

# FCC Part 15B

## Measurement and Test Report

For

**DynaPoint (Dong Guan) INC.**

**No.51, Xinju Road, Precinct Shengjiao, ChangAn, DongGuan,  
GuangDong, China**

**FCC ID: RYLH213E53USB**

<b>Report Concerns:</b> Original Report	<b>Equipment Type:</b> Mouse
<b>Model:</b>	<u>H213E53USB</u>
<b>Report No.:</b>	<u>STR10108098E-3</u>
<b>Test Date:</b>	<u>2010-10-15 to 2010-10-18</u>
<b>Issue Date:</b>	<u>2010-10-20</u>
<b>Tested By:</b>	<u>Silin Chen / Engineer</u> 
<b>Reviewed By:</b>	<u>Lahm Peng / EMC Manager</u> 
<b>Approved &amp; Authorized By:</b>	<u>Jandy so / PSQ Manager</u> 
<b>Prepared By:</b>	<b>SEM.Test Compliance Service Co., Ltd</b> 3/F, Jinbao Commerce Building, Xin'an Fanshen Road, Bao'an District, Shenzhen, P.R.C. (518101) Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: <a href="http://www.semtest.com.cn">www.semtest.com.cn</a>

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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## 1. GENERAL INFORMATION

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### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: DynaPoint (Dong Guan) INC.

Address of applicant: No.51, Xinju Road, Precinct Shengjiao, ChangAn, DongGuan, GuangDong, China

Manufacturer: DynaPoint (Dong Guan) INC.

Address of manufacturer: No.51, Xinju Road, Precinct Shengjiao, ChangAn, DongGuan, GuangDong, China

#### General Description of E.U.T

Items	Description
EUT Description:	Mouse
Trade Name:	/
Model No.:	H213E53USB
Rated Voltage:	DC 5V
Rated Current:	/
Size:	0.98X0.60X0.38 cm

*The test data is gathered from a production sample, provided by the manufacturer.*

### 1.2 Test Standards

The following report is prepared on behalf of the DynaPoint (Dong Guan) INC. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 rules.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

### 1.3 Related Submittal(s)/Grant(s)

No Related Submittal(s).

### 1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the Operating Instructions.

## 1.5 Test Facility

FCC – Registration No.: **994117**

SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.

Industry Canada (IC) Registration No.: **7673A**

The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.

## 1.6 EUT Exercise Software

The EUT exercise program used during the testing was designed to exercise the system components.

## 1.7 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
ASUS	Notebook	X50R	74N0AS297138

## 1.8 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
USB Cable	1.15	Unshielded	Without Core

## 2. SUMMARY OF TEST RESULTS

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Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

### 3. §15.107 (a) CONDUCTED EMISSIONS

#### 3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is  $\pm 2.88$  dB.

#### 3.2 Test Equipment List and Details

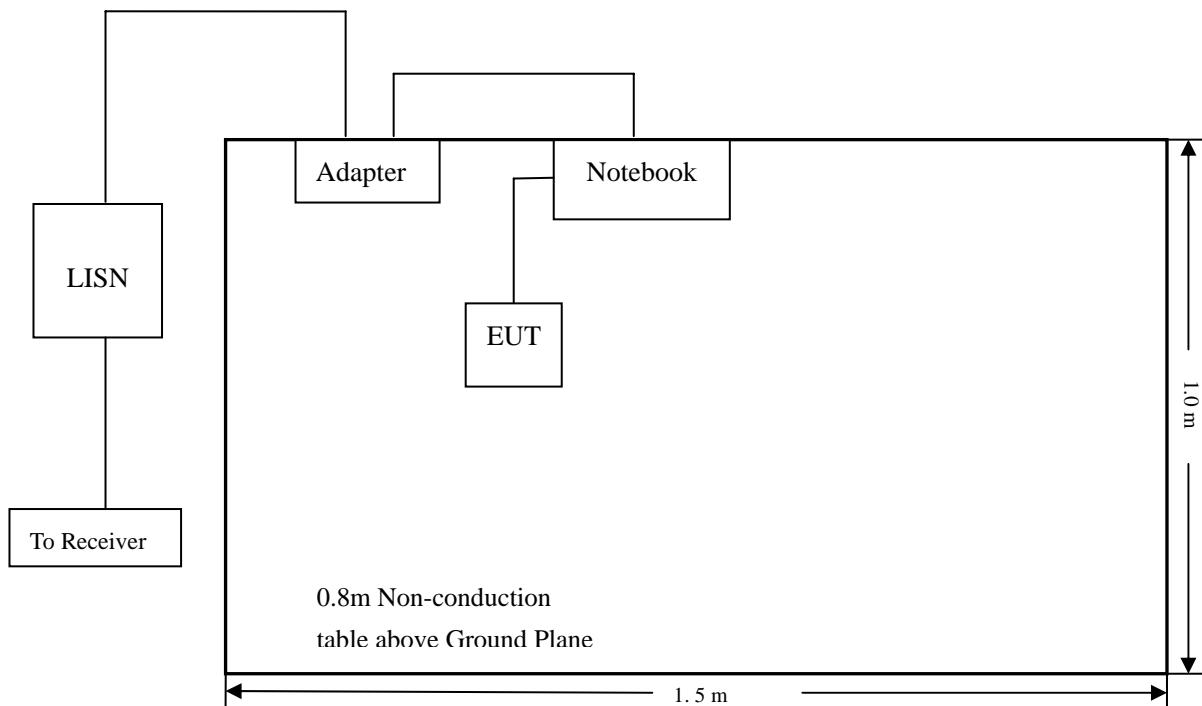
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-08-12	2011-08-11
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-08-12	2011-08-11
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-08-12	2011-08-11

**Statement of Traceability:** All calibrations have been performed per the NVLAP requirements traceable to the NIST.

#### 3.3 Test Procedure

Test is conducting under the description of ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

#### 3.4 Basic Test Setup Block Diagram



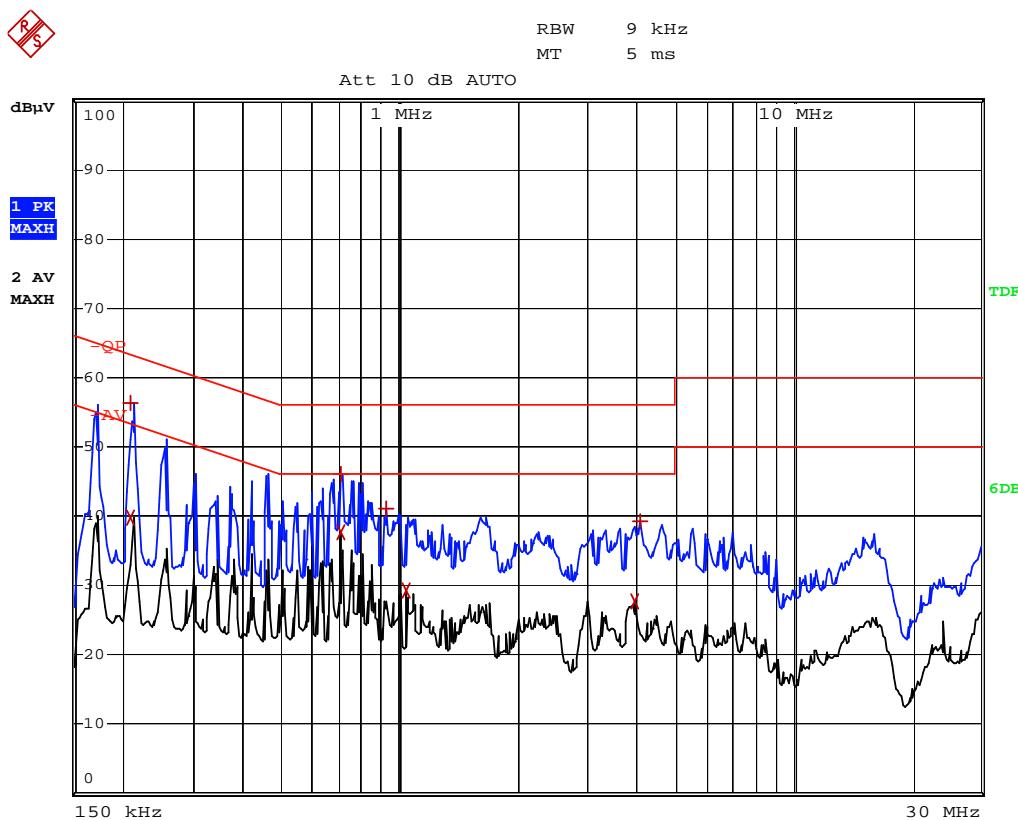
### 3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

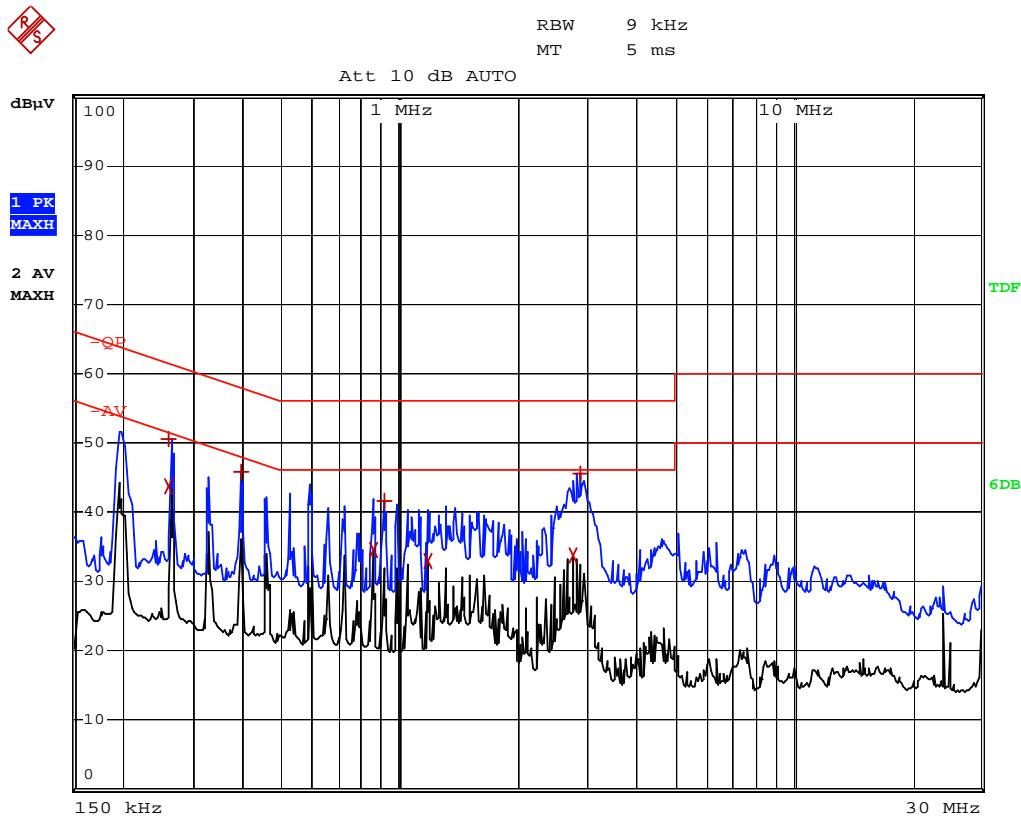
### 3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC 15.107 Conducted margin for a Class B device, with the *worst* margin reading of:

**-7.01 dB $\mu$ V at 0.210 MHz** in the **Neutral, Peak** detector, 0.15-30MHz

**Plot of Conducted Emissions Test Data***Conducted Disturbance**EUT: Mouse**M/N: H213E53USB**Operating Condition: Connect to PC**Test Specification: N**Comment: 120V/60Hz; USB 5V*

EDIT PEAK LIST (Prescan Results)				
Trace1:	-QP			
Trace2:	-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dB $\mu$ V	DELTA	LIMIT dB
1 Max Peak	210 kHz	56.18		-7.01
2 Average	210 kHz	39.76		-13.44
1 Max Peak	710 kHz	45.97		-10.02
2 Average	710 kHz	37.69		-8.30
1 Max Peak	926 kHz	40.98		-15.01
2 Average	1.042 MHz	29.29		-16.70
2 Average	3.942 MHz	27.61		-18.38
1 Max Peak	4.106 MHz	39.24		-16.75

**Plot of Conducted Emissions Test Data***Conducted Disturbance**EUT: Mouse**M/N: H3D3E13**Operating Condition: Connect to PC**Test Specification: L**Comment: 120V/60Hz; USB 5V*

EDIT PEAK LIST (Prescan Results)				
Trace1:	-QP			
Trace2:	-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dB $\mu$ V	DELTA	LIMIT dB
1 Max Peak	262 kHz	50.43	-10.93	
2 Average	262 kHz	43.80	-7.56	
1 Max Peak	394 kHz	45.89	-12.08	
2 Average	858 kHz	34.38	-11.61	
1 Max Peak	914 kHz	41.53	-14.46	
2 Average	1.178 MHz	32.87	-13.12	
2 Average	2.754 MHz	33.71	-12.28	
1 Max Peak	2.87 MHz	45.56	-10.43	

## 4. §15.109(a)- RADIATED EMISSION

### 4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is  $\pm 5.10$  dB.

### 4.2 Test Equipment List and Details

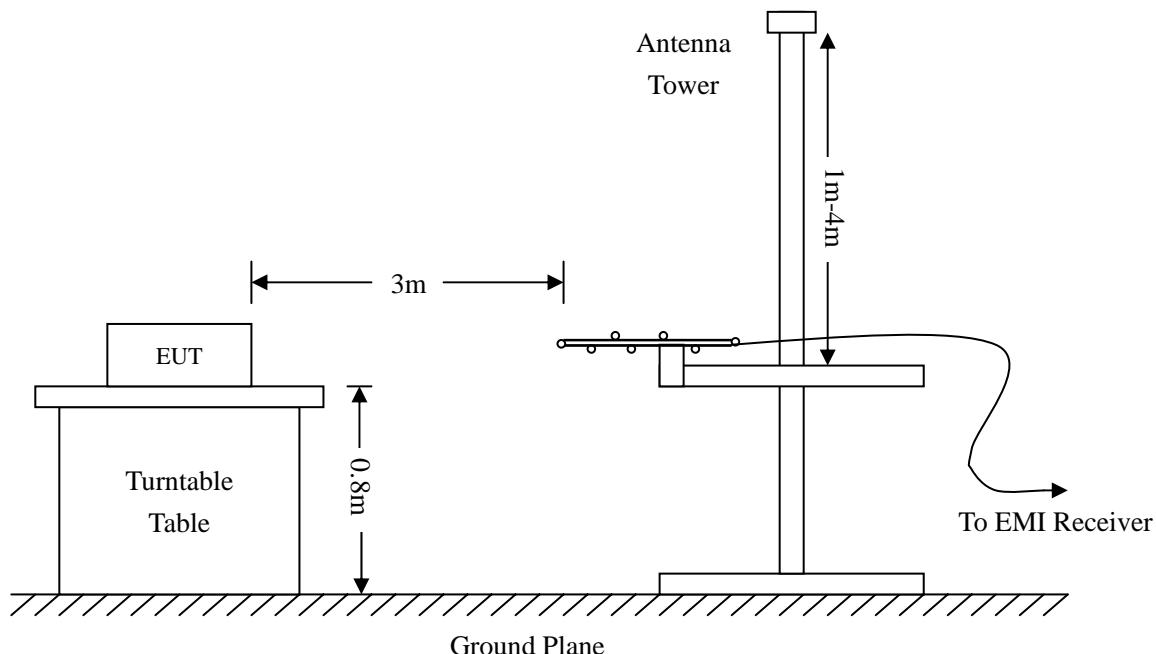
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-04-16	2011-04-15
EMI Test Receiver	R&S	ESVB	825471/005	2010-08-12	2011-08-11
Positioning Controller	C&C	CC-C-1F	N/A	2010-08-12	2011-08-11
RF Switch	EM	EMSW18	SW060023	2010-08-12	2011-08-11
Pre-amplifier	Agilent	8447F	3113A06717	2010-08-12	2011-08-11
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-08-12	2011-08-11
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2010-07-21	2011-07-20
Horn Antenna	ETS	3117	00086197	2010-07-21	2011-07-20

### 4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



#### 4.4 Test Receiver Setup

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:

RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:

RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

#### 4.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB $\mu$ V means the emission is 6dB $\mu$ V below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15B Limit}$$

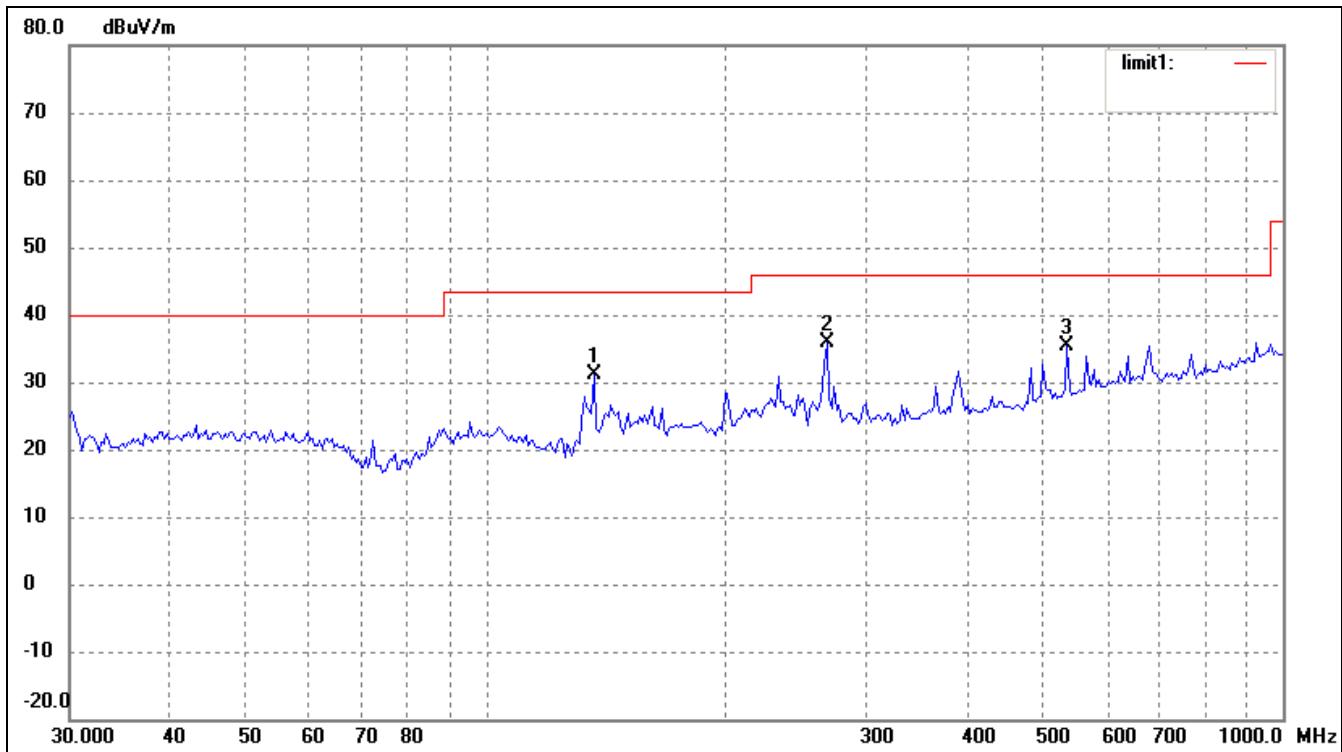
#### 4.6 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

#### 4.7 Summary of Test Results/Plots

According to the data, the EUT complied with the FCC 15B Class B standards, and had the worst margin of:

**-9.00 dB $\mu$ V at 535.7073 Hz in the Vertical polarization, 30 MHz to 1 GHz, 3Meters**

**Plot of Radiation Emissions Test***Radiated Disturbance**EUT: Mouse**M/N: H213E53USB**Operating Condition: Connect to PC**Test Specification: Horizontal & Vertical**Comment: AC120V/60Hz; USB 5V**Horizontal*

No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (•)	Height (cm)	Remark
1	136.4598	27.57	3.44	31.01	43.50	-12.49	360	100	peak
2	267.5455	27.76	8.12	35.88	46.00	-10.12	360	100	peak
3	535.7073	22.25	13.04	35.29	46.00	-10.71	360	100	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (•)	Height (cm)	Remark
1	46.0163	19.57	7.93	27.50	40.00	-12.50	360	100	peak
2	135.5062	29.97	3.51	33.48	43.50	-10.02	360	100	peak
3	535.7073	23.63	13.37	37.00	46.00	-9.00	360	100	peak

\*\*\*\*\* END OF REPORT \*\*\*\*\*