Test Report

Product Name ： STRIP READER
Model No. ： QCR 6000R, DSR 5000R, QPR 2500R, CHR 200R, CHR 100R, CHR 101R
FCC ID. ： VGG-KWCHR001

Applicant ： Kaiwood Technology Co., Ltd.
Address ： 5F, No. 12, Lane 31, Sec. 1, Huondung Rd., Tainan Science-Based Industrial Park, Hsin-Shi 741, Tainan County, Taiwan, R.O.C.

Date of Receipt ： 2007/06/26
Issued Date ： 2007/07/27
Report No. ： 077006R-RFUSP11V01

Test Report Certification

Issued Date : 2007/07/27
Report No. : 077006R-RFUSP11V01

QuieTek

Product Name	:	STRIP READER
Applicant	:	Kaiwood Technology Co., Ltd.
Address	:	5F, No. 12, Lane 31, Sec. 1, Huondung Rd., Tainan Science-Based Industrial Park, Hsin-Shi 741, Tainan County, Taiwan, R.O.C.
Manufacturer	:	Kaiwood Technology Co., Ltd.
Model No.	:	QCR 6000R, DSR 5000R, QPR 2500R, CHR 200R, CHR 100R, CHR 101R
FCC ID.	:	VGG-KWCHR001
Rated Voltage	:	AC 120 V / 60 Hz
EUT Voltage	:	12Vdc, 2A (for Models CHR 200R and QCR 6000R); 5Vdc, 500mA (for Models CHR 101R, CHR 100R, DSR 5000R and QPR 2500R)
Trade Name	:	Kaiwood Technology Co., Ltd.
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.225: 2006
Test Result	:	Complied

The test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : Carol Tsai
(Carol Tsai / Engineering Adm. Specialist)

Reviewed By : Sheena Huang
(Sheena Huang / Engineer)

Approved By : Roy Wang
(Roy Wang / Manager)

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1. General Information

1.1. EUT Description

Product Name	STRIP READER
Trade Name	Kaiwood Technology Co., Ltd.
Model No.	QCR 6000R, DSR 5000R, QPR 2500R, CHR 200R, CHR 100R, CHR 101R
Frequency Range	13.56MHz±7kHz
Channel Number	1
Type of Modulation	ASK & PSK
Antenna Gain	0dBi
Antenna Type	Printed

Component	
USB Cable	Shielded, 1.78m, one ferrite core bonded.
Power Adapter	MEAN WELL, ES25A12-120 I/P: 100-240V / 50/60Hz / 0.7A O/P: 12V / 2.08A / 25W Max. Cable IN: Non-Shielded, 1.7m Cable Out: Non-Shielded, 1.67m, one ferrite core bonded.

Working Frequency of Each Channel	
Channel	Frequency
001	13.56MHz

Note:

1. This device is a STRIP READER included a 13.56MHz±7kHz receiving function, a 13.56MHz±7kHz transmitting function.
2. The different of the each model is shown as below:

Model No.	QCR 6000R / CHR 200R	DSR 5000R / CHR 101R	QPR 2500R / CHR 100R
Power Supply	DC 12V / 2A Max 25W	USB DC 5Vdc, 500mA	USB DC 5Vdc, 500mA
Motor	Stepper Motor	--	--
Sample Size	Cylindrical Cup OD.57*85H(mm)	Cassette 93*20~50*5(mm)	Cassette 75*20*5(mm)

3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.225 for spread spectrum devices.
4. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 077006R-RFUSP01V02 under Declaration of Conformity.

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
EMI	Mode 1: Transmit
Final Test Mode	
TX	Mode 1: Transmit

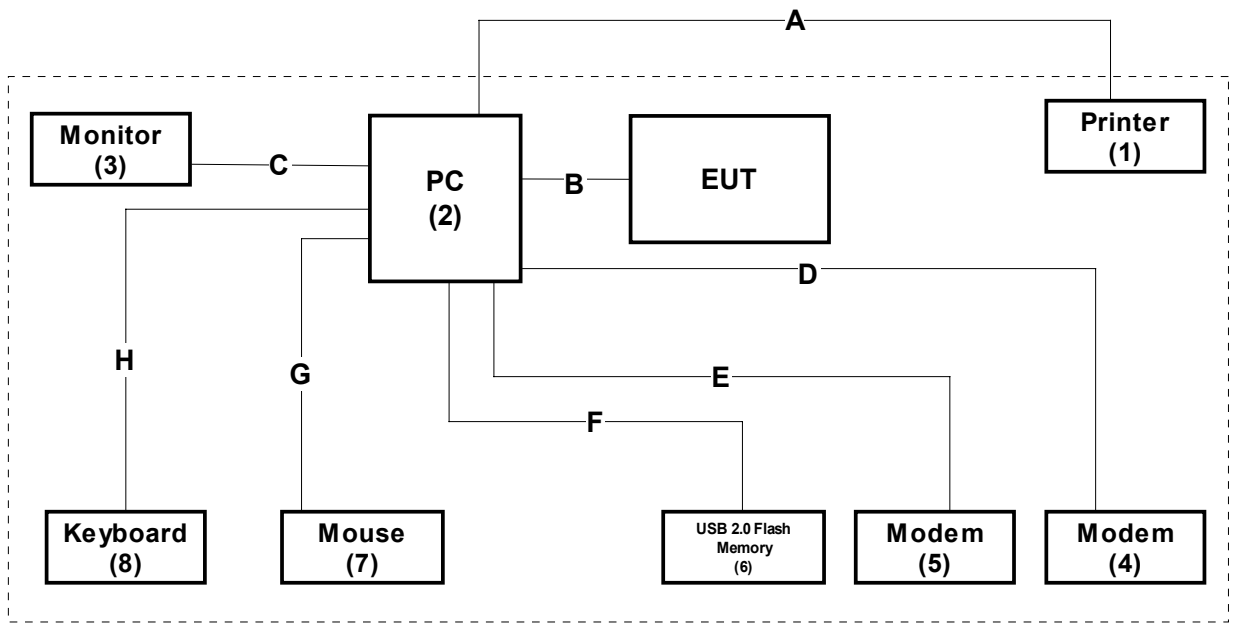
1.4. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Printer	HP	C8952D	CN277180B6	Non-Shielded, 1.8m
2	PC	HP	DTPC27	SG21200950	Non-Shielded, 1.8m
3	Monitor	CHI MEI	A170E1-09	3UC120955SA1227	Non-Shielded, 1.8m
4	Modem	ACEEX	DM-1414	0102027543	Non-Shielded, 1.6m
5	Modem	ACEEX	DM-2814	960018054	Non-Shielded, 1.6m
6	USB 2.0 Flash Memory	Ridata	PEN000-DP065-37	N/A	--
7	Mouse	Logitech	M-SBF83	HCA52200291	--
8	Keyboard	Logitech	Y-SM46	SY525U18000	--

1.5. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	Printer Cable	Shielded, 1.2m
B	USB Cable	Shielded, 1.78m, one ferrite core bonded.
C	VGA Cable	Shielded, 1.6m, two ferrite cores bonded.
D	Modem Cable	Shielded, 1.5m
E	Modem Cable	Shielded, 1.5m
F	USB 2.0 Flash Memory Cable	Shielded, 1.5m
G	Mouse Cable	Shielded, 1.8m
H	Keyboard Cable	Non-Shielded, 1.8m

1.6. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	Boot the PC from Hard Disk.
4	Data will be communicated between computer and EUT.
5	All the peripheral will be retrieved during the test.
6	Repeat the above procedure (4) to (5).

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	Radiated Emission	15 - 35	24
Humidity (%RH)		25 - 75	59
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	Frequency Tolerance	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description:

January 24, 2005 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520

Accredited by CNLA
Accreditation Number: 1313
Effective through: September 27, 2007

1313

ILAC MRA

Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2006

NVLAP Lab Code : 200347-0

Site Name: Quietek Corporation

Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Conducted Emission

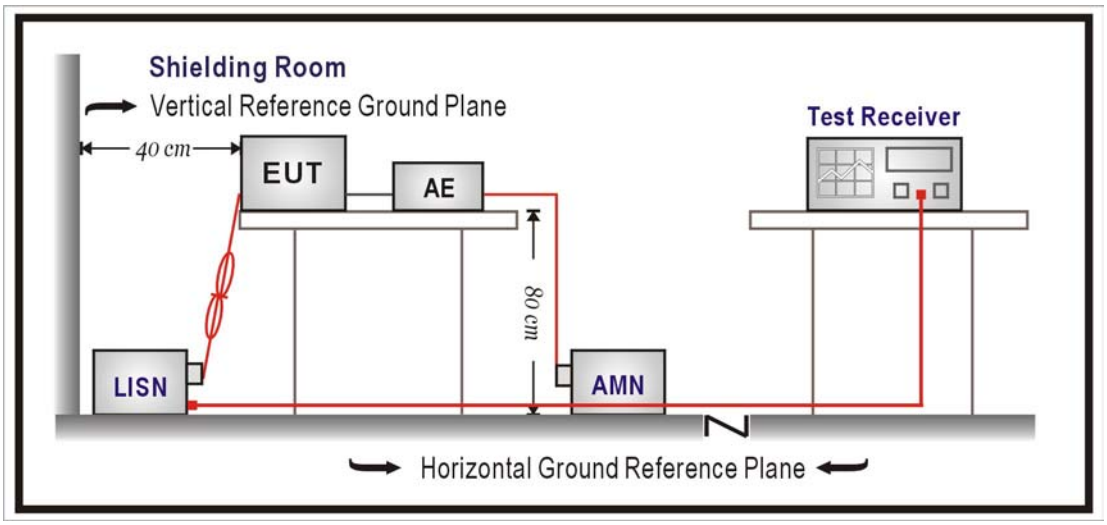
2.1. Test Equipment

The following test equipment are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/018	Sep., 2006	
2	Artificial Mains Network	R & S	ENV4200/848411/10	Feb., 2007	Peripheral
3	LISN	R & S	ESH3-Z5/825562/002	Feb., 2007	EUT
4	Pulse Limiter	R & S	ESH3-Z2/357.8810.52	Feb., 2007	
5	No.2 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Test Specification

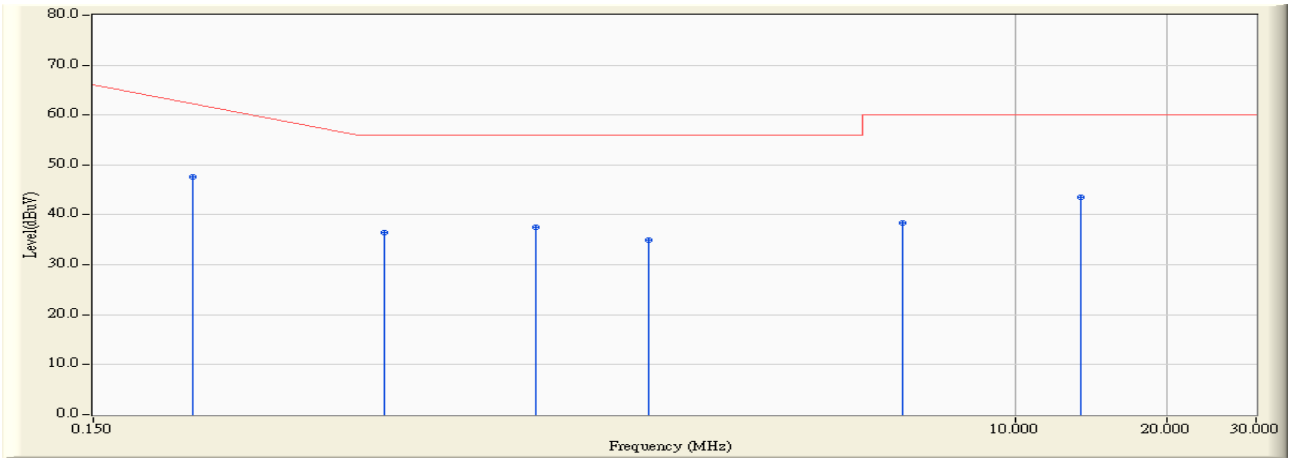
According to FCC Part 15 Subpart C Paragraph 15.207: 2006

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : ShieldingRoom2	**Time : 2007/06/28 - 08:46**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : STRIP READER	**Probe : QTK-LISN-SR2 - Line1**
Power : AC 120V/60Hz	**Note : TX**

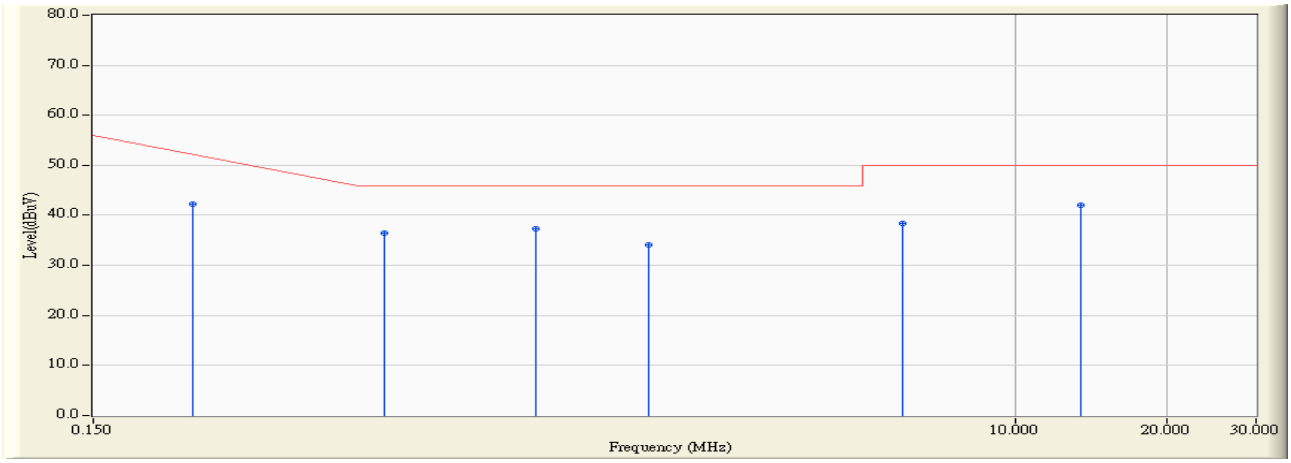


		Frequency 2(MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.236	0.200	47.370	47.570	-15.973	63.543	QUASIPEAK
2		0.564	0.210	36.280	36.490	-19.510	56.000	QUASIPEAK
3		1.130	0.220	37.310	37.530	-18.470	56.000	QUASIPEAK
4		1.884	0.310	34.710	35.020	-20.980	56.000	QUASIPEAK
5		5.982	0.450	38.000	38.450	-21.550	60.000	QUASIPEAK
6		13.525	0.890	42.570	43.460	-16.540	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom2	**Time : 2007/06/28 - 08:46**
Limit : CISPR_B_00M_AV	**Margin : 0**
EUT : STRIP READER	**Probe : QTK-LISN-SR2 - Line1**
Power : AC 120V/60Hz	**Note : TX**

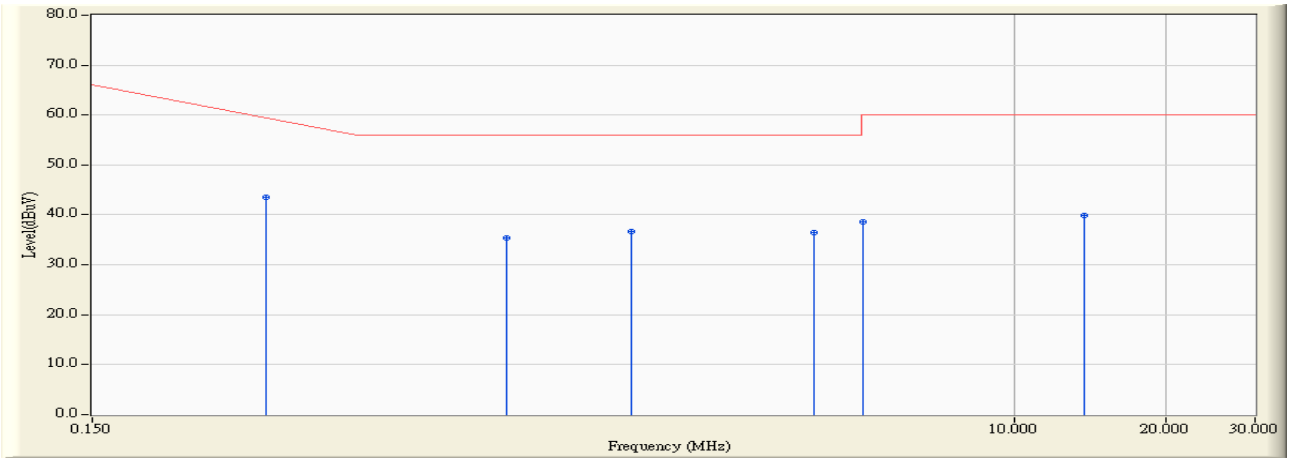


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.236	0.200	42.150	42.350	-11.193	53.543	AVERAGE
2		0.564	0.210	36.160	36.370	-9.630	46.000	AVERAGE
3		1.130	0.220	37.170	37.390	-8.610	46.000	AVERAGE
4		1.884	0.310	33.830	34.140	-11.860	46.000	AVERAGE
5		5.982	0.450	37.990	38.440	-11.560	50.000	AVERAGE
6	*	13.525	0.890	41.110	42.000	-8.000	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom2	**Time : 2007/06/28 - 08:58**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : STRIP READER	**Probe : QTK-LISN-SR2 - Line2**
Power : AC 120V/60Hz	**Note : TX**

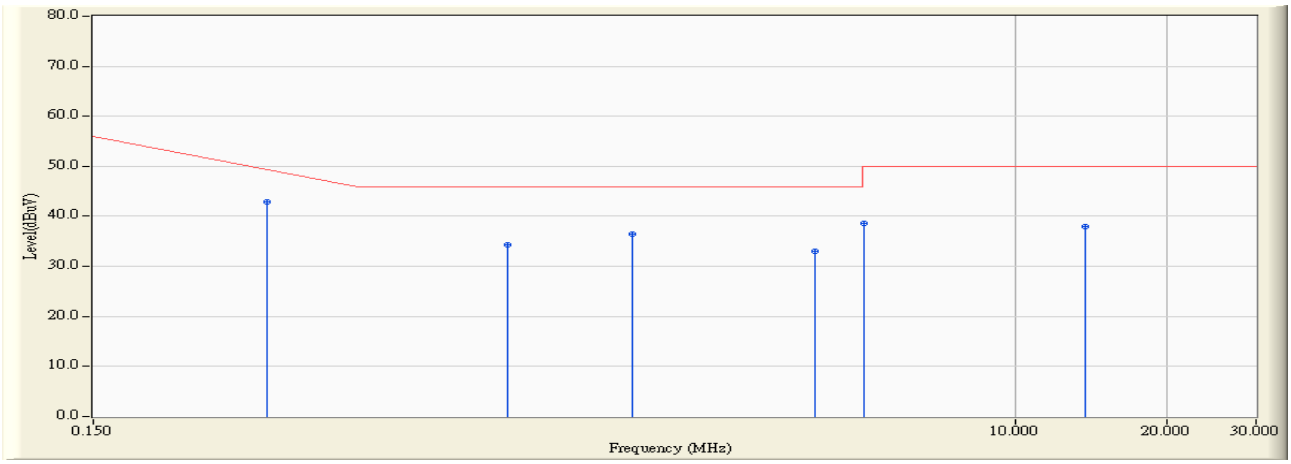


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.330	0.200	43.370	43.570	-17.287	60.857	QUASIPEAK
2		0.991	0.210	35.140	35.350	-20.650	56.000	QUASIPEAK
3		1.752	0.220	36.490	36.710	-19.290	56.000	QUASIPEAK
4		4.021	0.350	36.010	36.360	-19.640	56.000	QUASIPEAK
5		5.016	0.390	38.280	38.670	-21.330	60.000	QUASIPEAK
6		13.820	0.730	39.200	39.930	-20.070	60.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom2	**Time : 2007/06/28 - 08:58**
Limit : CISPR_B_00M_AV	**Margin : 0**
EUT : STRIP READER	**Probe : QTK-LISN-SR2 - Line2**
Power : AC 120V/60Hz	**Note : TX**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.330	0.200	42.790	42.990	-7.867	50.857	AVERAGE
2		0.991	0.210	34.000	34.210	-11.790	46.000	AVERAGE
3		1.752	0.220	36.330	36.550	-9.450	46.000	AVERAGE
4		4.021	0.350	32.700	33.050	-12.950	46.000	AVERAGE
5		5.016	0.390	38.270	38.660	-11.340	50.000	AVERAGE
6		13.820	0.730	37.190	37.920	-12.080	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Radiated Emission

3.1. Test Equipment

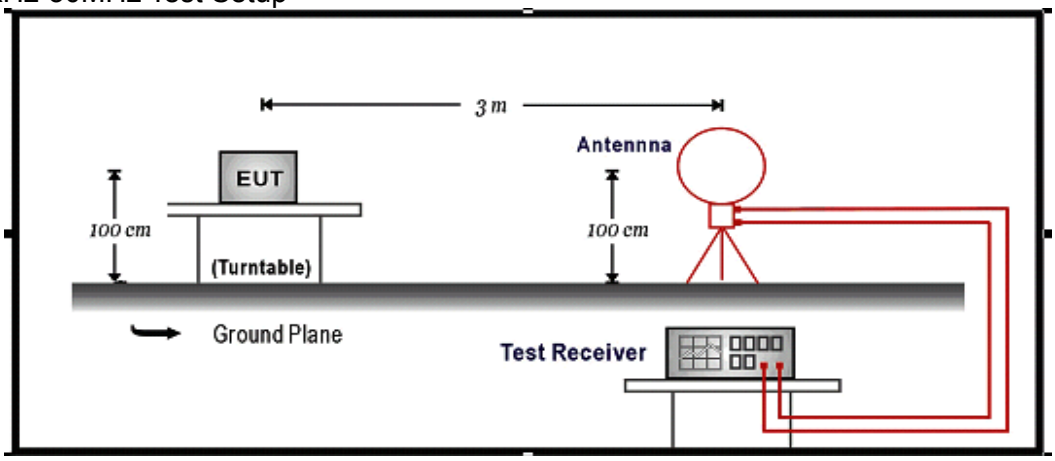
The following test equipment are used during the test:

Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Test Receiver	R & S	ESCS 30 / 825442/017	Jan., 2007
2	X	Spectrum Analyzer	Advantest	R3261C / 81720266	N/A
3	X	Pre-Amplifier	HP	8447D / 2944A09276	N/A
4	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2006
5	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2006
6	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2007
7	X	Loop Antenna	R & S	HFH2-Z2 / 833799/004	Sep., 2006
8	No.1 OATS				Sep., 2006

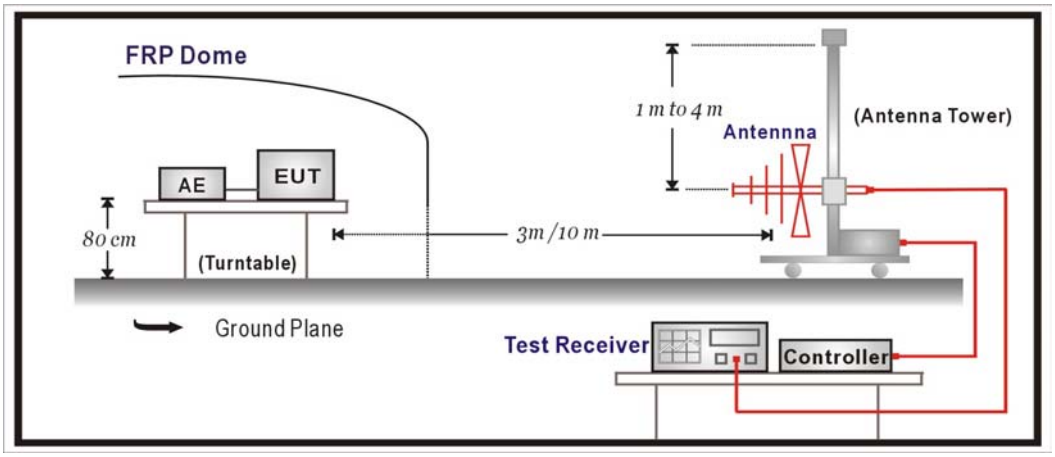
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.
2. “N/A” Ca1.Date is used to Pre-test, not final test.

3.2. Test Setup

For 9kHz-30MHz Test Setup



For 30MHz-1GHz Test Setup



3.3. Limits

➢ **FCC Part 15 Subpart C Paragraph 15.225 Limit**

FCC Part 15 Subpart C Paragraph 15.225 Limits				
Frequency MHz	Field strength of fundamental			
	Distance (m)	dBuV/m	Distance (m)	dBuV/m
13.553-13.567	30	80.0	3	120

Remarks : 1. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➢ **General Radiated Emission Limits**

FCC Part 15 Paragraph 15.209 Limits		
Frequency MHz	Field Strength (Microvolts/meter)	Distance (Meters)
0.009-0.490	2400/F (kHz)	300
0.490-1.705	24000/F (kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
4. When the very low emission of EUT, the 3m measurement distance was performed. Regards to an inverse linear extrapolation 40dB/dec is adopted. The collection factor will be 80dB for this case.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Regard to the characterstic and operation band of EUT, Loop antenna was used for this measurement. The measurement method is hosed or ANSI C63.4 section 8.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

Radiated emissions were invested over the frequency range from 9kHz to 30MHz using a receive bandwidth of 9kHz and 30MHz to1GHz using a receiver bandwidth of 120kHz.

Radiated was performed at an antenna to EUT distance of 3 meters.

The frequency range from 30MHz to 10th harminics is checked.

The emission limit shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz.

Radiated emission limit in these three bands are based on measurements employing an average detector.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225: 2006

3.6. Uncertainty

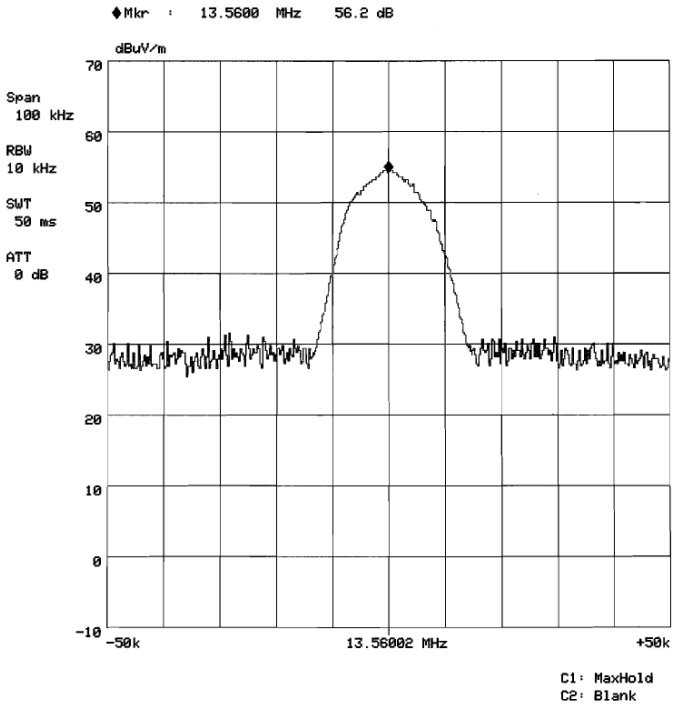
The measurement uncertainty

30MHz～1GHz as ±3.19dB

3.7. Test Result

Product	STRIP READER		
Test Item	Fundamental Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2007/07/04	Test Site	No.1 OATS

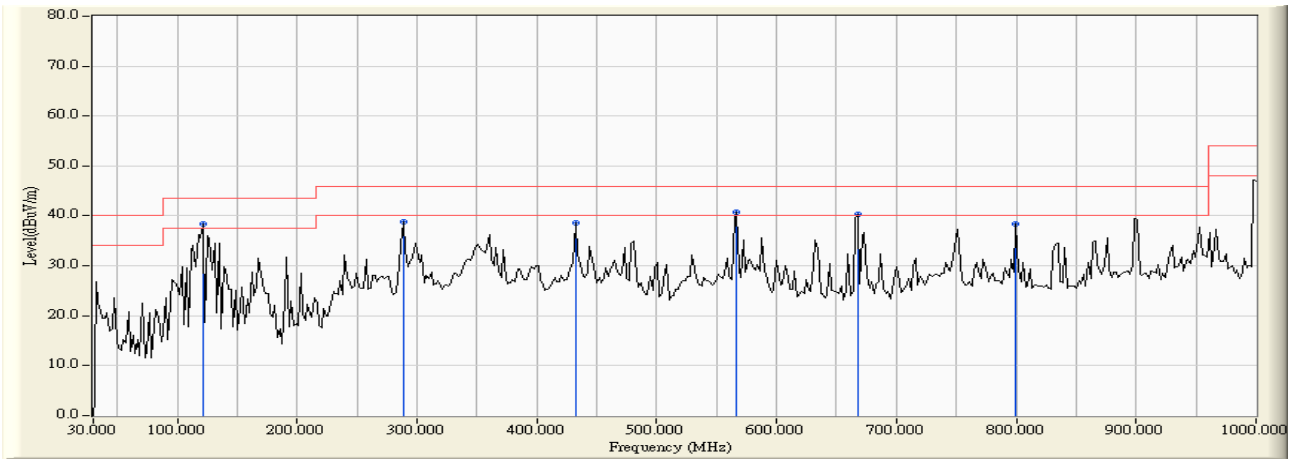
Frequency (MHz)	Cable Loss (dB)	Probe Factor (dBuV)	PreAMP (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)
Quasi-Peak Detector:							
13.560	55.99	0.00	0.00	43.99	56.20	75.59	120.00



Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Emission Level = Reading Level + Probe Factor + Cable Loss.
3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Site : Site 1	**Time : 2007/07/17 - 10:48**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
EUT : STRIP READER	**Probe : FCC_RF_30-1G(200605) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : TX**

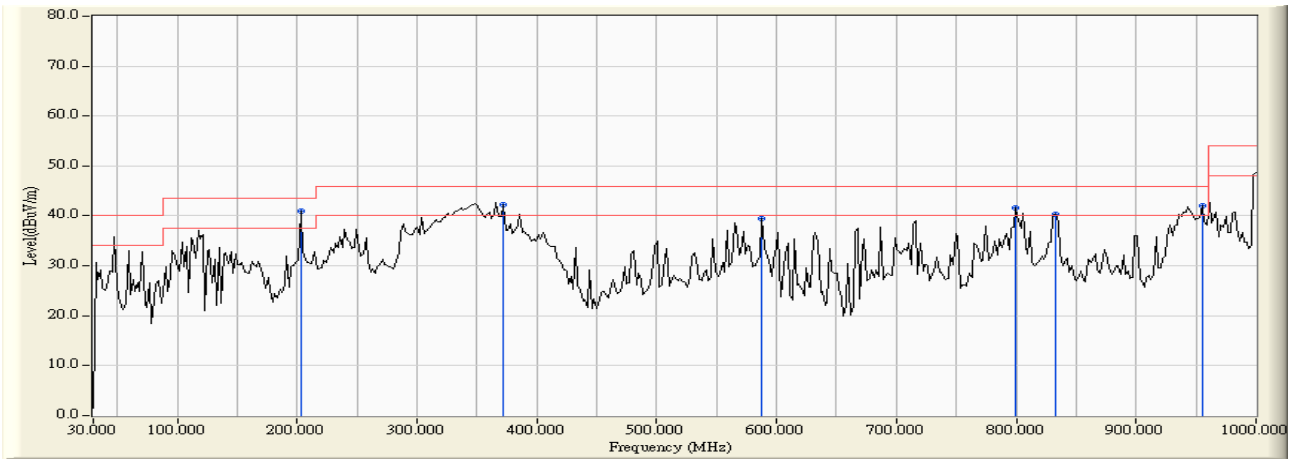


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	121.363	-19.149	57.462	38.313	-5.187	43.500	QUASIPEAK
2		288.537	-13.597	52.333	38.736	-7.264	46.000	QUASIPEAK
3		432.385	-6.606	45.160	38.554	-7.446	46.000	QUASIPEAK
4		566.513	-4.572	45.270	40.697	-5.303	46.000	QUASIPEAK
5		667.595	-6.857	47.159	40.302	-5.698	46.000	QUASIPEAK
6		799.780	-4.588	42.943	38.355	-7.645	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : Site 1	**Time : 2007/07/17 - 10:37**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
EUT : STRIP READER	**Probe : FCC_RF_30-1G(200605) - VERTICAL**
Power : AC 120V/60Hz	**Note : TX**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	203.006	-10.441	51.400	40.959	-2.541	43.500	QUASIPEAK
2		372.124	-9.809	52.121	42.312	-3.688	46.000	QUASIPEAK
3		587.896	-6.328	45.821	39.493	-6.507	46.000	QUASIPEAK
4		799.780	-3.178	44.709	41.531	-4.469	46.000	QUASIPEAK
5		832.826	-3.458	43.692	40.234	-5.766	46.000	QUASIPEAK
6		955.291	-0.145	42.265	42.120	-3.880	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

4. Band Edge

4.1. Test Equipment

The following test equipment are used during the test:

RF Conducted Measurement:				
Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Mar., 2007
2	No.1 OATS			Sep., 2006

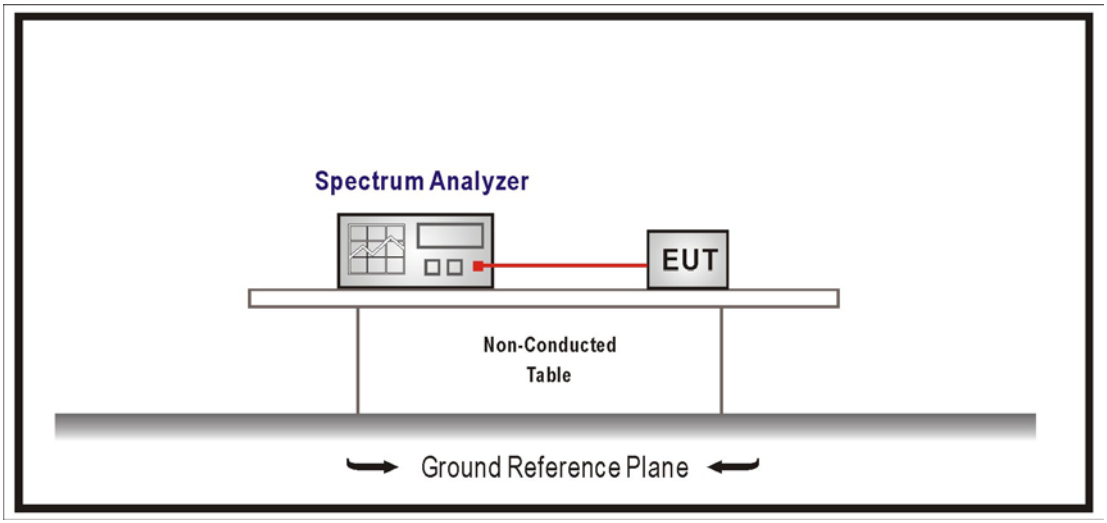
RF Radiated Measurement:					
Item		Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1		Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2006
2		Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2007
3	X	Loop Antenna	R & S	HFH2-Z2 / 833799/004	Sep., 2006
4		BiconiLog Antenna	Schwarzbeck	VULB 9166 / 1061	Sep., 2006
5		Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2006
6		Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Sep., 2006
7	X	Test Receiver	R & S	ESCS 30 / 100149	Oct., 2006
8	No.1 OATS				Sep., 2006

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

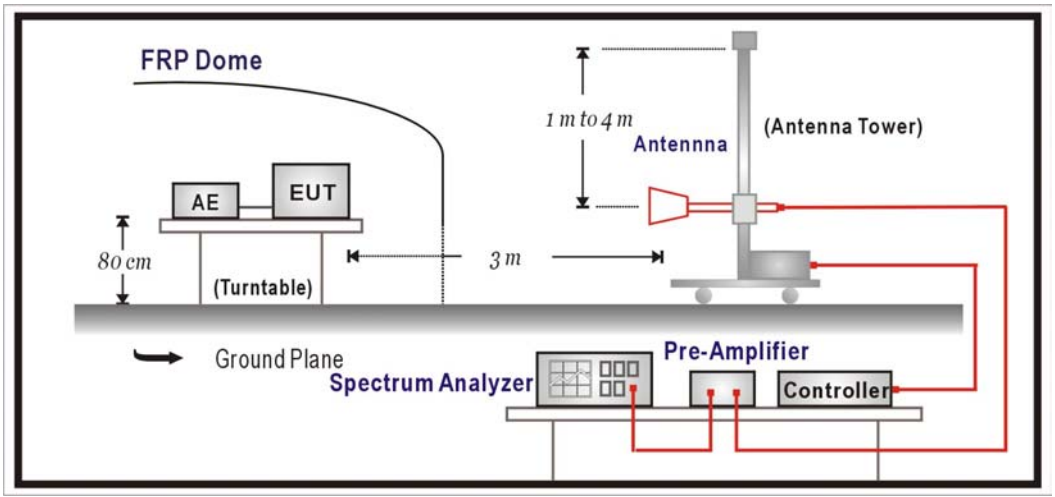
2. Mark “X” test instruments are used to measure the final test results.

4.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



4.3. Limits

The field strength of any emissions appearing outside of this band shall not exceed the general radiated emission limits shown in Section 15.209. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.

The bandwidth below 30MHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 9 kHz, 30MHz to 1GHz is 120 kHz and above 1GHz are 1 MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225: 2006

4.6. Uncertainty

The measurement uncertainty

Conducted is defined as ± 1.27dB

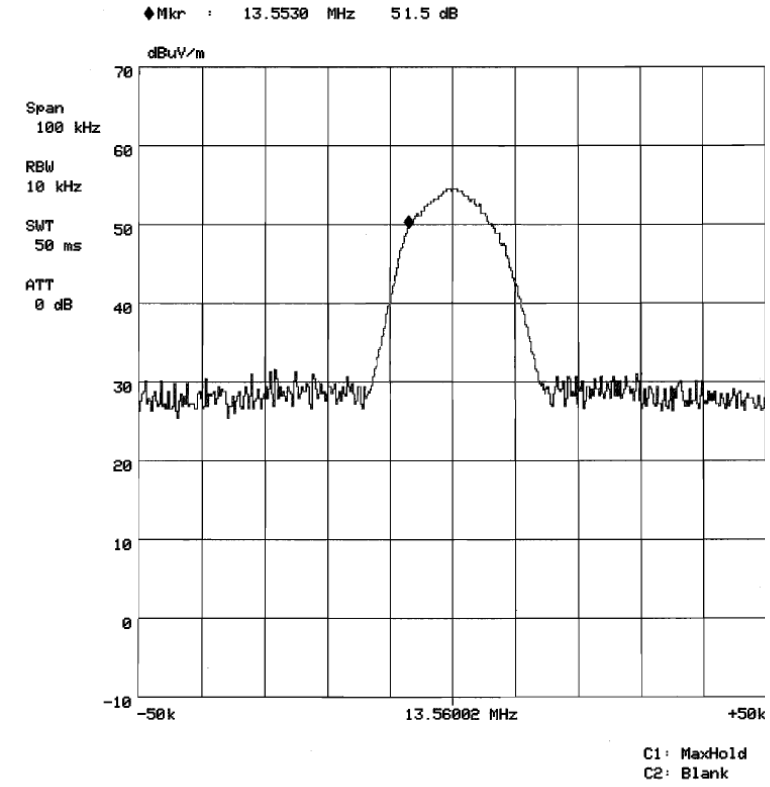
Radiated is defined as ± 3.9dB

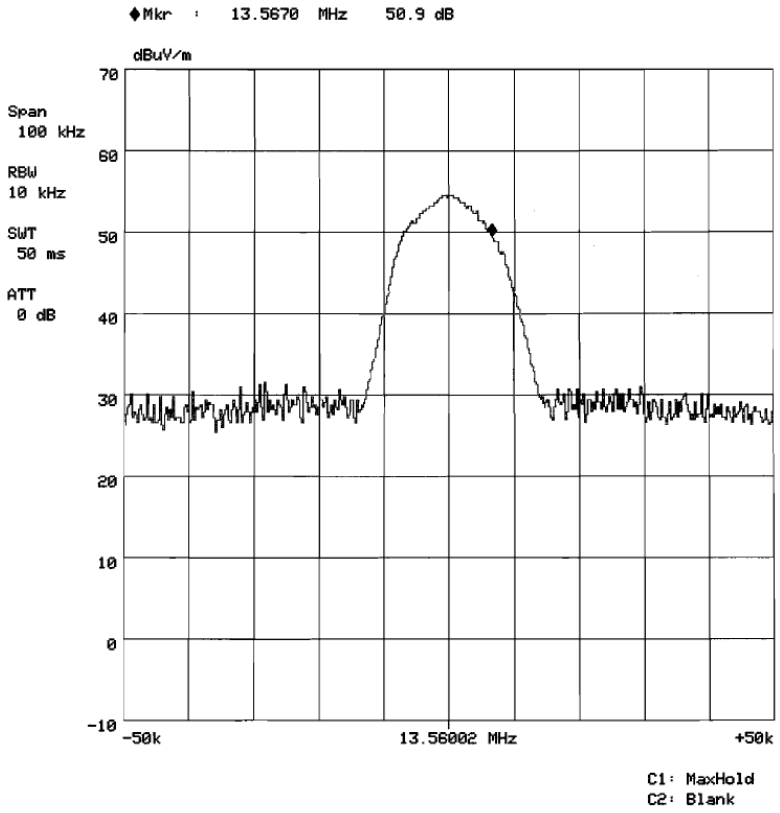
4.7. Test Result

Product	STRIP READER		
Test Item	Band Edge		
Test Mode	Mode 1: Transmit		
Date of Test	2007/06/26	Test Site	No.1 OATS

RF Radiated Measurement: (Quasi-Peak Detector)

Frequency (MHz)	Reading Level (dBuV)	Probe Factor (dB/m)	Cable Loss (dB)	PreAMP (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Result
13.553	51.29	0.00	0.21	0.00	51.50	69.5	Pass
13.567	50.69	0.00	0.21	0.00	50.90	69.5	Pass





Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

5. Frequency Tolerance

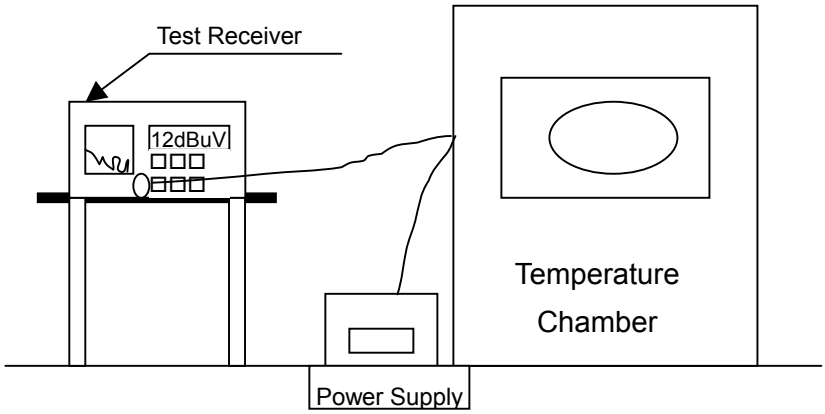
5.1. Test Equipment

The following test equipment are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Mar., 2007
2	Standard Temperature & Humidity Chamber	WIT	TH-1S-B/108210	Aug., 2006
	No.1 OATS			Sep., 2006

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency.

5.4. Test Procedure

The over operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115 % of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225: 2006

5.6. Uncertainty

The measurement uncertainty is defined as $\pm 0.82*10^{-7}$.

5.7. Test Result

Product	STRIP READER		
Test Item	Frequency Tolerance		
Test Mode	Mode 1: Transmit		
Date of Test	2007/07/03	Test Site	No.1 OATS

Test Conditions		Frequency (MHz)	△F (MHz)
Tnom (20) °C	Vnom (3.3)V	13.56105	--
Tnom (20) °C	Vmax (3.79)V	13.56107	0.00002
Tnom (20) °C	Vmin (2.8)V	13.56102	0.00003
Tmax (55) °C	Vnom (3.3)V	13.56116	0.00011
Tmin (-20) °C	Vnom (3.3)V	13.56114	0.00009

Test Result	Pass