

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
UNINTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART B REQUIREMENT**

OF

**LCD TV (digital)
CRYSTAL SERIES(digital)
26"HD READY LCDTV(digital)
32"HD READY LCD TV(digital)**

MODEL No.: SEE ANNEX A

**BRAND NAME: Great Wall/SOYO/prive
FCC ID: KXYL2632××××D**

REPORT NO.: SZEE071115119701

ISSUE DATE: December 18, 2007

Prepared for

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VERIFICATION OF COMPLIANCE

Applicant:	CHINA GREAT WALL COMPUTER SHENZHEN CO.,LTD GREATWALL BUILDING,SCIENCE&INDUSTRIAL PARK,NANTOU,SHENZHEN,CHINA
Product Name:	LCD TV (digital)/CRYSTAL SERIES(digital) 26"HD READY LCDTV(digital)/32"HD READY LCD TV(digital)
Brand Name:	Great Wall/ SOYO/prive
Model Number:	See annexA
Serial Number:	N/A
File Number:	SZEE071115119701
Date of Test:	November 20,2007 ~ December 3 , 2007

We hereby certify that:

The above equipment was tested by Centre Testing International (CTI), The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15B

The test results of this report relate only to the tested sample identified in this report.

Approved By



Manager
CENTRE TESTING INTERNATIONAL

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1. GENERAL INFORMATION

1.1 product description

FUNCTION		26Specifications	32Specifications
Display Feature	Display Technology	TFT (AUO T26*W02)	TFT(AUTO T315*W01-V5)
	Screen Size	26"widescreeen	32"widescreeen
	Resolution	1366*768	1366*768
	Peak Brightness(Panel)	550cd/m ²	550cd/m ²
	Contrast(Panel)	1000:1	1000:1
	Viewing angle	178°/178°	178°/178°
	Response time	8ms	8ms
	Panel expected Life-time	60,000H	60,000H
	Maximum colors	16,777,216	16,777,216
Video	TV System	NTSC-M,ATSC(8VBS&QAM)	NTSC-M,ATSC(8VBS&QAM)
	Multi display modes	4:3,16:9	4:3,16:9
	Tuner	Digital*1	Digital*1
	Antenna impedance	NTSC&ATSC 75ohm	NTSC&ATSC 75ohm
audio	NICAM Function	mono,sterео,SAPI	mono,sterео,SAPI
	Speaker type	Embedded	Embedded
	Maximum audio output	6W*2	6W*2
	Audio effective	SURROUND/MUSIC/CINEMA/SPORT	SURROUND/MUSIC/CINEMA/SPORT
Connections	75ohm coaxial	1	1
	Scart 1(for EU)	NO	NO
	HDMI input	2	2
	PC in D-Sub 15pin	1	1
	PC Audio in	1	1
	YPbPr/YCbCr Component video in	2	2
	CVBS IN	1RCA Stereo(L/R)	1RCA Stereo(L/R)
	S-Video	1	1
VGA & Others	VGA resolution up to	1360*768/60HZ	1360*768/60HZ
	Power supply	AC100~240V	AC100~240V
	Power consumption	160W	160W
	Stand by power consumption	<2W	<2W

1.2 Model information

The schematic and PCB layout(all trade and all models)are identical except for screen size

1.3 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 Test Facility

The 3m Semi-Anechoic chamber test site and conducted measurement facility used to collect the radiated data is located on the address:

1F.,Building C, Hongwei Industrial Zone 70District.,Baoan,Shenzhen,Guangdong,China .

The Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003 requirements. The test site Registration Number:614926

1.5 Special Accessories

Not available for this EUT intended for grant.

1.6 Equipment Modifications

Not available for this EUT intended for grant.

2. System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a normal application.

2.2 EUT Exercise

The EUT was operated in the full load operating mode.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4-2003. 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.

2.3.2 Radiated Emissions

The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2003.

2.3.3 antenna power conduction

The EUT is placed on a table which is 0.8 m above ground plane. then connect the EUT to a splitter and the other side connect to receiver and Signal Generator, In order to find out maximum emission, need test typical frequency range

2.3.4 monitor operation condition

- a) Set the contrast control to maximum.
- b) Set the brightness control to maximum or at raster extinction if raster extinction occurs at less than maximum brightness.
- c) For color monitors, use white letters on a black background to represent all colors.

2.4 Limitation

(1) Conducted Emission

According to section 15.207(a) Conducted Emission Limits is as following.

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 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 to 0.50 MHz.

(2) Radiated Emission

- a. The field strength of any emission within this band (section 15.235 frequency between 49.82MHz -49.9MHz) shall not exceed 10000 micro volts/meter at 3 meters. (80dB μ V at 3m) The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in section 15.235 for limiting peak emissions apply.
- b. The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209(Intentional Radiators general limit).as below.

Frequency (MHz)	Field strength μ V/m	Distance(m)	Field strength at 3m dB μ V/m
1.705-30	30	30	29.54
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

- Remark:
1. Emission level in dBuV/m=20 log (uV/m)
 2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
 3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205
 4. Emission spurious frequency which appearing within the Restricted Bands specified in provision of ξ 15.205, then the general radiated emission limits in ξ 15.209 apply.

Antenna conducted emission

According to section of 15.111 Antenna conducted emission limit is as follows

The power at the antenna terminal at any frequency within the range of measurements specified in Section 15.33 shall not exceed 2.0 nanowatts.

3. Summary Of Test Results

FCC Rules	Description Of Test	Result
§ 15.207	Conducted Emission	Compliant
§ 15.209	Radiated Emission	Compliant
§ 15.111	Antenna power Emission	Compliant

4. Description of test modes

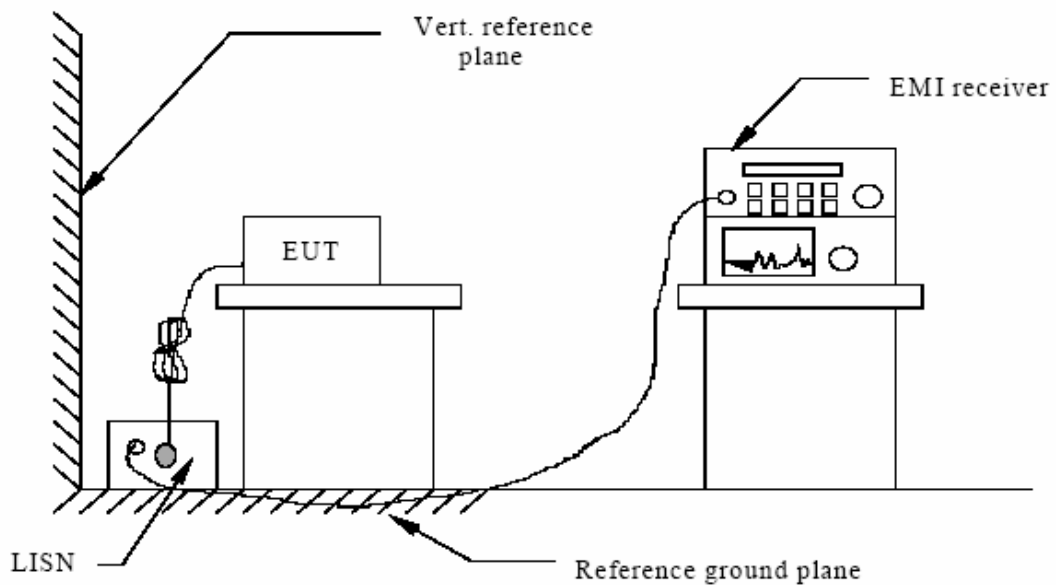
1. The EUT has been tested under full load operating condition.

5. Conducted Emissions Test

5.1 Measurement Procedure:

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)



5.3 Measurement Equipment Used:

Conducted Emission Test Site # 4					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Receiver	R&S	ESCI	100435	01/29/2007	01/28/2008
LISN	ETS	3816	00060336	06/07/2007	06/06/2008

5.4 Measurement Result:

Operation mode: VGA Test By: Forrest
 Test data: Dec.1, 2007 polarity: N

NO.	Freq. MHZ	Reading level			factor dB	measurement			limit		Margin	
		Peak	QP	AVG		Peak	QP	AVG	QP	AV	QP	AV
1	0.19	37.54	20	9.48	21.17	58.71	41.17	30.7	64.03	54.03	-23	-23
2	1.016	23.6	16.9	11.31	20.11	43.71	37.01	31.4	56	46	-19	-15
3	1.19	25.63	14.27	5.89	20.1	45.73	34.37	26	56	46	-22	-20
4	1.718	27.03	20.19	6.96	20.07	47.1	40.26	27	56	46	-16	-19
5	2.514	26.95	15.28	5.44	20.08	47.03	35.36	25.5	56	46	-21	-20
6	3.042	27.37	17.78	7.06	20.09	47.46	37.87	27.2	56	46	-18	-19

Operation mode: VGA Test By: Forrest
 Test data: Dec.1,2007 polarity: L

NO.	Freq. MHZ	Reading level			factor dB	measurement			limit		Margin	
		Peak	QP	AVG		Peak	QP	AVG	QP	AV	QP	AV
1	0.154	42.18	30.91	12.31	21.86	64.04	52.77	34.2	65.8	55.8	-13	-22
2	0.686	27.05	24.53	15.73	20.13	47.18	44.66	35.9	56	46	-11	-10
3	0.962	29.12	24.97	17.86	20.11	49.23	45.08	38	56	46	-11	-8
4	1.238	28.57	26.56	13.29	20.1	48.67	46.66	33.4	56	46	-9.3	-13
5	1.51	29.3	23.04	11.95	20.08	49.38	43.12	32	56	46	-13	-14
6	1.786	28.22	24.83	12.18	20.07	48.29	44.9	32.3	56	46	-11	-14

Note: the above test data is worst of all modes for 32" LCD TV. the other modes is at least 10 safety margin. the datas see Annex B

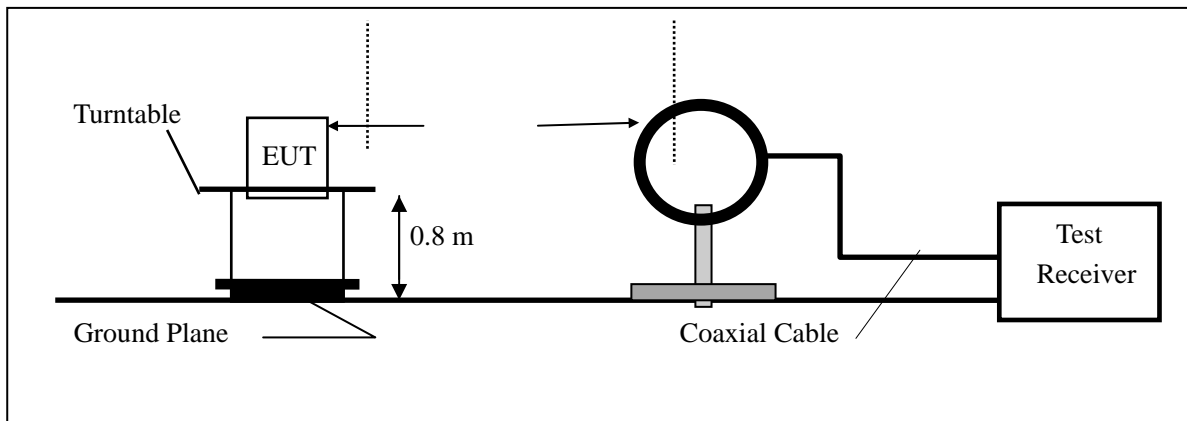
6. Radiated Emission Test

6.1 Measurement Procedure

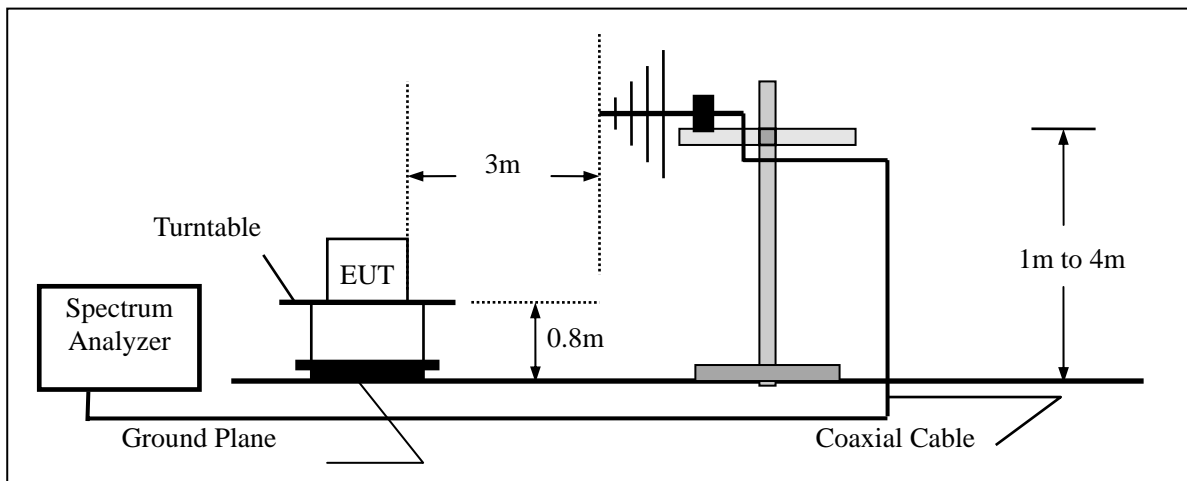
1. The EUT was placed on a turntable which is 0.8m above ground plane.
2. Maximum procedure was performed on the twelve highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

6.2 Test SET-UP (Block Diagram of Configuration)

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



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



6.3 Measurement Equipment Used:

Open Area Test Site # 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4443A	MY46185649	06/29/2007	06/28/2008
Biconilog Antenna	ETS	3142C	920250	05/30/2007	05/29/2008
Multi device Controller	ETS	2090	00057230	06/07/2007	06/06/2008
EMI Receiver	R&S	ESCI	100435	01/29/2007	01/28/2008

6.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$CF=AF+CL-AG$$

$$FS = RA + CF$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

6.5 Measurement Result

Operation Mode: VGA Test Date : Nov. 24, 2007
 Temperature : 22 Pol: Horizontal
 Humidity : 58 %

Freq. (MHz)	Ant.Pol. H/V	DetectorMode (PK/AV)	Reading (dBuV)	Factor CF(dB)	Limit3m (dBuV/m)	Safe Margin (dB)
194.900	H	Peak	28.32	11.87	43.5	-3.31
214.300	H	Peak	27.21	12.64	43.5	-3.65
287.050	H	Peak	27.82	15.30	46.00	-2.88
584.517	H	Peak	22.16	21.72	46.00	-2.12
649.180	H	Peak	20.45	23.32	46.00	-2.23
697.683	H	Peak	17.46	24.67	46.00	-3.87

Operation Mode: VGA Test Date : Nov. 24, 2007
 Temperature : 22 Pol: Vertical
 Humidity : 58 %

Freq. (MHz)	Ant.Pol. H/V	DetectorMode (PK/AV)	Reading (dBuV)	Factor CF(dB)	Limit3m (dBuV/m)	Safe Margin (dB)
99.510	V	QP	30	10.4	43.5	-3.1
379.200	V	Peak	23.5	18.12	46	-4.38
506.910	V	Peak	21.38	20.18	46.00	-4.44
633.016	V	Peak	26.89	23.28	46.00	4.17
704.150	V	Peak	9.06	24.72	46.00	-12.22
775.733	V	Peak	9.45	24.86	46.00	-11.69

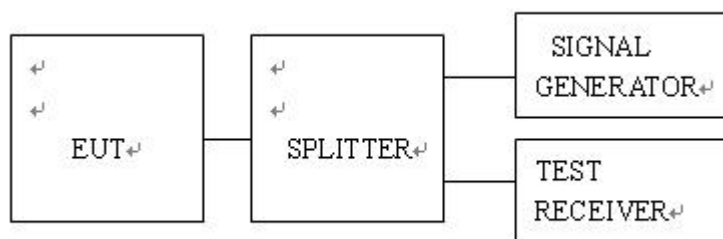
Note: the above test data is worst of all modes for 32"LCD TV, the other modes is at least 10 safety margin. The other datas See Annex C

7. Antenna conducted power

7.1 Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the typical frequency emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

7.2 Test SET-UP (Block Diagram of Configuration)



7.3 Measurement Equipment Used:

Antenna conducted power Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
EMI Receiver	R&S	ESCI	100435	01/29/2007	01/28/2008
Signal generator	IFR	3116A	1450067	01/29/2007	01/28/2008
splitter	HK	4118	2376640	01/29/2007	01/28/2008

7.4 Measurement Results:

The antenna conducted power is less than 2nwatts in any frequency. at least 10dB safety margin.
So comply with limit.

APPENDIX 1 PHOTOGRAPHS OF SETUP

RADIATED EMISSION TEST SETUP



CONDUCTED EMISSION TEST SETUP



----End of the report----