

# FCC-DOC COMPLIANCE REPORT

Test Report No. : EI/2012/A0007

Applicant : NEC Corp. of America

Address : Mobile Communications Division, 6535 N. State Highway 161, Irving  
Texas 75039, United States

Manufacturer : Arima Communications Corp.

Address : 6F., No.866, Jhongjheng Rd., Jhonghe Dist., New Taipei City 23586,  
Taiwan

Equipment Under Test (EUT) :

Name : GSM/WCDMA Mobile Phone

Brand Name : NEC CASIO Mobile Communications, Ltd.

Model No. : KMP7R4H1-1A

Added Model(s) : N/A

Standards : FCC Part 15:2010, Subpart B, Class B

Date of Receipt : Oct. 12, 2012

Date of Test : Oct. 12 ~ 16, 2012

Date of Issue : Oct. 26, 2012

Test Result :	PASS
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In the configuration tested, the EUT complied with the standards specified above.

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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Test By:

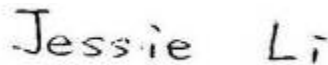


Date

Oct. 26, 2012

Jimmy Liu / Engineer

Prepared By:



Date

Oct. 26, 2012

Jessie Li(Clerk)

Approved By



Date

Oct. 26, 2012

Jim Chang / Supervisor

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**Report No. : EI/2012/A0007**

**Page : 2 of 14**

## Version

Version No.	Description	Date
00	Original report	Oct. 26, 2012

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## 1. General Information

### 1.1 Applicant & Manufacturer Information

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Manufacturer : Arima Communications Corp.

Address : 6F., No.866, Jhongjheng Rd., Jhonghe Dist., New Taipei City 23586, Taiwan

### 1.2 General Description of EUT

Name : GSM/WCDMA Mobile Phone

Brand Name : NEC CASIO Mobile Communications, Ltd.

Model No. : KMP7R4H1-1A

Added Model(s) : N/A

Model Difference : N/A

### 1.3 Details of EUT

Tested Power Supply : DC 3.8V from rechargeable battery

Modes/Function : RFID Mode

Worst case : RFID Mode

Highest Internal Source Frequency : 13.56MHz (RFID)

### 1.4 Operation Procedure

1. Set up EUT with support units and turn on the power of all equipment.
2. Pre-test the EUT in all modes by each mode, then figure the worst case out.
3. Tests under the normal operation pattern.

### 1.5 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
NOTEBOOK	IBM	L420	LR-OX3RA
Mouse	Lenovo	LXB MO28UOA USB	45J48881
Printer	HP	DJ3820	CN34L181B1
GSM/WCDMA Mobile Phone	NEC CASIO Mobile Communications, Ltd.	KMP7R4H1-1A	N/A

### 1.6 Modification List

No modification by SGS Taiwan Electronics & Communication Laboratory.

### 1.7 Cable List

Cable Type	Length	Shield/Non-shield
USB connect cable	0.7m	Non-shielding

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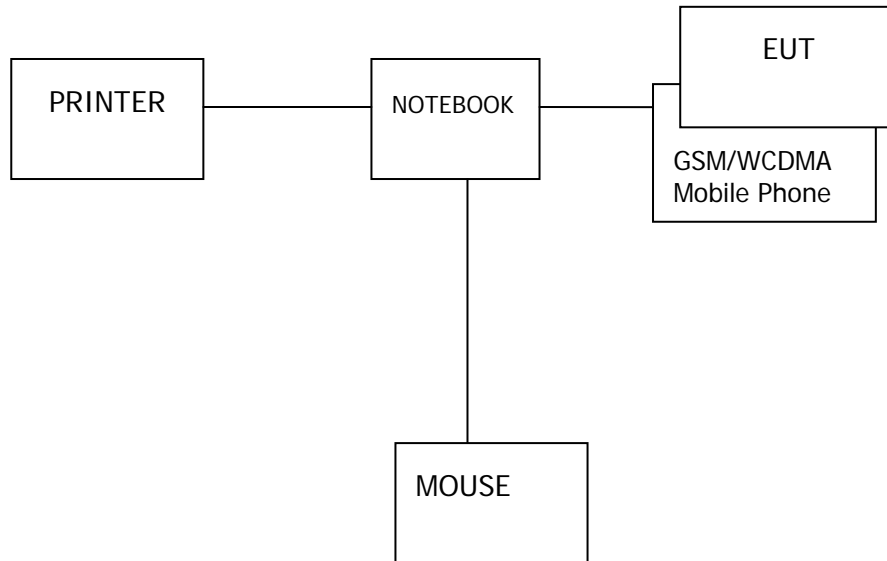
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## 1.8 Test Set-Up Configuration

### RFID Mode



## 1.9 Measurement Procedure

Conducted Emission Testing was performed according to ANSI C63.4:2003 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2003 at the open field test site. The EUT was placed in a 0.8m high table along with the peripherals. The turn table was separated from the antenna distance 10meters. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for maximum.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Reported are maximized emission levels.

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## 1.10 Standards Applicable for Testing

Table of tests to be carried out under FCC Part 15, Subpart B

Test Standards	Status
FCC Part 15, Subpart B	Applicable
Deviation from Standard	No Deviation

## 1.11 Summary of Results

Highest Emission					
Standard	Test Type	Result	Phase/Polar.	Frequency(MHz)	Margin(dB)
FCC Part 15 Subpart B Class B / CISPR 22 Class B	Conducted Emission	PASS	Line	0.1813	-9.11(QP)
			Neutral	0.1735	-10.96(QP)
	Radiated Emission	PASS	Hor.	176.3000	-17.99(QP)

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## 2. Radio Disturbance

### 2.1 Test Results

	Results
Conducted Emission	<b>PASS</b>
Radiated Emission	<b>PASS</b>

### 2.2 Frequency Range

Conducted Emission : 150 kHz - 30 MHz

Radiated Emission : See below table

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

### 2.3 Limits Of Conducted And Radiated Emission

#### 2.3.1 Limit Of Conducted Emission Of FCC Part 15, Subpart B/CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi - peak	Average	Quasi - peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	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 to 0.50 MHz.

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

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### 2.3.2 Limit Of Radiated Emissions Of FCC Part 15, Subpart B/CISPR 22

#### FCC Limit:

- Detector Function : Quasi – Peak

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
	dBuV/m	dBuV/m
30~88	39	40
88~216	43.5	43.5
216~960	46.44	46
Above 960	49.54	54

- Detector Function : Peak , Average

FREQUENCY (MHz)	Class A (dBuV) (at 3m)		Class B (dBuV) (at 3m)	
	Peak	Average	Peak	Average
Above 1000	79.3	59.3	73.9	53.9

#### CISPR Limit:

- Detector Function : Quasi – Peak

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30-230	40	30
230-1000	47	37

- Detector Function : Peak , Average – Class A

Frequency range GHz	Average Limit dB(μV/m)	Peak Limit dB(μV/m)
1 to 3	56	76
3 to 6	60	80

- Detector Function : Peak , Average – Class B

Frequency range GHz	Average Limit dB(μV/m)	Peak Limit dB(μV/m)
1 to 3	50	70
3 to 6	54	74

Note : The lower limit applies at the transition frequency.

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## 2.4. Test of Conducted Emission

### 2.4.1 Test Equipments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
EMI Test Receiver	ROHDE&SCHWARZ	ESCS 30	828985/004	Sep. 22, 2012	Sep. 21, 2013
Coaxial Cables	N/A	WK CE Cable	N/A	Jan. 04, 2012	Jan. 03, 2013
L.I.S.N	Rolf-Heine	NNB-2/16Z	99012	Mar. 23, 2012	Mar. 22, 2013
L.I.S.N	FCC	FCC-LISN-50/ 250-25-2-01	04034	Mar. 23, 2012	Mar. 22, 2013
Software	Farad	EZ-EMC- VER2A1.1(USB)	N/A	N/A	N/A

### 2.4.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory  
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

### 2.4.3 Operating Environment

Temperature : 26 degree C      Humidity : 60 %RH  
Atmospheric Pressure : 992 mBar

### 2.4.4 Uncertainty of Conducted Emission

Expanded uncertainty (k=2) of Conducted Emission measurement is 0.98dB.

### 2.4.5 Measurement level and Factor calculate method

Factor = LISN insertion loss + Cable loss  
Measurement Level = Reading Level + Factor

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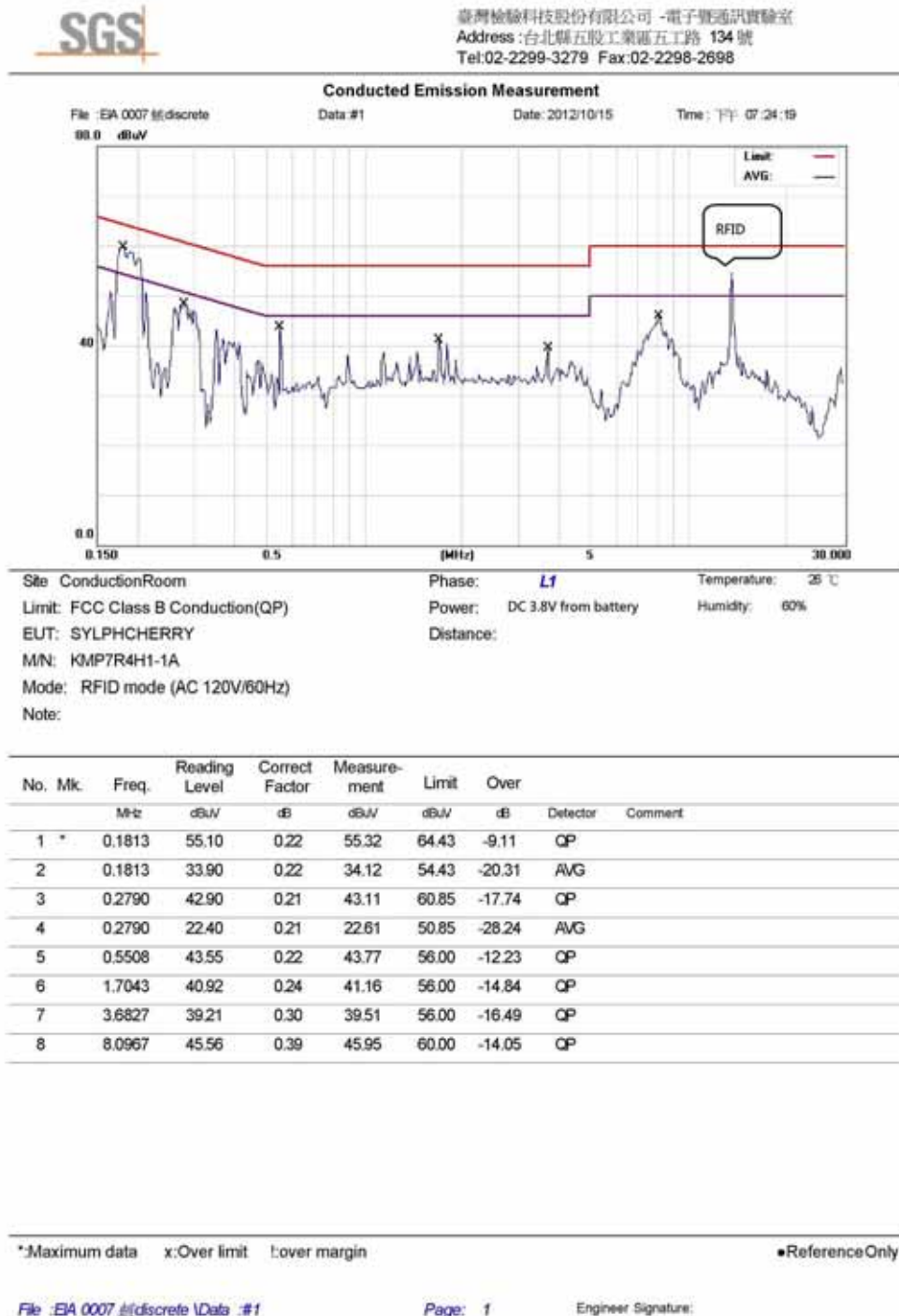
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## 2.4.6 Measurement Data

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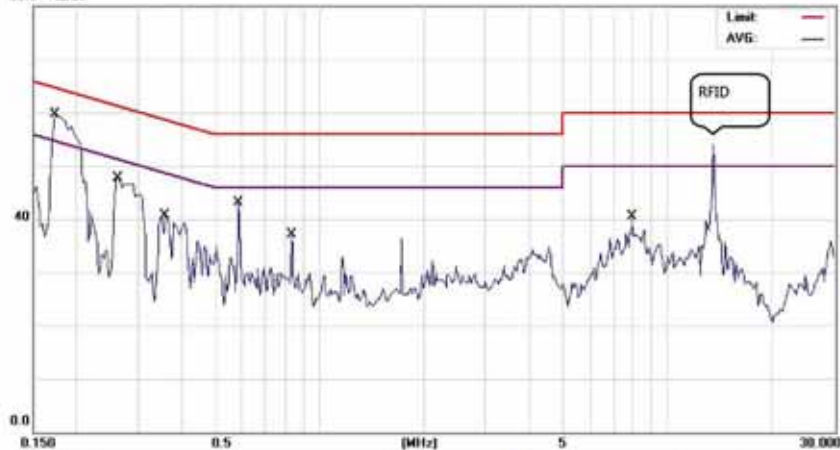
## Conducted Emission Measurement

File: EA 0007 ftd: discrete  
00.0 dBuV

Data: #2

Date: 2012/10/15

Time: 下午 07:29:26



Site: ConductionRoom

Phase: N

Temperature: 26 °C

Limit: FCC Class B Conduction(QP)

Power: DC 3.8V from battery

Humidity: 60%

EUT: SYLPHCHERRY

Distance:

M/N: KMP7R4H1-1A

Mode: RFID mode (AC 120V/60Hz)

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1735	53.50	0.33	53.83	64.79	-10.96	QP	
2		0.1735	30.20	0.33	30.53	54.79	-24.26	AVG	
3		0.2634	47.31	0.32	47.63	61.32	-13.69	QP	
4		0.3611	40.33	0.34	40.67	58.70	-18.03	QP	
5		0.5860	42.86	0.33	43.19	56.00	-12.81	QP	
6		0.8324	36.82	0.32	37.14	56.00	-18.86	QP	
7		7.9716	40.01	0.42	40.43	60.00	-19.57	QP	

\*Maximum data x:Over limit !:over margin

●Reference Only

File: EA 0007 ftd: discrete lData: #2

Page: 1

Engineer Signature:

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## 2.5 Test of Radiated Emission

### 2.5.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Last Calibration Date	Next Calibration Date
Site NSA	TDK	966 Chamber	N/A	Nov. 06, 2011	Nov. 05, 2012
EMI Test Receiver	ROHDE&SCHWARZ	ESCI 7	100760	May 25, 2012	May 24, 2013
Spectrum Analyzer	Agilent	E4440A	MY45304525	Mar. 17, 2012	Mar. 16, 2014
Broadband Antenna	SCHWAZBECK	VULB9160	9160-3136	Dec. 28, 2011	Dec. 27, 2012
RF-Amplifier	HP	8447D	2944A09469	Nov. 26, 2011	Nov. 25, 2012
Antenna Master	HD GmbH	MA240-N	240/657	N/A	N/A
Turn Table	HD GmbH	DS420	420/542	N/A	N/A
Controller	HD GmbH	HD 100	100/803	N/A	N/A
CCD Video Camera System	N/A	VCS-04	N/A	N/A	N/A
Color Monitor	Lenovo	16dcpw5-1	N/A	N/A	N/A
Software	Farad	EZ-EMC-VER2A1.1(USB)	N/A	N/A	N/A

### 2.5.2 Test Site

SGS Taiwan LTD. Electronics & Communication Laboratory  
No.134, Wu Kung Road. Wuku Industrial Zone, Taipei County 248, Taiwan (R.O.C.)

### 2.5.3 Operating Environment

Temperature : 25 degree C      Humidity : 60 %RH  
Atmospheric Pressure : 996 mBar

### 2.5.4 Uncertainty of Radiated Emission

Expanded uncertainty (k=2) of radiated emission measurement is 3.70dB.

### 2.5.5 Measurement level and Factor calculate method

Factor = Antenna loss + Cable loss + Amplifier Compensate  
Measurement Level = Reading Level + Factor

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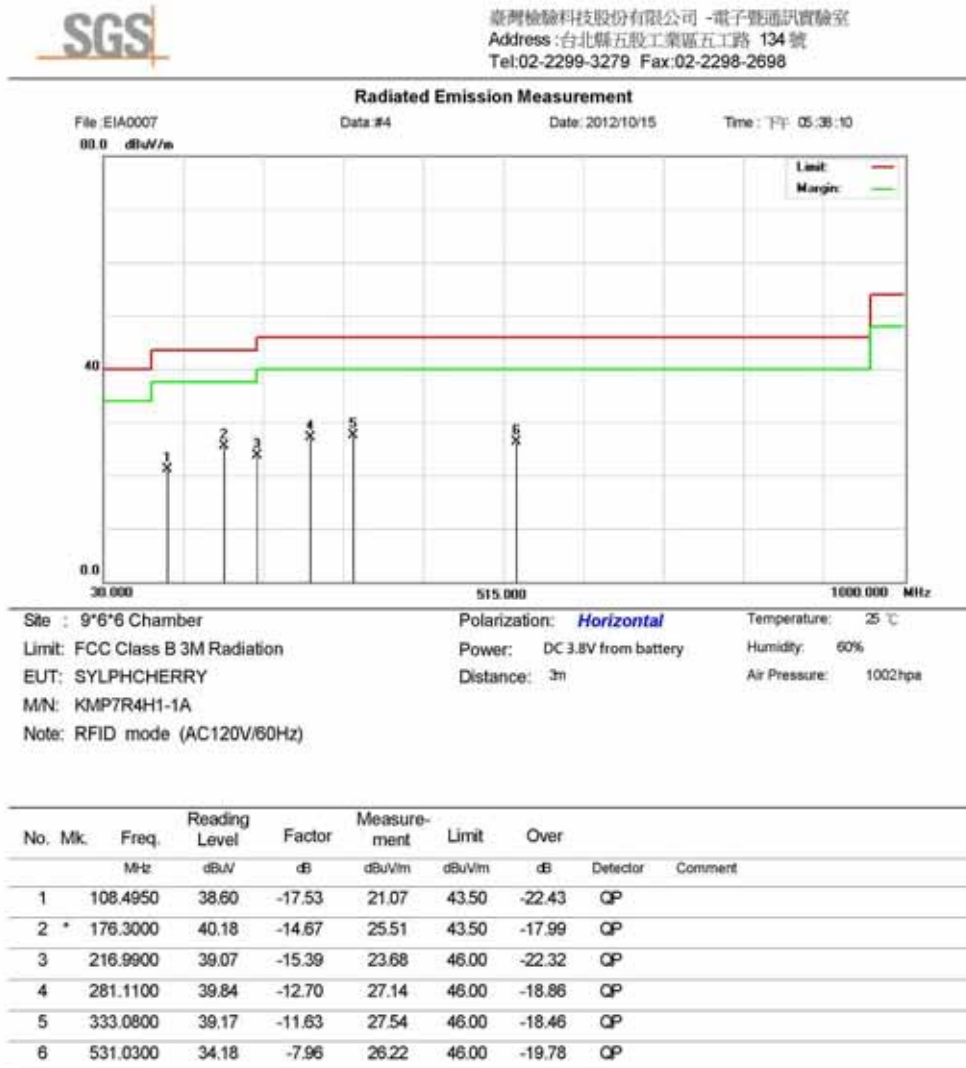
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## 2.5.6 Measurement Data Horizontal polarization



\*:Maximum data x:Over limit !:over margin

•ReferenceOnly

File:EIA0007Data:#4

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## Vertical polarization

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Address : 台北縣五股工業區五工路 134 號  
Tel: 02-2299-3279 Fax: 02-2298-2698

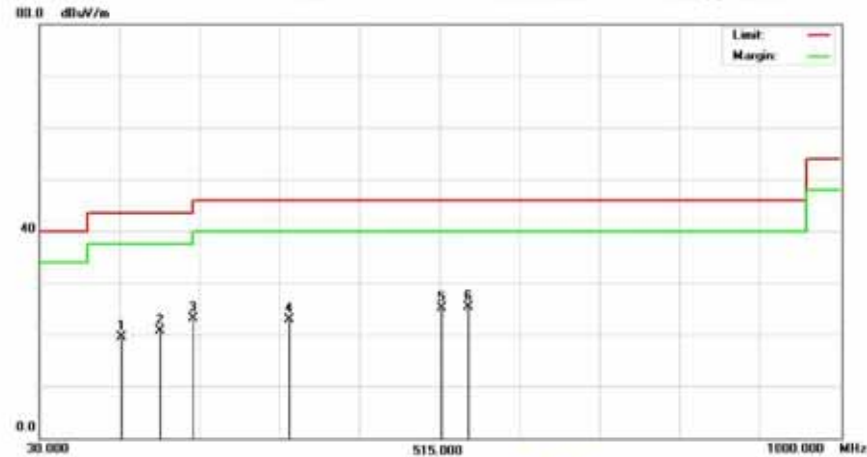
## Radiated Emission Measurement

File: EIA0007

Data: #3

Date: 2012/10/15

Time: 下午 05:35:34



Site : 9'6" Chamber

Polarization: Vertical

Temperature: 25 °C

Limit: FCC Class B 3M Radiation

Power: DC 3.8V from battery

Humidity: 60%

EUT: SYLPHCHERRY

Distance: 3m

Air Pressure: 1002 hpa

MN: KMP7R4H1-1A

Note: RFID mode (AC120V/60Hz)

No.	Mk.	Freq.	Reading Level	Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		129.2800	35.25	-15.65	19.60	43.50	-23.90	OP	
2		176.3000	35.47	-14.67	20.80	43.50	-22.70	OP	
3	*	215.9900	38.67	-15.47	23.20	43.50	-20.30	OP	
4		331.9900	34.53	-11.68	22.85	46.00	-23.15	OP	
5		516.9800	33.16	-8.14	25.02	46.00	-20.98	OP	
6		549.1700	32.56	-7.26	25.30	46.00	-20.70	OP	

\*:Maximum data x:Over limit !:over margin

•Reference Only

File: EIA0007 Data: #3

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\*\* End of Report \*\*

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