

# **TEST REPORT**

То:	BEIJING JIA AN ELECTRONIC TECHNOLOGY CO., LTD		То:	-	
Attn:	Helen BAN		Attn:	-	
Address:	No.19, Gu Cheng West Street, Shi Jing Shan District, Beijing 100043, China		Address:	-	
Fax:	86 10-68889905	•	Fax:	-	
E-mail:	helen@alarmsources.com		E-mail:	-	
This document includes: 18 pages					
Factory name:	Unidentified		Offer:	BJA07DE03-01ETZHFP	
Location:	Unidentified		Sample No:		
		362	Start date:	December 03, 2007	
aindantadan hadi	121 122 123 124 125 126 127 <del>128</del> 129		Finish date:	December 10, 2007	
118 11912 0	121 122 123 124 125 126 12 <i>7</i> 128 129	13 0 13	Test Requested:	FCC Part 15.231 Certification Procedure	
	# B		Test Method:	47 CFR Part 15 (10-1-05 Edition) ANSI C63.4 – 2003	
	DN		Re-testing:	NONE	
MODEL .	REMOTE CONTROLER T206 & T306 (FCC ID: VVJ-T306R3	340)	Test Result:	SEE PAGE 2 TO 4	
The results gi (T206 & T306	ven in this report are related to th are pre-scanned and found that T306	e tested spo	ecimen of the desc	cribed electrical apparatus. based on the result of T306)	
	The submitted sample was found			-	
	Autho	rized Signati	ure:		
		A log 2			
	Director of O	peration: Pa	trick Wong		
		ecember 15,			

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#### Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 - 2003 (FCC Registration No.: 597719). A Semi-Anechoic Chamber Testing Site is set up for investigation and located at :

# CGEL (a.k.a. GUANGDONG ELECTRONIC & ELECTRICAL PRODUCTS INSPECTION AND SUPERVISION INSTITUTE)

No.45 South St., Shayongnan Village, Sanyuanli Guangzhou City, Guangdong Province, China 51400

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2003 (FCC Registration No.: 597719). A shielded room is located at :

# CGEL (a.k.a. GUANGDONG ELECTRONIC & ELECTRICAL PRODUCTS INSPECTION AND SUPERVISION INSTITUTE)

No.45 South St., Shayongnan Village, Sanyuanli Guangzhou City, Guangdong Province, China 51400

The performed tests have been conducted by the above EMC testing locations and under supervision of a BVLCIE's engineer.

#### List of measuring equipment

For test frequency range: 30MHz to 1000MHz

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due date
EMI Receiver	R&S	ESIB7	100192	2008/03/29
Antenna	R&S	HL-562	100172	2008/08/14
RF Cable	R&S	1	1	2008/08/14
RF Cable	R&S	1	1	2008/08/14
RF Cable	R&S	1	1	2008/08/14
3m anechoic chamber	ETS	RFD-F-100	1	2008/05/24
Shielding Room	ETS	RFD-100	1	2008/05/24

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For test frequency range: 1GHz to 7GHz

Equipment	Manufacturer	Model No.	Serial No.	Cal. Due date
EMI Receiver	R&S	ESIB7	100192	2008/03/29
Antenna	Xibao	GH18H	061101#	2008/05/24
HF Cable	Xibao	1	1	2008/05/24
3m anechoic chamber	ETS	RFD-F-100	1	2008/05/24
Shielding Room	ETS	RFD-100	1	2008/05/24

## Sample Deescription and Final Test Mode Selection on Multiple Model

After the verification by witness on both EUT T306 and T206, and after checking the schematic found that they share the same schematic (T306 has 3 buttons and T206 has 2 buttons). And per client info, T206 is designed by disabling the function of T306.

Both T206 and T306 are pre-scanned and the worst case is found on T306, the following report shows only the result of the T306.

All the exhibits regarding to this verification have been filed by this FCC application.



## Description of the radiated emission test

#### **Test Procedure:**

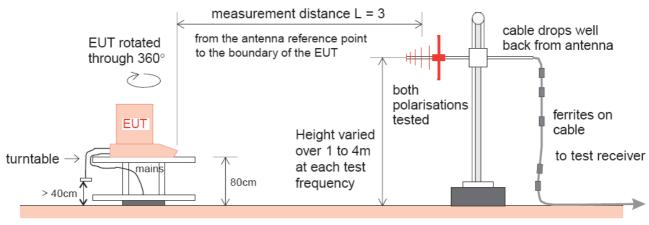
Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003 and found compliance with FCC Part 15.231(b).

The sample was placed 0.8m above the ground plane on a standard radiated emission test site. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position.

The bandwidth of the EMI test receiver (R&S ESIB7) is set at 120kHz. Frequency range is from 30MHz to 1000 MHz. The bandwidth of the VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW 10Hz VBW for average emission above 1GHz

The frequency range from 30MHz to 10th harmonic are checked.

#### **Test Setup:**



ground plane between antenna and EUT

## **Test Setup and conditions:**

The first button of the EUT was pressed to produce the highest emission.

Since the EUT is considered a potable unit, it was pre-tested on the positioned of each 3 axis.

Therefore only the test data of the worse case - X axis was used for Radiated test.

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#### **Measurement Data:**

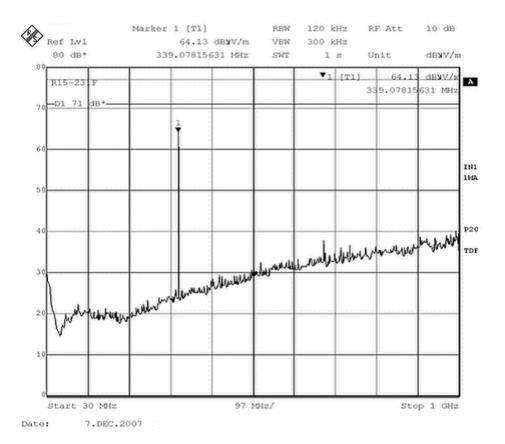
#### **Test Result:**

All measurement data was indicated that the EUT meet the FCC 15.231 requirement.

## **Fundamental Emissions**

#### Vertical:

Field Strength of Fundamental Emissions				
Frequency MHz	Emission Level dB µ V/m	Limits dB µ V/m	Margin dB	Remark
340	64.13	77.00	12.87	Peak



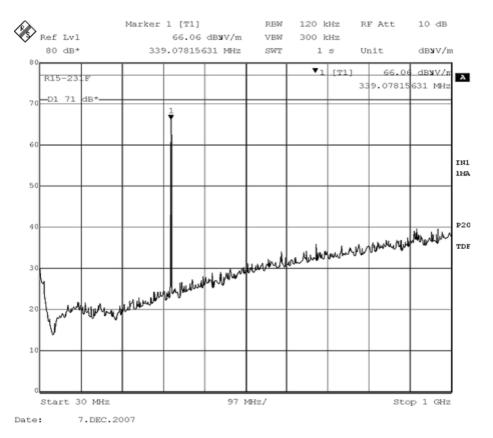
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#### Horizontal:

Field Strength of Fundamental Emissions				
Frequency MHz	Emission Level dB µ V/m	Limits dB µ V/m	Margin dB	Remark
340	66.06	77.00	10.94	Peak



#### Remarks:

Correction Factor included Antenna Factor and Cable Attenuation. Calculated measurement uncertainty:±3.7dB

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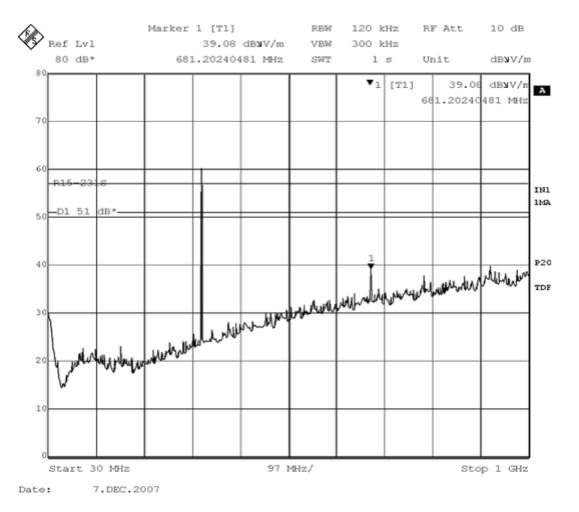


## Field Strength of Spurious Emissions

Operation frequency: 340MHz

Frequency Range: 30MHz-1000MHz (Vertical)

Frequency	Emission Level	Limits	Margin	Remark
MHz	dB µ V/m	dB µ V/m	dB	
681.20	39.08	57.00	17.92	QP



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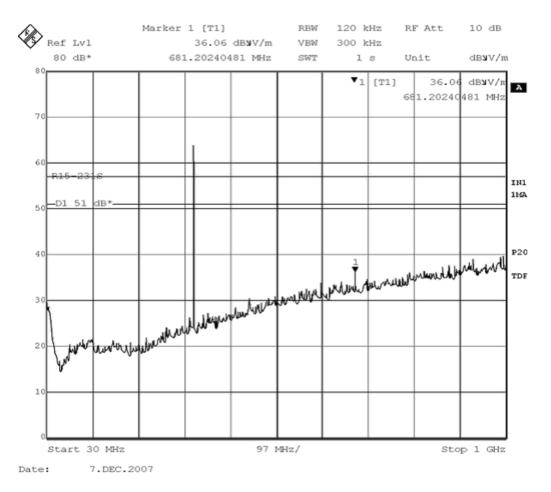
Tel: +852 2494 4676 Fax: +852 2426 0613



Operation frequency: 340MHz

Frequency Range: 30MHz-1000MHz (Horizontal)

Frequency	Emission Level	Limits	Margin	Remark
MHz	dB µ V/m	dB μ V/m	dB	
681.20	36.06	57.00	20.94	QP



#### Remarks:

Correction Factor included Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty: ±3.7dB

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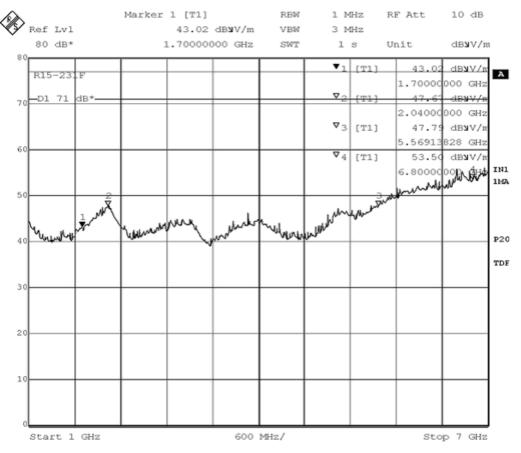
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Operation frequency: 340MHz

Frequency Range: 1GHz-7GHz (Vertical)

Frequency	Emission Level	Limits	Margin	Remark
GHz	dB μ V/m	dB μ V/m	dB	
1.70	43.02	54.00	10.98	Peak
2.04	47.62	57.00	9.38	Peak
5.57	47.79	57.00	9.21	Peak
6.80	53.50	57.00	3.50	Peak



Date: 7.DEC.2007

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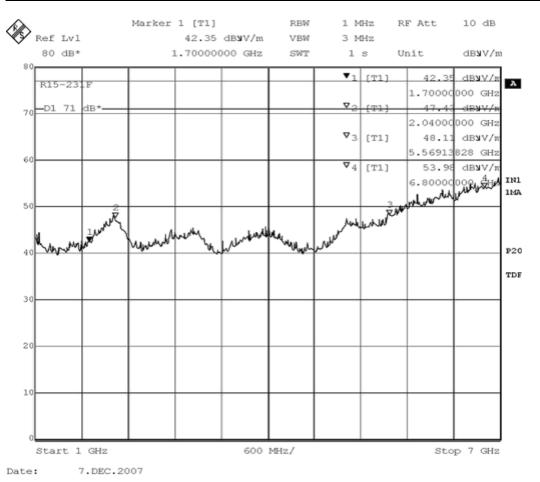
Email: <u>bvcps.electrical@hk.bureauveritas.com</u>



Operation frequency: 340MHz

Frequency Range: 1GHz-7GHz (Horizontal)

Frequency GHz	Emission Level dB µ V/m	Limits dB µ V/m	Margin dB	Remark
1.70	42.35	54.00	11.65	Peak
2.04	47.43	57.00	9.57	Peak
5.57	48.11	57.00	8.89	Peak
6.80	53.98	57.00	3.02	Peak



#### Remarks:

Correction Factor included Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty: ±3.7dB

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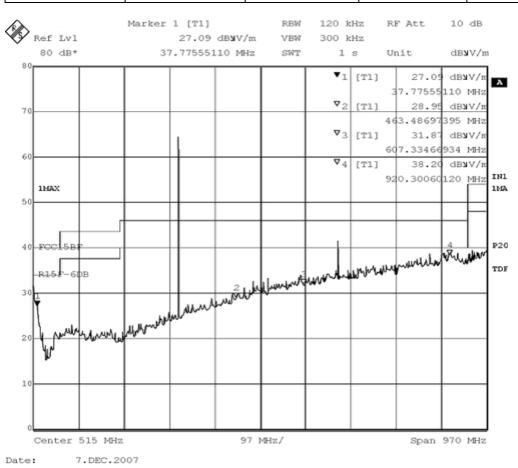
Email: bvcps.electrical@hk.bureauveritas.com



### **Test Results of Radiated Emissions**

Frequency Range: 30MHz-1000MHz (Vertical)

Frequency MHz	Emission Level dB µ V/m	Limits dB µ V/m	Margin dB	Remark
37.78	27.09	40.00	12.91	QP
463.49	28.95	46.00	17.05	QP
607.34	31.87	46.00	14.13	QP
920.30	38.20	46.00	7.80	QP



Remark: Emission Level=Reading.

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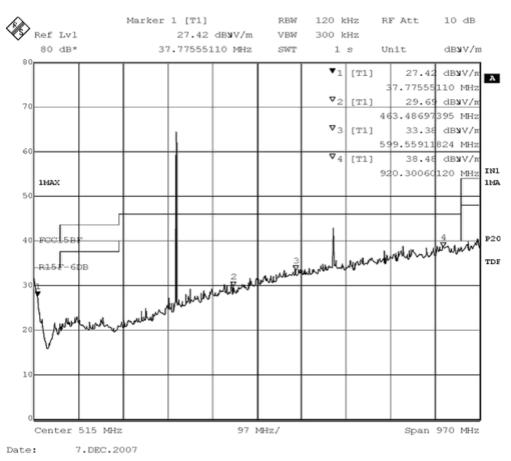
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#### Frequency Range: 30MHz-1000MHz (Horizontal)

Frequency	Emission Level	Limits	Margin	Remark
MHz	dB μ V/m	dB μ V/m	dB	
37.78	27.42	40.00	12.58	QP
463.49	29.69	46.00	16.31	QP
599.56	33.38	46.00	12.62	QP
920.30	38.48	46.00	7.52	QP



Remark: Emission Level=Reading.

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### **Description of the Occupied Bandwidth**

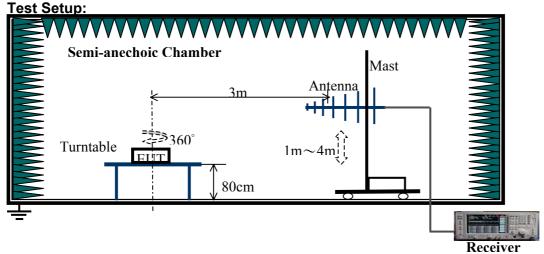
#### **Test Procedure:**

Occupied bandwidth measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003 and found compliance with FCC Part 15.231(c).

The EUT was placed on the top of a turntable 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna used is a loop antenna. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.

The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode. RBW= 10kHz. VBW=30kHz

Measure the 20dB bandwidth and compare with the required limit



#### **Test Setup and conditions:**

The first button of the EUT was pressed to produce the highest emission.

Since the EUT is considered a potable unit, it was pre-tested on the positioned of each 3 axis. Therefore only the test data of the worse case - Y axis was used for Radiated test.

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#### **Measurement Data:**

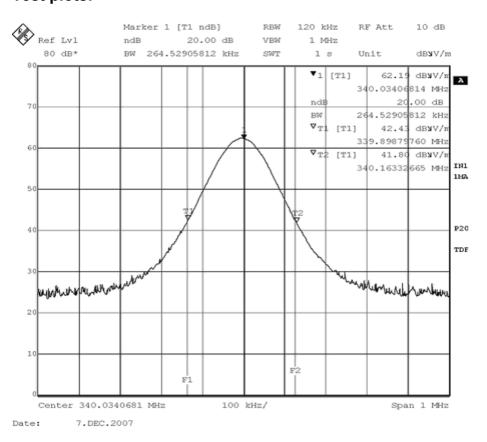
#### **Test Result:**

All measurement data was indicated that the EUT meet the FCC 15.231 requirement.

## Occupied bandwidth pursuant to the requirement of FCC Part 15.231

Test Frequency	Bandwidth	Limit
MHz	kHz	kHz
340	264.53	850

## Test plots:



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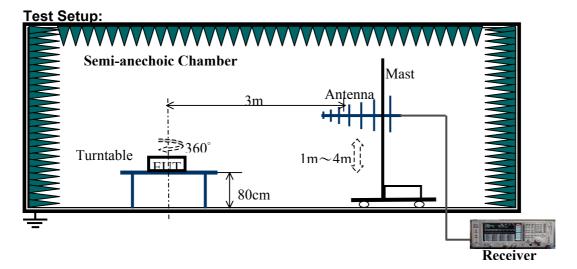
## **Description of the Duration of Transmission**

#### **Test Procedure:**

Occupied bandwidth measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003 and found compliance with FCC Part 15.231(a)(1).

The EUT was placed on the turntable and coupling the signal to the spectrum analyzer through an antenna.

The transmission duration was measured and recorded.



#### **Test Result:**

All measurement data was indicated that the EUT meet the FCC 15.231 requirement.

Duration of Transmission pursuant to the requirement of FCC Part 15.231

Push button	Frequency (MHz)	Transmission duration (sec)	Maximum limit (sec)	Pass / Fail
UP button	340	0.078	5	Pass
DN button	340	0.078	5	Pass
Lighting button	340	0.076	5	Pass

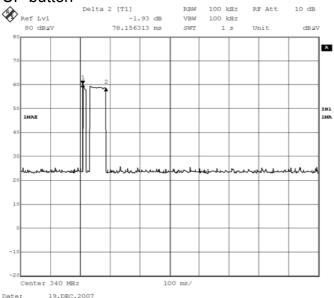
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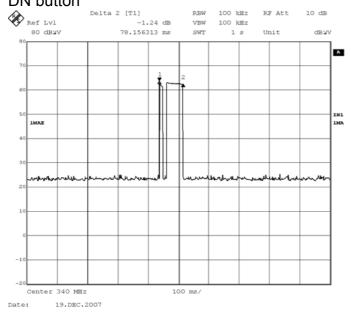


## **Test plots:**

## UP button



# DN button



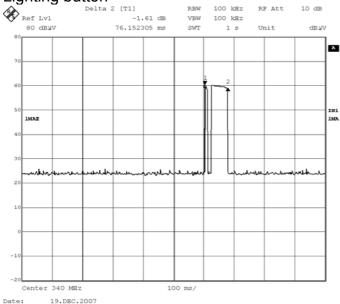
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# Lighting button

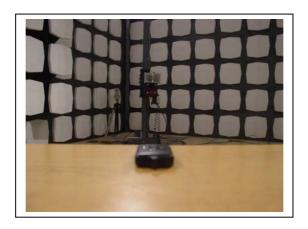


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## Appendix I

## Photographs of the test setup for the highest emission



\*\*\*\*\* End of Report \*\*\*\*\*