Test Report

Product Name	:	Cable modem
Model No.	:	SM110-101
FCC ID	:	S7USBPB2647

Applicant	:	SlingMedia Inc
Address	:	1051 East Hillsdale Blvd, Suite 500 Foster City, CA 94404

Date of Receipt	:	2007/05/18
Issued Date	:	2007/05/30
Report No.	:	075L126-ITUSP01V02

Test Report Certification

Issued Date : 2007/05/30
Report No. : 075L126-ITUSP01V02

Product Name	:	Cable modem
Applicant	:	SlingMedia Inc
Address	:	1051 East Hillsdale Blvd, Suite 500 Foster City, CA 94404
Manufacturer	:	SlingMedia Inc
Model No.	:	SM110-101
Rated Voltage	:	AC 120 V / 60 Hz
EUT Voltage	:	AC 100-240V, 50/60Hz
Trade Name	:	Sling
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart B: 2006 Class B CISPR 22: 2005, ANSI C63.4: 2003
Test Result	:	Complied
Performed Location	:	Quietek Corporation (Linkou Laboratory) No.5-22,Ruei-Shu Valley, Ruei-Ping Tsuen Lin Kuo Shiang, Taipei, 244 Taiwan, R.O.C. TEL:+866-2-8601-3788 / FAX:+886-2-8601-3789

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Approved By : Gene Chang
(President / Gene Chang)

Laboratory Information

We , **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	**:**	**BSMI, DGT, CNLA**
Germany	**:**	**TUV Rheinland**
Norway	**:**	**Nemko, DNV**
USA	**:**	**FCC, NVLAP**
Japan	**:**	**VCCI**

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : http://tw.quietek.com/modules/myalbum/
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

HsinChu Testing Laboratory :
No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com

NVLAP Lab Code : 200347-0

1313

LinKou Testing Laboratory :
No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

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1. General Information

1.1. EUT Description

Product Name	Cable modem
Trade Name	Sling
Model No.	SM110-101

Component	
Power Adapter	MFR: KTEC, M/N: KSAFE0600350W1US Input: AC 100-240V, 50/60Hz,0.6 A Output: DC 6V, 3.5A Cable Out: Shielded, 1.8m

1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. The functions of the Cable modem of the EUT including Analog TV,S-Video ,RCA and YPbPr. 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	
MODE 1: Normal Operation	
Final Test Mode	
Emission	MODE 1: Normal Operation

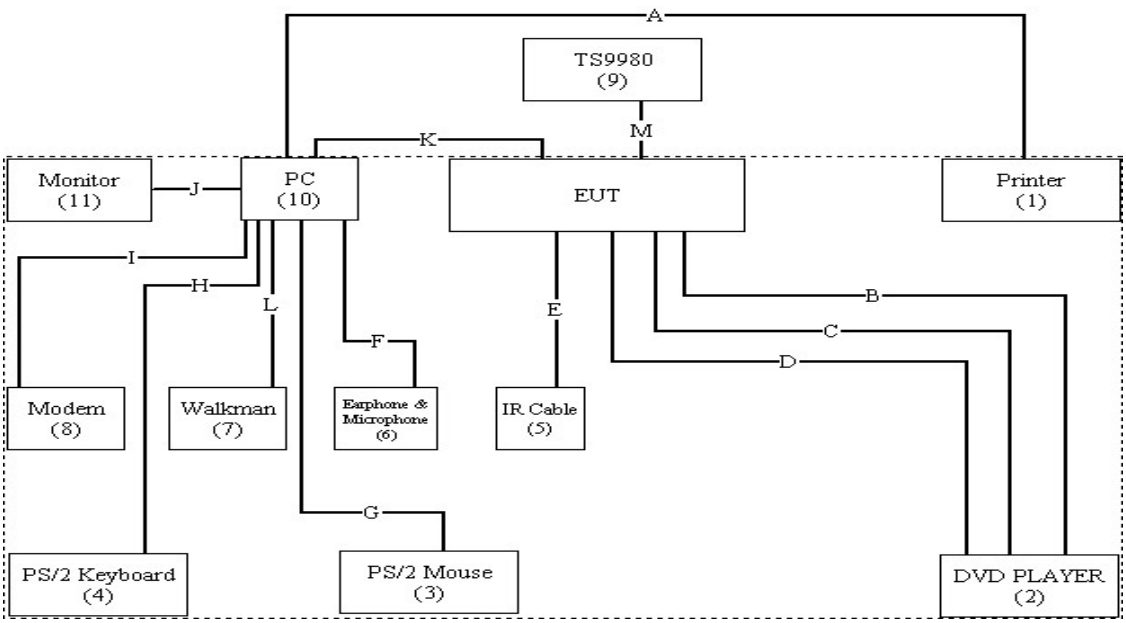
1.3. Tested System Details

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	EPSON	StyLus C63	FAPY094339	Non-Shielded, 1.8m
2	DVD PLAYER	Pioneer	DV-989Avi-G	FBMP000224TA	Non-Shielded, 1.8m
3	PS/2 Mouse	HP	M-S69	N/A	N/A
4	PS/2 Keyboard	COMPAQ	KB-0133	B55940MGAPK00W	N/A
5	IR Cable	ASUS	N/A	N/A	N/A
6	Microphone & Earphone	PCHOME	N/A	N/A	N/A
7	Walkman	AIWA	HS-TA164	N/A	N/A
8	Modem	ACEEX	DM-1414	0102027550	Non-Shielded, 1.8m
9	TS9980	N/A	N/A	N/A	N/A
10	PC	COMPAQ	SR1530TW	CNN5350DD8	Non-Shielded, 1.8m
11	Monitor	CMV	CT-730D	FNC122F57BA1325	Non-Shielded, 1.8m

1.4. Configuration of Tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	Printer Cable	Shielded, 1.2m
B	RCA 3 to 3 Cable	Non-Shielded, 1.5m
C	S-VIDEO Cable	Shielded, 1.6m
D	RCA 3 to 3 Cable	Non-Shielded, 1.5m
E	IR Cable	Non-Shielded, 2.2m
F	Earphone & Microphone Cable	Non-Shielded, 1.6m
G	PS/2 Mouse Cable	Shielded, 1.8m
H	PS/2 Keyboard Cable	Shielded, 1.8m
I	RS232 Cable	Shielded, 1.5m
J	D-SUB Cable	Shielded, 1.8m, with two ferrite cores bonded
K	LAN Cable	Non-Shielded, 4m
L	Audio Cable	Non-Shielded, 1.6m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	The EUT will receive the RF signal source and shown it on the screen.
4	Repeat the above procedure to (3).

2. Technical Test

2.1. Summary of Test Result

☒ No deviations from the test standards

☐ Deviations from the test standards as below description:

Emission			
Performed Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart B: 2006 Class B ANSI C63.4: 2003	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart B: 2006 Class B ANSI C63.4: 2003	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCS 30	836858/022	2007/02/12
LISN	R&S	ENV4200	833209/007	2006/07/13
LISN	R&S	ESH3-Z5	836679/020	2007/01/26
Pulse Limiter	R&S	ESH3-Z2	357.88.10.52	2006/09/04

Radiated Emission / Site3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Bilog Antenna	Schaffner Chase	CBL6112B	2704	2006/08/09
Broadband Horn Antenna	Schwarzbeck	BBHA9170	208	2006/07/25
EMI Test Receiver	R&S	ESI26	838786/004	2006/06/19
EMI Test Receiver	R&S	ESCS 30	838251/001	2007/05/01
Horn Antenna	Schwarzbeck	BBHA9120D	305	2006/08/10
Pre-Amplifier	MITEQ	AMF-4D-180400-45-6P	925974	2007/01/03
Pre-Amplifier	QTK	N/A	N/A	2007/01/03
Spectrum Analyzer	Advantest	R3162	101102468	2007/04/10

2.3. Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.26 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB.

2.4. Test Environment

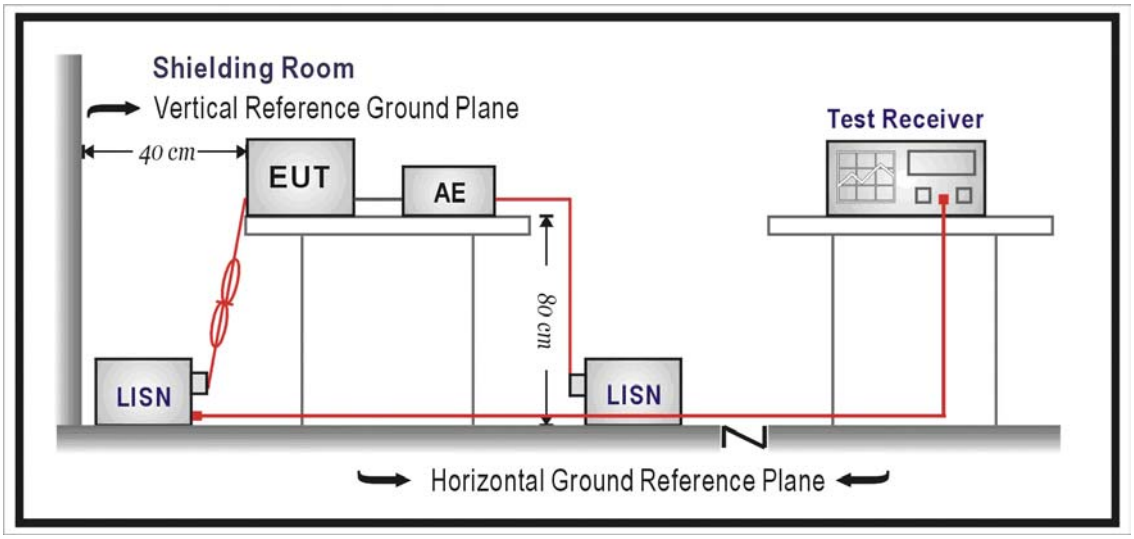
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

3.1. Test Specification

According to Standard : FCC Part 15 Subpart B, ANSI C63.4

3.2. Test Setup



3.3. Limit

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

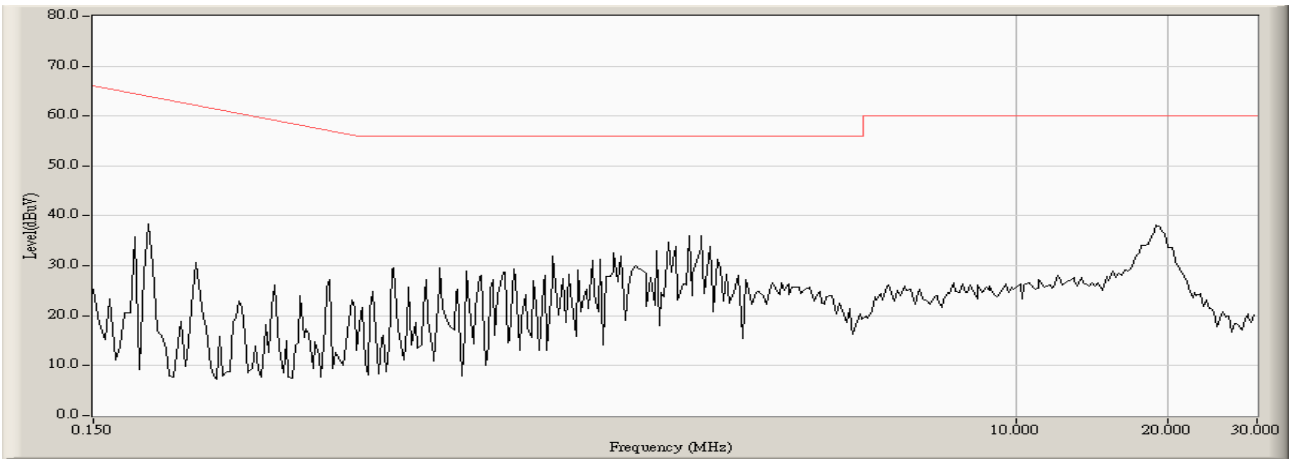
Remarks: In the above table, the tighter limit applies at the band edges.

3.4. Test Procedure

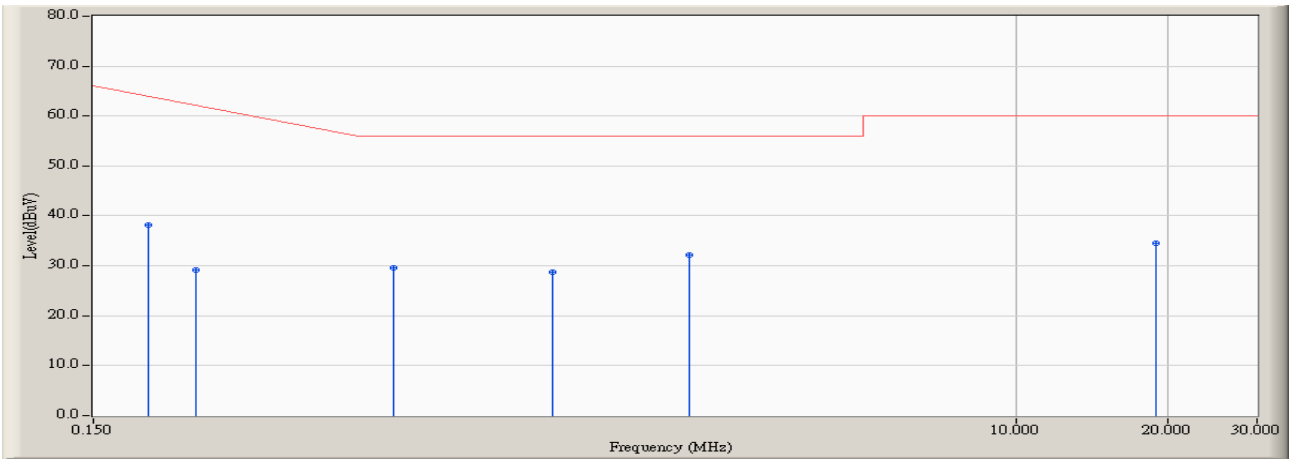
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling 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 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Test Result

Site : SR-1	**Time : 2007/05/24 - 01:28**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(L) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**



Site : SR-1	**Time : 2007/05/24 - 01:29**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(L) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**

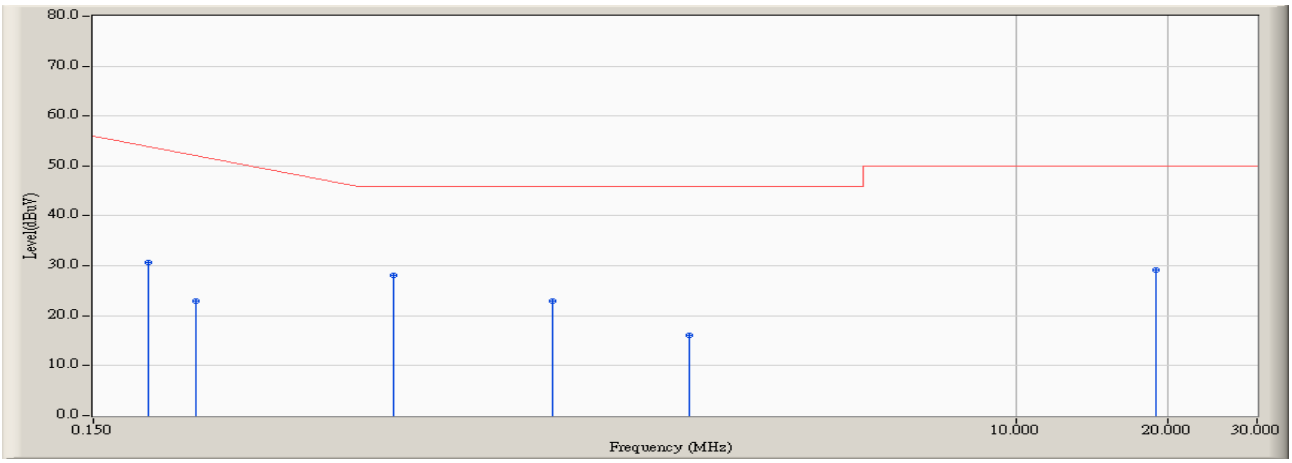


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.193	0.202	38.000	38.202	-26.569	64.771	QUASIPEAK
2		0.240	0.203	29.050	29.253	-34.176	63.429	QUASIPEAK
3		0.588	0.218	29.450	29.668	-26.332	56.000	QUASIPEAK
4		1.216	0.246	28.480	28.726	-27.274	56.000	QUASIPEAK
5	*	2.255	0.290	31.890	32.180	-23.820	56.000	QUASIPEAK
6		18.962	0.953	33.520	34.473	-25.527	60.000	QUASIPEAK

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

Site : SR-1	**Time : 2007/05/24 - 01:29**
Limit : CISPR_B_00M_AV	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(L) - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**

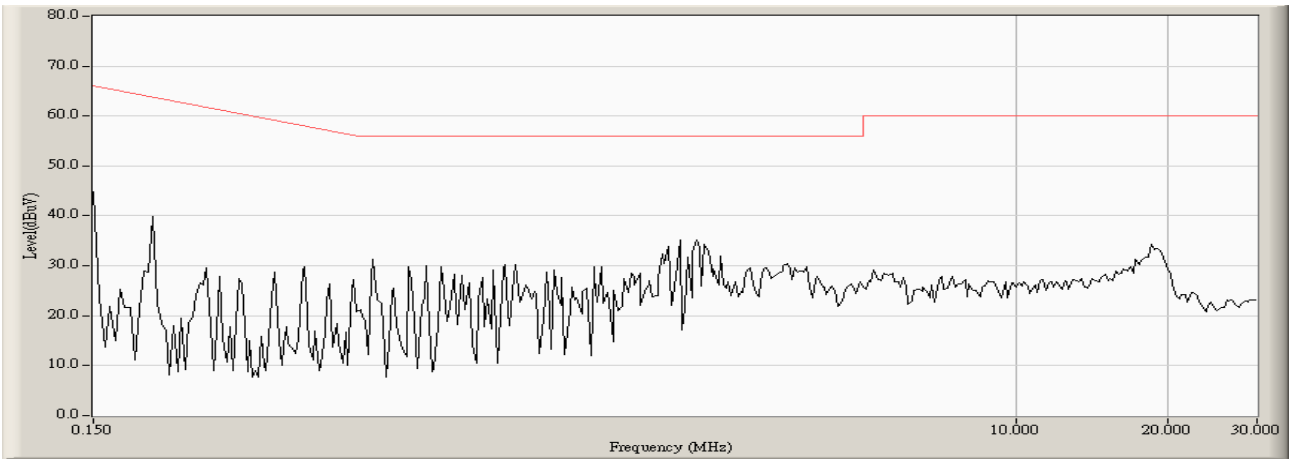


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.193	0.202	30.400	30.602	-24.169	54.771	AVERAGE
2		0.240	0.203	22.730	22.933	-30.496	53.429	AVERAGE
3	*	0.588	0.218	27.850	28.068	-17.932	46.000	AVERAGE
4		1.216	0.246	22.760	23.006	-22.994	46.000	AVERAGE
5		2.255	0.290	15.870	16.160	-29.840	46.000	AVERAGE
6		18.962	0.953	28.220	29.173	-20.827	50.000	AVERAGE

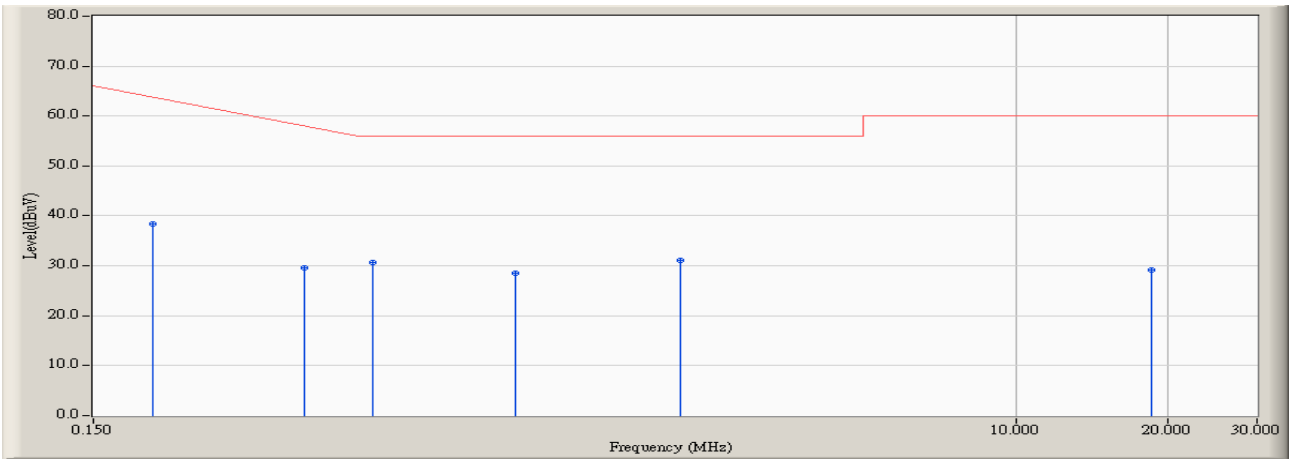
Note:

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

Site : SR-1	**Time : 2007/05/24 - 01:29**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(N) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**



Site : SR-1	**Time : 2007/05/24 - 01:30**
Limit : CISPR_B_00M_QP	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(N) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**

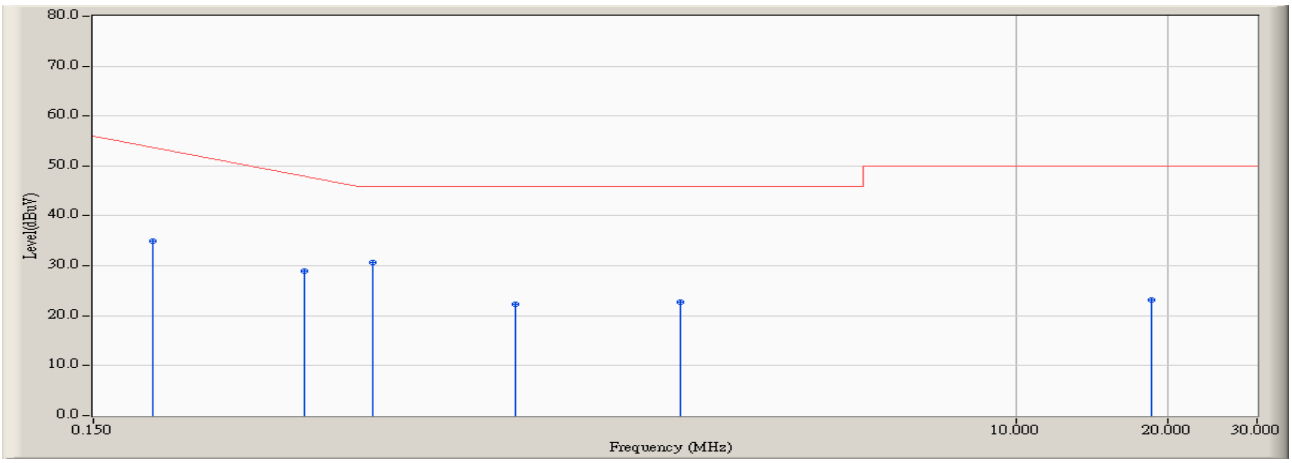


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.197	0.202	38.090	38.292	-26.365	64.657	QUASIPEAK
2		0.392	0.215	29.370	29.585	-29.501	59.086	QUASIPEAK
3		0.537	0.217	30.550	30.767	-25.233	56.000	QUASIPEAK
4		1.025	0.233	28.270	28.503	-27.497	56.000	QUASIPEAK
5	*	2.170	0.278	30.770	31.048	-24.952	56.000	QUASIPEAK
6		18.509	0.777	28.370	29.147	-30.853	60.000	QUASIPEAK

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

Site : SR-1	**Time : 2007/05/24 - 01:30**
Limit : CISPR_B_00M_AV	**Margin : 0**
EUT : Cable modem	**Probe : LISN-020(N) - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.197	0.202	34.820	35.022	-19.635	54.657	AVERAGE
2		0.392	0.215	28.650	28.865	-20.221	49.086	AVERAGE
3	*	0.537	0.217	30.540	30.757	-15.243	46.000	AVERAGE
4		1.025	0.233	22.010	22.243	-23.757	46.000	AVERAGE
5		2.170	0.278	22.490	22.768	-23.232	46.000	AVERAGE
6		18.509	0.777	22.360	23.137	-26.863	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

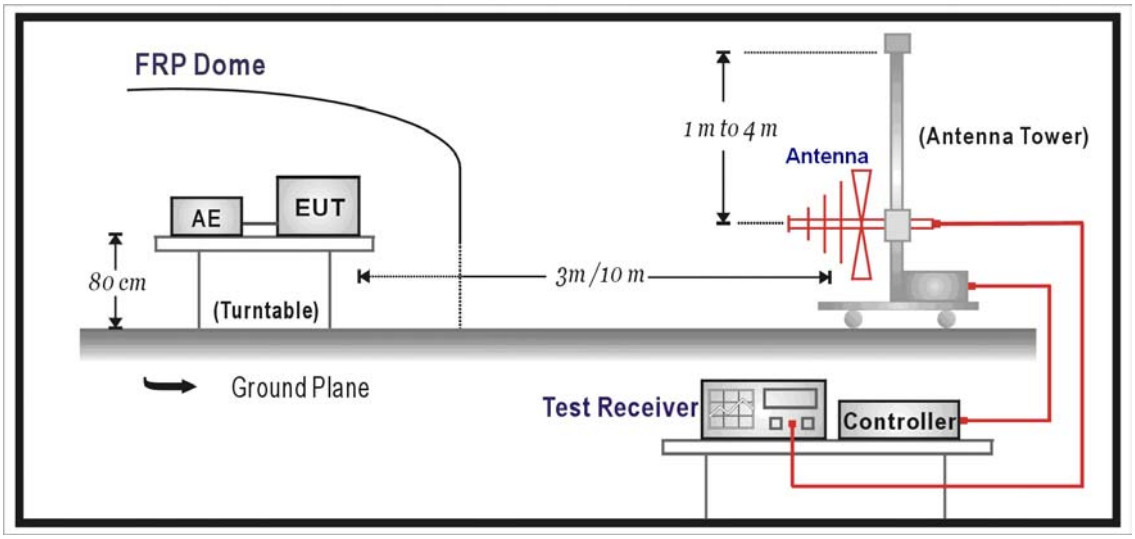
4. Radiated Emission

4.1. Test Specification

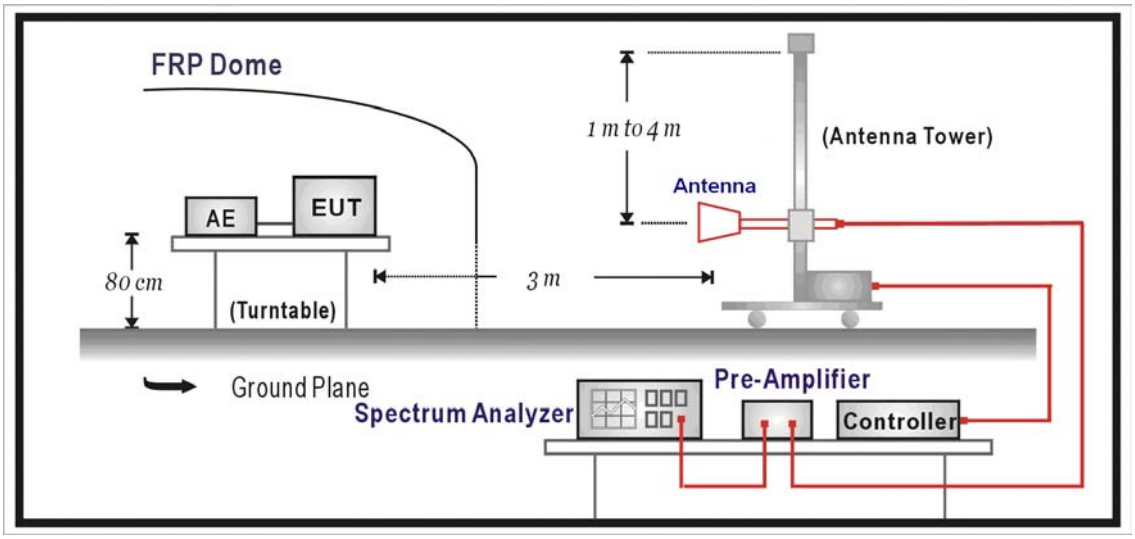
According to EMC Standard : FCC Part 15 Subpart B, ANSI C63.4

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

Under 1GHz test shall not exceed the following value:

Limits		
Frequency (MHz)	Distance (m)	dBuV/m
30 – 230	10	30
230 – 1000	10	37

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.

Above 1GHz test shall not exceed the following value:

FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m)		
Frequency (MHz)	Distance (m)	dBuV/m
30-88	3	40
88-216	3	43.5
216-960	3	46
Above 960	3	54

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)

4.4. 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 and 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 on radiated measurement.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the folowing 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	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

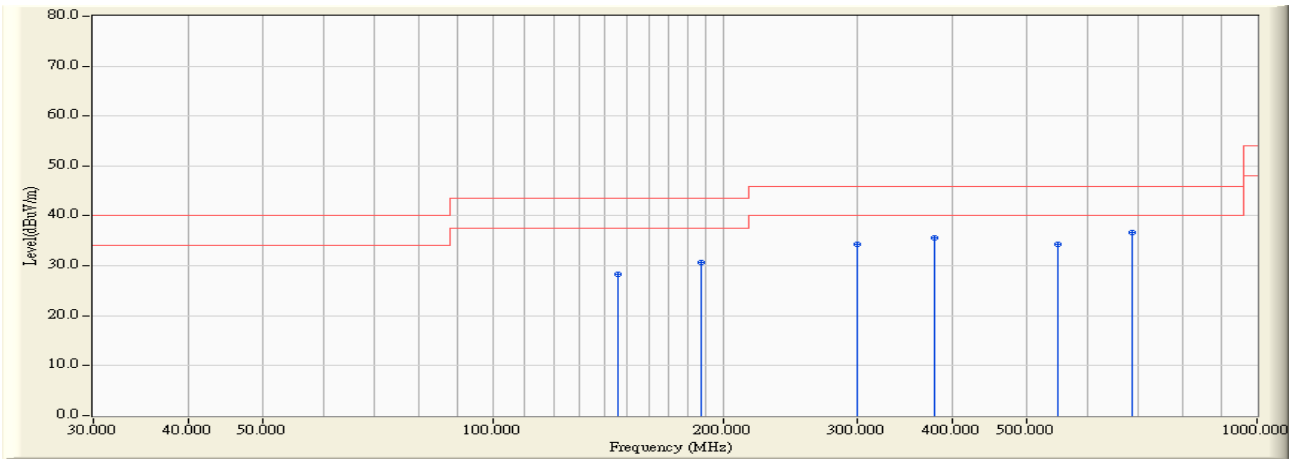
For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

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

4.5. Test Result

Site : OATS-3	**Time : 2007/05/24 - 04:50**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
EUT : Cable modem	**Probe : LKCBL6112(2704)-Site3-3M - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1**

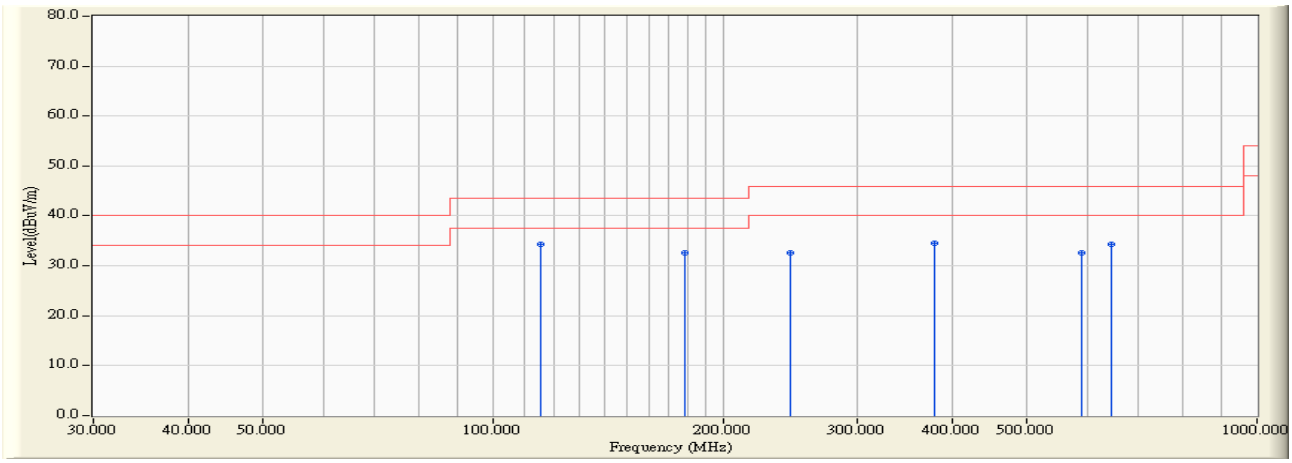


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		145.540	11.757	16.608	28.365	-15.135	43.500	QUASIPEAK
2		187.440	9.313	21.342	30.655	-12.845	43.500	QUASIPEAK
3		299.650	14.132	20.234	34.365	-11.635	46.000	QUASIPEAK
4		378.500	15.740	19.956	35.697	-10.303	46.000	QUASIPEAK
5		548.410	20.374	13.878	34.252	-11.748	46.000	QUASIPEAK
6	*	685.410	20.999	15.670	36.669	-9.331	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : OATS-3	**Time : 2007/05/24 - 04:51**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
EUT : Cable modem	**Probe : LKCBL6112(2704)-Site3-3M - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1**

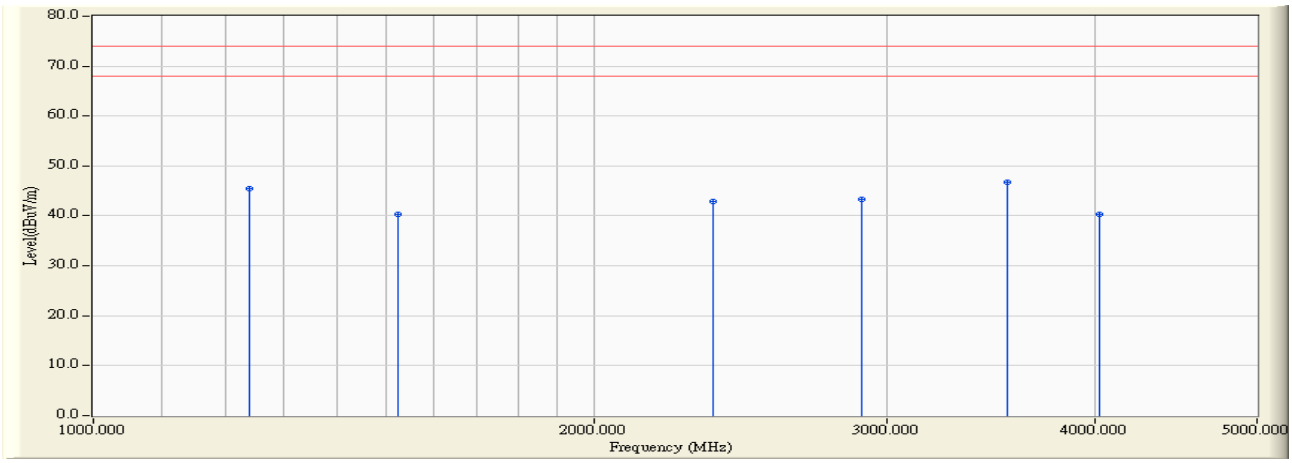


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	115.410	11.711	22.503	34.214	-9.286	43.500	QUASIPEAK
2		178.445	9.549	23.104	32.653	-10.847	43.500	QUASIPEAK
3		245.500	12.853	19.810	32.663	-13.337	46.000	QUASIPEAK
4		378.450	16.654	17.898	34.553	-11.447	46.000	QUASIPEAK
5		589.528	21.868	10.757	32.625	-13.375	46.000	QUASIPEAK
6		645.415	20.280	13.956	34.235	-11.765	46.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : OATS-3	**Time : 2007/05/24 - 04:56**
Limit : FCC_B_(Above_1G)_3M_PK	**Margin : 6**
EUT : Cable modem	**Probe : HORN9120D+9170D(1~40G) - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1**

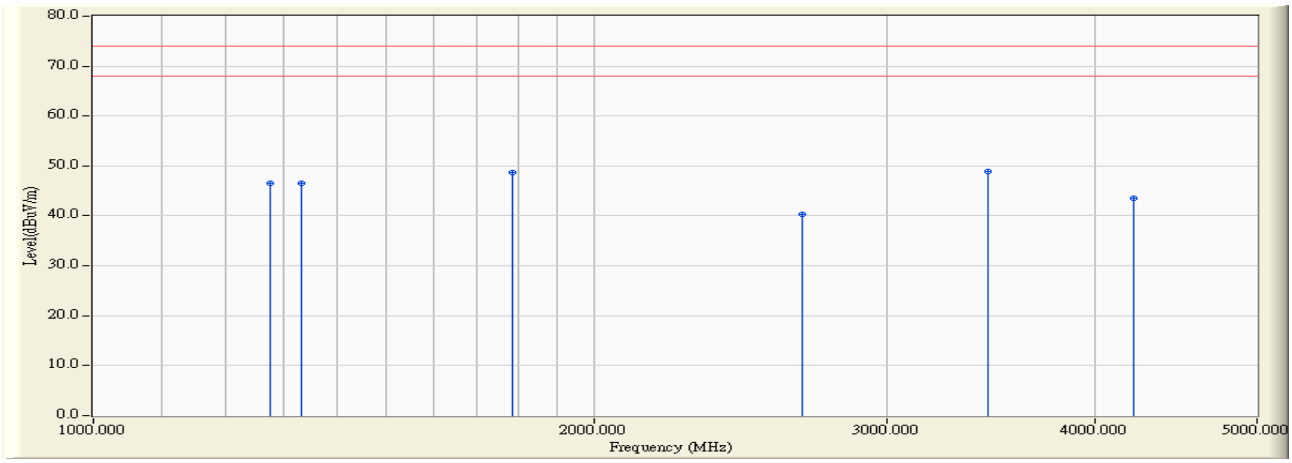


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1241.000	-6.255	51.778	45.524	-28.476	74.000	PEAK
2		1524.000	-5.589	45.940	40.350	-33.650	74.000	PEAK
3		2355.000	-2.540	45.399	42.859	-31.141	74.000	PEAK
4		2897.000	-1.078	44.300	43.221	-30.779	74.000	PEAK
5	*	3542.000	-0.105	46.770	46.665	-27.335	74.000	PEAK
6		4025.000	1.362	38.987	40.350	-33.650	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : OATS-3	**Time : 2007/05/24 - 04:57**
Limit : FCC_B_(Above_1G)_3M_PK	**Margin : 6**
EUT : Cable modem	**Probe : HORN9120D+9170D(1~40G) - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1278.000	-6.079	52.605	46.526	-27.474	74.000	PEAK
2		1334.000	-5.782	52.334	46.552	-27.448	74.000	PEAK
3		1785.000	-5.296	53.946	48.650	-25.350	74.000	PEAK
4		2663.000	-1.624	41.854	40.230	-33.770	74.000	PEAK
5	*	3445.000	-0.332	49.189	48.857	-25.143	74.000	PEAK
6		4215.000	2.033	41.603	43.636	-30.364	74.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor