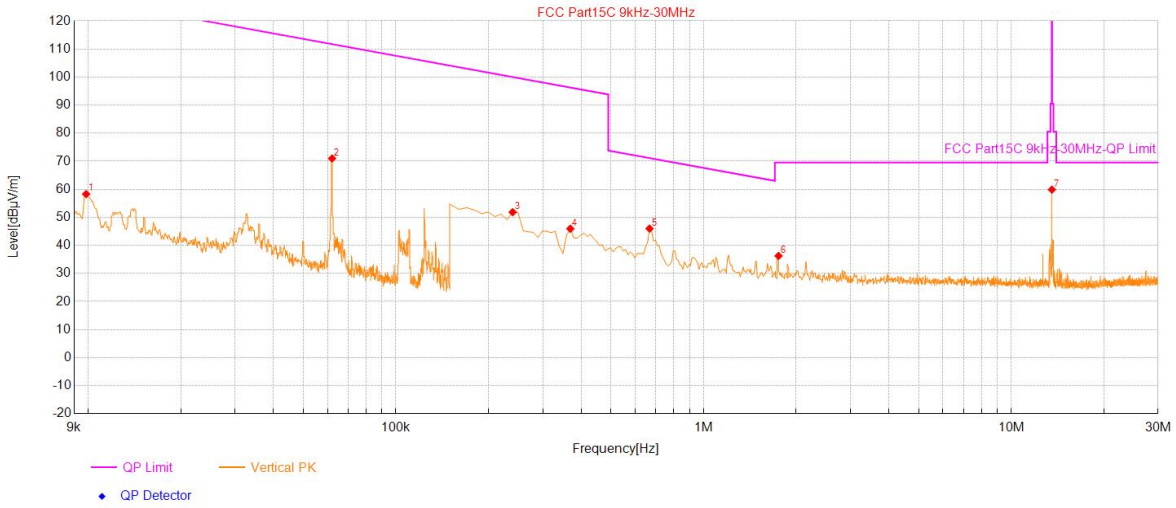
APPENDIX A – Radiated Emission Below 30MHz Test Data

Test Report

Project Information			
Customer:			
EUT:	Interactive Intelligent Panel		
Model:	CG98GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer:	Soho Liu
Remark:			
Test Standard: FCC Part15C 9kHz-30MHz			

Start of Test:2024-08-21 10:29:26

Test Graph



Suspected Data List								
NO.	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	0.0098	58.29	127.72	69.43	100	102	Vertical	PASS
2	0.0620	70.98	111.74	40.76	100	89	Vertical	PASS
3	0.2396	51.84	100.01	48.17	100	97	Vertical	PASS
4	0.3690	45.94	96.26	50.32	100	86	Vertical	PASS
5	0.6676	45.98	71.12	25.14	100	267	Vertical	PASS
6	1.7525	36.25	69.54	33.29	100	82	Vertical	PASS
7	13.5571	59.87	124.00	64.13	100	2	Vertical	PASS

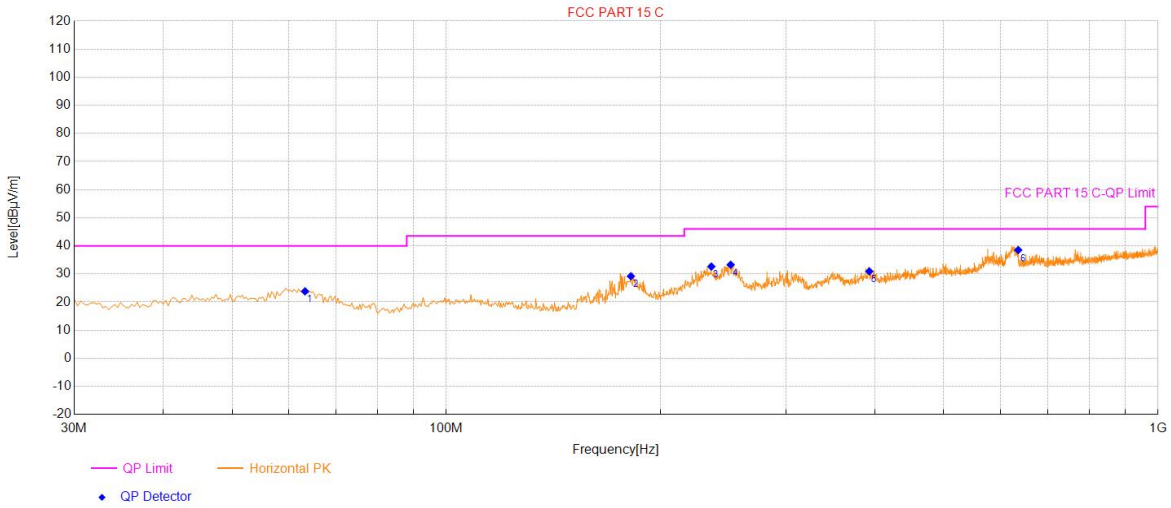
APPENDIX B – Radiated Emission Above 30MHz Test Data

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG65GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



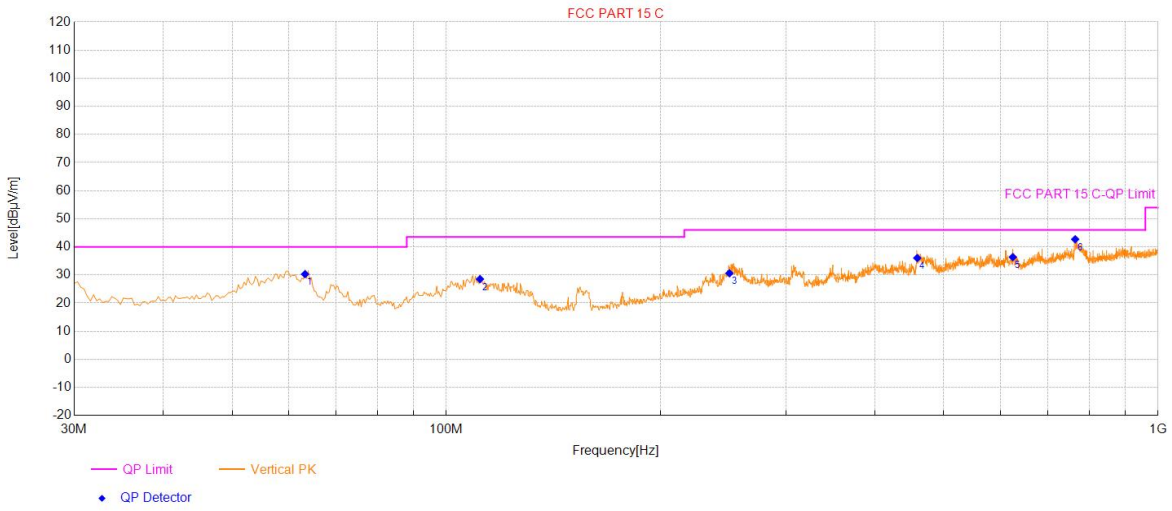
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	63.31	23.82	40.00	16.18	100	200	Horizontal	PASS
2	181.69	29.19	43.50	14.31	100	317	Horizontal	PASS
3	235.71	32.63	46.00	13.37	100	32	Horizontal	PASS
4	250.91	33.27	46.00	12.73	100	32	Horizontal	PASS
5	392.90	30.94	46.00	15.06	100	301	Horizontal	PASS
6	636.13	38.51	46.00	7.49	100	89	Horizontal	PASS

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG65GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



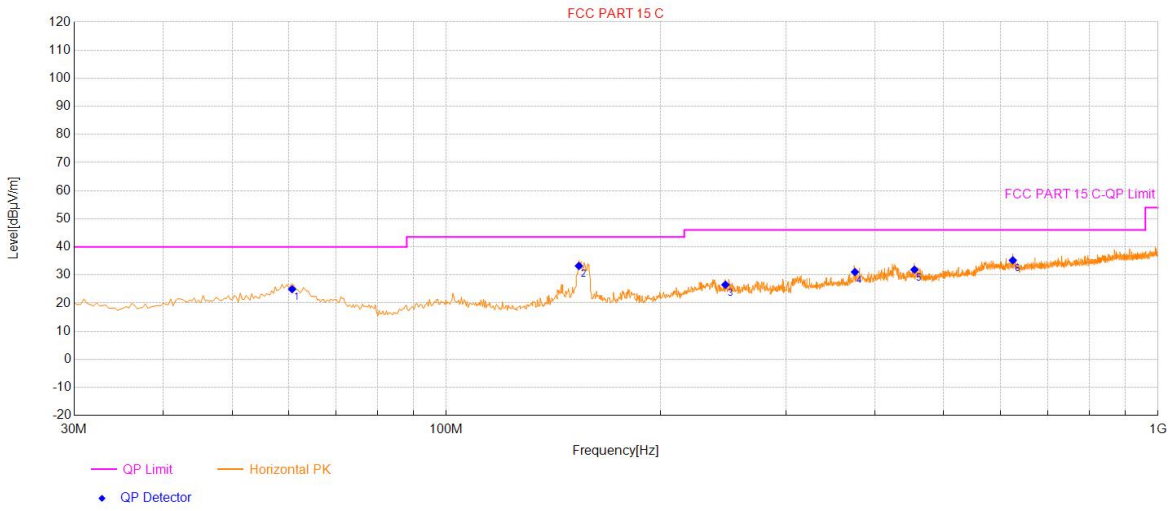
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	63.31	30.29	40.00	9.71	100	71	Vertical	PASS
2	111.51	28.53	43.50	14.97	100	328	Vertical	PASS
3	249.94	30.60	46.00	15.40	100	38	Vertical	PASS
4	458.88	36.02	46.00	9.98	100	328	Vertical	PASS
5	625.13	36.35	46.00	9.65	100	1	Vertical	PASS
6	764.86	42.70	46.00	3.30	100	0	Vertical	PASS

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG75GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



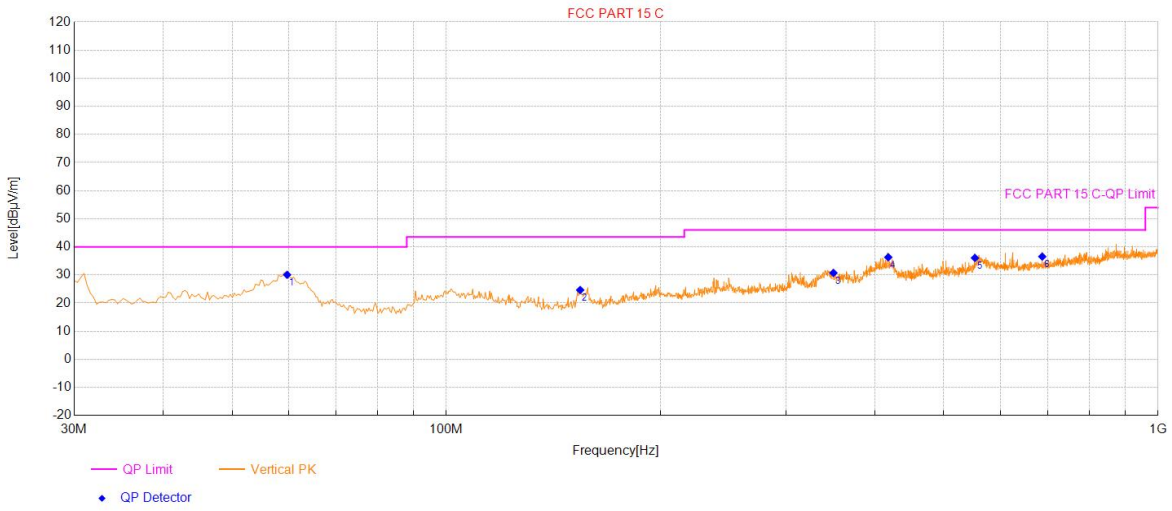
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	60.73	24.94	40.00	15.06	100	193	Horizontal	PASS
2	153.55	33.22	43.50	10.28	100	42	Horizontal	PASS
3	246.71	26.53	46.00	19.47	100	335	Horizontal	PASS
4	375.11	31.05	46.00	14.95	100	268	Horizontal	PASS
5	454.68	31.89	46.00	14.11	100	92	Horizontal	PASS
6	625.13	35.22	46.00	10.78	100	126	Horizontal	PASS

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG75GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



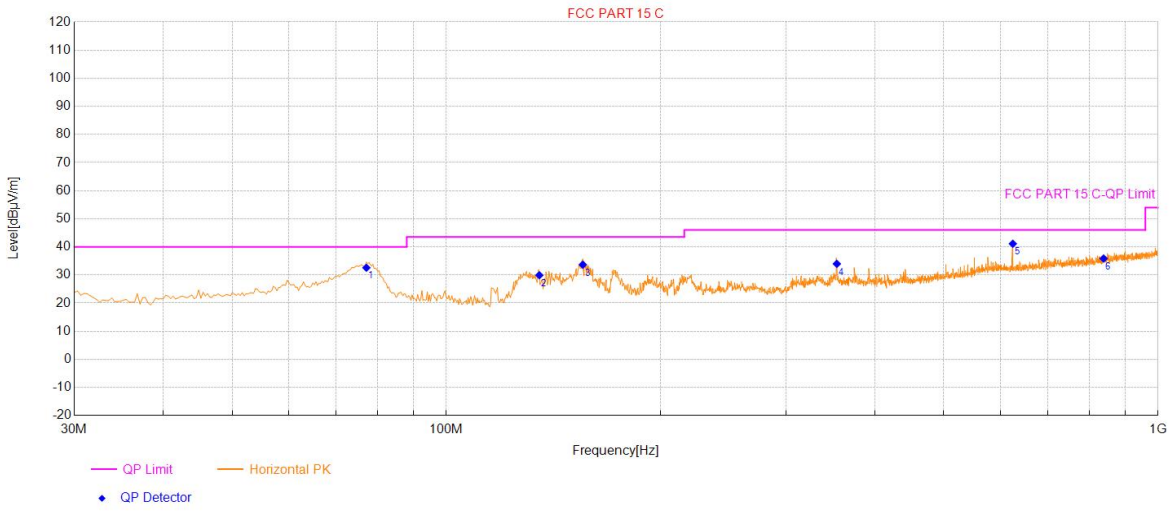
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	59.76	30.06	40.00	9.94	100	288	Vertical	PASS
2	154.20	24.65	43.50	18.85	100	331	Vertical	PASS
3	349.88	30.72	46.00	15.28	100	1	Vertical	PASS
4	417.81	36.29	46.00	9.71	100	331	Vertical	PASS
5	553.00	36.05	46.00	9.95	100	0	Vertical	PASS
6	687.56	36.54	46.00	9.46	100	254	Vertical	PASS

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG86GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



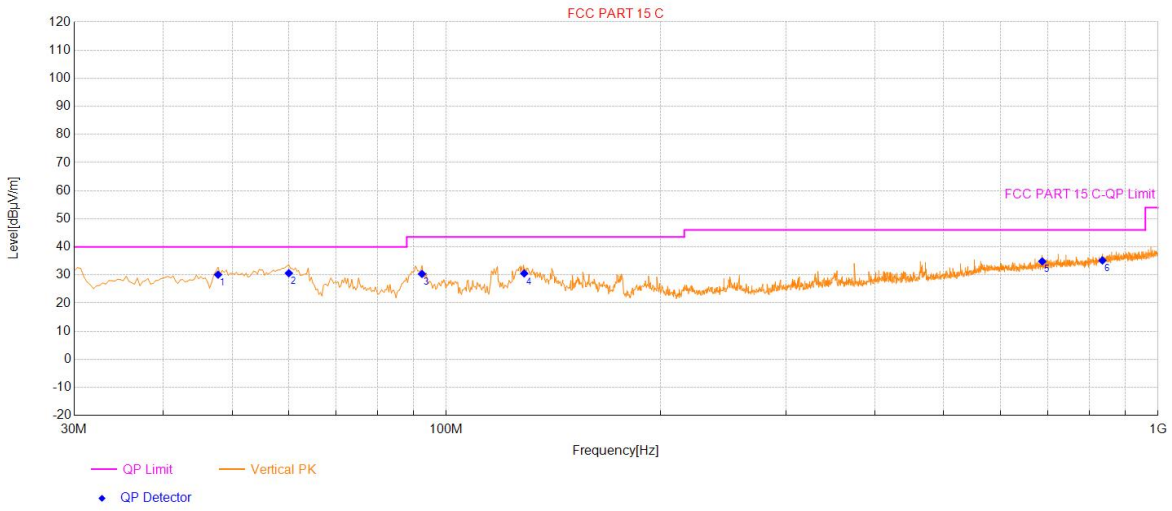
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	77.22	32.56	40.00	7.44	100	32	Horizontal	PASS
2	135.12	29.91	43.50	13.59	100	39	Horizontal	PASS
3	155.50	33.65	43.50	9.85	100	350	Horizontal	PASS
4	353.76	33.96	46.00	12.04	100	307	Horizontal	PASS
5	625.13	41.10	46.00	4.90	100	73	Horizontal	PASS
6	838.60	35.84	46.00	10.16	100	359	Horizontal	PASS

Test Report

Project Information			
EUT:	Interactive Intelligent Panel	Environment:	22.1℃;54%
Model:	CG86GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Customer:		Engineer:	Soho Liu
Remark:			

Start of Test: 2024-07-12

Test Graph



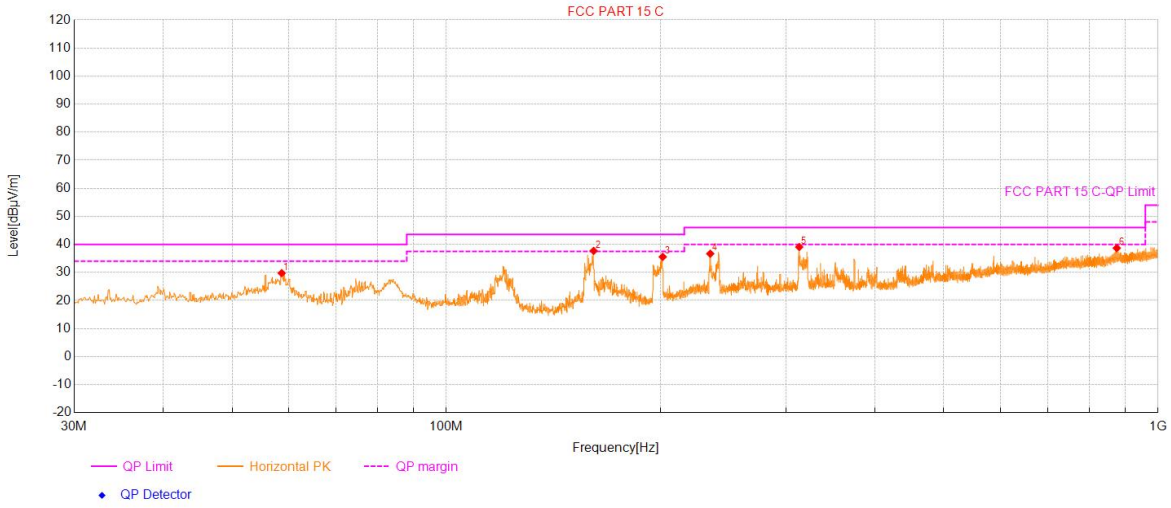
Final Data List								
NO.	Frequency (MHz)	QP Value (dBµV/m)	QP Limit (dBµV/m)	QP Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	47.79	30.09	40.00	9.91	100	4	Vertical	PASS
2	60.08	30.63	40.00	9.37	100	276	Vertical	PASS
3	92.42	30.36	43.50	13.14	100	328	Vertical	PASS
4	128.65	30.54	43.50	12.96	100	328	Vertical	PASS
5	687.56	34.83	46.00	11.17	100	10	Vertical	PASS
6	835.37	35.17	46.00	10.83	100	249	Vertical	PASS

Test Report

Project Information			
Customer:	Interactive Intelligent Panel		
EUT:			
Model:	CG98GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer:	Soho Liu
Remark:			
Test Standard: FCC PART 15 C			

Start of Test:2024-08-21 09:42:03

Test Graph



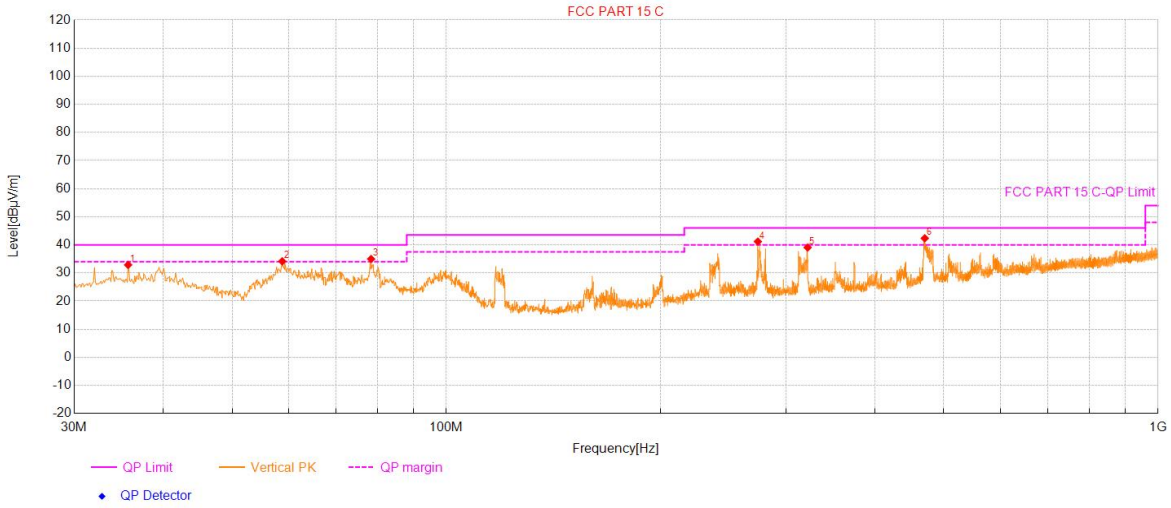
Suspected Data List								
NO.	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	58.715	29.74	40.00	10.26	100	0	Horizontal	PASS
2	161.060	37.68	43.50	5.82	100	4	Horizontal	PASS
3	201.416	35.55	43.50	7.95	100	4	Horizontal	PASS
4	234.884	36.68	46.00	9.32	100	333	Horizontal	PASS
5	313.268	39.06	46.00	6.94	100	27	Horizontal	PASS
6	875.052	38.68	46.00	7.32	100	134	Horizontal	PASS

Test Report

Project Information			
Customer:	Interactive Intelligent Panel		
EUT:			
Model:	CG98GA	SN:	
Mode:	NFC Mode	Voltage:	AC120V/60Hz
Environment:	Temp: 25℃; Humi:60%	Engineer:	Soho Liu
Remark:			
Test Standard: FCC PART 15 C			

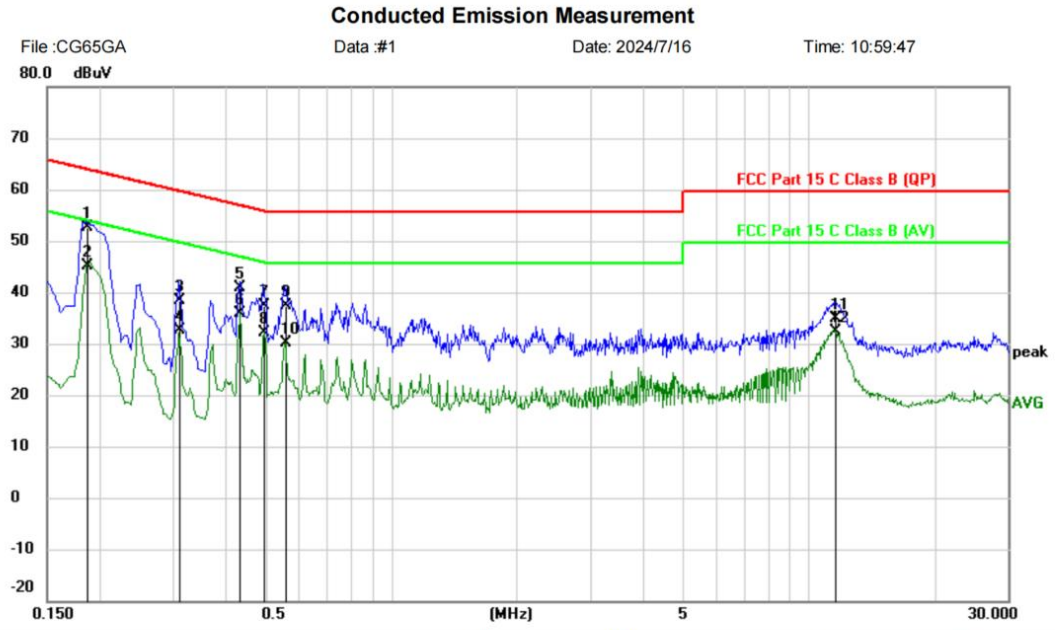
Start of Test:2024-08-21 09:44:19

Test Graph



Suspected Data List								
NO.	Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Angle (°)	Polarity	Verdict
1	35.724	32.87	40.00	7.13	100	10	Vertical	PASS
2	58.812	34.14	40.00	5.86	100	333	Vertical	PASS
3	78.408	34.97	40.00	5.03	100	319	Vertical	PASS
4	273.979	41.17	46.00	4.83	100	7	Vertical	PASS
5	321.902	39.06	46.00	6.94	100	29	Vertical	PASS
6	470.133	42.34	46.00	3.66	100	1	Vertical	PASS

APPENDIX C – AC Power Line Conducted Emission Test Data



Site
Limit: FCC Part 15 C Class B (QP)
EUT: Interactive Flat Panel
M/N: CG65GA
Mode: NFC
Note:

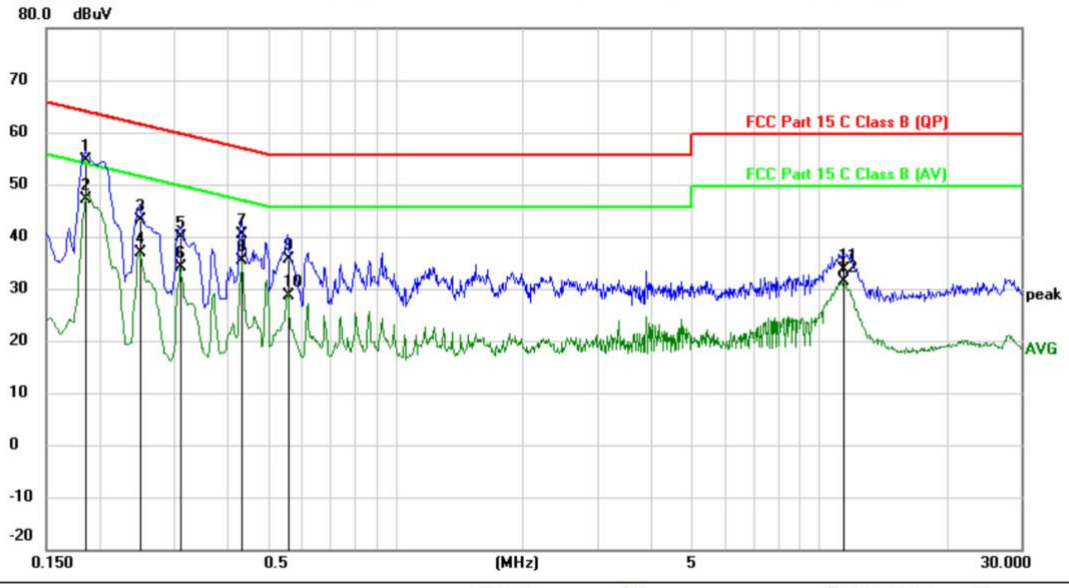
Phase: N
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1867	43.09	9.65	52.74	64.18	-11.44	QP	
2	*	0.1867	35.53	9.65	45.18	54.18	-9.00	AVG	
3		0.3105	28.79	9.67	38.46	59.96	-21.50	QP	
4		0.3105	22.93	9.67	32.60	49.96	-17.36	AVG	
5		0.4341	31.16	9.71	40.87	57.17	-16.30	QP	
6		0.4341	26.24	9.71	35.95	47.17	-11.22	AVG	
7		0.4946	27.63	9.77	37.40	56.09	-18.69	QP	
8		0.4946	22.33	9.77	32.10	46.09	-13.99	AVG	
9		0.5575	27.67	9.77	37.44	56.00	-18.56	QP	
10		0.5575	20.30	9.77	30.07	46.00	-15.93	AVG	
11		11.5437	24.80	9.99	34.79	60.00	-25.21	QP	
12		11.5437	22.50	9.99	32.49	50.00	-17.51	AVG	

Conducted Emission Measurement

File :CG65GA Data :#2 Date: 2024/7/16 Time: 11:10:35



Site Phase: *L1* Temperature: 26

Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: Interactive Flat Panel

M/N: CG65GA

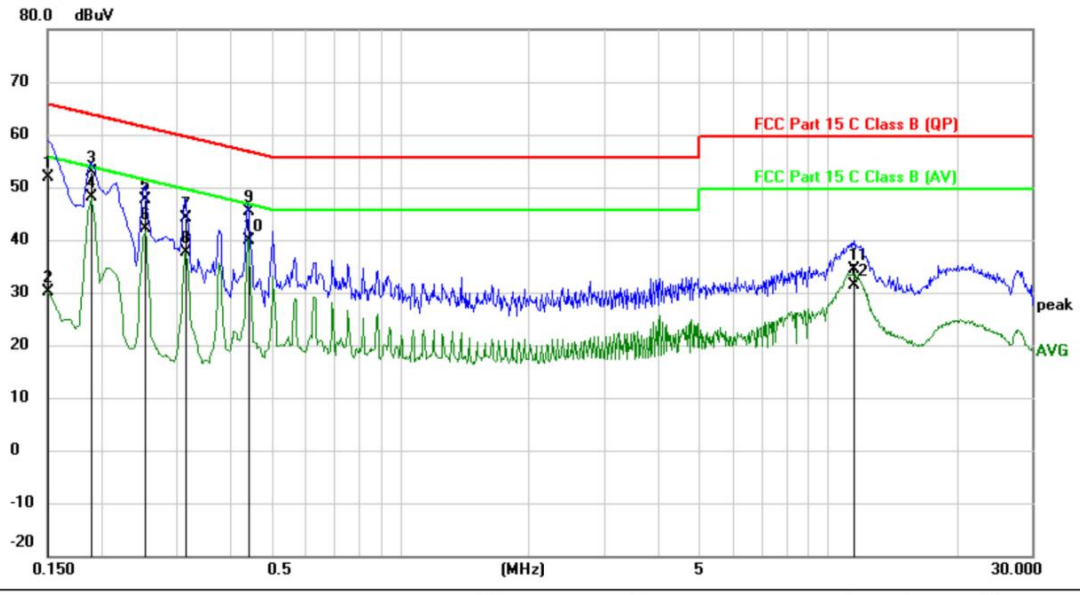
Mode: NFC

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1857	45.08	9.65	54.73	64.23	-9.50	QP	
2	*	0.1857	37.49	9.65	47.14	54.23	-7.09	AVG	
3		0.2499	33.36	9.66	43.02	61.76	-18.74	QP	
4		0.2499	27.15	9.66	36.81	51.76	-14.95	AVG	
5		0.3102	30.33	9.67	40.00	59.97	-19.97	QP	
6		0.3102	24.53	9.67	34.20	49.97	-15.77	AVG	
7		0.4340	30.71	9.71	40.42	57.18	-16.76	QP	
8		0.4340	25.77	9.71	35.48	47.18	-11.70	AVG	
9		0.5569	25.90	9.77	35.67	56.00	-20.33	QP	
10		0.5569	18.93	9.77	28.70	46.00	-17.30	AVG	
11		11.4186	23.67	9.98	33.65	60.00	-26.35	QP	
12		11.4186	21.41	9.98	31.39	50.00	-18.61	AVG	

Conducted Emission Measurement

File :CG75GA Data :#1 Date: 2024/7/16 Time: 13:06:07



Site Phase: *N* Temperature: 26

Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: Interactive Flat Panel

M/N: CG75GA

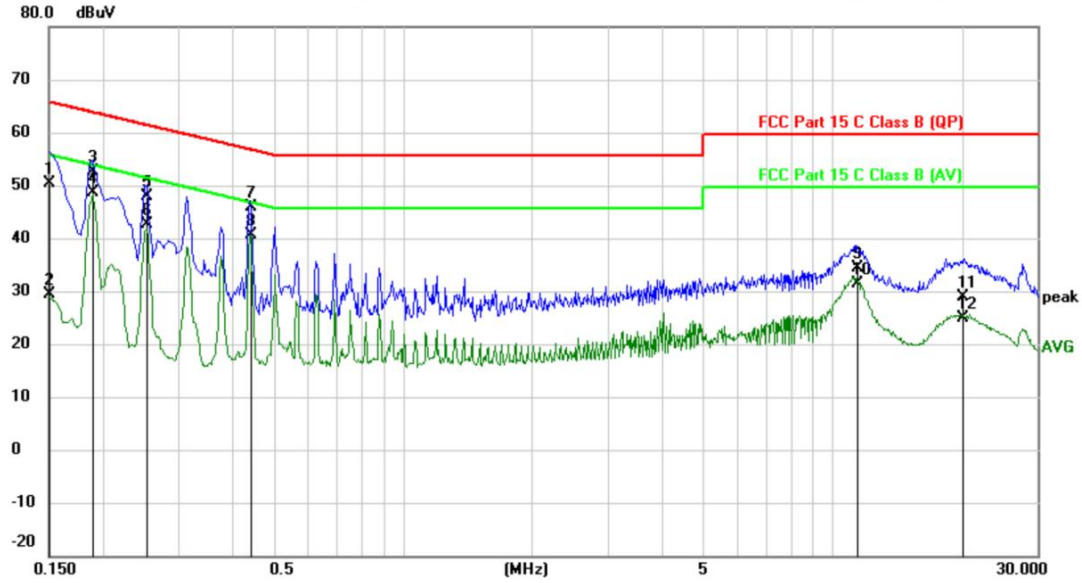
Mode: NFC

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1505	42.28	9.64	51.92	65.97	-14.05	QP	
2		0.1505	20.49	9.64	30.13	55.97	-25.84	AVG	
3		0.1901	43.12	9.65	52.77	64.03	-11.26	QP	
4	*	0.1901	38.42	9.65	48.07	54.03	-5.96	AVG	
5		0.2528	38.05	9.66	47.71	61.66	-13.95	QP	
6		0.2528	32.37	9.66	42.03	51.66	-9.63	AVG	
7		0.3141	34.38	9.67	44.05	59.86	-15.81	QP	
8		0.3141	27.94	9.67	37.61	49.86	-12.25	AVG	
9		0.4417	35.72	9.72	45.44	57.03	-11.59	QP	
10		0.4417	30.21	9.72	39.93	47.03	-7.10	AVG	
11		11.4778	24.50	9.98	34.48	60.00	-25.52	QP	
12		11.4778	21.44	9.98	31.42	50.00	-18.58	AVG	

Conducted Emission Measurement

File :CG75GA Data :#2 Date: 2024/7/16 Time: 13:13:52



Site Phase: *L1* Temperature: 26

Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: Interactive Flat Panel

M/N: CG75GA

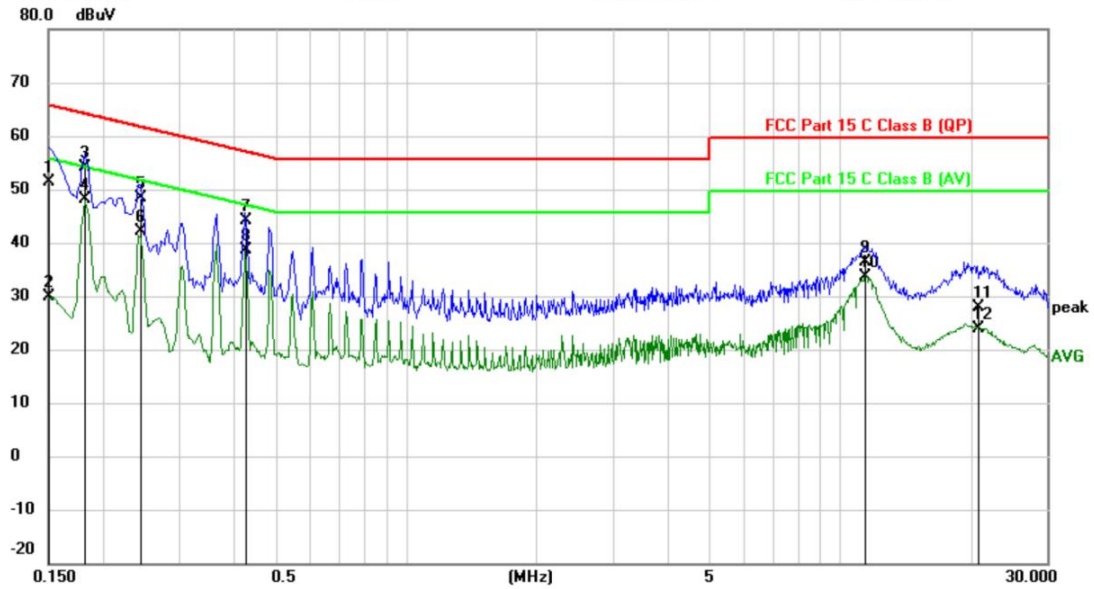
Mode: NFC

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1508	40.85	9.64	50.49	65.96	-15.47	QP	
2		0.1508	19.86	9.64	29.50	55.96	-26.46	AVG	
3		0.1901	43.03	9.65	52.68	64.03	-11.35	QP	
4	*	0.1901	38.89	9.65	48.54	54.03	-5.49	AVG	
5		0.2527	38.34	9.66	48.00	61.67	-13.67	QP	
6		0.2527	33.07	9.66	42.73	51.67	-8.94	AVG	
7		0.4417	36.26	9.72	45.98	57.03	-11.05	QP	
8		0.4417	30.97	9.72	40.69	47.03	-6.34	AVG	
9		11.4145	24.29	9.98	34.27	60.00	-25.73	QP	
10		11.4145	21.45	9.98	31.43	50.00	-18.57	AVG	
11		20.0626	18.45	10.32	28.77	60.00	-31.23	QP	
12		20.0626	14.59	10.32	24.91	50.00	-25.09	AVG	

Conducted Emission Measurement

File :CG86GA Data :#1 Date: 2024/7/16 Time: 12:43:50



Site Phase: *L1* Temperature: 26

Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: Interactive Flat Panel

M/N: CG86GA

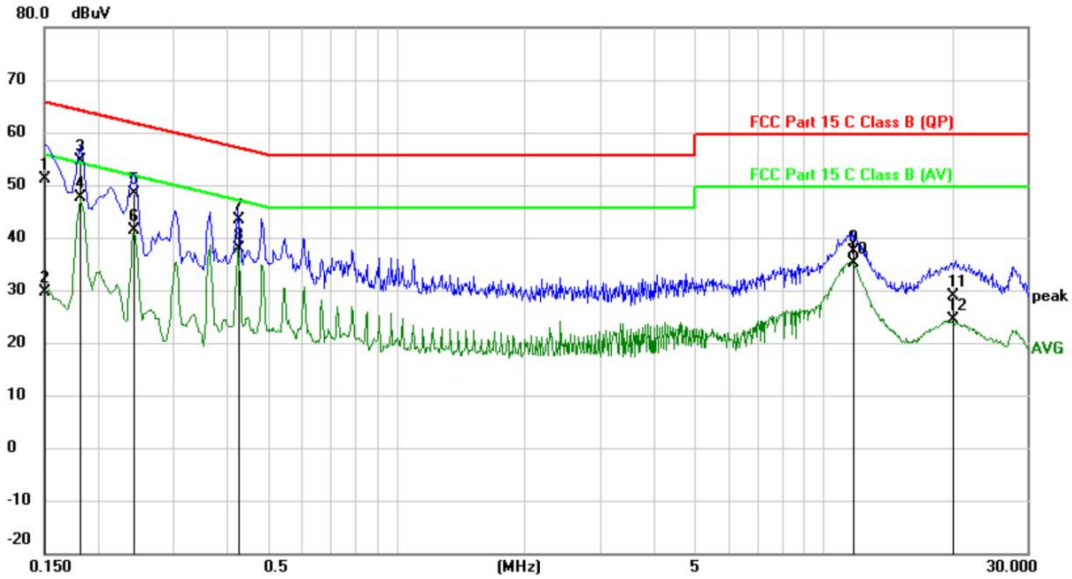
Mode: NFC

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1504	41.67	9.64	51.31	65.98	-14.67	QP	
2		0.1504	20.27	9.64	29.91	55.98	-26.07	AVG	
3		0.1822	44.48	9.65	54.13	64.38	-10.25	QP	
4	*	0.1822	38.50	9.65	48.15	54.38	-6.23	AVG	
5		0.2433	38.81	9.66	48.47	61.98	-13.51	QP	
6		0.2433	32.40	9.66	42.06	51.98	-9.92	AVG	
7		0.4262	34.46	9.70	44.16	57.33	-13.17	QP	
8		0.4262	28.94	9.70	38.64	47.33	-8.69	AVG	
9		11.3918	26.33	9.98	36.31	60.00	-23.69	QP	
10		11.3918	23.53	9.98	33.51	50.00	-16.49	AVG	
11		20.7469	17.63	10.32	27.95	60.00	-32.05	QP	
12		20.7469	13.51	10.32	23.83	50.00	-26.17	AVG	

Conducted Emission Measurement

File :CG86GA Data :#2 Date: 2024/7/16 Time: 12:53:09



Site Phase: *N* Temperature: 26

Limit: FCC Part 15 C Class B (QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: Interactive Flat Panel

M/N: CG86GA

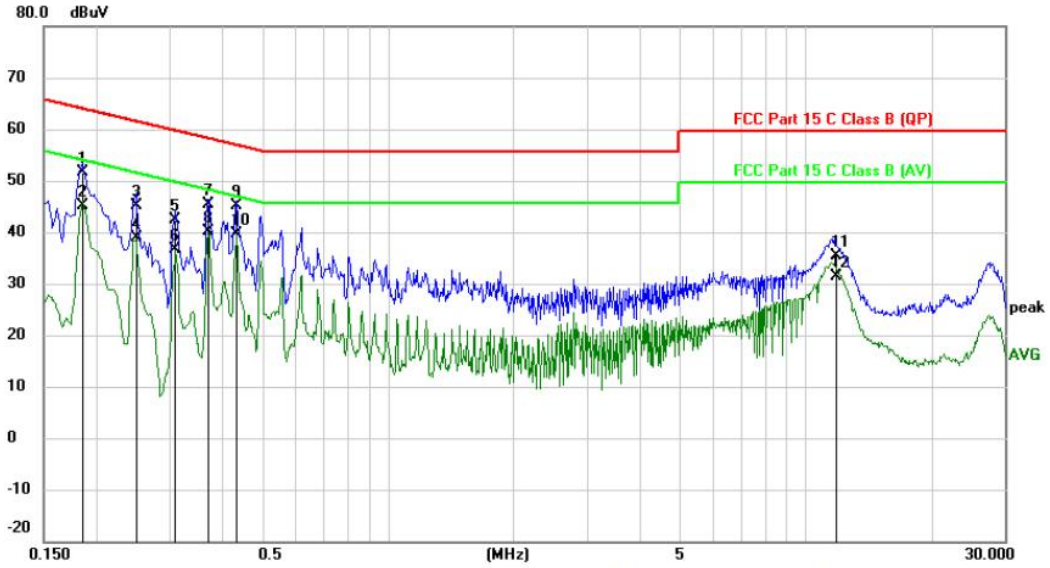
Mode: NFC

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1505	41.49	9.64	51.13	65.97	-14.84	QP	
2		0.1505	20.10	9.64	29.74	55.97	-26.23	AVG	
3		0.1823	44.88	9.65	54.53	64.38	-9.85	QP	
4	*	0.1823	37.90	9.65	47.55	54.38	-6.83	AVG	
5		0.2426	38.67	9.66	48.33	62.01	-13.68	QP	
6		0.2426	31.74	9.66	41.40	52.01	-10.61	AVG	
7		0.4263	33.76	9.70	43.46	57.32	-13.86	QP	
8		0.4263	28.30	9.70	38.00	47.32	-9.32	AVG	
9		11.6853	27.42	9.99	37.41	60.00	-22.59	QP	
10		11.6853	25.03	9.99	35.02	50.00	-14.98	AVG	
11		19.9685	18.61	10.32	28.93	60.00	-31.07	QP	
12		19.9685	14.18	10.32	24.50	50.00	-25.50	AVG	

Conducted Emission Measurement

File :CG98GA Data :#1 Date: 2024/8/20 Time: 16:09:46

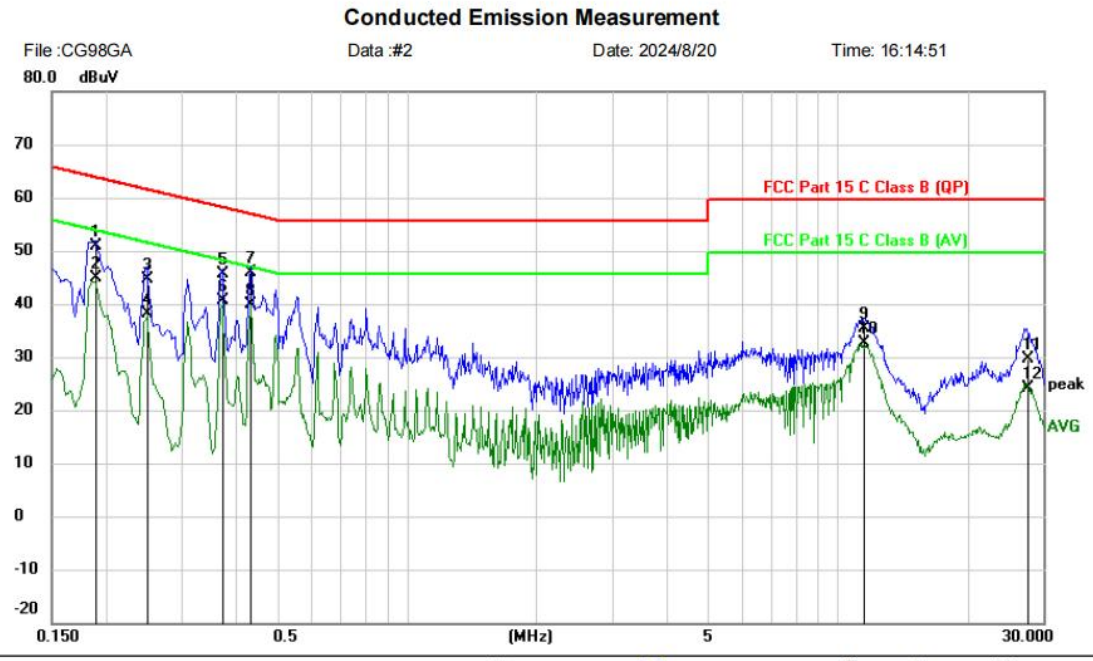


Site
Limit: FCC Part 15 C Class B (QP)
EUT: Interactive Flat Panel
M/N: CG98GA
Mode: NFC
Note:

Phase: *N*
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1859	41.87	9.65	51.52	64.22	-12.70	QP	
2		0.1859	35.49	9.65	45.14	54.22	-9.08	AVG	
3		0.2489	35.59	9.66	45.25	61.79	-16.54	QP	
4		0.2489	29.12	9.66	38.78	51.79	-13.01	AVG	
5		0.3098	32.75	9.67	42.42	59.98	-17.56	QP	
6		0.3098	27.05	9.67	36.72	49.98	-13.26	AVG	
7		0.3711	35.63	9.67	45.30	58.48	-13.18	QP	
8		0.3711	30.37	9.67	40.04	48.48	-8.44	AVG	
9		0.4343	35.44	9.71	45.15	57.17	-12.02	QP	
10	*	0.4343	29.85	9.71	39.56	47.17	-7.61	AVG	
11		11.7944	25.50	9.99	35.49	60.00	-24.51	QP	
12		11.7944	21.36	9.99	31.35	50.00	-18.65	AVG	



Site
Limit: FCC Part 15 C Class B (QP)
EUT: Interactive Flat Panel
M/N: CG98GA
Mode: NFC
Note:

Phase: *L1*
Power: AC 120V/60Hz

Temperature: 26
Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1884	41.35	9.65	51.00	64.11	-13.11	QP	
2		0.1884	35.23	9.65	44.88	54.11	-9.23	AVG	
3		0.2490	35.02	9.66	44.68	61.79	-17.11	QP	
4		0.2490	28.59	9.66	38.25	51.79	-13.54	AVG	
5		0.3725	36.05	9.67	45.72	58.44	-12.72	QP	
6		0.3725	31.03	9.67	40.70	48.44	-7.74	AVG	
7		0.4346	36.08	9.71	45.79	57.16	-11.37	QP	
8	*	0.4346	30.25	9.71	39.96	47.16	-7.20	AVG	
9		11.4799	25.51	9.98	35.49	60.00	-24.51	QP	
10		11.4799	22.75	9.98	32.73	50.00	-17.27	AVG	
11		27.4862	19.50	10.24	29.74	60.00	-30.26	QP	
12		27.4862	13.83	10.24	24.07	50.00	-25.93	AVG	

END OF REPORT