ECMG Worldwide Certification Solutions
ECMG-Worldwide-Certification-Solution, Inc.
www.ecmg-global.com

FCC Test Report

On Model Name:

Wireless Advanced LCD Bed and Chair Monitor

Model Number: CSM-BC400

Trade Marks: Curbell

FCC ID Number: WNG-CSM-BC400

Prepared for Rondish Co., Ltd

According to FCC Part 15 (2009), Subpart B

Test Report #:	RON-0912-10327-FCCID
Prepared by:	May Wang
Reviewed by:	Jawen Yin
QC Manager:	Paul Chen

Test Report Released by: Paul J. Chen August 8, 2010

Paul Chen Date

Test Location

Tests performed in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.

Test Site Location: *Shenzhen Academy of Metrology and quality Inspection.*
Bldg. of Metrology & Quality Inspection,
Longzhu Road, Nanshan District, Shenzhen,
Guangdong, China.

Tel: *86-755-26941599*

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FCC Registration Number: *274801*

CNAS Registration Number: *L0579*

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List Attached Files

Exhibit Type	File Description	File Name
Test Report	Test Report	WNG-CSM-BC400 _Test report.pdf
Operation Description	Technical Description	WNG-CSM-BC400_operation description.pdf
External Photos	External Photos	WNG-CSM-BC400_External Photos
Internal Photos	Internal Photos	WNG-CSM-BC400_Internal Photos
Block Diagram	Block Diagram	WNG-CSM-BC400_Block Diagram.pdf
Schematics	Circuit Diagram	WNG-CSM-BC400 _Schematics.pdf
ID Label/Location	Label and Location	WNG-CSM-BC400 _Label & Location.pdf
User Manual	User Manual	WNG-CSM-BC400 _User Manual.pdf
Test setup photos	Test setup photos	WNG-CSM-BC400 _Test Setup Photos

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test(EUT).Without the permission of ECMG Worldwide Certification Solution Inc. Test Lab this test report is not permitted to be duplicated in extracts.This test report does not entitle to carry any test mark on this or similar products.The manufacturer has sole responsibility of continued compliance of the device.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

Administrative Data

Test Sample	*: Wireless Advanced LCD Bed and Chair Monitor*
Model Numbers	*: CSM-BC400*
Model Tested	*: CSM-BC400*
Date Tested	*: December 22, 2009*
Applicant	*: Rondish Co., Ltd*
	Unit G & H, 4/F, Block 1, Kwai Tak Ind. Ctr, 15-33 Kwai Tak St., Kwai Chung, N.T., Hong Kong
Telephone	*: (852)-25431955*
Fax	*: (852) - 25417411*
Manufacturer	*: Rondish Co., Ltd*
	Unit G & H, 4/F, Block 1, Kwai Tak Ind. Ctr, 15-33 Kwai Tak St., Kwai Chung, N.T., Hong Kong
Telephone	*: (852)-25431955*
Fax	*: (852) - 25417411*

EUT Description

Rondish Co., Ltd, Model tested CSM-BC400 (referred to as the EUT in this report) is a Wireless Advanced LCD Bed and Chair Monitor.

The EUT is a 433.92MHz wireless receiver and technical specfication of EUT are as below:

Receiver Frequency:	*433.92MHz +/- 0.5*
Power Source:	*Four AA alkaline batteries (Energizer Industrial batteries or equivalent are recommended)* *AC adaptor (output: DC 6V 300 mA)*
Dimensions:	*5.3" H x 3.5" W x 1.7" D*
Weight:	*Approximately 9.6 oz (not including batteries)*

Note:

For more detailed features please refer to user manual of EUT.

Test Summary

The Electromagnetic Compatibility requirements on model CSM-BC400 for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Emission Tests				
Specifications	**Description**	**Test Results**	**Test Point**	**Remark**
FCC Part 15.107 ANSI C63.4 2003	Conducted Emission	Passed by 14.3dB of AV, 25.0 dB of QP	AC Input Port	Attachment 1
FCC Part 15.109 ANSI C63.4 2003	Radiated Emission	Passed by 10.8dB of QP	Enclosure	Attachment 2
NOTE: "AV" mean "average value","QP" means "quasi-peak value".				

Test Mode Justification

This device complies with Part 15 of the FCC rules. Operations is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Test Mode Applicability And Tested Detail

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available operating status.the next test details shall be used for the final result.

Test Details:
A signal generator "model E4422B" shall be used for all testing,the EUT is set in its normal receive mode and all of available ports shall be terminated, let signal generator to radiate an unmodulated CW signal to EUT at its operating frequency, after receiving a CW signal, all of relevant driven part of EUT shall be triggered and run at this time. then we start to test conducted and radiated and record the max emission from EUT.

Equipment Modification

Any modifications installed previous to testing by Rondish Co., Ltd will be incorporated in each production model sold or leased in United States.

There were no modifications installed by ECMG Worldwide Certification Solution Inc. (China) test personnel.

EUT Sample Photos

EUT Model :CSM-BC400

Front View

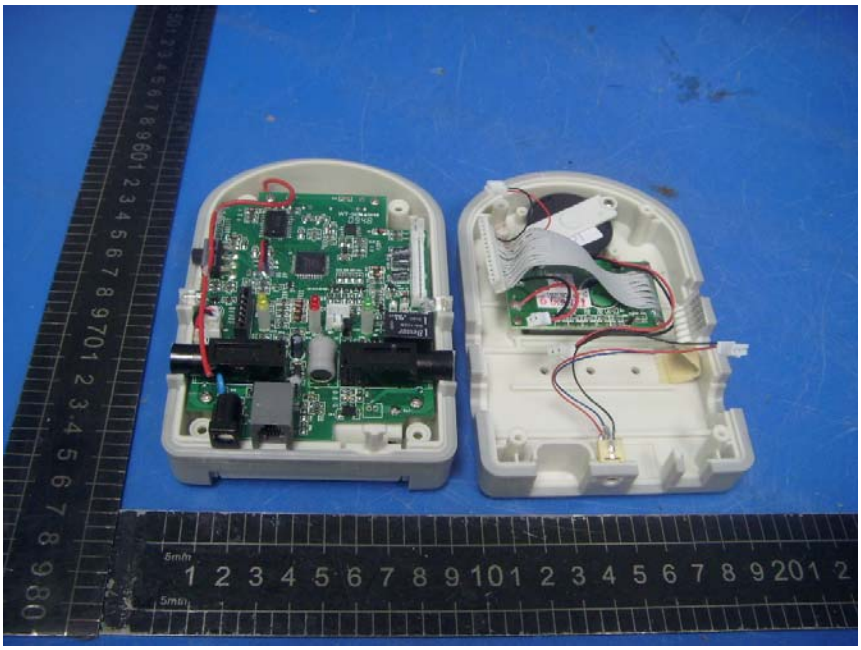
Rear View

Bottom View

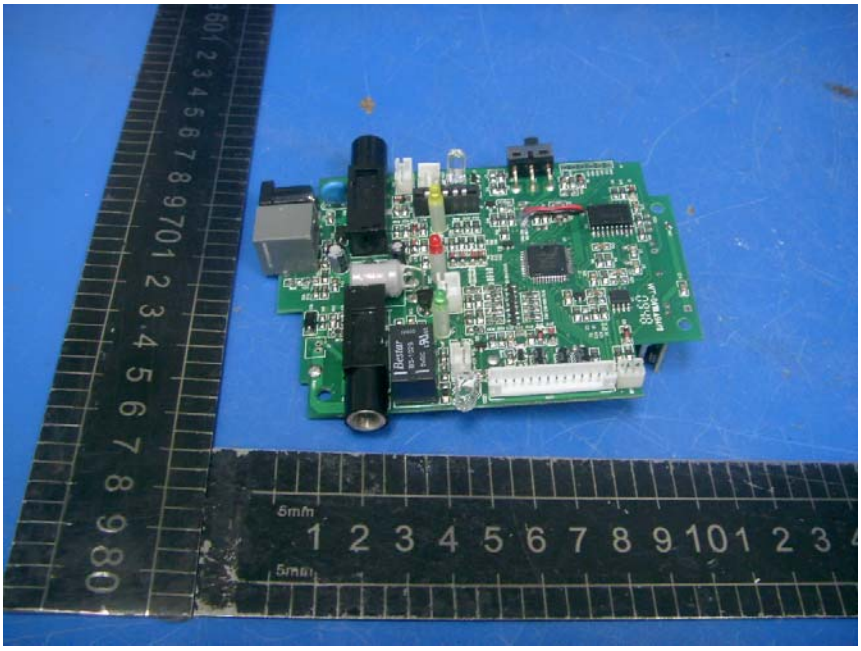
Left Side View

Right Side View

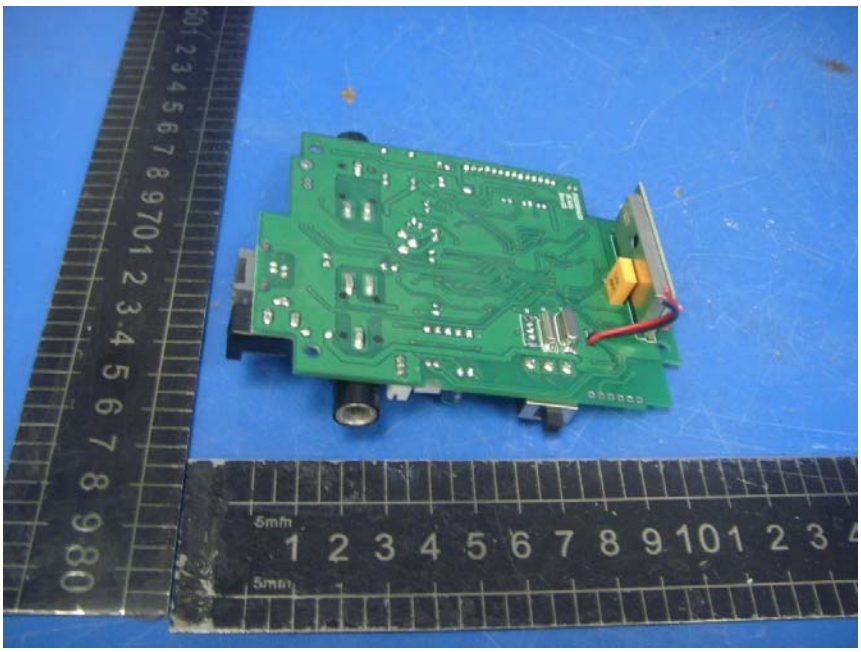
Battery Cover Opend View



Inside View



Mainboard Front View



Mainboard Rear View

AC/DC Adaptor View

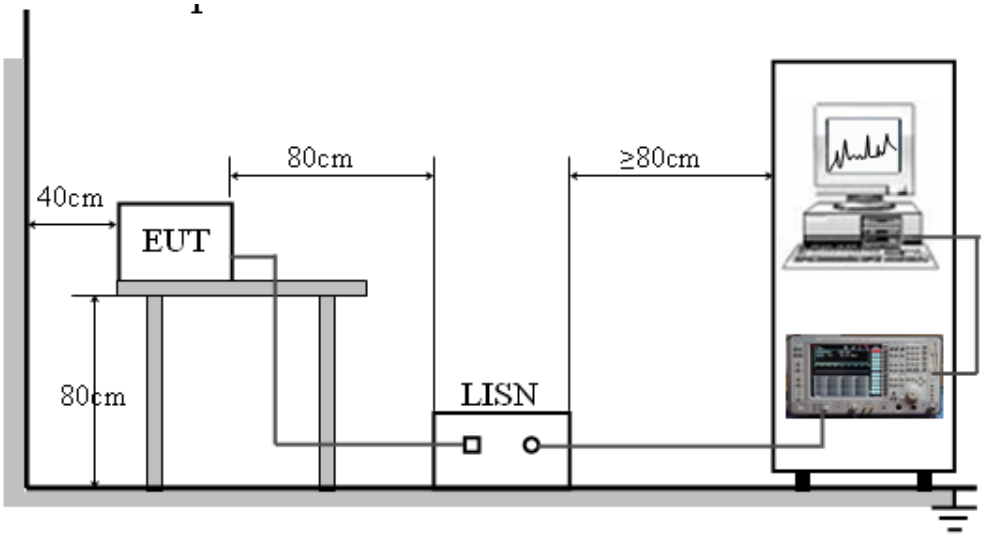
Test System Details

EUT	
Model Number:	CSM-BC400
Model Tested:	CSM-BC400
Brand Name:	Curbell
Input voltage:	120VAC/60Hz
Description:	Wireless Advanced LCD Bed and Chair Monitor
Manufacture:	Rondish Co., Ltd

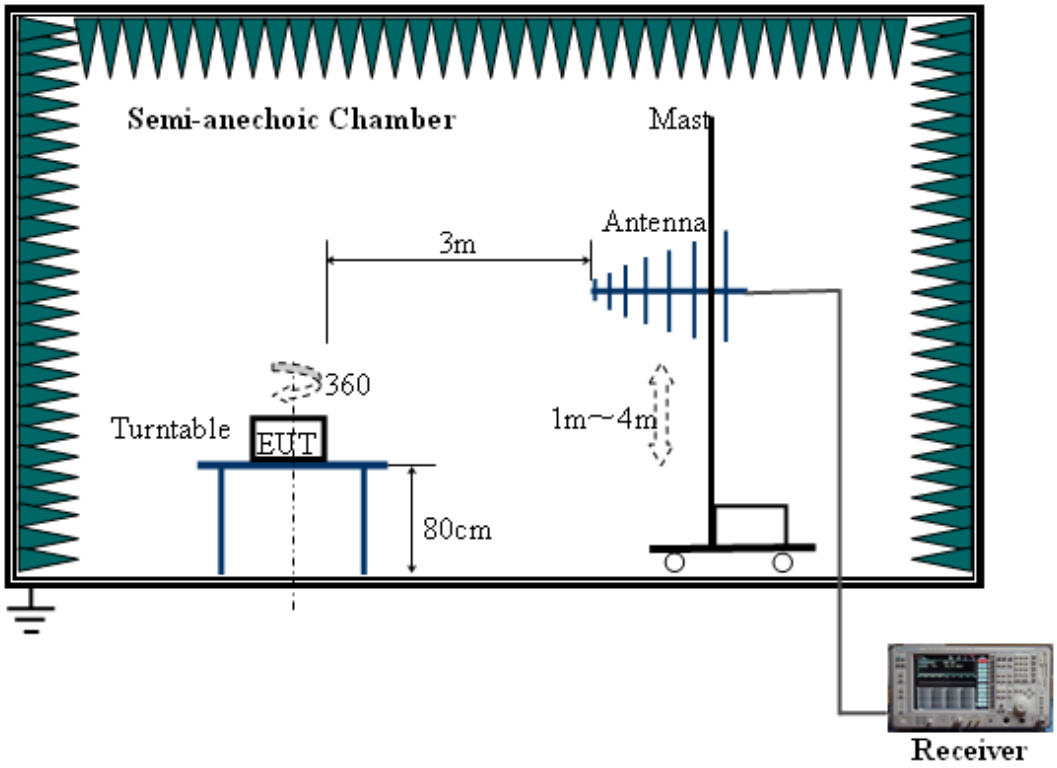
Support Equipment			
Description	**Model Number**	**Serial Number**	**Manufacturer**
AC/DC Adaptor	N/A	N/A	Rondish

Cable Description					
Description	**From**	**To**	**Length (Meters)**	**Shielded (Y/N)**	**Ferrite (Y/N)**
AC/DC Adaptor Cable	EUT	Plug	1.2	N	N

Testing Syetem configuration



Block Diagram of Radiated Emission Test



Radiated Emission Test set up photograph

ATTACHMENT 1 – CONDUCTED EMISSION TEST RESULTS

CLIENT:	Rondish Co., Ltd	**TEST STANDERD:**	FCC Part 15,Subpart B
MODEL NUMBERS:	CSM-BC400	**PRODUCT:**	Wireless Advanced LCD Bed and Chair Monitor
MODEL TESTED:	CSM-BC400	**EUT DESIGNATION:**	Wireless Receiver
TEMPERATURE:	21°C	**HUMIDITY:**	56%
ATM PRESSURE:	101kPa	**GROUNDING:**	None
TESTED BY:	May Wang	**DATE OF TEST:**	December 22, 2009
TEST REFERENCE:	ANSI C63.4: 2003, CISPR 16-1: 2003,Class B		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4: 2003 for conducted emissions. The measurement was using a AMN on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 150KHz to 30MHz.		
TESTED RANGE:	150kHz to 30MHz		
TEST VOLTAGE:	AC120V/60Hz		
RESULTS:	According to the recorded data in following data table, the EUT complied with the FCC PART 15, CLASS B with the worst margin reading of: **-14.3 dB** at 0.266 MHz in the Neutral conductor mode.The test results relate only to the equipment under test provided by client.		
Changes or Modifications:	There were no modifications installed by ECMG Worldwide Certifition Solution,Inc. (China) test personnel.		
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB		

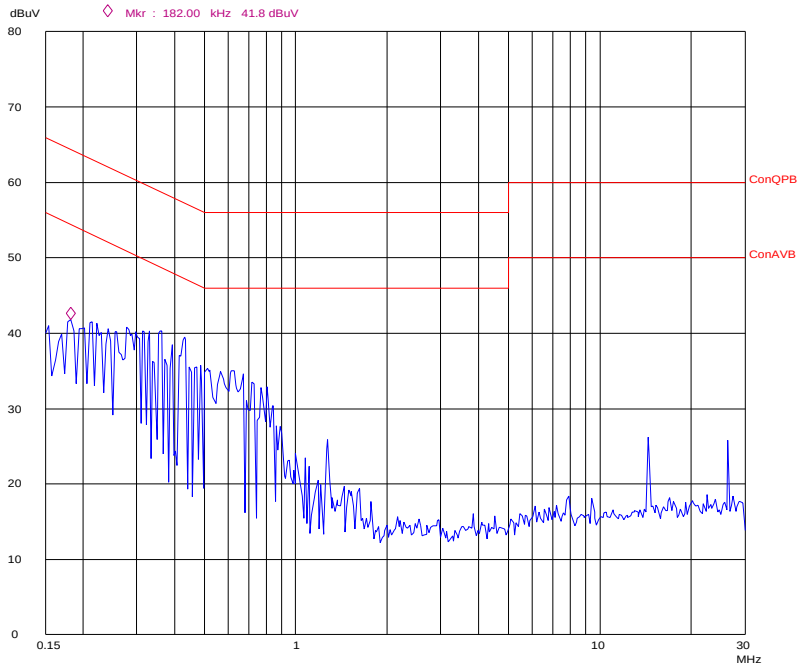
15.107 Conducted limit:

Except for Class A digital devices, for equipment 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 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

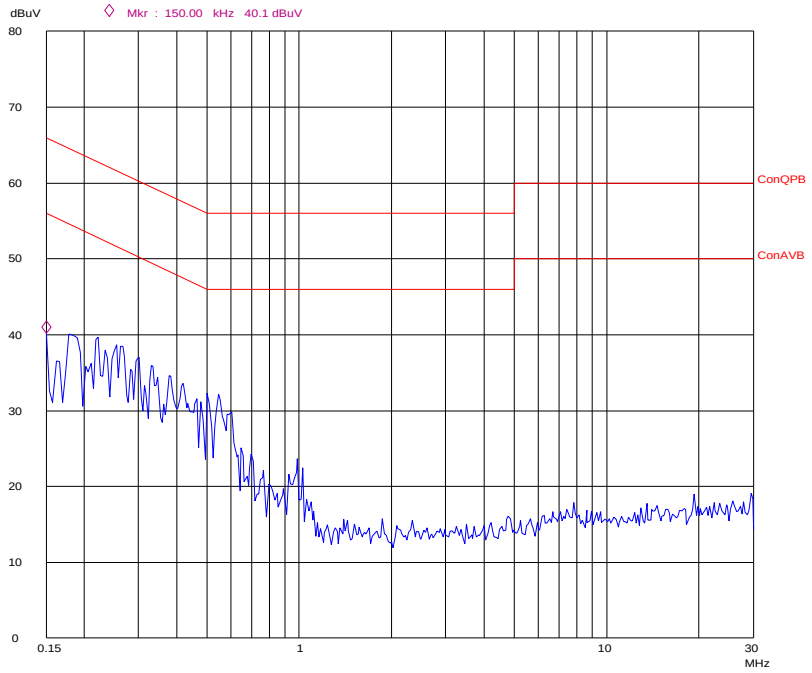
Frequency of Emission (MHz)	*Conducted Limit (dBuV)*	
	Quasi-Peak	*Average*
0.15-0.5	*66 to 56**	*56 to 46**
0.5-5	*56*	*46*
5-30	*60*	*50*

Note:
1) *The lower limit shall apply at the transition frequencies.*
2) *The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz*

EUT Model: CSM-BC400



Line L Conducted Emission Graph at AC Mains



Line N Conducted Emission Graph At AC Mains

Conducted Emission Test Data:

Line	*Frequency (MHz)*	*Corrected QP Level (dBµV)*	*Limits QP(dBuV)*	*Margin QP(dB)*	*Frequency (MHz)*	*Corrected AVE Level (dBµV)*	*Limits AVE (dBµV)*	*Margin AVE(dB)*
L	*0.278*	*30.9*	*60.9*	*-30.0*	*0.278*	*9.0*	*50.9*	*-41.9*
L	*0.358*	*33.8*	*58.8*	*-25.0*	*0.358*	*9.7*	*48.8*	*-39.1*
L	*0.430*	*28.4*	*57.3*	*-28.9*	*0.430*	*5.9*	*47.3*	*-41.4*
Other	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
	/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
	/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
N	*0.178*	*31.7*	*64.6*	*-32.9*	*0.178*	*9.6*	*54.6*	*-45.0*
N	*0.222*	*31.8*	*62.7*	*-30.9*	*0.222*	*7.4*	*52.7*	*-45.3*
N	*0.266*	*29.3*	*61.2*	*-31.9*	*0.266*	*6.9*	*21.2*	*-14.3*
Other	*/*	*/*	*/*	*/*	*/*	*/*	*/*	*/*
	/	*/*	*/*	*/*	*/*	*/*	*/*	*/*
	/	*/*	*/*	*/*	*/*	*/*	*/*	*/*

NOTE:

1) All readings are using a bandwidth of 9 kHz, with a 500 ms sweep time. A video filter was not used.

2) The other emission levels are too low against official limit that are not be recorded.

Test Equipment List:

Test Equipment	Model No.	Manufacturer	Serial No.	Last Cal.	Cal. Interval
EMI test receiver	ESCS30	R&S	SB3319	01/22/2010	01/21/2011
AMN	ESH3-Z5	R&S	SB3996	01/22/2010	01/21/2011
Signal Generator	E4422B	Agilent	N/A	2010/03/20	2011/03/20
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: May wang _____ **REVIEWED BY:** _____

ENGINEER **SENIOR ENGINEER**

Conducted Emission Test Set-up

ATTACHMENT 2 – RADIATED EMISSION MEASUREMENT

CLIENT:	Rondish Co., Ltd	**TEST STANDERD:**	FCC Part 15,Subpart B
MODEL NUMBERS:	CSM-BC400	**PRODUCT:**	Wireless Advanced LCD Bed and Chair Monitor
EUT MODEL:	CSM-BC400	**EUT DESIGNATION:**	RF Receiver
TEMPERATURE:	23°C	**HUMIDITY:**	47%RH
ATM PRESSURE:	101.0kPa	**GROUNDING:**	None
TESTED BY:	May Wang	**DATE OF TEST:**	December 22, 2009
TEST REFERENCE:	ANSI C63.4: 2003, CISPR 16-1: 2002,Class B		
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4: 2003 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. These peaks were then quasi-peaked in the frequency range of 30 MHz to 1GHz and Average in the frequency range of 1GHz to 5GHz at an Anechoic chamber.The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor are given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain		
TESTED RANGE:	30MHz to 5,000MHz		
TEST VOLTAGE:	AC 120V/60Hz		
RESULTS:	According to the recorded data in following data table, the EUT complied with the FCC PART 15, CLASS B, with the worst margin reading of: **-10.8dB** at 30.010 MHz in the Vertical Polarization.The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by ECMG Worldwide Certification Solution Inc. (China) test personnel.		
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB		

15.109 Limits of Radiated Emission:

The field strength of radiated emissions at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	*Field Strength (μV/m)*	*Field Strength (dBμV/m)*
30 – 88	*100*	*40*
88 –216	*150*	*43.5*
216 – 960	*200*	*46*
Above 960	*500*	*54*

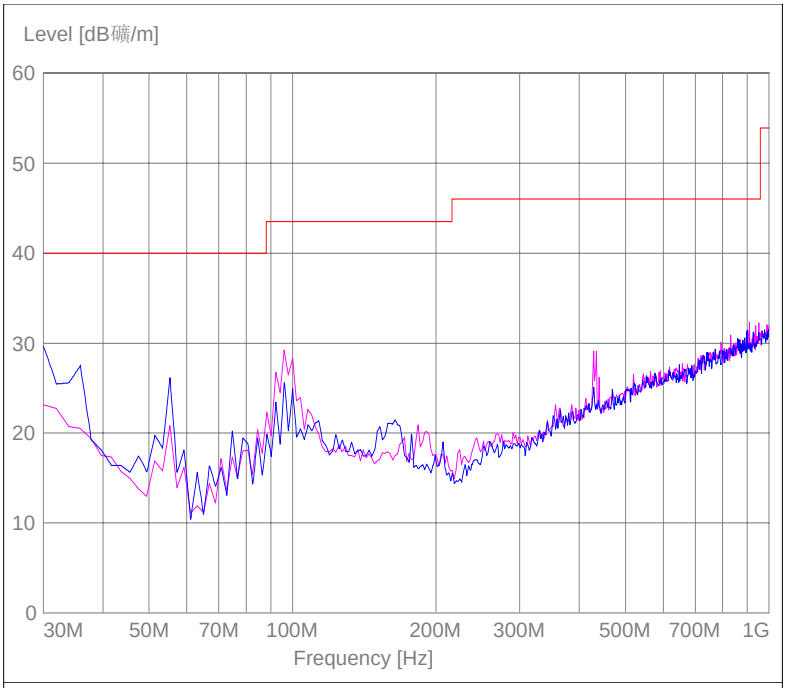
Note:

1) Emission Level dB (μV/m) = 20 log Emission Level (μV/m)

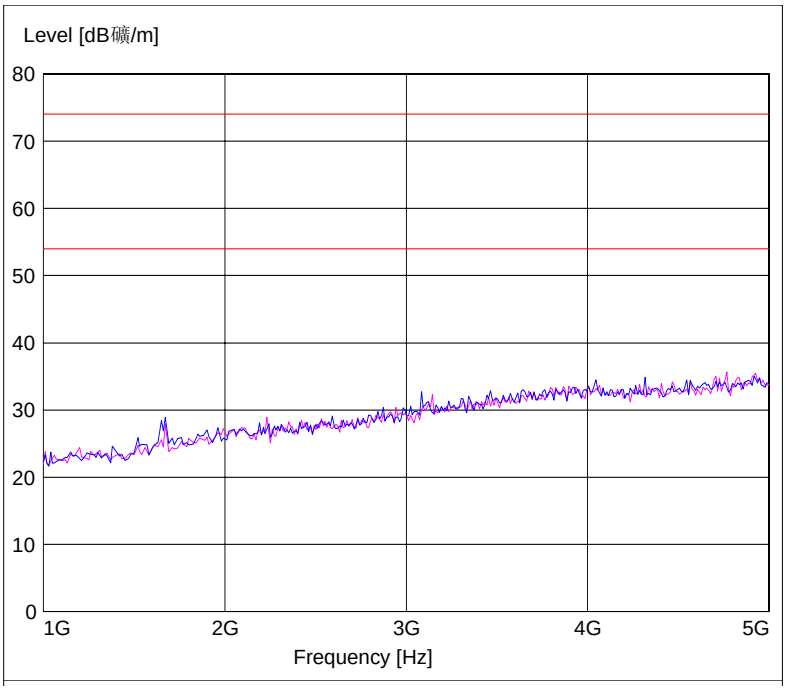
2) The tighter limit applies at the band edges.

3) Distance refers to the distance in meters between the measuringinstrument antenna and the closed point of any part of the device or system.

EUT Model: CSM-BC400



Radiated Emission Test Plot (30MHz to 1,000MHz)



Radiated Emission Test Plot (Above 1GHz)

Radiated Emission Test Data:

Below 1GHz:

Horizontal						
Signal	**Frequency (MHz)**	**Reading Level dB (uV/m)**	**Corrected Factor(dB)**	**Corrected QP Level dB(uV/m)**	**3 Meter Limits dB (uV/m)**	**Margin (dB)**
1	55.021	19.75	6.25	26.0	40.0	-14.0
2	96.030	18.24	11.46	29.7	43.5	-13.8
3	837.280	-0.89	20.49	19.60	46.00	-26.4
Other	/	/	/	/	/	/
	/	/	/	/	/	/
	/	/	/	/	/	/
Vertical						
Signal	**Frequency (MHz)**	**Reading Level dB (uV/m)**	**Corrected Factor(dB)**	**Corrected QP Level dB(uV/m)**	**3 Meter Limits dB (uV/m)**	**Margin (dB)**
1	30.010	9.12	20.08	29.2	40.0	-10.8
2	55.021	21.75	6.25	28.0	40.0	-12.0
3	951.520	0.48	21.22	21.7	46.0	-24.3
Other	/	/	/	/	/	/
	/	/	/	/	/	/
	/	/	/	/	/	/

Note:

1) All readings are quasi-peak unless stated otherwise, using a QP bandwidth of 120kHz, with a 60 s sweep time. A video filter was not used.
2) Corrected Level = reading level + corected factor, corrected factor= cable loss +antenna factor-amplifier gain,Margin = limits - corrected level.
3) The other emission levels are too low against official limits that are not reported.

Continue on to next page…

Above 1GHz:

Horizontal						
Frequency (MHz)	**Reading Level dB (uV/m)**	**Corrected Factor (dB)**	**Corrected QP Level dB(uV/m)**	**3 Meter Limits dB (uV/m)**	**Margin (dB)**	**Remark**
1102.010	-3.93	22.83	18.9	54	-35.1	AV
1404.525	-7.69	27.89	20.2	54	-33.8	
2621.585	-11.40	33.10	21.7	54	-32.3	
Other Emissions	/	/	/	/	/	
	/	/	/	/	/	
	/	/	/	/	/	
Vertical						
Frequency (MHz)	**Reading Level dB (uV/m)**	**Corrected Factor (dB)**	**Corrected QP Level dB(uV/m)**	**3 Meter Limits dB (uV/m)**	**Margin (dB)**	**Remark**
1102.010	16.07	22.83	38.9	74	-35.1	PK
2404.525	19.51	27.89	47.4	74	-26.6	
2621.585	7.40	33.10	40.5	74	-33.5	
Other Emissions	/	/	/	/	/	
	/	/	/	/	/	
	/	/	/	/	/	

Note:
1) All readings are average and peak unless stated otherwise, using a bandwidth of 1MHz, with a 60 s sweep time, A video filter was not used.
2) Corrected Level = reading level + corrected factor, corrected factor= cable loss +antenna factor-amplifier gain, Margin = limits - corrected level.
3) The other emission levels are too low against official limit that are not reported.

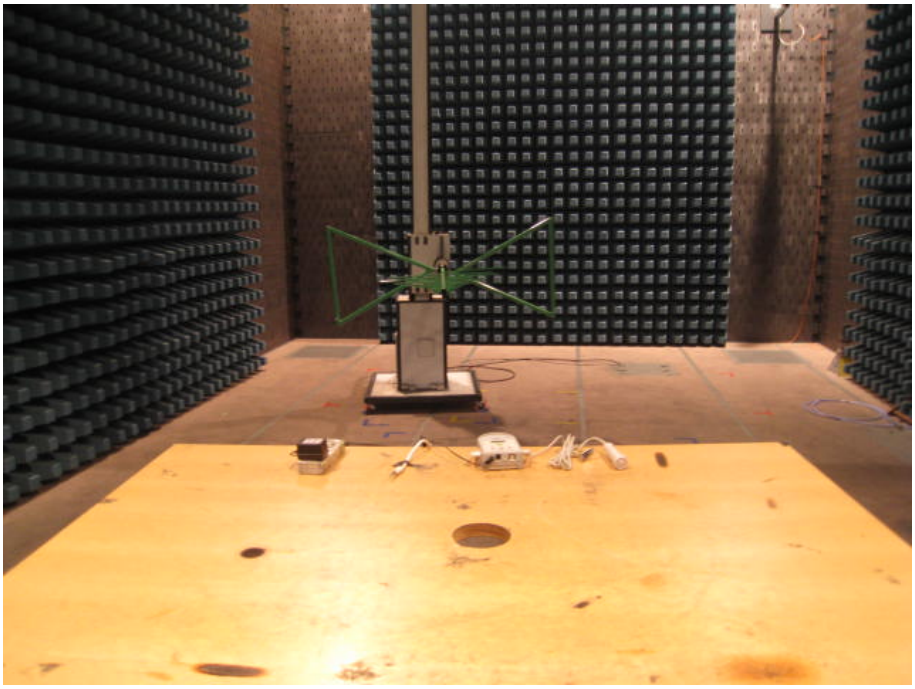
Test Equipment List:

Test Equipment	*Model No.*	*Manufacturer*	*Serial No.*	*Last Cal.*	*Cal. Due*
EMI TEST RECEIVER	*ESI26*	*R&S*	*SB3436*	*2010/01/25*	*2011/01/24*
Bilog Antenna	*CBL6112B*	*Chase*	*SB3440*	*2010/01/25*	*2011/01/24*
Horn Antenna	*HF906*	*R&S*	*SB3435*	*2010/01/25*	*2011/01/24*
Signal Generator	*E4422B*	*Agilent*	*N/A*	*2010/03/20*	*2011/03/20*
3m SEMI-ANECHOIC CHAMBER	*9X6X6*	*Albatross projects*	*/*	*2010/01/25*	*2012/01/24*
Note: All testing were performed using internationally recognized standards.All test instruments were calibrated.					

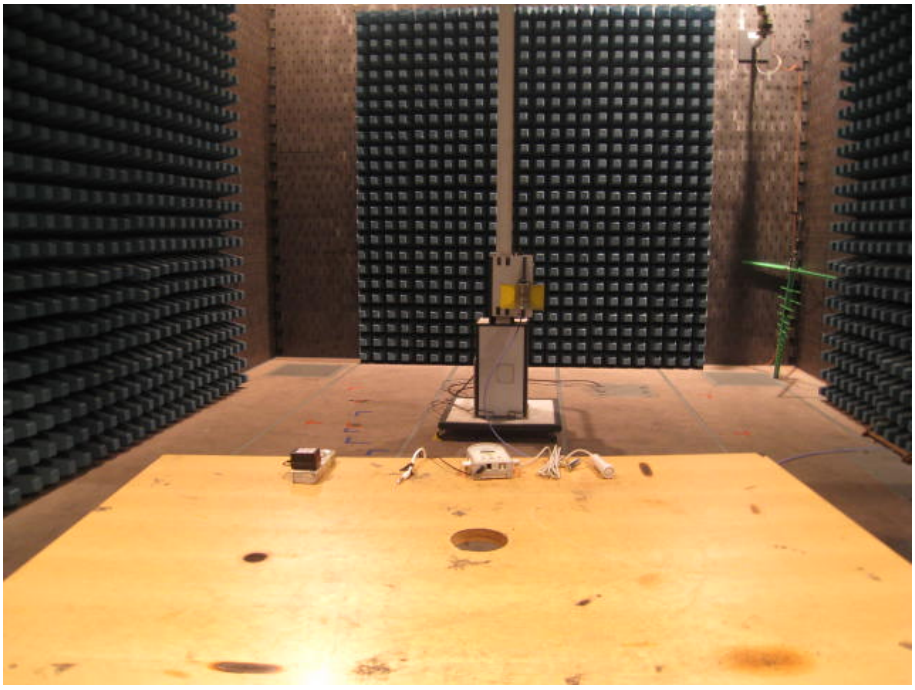
SIGNED BY: _____ ***REVIEWED BY:*** _____

ENGINEER ***SENIOR ENGINEER***

EUT Model: CSM-BC400



Radiated Emission Test Set-up(30MHz-1,000MHz)



Radiated Emission Test Set-up(Above 1GHz)