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NVLAP Lab code: 200068-0
ISO/IEC 17025:1999, ISO 9002:1994

FCC CERTIFICATION RADIO MEASUREMENT TECHNICAL REPORT

On Model Name: Remote Control

Model Numbers : Model (4-75518-002) Remote Control-115V/HJCSJ 82, 82A, 82B, 82C, 82D

Trademark : Hutec

FCC ID : TWTHJCSJ82

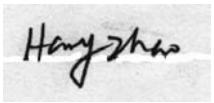
Prepared for Wuxi Hutec Technology Co., Ltd.

According to FCC Part 15 (2004), Subpart C

Test Report #: *WUX-0512-0115SH-FCC*

Prepared by: *Chris Huang*

QC Manager: *Harry Zhao*

Test Report Released by: 

Harry Zhao

2005, December 27th

Date

Test Location

Tests performed at EMC Compliance Management Group (China) in a Certified ANSI Semi-Anechoic Chamber and Shielded Room performed testing.

Test Site Location:	*Jiangsu Electronic Products Supervision & Inspection Institute No 107 Ge lane ZhongQiao WuXi JiangSu, China*
Tel:	*86-510-5140037*
Fax:	*86-510-5105579*
Registration Number:	*399439*

Accreditation Bodies

EMC Compliance Management Group is a fully accredited Test Laboratory for ITE, ISM and Telecommunications Products.

In compliance with the site registration requirements of Section 2.948 of the FCC Rules to perform EMI measurements for the general public.

Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code # 200068-0.

Table of Contents

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Opinions and Interpretations

This test report relates to the abovementioned equipment under test (EUT). Without the permission of EMC Compliance Management Group 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 : Remote Control

Model Number : Model (4-75518-002) Remote Control-115V/HJCSJ82, 82A, 82B, 82C, 82D

Models Tested : Model (4-75518-002) Remote Control-115V/HJCSJ82C

Trade Mark : Hutec

Date Tested : 2005, December 27th

Applicant : Wuxi Hutec Technology Co., Ltd.
4th Floor, Standard 4 Building, Liyuan Economic Development Zone Wuxi, Jiangsu 214072

Telephone : 86-510-85162340

Fax : 86-510-85165555

Manufacturer : Wuxi Hutec Technology Co., Ltd.
4th Floor, Standard 4 Building, Liyuan Economic Development Zone Wuxi, Jiangsu 214072

EUT Description

Wuxi Hutec Technology Co., Ltd. Model number Model (4-75518-002) Remote Control-115V/HJCSJ82C (referred to as the EUT in this test report) is a Remote Control.

Type of Deriver

Model(4-75518-002)Remote Control-115V/HJCSJ82, 82A, 82B, 82C, 82D are exactly same except the temperature point that is set in software to protect the compressor. See the below:

HJCSJ81, compressor will enter low temperature compressor protect mode at 15℃.
HJCSJ81A, compressor will enter low temperature compressor protect mode at 17℃.
HJCSJ81B, compressor will enter low temperature compressor protect mode at 19℃.
HJCSJ81C, compressor will enter low temperature compressor protect mode at 11℃.
HJCSJ81D, compressor will enter low temperature compressor protect mode at 13℃.

Test Summary

The Electromagnetic Compatibility requirements on TAT-E 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.

EMC Test Items *Reference FCC Part 15 (2004), Subpart C*			
Specification	***Description***	***Test Results***	***Remark***
FCC Part 15.203	*Antenna Requirement*	*Compliance*	*Attachment 1*
FCC Part 15.205	*Restricted Band of Operation*	*Compliance*	*Attachment 2*
FCC Part 15.207	*Conducted Limits*	*Test is not applicable, because EUT only employ battery power for operation.*	
FCC Part 15.209	*Radiated Emission Limits*	*Compliance*	*Refer to Attachment 4*
FCC Part 15.231	*Periodic Operation in the Band 40.66-40.70MHz and above 70MHz*	--	--
(a)	*Operation Mode*	*Compliance*	*Attachment 3*
(b)	*Field Strength of Fundamental and Spurious Emissions*	*Compliance*	*Attachment 4*
(c)	*Bandwidth*	*Compliance*	*Attachment 5*

Test Mode Justification

The test modes (Lie, Stand) were done for testing.
Note: Lie mode means let EUT put flat;
Stand mode means let EUT stand up.

This device complies with Part 15 of the FCC rules. Operation 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.

EUT Exercise Software

The device is not programmable and does not use software.

Equipment Modification

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

There were no modifications installed by EMC Compliance Management Group (China) test personnel.

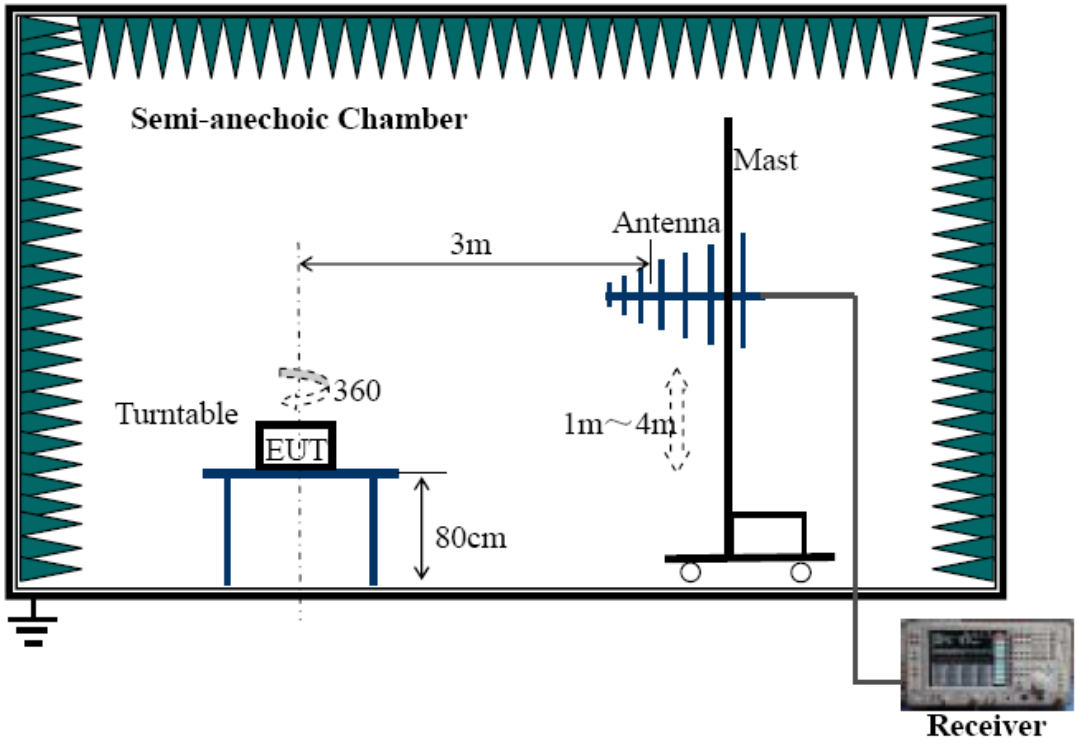
Test System Details

EUT	
Model Number:	Model (4-75518-002) Remote Control-115V/HJCSJ82C
Model Tested:	Model (4-75518-002) Remote Control-115V/HJCSJ82C
Trademark::	Hutec
Serial Number:	Engineering Sample
Input Voltage:	3V DC (2*1.5V AAA Batteries)
Description:	Remote Control
Manufacturer:	Wuxi Hutec Technology Co., Ltd.

Support Equipment				
Description	Model Number	Serial Number	Manufacturer	Power Cable Description (Meters)
Electrical Source Board Part	HJ-CSJ72	N/A	Wuxi Hutec Technology Co., Ltd.	1.8m

Cable Description
None

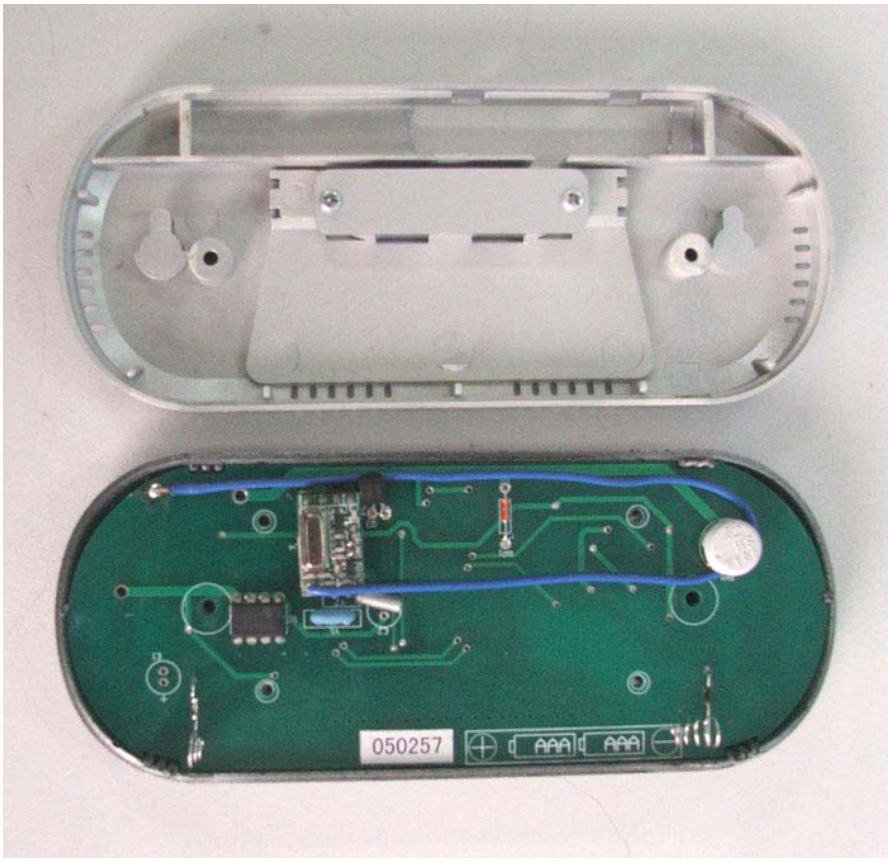
Configuration of Tested System



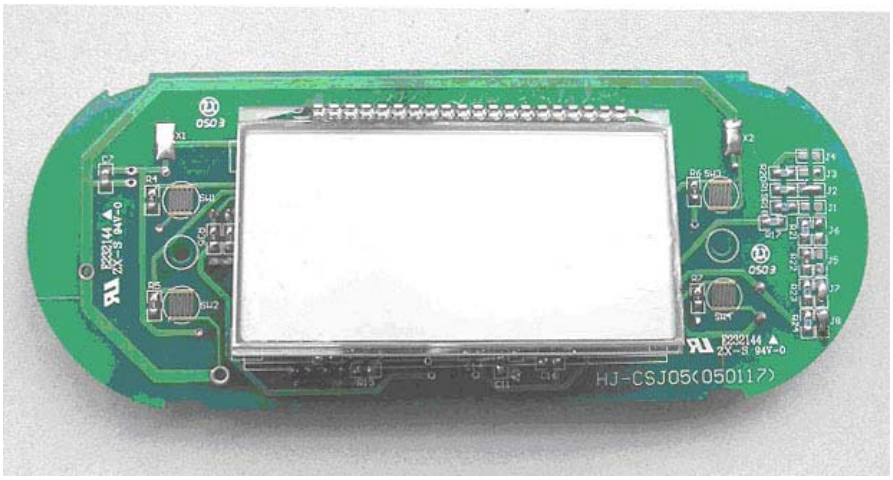
EUT Sample Photos of Model (4-75518-002) Remote Control-115V/HJCSJ82C

Front View

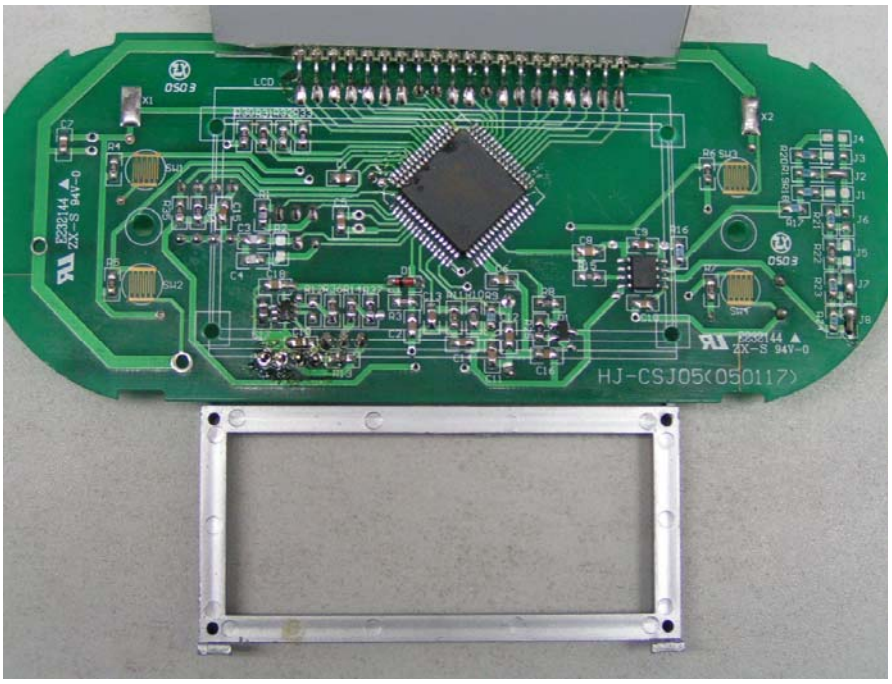
Rear View



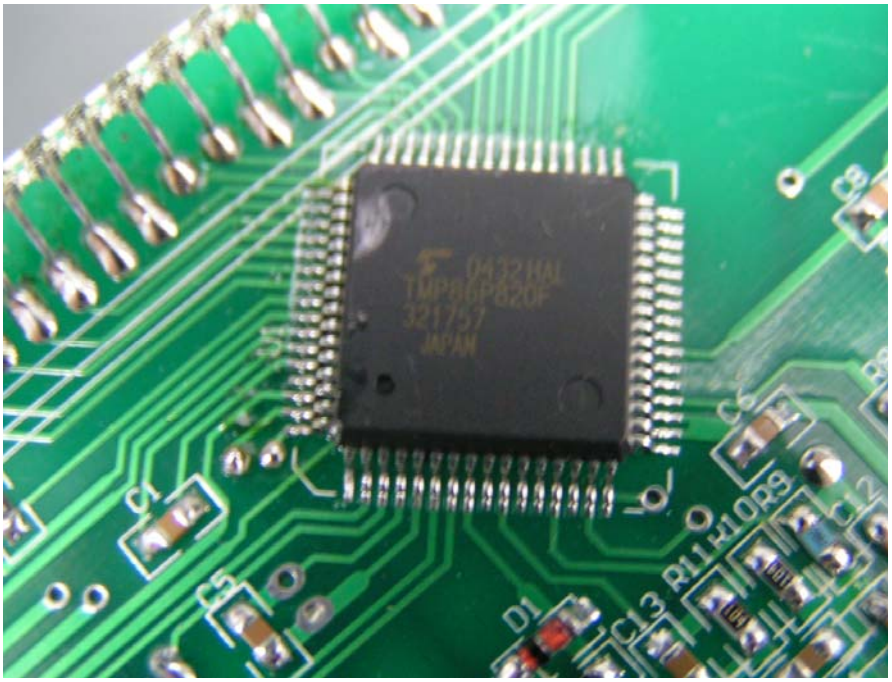
Uncovered



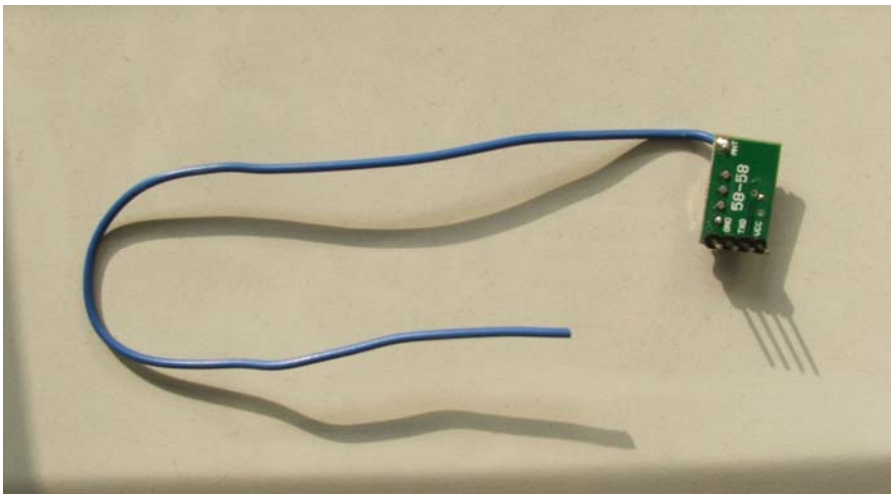
Main Board Front View with Display



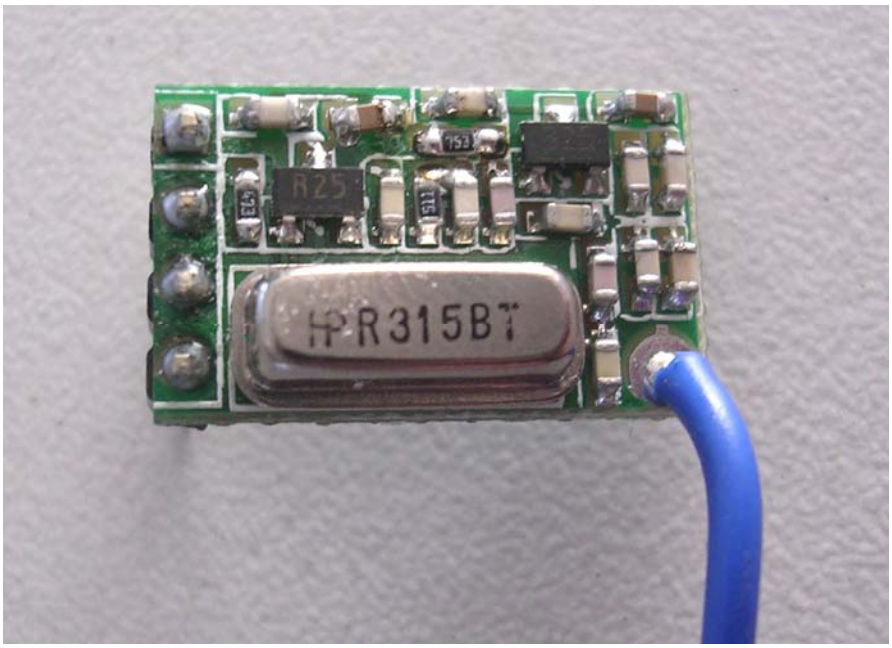
Main Board Front View



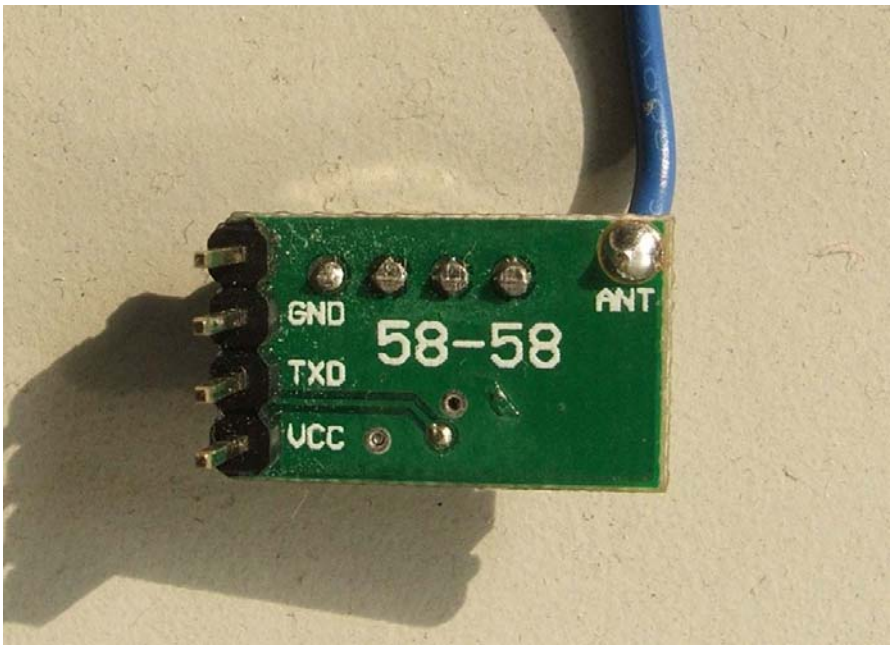
Chip on the Main Board



RF Module View



RF Module Board Front View



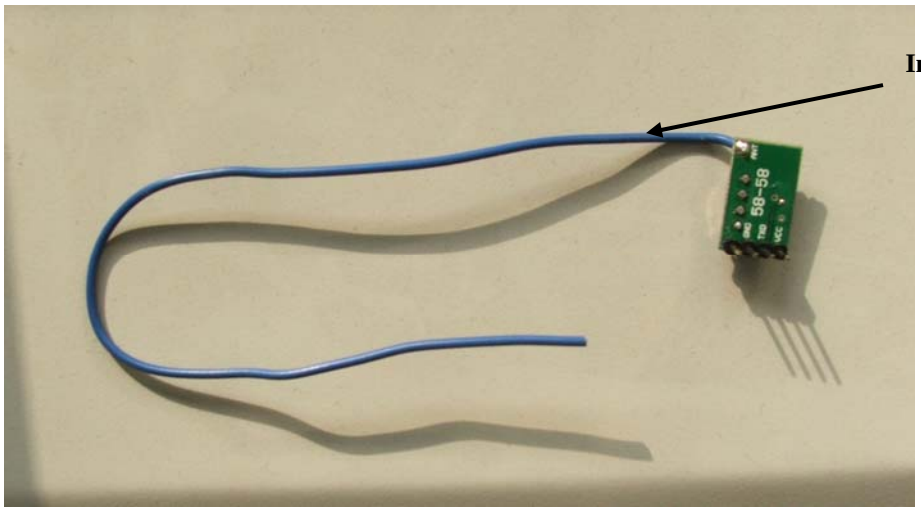
RF Module Board Rear View

ATTACHMENT 1 – ANTENNA REQUIREMENT

CLIENT:	Wuxi Hutec Technology Co., Ltd.	**TEST STANDARD:**	FCC Part 15.203 (2004)
MODEL TESTED:	Model (4-75518-002) Remote Control-115V/HJCSJ82C	**PRODUCT:**	Remote Control
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	55%RH
ATM PRESSURE:	101.8 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Shi Xiting	**DATE OF TEST:**	2005, Dec 23

SETUP METHOD:	N/A
ANTENNA REQUIREMENT:	An intentional radiator shall be designed to ensure that no antenna other than 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.
TEST VOLTAGE:	2x1.5V AAA Batteries
TEST STATUS:	Normal Operation As Usual
RESULTS:	The EUT meets the Antenna requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	N/A

FCC Section	FCC Rules	Conclusion
15.203	*Described how the EUT complies with the requirement that either its antenna is permanently attached, or that it employs a unique antenna connector, for every antenna proposed for use with the EUT.* *The exception is in those cases where EUT must be professionally installed. In order to demonstrate that professional installation is required, the following 3 points must be addressed:* ● *The application (or intended use) of the EUT* ● *The installation requirements of the EUT* ● *The method by which the EUT will be marketed*	*The RF Device uses an integral antenna without connector*



Integral Antenna without Connector View

ATTACHMENT 2 – RESTRICTED BAND OF OPERATION

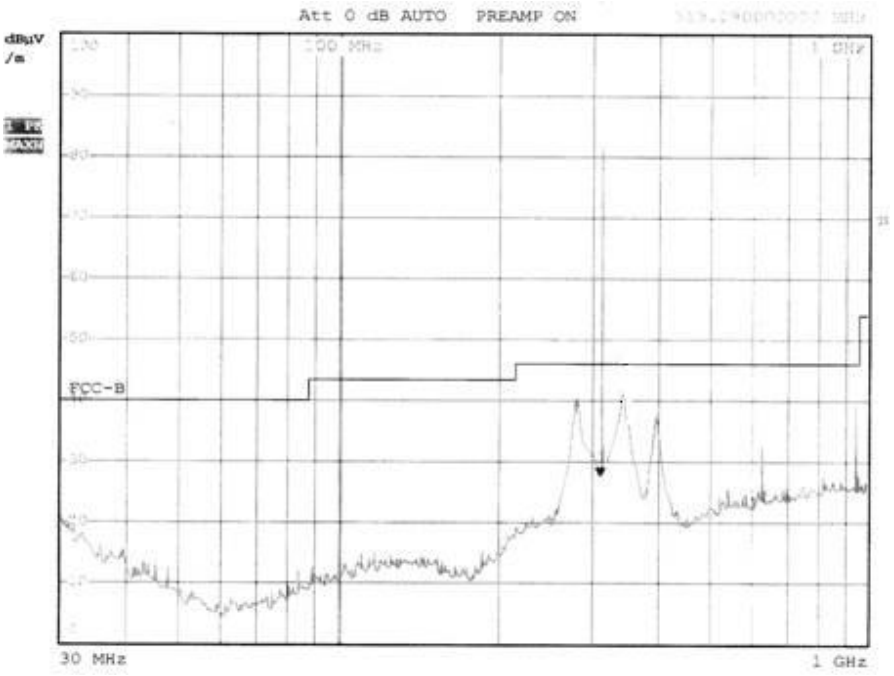
CLIENT:	Wuxi Hutec Technology Co., Ltd.	**TEST STANDARD:**	FCCPart 15.205 (2004)
MODEL TESTED:	Model (4-75518-002) Remote Control-115V/HJCSJ82C	**PRODUCT:**	Remote Control
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	55%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Shi Xiting	**DATE OF TEST:**	2005, Dec 23

SETUP METHOD:	ANSI C63.4 - 2003
RESTRICTED BANDS OF OPERATION REQUIREMENT:	The only spurious emissions are permitted in any of the frequency bands listed below table of next page.
TESTED RANGE:	30MHz to 5000MHz
TEST VOLTAGE:	2x1.5V AAA Batteries
TEST STATUS:	Keep Tx in continuous transmission mode, modulated
RESULTS:	The EUT meets the restricted bands of operation requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

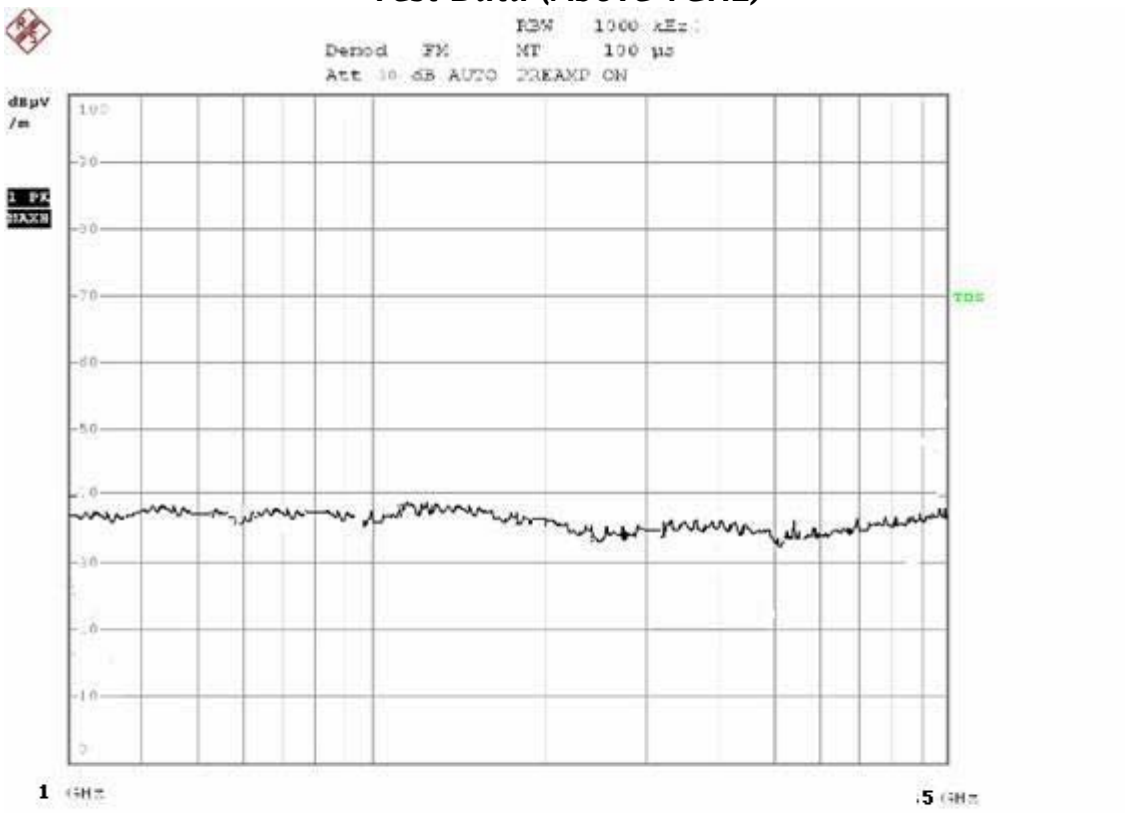
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] Above 38.6

Test Data (Below 1GHz)



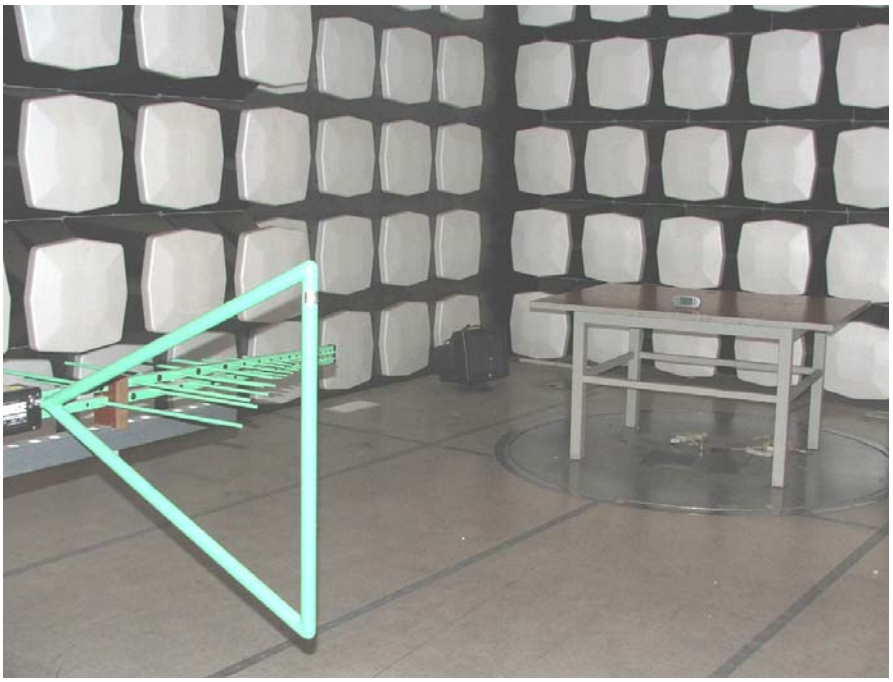
Test Data (Above 1GHz)



Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
EMI TEST RECEIVER	ROHDE&SCWARZ	ESCI	1166.595003 100065	11/23/05	11/22/06
BILOG ANTENNA	CHASE	CBL6112	117.0800.20	02/17/05	02/16/06
HORN ANTENNA	XiBao	XB-18	040507	02/17/05	02/16/06
Anechoic Chamber	LINDGREN	FACT-3	601	01/10/05	01/10/06
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: Shi-xiting _____ **REVIEWED BY:** Hangzhao _____

ENGINEER **QC**



Radiated Emissions Test Set-up (Below 1GHz)

Radiated Emissions Test Set-up (Above 1GHz)

ATTACHMENT 3 – OPERATION MODE

CLIENT:	Wuxi Hutec Technology Co., Ltd.	**TEST STANDARD:**	FCC Part 15.231 (a) (2004)
MODEL TESTED:	Model (4-75518-002) Remote Control-115V/HJCSJ82C	**PRODUCT:**	Remote Control
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	55%RH
ATM PRESSURE:	101.8 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Shi Xiting	**DATE OF TEST:**	2005, Dec 23

SETUP METHOD:	N/A
OPERATION MODE REQUIREMENT:	(1) A manually operated transmitter shall employ a switch that will automatically the transmitter within not more than 5 seconds of being released. (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation. (3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used on security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour. (4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.
TEST VOLTAGE:	2x1.5V AAA Battery
TEST STATUS:	Normal Operation As Usual
RESULTS:	The EUT meets the operation mode requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	N/A

FCC Section	FCC Rules	Conclusion
15.231 (a)	The provisions of this Section are restricted to periodic operation within the band 40.66 – 40.70 MHz and above 70 MHz. Except as shown in paragraph (e) of 15.231 Section, the intentional radiator is restricted to the transmission of a control signal such as those used with alarm systems, door openers, remote switches, etc. Continuous transmissions, voice, video and the radio control of toys are not permitted. Data is permitted to be sent with a control signal. The following conditions shall be met to comply with the provisions for this periodic operation: (1) A manually operated transmitter shall employ a switch that will automatically the transmitter within not more than 5 seconds of being released (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation. (3) Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions, including data, to determine system integrity of transmitters used on security or safety applications are allowed if the total duration of transmissions does not exceed more than two seconds per hour for each transmitter. There is no limit on the number of individual transmissions, provided the total transmission time does not exceed two seconds per hour. (4) Intentional radiators which are employed for radio control purposes during emergencies involving fire, security, and safety	The transmitter operates manually and employs a switch that automatically deactivates the transmitter and ceases transmission within 5 seconds after deactivation. The transmitter does not perform periodic transmissions.

	of life, when activated to signal an alarm, may operate during the pendency of the alarm condition.	

ATTACHMENT 4 –FIELD STRENGTH OF FUNDAMENTAL AND SPURIOUS EMISSIONS

CLIENT:	Wuxi Hutec Technology Co., Ltd.	**TEST STANDARD:**	FCC Part 15.231
MODEL TESTED:	Model (4-75518-002) Remote Control-115V/HJCSJ82C	**PRODUCT:**	Remote Control
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Shi Xiting	**DATE OF TEST:**	2005, Dec 23

SETUP METHOD:	ANSI C63.4 – 2003 , FCC Part 15.35
TEST PROCEDURE:	a. The EUT was placed on a rotatable table with 0.8 meters above ground. b. The EUT was set 3 meters from the interference-receiving antenna, which was mounted on the top of a variable height antenna tower. c. The antenna was varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna were set to make measurement. d. For each suspected emission the EUT was arranged to its worst case and then change the antenna tower height (from 1m to 4m) and turn table (from 0 degree to 360 degree) to find the maximum reading. e. If the emission level of the EUT in peak mode was 20 dB lower than the specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be tested using the quasi-peak method in about six maximal points and the results will be reported. f. Broadband antenna (Calibrated antenna) was used as receiving antenna below 1000MHz. Horn antenna were used as receiving antenna above 1000MHz. g. The bandwidth is 120 kHz below 1000 MHz, and 1 MHZ above 1000 MHz Explanation of the Correction Factor are given as follows: FS= RA + AF + CF - AG - DC Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain DC = Duty Cycle Correction Factor

CONTINUE ON THE NEXT PAGE…

TESTED RANGE:	30MHz to 5000MHz
TEST VOLTAGE:	2x1.5V AAA Batteries
TEST STATUS:	Keep Tx in continuous transmission mode, modulated
RESULTS:	The EUT meets the requirements of field strength test. The test results only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. ± 2x10-7 x Center Freq., Amp ± 2.6 dB

Average value of the measured emissions:

Direction	Polarization	Frequency Type	Frequency (MHz)	Field Strength dB(μV/m)	Limit dB(μV/m)	Over Limit dB(μV/m)	Read Level dB(μV)	Factor (dB)	Duty cycle Correction Factor (dB)
Lie	Horizontal	Fundamental	315.08	62.37	75.63	-13.26	75.23	-5.73	7.13
		Spurious	630.16	35.07	55.63	-20.56	49.60	-7.40	7.13
		Spurious	945.24	34.06	55.63	-21.57	42.28	-1.09	7.13
		Spurious	1260.32	25.44	55.63	-30.19	29.70	2.87	7.13
		Spurious	1575.39	26.00	55.63	-29.63	32.40	0.73	7.13
		Spurious	1890.45	25.09	55.63	-30.54	31.29	0.89	7.13
	Vertical	Fundamental	315.08	74.97	75.63	-0.66	87.83	-5.73	7.13
		Spurious	630.16	36.01	55.63	-19.62	50.54	-7.40	7.13
		Spurious	945.24	27.38	55.63	-28.25	35.60	-1.09	7.13
		Spurious	1260.32	25.63	55.63	-30.00	29.89	2.87	7.13
		Spurious	1575.39	26.61	55.63	-29.02	33.01	0.73	7.13
		Spurious	1890.45	25.72	55.63	-29.91	32.12	0.89	7.13
Stand	Horizontal	Fundamental	315.08	74.90	75.63	-0.73	87.76	-5.73	7.13
		Spurious	630.16	31.95	55.63	-23.68	46.48	-7.40	7.13
		Spurious	945.24	26.77	55.63	-28.86	34.99	-1.09	7.13
		Spurious	1260.32	26.86	55.63	-28.77	31.12	2.87	7.13
		Spurious	1575.39	27.76	55.63	-27.87	34.16	0.73	7.13
		Spurious	1890.45	26.64	55.63	-28.99	32.88	0.89	7.13
	Vertical	Fundamental	315.08	62.91	75.63	-12.72	75.77	-5.73	7.13
		Spurious	630.16	31.46	55.63	-24.17	45.99	-7.40	7.13
		Spurious	945.24	33.24	55.63	-22.39	41.46	-1.09	7.13
		Spurious	1260.32	26.07	55.63	-29.56	30.33	2.87	7.13
		Spurious	1575.39	27.78	55.63	-27.85	34.18	0.73	7.13
		Spurious	1890.45	24.75	55.63	-30.88	30.99	0.89	7.13

Peak value of the measured emissions:

Direction	Polarization	Frequency Type	Frequency (MHz)	Read Level dB(μV)	Factor (dB)	Field Strength dB(μV/m)	Limit dB(μV/m)	Over Limit dB(μV/m)
Lie	Horizontal	Fundamental	315.08	75.23	-5.73	69.50	95.63	-26.13
		Spurious	630.16	49.60	-7.40	42.20	75.63	-33.43
		Spurious	945.24	42.28	-1.09	41.19	75.63	-34.44
		Spurious	1260.32	29.70	2.87	32.57	75.63	-43.06
		Spurious	1575.39	32.40	0.73	33.13	75.63	-42.50
		Spurious	1890.45	31.29	0.89	32.22	75.63	-43.41
	Vertical	Fundamental	315.08	87.83	-5.73	82.10	95.63	-13.53
		Spurious	630.16	50.54	-7.40	43.14	75.63	-32.49
		Spurious	945.24	35.60	-1.09	34.51	75.63	-41.12
		Spurious	1260.32	29.89	2.87	32.76	75.63	-42.87
		Spurious	1575.39	33.01	0.73	33.74	75.63	-41.89
		Spurious	1890.45	32.12	0.89	32.85	75.63	-42.78
Stand	Horizontal	Fundamental	315.08	87.76	-5.73	82.03	95.63	-13.60
		Spurious	630.16	46.48	-7.40	39.08	75.63	-36.55
		Spurious	945.24	34.99	-1.09	33.90	75.63	-41.73
		Spurious	1260.32	31.12	2.87	33.99	75.63	-41.64
		Spurious	1575.39	34.16	0.73	34.89	75.63	-40.74
		Spurious	1890.45	32.88	0.89	33.77	75.63	-41.86
	Vertical	Fundamental	315.08	75.77	-5.73	70.04	95.63	-25.59
		Spurious	630.16	45.99	-7.40	38.59	75.63	-37.04
		Spurious	945.24	41.46	-1.09	40.37	75.63	-35.26
		Spurious	1260.32	30.33	2.87	33.20	75.63	-42.43
		Spurious	1575.39	34.18	0.73	34.91	75.63	-40.72
		Spurious	1890.45	30.99	0.89	31.88	75.63	-43.75

Note:

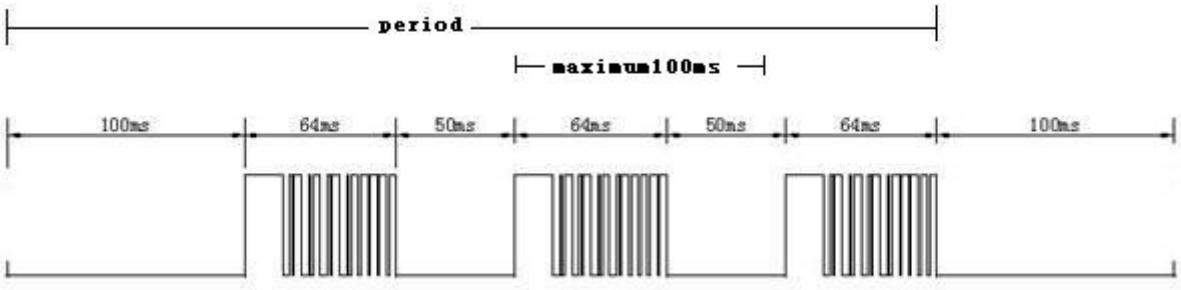
1. *Where F is the frequency in MHz, the formulas for calculating the maximum permitted fundamental field strengths are as follow:*
   For fundamental frequency (F=315.08MHz)
   Average field Strength of Fundamental (dBuV/m)
   =20log (41.6667 x F – 7083.3333)
   =20log(41.6667x315.08 – 7083.3333)
   =75.63 dBuV/m
   Average field Strength of Spurious (dBuV/m) = 75.63 – 20 = 55.63 dBuV/m

   According to FCC 15.35(b),maximum permitted peak field strength is 20dB above the maximum permitted average emission limit.

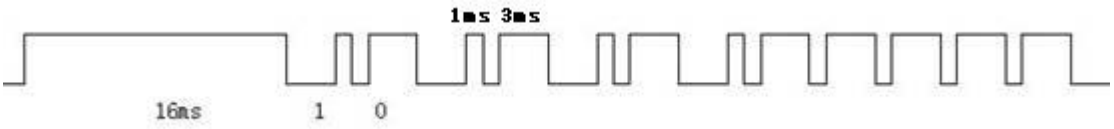
2. *Field Strength=Read Level + Factor – Duty Cycle Correction Factor*
   Factor = Antenna Factor + Cable Loss - Preamp Factor
   Duty Cycle Correction Factor is calculated by averaging the sum of the pulse train.
   Correction factor is measured as follows:

Keep the EUT in continuous transmission mode (modulated), and set the spectrum to the fundamental frequency and set the span width to 0 Hz. Then connect a storage oscilloscope to the video output of the spectrum that is used to detect the pulse train. Adjust the oscilloscope settings to observe the pulse train and determine the number and width of the pulses, as well as the period of the train.
Duty Cycle Correction Factor in 0.1s at its maximum value
*=|20log(16ms+1ms*4+3ms*8)/100ms|*
=|20log(44/100)|=7.13
(please refer to the following test graph below)

Period



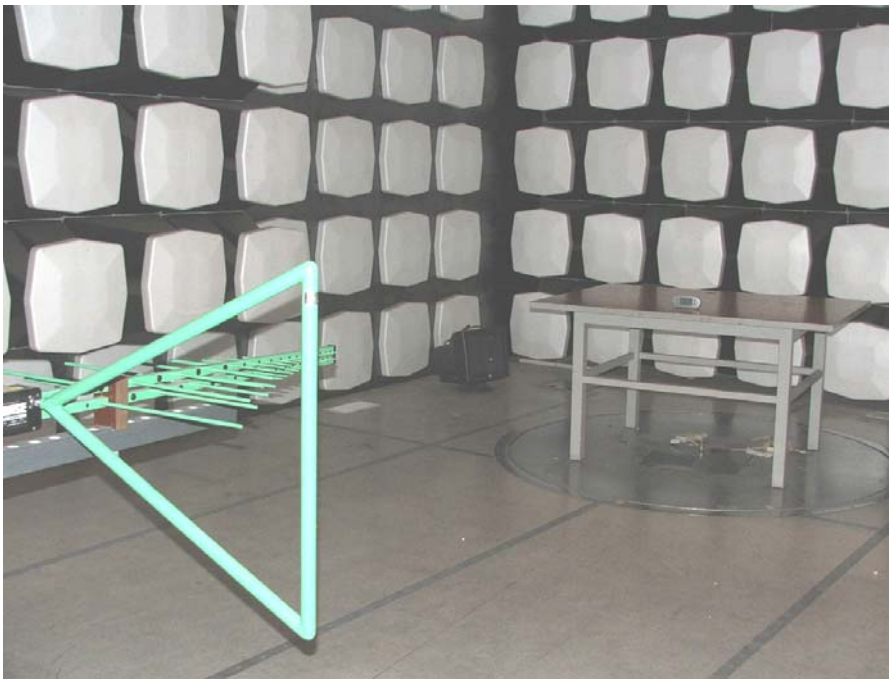
64ms detail



Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
EMI TEST RECEIVER	ROHDE&SCWARZ	ESCI	1166.595003 100065	11/23/05	11/22/06
BILOG ANTENNA	CHASE	CBL6112	117.0800.20	02/17/05	02/16/06
HORN ANTENNA	XiBao	XB-18	040507	02/17/05	02/16/06
Digital Storage oscilloscope	Rigol	DS5102MA	135.033.2	02/17/05	02/16/06
Anechoic Chamber	LINDGREN	FACT-3	601	01/10/05	01/09/06
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: Shi-xiting _____ **REVIEWED BY:** Hang Zhao _____

ENGINEER **QC**



Field Strength Emissions Test Set-up (Below 1GHz)

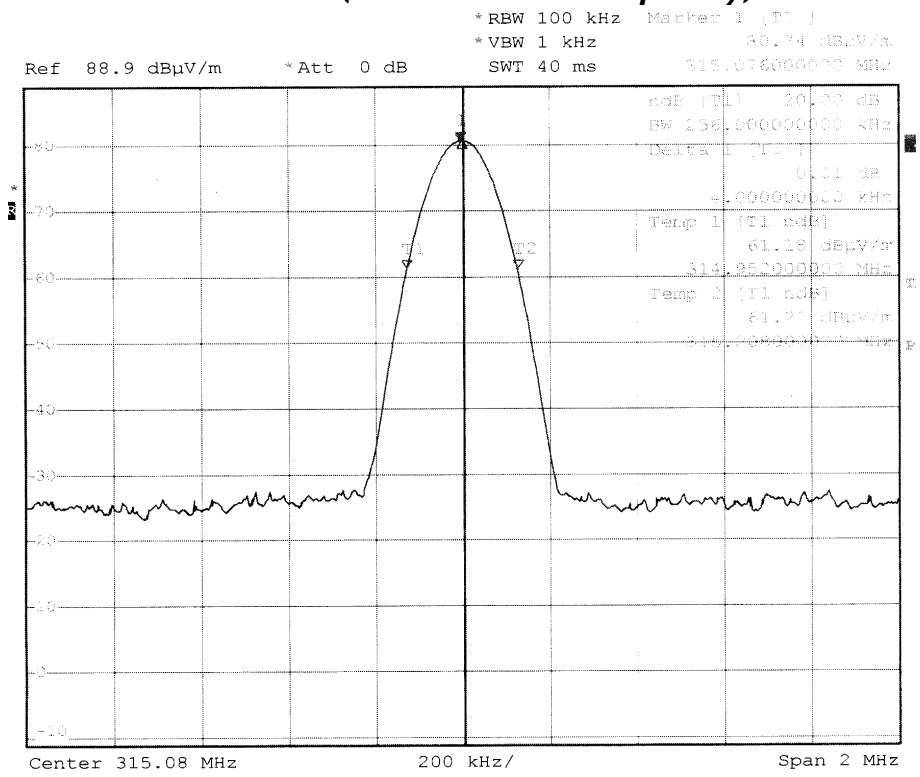
Field Strength Emissions Test Set-up (Above 1GHz)

ATTACHMENT 5 – BANDWIDTH

CLIENT:	Wuxi Hutec Technology Co., Ltd.	**TEST STANDARD:**	FCC Part 15.231 (c)
MODEL TESTED:	Model (4-75518-002) Remote Control-115V/HJCSJ82C	**PRODUCT:**	Remote Control
SERIAL NO.:	Engineering Sample	**EUT DESIGNATION:**	RF Equipment
TEMPERATURE:	21°C	**HUMIDITY:**	53%RH
ATM PRESSURE:	101.6 kPa	**GROUNDING:**	No Grounding
TESTED BY:	Shi Xiting	**DATE OF TEST:**	2005, Dec 23

SETUP METHOD:	ANSI C63.4 - 2003
BANDWIDTH REQUIREMENT:	The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, The emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.
TEST VOLTAGE:	2x1.5V AAA Batteries
TEST STATUS:	Keep Tx in continuous transmission mode, modulated
RESULTS:	The EUT meets the bandwidth requirement. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group (China) test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

Test Data (Fundamental Frequency)

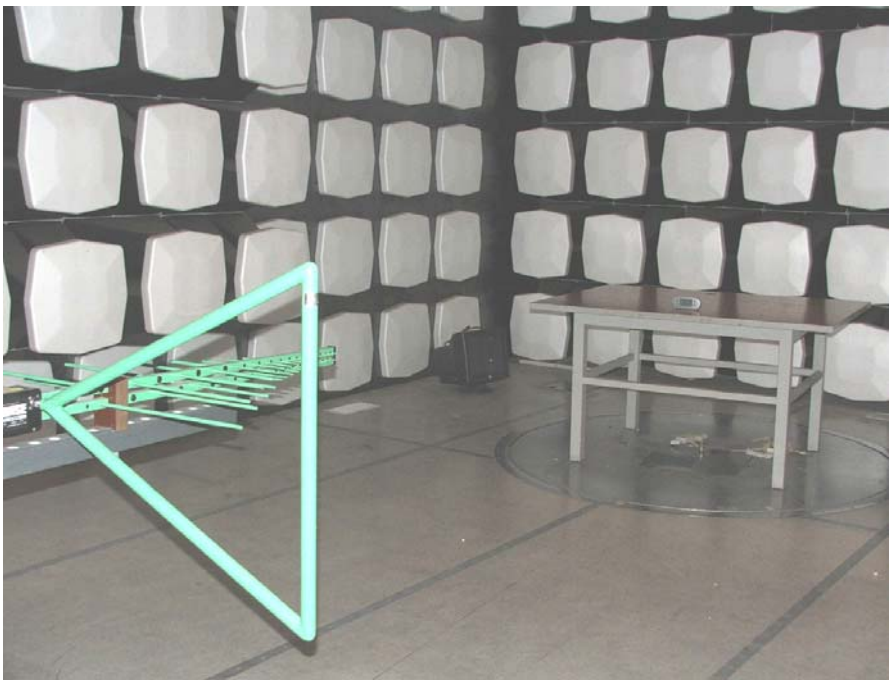


Frequency (MHz)			*Bandwidth Limit (MHz) (F_{center} x 0.25%)*	*Test Result (MHz) (F_{end}-F_{start})*	*Conclusion*
Start	*Center*	*End*			
314.952	*315.08*	*315.208*	*0.7875*	*0.256*	*Compliance*

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due Date
EMI TEST RECEIVER	ESCI	ROHDE&SCWARZ	1166.595003 100065	11/23/05	11/22/06
BILOG ANTENNA	CHASE	CBL6112	117.0800.20	02/17/05	02/17/06
Anechoic Chamber	FACT-3	LINDGREN	601	01/10/05	01/10/06
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated.					

SIGNED BY: Shi-xiting _____ **REVIEWED BY:** Hanyzhao _____

ENGINEER **QC**



Bandwidth Test Set-up