



Radio Test Report

FCC ID: H4IMS8862

This report concerns (check one) : ☒ Original Grant ☐ Class II Change

Issued Date : Feb. 26, 2013
Project No. : 1302026
Equipment : Lenovo SmartTouch Wireless Mouse
Model Name : Lenovo N800

Applicant : LITE-ON TECHNOLOGY CORP.
Address : 18F, 392, Ruey Kuang Road, NeiHu,
Taipei 11492, Taiwan, R.O.C

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Feb. 05, 2013
Date of Test: Feb. 05, 2013 ~ Feb. 25, 2013

Testing Engineer: Josh Lin
(Josh Lin)

Technical Manager: Jeff Yang
(Jeff Yang)

Authorized Signatory: Andy Chiu
(Andy Chiu)

Neutron Engineering Inc.
B1, No. 37, Lane 365, YangGuang St.,
NeiHu District 114, Taipei, Taiwan.
TEL: +886-2-2657-3299
FAX: +886-2-2657-3331





Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

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REPORT ISSUED HISTORY

Revised Version No.	Description	Issued Date
-	Initial Issue.	Feb. 26, 2013



1 CERTIFICATION

Equipment : Lenovo SmartTouch Wireless Mouse
Brand Name : Lenovo
Model Name : Lenovo N800
Applicant : LITE-ON TECHNOLOGY CORP.
Date of Test : Feb. 05, 2013 ~ Feb. 25, 2013
Standards : FCC Part 15, Subpart C: 2012
ANSI C63.4: 2009

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1302026) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).



2. SUMMARY OF TEST RESULTS

FCC Part 15, Subpart C: 2012		
Standard Clause	Test Item	Result
15.207	Conducted Emission	N/A
15.249(d) or 15.209	Radiated Spurious Emission	PASS
15.205	Restricted Bands	PASS

NOTE:

- (1) N/A: denotes test is not applicable in this Test Report
- (2) Portable device; SAR report is required.



2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Radiated emission Test (Below 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Above 1 GHz):

CB08: (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC rules and for reference only.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95%**.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Radiated emission test:

Test Site	Item	Measurement Frequency Range	Uncertainty	NOTE
CB08	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB
			200 - 1000MHz	3.11 dB
			1 - 18GHz	3.97 dB
			18 - 40GHz	4.01 dB
		Vertical Polarization	30 - 200MHz	3.22 dB
			200 - 1000MHz	3.24 dB
			1 - 18GHz	4.05 dB
			18 - 40GHz	4.04 dB

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR} , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) –
30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR} .

If U_{lab} is less than or equal to U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{CISPR} , then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{CISPR})$, exceeds the disturbance limit.



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Lenovo SmartTouch Wireless Mouse	
Brand Name	Lenovo	
Model Name	Lenovo N800	
OEM Brand/Model Name	N/A	
Model Difference	N/A	
Product Description	The EUT is a Lenovo SmartTouch Wireless Mouse.	
	Operation Frequency	2402 MHz ~2479 MHz
	Modulation Type	GFSK
	Bit Rate of Transmitter	2 Mbps
	Number Of Channel	Please refer to the Note 2.
	Antenna Designation	Please refer to the Note 3.
	Antenna Gain(Peak)	Please refer to the Note 3.
	Field strength	85.09 dBuV@3m
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Power Source	Battery supplied.	
Power Rating	I/P: DC 3V	
Connecting I/O Port(s)	Please refer to the User's Manual	
Products Covered	N/A	
EUT Modification(s)	N/A	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	27	2428	53	2454
02	2403	28	2429	54	2455
03	2404	29	2430	55	2456
04	2405	30	2431	56	2457
05	2406	31	2432	57	2458
06	2407	32	2433	58	2459
07	2408	33	2434	59	2460
08	2409	34	2435	60	2461
09	2410	35	2436	61	2462
10	2411	36	2437	62	2463
11	2412	37	2438	63	2464
12	2413	38	2439	64	2465
13	2414	39	2440	65	2466
14	2415	40	2441	66	2467
15	2416	41	2442	67	2468
16	2417	42	2443	68	2469
17	2418	43	2444	69	2470
18	2419	44	2445	70	2471
19	2420	45	2446	71	2472
20	2421	46	2447	72	2473
21	2422	47	2448	73	2474
22	2423	48	2449	74	2475
23	2424	49	2450	75	2476
24	2425	50	2451	76	2477
25	2426	51	2452	77	2478
26	2427	52	2453	78	2479

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	PIFA	N/A	0.03



3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Items	Mode	Data Rate	Channel	Note
Radiated Spurious Emission (30 MHz to 1 GHz)	GFSK	2 Mbps	2441 MHz	
Radiated Spurious Emission (above 1 GHz)	GFSK	2 Mbps	2402 MHz / 2441 MHz / 2479 MHz	
Restricted Bands	GFSK	2 Mbps	2402 MHz / 2441 MHz / 2479 MHz	

NOTE: The measurements are performed at the highest, middle, lowest available channels.



3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED





3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Lenovo SmartTouch Wireless Mouse	Lenovo	Lenovo N800	H4IMS8862	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
N/A	-	-	-	-

NOTE: The support equipment was authorized by Declaration of Conformity (DOC).



4 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

4.1 LIMIT

20 dB in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

1. The limit for radiated test was performed according to FCC PART 15B.
2. The tighter limit applies at the band edges.
3. Emission level (dBuV/m)=20log Emission level (uV/m).
4. The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain (if use)
 Margin Level = Measurement Value – Limit Value

FCC Part15, Subpart C (15.249)	
Limit	Frequency Range (MHz)
Field strength of fundamental 50000 μ V/m (94 dB μ V/m) @ 3 m	2400-2483.5
Field strength of harmonics 500 μ V/m (54 dB μ V/m) @ 3 m	Above 2483.5



4.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 16, 2013
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 17, 2013
4	Microflex Cable	N/A	N/A	1m	Apr. 14, 2013
5	Microflex Cable	AISI	S104-SMAP-1	10m	Apr. 14, 2013
6	Microflex Cable	N/A	N/A	3m	Apr. 14, 2013
7	Test Cable	N/A	LMR-400	966_12m	May. 15, 2013
8	Test Cable	N/A	LMR-400	966_3m	May. 15, 2013
9	Pre-Amplifier	EMC	EMC-330	980001	May. 31, 2013
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 12, 2013

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

4.3 MEASURING INSTRUMENTS SETTING

EMI Test Receiver	Parameter Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



Dwell time = ON/ON+OFF

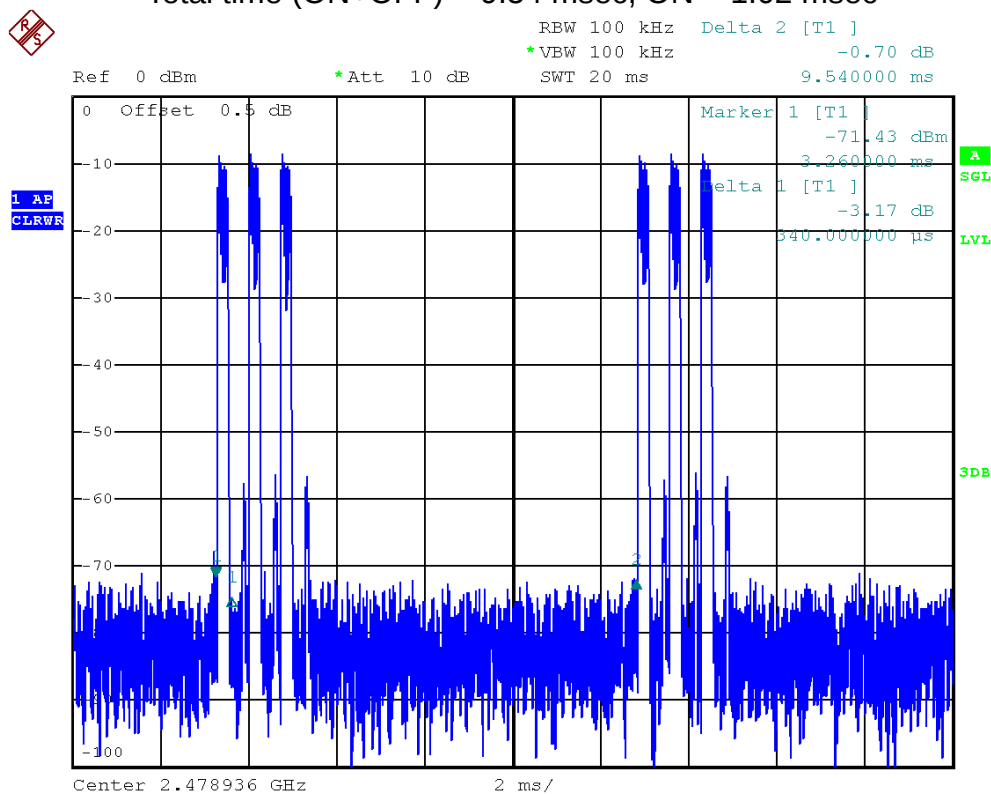
ON: $0.340 \text{ msec} * 3 = 1.02 \text{ msec}$

ON+OFF (total time): 9.54 msec

Dwell time: 10.69%

$$AV = PK + 20 \log(\text{Dwell time})$$
$$AV = PK - 19.42$$

Total time (ON+OFF) = 9.54 msec; ON = 1.02 msec





4.4 TEST PROCEDURES

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.
- The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

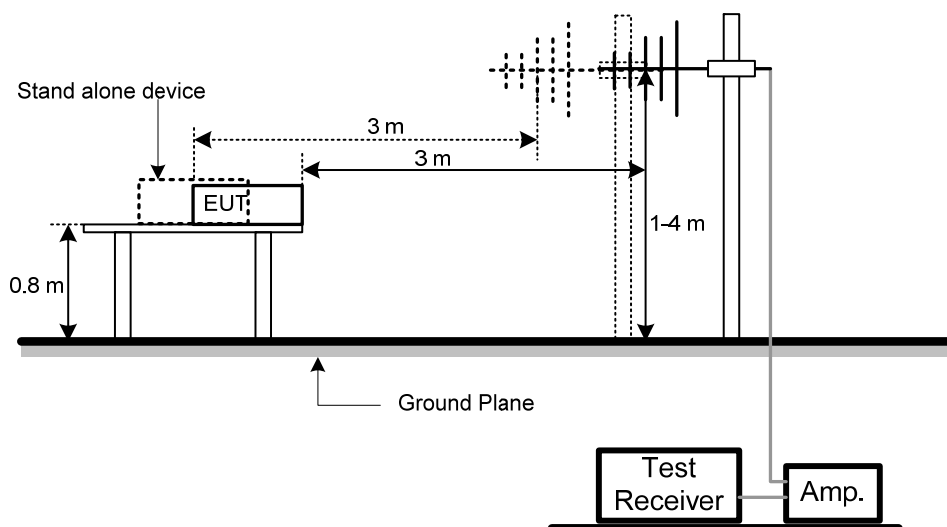
NOTE:

- Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=100 kHz, VBW =100 kHz, Swp. Time = 0.3 sec./ MHz.
- All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

4.5 DEVIATION FROM TEST STANDARD

No deviation

4.6 TEST SETUP LAYOUT





4.7 EUT OPERATING CONDITIONS

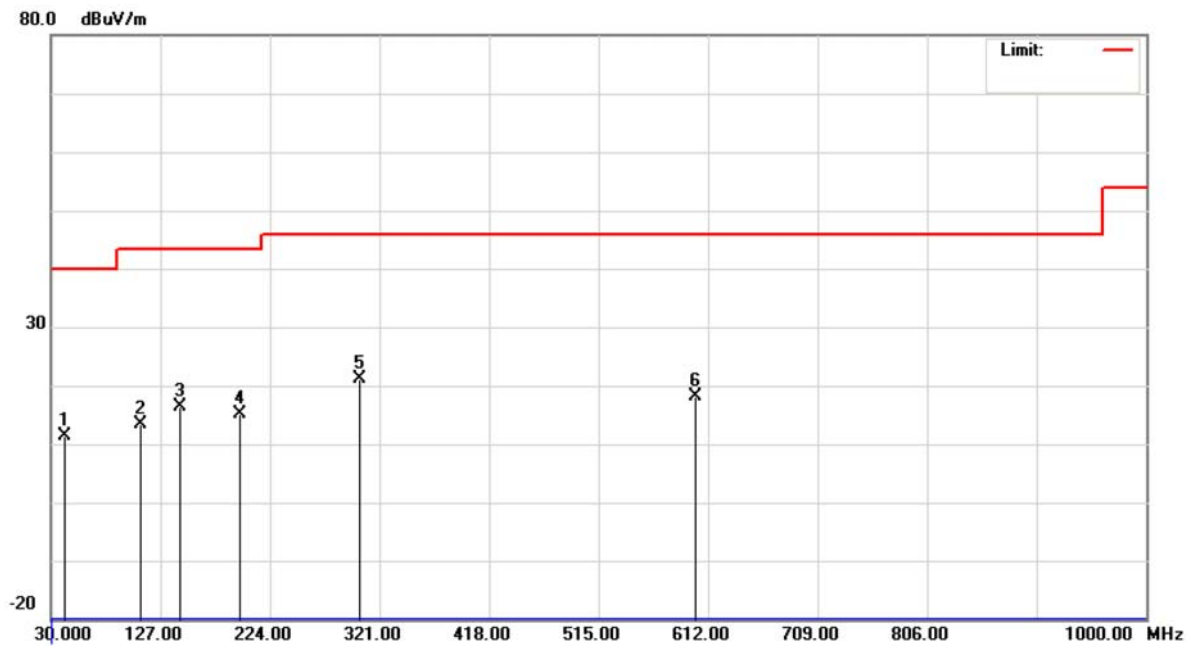
The EUT was programmed to be in continuously transmitting mode.



4.8 TEST RESULTS

E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Vertical

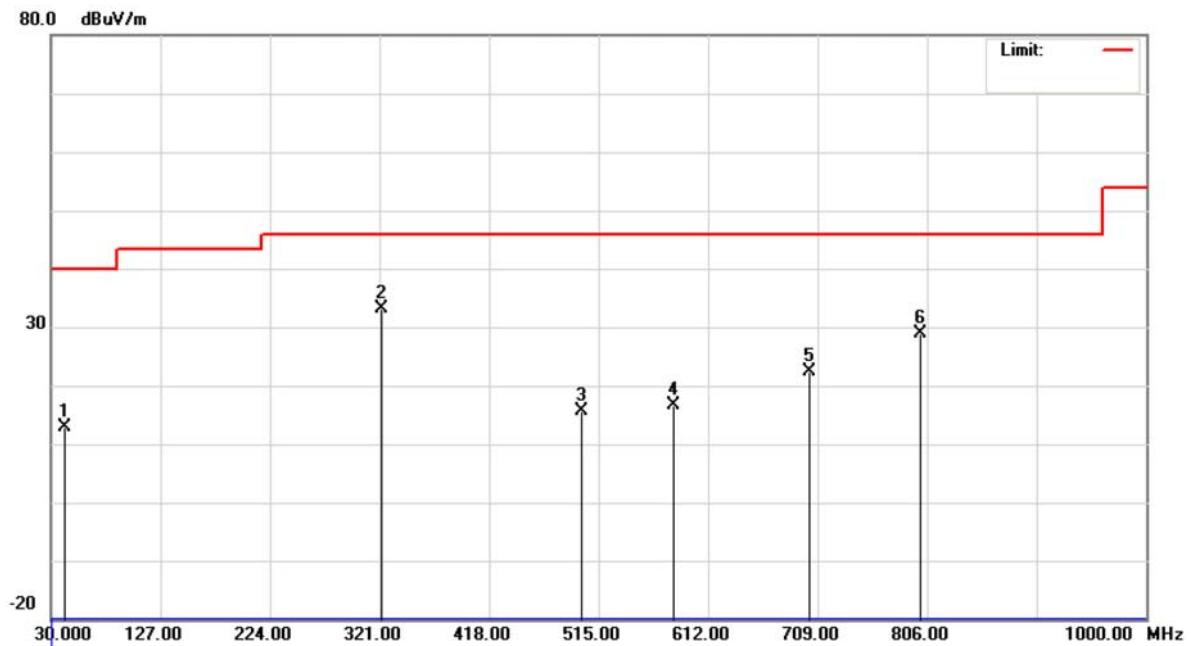


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		41.6399	29.94	-18.64	11.30	40.00	-28.70	peak	
2		109.5400	35.59	-22.30	13.29	43.50	-30.21	peak	
3		144.4600	35.06	-18.76	16.30	43.50	-27.20	peak	
4		196.8398	36.76	-21.72	15.04	43.50	-28.46	peak	
5	*	303.5400	38.98	-17.89	21.09	46.00	-24.91	peak	
6		600.3599	29.10	-10.87	18.23	46.00	-27.77	peak	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		41.6400	31.40	-18.64	12.76	40.00	-27.24	peak	
2	*	322.9400	50.76	-17.53	33.23	46.00	-12.77	peak	
3		499.4800	28.77	-13.26	15.51	46.00	-30.49	peak	
4		580.9600	28.20	-11.60	16.60	46.00	-29.40	peak	
5		701.2400	32.01	-9.61	22.40	46.00	-23.60	peak	
6		800.1800	36.89	-8.05	28.84	46.00	-17.16	peak	



5 RADIATED SPURIOUS EMISSION (ABOVE 1 GHz)

5.1 LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (micровolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

- (1) The limit for radiated test was performed according to FCC PART 15B.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)
 Margin Level = Measurement Value – Limit Value



5.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 16, 2013
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 17, 2013
4	Microflex Cable	N/A	N/A	1m	Apr. 14, 2013
5	Microflex Cable	AISI	S104-SMAP-1	10m	Apr. 14, 2013
6	Microflex Cable	N/A	N/A	3m	Apr. 14, 2013
7	Test Cable	N/A	LMR-400	966_12m	May. 15, 2013
8	Test Cable	N/A	LMR-400	966_3m	May. 15, 2013
9	Pre-Amplifier	EMC	EMC-330	980001	May. 31, 2013
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 12, 2013

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

5.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average

5.4 TEST PROCEDURES

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.
- The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

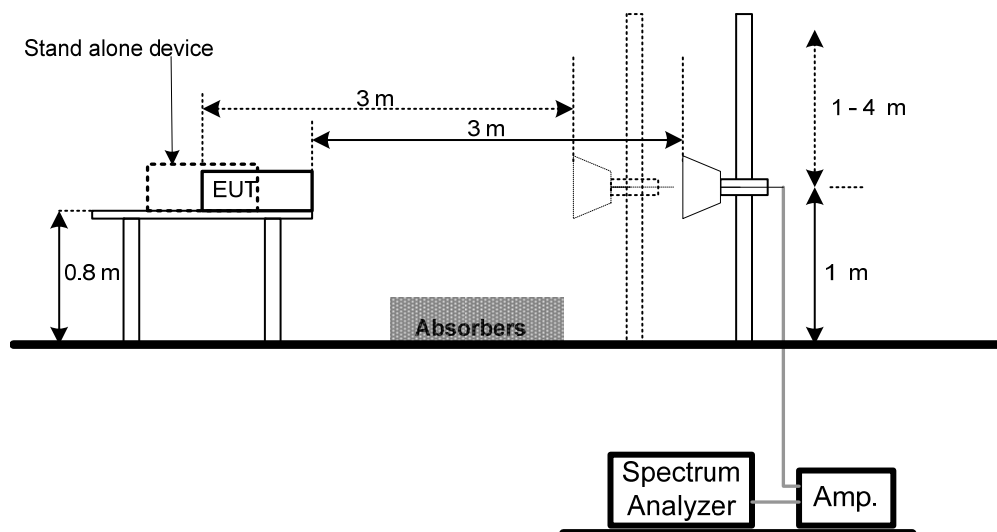
NOTE:

- Reading in which marked as Peak means measurements by using are Peak Mode with instrument setting in RBW= 1 MHz, VBW= 1 MHz, Swp. Time = Auto.
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW= 1 MHz, VBW= 10 Hz, Swp. Time = Auto.
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform.

5.5 DEVIATION FROM TEST STANDARD

No deviation

5.6 TEST SETUP LAYOUT





5.7 EUT OPERATING CONDITIONS

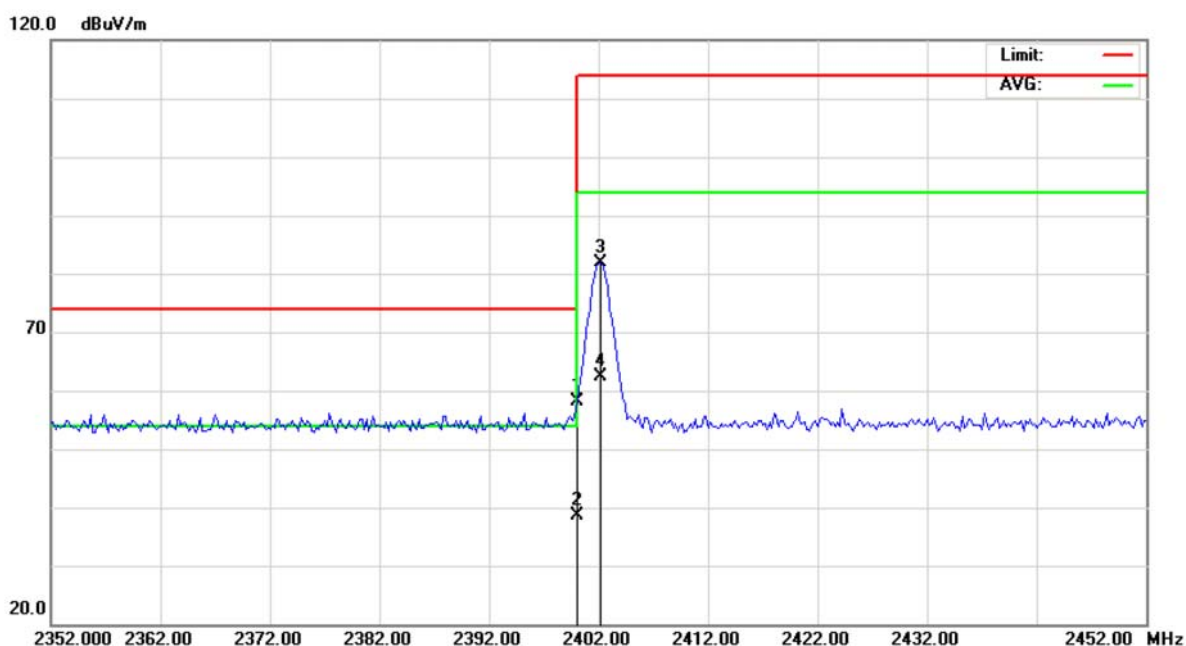
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.



5.8 TEST RESULTS

E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2402 MHz		

Polarization: Vertical

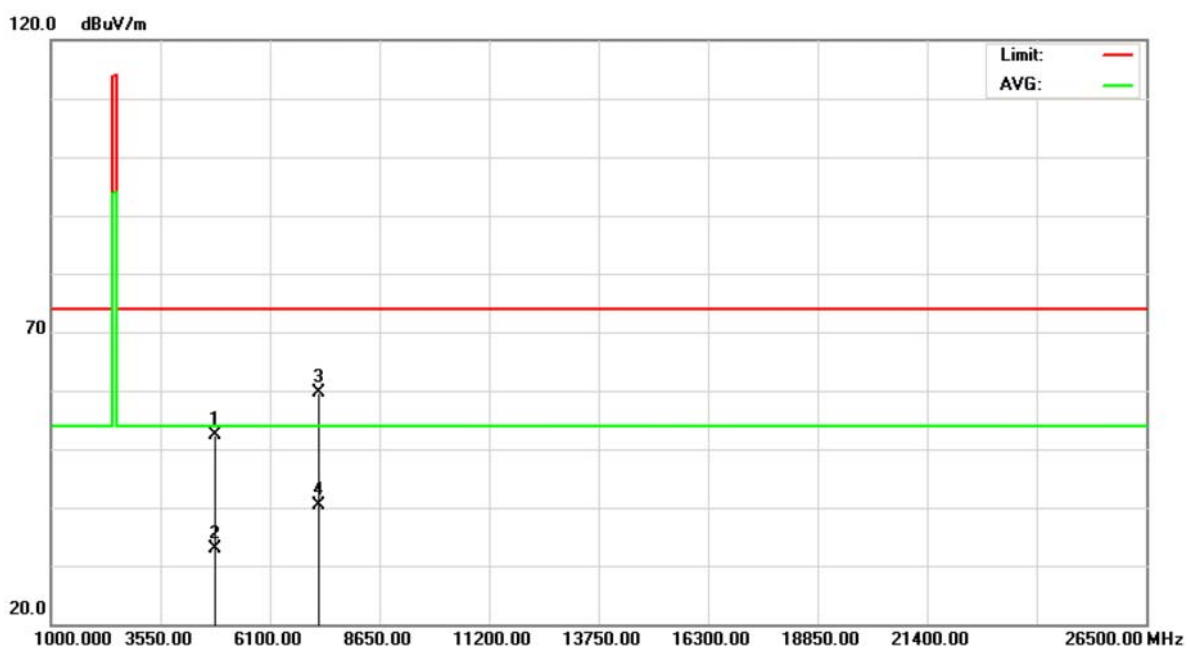


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2400.000	25.04	33.05	58.09	74.00	-15.91	peak	
2	*	2400.000	5.62	33.05	38.67	54.00	-15.33	AVG	
3		2402.200	48.84	33.06	81.90	114.0	-32.10	peak	
4		2402.200	29.42	33.06	62.48	94.00	-31.52	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2402 MHz		

Polarization: Vertical

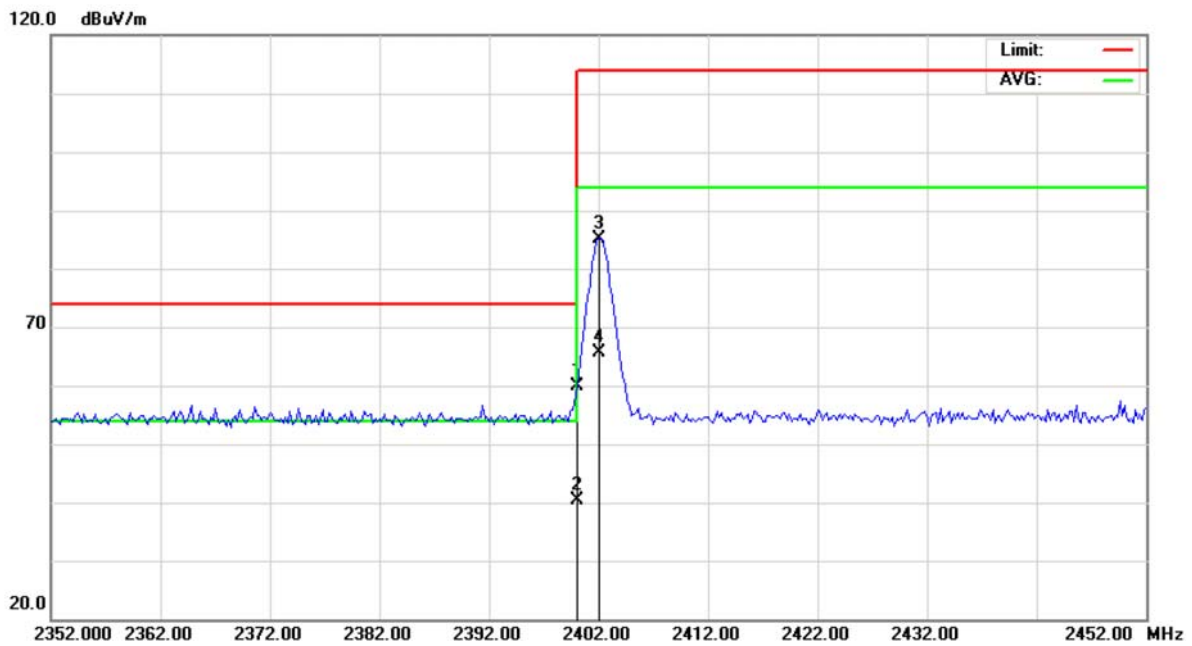


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4803.280	44.97	7.41	52.38	74.00	-21.62	peak	
2		4803.280	25.55	7.41	32.96	54.00	-21.04	AVG	
3		7203.740	44.90	14.78	59.68	74.00	-14.32	peak	
4	*	7203.740	25.48	14.78	40.26	54.00	-13.74	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2402 MHz		

Polarization: Horizontal

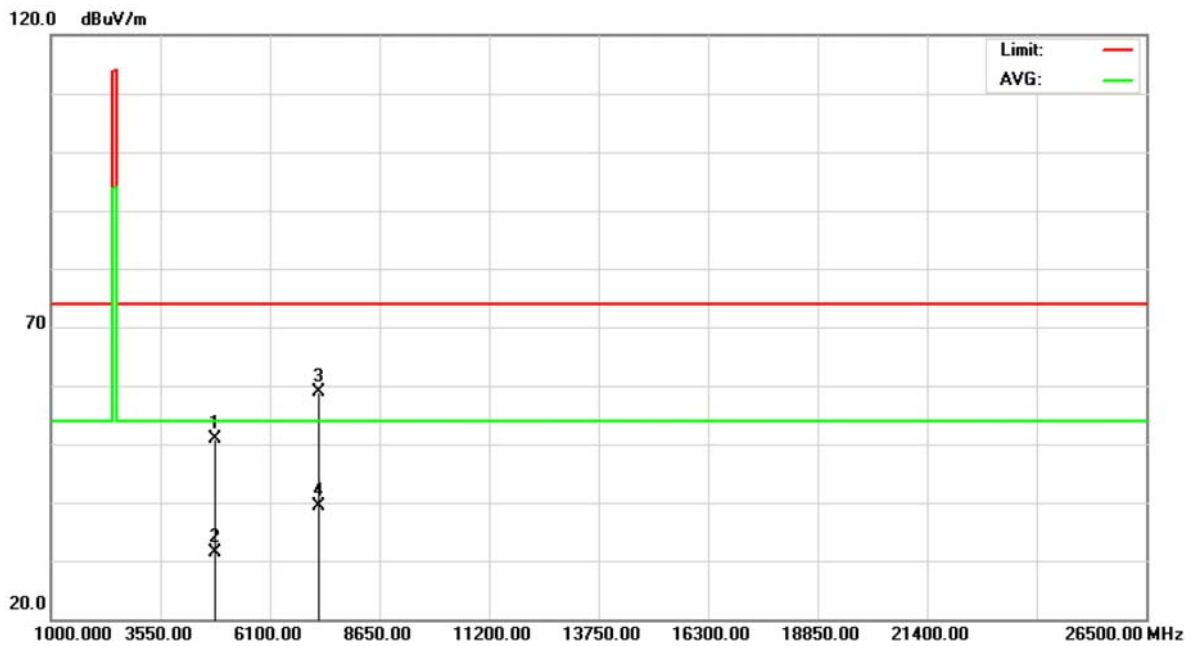


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2400.000	26.81	33.05	59.86	74.00	-14.14	peak	
2	*	2400.000	7.39	33.05	40.44	54.00	-13.56	AVG	
3		2402.000	52.03	33.06	85.09	114.0	-28.91	peak	
4		2402.000	32.61	33.06	65.67	94.00	-28.33	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2402 MHz		

Polarization: Horizontal

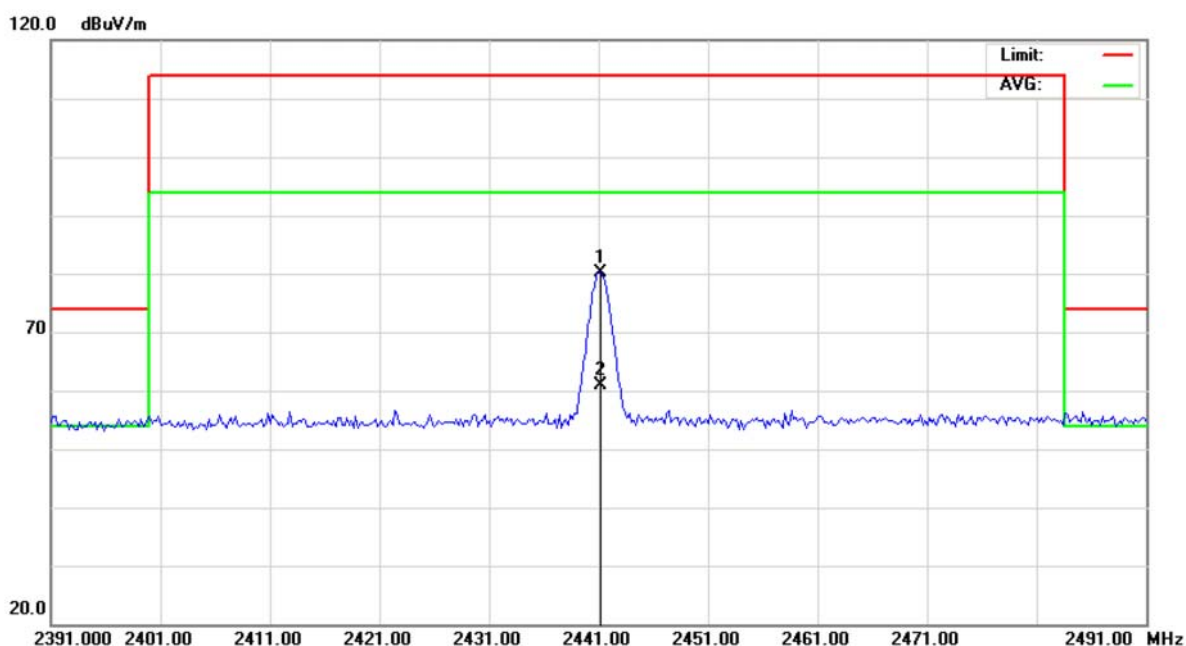


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4803.860	43.36	7.41	50.77	74.00	-23.23	peak	
2		4803.860	23.94	7.41	31.35	54.00	-22.65	AVG	
3		7206.040	44.00	14.79	58.79	74.00	-15.21	peak	
4	*	7206.040	24.58	14.79	39.37	54.00	-14.63	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Vertical

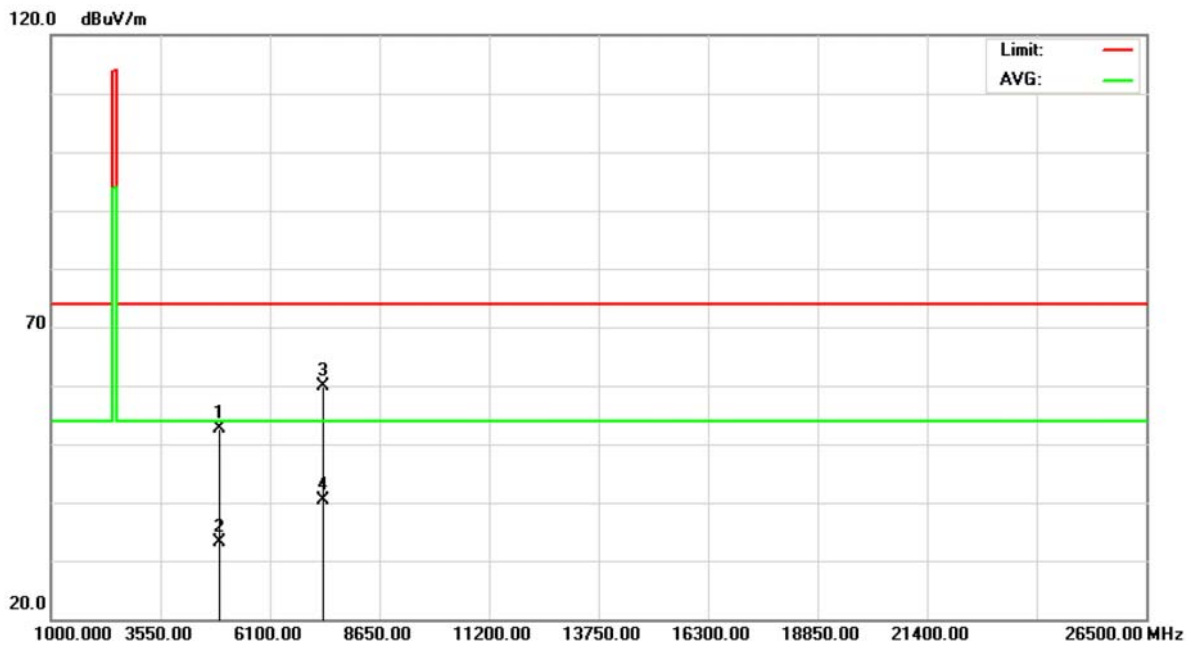


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2441.200	46.94	33.27	80.21	114.0	-33.79	peak	
2	*	2441.200	27.52	33.27	60.79	94.00	-33.21	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Vertical

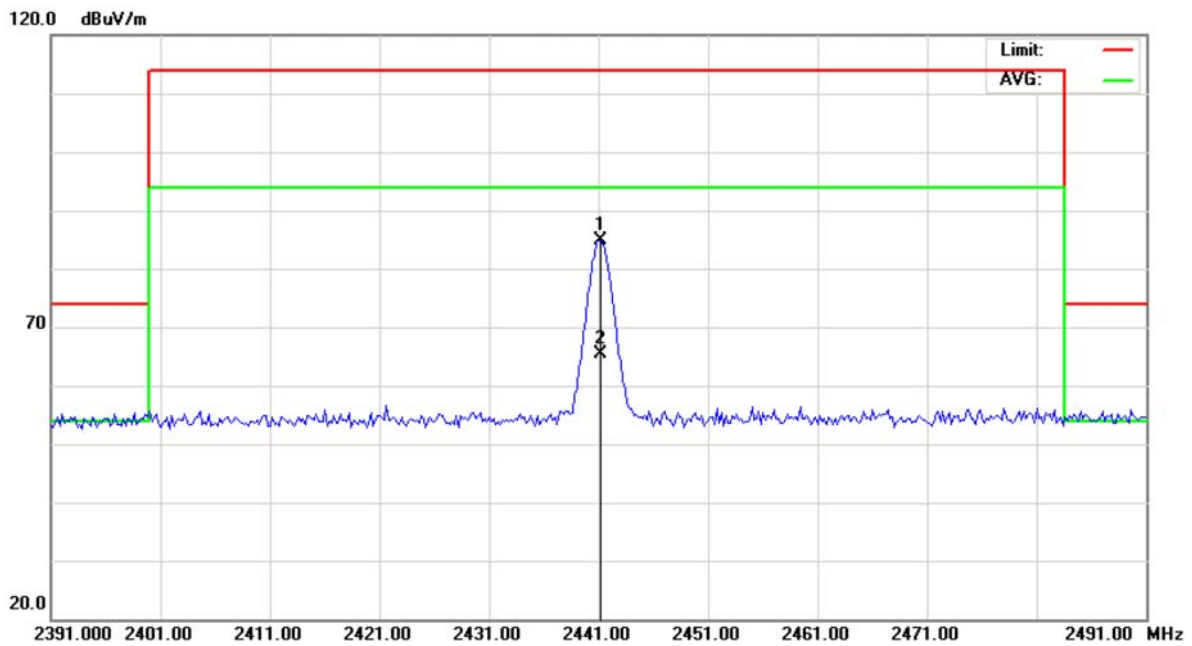


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4881.780	44.90	7.69	52.59	74.00	-21.41	peak	
2		4881.780	25.48	7.69	33.17	54.00	-20.83	AVG	
3		7322.800	44.67	15.10	59.77	74.00	-14.23	peak	
4	*	7322.800	25.25	15.10	40.35	54.00	-13.65	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Horizontal

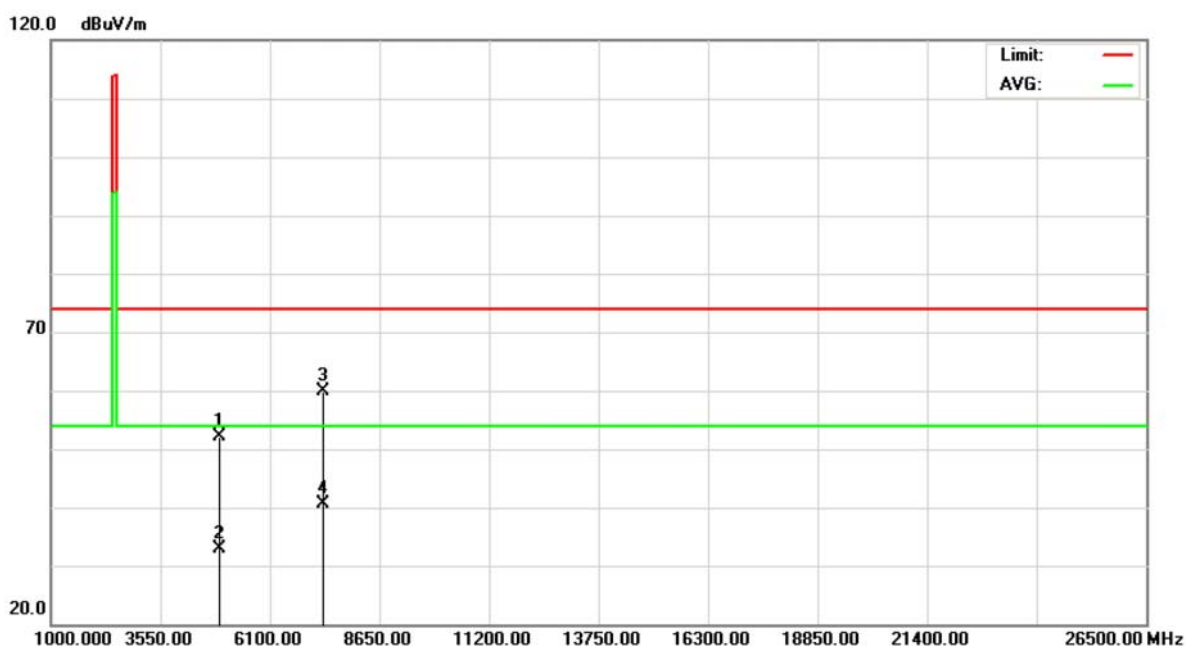


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2441.200	51.65	33.27	84.92	114.0	-29.08	peak	
2	*	2441.200	32.23	33.27	65.50	94.00	-28.50	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2441 MHz		

Polarization: Horizontal

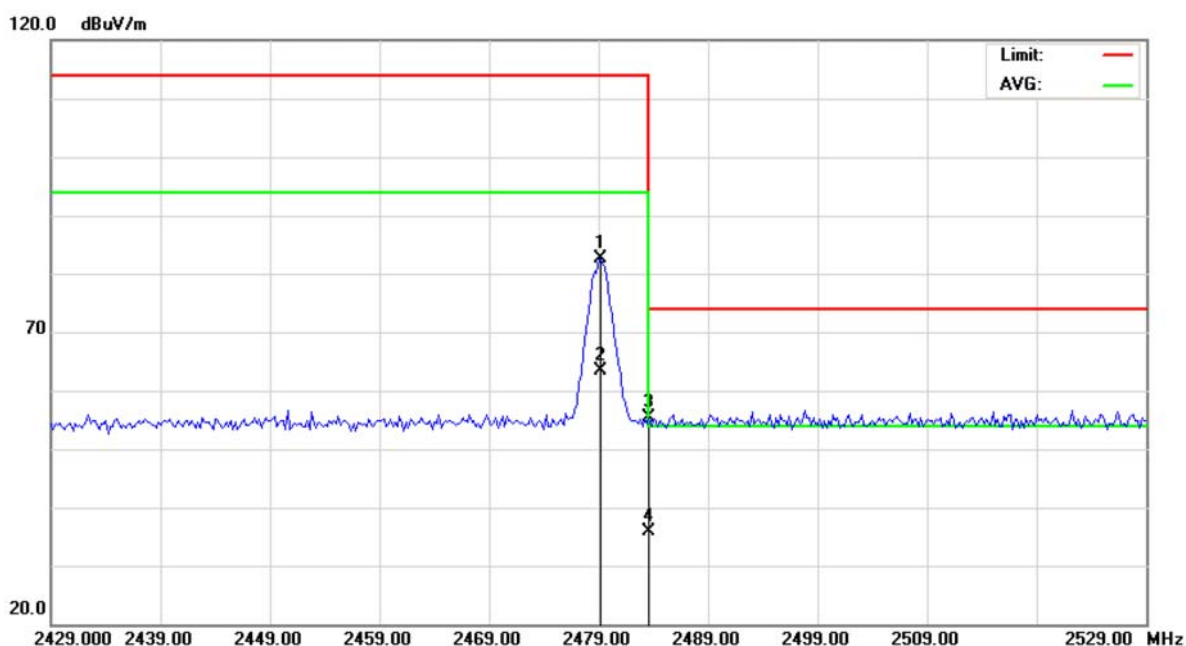


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4880.060	44.50	7.69	52.19	74.00	-21.81	peak	
2		4880.060	25.08	7.69	32.77	54.00	-21.23	AVG	
3		7322.440	44.89	15.09	59.98	74.00	-14.02	peak	
4	*	7322.440	25.47	15.09	40.56	54.00	-13.44	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2479 MHz		

Polarization: Vertical

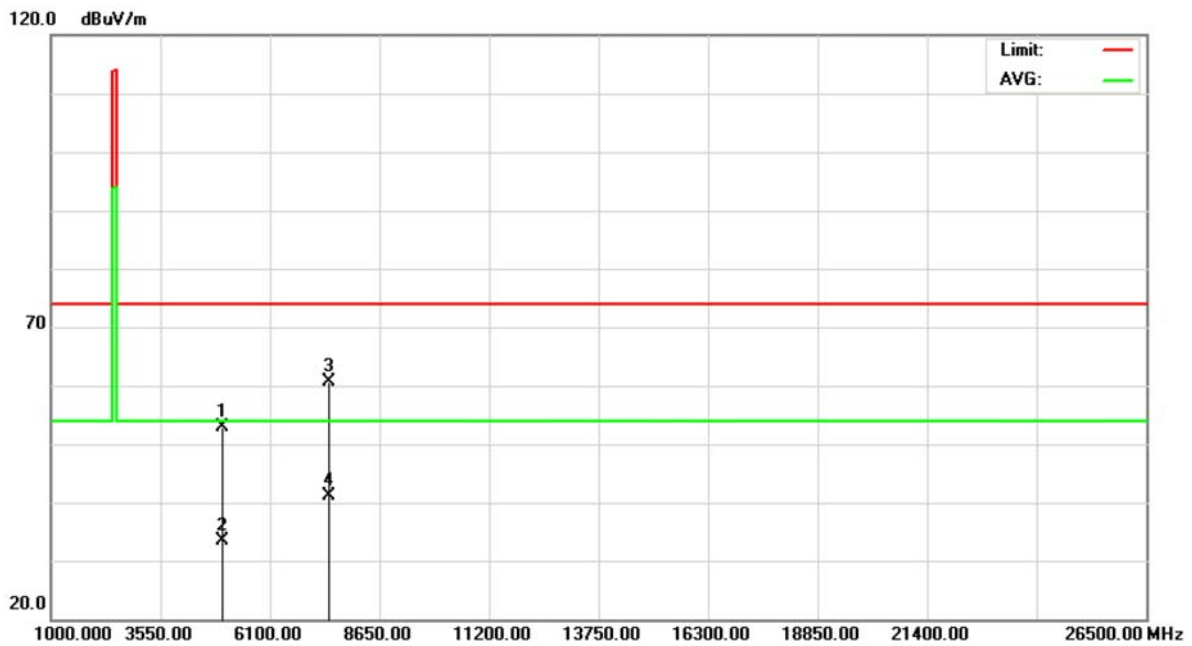


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2479.200	49.20	33.48	82.68	114.0	-31.32	peak	
2		2479.200	29.78	33.48	63.26	94.00	-30.74	AVG	
3		2483.500	21.78	33.50	55.28	74.00	-18.72	peak	
4	*	2483.500	2.36	33.50	35.86	54.00	-18.14	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2479 MHz		

Polarization: Vertical

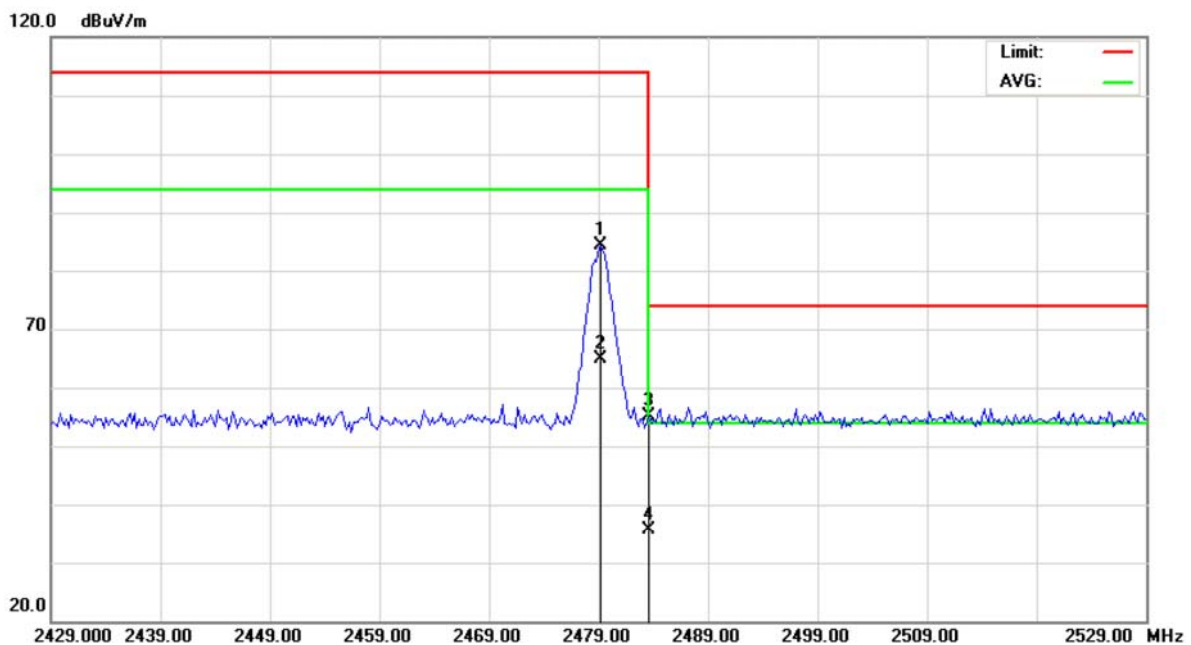


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4957.900	44.79	7.97	52.76	74.00	-21.24	peak	
2		4957.900	25.37	7.97	33.34	54.00	-20.66	AVG	
3		7437.760	45.14	15.40	60.54	74.00	-13.46	peak	
4	*	7437.760	25.72	15.40	41.12	54.00	-12.88	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2479 MHz		

Polarization: Horizontal

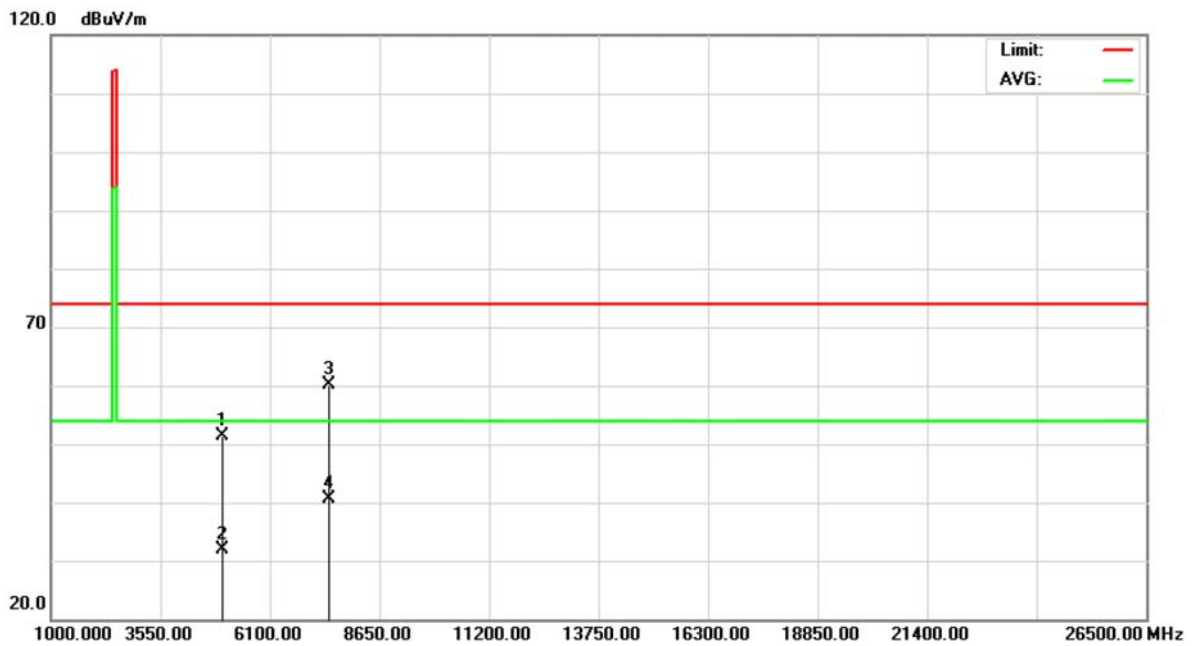


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2479.200	50.84	33.48	84.32	114.0	-29.68	peak	
2		2479.200	31.42	33.48	64.90	94.00	-29.10	AVG	
3		2483.500	21.65	33.50	55.15	74.00	-18.85	peak	
4	*	2483.500	2.23	33.50	35.73	54.00	-18.27	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	60%
Test Voltage	DC 3V		
Test Mode	2479 MHz		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		4955.740	43.31	7.96	51.27	74.00	-22.73	peak	
2		4955.740	23.89	7.96	31.85	54.00	-22.15	AVG	
3		7435.000	44.78	15.39	60.17	74.00	-13.83	peak	
4	*	7435.000	25.36	15.39	40.75	54.00	-13.25	AVG	



5.9 TEST RESULTS (RESTRICTED BANDS)

E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 3V		
Test Mode	2402 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Vertical

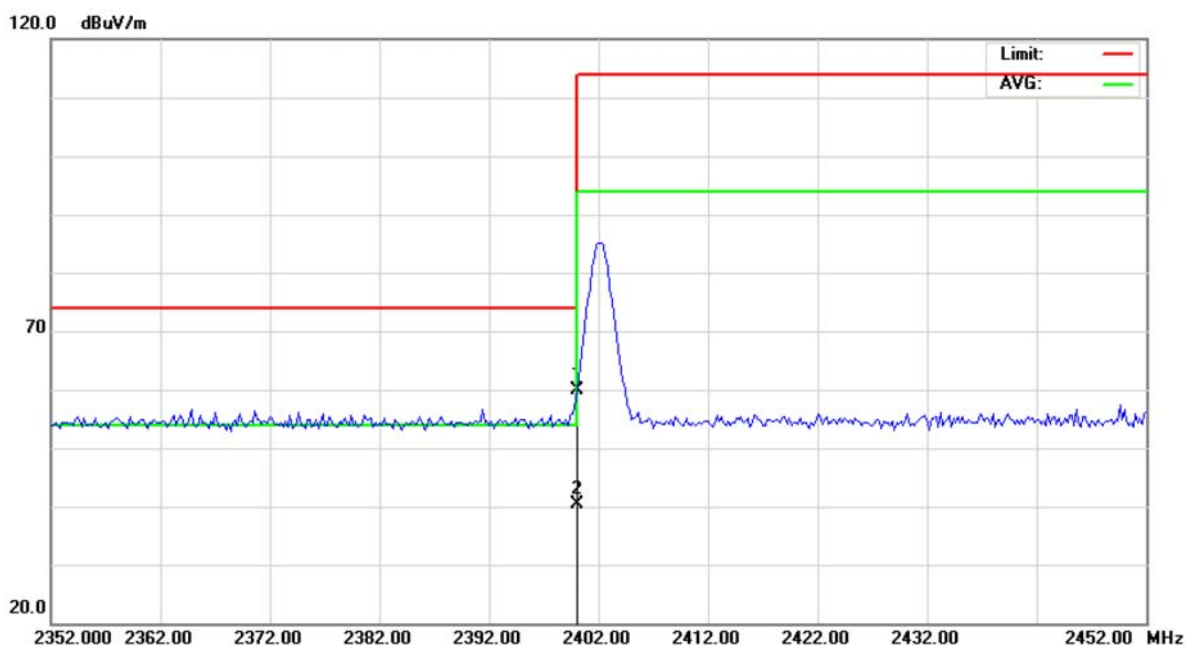


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2400.000	25.04	33.05	58.09	74.00	-15.91	peak	
2	*	2400.000	5.62	33.05	38.67	54.00	-15.33	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 3V		
Test Mode	2402 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

Polarization: Horizontal

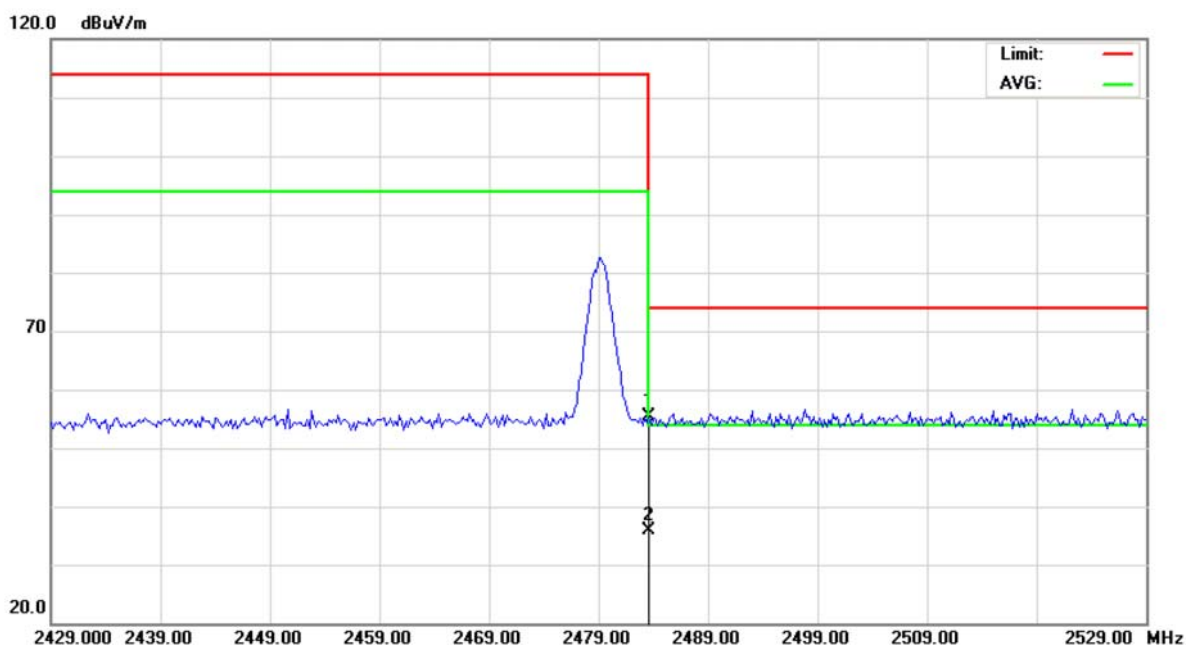


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2400.000	26.81	33.05	59.86	74.00	-14.14	peak	
2	*	2400.000	7.39	33.05	40.44	54.00	-13.56	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 3V		
Test Mode	2479 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Vertical

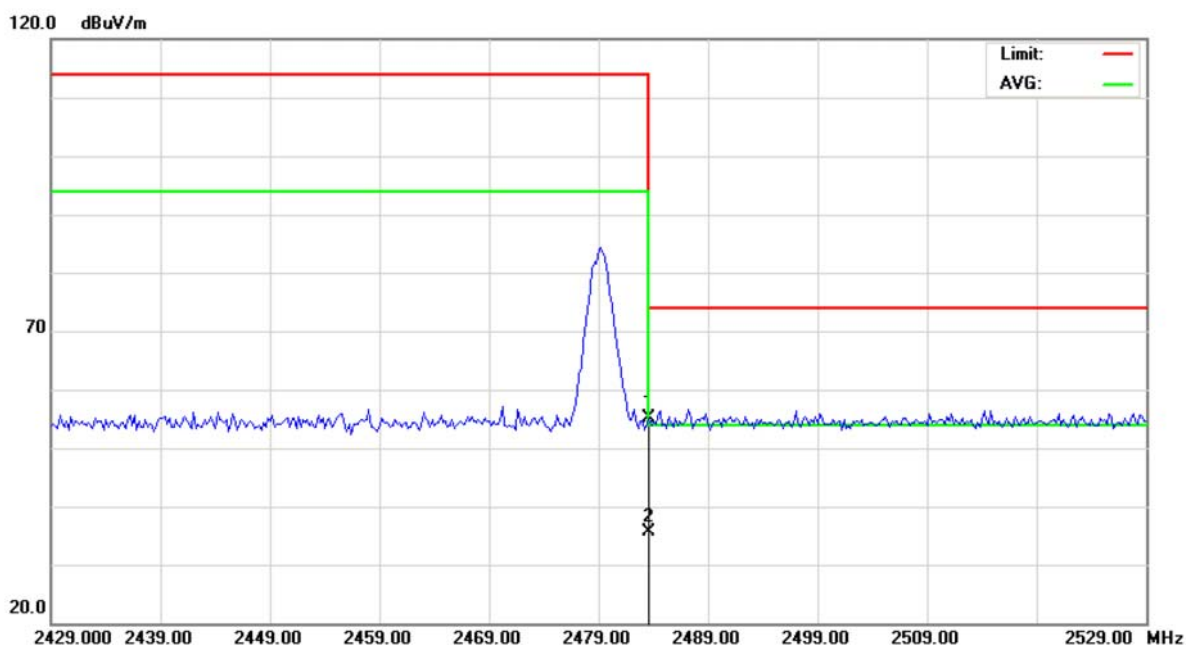


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2483.500	21.78	33.50	55.28	74.00	-18.72	peak	
2	*	2483.500	2.36	33.50	35.86	54.00	-18.14	AVG	



E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	24°C	Relative Humidity	46%
Test Voltage	DC 3V		
Test Mode	2479 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal



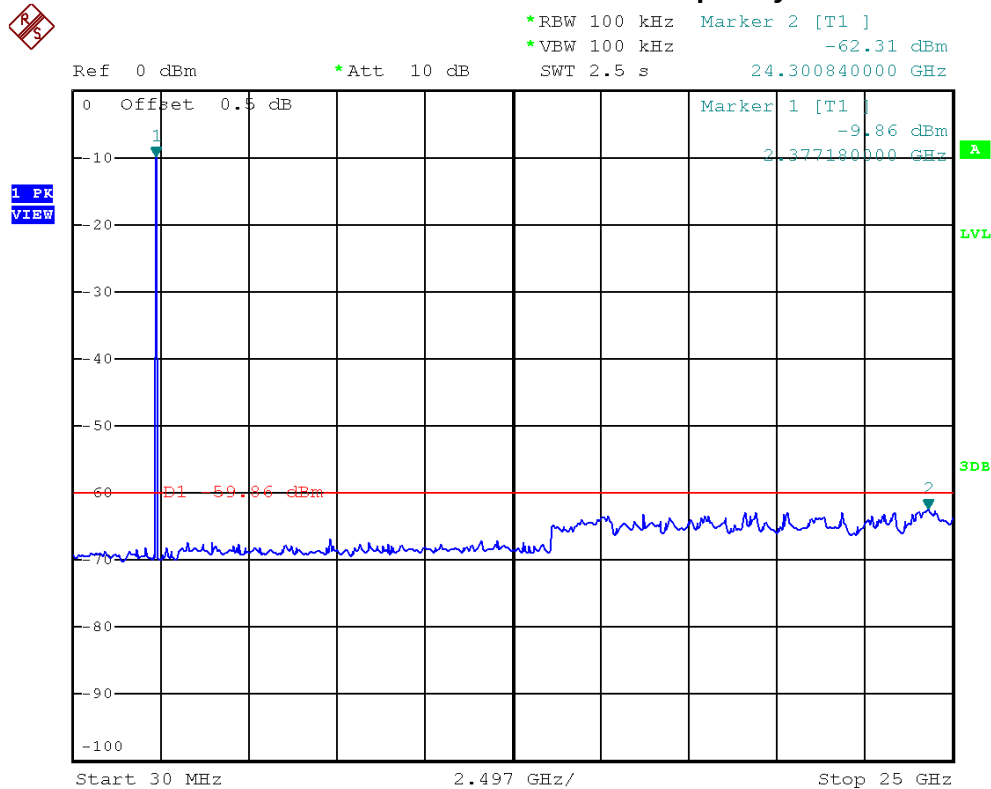
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2483.500	21.65	33.50	55.15	74.00	-18.85	peak	
2	*	2483.500	2.23	33.50	35.73	54.00	-18.27	AVG	



5.10 TEST RESULTS - THE TENTH HARMONIC

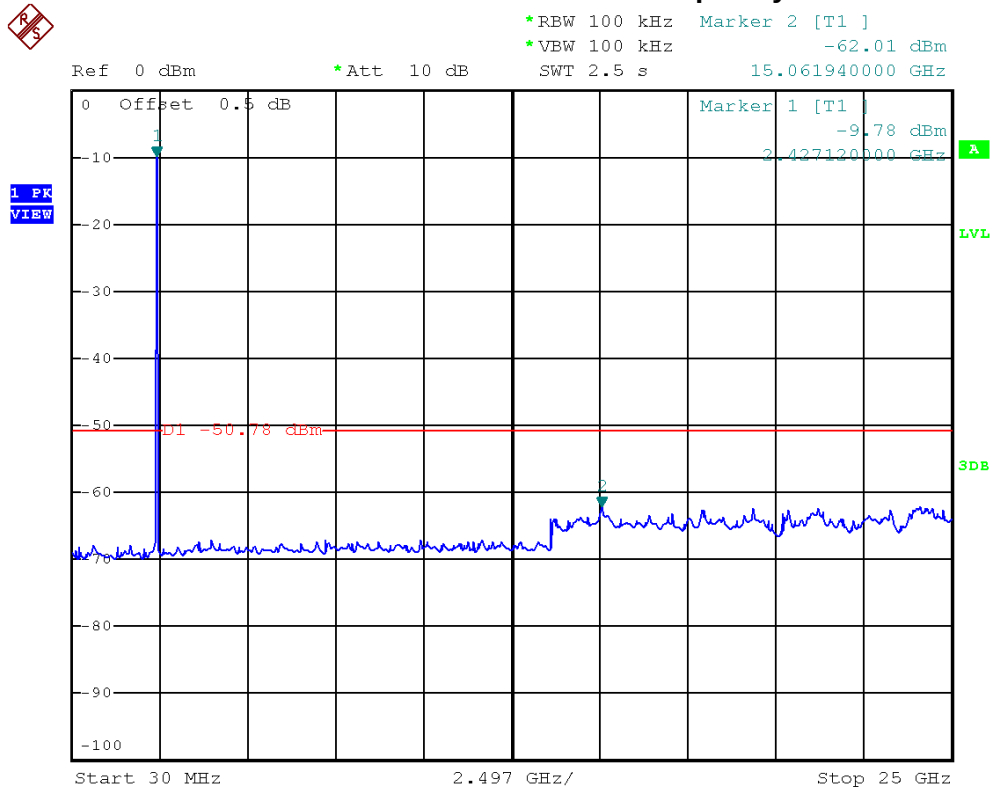
E.U.T	Lenovo SmartTouch Wireless Mouse	Model Name	Lenovo N800
Temperature	26°C	Relative Humidity	46%
Test Voltage	DC 3V		
Test Mode	2402 MHz/2441 MHz/2479 MHz		

2402 MHz/10 Harmonic of the frequency





2441 MHz/10 Harmonic of the frequency



2479 MHz/10 Harmonic of the frequency

