



Prüfbericht - Nr.: 17019069 001		Seite 1 von 25			
<i>Test Report No.:</i>		<i>Page 1 of 25</i>			
Auftraggeber: <i>Client:</i>	Primax Electronics Ltd. No. 669, Ruey Kuang Rd. Neihsu, Taipei 114, Taiwan				
Gegenstand der Prüfung: <i>Test item:</i>	Dynex 2.4GHz Wireless Optical Mouse				
Bezeichnung: <i>Identification:</i>	DX-NPWL MSE	Serien-Nr.: <i>Serial No.:</i>	n.a.		
Wareneingangs-Nr.: <i>Receipt No.:</i>	163072661	Eingangsdatum: <i>Date of receipt:</i>	2011-01-06		
Prüfört: <i>Testing location:</i>	TÜV Rheinland (Guangdong) Ltd. EMC Laboratory Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China FCC Registration No.: 833845 Test site Industry Canada No.: 2932C-1				
Prüfgrundlage: <i>Test specification:</i>	FCC CFR47 Part 15: Subpart C Section 15.249 FCC CFR47 Part 15: Subpart C Section 15.207 FCC CFR47 Part 15: Subpart C Section 15.209 RSS-210 Issue 8 June 2010 RSS-Gen Issue 3 December 2010 RSS-102 Issue 4 March, 2010				
Prüfergebnis: <i>Test Result:</i>	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specification(s).</i>				
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.				
geprüft/ tested by:	kontrolliert/ reviewed by:				
 2011-01-25 Winnie Hou/ Project Engineer		 2011-01-25 Shawn Peng / Technical Certifier			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>		
			Name/Stellung <i>Name/Position</i>		
			Unterschrift <i>Signature</i>		
Sonstiges/ Other Aspects:					
<table style="width:100%; border: none;"> <tr> <td style="width: 50%; border: none;">Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage NIA = nicht anwendbar NIT = nicht getestet</td> <td style="width: 50%; border: none;">Abbreviations: P(ass) = passed F(ail) = failed NIA = not applicable NIT = not tested</td> </tr> </table>				Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage NIA = nicht anwendbar NIT = nicht getestet	Abbreviations: P(ass) = passed F(ail) = failed NIA = not applicable NIT = not tested
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Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

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TEST SUMMARY

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1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix 1: Test Result of Radiated Emissions

2. Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.
EMC Laboratory

Guangzhou Auto Market,
Yuan Gang Section of Guangshan Road,
Guangzhou, P.R. China

FCC Registration No.: 833845

Test site Industry Canada No.: 2932C-1

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Spurious emission and Radiated emission				
EMI Test Receiver	Rohde & Schwarz	ESCI-3	100216	2011-11-26
Spectrum Analyzer	Rohde & Schwarz	FSP30	100286	2011-08-24
Trilog-Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	209	2011-11-07
Double-Ridged Waveguide Horn Antenna	Rohde & Schwarz	HF906	100385	2011-08-18
Pre-amplifier	MITEQ	AFS42-00101800-25-S-42	1101599	2011-07-31
Standard Gain Horn Antenna	EMCO	3160-09	21642	N/A
Pre-amplifier	MITEQ	AFS33-18002650-30-8P-44	1108282	2011-07-31
3m Anechoic Chamber	Albatross Project GmbH	N/A	N/A	2011-04-16
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100111	2011-12-11
Radio Test Suite				
Receiver	Rohde & Schwarz	ESCI	100178	2011-09-27

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO/IEC 17025 are:

Table 2: Measurement Uncertainty

Items		Extended Uncertainty
CE	Disturbance Voltage (dBuV)	$U=\pm 2.56\text{dB}$, $k=2$, $\sigma=95\%$
RE (9kHz – 30MHz)	Field Strength (dBuA)	$U=\pm 4.46\text{dB}$, $k=2$, $\sigma=95\%$
RE (30-1000MHz)	Field strength (dBuV/m)	$U=\pm 4.94\text{dB}$, $k=2$, $\sigma=95\%$

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached in this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. test facility located at Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a wireless optical mouse used together with personal computer. The whole system is composed of one wireless mouse and one receiver. This report is only for wireless mouse. For details refer to the User Manual, technical description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Rating of EUT

Kind of Equipment:	Dynex 2.4GHz Wireless Optical Mouse
Type Designation:	DX-NPWL MSE
FCC ID	EMJMMORFFEUO
IC	4251A-MMORFFEUO

Table 4: Technical Specification of EUT

Technical Specification	Value
Operating Frequency	2402-2479 MHz
Channel separation	1MHz
Extreme Temperature Range	0°C to 40°C
Operation Voltage	DC 1.5V (via AA size battery)
Modulation	GFSK
Antenna Type	Internal Antenna, Non-User Replaceable
External Ports	None
Antenna Gain	3.85dBi
RF Output Power	0.00084W (-0.77dBm)
Number of channels	70
Channel frequency (MHz)	2402/2407/2408/2409/2410/2411/2412/2413/2414/2415/ 2416/2417/2418/2419/2420/2421/2422/2423/2424/2425/ 2426/2427/2428/2429/2430/2431/2432/2433//2434/2435/ 2436/2437/2438/2439/2440/2441/2442/2443/2444/2445/ 2446/2447/2448/2449/2450/2451/2452/2453/2454/2455/ 2456/2457/2458/2459/2460/2461/2462/2463/2464/2465/ 2466/2467/2468/2469/2470/2471/2472/2473/2474/2479

3.3 Independent Operation Modes

The basic operation modes are:

- A. Transmitting
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. Standby
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Technical Description
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2003.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested with following accessories

Description	Manufacturer	Type
Dongle	Primax	DX-NPWLMSSEA

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

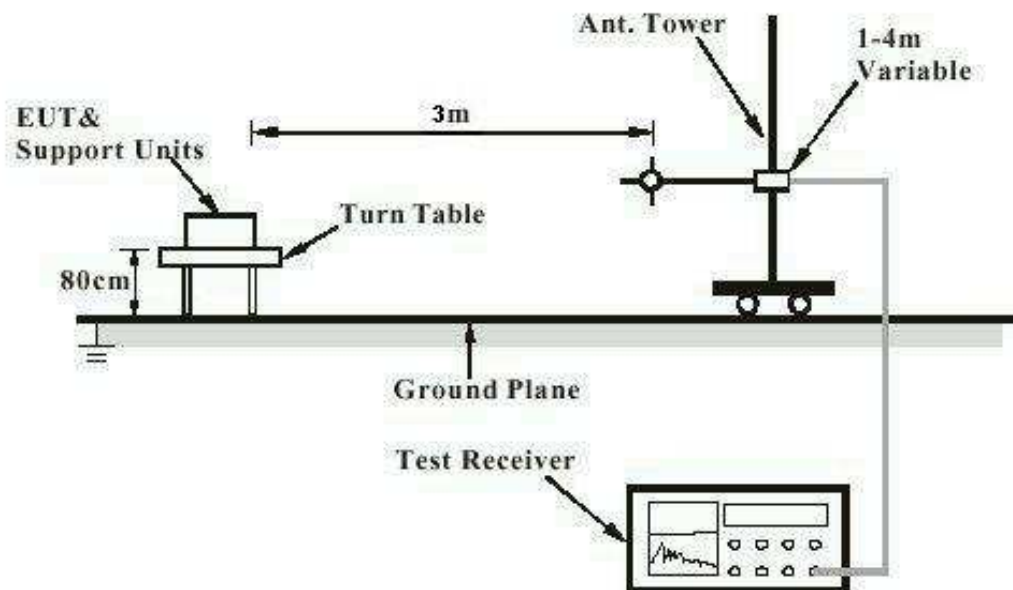


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement

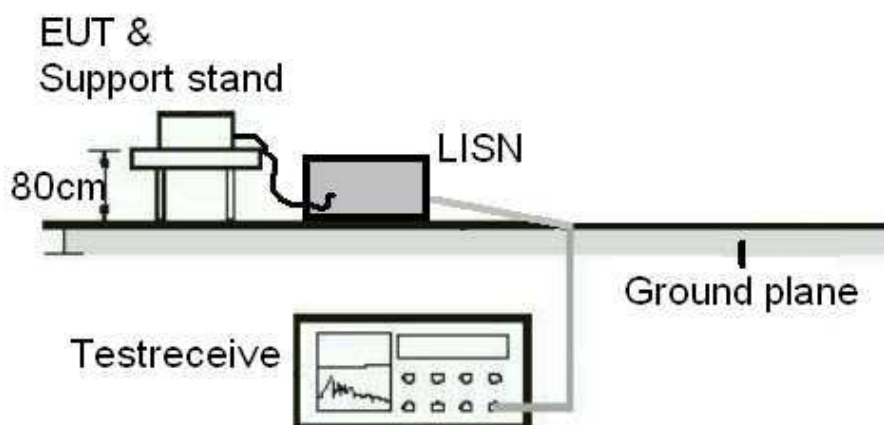
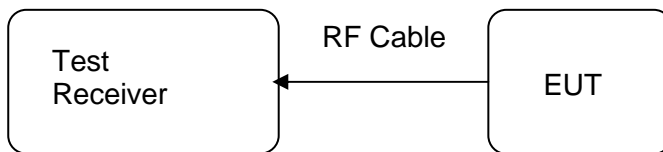


Diagram of Measurement Equipment Configuration for Conducted Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Passed**

Test date	:	2011-01-17
Test standard	:	FCC Part 15.203 RSS-Gen 7.1.2
Limit	:	the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 3.85dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply the provision.

Refer to EUT photo for details.

5.1.2 Field strength of fundamental and harmonics

RESULT:
Passed

Test date : 2011-01-18
 Test standard : FCC Part 15.249(a)
 Clause A2.9(a) of RSS-210
 Basic standard : ANSI C63.4: 2003
 Limit : FCC Part 15.249(a)
 Clause A2.9(a) of RSS-210
 Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Operation Mode : A
 Ambient temperature : 23°C
 Relative humidity : 50%
 Atmospheric pressure : 101 kPa

Table 5: Test result of Field strength of fundamental and harmonics

Channel Frequency (MHz)			
	Reading (dBuV/m)	Reading (mV/m)	Limit (mV/m)
2402MHz	86.457	21.04	50
2441MHz	86.114	20.42	50
2479MHz	86.398	20.89	50

Remark: The test was applied on both horizontal and vertical orientation, the highest value was found on vertical orientation.

5.1.3 20dB Bandwidth

RESULT:**Passed**

Date of testing : 2011-01-17
Test standard : RSS-Gen 4.6.3
Basic standard : ANSI C63.4: 2003
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 20°C
Relative humidity : 45%
Atmospheric pressure : 101 kPa

Table 6: Test result of 20dB Bandwidth, GFSK modulation

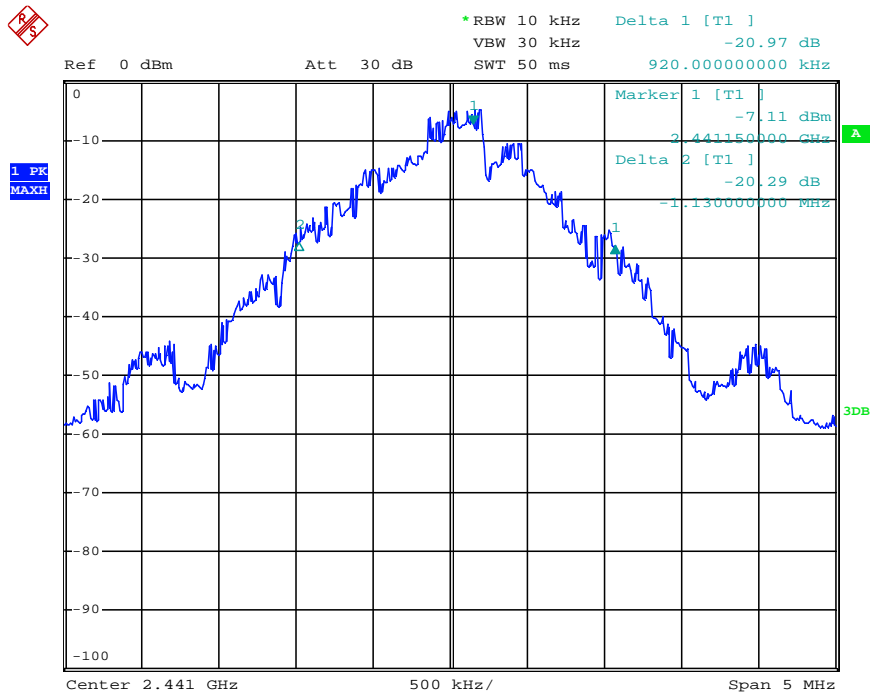
Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Limit (MHz)	Result
Low Channel	2402	2040	/	Pass
Mid Channel	2441	2050	/	Pass
High Channel	2479	2020	/	Pass

Test Plot of 20dB Bandwidth

Low Channel



Middle Channel

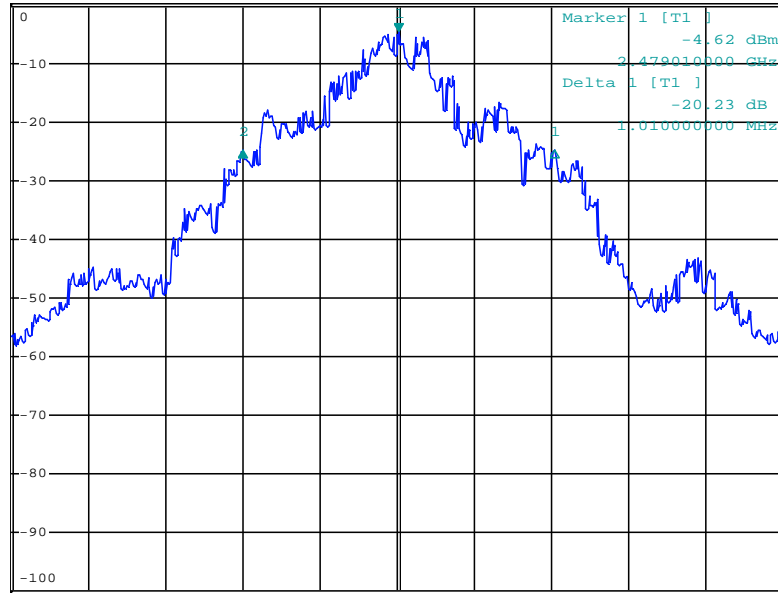


High Channel


*RBW 10 kHz Delta 2 [T1]
 VBW 30 kHz -20.18 dB
 SWT 50 ms -1.010000000 MHz

Ref 0 dBm Att 30 dB

1 PK
 VIEW



A

3DB

Center 2.479 GHz 500 kHz/ Span 5 MHz

5.1.4 99% Bandwidth

RESULT:**Passed**

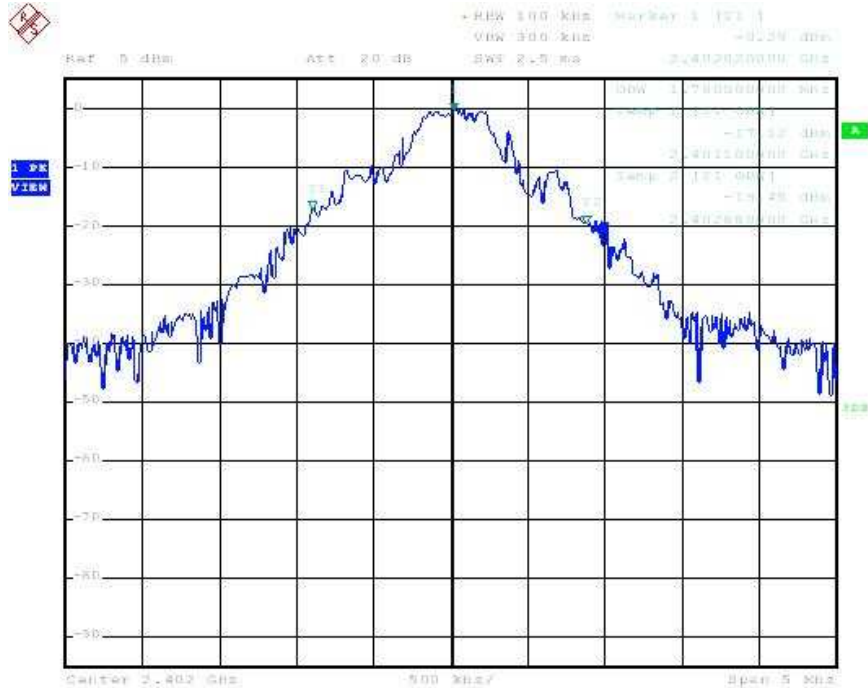
Date of testing : 2011-01-17
Test standard : RSS-Gen clause 4.6.1
Basic standard : ANSI C63.4: 2003
Kind of test site : Shielded room

Test setup

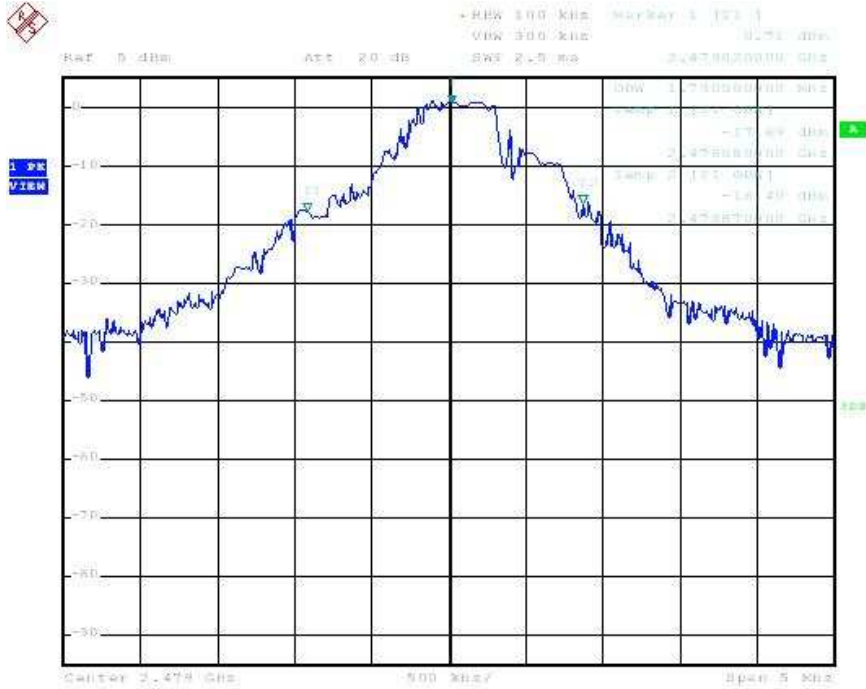
Test Channel : Low/ Middle/ High
Operation Mode : A
Ambient temperature : 20°C
Relative humidity : 45%
Atmospheric pressure : 101 kPa

Table 7: Test result of 99% Bandwidth

Channel	Channel Frequency (MHz)	99% Bandwidth (kHz)	Limit (MHz)
Low Channel	2402	1780	/
Mid Channel	2441	1800	/
High Channel	2479	1790	/

Test Plot of 99% Bandwidth**Low Channel****Middle Channel**

High Channel



10.00 100.00000000000000 1000.0000000000000

5.1.5 Out of band emission

RESULT:**Passed**

Date of testing : 2011-01-18
Test standard : FCC part 15.249(d)
RSS-210 A2.9(b)
Basic standard : ANSI C63.4: 2003
Limit : FCC part 15.249(d)
RSS-210 A2.9(b)
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Channel : Low/ High
Operation mode : A
Ambient temperature : 23°C
Relative humidity : 50%
Atmospheric pressure : 101 kPa

All emissions are below the general radiated emission limits in FCC part 15.209. Refer to Appendix 1 for detailed test plot.

5.1.6 Radiated emission

RESULT:**Passed**

Date of testing : 2011-01-18
Test standard : FCC part 15.209(a) & 15.205
Clause 2.2 & 2.5 of RSS-210
Basic standard : ANSI C63.4: 2003
Limits : Refer to FCC part 15.209(a)
Refer to RSS-Gen Table 5
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Operation mode : A
Ambient temperature : 23°C
Relative humidity : 50%
Atmospheric pressure : 101 kPa

Remark: Testing was carried out within frequency range 9kHz to the tenth harmonics. For details refer to Appendix 1.

6. Safety Human exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:**Passed**

Since maximum peak output power of the transmitter is $<60/f(\text{GHz})\text{mW}$, i.e. $0.84\text{mW} < 25 (=60/2.4)\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC KDB publication 447498 D01: Mobile Portable RF Exposure.

The measured peak output power of the transmitter is only 0.84mW (-0.77dBm). According to RSS-102 Issue 4 March 2010 clause 2.5, from 3 kHz up to 1 GHz inclusively and if the output power (i.e. the higher of the conducted or effective isotropic radiated power (e.i.r.p.) source-based time-averaged output power) is less than, or equal to 200 mW for General Public Use and 1000 mW for Controlled Use, then the transmitters are exempt from routine SAR and RF exposure evaluations, therefore the EUT is deemed to fulfill the requirement without additional test.

7. Photographs of the Test Set-Up

Photograph 1: Set-up for Radiated Emissions (9kHz - 30MHz)



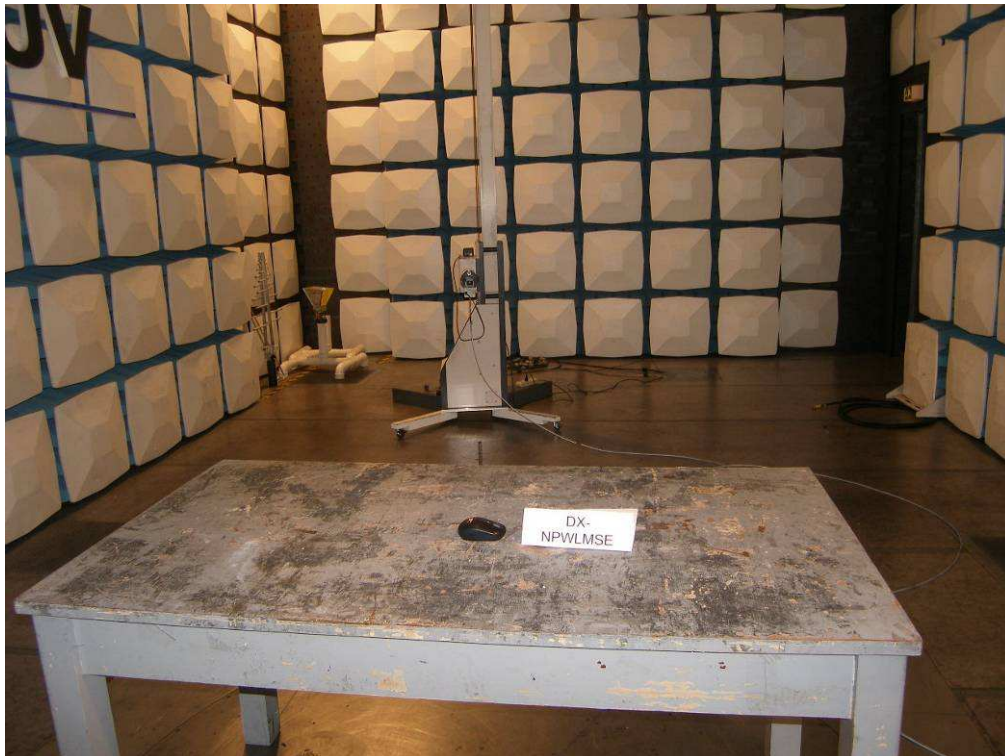
Photograph 2: Set-up for Radiated Emissions (30MHz-1GHz)



Photograph 3: Set-up for Radiated Emissions (1GHz-18GHz)



Photograph 4: Set-up for Radiated Emissions (18GHz-25GHz)



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Test Plot of Spurious emission of A.1 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

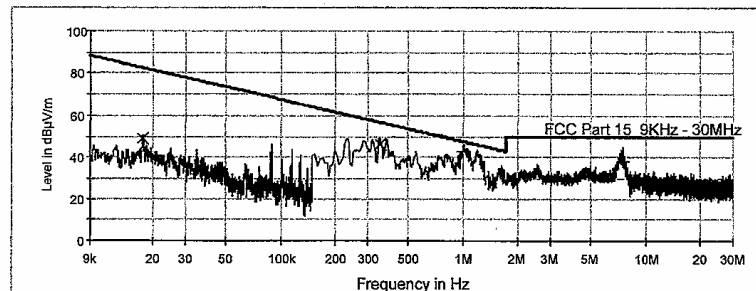
EMC Test Record (EMISSION)

Test Information

Manufacturer: PRIMAX
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage / Freq. : DC1.5V
 Receipt No.: 163072661 100
 Report No.: 17019069 001
 Result: Pass
 Comment: Horizontal

Subrange 1
 Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr (dB)	Polarization
7.462000	39.1	---	21.8	H
1.010000	43.4	---	20.7	H
0.017560	---	49.2	20.1	H
0.354000	---	47.1	20.9	H

Date: 18/01/2011 - Time: 23:24:19

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.1 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

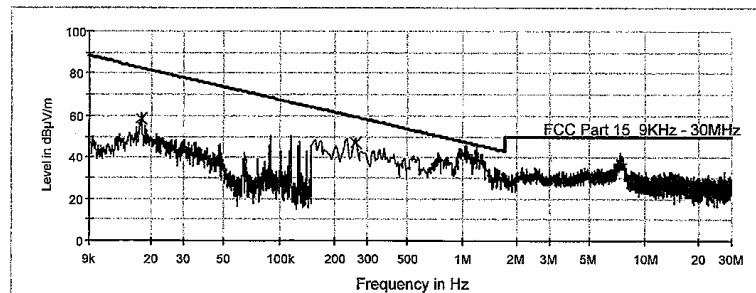
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
7.410000	38.2	---	20.9	V
1.046000	40.4	---	19.3	V
0.017560	---	56.3	19.7	V
0.262000	---	47.2	19.6	V

Date: 18/01/2011 - Time: 23:31:54

Tested by:  Reviewed by:  Checked



Test Plot of Spurious emission of A.1 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

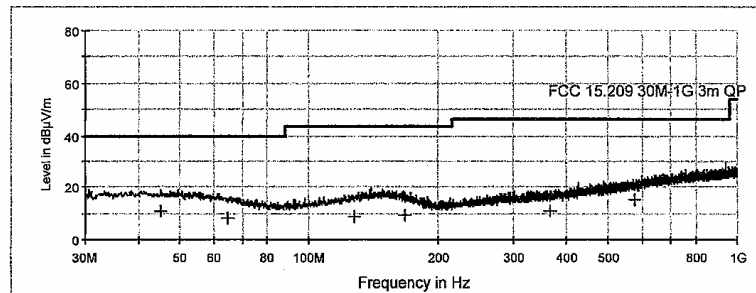
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
45.500000	10.7	13.7	29.3	40.0	H
64.800000	8.1	11.8	31.9	40.0	H
127.250000	8.9	12.6	34.6	43.5	H
167.850000	9.5	13.4	34.0	43.5	H
367.300000	10.9	14.1	35.1	46.0	H
674.650000	15.2	17.8	30.8	46.0	H

Date: 17/01/2011 - Time: 22:22:19

Tested by:  Reviewed by: 

Test Plot of Spurious emission of A.1 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

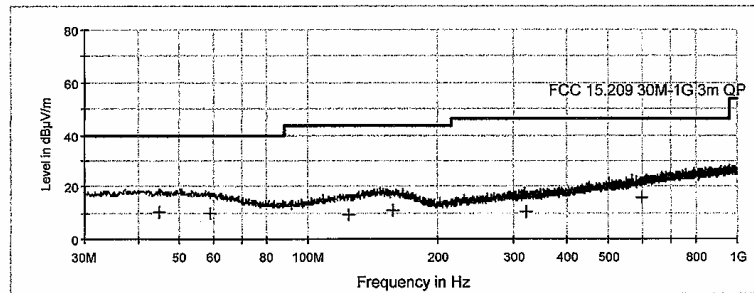
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
44.900000	10.3	13.7	29.7	40.0	V
59.100000	9.7	12.9	30.3	40.0	V
125.050000	9.2	12.5	34.3	43.5	V
158.150000	10.7	14.1	32.8	43.5	V
322.600000	10.2	13.4	35.8	46.0	V
599.250000	15.7	18.3	30.3	46.0	V

Date: 17/01/2011 - Time: 22:27:27

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.1 – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

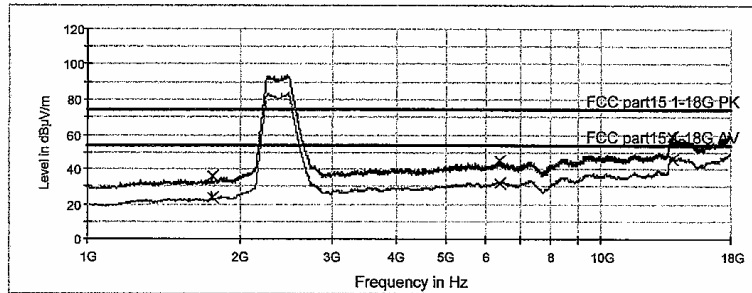
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906




Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1765.000000	35.9	-12.8	38.1	74.0	H
6370.000000	44.9	-2.2	29.1	74.0	H
13820.000000	59.0	9.3	15.0	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1765.000000	23.9	-12.8	30.1	54.0	H
6370.000000	32.0	-2.2	22.0	54.0	H
13820.000000	46.1	9.3	7.9	54.0	H

Date: 18/01/2011 - Time: 20:03:43

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.1 – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

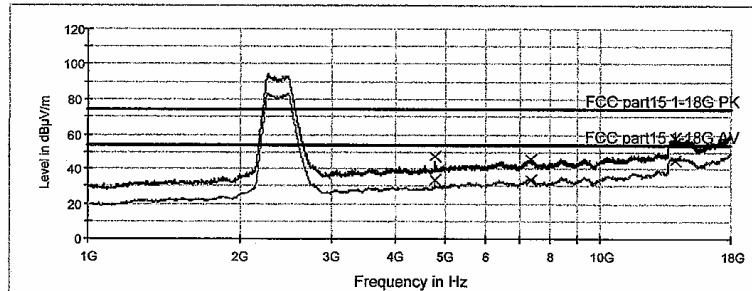
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 162072361 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Corr (dB)	Margin (dB)	Limit (dBuV/m)	Polarization
4804.000000	46.9	-5.5	27.1	74.0	V
7367.000000	46.1	0.5	27.9	74.0	V
14054.000000	57.9	8.9	16.1	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Corr (dB)	Margin (dB)	Limit (dBuV/m)	Polarization
4804.000000	33.2	-5.5	20.8	54.0	V
7367.000000	33.3	0.5	20.7	54.0	V
14054.000000	44.5	8.9	9.5	54.0	V

Date: 18/01/2011 - Time: 20:11:32

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.1 – Horizontal (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

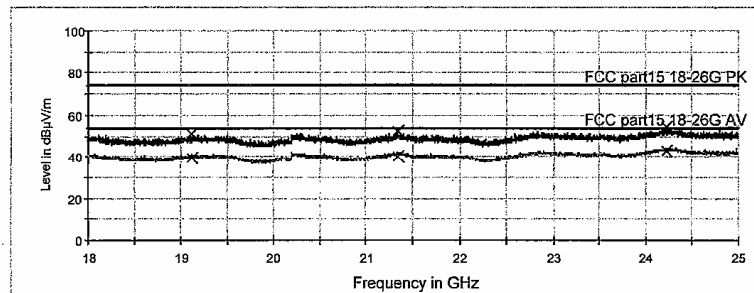
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19125.000000	51.2	5.2	22.8	74.0	H
21352.000000	52.3	5.9	21.7	74.0	H
24230.000000	54.6	6.9	19.4	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19125.000000	39.2	5.2	14.8	54.0	H
21352.000000	40.4	5.9	13.6	54.0	H
24230.000000	42.7	6.9	11.3	54.0	H

Date: 18/01/2011 - Time: 21:52:02

Tested by: _____

Reviewed by: _____



Test Plot of Spurious emission of A.1 – Vertical (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

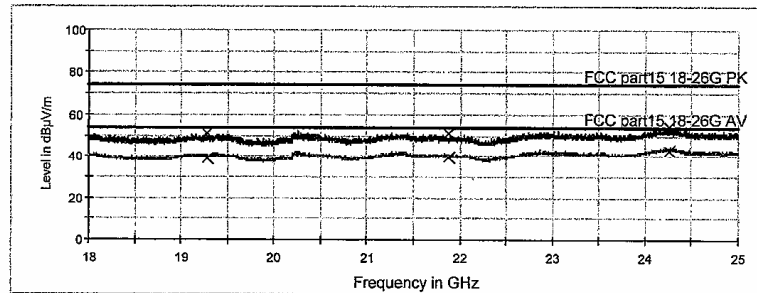
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMS
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Low channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19285.000000	50.8	5.3	23.2	74.0	V
21882.000000	51.3	6.0	22.7	74.0	V
24269.000000	54.7	6.9	19.3	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19285.000000	39.1	5.3	14.9	54.0	V
21882.000000	39.1	6.0	14.9	54.0	V
24269.000000	42.8	6.9	11.2	54.0	V

Date: 18/01/2011 - Time: 21:56:41

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.2 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

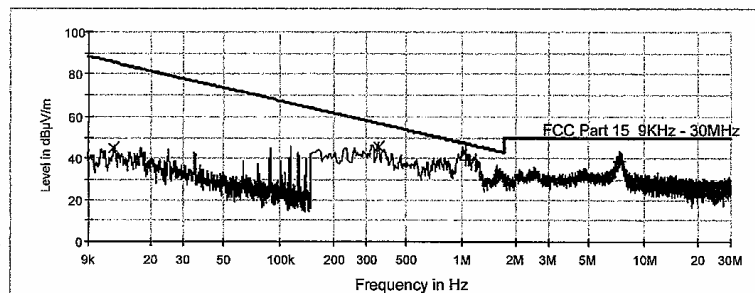
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal



Subrange 1
 Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A
 Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
7.390000	39.6	---	21.8	H
1.058000	40.4	---	20.1	H
0.012520	---	43.8	20.0	H
0.354000	---	46.1	20.6	H

Date: 18/01/2011 - Time: 23:36:44

Tested by:  Reviewed by: 

Test Plot of Spurious emission of A.2 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

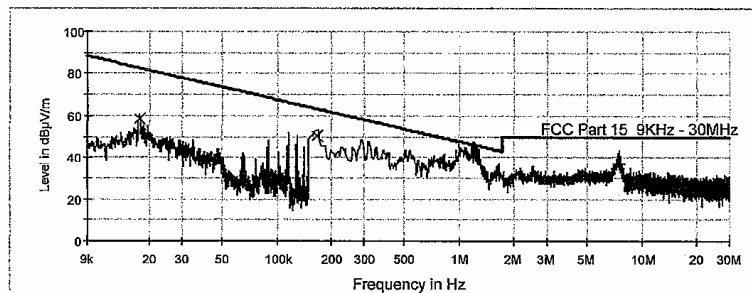
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Distance is 3m, Vertical

Subrange 1
 Frequency Range: 9KHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A


Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr: (dB)	Polarization
7.514000	37.4	---	21.3	V
1.210000	40.1	---	20.2	V
0.017560	---	59.3	20.8	V
0.166000	---	51.6	20.4	V

Date: 18/01/2011 - Time: 23:41:50

Tested by:  Reviewed by: _____



Test Plot of Spurious emission of A.2 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

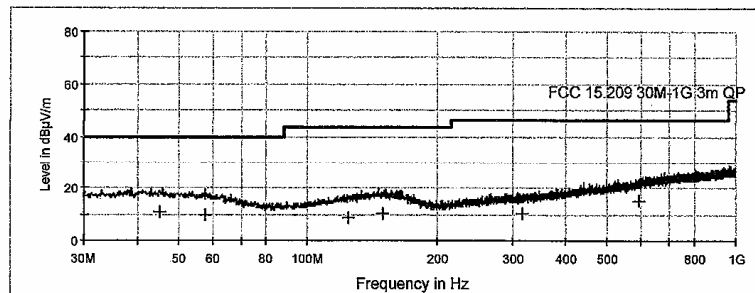
EMC Test Record (Emission)

Common Information

Manufacturer:	Primax
Test Item:	Wireless mouse
Identification:	DX-NPWLMSE
Test Standard:	FCC Part 15.209
Test Detail:	RE
Operation Mode:	Tx @ Mid channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq:	DC1.5V
Receipt No:	163072661 100
Report No:	17019069 001
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency Range:	30M-1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168



FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
45.300000	10.6	13.7	29.4	40.0	H
57.900000	9.6	12.9	30.4	40.0	H
124.450000	8.9	12.5	34.6	43.5	H
149.450000	10.5	14.2	33.0	43.5	H
317.250000	10.1	13.2	35.9	46.0	H
596.000000	15.4	18.2	30.6	46.0	H

Date: 17/01/2011 - Time: 22:39:58

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.2 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

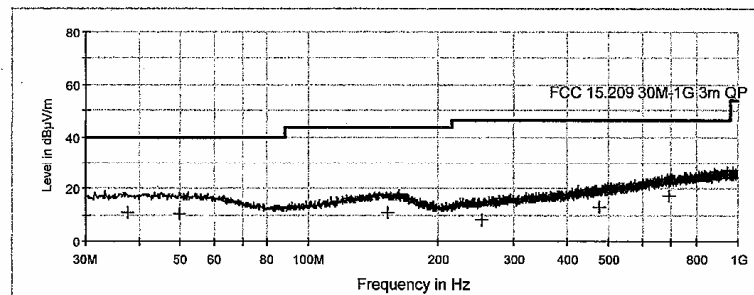
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
37.650000	10.9	13.8	29.1	40.0	V
50.000000	10.4	13.5	29.6	40.0	V
152.850000	11.1	14.2	32.4	43.5	V
254.900000	7.9	11.7	38.1	46.0	V
475.350000	13.2	16.2	32.8	46.0	V
690.200000	17.6	19.5	28.4	46.0	V

Date: 17/01/2011 - Time: 22:33:15

Tested by:

Reviewed by:



Test Plot of Spurious emission of A.2 –Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

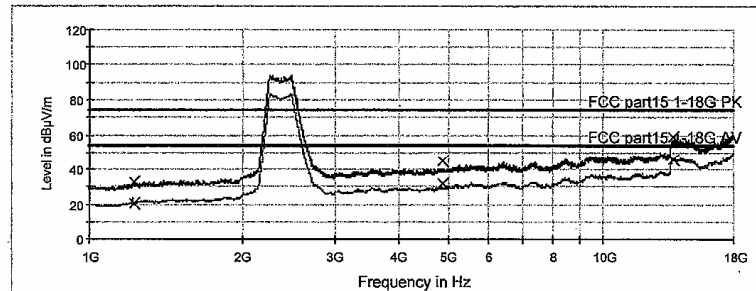
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1225.000000	32.6	-15.6	41.4	74.0	H
4882.000000	45.2	-5.6	28.8	74.0	H
13788.000000	58.5	8.9	15.5	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1225.000000	20.1	-15.6	33.9	54.0	H
4882.000000	31.5	-5.6	22.5	54.0	H
13788.000000	45.5	8.9	8.5	54.0	H

Date: 18/01/2011 - Time: 20:30:25

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.2 –Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

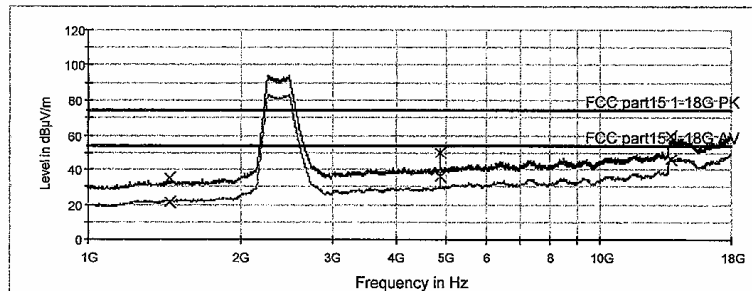
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072681 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906




Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)	Polarization
1451.000000	34.7	-14.6	39.3	74.0	V
4882.000000	50.2	-5.6	23.8	74.0	V
13795.000000	59.3	9.0	14.7	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Corr. (dB)	Margin (dB)	Limit (dBuV/m)	Polarization
1451.000000	21.5	-14.6	32.5	54.0	V
4882.000000	35.8	-5.6	18.2	54.0	V
13795.000000	45.7	9.0	8.3	54.0	V

Date: 18/01/2011 - Time: 20:21:17

Tested by: 

Reviewed by: 



Test Plot of Spurious emission of A.2 – Horizontal (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

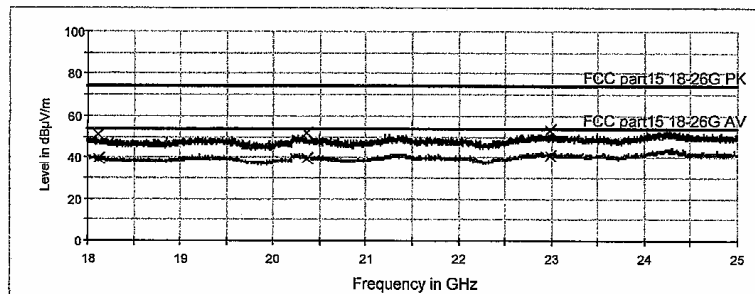
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09





Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
18126.000000	51.1	4.8	22.9	74.0	H
20366.000000	51.5	5.6	22.5	74.0	H
22989.000000	52.8	6.5	21.2	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
18126.000000	39.2	4.8	14.8	54.0	H
20366.000000	39.5	5.6	14.5	54.0	H
22989.000000	40.9	6.5	13.1	54.0	H

Date: 18/01/2011 - Time: 22:02:51

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.2 – Vertical (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

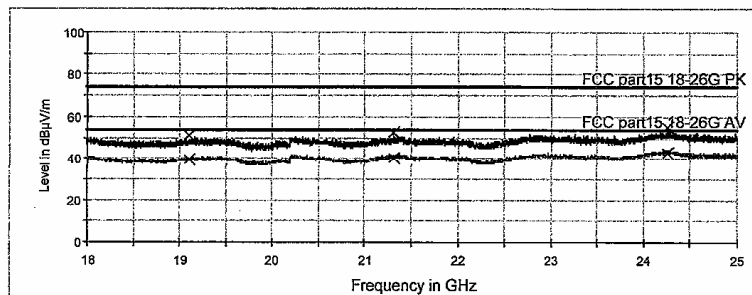
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ Mid channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical.

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09




Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19103.000000	51.0	5.2	23.0	74.0	V
21320.000000	52.6	5.9	21.4	74.0	V
24263.000000	55.0	6.9	19.0	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19103.000000	39.2	5.2	14.8	54.0	V
21320.000000	40.3	5.9	13.7	54.0	V
24263.000000	42.7	6.9	11.3	54.0	V

Date: 18/01/2011 - Time: 22:00:32

Tested by:  11.18

Reviewed by: 



Test Plot of Spurious emission of A.3 – Horizontal (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

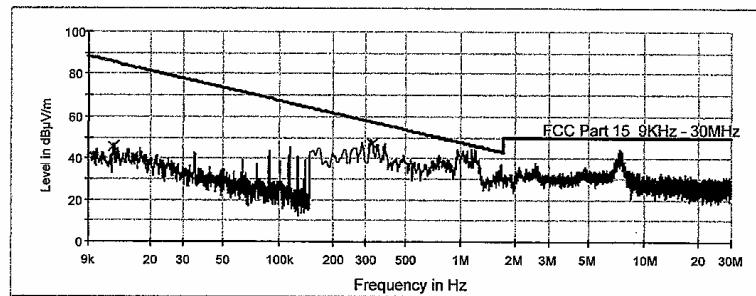
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr. (dB)	Polarization
7.342000	32.6	---	20.9	H
1.166000	35.8	---	19.8	H
0.012520	---	42.7	19.2	H
0.326000	---	47.6	19.0	H

Date: 18/01/2011 - Time: 23:16:30

Tested by: 

Reviewed 



Test Plot of Spurious emission of A.3 – Vertical (9kHz – 30MHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

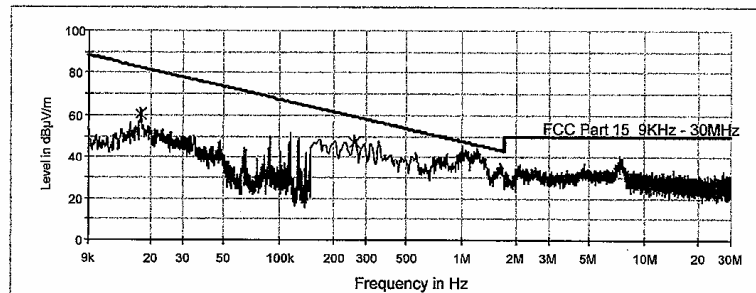
EMC Test Record (EMISSION)

Test Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 9kHz - 30MHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC Active Loop Antenna ZN30900A / TUV ESCI3 -TUV SAC Active Loop Antenna ZN30900A

Pre TUV 9K to 30M HFH2-Z2



Result Table Single

Frequency (MHz)	QuasiPeak (dBµV/m)	Average (dBµV/m)	Corr (dB)	Polarization
7.350000	33.4	---	20.9	V
1.014000	42.6	---	20.4	V
0.262000	---	47.2	19.8	V
0.017560	---	61.5	19.4	V

Date: 18/01/2011 - Time: 23:20:14

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.3 – Horizontal (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

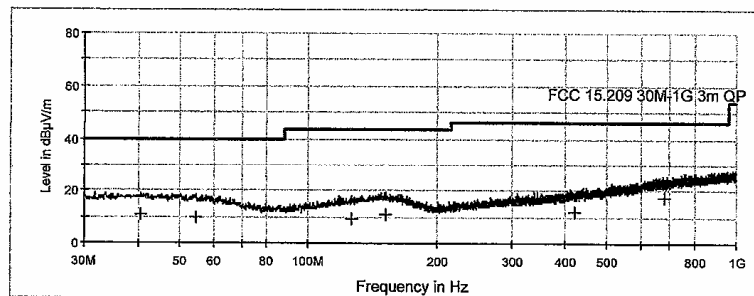
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
40.800000	10.6	14.0	29.4	40.0	H
54.850000	9.9	13.2	30.1	40.0	H
126.750000	9.0	12.6	34.5	43.5	H
151.600000	10.9	14.2	32.6	43.5	H
421.150000	11.9	15.3	34.1	46.0	H
684.150000	17.5	19.5	28.5	46.0	H

Date: 17/01/2011 - Time: 22:44:36

Tested by: _____ Reviewed by: _____



Test Plot of Spurious emission of A.3 – Vertical (30MHz – 1GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

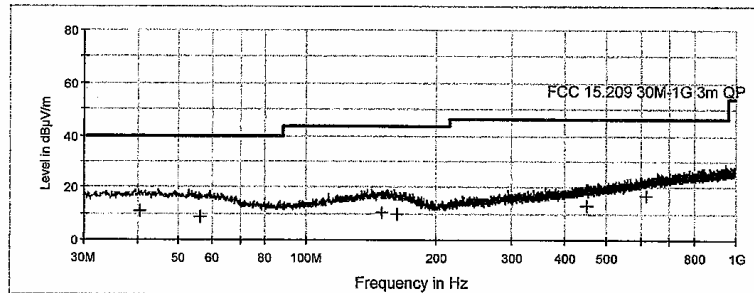
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWLMSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 30M-1GHz
 Receiver: TUV ESCI 3
 Transducer: TUV SAC UVLB 9168/ TUV ESCI 3-TUV SAC UVLB 9168

FCC 15.209 30M-1G sweep



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
40.900000	10.8	14.0	29.2	40.0	V
56.550000	9.0	13.0	31.0	40.0	V
149.650000	10.6	14.2	32.9	43.5	V
163.150000	10.0	13.8	33.5	43.5	V
451.100000	12.9	16.0	33.1	46.0	V
617.700000	16.6	18.7	29.4	46.0	V

Date: 17/01/2011 - Time: 22:48:38

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.3 – Horizontal (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

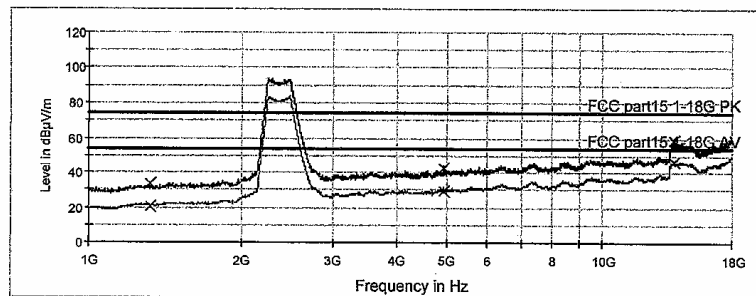
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906





Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1325.000000	33.5	-15.2	40.5	74.0	H
4957.000000	42.4	-5.8	31.6	74.0	H
13850.000000	58.9	9.6	15.1	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1325.000000	20.6	-15.2	33.4	54.0	H
4957.000000	29.7	-5.8	24.3	54.0	H
13850.000000	46.2	9.6	7.8	54.0	H

Date: 18/01/2011 - Time: 20:56:49

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.3 – Vertical (1GHz – 18GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

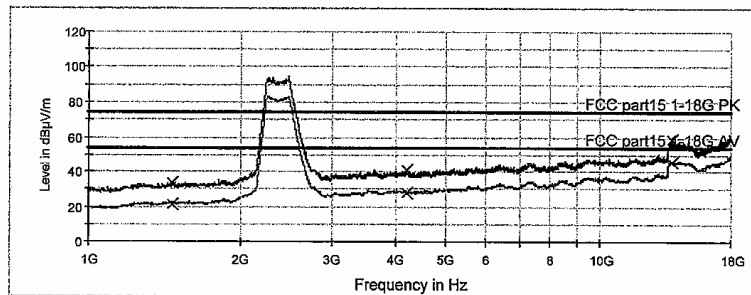
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 1GHz-18GHz
 Receiver: TUV FSP30
 Transducer: TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906





Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1472.000000	33.9	-14.7	40.1	74.0	V
4222.000000	41.0	-6.4	33.0	74.0	V
13807.000000	58.6	9.2	15.4	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
1472.000000	21.3	-14.7	32.7	54.0	V
4222.000000	28.0	-6.4	26.0	54.0	V
13807.000000	45.9	9.2	8.1	54.0	V

Date: 18/01/2011 - Time: 21:02:07

Tested by:  Reviewed by: 



Test Plot of Spurious emission of A.3 – Horizontal (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

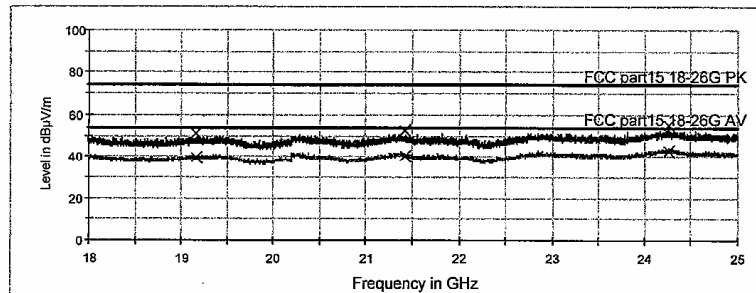
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Horizontal

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	Max Peak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19168.000000	51.3	5.2	22.7	74.0	H
21419.000000	52.2	5.9	21.8	74.0	H
24262.000000	55.2	6.9	18.8	74.0	H

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19168.000000	39.2	5.2	14.8	54.0	H
21419.000000	40.0	5.9	14.0	54.0	H
24262.000000	42.8	6.9	11.2	54.0	H

Date: 18/01/2011 - Time: 22:06:41

Tested by:



Reviewed by:



Test Plot of Spurious emission of A.3 – Vertical (18GHz – 25GHz)

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

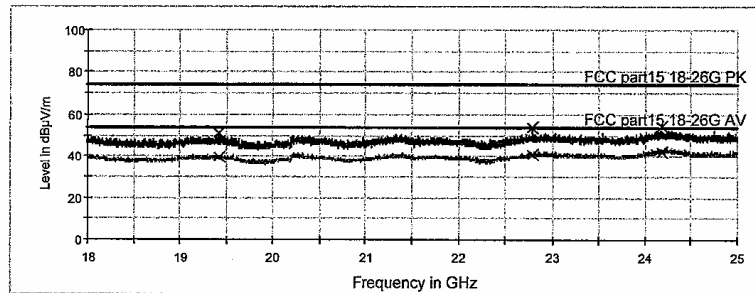
EMC Test Record (Emission)

Common Information

Manufacturer: Primax
 Test Item: Wireless mouse
 Identification: DX-NPWL MSE
 Test Standard: FCC Part 15.209
 Test Detail: RE
 Operation Mode: Tx @ High channel
 Climate Condition: 23 °C; 50 %RH; 101 kPa.
 Test Voltage/ Freq: DC1.5V
 Receipt No: 163072661 100
 Report No: 17019069 001
 Result: Pass
 Comment: Test distance is 3m, Vertical

Subrange 1
 Frequency Range: 18GHz-25GHz
 Receiver: TUV 3160-09
 Transducer: TUV SAC 3160-09/ TUV FSP30-TUV SAC 3160-09

Pre TUV 18 to 26.5 3160-09



Limit and Margin PK

Frequency (MHz)	MaxPeak (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19428.000000	51.1	5.4	22.9	74.0	V
22792.000000	53.5	6.4	20.5	74.0	V
24183.000000	54.5	6.9	19.5	74.0	V

Limit and Margin AV

Frequency (MHz)	Average (dBµV/m)	Corr (dB)	Margin (dB)	Limit (dBµV/m)	Polarization
19428.000000	39.2	5.4	14.8	54.0	V
22792.000000	40.6	6.4	13.4	54.0	V
24183.000000	42.4	6.9	11.6	54.0	V

Date: 18/01/2011 - Time: 22:08:44

Tested by:  Reviewed by: 



Test Plot of Radiated emissions in restricted bands, Mode A.1, Horizontal

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

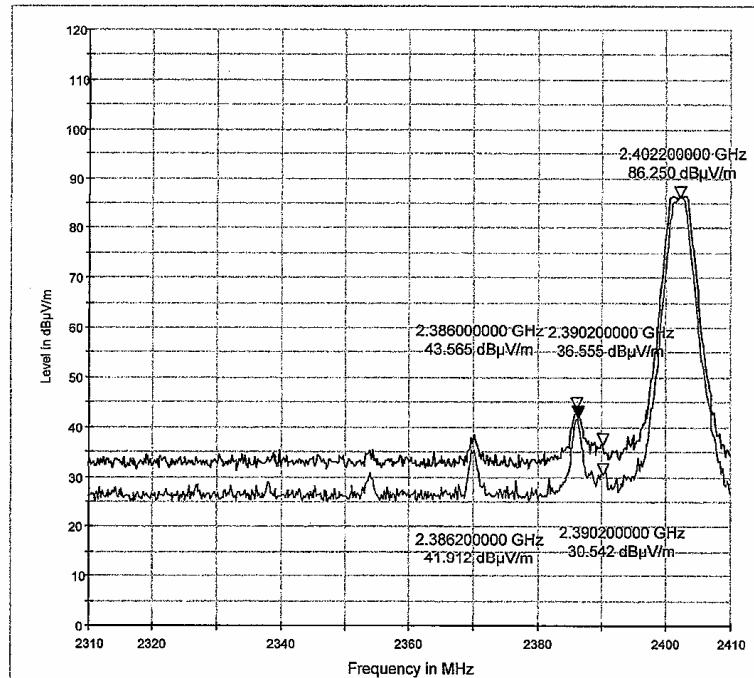
EMC Test Record (Emission)

Common Information

Manufacturer:	Primax
Test Item:	Wireless mouse
Identification:	DX-NPWL MSE
Test Standard:	FCC Part 15.209
Test Detail:	Band edge
Operation Mode:	Tx @ Low channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq:	DC1.5V
Receipt No:	163072661 100
Report No:	17019069 001
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency Range:	2GHz-3GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 18/01/2011 - Time: 21:46:15

Tested by:

Reviewed by:



Test Plot of Radiated emissions in restricted bands, Mode A.1, Vertical

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

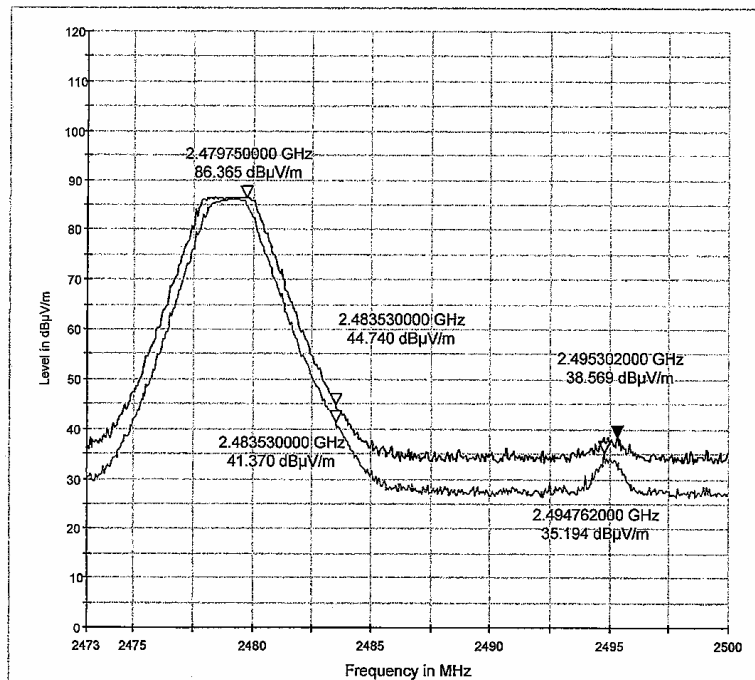
EMC Test Record (Emission)

Common Information



Manufacturer:	Primax
Test Item:	Wireless mouse
Identification:	DX-NPWL MSE
Test Standard:	FCC Part 15.209
Test Detail:	Band edge
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq:	DC1.5V
Receipt No:	163072661 100
Report No:	17019069 001
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	
Frequency Range:	2GHz-3GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 18/01/2011 - Time: 21:38:59

Tested by:  Reviewed by: 



Test Plot of Radiated emissions in restricted bands, Mode A.3, Horizontal

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

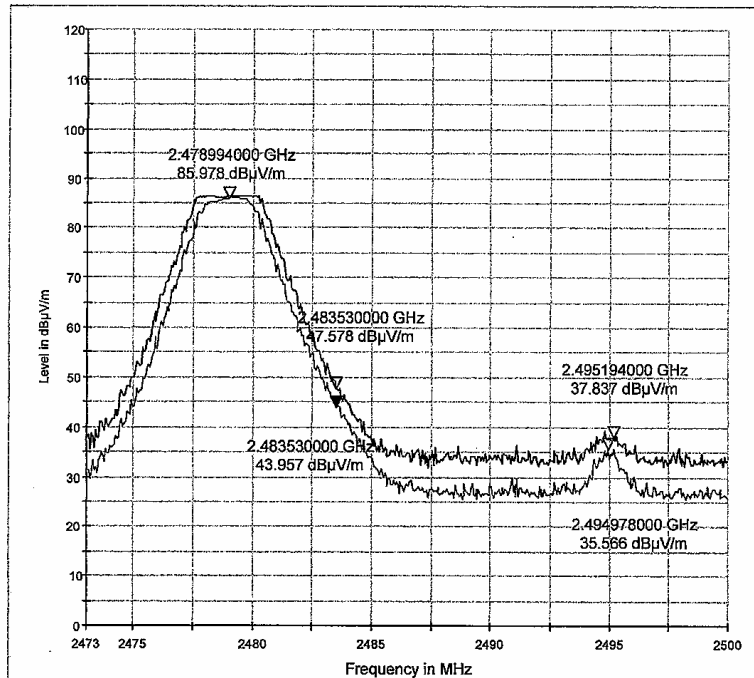
EMC Test Record (Emission)

Common Information



Manufacturer:	Primax
Test Item:	Wireless mouse
Identification:	DX-NPWL MSE
Test Standard:	FCC Part 15.209
Test Detail:	Band edge
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq:	DC1.5V
Receipt No:	163072661 100
Report No:	17019069 001
Result:	Pass
Comment:	Test distance is 3m, Horizontal

Subrange 1	
Frequency Range:	2GHz-3GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 18/01/2011 - Time: 21:34:46

Tested by:  Reviewed by: 



Test Plot of Radiated emissions in restricted bands, Mode A.3, Vertical

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

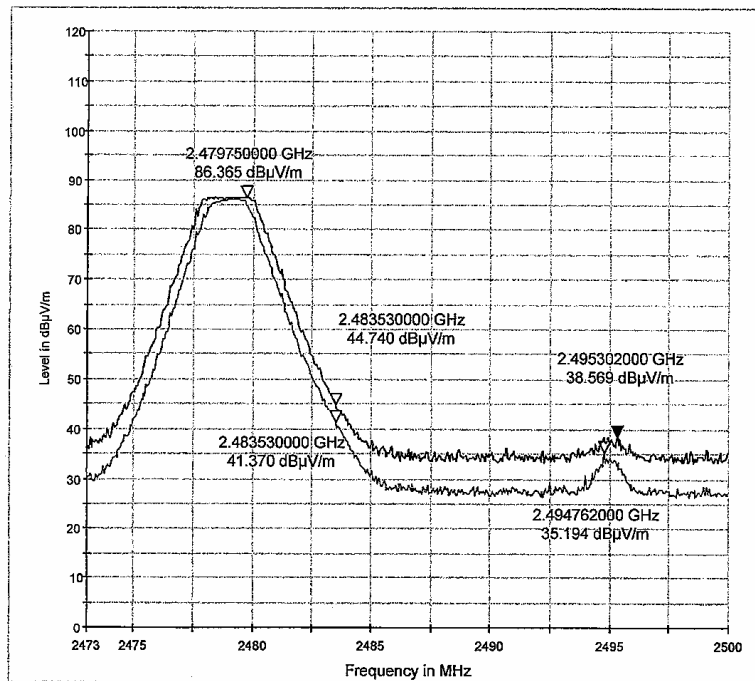
EMC Test Record (Emission)

Common Information

Manufacturer:	Primax
Test Item:	Wireless mouse
Identification:	DX-NPWL MSE
Test Standard:	FCC Part 15.209
Test Detail:	Band edge
Operation Mode:	Tx @ High channel
Climate Condition:	23 °C; 50 %RH; 101 kPa.
Test Voltage/ Freq:	DC1.5V
Receipt No:	163072661 100
Report No:	17019069 001
Result:	Pass
Comment:	Test distance is 3m, Vertical

Subrange 1	
Frequency Range:	2GHz-3GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF906/ TUV FSP30-TUV SAC HF906

Pre TUV 1 to 18G HF906



Date: 18/01/2011 - Time: 21:38:59

Tested by: _____ Reviewed by: _____

