FCC Radio Test Report

FCC ID: H8GGK824G

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

Issued Date : Dec. 07, 2007
Project No. : R0711015
Equipment : 2.4G RF Keyboard
Model Name : GK-8

Applicant : A-FOUR TECH CO., LTD.
Address : 6F, No.108, Min-Chuan Rd., Hsin-Tien, Taipei, Taiwan, R.O.C.

Tested by:
Neutron Engineering Inc. EMC Laboratory
Date of Test:
Nov. 26, 2007 ~ Nov. 30, 2007

Testing Engineer: _____ (Rush Kao)

Technical Manager: _____ (Jeff Yang)

Authorized Signatory : _____ (Andy Chiu)

NEUTRON ENGINEERING INC.

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TEL : (02) 2646-5426 FAX : (02) 2646-6815

NVLAP Lab Code: 200145-0

ilac-MRA TAF Testing Laboratory 0659

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

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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1. CERTIFICATION

Equipment: 2.4G RF Keyboard
Brand Name: A4Tech
Model Name: GK-8
Applicant: A-FOUR TECH CO., LTD.
Date of Test: Nov. 26, 2007 ~ Nov. 30, 2007
Standards: FCC Part15, Subpart C(15.249) / RSS-210: 2004/ ANCI C63.4 : 2003

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-R0711015) 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

Test procedures according to the technical standards:

FCC Part15, Subpart C			
Standard	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.249	Radiated Spurious Emission	PASS	

NOTE:

(1) ” N/A” denotes test is not applicable in this Test Report.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **C01/OS01** at the location of No.132-1, Lane 329, Sec. 2, Palain Road, Shijr City, Taipei, Taiwan.

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95**%。

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U，(dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
OS-01	ANSI	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
OS-02	ANSI	30MHz ~ 200MHz	V	2.48	
		30MHz ~ 200MHz	H	2.16	
		200MHz ~ 1,000MHz	V	2.50	
		200MHz ~ 1,000MHz	H	2.66	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	2.4G RF Keyboard
Brand Name	A4Tech
Model Name	GK-8
OEM Brand/Model Name	N/A
Model Difference	N/A
Product Description	The EUT is a 2.4G RF Keyboard. A. Operation Frequency: 2402~2480MHz B. Modulation Type: GFSK C. Number Of Channel: 16 D. Antenna Designation: Integral Antenna(Printed) E. Antenna Gain(Peak): -1.74dBi F. Output Power: 93.82dBuV/m (Max.) 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.
Channel List	Please refer to the Note 2.
Power Source	Battery supplied.
Power Rating	DC I/P 3V (AAA Battery x 2)
Connecting I/O Port(s)	Please refer to the User's Manual
Products Covered	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)	Channel	Frequency (MHz)
01	**2402**	05	2425	**09**	**2448**	13	2471
02	2405	06	2428	10	2451	14	2474
03	2408	07	2431	11	2454	15	2477
04	2411	08	2434	12	2457	**16**	**2480**

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Integral Antenna(Printed)	N/A	-1.74

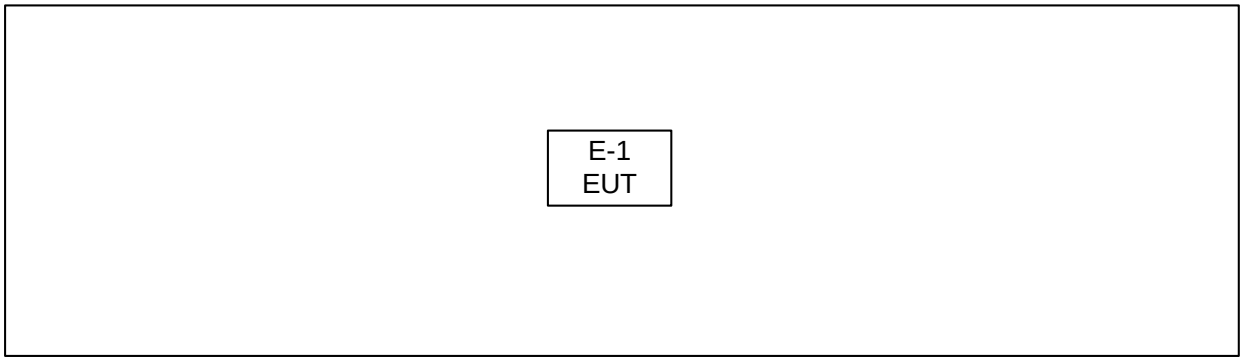
3.2 DESCRIPTION OF TEST MODES

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.

Pretest Test Mode	Description
Mode 1	Channel 01: 2402MHz
Mode 2	Channel 09: 2448MHz
Mode 3	Channel 16: 2480MHz

For Radiated Test	
Final Test Mode	Description
Mode 1	Channel 01: 2402MHz
Mode 2	Channel 09: 2448MHz
Mode 3	Channel 16: 2480MHz

3.3 BLOCK DIGRAM 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	2.4G RF Keyboard	A4Tech	GK-8	H8GGK824G	N/A	EUT

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

Note:

(1) The support equipment was authorized by Declaration of Conformity.
(2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

4. EMC EMISSION TEST

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT (FCC PART 15.209)

FREQUENCY (MHz)	Field Strength (micorvolts/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

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Notes:

(1) The tighter limit applies at the band edges.

(2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC PART 15.209)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

(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).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC PART 15.249)

FCC Part15 (15.249) , Subpart C	
Limit	FREQUENCY RANGE (MHz)
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	2400-2483.5
Field strength of harmonics 500 μV/m (54 dBμV/m) @ 3 m	Above 2483.5

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Test Cable	N/A	SR03_C	N/A	Aug. 20, 2008
2	Log-Bicon Antenna	Schwarzbeck	VULB 9161	4022	Jun. 13, 2008
3	Test Cable	N/A	10M_OS01	N/A	Oct. 10, 2008
4	Test Cable	N/A	OS01-1/-2	N/A	Oct. 10, 2008
5	Pre-Amplifier	Anritsu	MH648A(OS01)	M09961	Oct. 10, 2008
6	Spectrum Analyzer	ADVAN TEST	R3132	81700025	Mar. 22, 2008
7	Test Receiver	MEB	SMV41	130	Jun. 21, 2008
8	Antenna Mast	Chance Most	CMTB-1.5	N/A	N/A
9	Turn Table	Chance Most	CMTB-1.5	N/A	N/A

Remark: ” N/A” denotes No Model Name / Serial No. and No Calibration specified.

4.1.3 TEST PROCEDURE

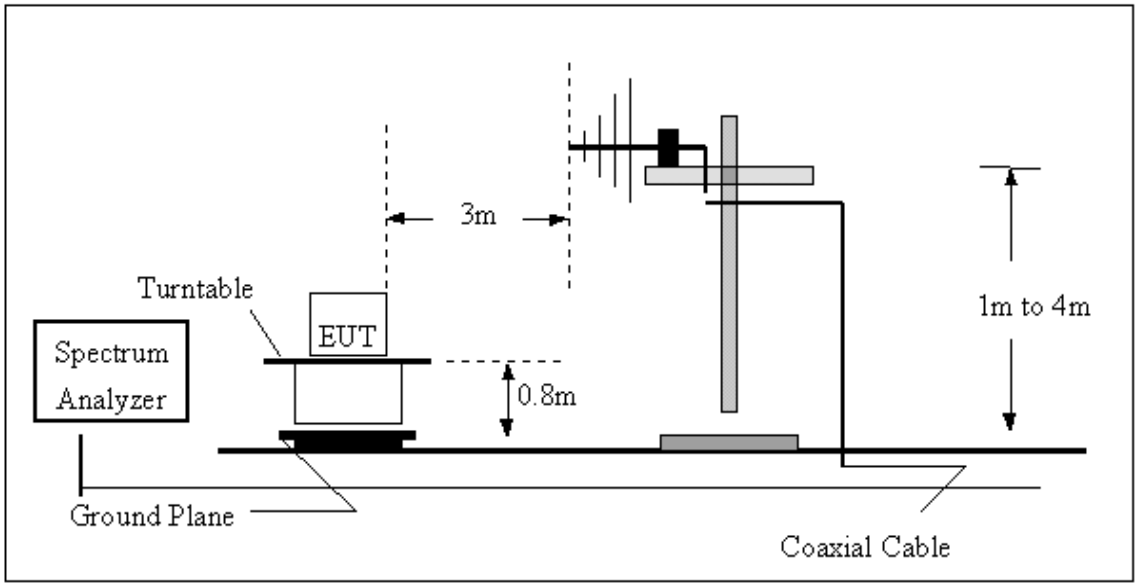
a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m or 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
c. 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.
d. The initial step in collecting radiated 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.
e. 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.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

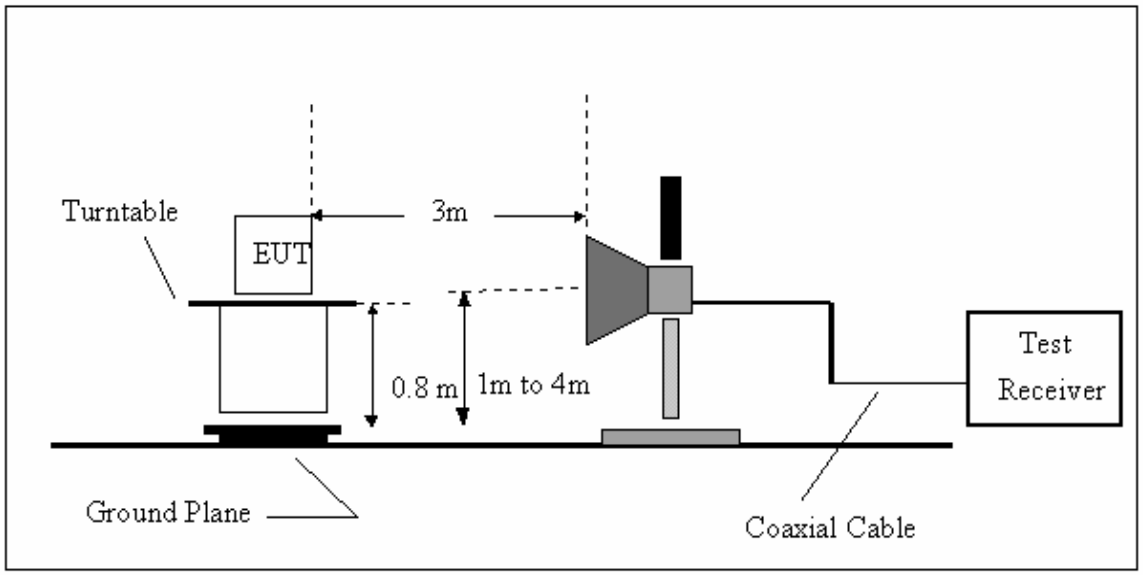
No deviation

4.1.5 TEST SETUP

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



4.1.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.7 TEST RESULTS-BETWEEN 30MHZ AND 1000MHZ

E.U.T :	2.4G RF Keyboard	Model Name :	GK-8
Temperature :	22°C	Relative Humidity :	75%
Pressure :	1016 hPa	Test Voltage :	DC 3V
Test Mode :	Channel 09: 2448MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
37.76	V	8.93	14.91	23.84	40.00	- 16.16	
94.02	V	9.58	11.44	21.02	43.50	- 22.48	
165.80	V	6.69	17.77	24.46	43.50	- 19.04	
191.02	V	7.02	15.21	22.23	43.50	- 21.27	
342.34	V	0.08	19.89	19.97	46.00	- 26.03	
646.92	V	0.14	26.70	26.84	46.00	- 19.16	

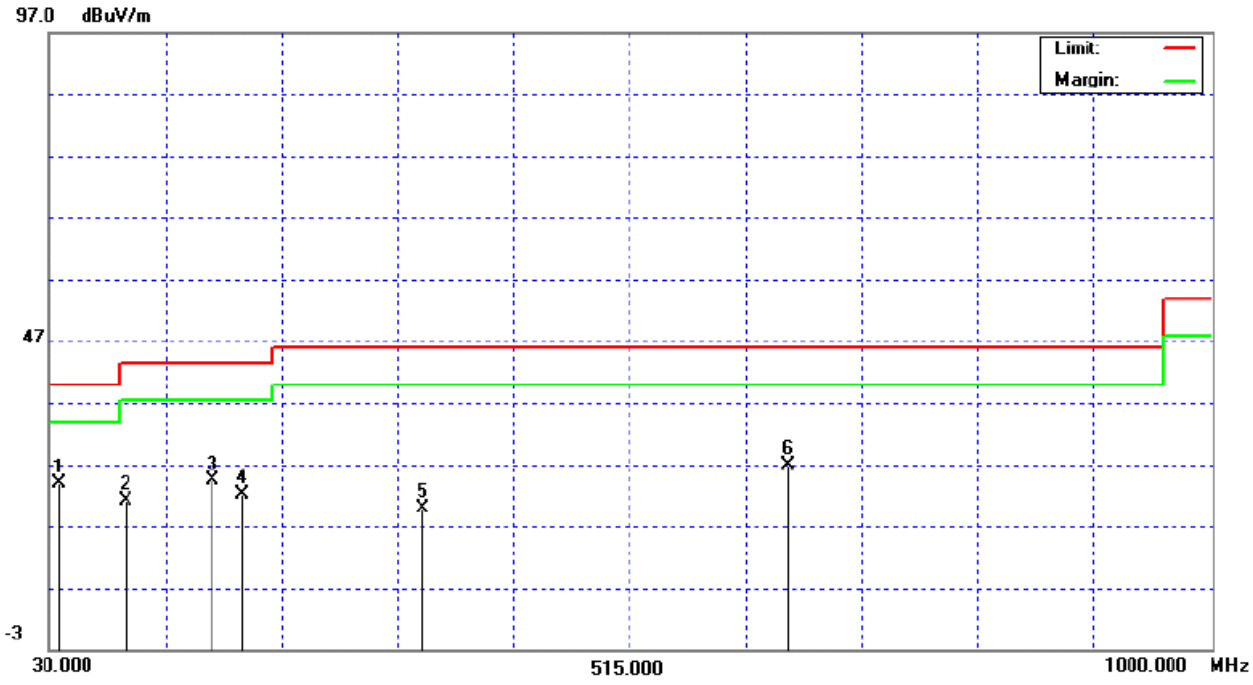
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) 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 measure-ment didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

(4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table。



E.U.T :	2.4G RF Keyboard	Model Name :	GK-8
Temperature :	22˚C	Relative Humidity :	75%
Pressure :	1016 hPa	Test Voltage :	DC 3V
Test Mode :	Channel 09: 2448MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
94.02	H	10.03	11.44	21.47	43.50	- 22.03	
146.40	H	3.79	17.49	21.28	43.50	- 22.22	
266.68	H	3.89	17.45	21.34	46.00	- 24.66	
491.72	H	-0.60	24.11	23.51	46.00	- 22.49	
602.30	H	0.66	26.22	26.88	46.00	- 19.12	
920.46	H	-2.10	32.29	30.19	46.00	- 15.81	

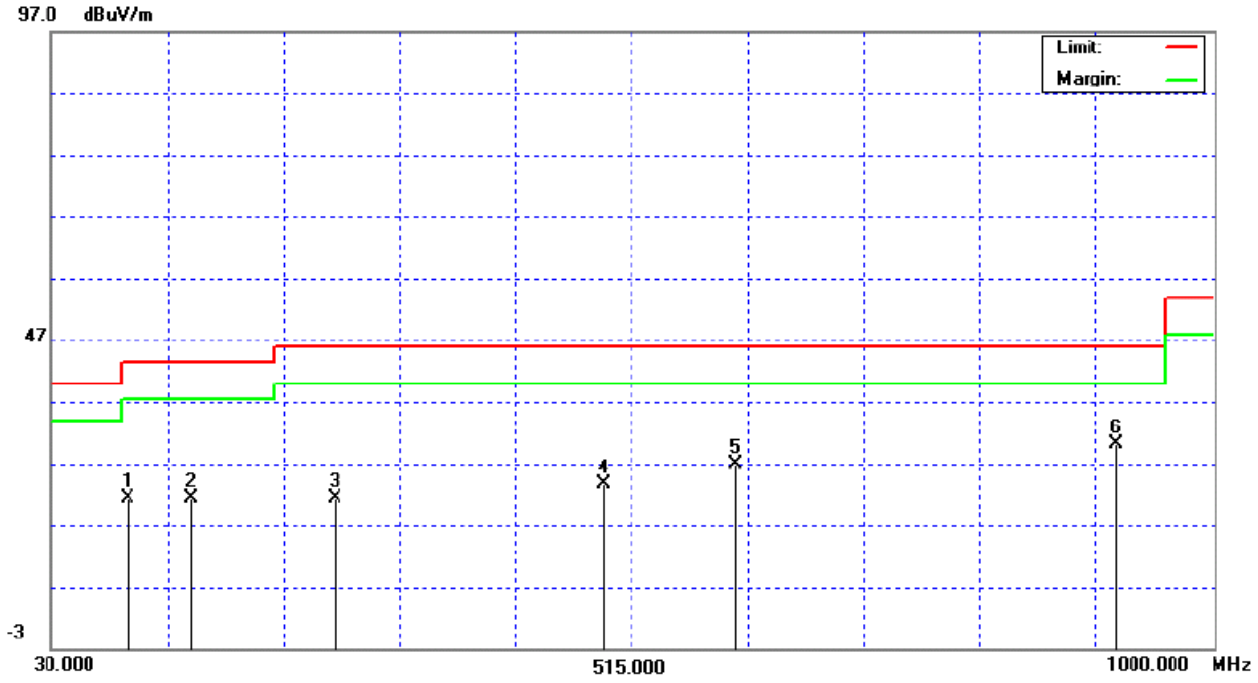
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) 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 measure-ment didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

(4) If the peak scan value lower limit more than 20dB, then this signal data does not how in table。



4.1.8 TEST RESULTS-ABOVE 1000MHZ

E.U.T :	2.4G RF Keyboard	Model Name :	GK-8
Temperature :	22°C	Relative Humidity :	75%
Pressure :	1016 hPa	Test Voltage :	DC 3V
Test Mode :	Channel 01: 2402MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	24.76	14.70	32.57	57.33	47.27	74.00	54.00	X/E
2402.30	**V**								**X/F**
4804.00	V	50.18	41.89	3.95	54.13	45.84	74.00	54.00	X/H
7206.00	V	42.62	34.48	11.58	54.20	46.06	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

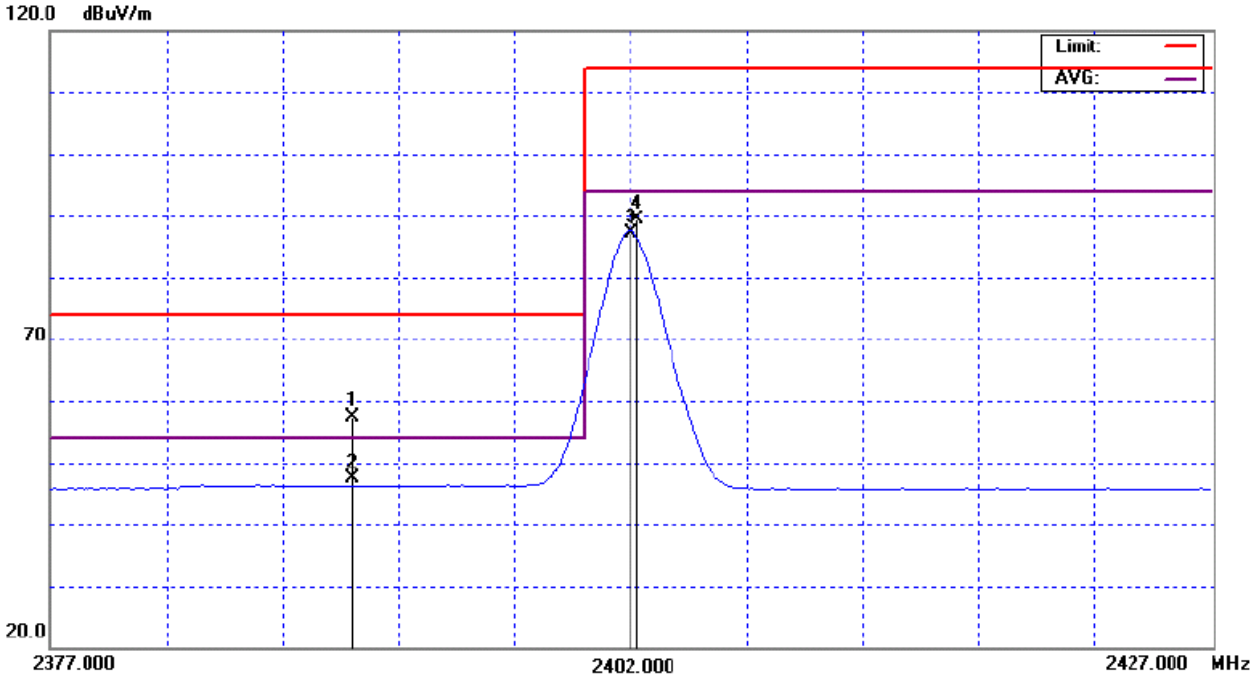
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

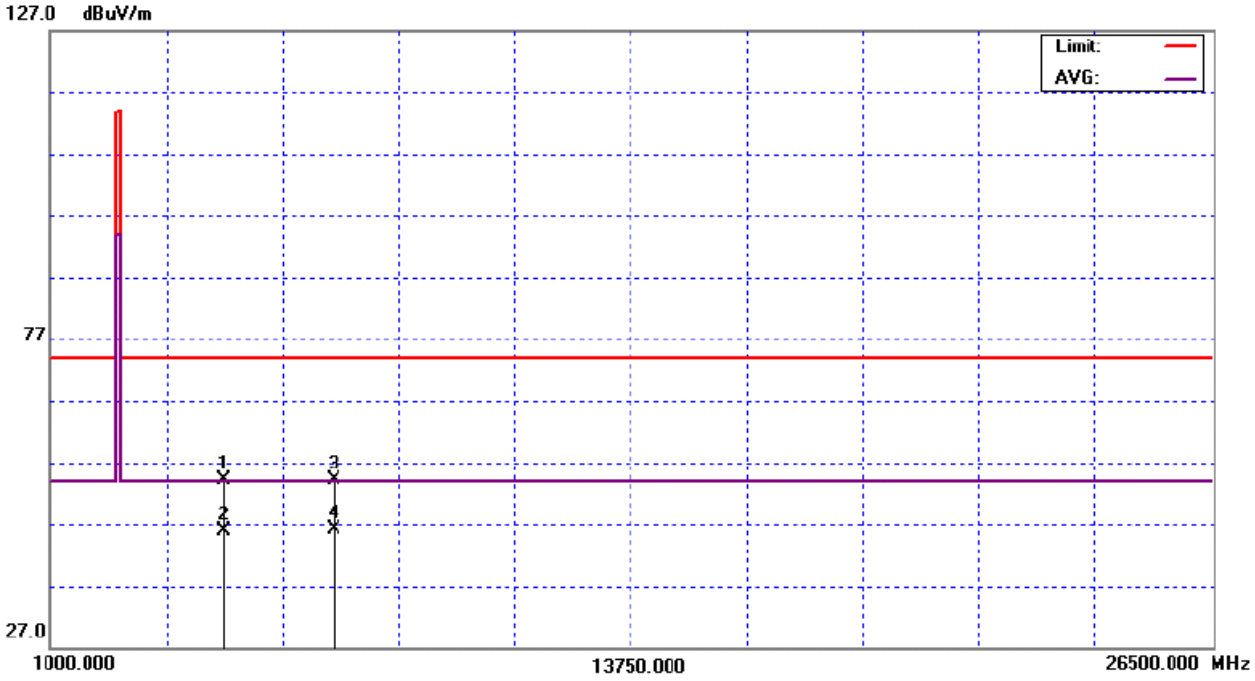
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Vertical
Channel 01: 2402MHz
Orthogonal Axes: X





EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 01: 2402MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	25.96	16.24	32.57	58.53	48.81	74.00	54.00	X/E
2402.30	**H**								**X/F**
4804.00	H	48.05	39.99	3.95	52.00	43.94	74.00	54.00	X/H
7206.00	H	42.53	35.48	11.58	54.11	47.06	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

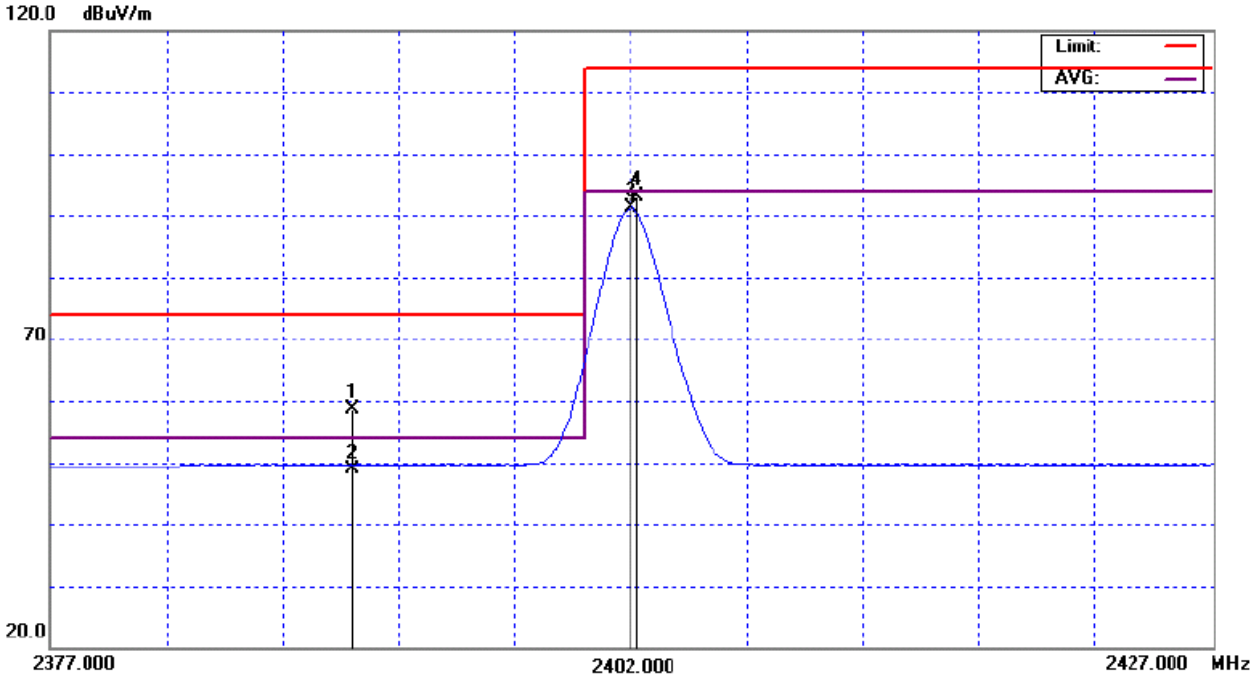
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

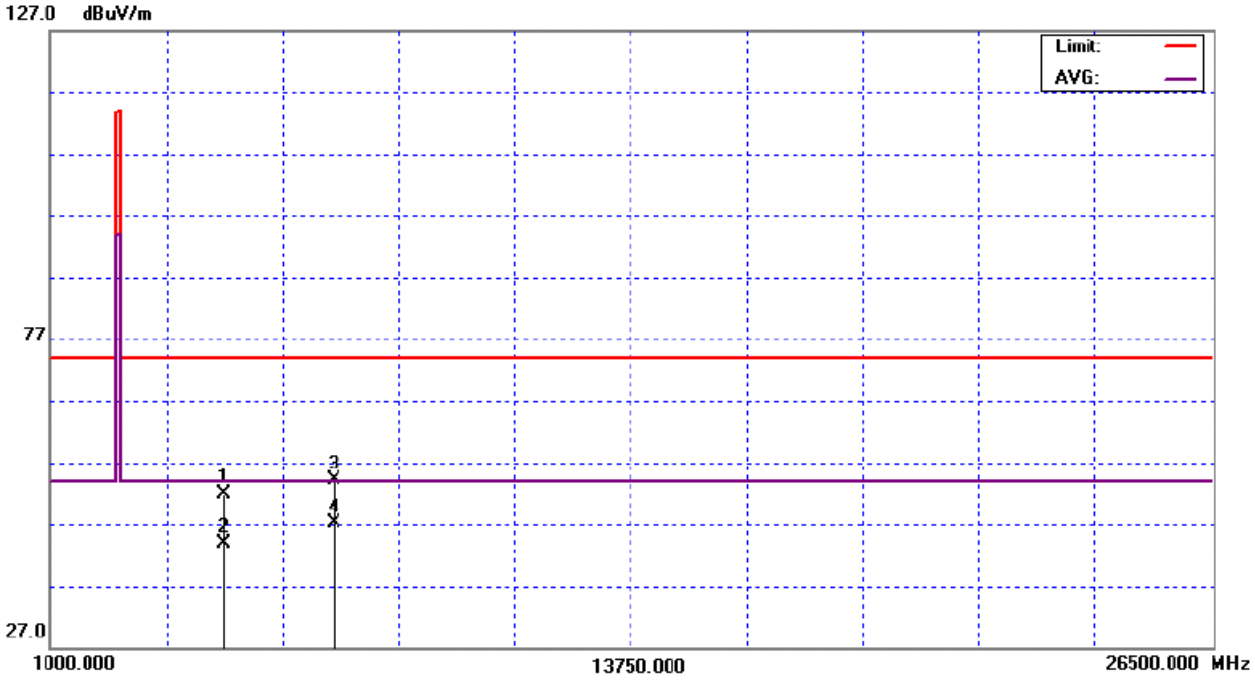
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Horizontal
Channel 01: 2402MHz
Orthogonal Axes: X





E.U.T :	2.4G RF Keyboard	Model Name :	GK-8
Temperature :	22°C	Relative Humidity :	75%
Pressure :	1016 hPa	Test Voltage :	DC 3V
Test Mode :	Channel 09: 2448MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2448.30	**V**								**X/F**
4896.00	V	48.88	41.77	4.40	53.28	46.17	74.00	54.00	X/H
7344.00	V	43.72	37.88	11.94	55.66	49.82	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

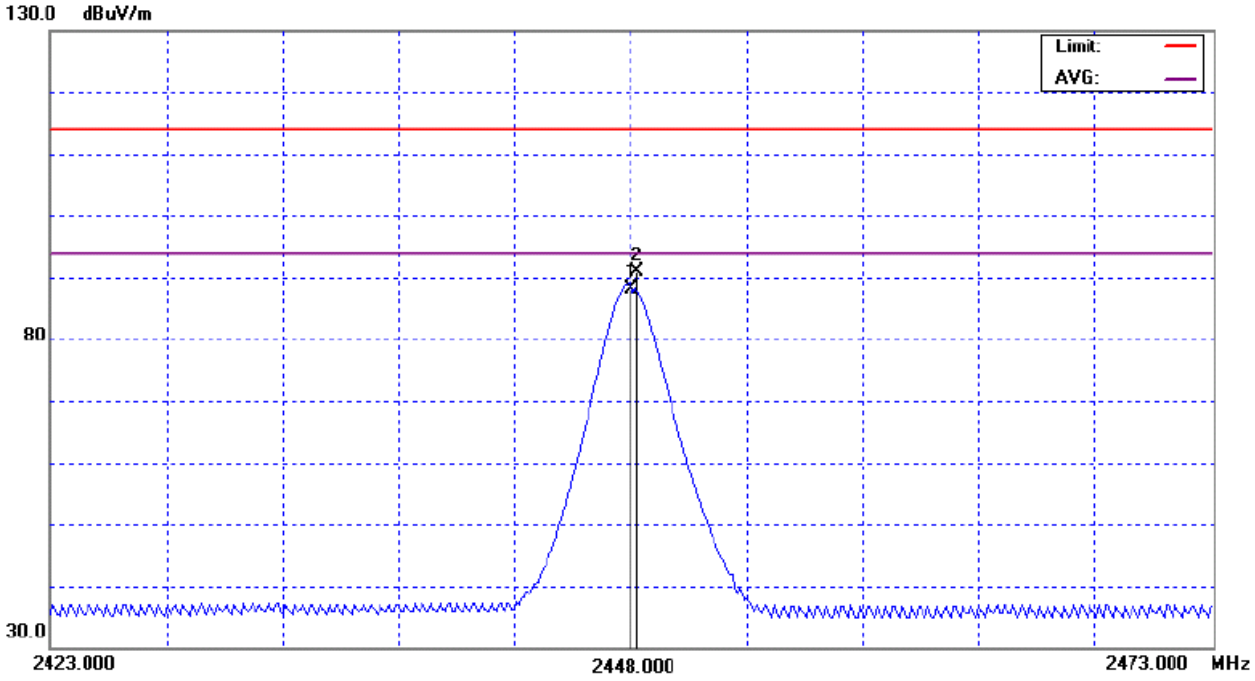
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

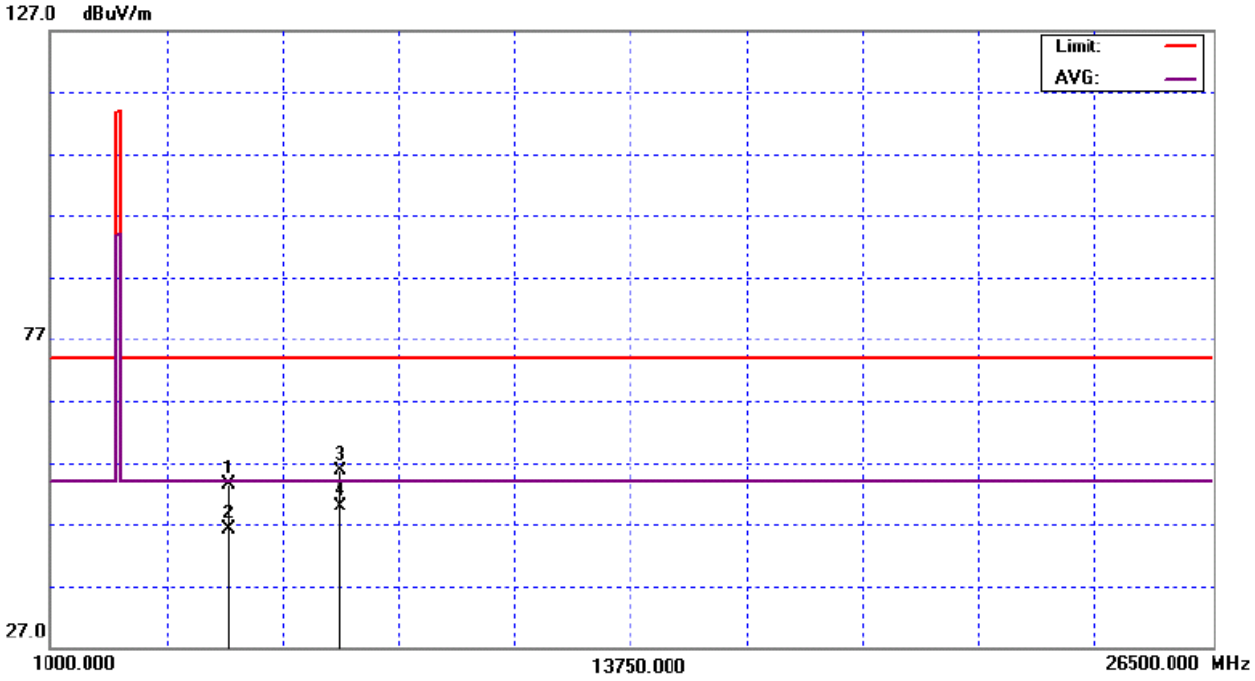
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Vertical
Channel 09: 2448MHz
Orthogonal Axes: X





EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 09: 2448MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2448.40	**H**								**X/F**
4896.00	H	48.46	41.06	4.40	52.86	45.46	74.00	54.00	X/H
7344.00	H	43.17	36.48	11.94	55.11	48.42	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

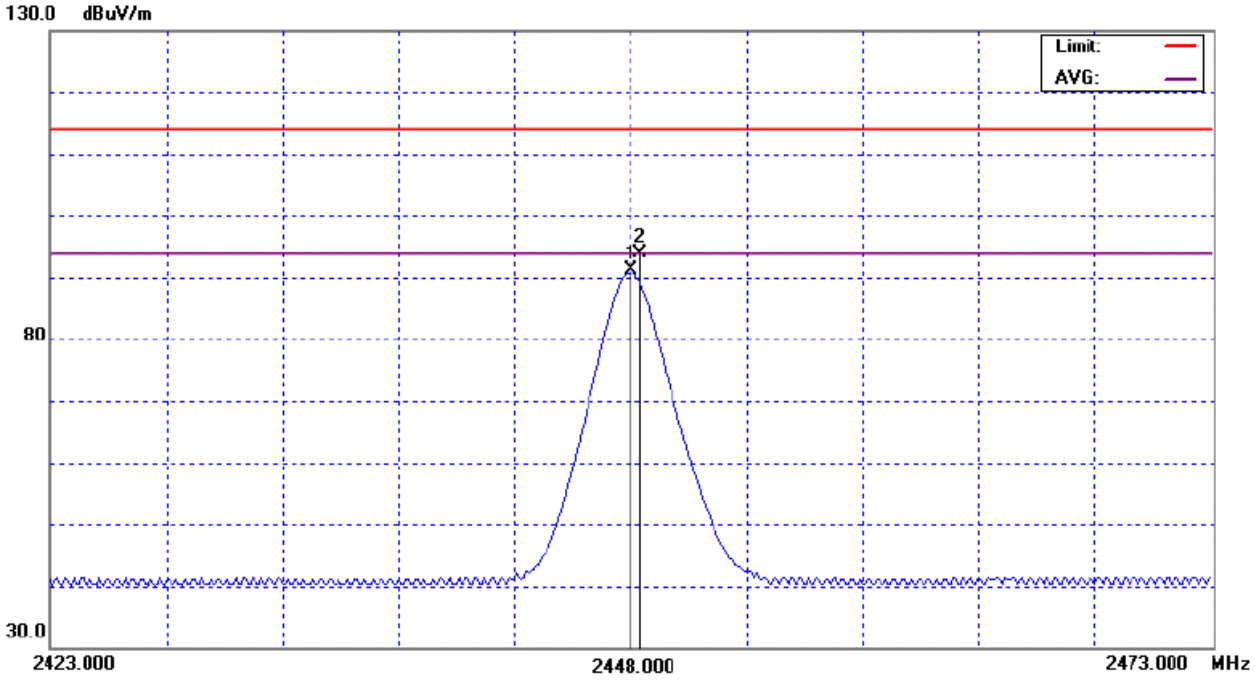
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

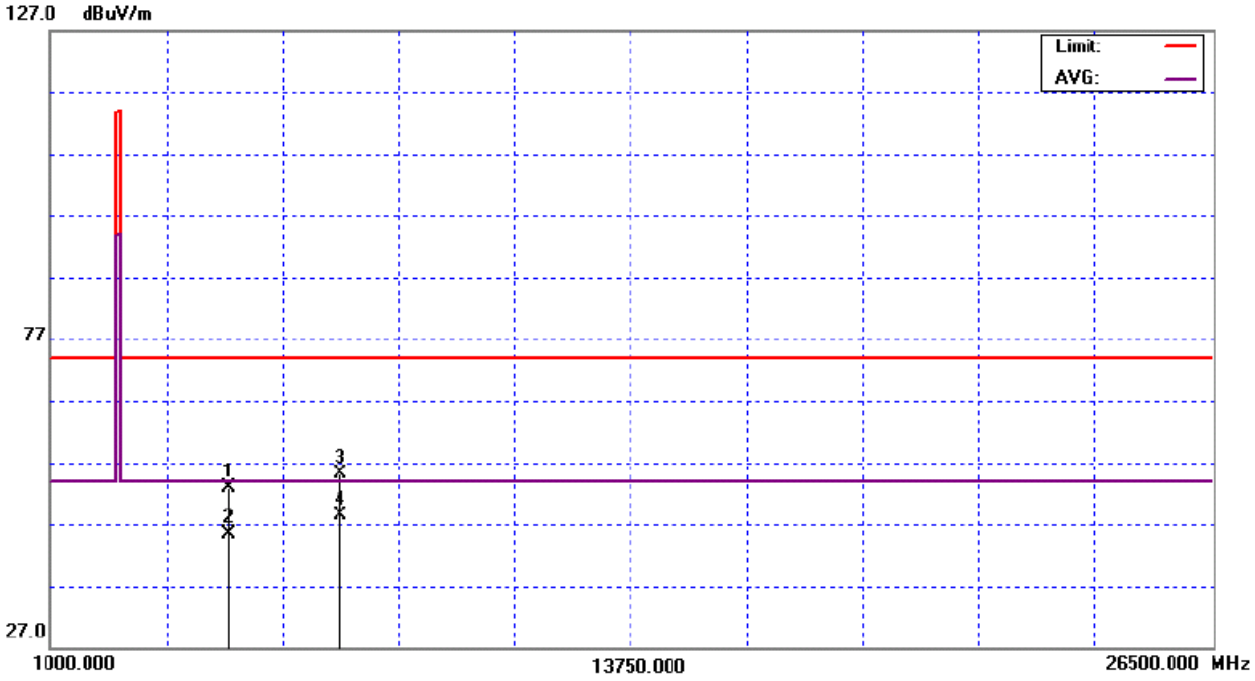
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Horizontal
Channel 09: 2448MHz
Orthogonal Axes: X





E.U.T :	2.4G RF Keyboard	Model Name :	GK-8
Temperature :	22°C	Relative Humidity :	75%
Pressure :	1016 hPa	Test Voltage :	DC 3V
Test Mode :	Channel 16: 2480MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**V**								**X/F**
2483.50	V	22.07	15.23	33.10	55.17	48.33	74.00	54.00	X/H
4960.00	V	43.71	36.01	4.72	48.43	40.73	74.00	54.00	X/H
7440.00	V	42.98	37.42	12.21	55.19	49.63	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

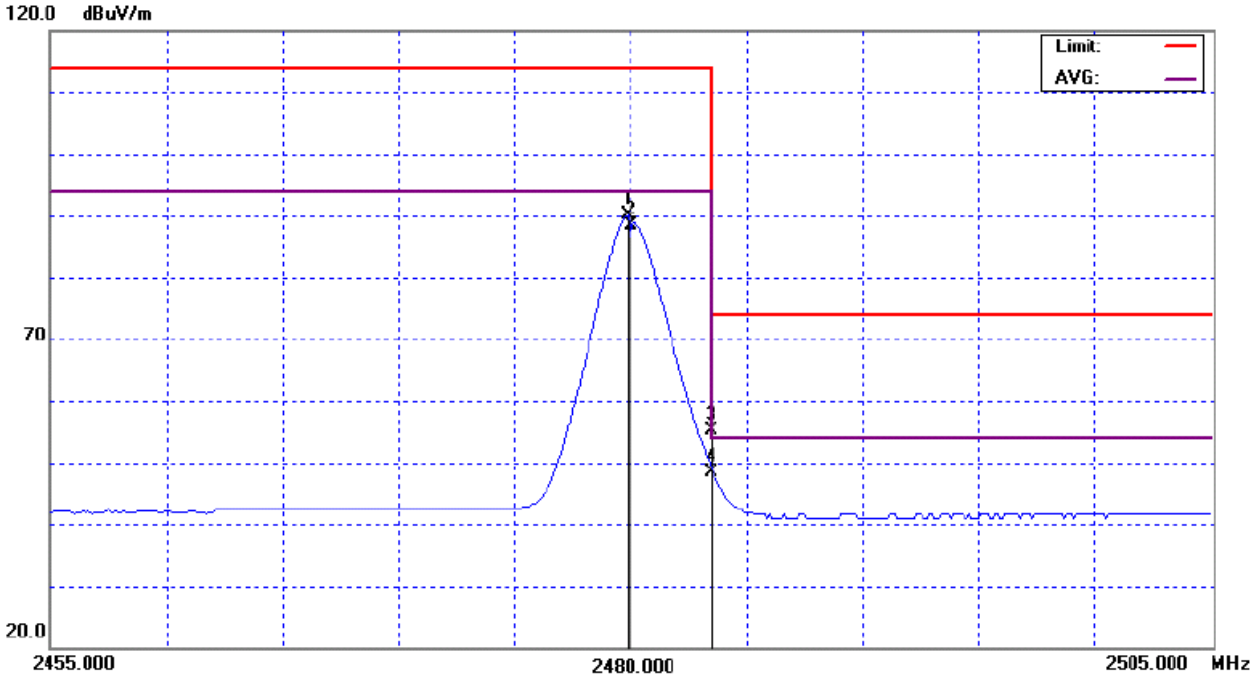
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

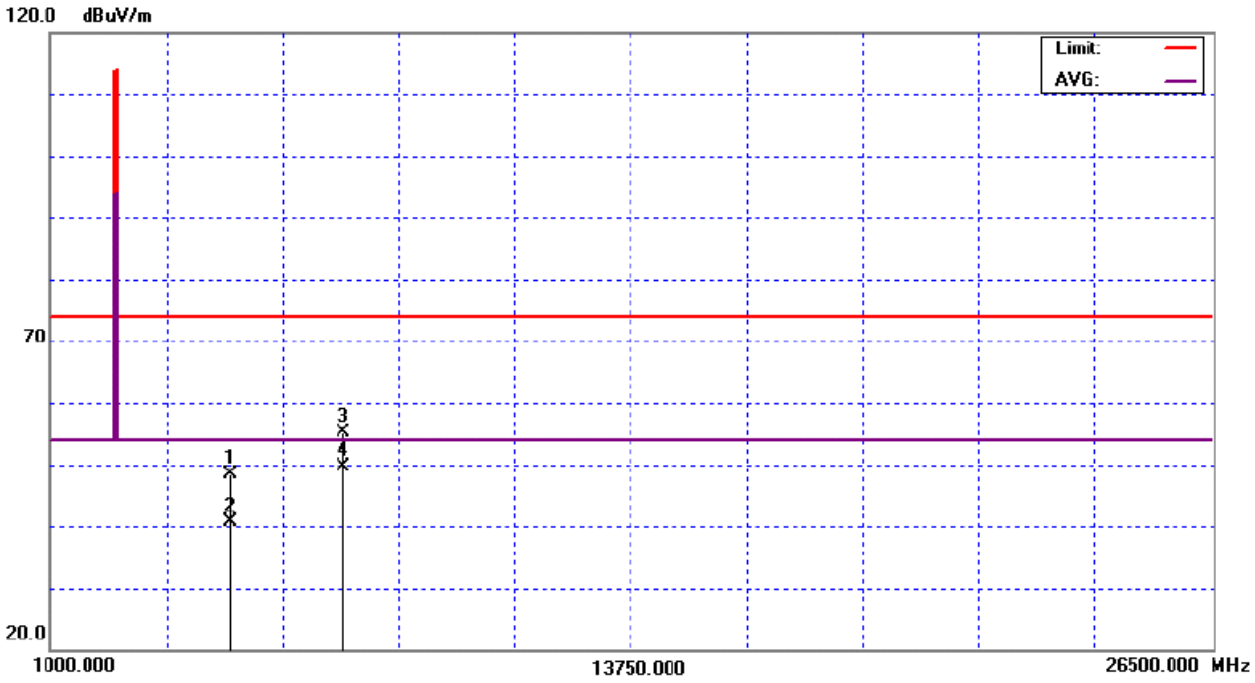
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Vertical
Channel 16: 2480MHz
Orthogonal Axes: X





EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 16: 2480MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**H**								**X/F**
2483.50	H	21.91	16.32	33.10	55.01	49.42	74.00	54.00	X/H
4960.00	H	45.76	38.83	4.72	50.48	43.55	74.00	54.00	X/H
7440.00	H	45.93	40.27	12.21	58.14	52.48	74.00	54.00	X/H

Remark：

(1) 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。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

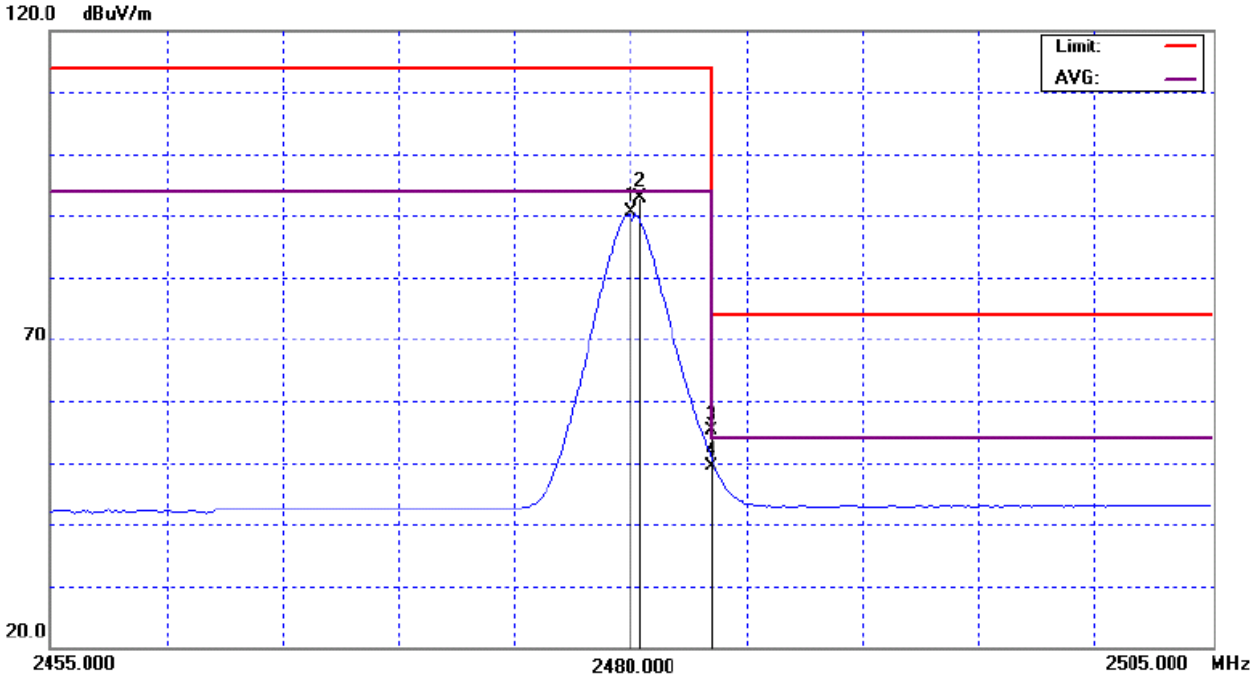
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

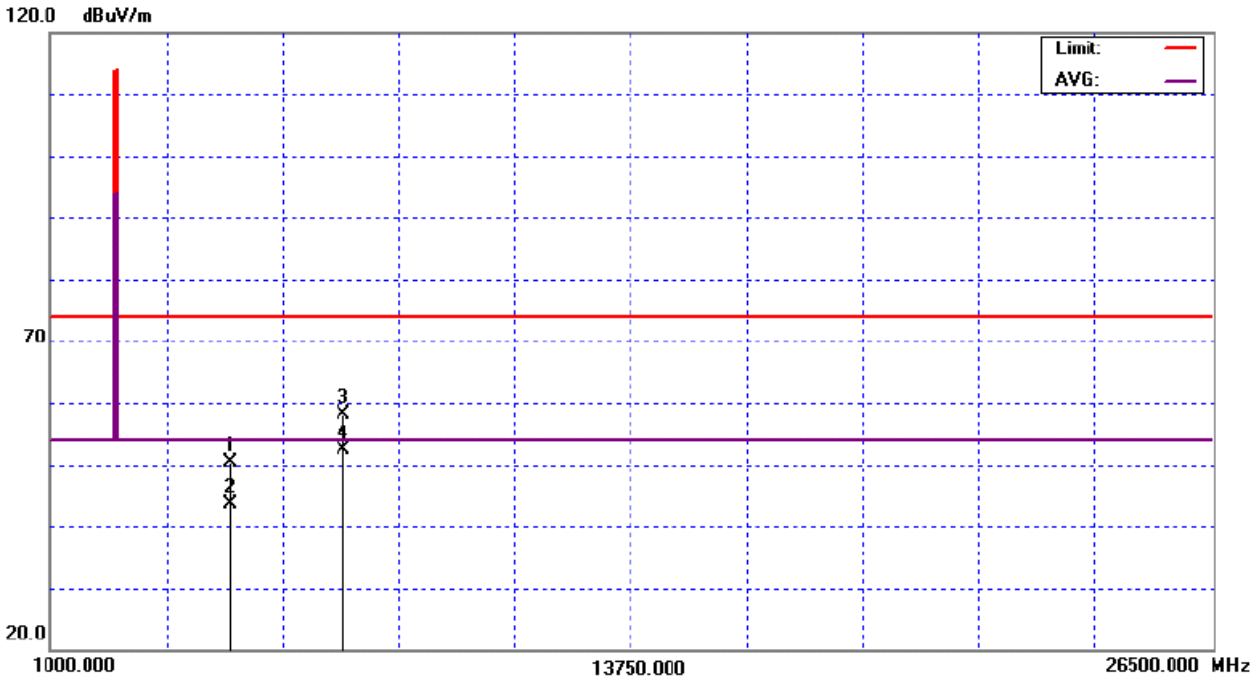
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Above 1000 MHz, Horizontal
Channel 16: 2480MHz
Orthogonal Axes: X





4.1.9 TEST RESULTS-BETWEEN 2400MHZ AND 2483.5MHZ

EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 01: 2402MHz / Channel 09: 2448MHz / Channel 16: 2480MHz		

Freq.	Ant.Pol.	Peak	AV	Ant./CL/	Peak	AV	Peak	AV	NOTE
		Reading			Actual FS		Limit3m		
(MHz)	(H/V)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2402.30	V	56.84	54.39	32.64	89.48	87.03	114.00	94.00	CH01
2402.30	H	60.56	58.62	32.64	93.20	91.26	114.00	94.00	CH01
2448.30	V	57.86	55.22	32.90	90.76	88.12	114.00	94.00	CH09
2448.40	H	60.92	58.35	32.90	93.82	91.25	114.00	94.00	CH09
2480.00	V	57.08	55.18	33.08	90.16	88.26	114.00	94.00	CH16
2480.40	H	59.85	57.60	33.08	92.93	90.68	114.00	94.00	CH16

Remark：

(1) 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。

(2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(3) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(4) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

4.1.10 TEST RESULTS-RESTRICTED BANDS REQUIREMENTS

EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 01: 2402MHz / Channel 16: 2480MHz (Vertical)		
Note：	The emission of the carrier radiated field strength is measured for (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH16). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	24.76	14.70	32.57	57.33	47.27	74.00	54.00	CH01
2483.50	V	22.07	15.23	33.10	55.17	48.33	74.00	54.00	CH16

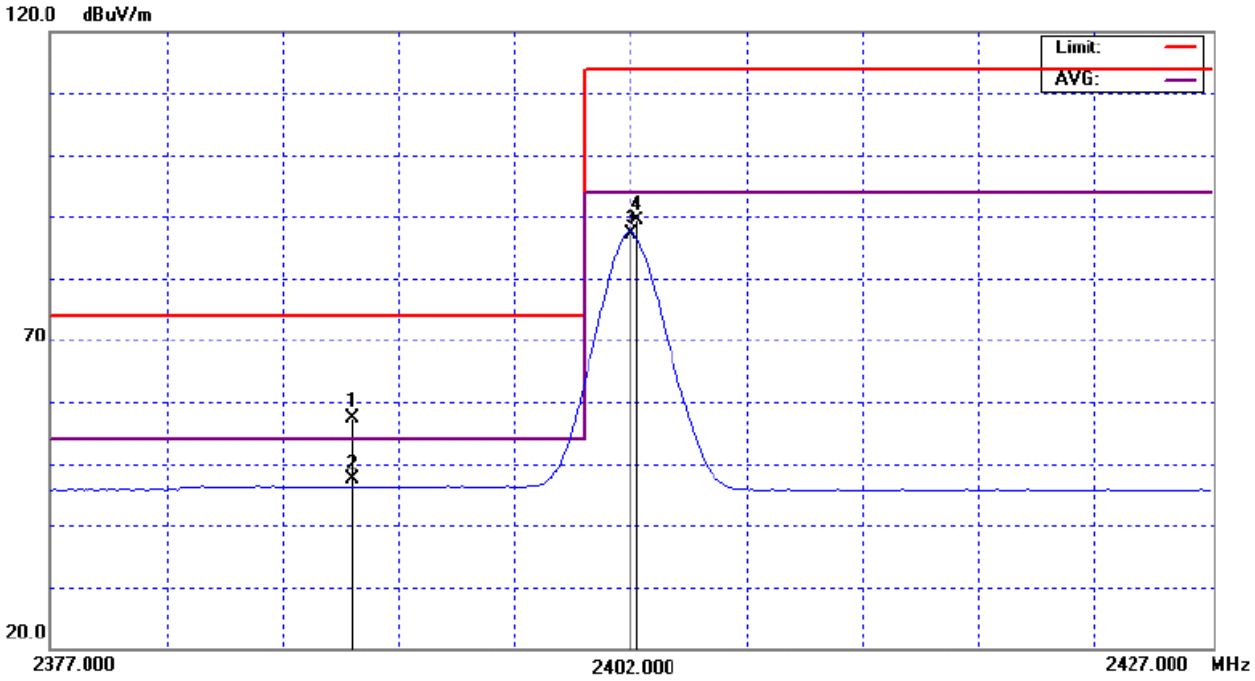
Remark：

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

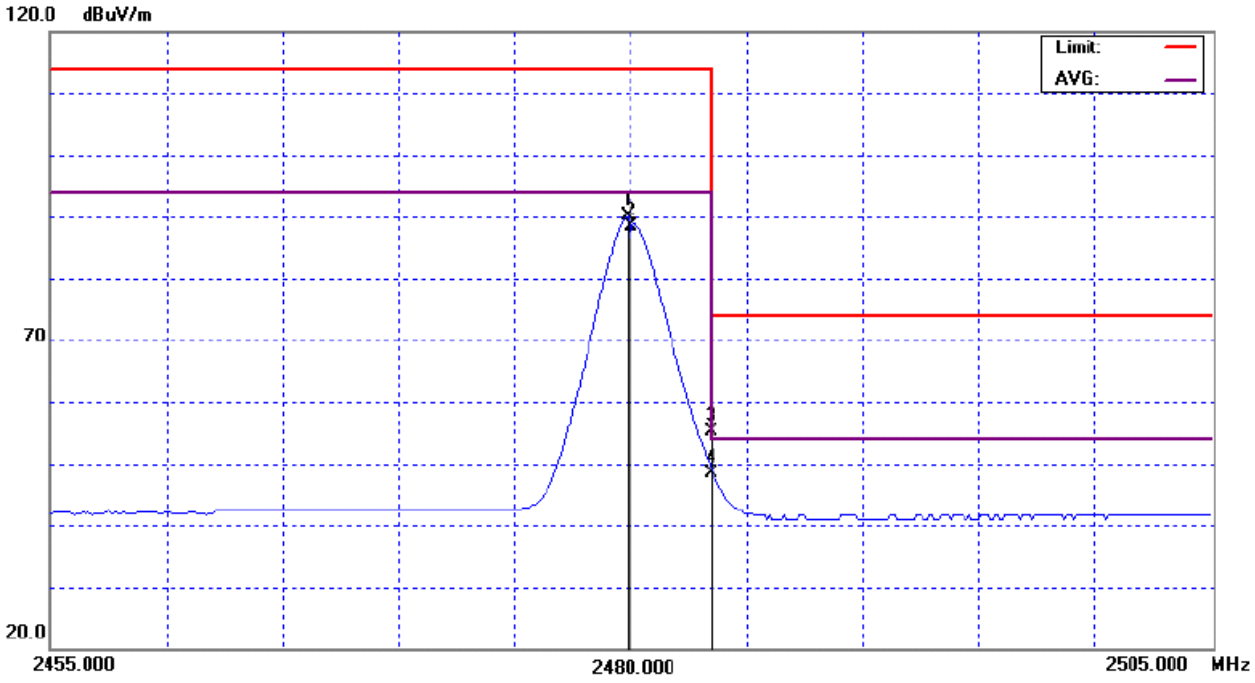
(2) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Restricted Bands Requirements, Vertical
Channel 01: 2402MHz



Channel 16: 2480MHz



EUT：	2.4G RF Keyboard	Model Name :	GK-8
Temperature：	22°C	Relative Humidity :	75%
Pressure：	1016 hPa	Test Voltage :	DC 3V
Test Mode ：	Channel 01: 2402MHz / Channel 16: 2480MHz (Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH16). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	25.96	16.24	32.57	58.53	48.81	74.00	54.00	CH01
2483.50	H	21.91	16.32	33.10	55.01	49.42	74.00	54.00	CH16

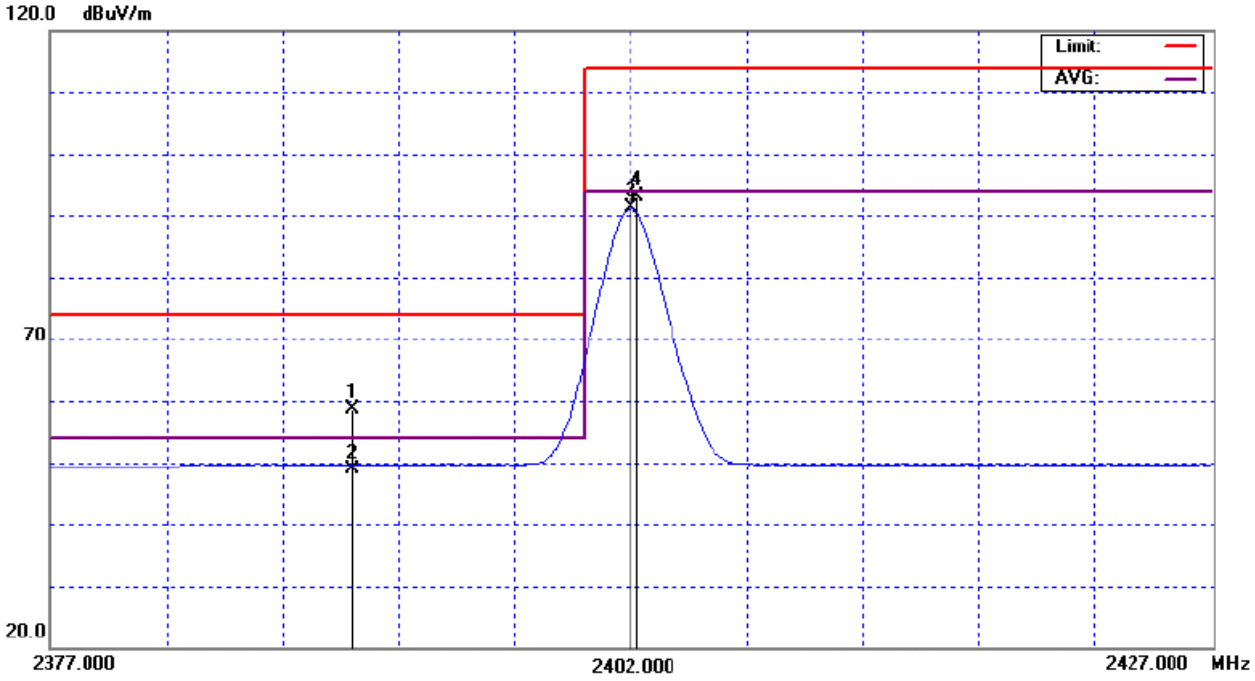
Remark：

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

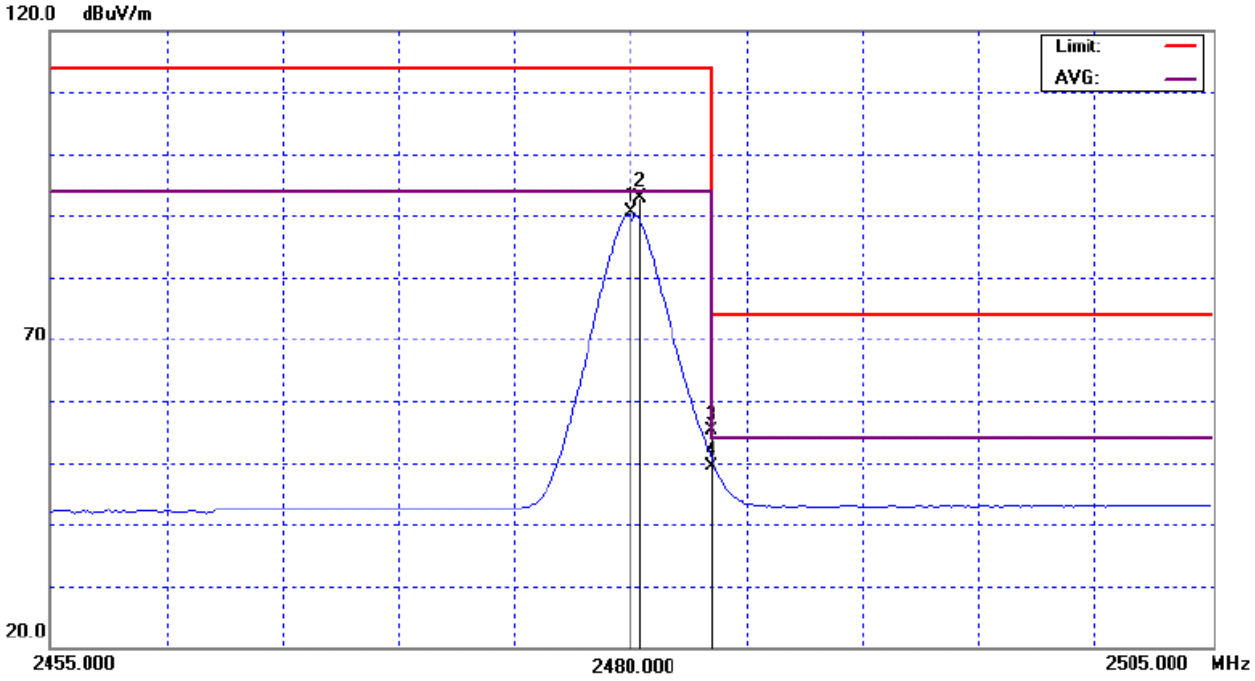
(2) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

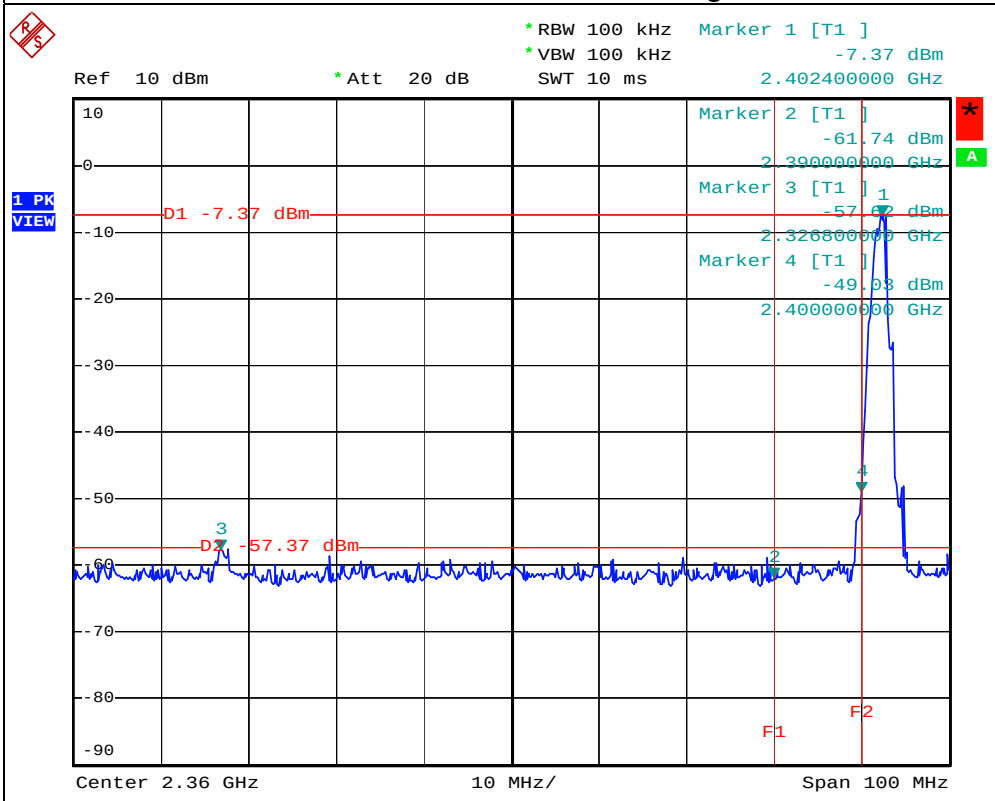
Restricted Bands Requirements, Horizontal
Channel 01: 2402MHz



Channel 16: 2480MHz

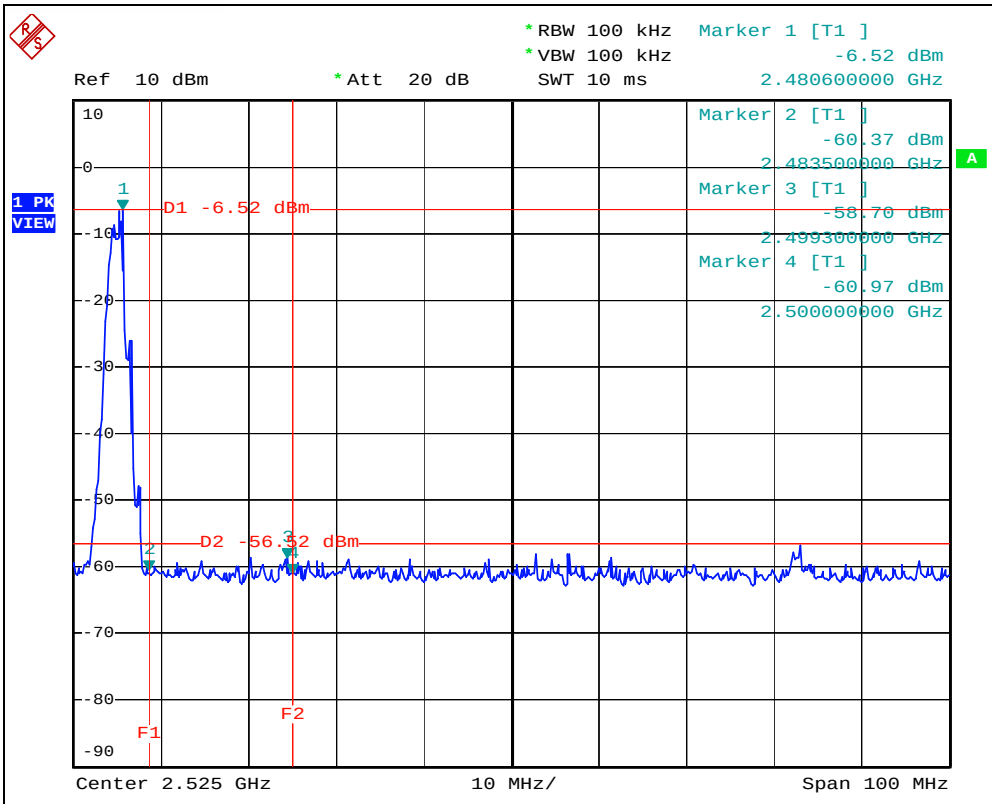


Channel 01: 2402MHz –Average-Lower



Date: 27.NOV.2007 04:22:24

Channel 16: 2480MHz –Average-Upper



Date: 27.NOV.2007 04:15:17

5. EUT TEST PHOTO

Radiated Measurement Photos