



**Neutron Engineering Inc.**

# FCC Radio Test Report

**FCC ID: SGPPK0101**

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

**Issued Date** : Sep. 11, 2012  
**Project No.** : 1208C184  
**Equipment** : Bluetooth Keyboard  
**Model Name** : PK-01B  
**Applicant** : Shenzhen Delux Industry Co., Ltd.  
**Address** : Delux Industrial Park, lan zhu road, ping shan street, long gang borough, shen zhen, china  
**Manufacturer** : Shenzhen Delux Industry Co., Ltd.  
**Address** : Delux Industrial Park, lan zhu road, ping shan street, long gang borough, shen zhen, china

**Tested by:**

Neutron Engineering Inc. EMC Laboratory

**Date of Receipt:** Aug. 24, 2012

**Date of Test:**

Aug. 24, 2012 ~ Sep. 10, 2012

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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.



| <b>Table of Contents</b>                                     | <b>Page</b> |
|--------------------------------------------------------------|-------------|
| <b>1 . CERTIFICATION</b>                                     | <b>6</b>    |
| <b>2 . SUMMARY OF TEST RESULTS</b>                           | <b>7</b>    |
| 2.1 TEST FACILITY                                            | 8           |
| 2.2 MEASUREMENT UNCERTAINTY                                  | 8           |
| <b>3 . GENERAL INFORMATION</b>                               | <b>9</b>    |
| 3.1 GENERAL DESCRIPTION OF EUT                               | 9           |
| 3.2 DESCRIPTION OF TEST MODES                                | 11          |
| 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING             | 11          |
| 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED | 12          |
| 3.5 DESCRIPTION OF SUPPORT UNITS                             | 13          |
| <b>4 . EMC EMISSION TEST</b>                                 | <b>14</b>   |
| 4.1 CONDUCTED EMISSION MEASUREMENT                           | 14          |
| 4.1.1 POWER LINE CONDUCTED EMISSION LIMITS                   | 14          |
| 4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING               | 14          |
| 4.1.3 TEST PROCEDURE                                         | 15          |
| 4.1.4 DEVIATION FROM TEST STANDARD                           | 15          |
| 4.1.5 TEST SETUP                                             | 15          |
| 4.1.6 EUT OPERATING CONDITIONS                               | 15          |
| 4.1.7 TEST RESULTS                                           | 16          |
| 4.2 RADIATED EMISSION MEASUREMENT                            | 18          |
| 4.2.1 RADIATED EMISSION LIMITS                               | 18          |
| 4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING               | 19          |
| 4.2.3 TEST PROCEDURE                                         | 20          |
| 4.2.4 DEVIATION FROM TEST STANDARD                           | 20          |
| 4.2.5 TEST SETUP                                             | 21          |
| 4.2.6 EUT OPERATING CONDITIONS                               | 22          |
| 4.2.7 TEST RESULTS (BELOW 30MHZ)                             | 23          |
| 4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHZ)                   | 24          |
| 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)                          | 28          |
| <b>5 . NUMBER OF HOPPING CHANNEL</b>                         | <b>52</b>   |
| 5.1 APPLIED PROCEDURES / LIMIT                               | 52          |
| 5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING               | 52          |
| 5.1.2 TEST PROCEDURE                                         | 52          |
| 5.1.3 DEVIATION FROM STANDARD                                | 52          |
| 5.1.4 TEST SETUP                                             | 52          |
| 5.1.5 EUT OPERATION CONDITIONS                               | 52          |
| 5.1.6 TEST RESULTS                                           | 53          |



| <b>Table of Contents</b>                          | <b>Page</b> |
|---------------------------------------------------|-------------|
| <b>6 . AVERAGE TIME OF OCCUPANCY</b>              | <b>55</b>   |
| <b>6.1 APPLIED PROCEDURES / LIMIT</b>             | <b>55</b>   |
| 6.1.1 MEASUREMENT INSTRUMENTS LIST                | 55          |
| 6.1.2 TEST PROCEDURE                              | 55          |
| 6.1.3 DEVIATION FROM STANDARD                     | 55          |
| 6.1.4 TEST SETUP                                  | 56          |
| 6.1.5 EUT OPERATION CONDITIONS                    | 56          |
| 6.1.6 TEST RESULTS                                | 57          |
| <b>7 . HOPPING CHANNEL SEPARATION MEASUREMENT</b> | <b>69</b>   |
| <b>7.1 APPLIED PROCEDURES / LIMIT</b>             | <b>69</b>   |
| 7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING    | 69          |
| 7.1.2 TEST PROCEDURE                              | 69          |
| 7.1.3 DEVIATION FROM STANDARD                     | 69          |
| 7.1.4 TEST SETUP                                  | 69          |
| 7.1.5 EUT OPERATION CONDITIONS                    | 69          |
| 7.1.6 TEST RESULTS                                | 70          |
| <b>8 . BANDWIDTH TEST</b>                         | <b>74</b>   |
| <b>8.1 APPLIED PROCEDURES / LIMIT</b>             | <b>74</b>   |
| 8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING    | 74          |
| 8.1.2 TEST PROCEDURE                              | 74          |
| 8.1.3 DEVIATION FROM STANDARD                     | 74          |
| 8.1.4 TEST SETUP                                  | 74          |
| 8.1.5 EUT OPERATION CONDITIONS                    | 74          |
| 8.1.6 TEST RESULTS                                | 75          |
| <b>9 . PEAK OUTPUT POWER TEST</b>                 | <b>79</b>   |
| <b>9.1 APPLIED PROCEDURES / LIMIT</b>             | <b>79</b>   |
| 9.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING    | 79          |
| 9.1.2 TEST PROCEDURE                              | 79          |
| 9.1.3 DEVIATION FROM STANDARD                     | 79          |
| 9.1.4 TEST SETUP                                  | 79          |
| 9.1.5 EUT OPERATION CONDITIONS                    | 79          |
| 9.1.6 TEST RESULTS                                | 80          |
| <b>10 . ANTENNA CONDUCTED SPURIOUS EMISSION</b>   | <b>86</b>   |
| <b>10.1 APPLIED PROCEDURES / LIMIT</b>            | <b>86</b>   |
| 10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING   | 86          |
| 10.1.2 TEST PROCEDURE                             | 86          |
| 10.1.3 DEVIATION FROM STANDARD                    | 86          |
| 10.1.4 TEST SETUP                                 | 86          |
| 10.1.5 EUT OPERATION CONDITIONS                   | 86          |



| Table of Contents   | Page |
|---------------------|------|
| 10.1.6 TEST RESULTS | 87   |
| 11 . EUT TEST PHOTO | 99   |



## **1. CERTIFICATION**

Equipment : Bluetooth Keyboard  
Brand Name : DELUX  
Model Name : PK-01B  
Applicant : Shenzhen Delux Industry Co., Ltd.  
Factory : Shenzhen Delux Industry Co., Ltd.  
Address : Delux Industrial Park, lan zhu road, ping shan street, long gang borough, shen zhen, china  
Date of Test : Aug. 24, 2012 ~ Sep. 10, 2012  
Test Item : ENGINEERING SAMPLE  
Standards : FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2009  
FCC Public Notice DA 00-705, March 30, 2000.

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-1-1208C184) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of 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:

| <b>APPLIED STANDARD: 47 CFR Part 15, Subpart C</b> |                                     |          |        |
|----------------------------------------------------|-------------------------------------|----------|--------|
| Standard Section                                   | Test Item                           | Judgment | Remark |
| <b>47 CFR Part 15</b>                              |                                     |          |        |
| 15.207                                             | Conducted Emission                  | PASS     |        |
| 15.247(d)                                          | Antenna conducted Spurious Emission | PASS     |        |
| 15.247<br>(a)(1)                                   | Hopping Channel Separation          | PASS     |        |
| 15.247<br>(b)(1)                                   | Peak Output Power                   | PASS     |        |
| 15.247(d)<br>15.209                                | Radiated Spurious Emission          | PASS     |        |
| 15.247<br>(a)(1)(iii)                              | Number of Hopping Frequency         | PASS     |        |
| 15.247<br>(a)(1)(iii)                              | Dwell Time                          | PASS     |        |
| 15.205                                             | Restricted Bands                    | PASS     |        |
| 15.203                                             | Antenna Requirement                 | PASS     |        |

**NOTE:**

(1) "N/A" denotes test is not applicable in this test report

(2) According to FCC Public Notice DA 00-705, March 30, 2000.



## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792  
Neutron's test firm number for FCC 319330

## 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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 %.

### A. Conducted Measurement :

| Test Site | Method | Measurement Frequency Range | U , (dB) | NOTE |
|-----------|--------|-----------------------------|----------|------|
| DG-C02    | CISPR  | 150 KHz ~ 30MHz             | 1.94     |      |

### B. Radiated Measurement :

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U,(dB) | NOTE |
|-----------|--------|-----------------------------|------------|--------|------|
| DG-CB03   | CISPR  | 30MHz ~ 200MHz              | V          | 3.82   |      |
|           |        | 30MHz ~ 200MHz              | H          | 3.60   |      |
|           |        | 200MHz ~ 1,000MHz           | V          | 3.86   |      |
|           |        | 200MHz ~ 1,000MHz           | H          | 3.94   |      |
|           |        | 1GHz~18GHz                  | V          | 3.12   |      |
|           |        | 1GHz~18GHz                  | H          | 3.68   |      |
|           |        | 18GHz~40GHz                 | V          | 4.15   |      |
|           |        | 18GHz~40GHz                 | H          | 4.14   |      |



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                                                                                                                                                                  |                                                                                                       |                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Equipment                                                                                                                                                        | Bluetooth Keyboard                                                                                    |                                                                            |
| Brand Name                                                                                                                                                       | DELUX                                                                                                 |                                                                            |
| Model Name                                                                                                                                                       | PK-01B                                                                                                |                                                                            |
| Model Difference                                                                                                                                                 | N/A                                                                                                   |                                                                            |
| Product Description                                                                                                                                              | The EUT is a Bluetooth Keyboard.                                                                      |                                                                            |
|                                                                                                                                                                  | Operation Frequency:                                                                                  | 2402~2480 MHz                                                              |
|                                                                                                                                                                  | Modulation Technology:                                                                                | GFSK(1Mbps)                                                                |
|                                                                                                                                                                  | Bit Rate of Transmitter:                                                                              | $\pi$ /4-DQPSK(2Mbps)                                                      |
|                                                                                                                                                                  |                                                                                                       | 8-DPSK(3Mbps)                                                              |
|                                                                                                                                                                  | Number of Channel:                                                                                    | 79 CH (Page 10)                                                            |
|                                                                                                                                                                  | Antenna Designation:                                                                                  | Please see note 3.(Page 10)                                                |
|                                                                                                                                                                  | Antenna Gain(Peak):                                                                                   |                                                                            |
|                                                                                                                                                                  | Output Power:                                                                                         | -1.65 dBm (Max.)-1Mbps<br>-2.44 dBm (Max.)-2Mbps<br>-1.36 dBm (Max.)-3Mbps |
| 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 |                                                                                                       |                                                                            |
| Power Source                                                                                                                                                     | #1 DC voltage supplied from host system for charging.<br>#2 DC voltage supplied from lithium battery. |                                                                            |
| Power Rating                                                                                                                                                     | #1 I/P AC 120V/60Hz O/P DC 5V<br>#2 DC 3.7V 350mAh                                                    |                                                                            |
| Connecting I/O Port(s)                                                                                                                                           | Please refer to the User's Manual                                                                     |                                                                            |

**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) |
| 00           | 2402            | 27      | 2429            | 54      | 2456            |
| 01           | 2403            | 28      | 2430            | 55      | 2457            |
| 02           | 2404            | 29      | 2431            | 56      | 2458            |
| 03           | 2405            | 30      | 2432            | 57      | 2459            |
| 04           | 2406            | 31      | 2433            | 58      | 2460            |
| 05           | 2407            | 32      | 2434            | 59      | 2461            |
| 06           | 2408            | 33      | 2435            | 60      | 2462            |
| 07           | 2409            | 34      | 2436            | 61      | 2463            |
| 08           | 2410            | 35      | 2437            | 62      | 2464            |
| 09           | 2411            | 36      | 2438            | 63      | 2465            |
| 10           | 2412            | 37      | 2439            | 64      | 2466            |
| 11           | 2413            | 38      | 2440            | 65      | 2467            |
| 12           | 2414            | 39      | 2441            | 66      | 2468            |
| 13           | 2415            | 40      | 2442            | 67      | 2469            |
| 14           | 2416            | 41      | 2443            | 68      | 2470            |
| 15           | 2417            | 42      | 2444            | 69      | 2471            |
| 16           | 2418            | 43      | 2445            | 70      | 2472            |
| 17           | 2419            | 44      | 2446            | 71      | 2473            |
| 18           | 2420            | 45      | 2447            | 72      | 2474            |
| 19           | 2421            | 46      | 2448            | 73      | 2475            |
| 20           | 2422            | 47      | 2449            | 74      | 2476            |
| 21           | 2423            | 48      | 2450            | 75      | 2477            |
| 22           | 2424            | 49      | 2451            | 76      | 2478            |
| 23           | 2425            | 50      | 2452            | 77      | 2479            |
| 24           | 2426            | 51      | 2453            | 78      | 2480            |
| 25           | 2427            | 52      | 2454            |         |                 |
| 26           | 2428            | 53      | 2455            |         |                 |

3.

| Ant. | Brand  | Model Name | Antenna Type | Connector | Gain (dBi) |
|------|--------|------------|--------------|-----------|------------|
| 1    | YoFree | YFBT01     | Printed      | N/A       | 2.78       |

### 3.2 DESCRIPTION OF TEST MODES

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

| Pretest Mode | Description             |
|--------------|-------------------------|
| Mode 1       | TX Mode <b>NOTE (1)</b> |
| Mode 2       | Normal Link             |

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

| For Conducted Emission |             |
|------------------------|-------------|
| Final Test Mode        | Description |
| Mode 2                 | Normal Link |

| For Radiated Emission |                         |
|-----------------------|-------------------------|
| Final Test Mode       | Description             |
| Mode 1                | TX Mode <b>NOTE (1)</b> |

**Note:**

- (1) The measurements are performed at the high, middle, low available channels.
- (2) The measurements for Hopping Channel Separation, Bandwidth and Peak Output Power were tested during 1Mbps, 2Mbps and 3Mbps, the worst case are 1Mbps and 3Mbps, only worst case was documented.

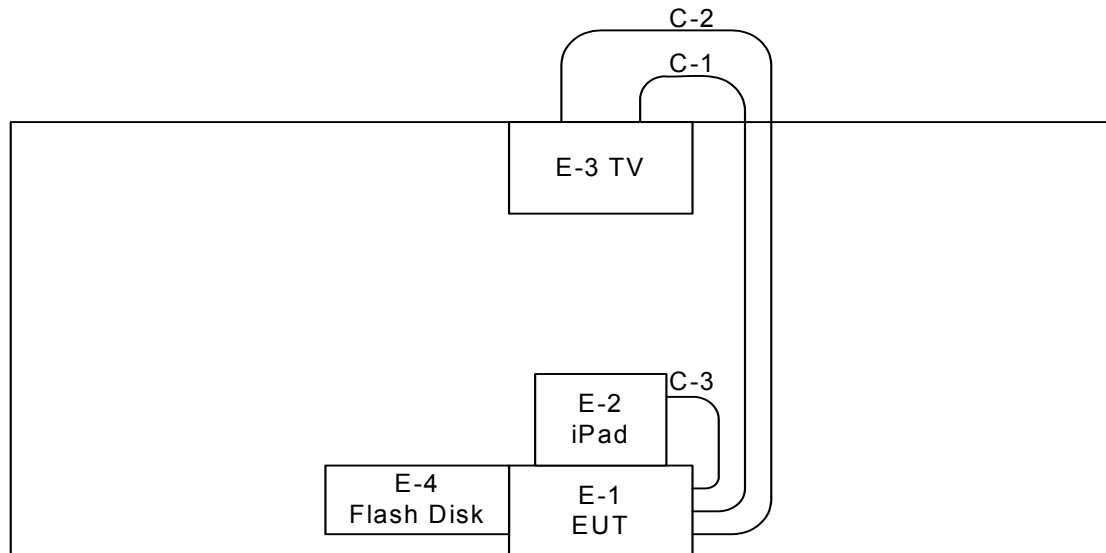
### 3.3 TABLE OF PARAMETERS OF TEST SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of GFSK

| Test software Version | Bluetooth |          |          |
|-----------------------|-----------|----------|----------|
| Frequency             | 2402 MHz  | 2441 MHz | 2480 MHz |
| Parameters-1Mbps      | 0         | 0        | 0        |
| Parameters-3Mbps      | 0         | 0        | 0        |

### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

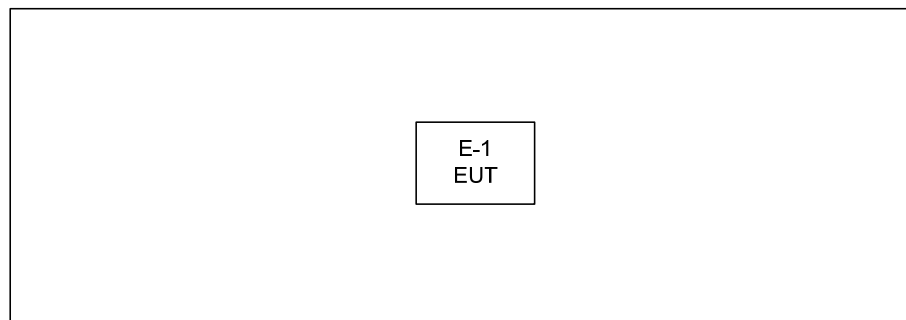
**Conducted:**



Control room

C-1 USB Cable  
C-2 AV Cable  
C-3 Data Cable

**Radiated:**



**3.5 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  | Bluetooth Keyboard | DELUX     | PK-01B         | SGPPK0101  | N/A              | EUT  |
| E-2  | iPad               | Apple     | A1337          | BCG-E2328A | GB023CTEA90      |      |
| E-3  | TV                 | Hisense   | T41418H        | VER        | N/A              |      |
| E-4  | Flash Disk         | Kingston  | DTI/1GB        | DOC        | 39621564-014D534 |      |

| Item | Shielded Type | Ferrite Core | Length | Note |
|------|---------------|--------------|--------|------|
| C-1  | NO            | YES          | 1.8M   |      |
| C-2  | NO            | NO           | 1.8M   |      |
| C-3  | NO            | NO           | 0.2M   |      |

Note:

- (1) For detachable type I/O cable should be specified the length in m in 『Length』 column.



#### 4. EMC EMISSION TEST

##### 4.1 CONDUCTED EMISSION MEASUREMENT

##### 4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

| FREQUENCY (MHz) | Class A (dBuV) |         | Class B (dBuV) |           | Standard |
|-----------------|----------------|---------|----------------|-----------|----------|
|                 | Quasi-peak     | Average | Quasi-peak     | Average   |          |
| 0.15 -0.5       | 79.00          | 66.00   | 66 - 56 *      | 56 - 46 * | CISPR    |
| 0.50 -5.0       | 73.00          | 60.00   | 56.00          | 46.00     | CISPR    |
| 5.0 -30.0       | 73.00          | 60.00   | 60.00          | 50.00     | CISPR    |

|           |       |       |           |           |     |
|-----------|-------|-------|-----------|-----------|-----|
| 0.15 -0.5 | 79.00 | 66.00 | 66 - 56 * | 56 - 46 * | FCC |
| 0.50 -5.0 | 73.00 | 60.00 | 56.00     | 46.00     | FCC |
| 5.0 -30.0 | 73.00 | 60.00 | 60.00     | 50.00     | FCC |

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

##### 4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | LISN              | EMCO         | 3816/2   | 00052765   | May.04.2013      |
| 2    | LISN              | R&S          | ENV216   | 100087     | May.04.2013      |
| 3    | Test Cable        | N/A          | C_17     | N/A        | Mar.28.2013      |
| 4    | EMI TEST RECEIVER | R&S          | ESCS30   | 826547/022 | May.04.2013      |
| 5    | 50Ω Terminator    | SHX          | TF2-3G-A | 08122902   | May.04.2013      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

The following table is the setting of the receiver

| Receiver Parameters | Setting  |
|---------------------|----------|
| Attenuation         | 10 dB    |
| Start Frequency     | 0.15 MHz |
| Stop Frequency      | 30 MHz   |
| IF Bandwidth        | 9 kHz    |

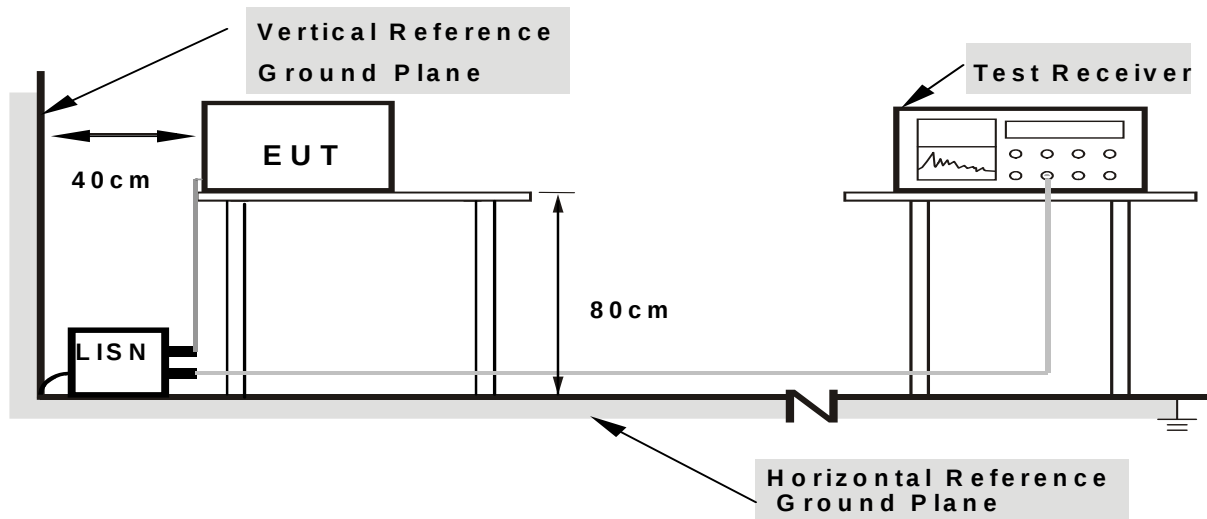
#### 4.1.3 TEST PROCEDURE

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- 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



**Note: 1.**Support units were connected to second LISN.

**2.**Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

#### 4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT is continue Transmitter/Receive data or Hopping on mode.



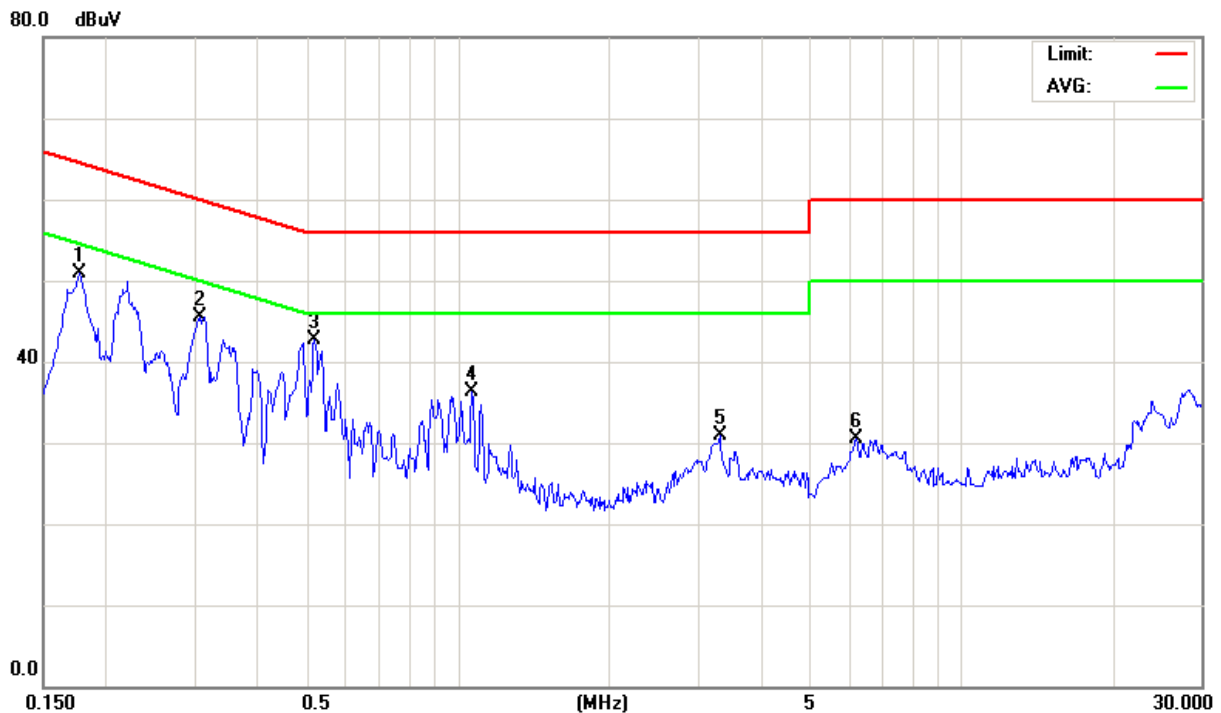
#### 4.1.7 TEST RESULTS

|               |                    |                     |              |
|---------------|--------------------|---------------------|--------------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B       |
| Temperature : | 25 °C              | Relative Humidity : | 53 %         |
| Pressure :    | 1010 hPa           | Test Power :        | AC 120V/60Hz |
| Test Mode :   | Normal Link        |                     |              |

| Freq.<br>(MHz) | Terminal<br>L/N | Measured(dBuV) |         | Limits(dBuV) |         | Margin<br>(dB) | Note |
|----------------|-----------------|----------------|---------|--------------|---------|----------------|------|
|                |                 | QP-Mode        | AV-Mode | QP-Mode      | AV-Mode |                |      |
| 0.18           | Line            | 50.92          | *       | 64.63        | 54.63   | -13.71         | (QP) |
| 0.31           | Line            | 45.53          | *       | 60.07        | 50.07   | -14.54         | (QP) |
| 0.52           | Line            | 42.77          | *       | 56.00        | 46.00   | -13.23         | (QP) |
| 1.07           | Line            | 36.28          | *       | 56.00        | 46.00   | -19.72         | (QP) |
| 3.31           | Line            | 30.84          | *       | 56.00        | 46.00   | -25.16         | (QP) |
| 6.19           | Line            | 30.55          | *       | 60.00        | 50.00   | -29.45         | (QP) |

#### Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “\*” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.



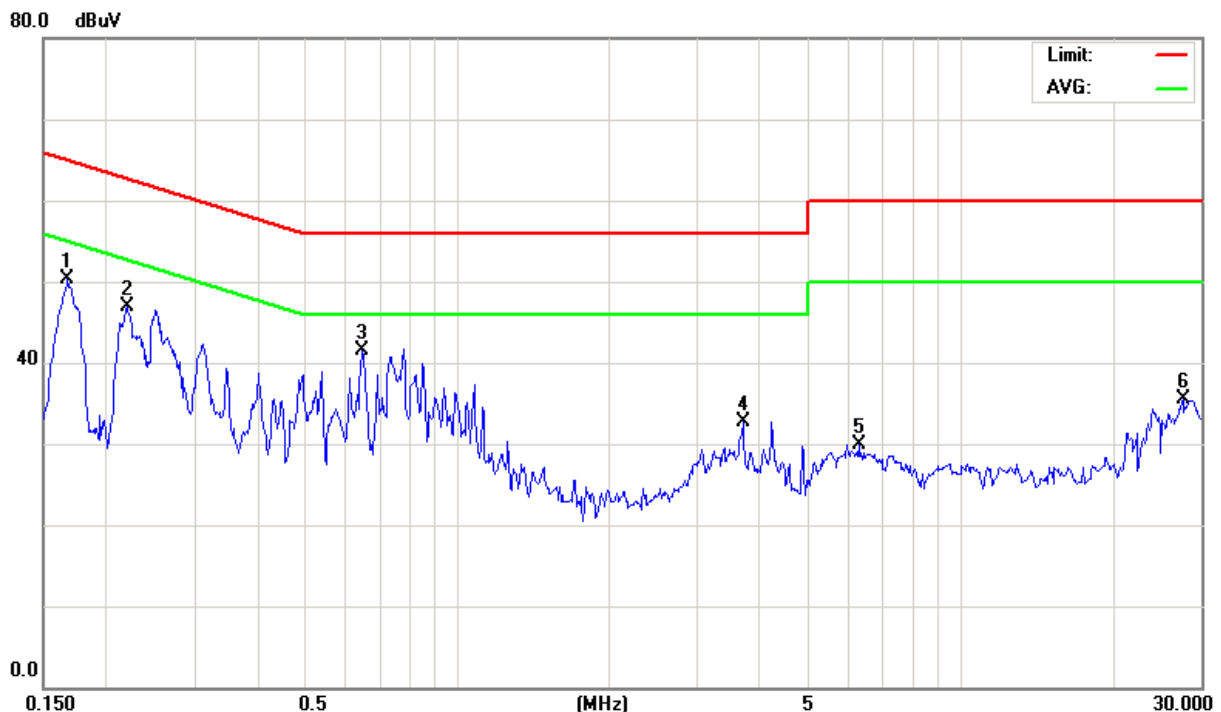


|               |                    |                     |              |
|---------------|--------------------|---------------------|--------------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B       |
| Temperature : | 25 °C              | Relative Humidity : | 53 %         |
| Pressure :    | 1010 hPa           | Test Power :        | AC 120V/60Hz |
| Test Mode :   | Normal Link        |                     |              |

| Freq.<br>(MHz) | Terminal<br>L/N | Measured(dBuV) |         | Limits(dBuV) |         | Margin<br>(dB) | Note |
|----------------|-----------------|----------------|---------|--------------|---------|----------------|------|
|                |                 | QP-Mode        | AV-Mode | QP-Mode      | AV-Mode |                |      |
| 0.17           | Neutral         | 50.32          | *       | 65.06        | 55.06   | -14.74         | (QP) |
| 0.22           | Neutral         | 46.97          | *       | 62.83        | 52.83   | -15.86         | (QP) |
| 0.65           | Neutral         | 41.56          | *       | 56.00        | 46.00   | -14.44         | (QP) |
| 3.70           | Neutral         | 32.65          | *       | 56.00        | 46.00   | -23.35         | (QP) |
| 6.25           | Neutral         | 29.84          | *       | 60.00        | 50.00   | -30.16         | (QP) |
| 27.66          | Neutral         | 35.57          | *       | 60.00        | 50.00   | -24.43         | (QP) |

**Remark**

- (1) All readings are QP Mode value unless otherwise stated AVG in column of Note. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a "\*" marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.





## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

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.

| Frequencies<br>(MHz) | Field Strength<br>(micorvolts/meter) | Measurement Distance<br>(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                                |
| 960~1000MHz          | 500                                  | 3                                |

### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

| FREQUENCY (MHz) | (dBuV/m) (at 3M) |         |
|-----------------|------------------|---------|
|                 | PEAK             | AVERAGE |
| Above 1000      | 74               | 54      |

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

### FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

| Highest frequency generated or<br>Upper frequency of<br>measurement used in the device<br>or on which the device operates<br>or tunes (MHz) | Range (MHz)                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Below 1.705                                                                                                                                 | 30                                                                                 |
| 1.705 – 108                                                                                                                                 | 1000                                                                               |
| 108 – 500                                                                                                                                   | 2000                                                                               |
| 500 – 1000                                                                                                                                  | 5000                                                                               |
| Above 1000                                                                                                                                  | 5 <sup>th</sup> harmonic of the highest frequency or 40 GHz,<br>whichever is lower |



#### 4.2.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment       | Manufacturer | Type No.  | Serial No. | Calibrated until |
|------|-------------------------|--------------|-----------|------------|------------------|
| 1    | Antenna                 | Schwarbeck   | VULB9160  | 9160-3232  | May.25.2013      |
| 2    | Amplifier               | HP           | 8447D     | 2944A09673 | May.04.2013      |
| 3    | Test Receiver           | R&S          | ESCI      | 100382     | May.04.2013      |
| 4    | Test Cable              | N/A          | C-01_CB03 | N/A        | Jul.01.2013      |
| 5    | Antenna                 | ETS          | 3115      | 00075789   | May.25.2013      |
| 6    | Amplifier               | Agilent      | 8449B     | 3008A02274 | May.04.2013      |
| 7    | Spectrum                | Agilent      | E4408B    | US39240143 | Nov.25.2012      |
| 8    | Test Cable              | HUBER+SUHNER | C-45      | N/A        | May.02.2013      |
| 9    | Controller              | CT           | SC100     | N/A        | N/A              |
| 10   | Horn Antenna            | EMCO         | 3115      | 9605-4803  | May.25.2013      |
| 11   | Active Loop Antenna     | R&S          | HFH2-Z2   | 830749/020 | May.04.2013      |
| 12   | Broad-Band Horn Antenna | Schwarzbeck  | BBHA 9170 | 9170319    | Oct.13.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

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

| Receiver Parameter     | Setting                           |
|------------------------|-----------------------------------|
| Attenuation            | Auto                              |
| Start ~ Stop Frequency | 9kHz~90kHz for PK/AVG detector    |
| Start ~ Stop Frequency | 90kHz~110kHz for QP detector      |
| Start ~ Stop Frequency | 110kHz~490kHz for PK/AVG detector |
| Start ~ Stop Frequency | 490kHz~30MHz for QP detector      |
| Start ~ Stop Frequency | 30MHz~1000MHz for QP detector     |



#### **4.2.3 TEST PROCEDURE**

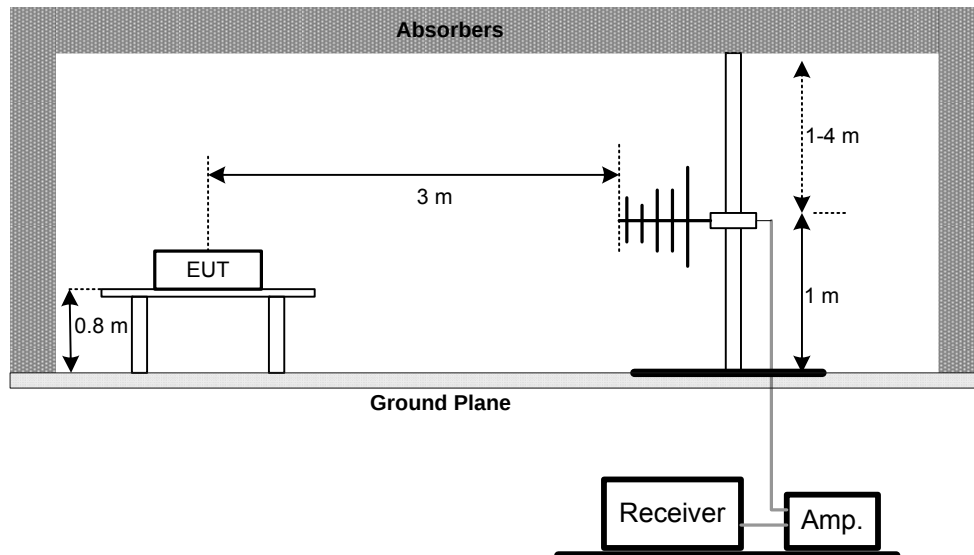
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- 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 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.
- 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.

#### **4.2.4 DEVIATION FROM TEST STANDARD**

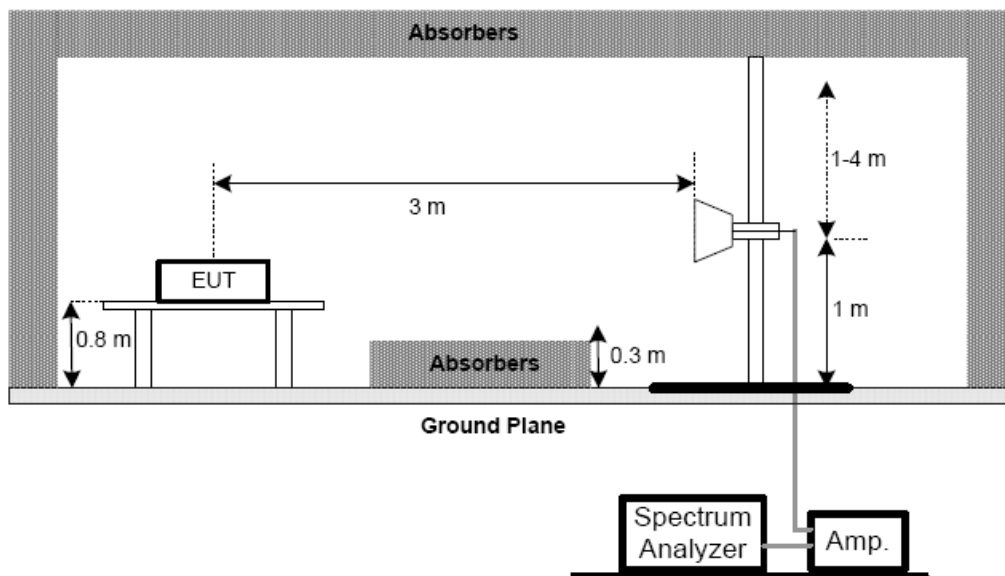
No deviation

#### 4.2.5 TEST SETUP

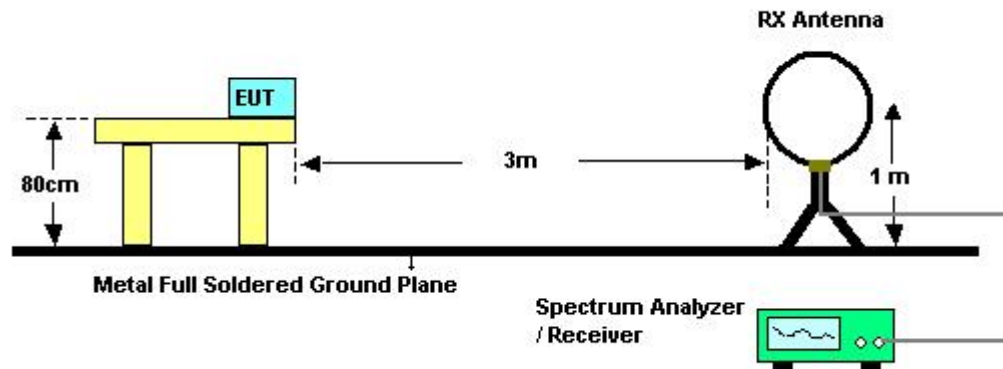
##### (A) Radiated Emission Test Set-Up Frequency Below 1 GHz



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



(C) For radiated emissions below 30MHz



#### 4.2.6 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.



#### 4.2.7 TEST RESULTS (BELOW 30MHZ)

|               |                    |                     |         |
|---------------|--------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B  |
| Temperature : | 25 °C              | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa           | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX Mode            |                     |         |

| Freq.<br>(MHz) | Ant.<br>0°/90° | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|----------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 0.0092         | 0°             | 16.59                 | 24.30                   | 40.89                    | 128.29                 | -87.40         | AVG  |
| 0.0092         | 0°             | 19.87                 | 24.30                   | 44.17                    | 148.29                 | -104.12        | PK   |
| 0.0143         | 0°             | 18.46                 | 24.30                   | 42.76                    | 124.50                 | -81.74         | AVG  |
| 0.0143         | 0°             | 20.35                 | 24.30                   | 44.65                    | 144.50                 | -99.85         | PK   |
| 0.0235         | 0°             | 18.27                 | 24.08                   | 42.35                    | 120.18                 | -77.83         | AVG  |
| 0.0235         | 0°             | 21.06                 | 24.08                   | 45.14                    | 140.18                 | -95.04         | PK   |
| 0.0346         | 0°             | 17.27                 | 23.38                   | 40.65                    | 116.82                 | -76.18         | AVG  |
| 0.0346         | 0°             | 19.63                 | 23.38                   | 43.01                    | 136.82                 | -93.82         | PK   |
| 0.4375         | 0°             | 17.59                 | 19.95                   | 37.54                    | 94.78                  | -57.24         | AVG  |
| 0.4375         | 0°             | 20.41                 | 19.95                   | 40.36                    | 114.78                 | -74.42         | PK   |
| 1.3280         | 0°             | 19.84                 | 19.57                   | 39.41                    | 65.14                  | -25.73         | QP   |

| Freq.<br>(MHz) | Ant.<br>0°/90° | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|----------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 0.0093         | 90°            | 17.35                 | 24.30                   | 41.65                    | 128.22                 | -86.57         | AVG  |
| 0.0093         | 90°            | 20.18                 | 24.30                   | 44.48                    | 148.22                 | -103.74        | PK   |
| 0.0247         | 90°            | 17.36                 | 24.00                   | 41.36                    | 119.75                 | -78.39         | AVG  |
| 0.0247         | 90°            | 20.58                 | 24.00                   | 44.58                    | 139.75                 | -95.17         | PK   |
| 0.0357         | 90°            | 18.19                 | 23.31                   | 41.50                    | 116.55                 | -75.05         | AVG  |
| 0.0357         | 90°            | 21.56                 | 23.31                   | 44.87                    | 136.55                 | -91.68         | PK   |
| 0.0524         | 90°            | 17.59                 | 22.35                   | 39.94                    | 113.22                 | -73.28         | AVG  |
| 0.0524         | 90°            | 20.85                 | 22.35                   | 43.20                    | 133.22                 | -90.02         | PK   |
| 0.2958         | 90°            | 18.36                 | 20.29                   | 38.65                    | 98.18                  | -59.53         | AVG  |
| 0.2958         | 90°            | 20.42                 | 20.29                   | 40.71                    | 118.18                 | -77.47         | PK   |
| 1.4950         | 90°            | 17.56                 | 19.55                   | 37.11                    | 64.11                  | -27.00         | QP   |

#### Remark :

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB);.
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor..



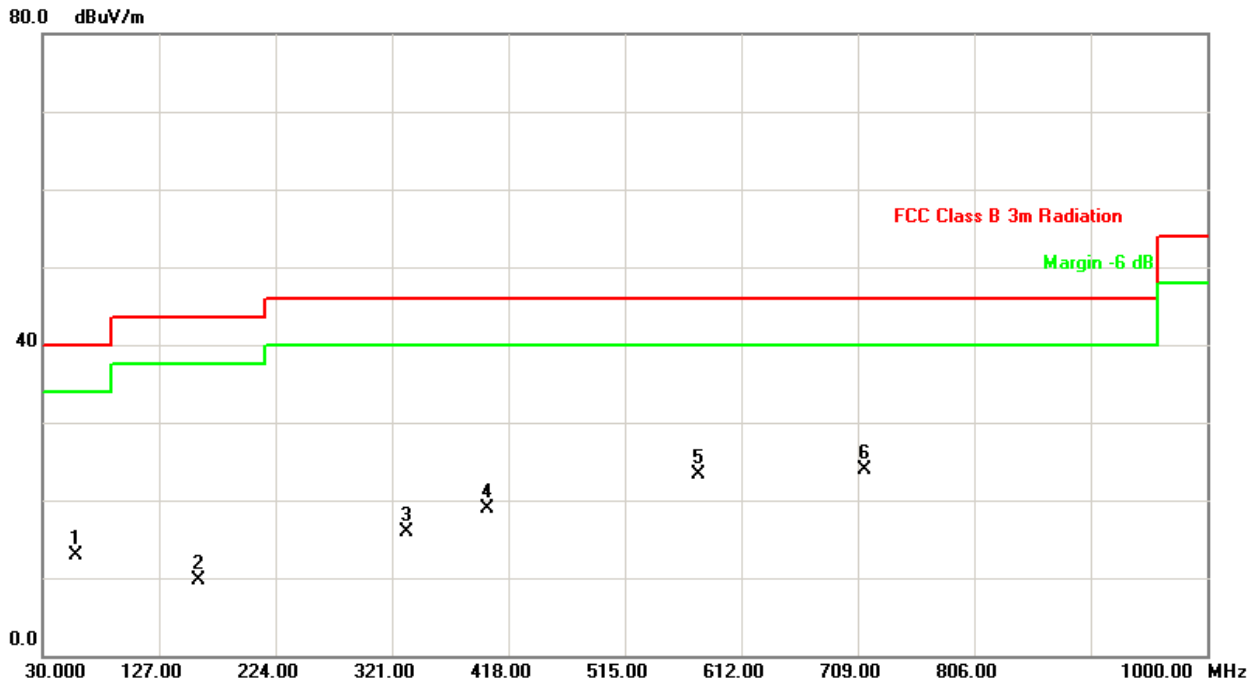
#### 4.2.8 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

|               |                    |                     |         |
|---------------|--------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B  |
| Temperature : | 25 °C              | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa           | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz -1Mbps  |                     |         |

| Freq.<br>(MHz) | Ant.<br>H/V | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|-------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 57.16          | V           | 30.65                 | -17.70                  | 12.95                    | 40.00                  | - 27.05        |      |
| 159.98         | V           | 27.67                 | -17.97                  | 9.70                     | 43.50                  | - 33.80        |      |
| 332.64         | V           | 27.78                 | -11.92                  | 15.86                    | 46.00                  | - 30.14        |      |
| 400.54         | V           | 28.61                 | -9.80                   | 18.81                    | 46.00                  | - 27.19        |      |
| 576.11         | V           | 29.28                 | -6.02                   | 23.26                    | 46.00                  | - 22.74        |      |
| 714.82         | V           | 28.49                 | -4.53                   | 23.96                    | 46.00                  | - 22.04        |      |

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 measurement 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 show in table.



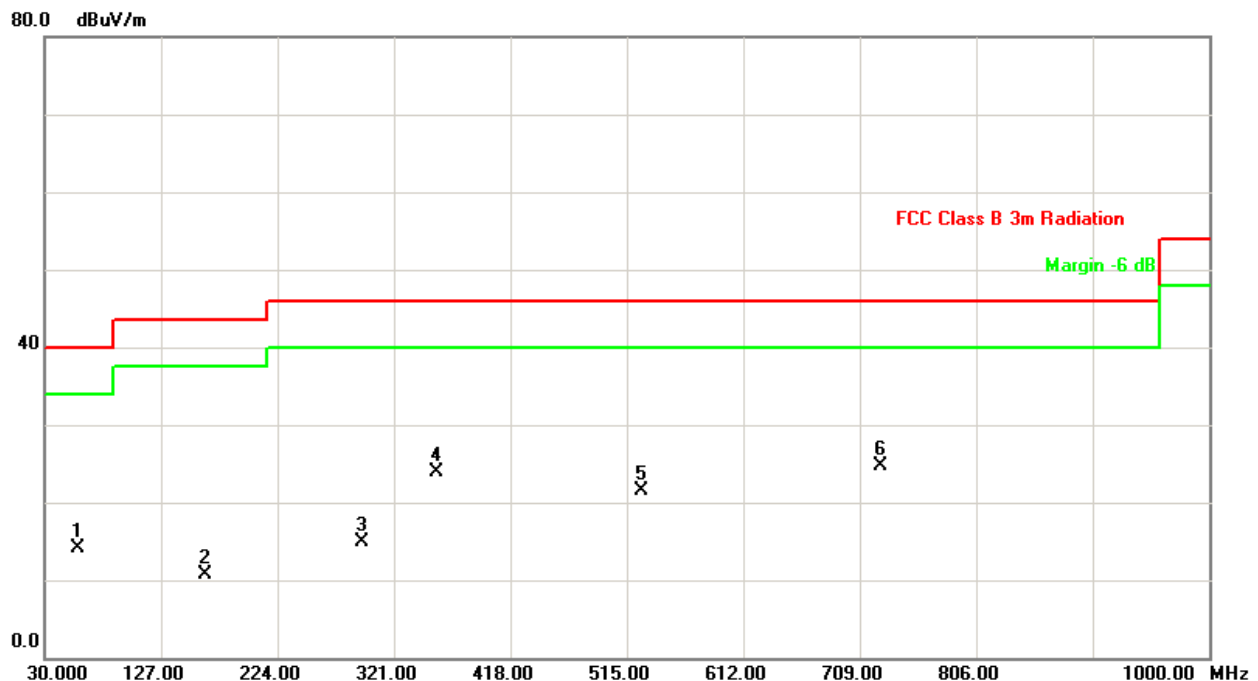


|               |                    |                     |         |
|---------------|--------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B  |
| Temperature : | 25 °C              | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa           | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz -1Mbps  |                     |         |

| Freq.<br>(MHz) | Ant.<br>H/V | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|-------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 57.16          | H           | 31.88                 | -17.70                  | 14.18                    | 40.00                  | - 25.82        |      |
| 163.86         | H           | 28.50                 | -17.83                  | 10.67                    | 43.50                  | - 32.83        |      |
| 293.84         | H           | 27.46                 | -12.62                  | 14.84                    | 46.00                  | - 31.16        |      |
| 356.89         | H           | 35.17                 | -11.29                  | 23.88                    | 46.00                  | - 22.12        |      |
| 527.61         | H           | 28.86                 | -7.40                   | 21.46                    | 46.00                  | - 24.54        |      |
| 726.46         | H           | 29.07                 | -4.44                   | 24.63                    | 46.00                  | - 21.37        |      |

**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 measurement 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 show in table.



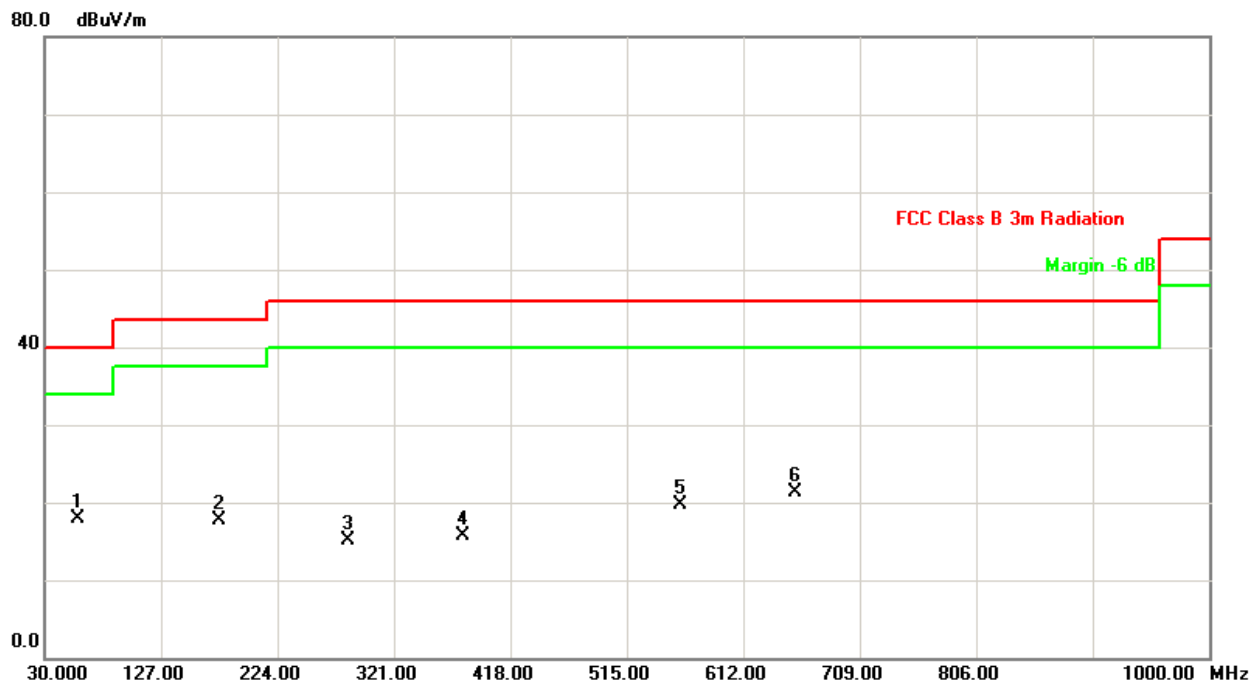


|               |                    |                     |         |
|---------------|--------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B  |
| Temperature : | 25 °C              | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa           | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz -3Mbps  |                     |         |

| Freq.<br>(MHz) | Ant.<br>H/V | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|-------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 57.16          | V           | 35.65                 | -17.70                  | 17.95                    | 40.00                  | - 22.05        |      |
| 175.50         | V           | 35.15                 | -17.41                  | 17.74                    | 43.50                  | - 25.76        |      |
| 283.17         | V           | 28.18                 | -12.99                  | 15.19                    | 46.00                  | - 30.81        |      |
| 378.23         | V           | 26.21                 | -10.56                  | 15.65                    | 46.00                  | - 30.35        |      |
| 559.62         | V           | 26.15                 | -6.39                   | 19.76                    | 46.00                  | - 26.24        |      |
| 654.68         | V           | 25.95                 | -4.67                   | 21.28                    | 46.00                  | - 24.72        |      |

**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 measurement 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 show in table.



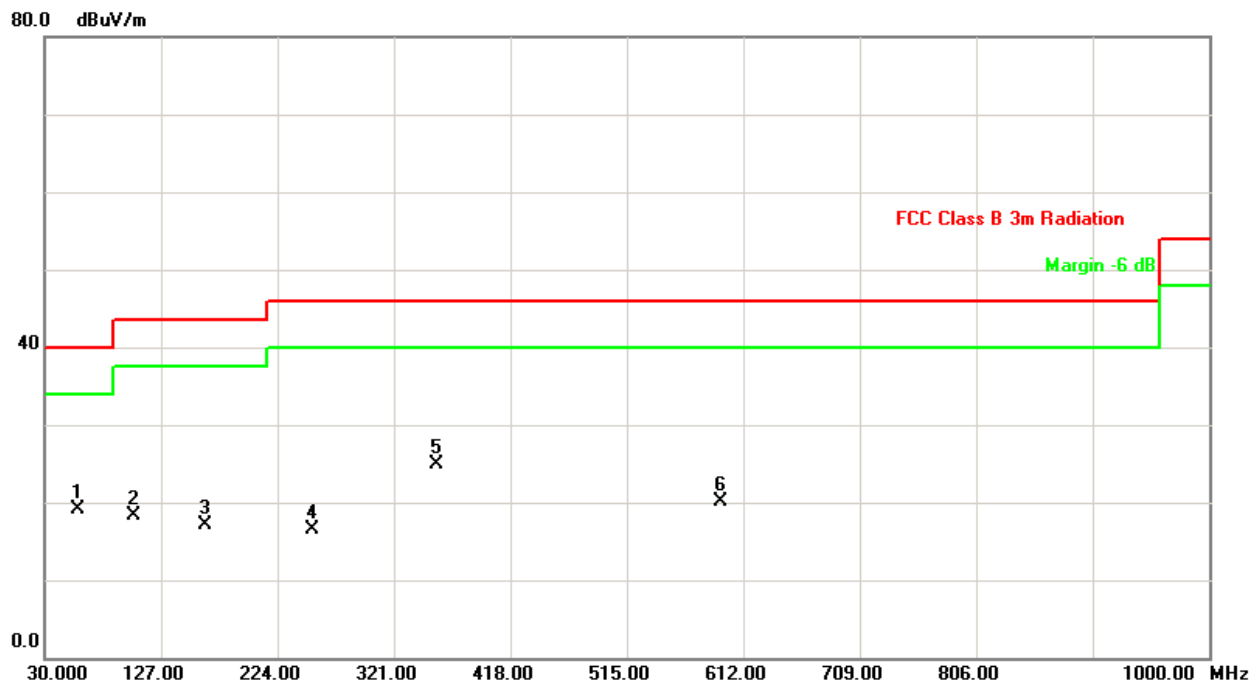


|               |                    |                     |         |
|---------------|--------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard | Model Name :        | PK-01B  |
| Temperature : | 25 °C              | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa           | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz -3Mbps  |                     |         |

| Freq.<br>(MHz) | Ant.<br>H/V | Reading(RA)<br>(dBuV) | Corr.Factor(CF)<br>(dB) | Measured(FS)<br>(dBuV/m) | Limits(QP)<br>(dBuV/m) | Margin<br>(dB) | Note |
|----------------|-------------|-----------------------|-------------------------|--------------------------|------------------------|----------------|------|
| 57.16          | H           | 36.88                 | -17.70                  | 19.18                    | 40.00                  | - 20.82        |      |
| 103.72         | H           | 37.00                 | -18.65                  | 18.35                    | 43.50                  | - 25.15        |      |
| 163.86         | H           | 35.00                 | -17.83                  | 17.17                    | 43.50                  | - 26.33        |      |
| 253.10         | H           | 31.26                 | -14.82                  | 16.44                    | 46.00                  | - 29.56        |      |
| 356.89         | H           | 36.17                 | -11.29                  | 24.88                    | 46.00                  | - 21.12        |      |
| 592.60         | H           | 25.74                 | -5.66                   | 20.08                    | 46.00                  | - 25.92        |      |

**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 measurement 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 show in table.





#### 4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

|               |                          |                     |         |
|---------------|--------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard       | Model Name :        | PK-01B  |
| Temperature : | 25 °C                    | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa                 | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz – CH 00-1Mbps |                     |         |

| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Reading        |              | Ant./CF<br>CF(dB) | Act.             |                | Limit            |                | Note       |
|----------------|-----------------|----------------|--------------|-------------------|------------------|----------------|------------------|----------------|------------|
|                |                 | Peak<br>(dBuV) | AV<br>(dBuV) |                   | Peak<br>(dBuV/m) | AV<br>(dBuV/m) | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |            |
| 2390.00        | V               | 20.08          | 10.29        | 31.91             | 51.99            | 42.20          | 74.00            | 54.00          | X/E        |
| <b>2402.25</b> | <b>V</b>        | <b>57.67</b>   | <b>57.19</b> | <b>31.90</b>      | <b>89.57</b>     | <b>89.09</b>   |                  |                | <b>X/F</b> |
| 4803.94        | V               | 41.85          | 32.05        | 5.21              | 47.06            | 37.26          | 74.00            | 54.00          | X/H        |

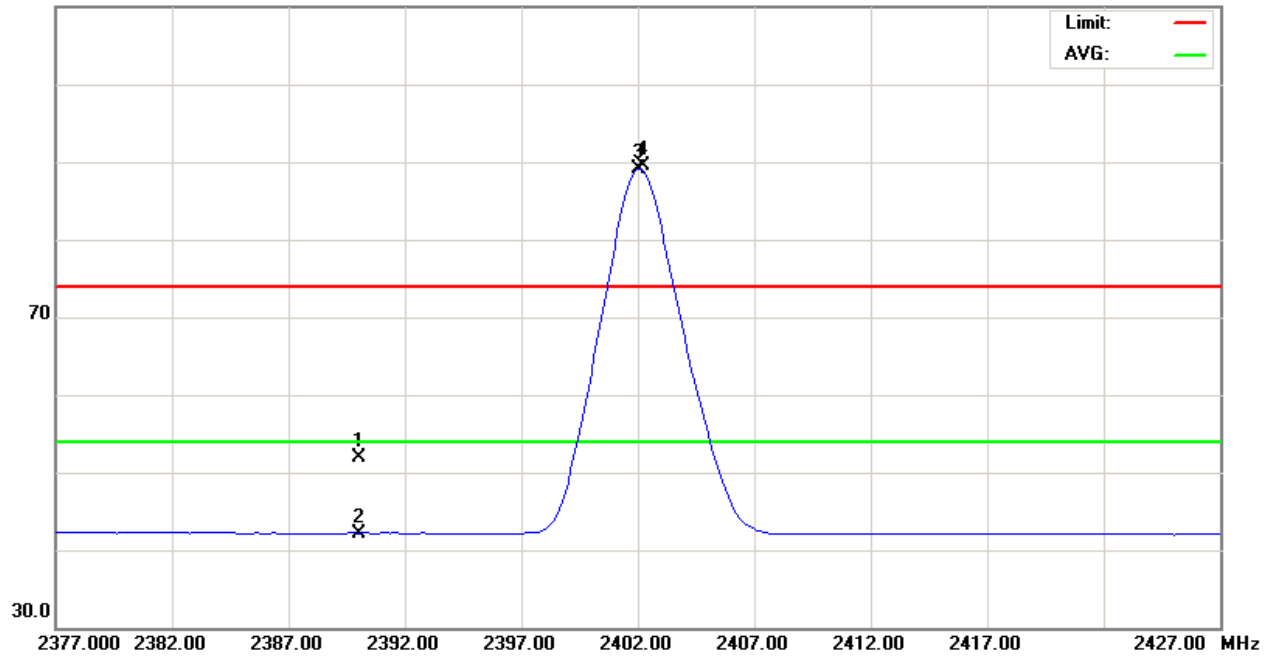
#### Remark :

- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

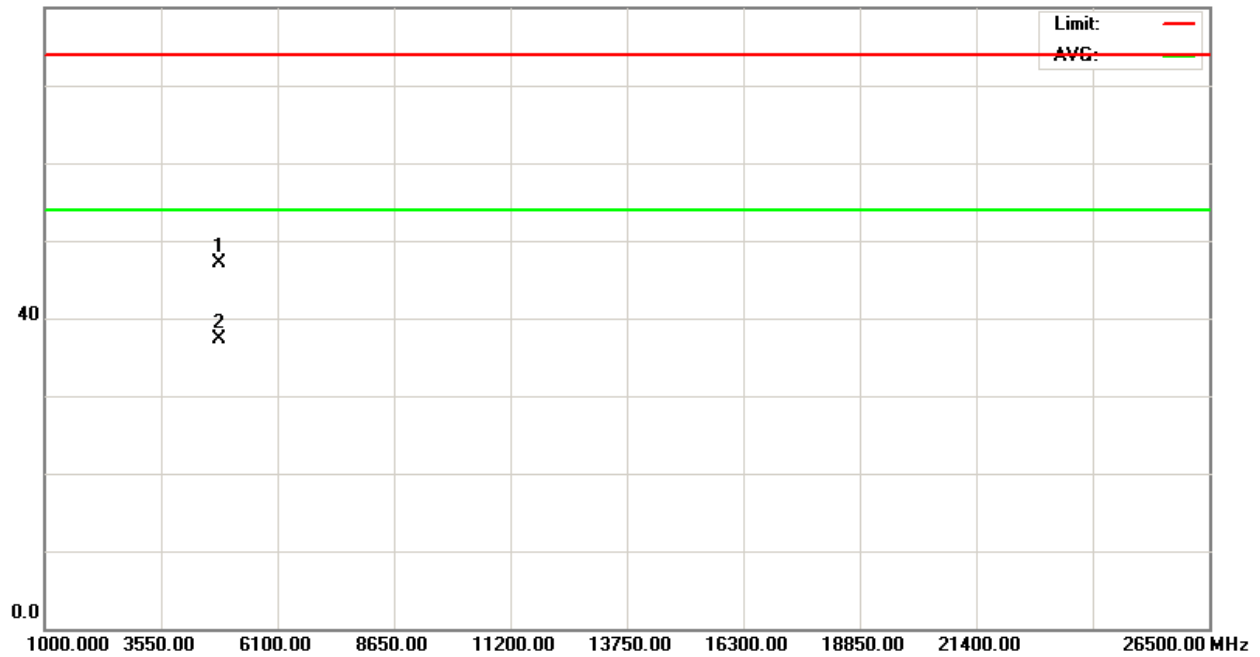


TX CH00(Above 1000 MHz, Vertical)

110.0 dBuV/m



80.0 dBuV/m





|               |                          |                     |         |
|---------------|--------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard       | Model Name :        | PK-01B  |
| Temperature : | 25 °C                    | Relative Humidity : | 58 %    |
| Pressure :    | 1010hPa                  | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz – CH 00-1Mbps |                     |         |

| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Reading        |              | Ant./CF<br>CF(dB) | Act.             |                | Limit            |                | Note       |
|----------------|-----------------|----------------|--------------|-------------------|------------------|----------------|------------------|----------------|------------|
|                |                 | Peak<br>(dBuV) | AV<br>(dBuV) |                   | Peak<br>(dBuV/m) | AV<br>(dBuV/m) | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |            |
| 2390.00        | H               | 19.45          | 10.29        | 31.91             | 51.36            | 42.20          | 74.00            | 54.00          | X/E        |
| <b>2402.25</b> | <b>H</b>        | <b>59.97</b>   | <b>59.52</b> | <b>31.90</b>      | <b>91.87</b>     | <b>91.42</b>   |                  |                | <b>X/F</b> |
| 4804.07        | H               | 41.37          | 31.09        | 5.21              | 46.58            | 36.30          | 74.00            | 54.00          | X/H        |

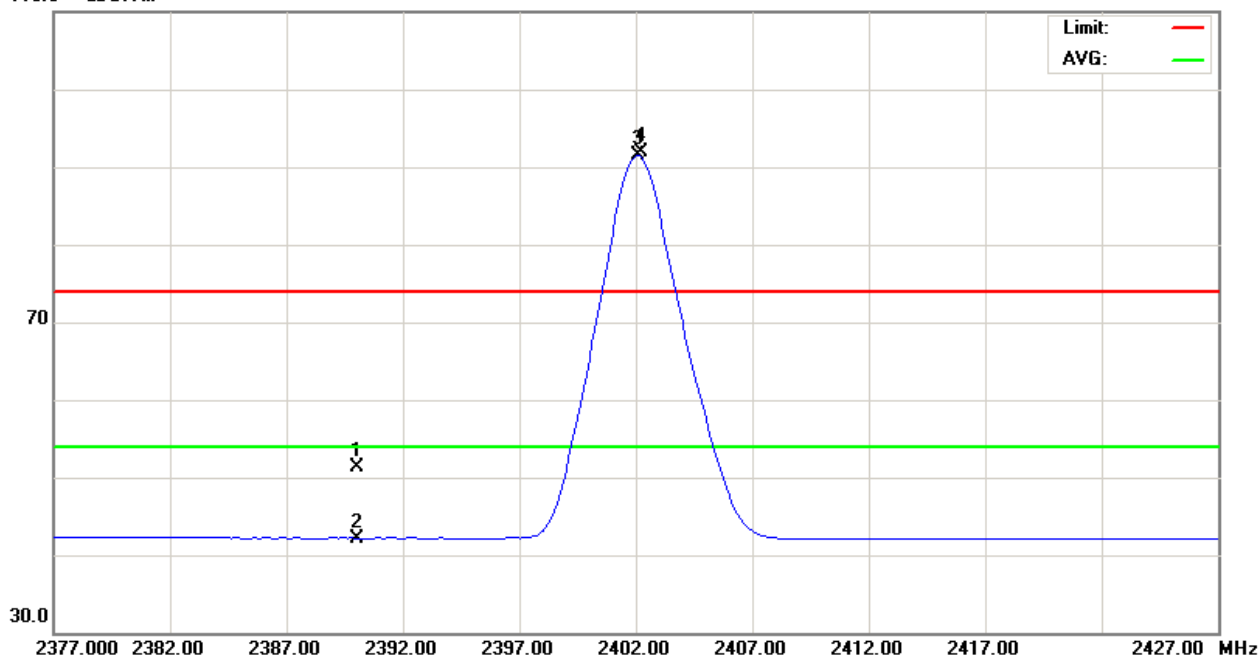
**Remark :**

- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

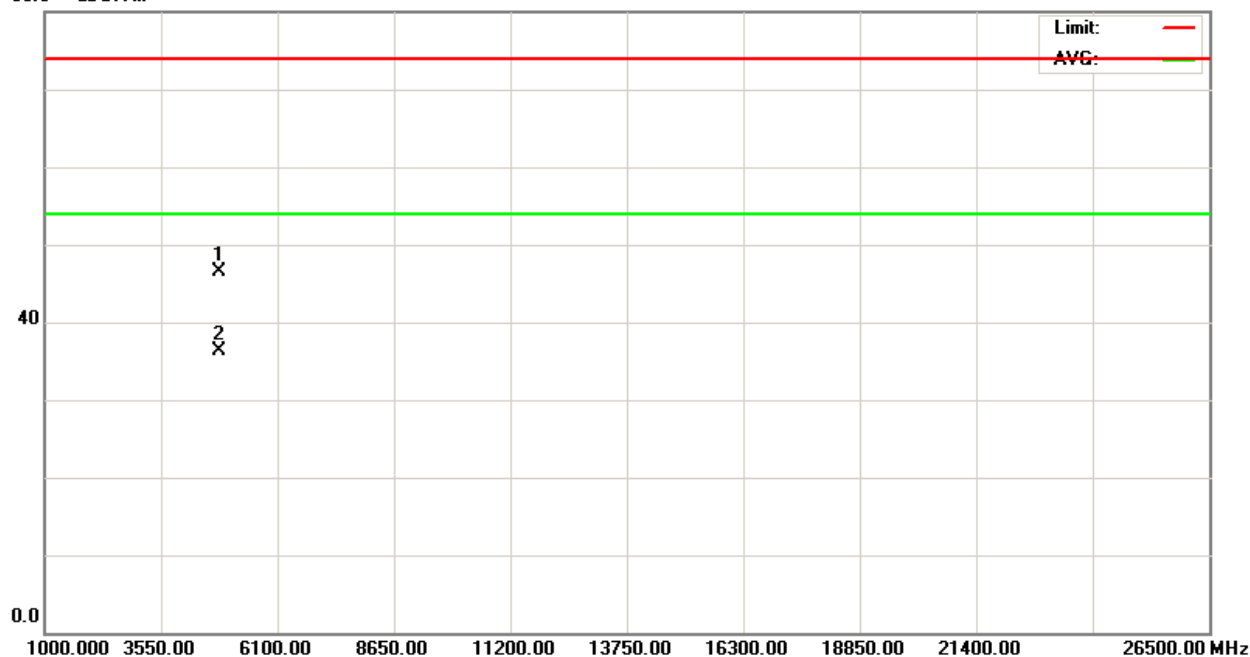


TX CH00(Above 1000 MHz, Horizontal)

110.0 dBuV/m



80.0 dBuV/m





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2441MHz –CH39-1Mbps |                     |         |

| 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) |            |
| <b>2440.88</b> | <b>V</b> | <b>56.27</b> | <b>55.79</b> | <b>31.85</b> | <b>88.12</b> | <b>87.64</b> |          |          | <b>X/F</b> |
| 4882.06        | V        | 42.18        | 32.17        | 5.50         | 47.68        | 37.67        | 74.00    | 54.00    | X/H        |

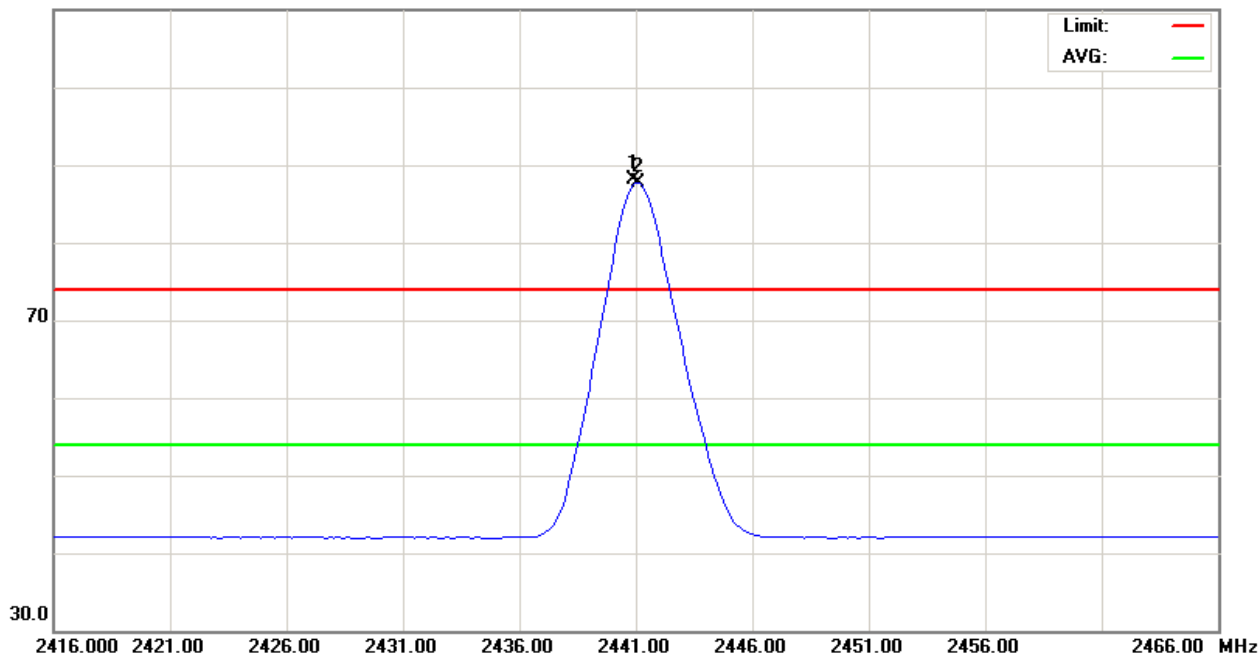
**Remark :**

- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

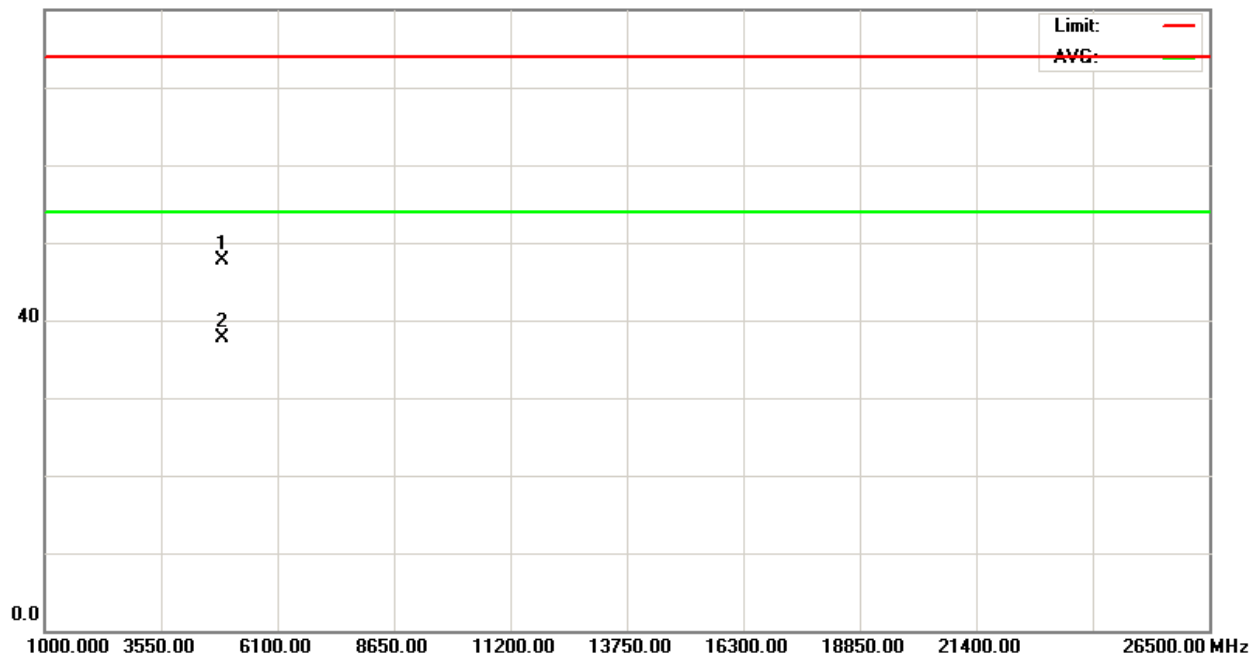


TX CH39 (Above 1000 MHz, Vertical)

110.0 dBuV/m



80.0 dBuV/m





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2441MHz –CH39-1Mbps |                     |         |

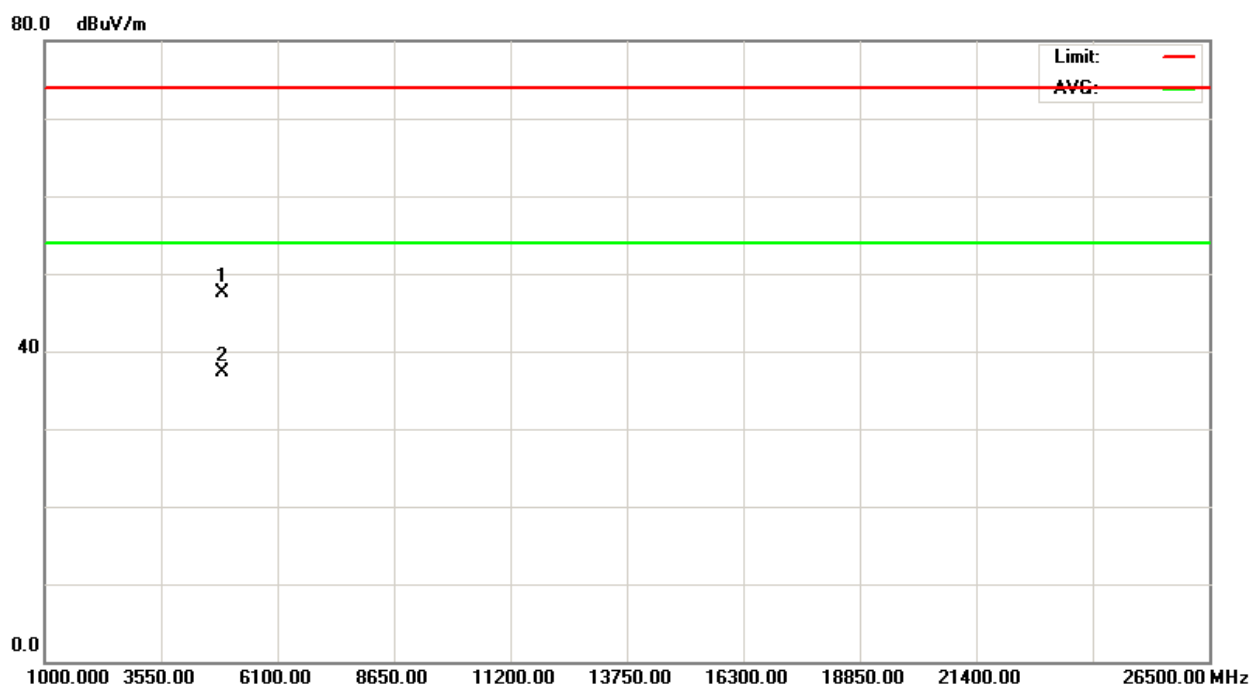
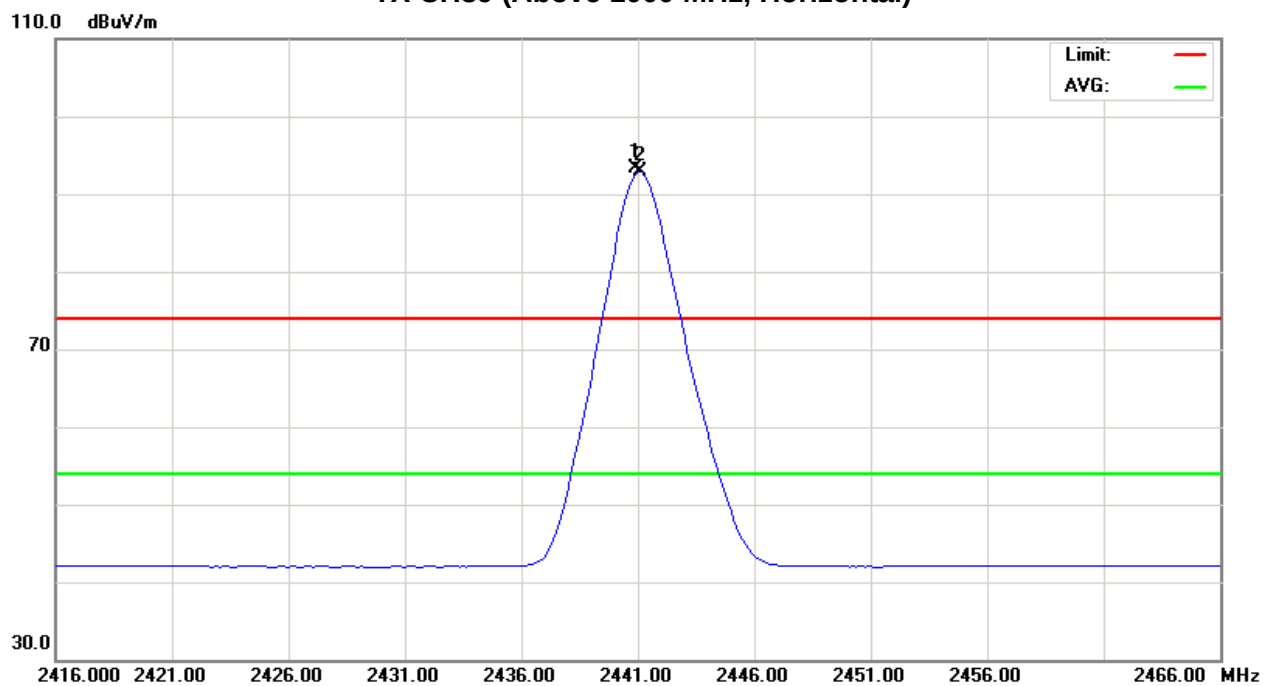
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2440.88</b> | <b>H</b> | <b>61.48</b> | <b>61.00</b> | <b>31.85</b> | <b>93.33</b> | <b>92.85</b> |          |          | <b>X/F</b> |
| 4882.14        | H        | 42.07        | 31.78        | 5.50         | 47.57        | 37.28        | 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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH39 (Above 1000 MHz, Horizontal)





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2480MHz –CH78-1Mbps |                     |         |

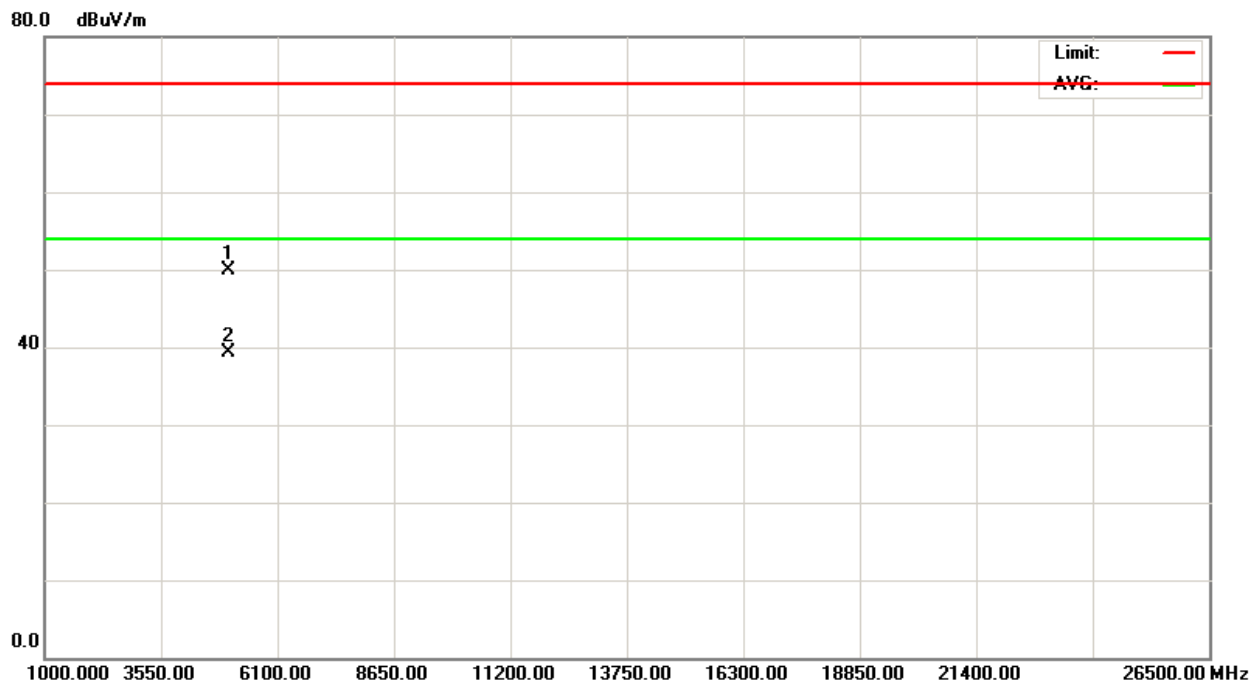
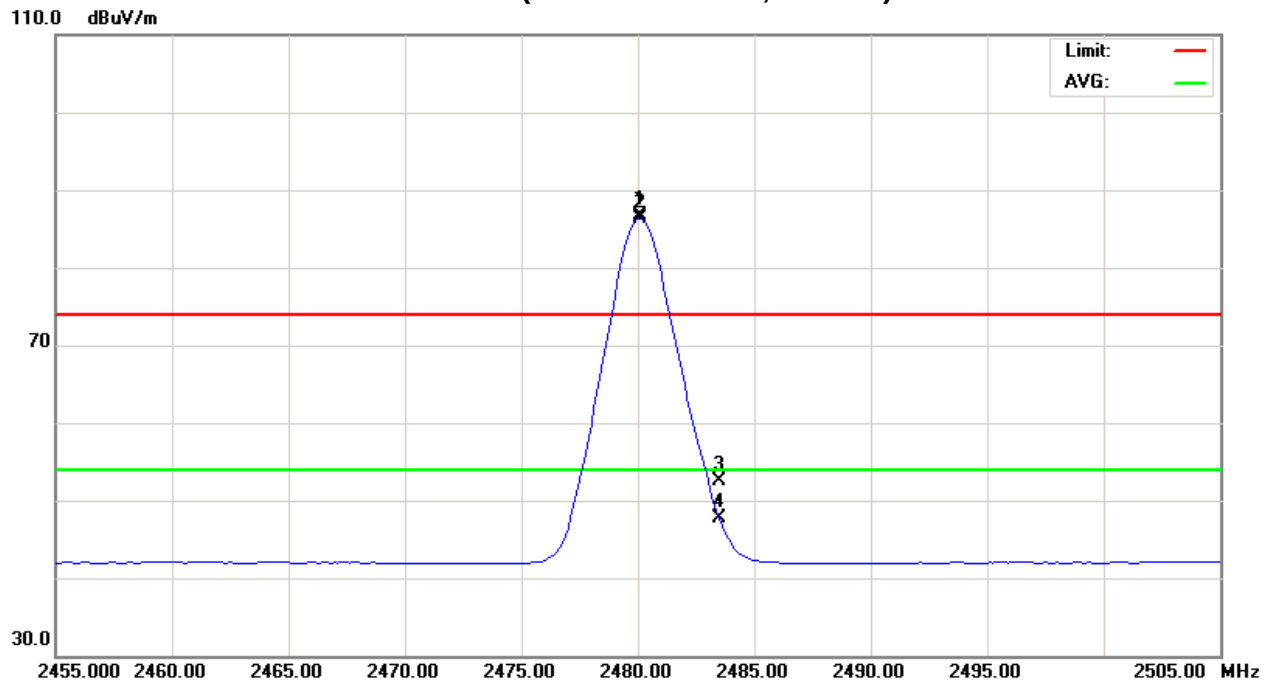
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2480.13</b> | <b>V</b> | <b>54.93</b> | <b>54.51</b> | <b>31.80</b> | <b>86.73</b> | <b>86.31</b> |          |          | <b>X/F</b> |
| 2483.50        | V        | 20.65        | 15.88        | 31.80        | 52.45        | 47.68        | 74.00    | 54.00    | X/E        |
| 4960.05        | V        | 44.16        | 33.47        | 5.78         | 49.94        | 39.25        | 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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH78 (Above 1000 MHz, Vertical)





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2480MHz –CH78-1Mbps |                     |         |

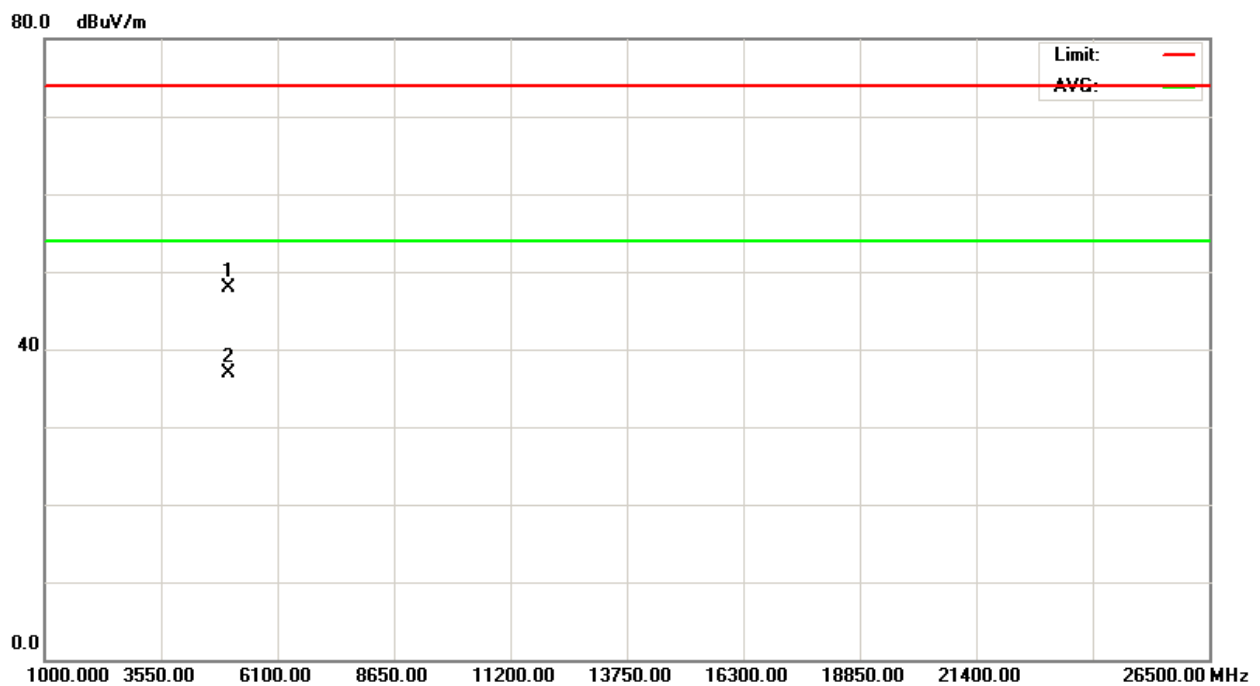
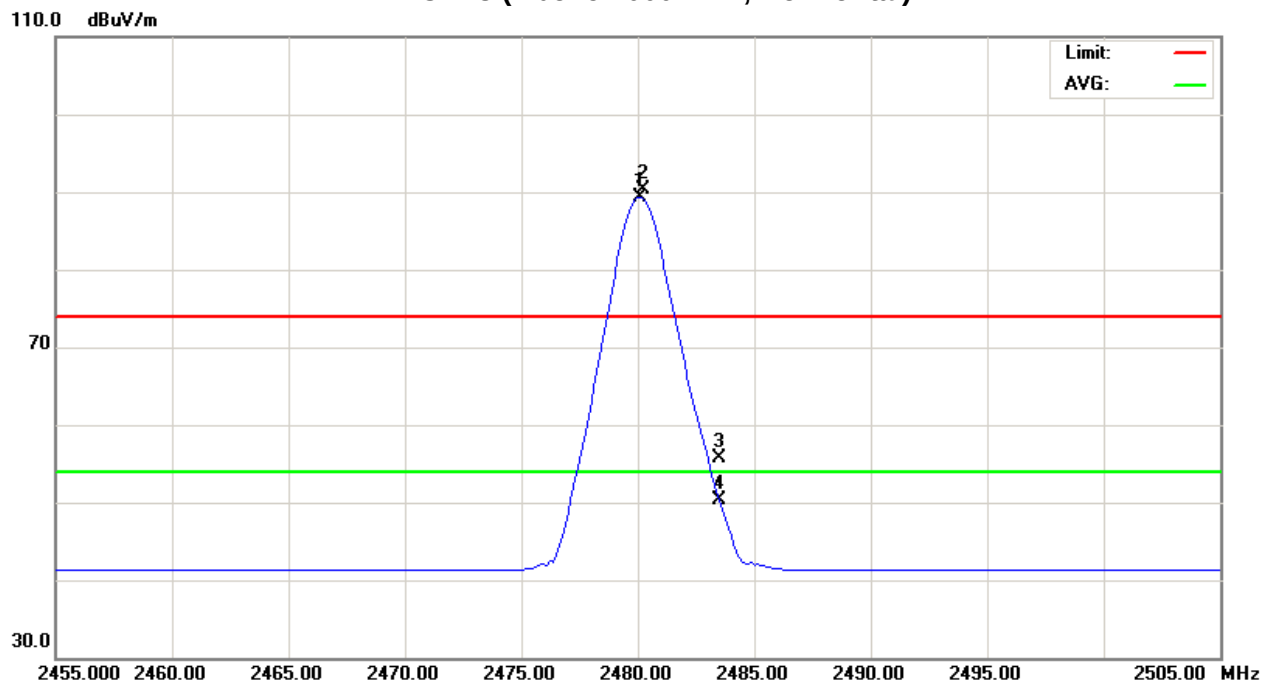
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2480.25</b> | <b>H</b> | <b>58.46</b> | <b>57.55</b> | <b>31.80</b> | <b>90.26</b> | <b>89.35</b> |          |          | <b>X/F</b> |
| 2483.50        | H        | 23.88        | 18.50        | 31.80        | 55.68        | 50.30        | 74.00    | 54.00    | X/E        |
| 4960.08        | H        | 42.13        | 31.18        | 5.78         | 47.91        | 36.96        | 74.00    | 54.00    | X/H        |

**Remark :**

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- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH78 (Above 1000 MHz, Horizontal)





|               |                          |                     |         |
|---------------|--------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard       | Model Name :        | PK-01B  |
| Temperature : | 25 °C                    | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa                 | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz – CH 00-3Mbps |                     |         |

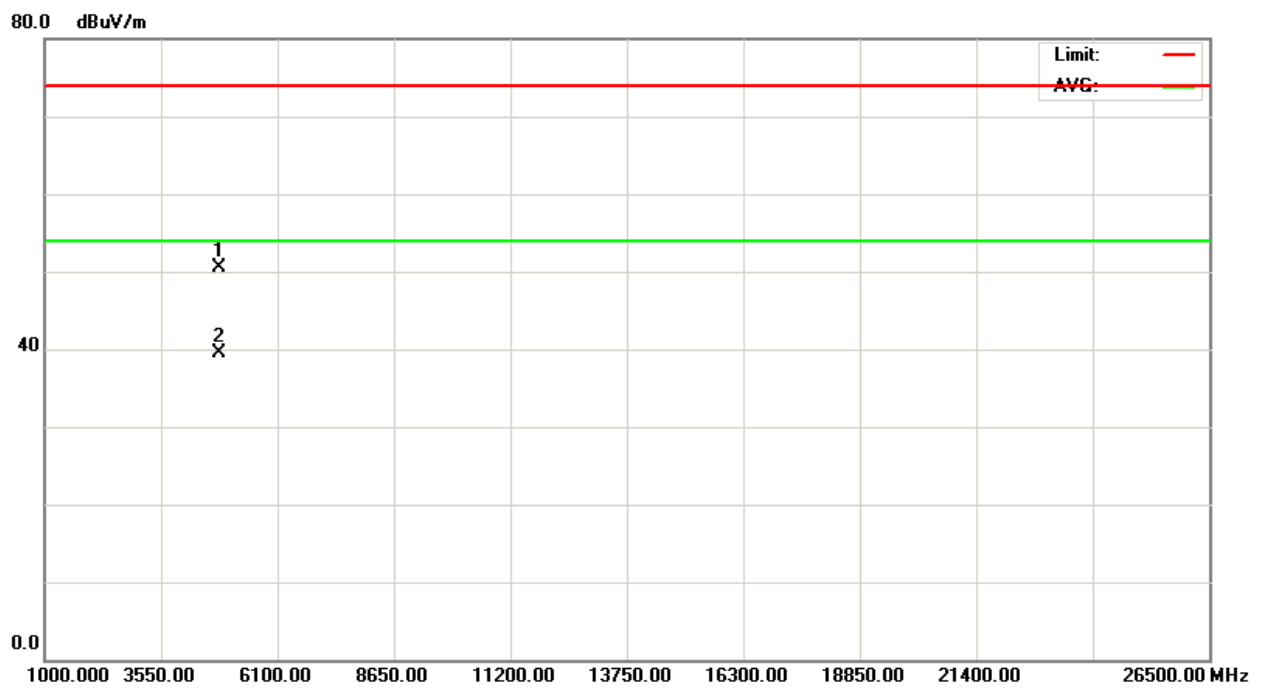
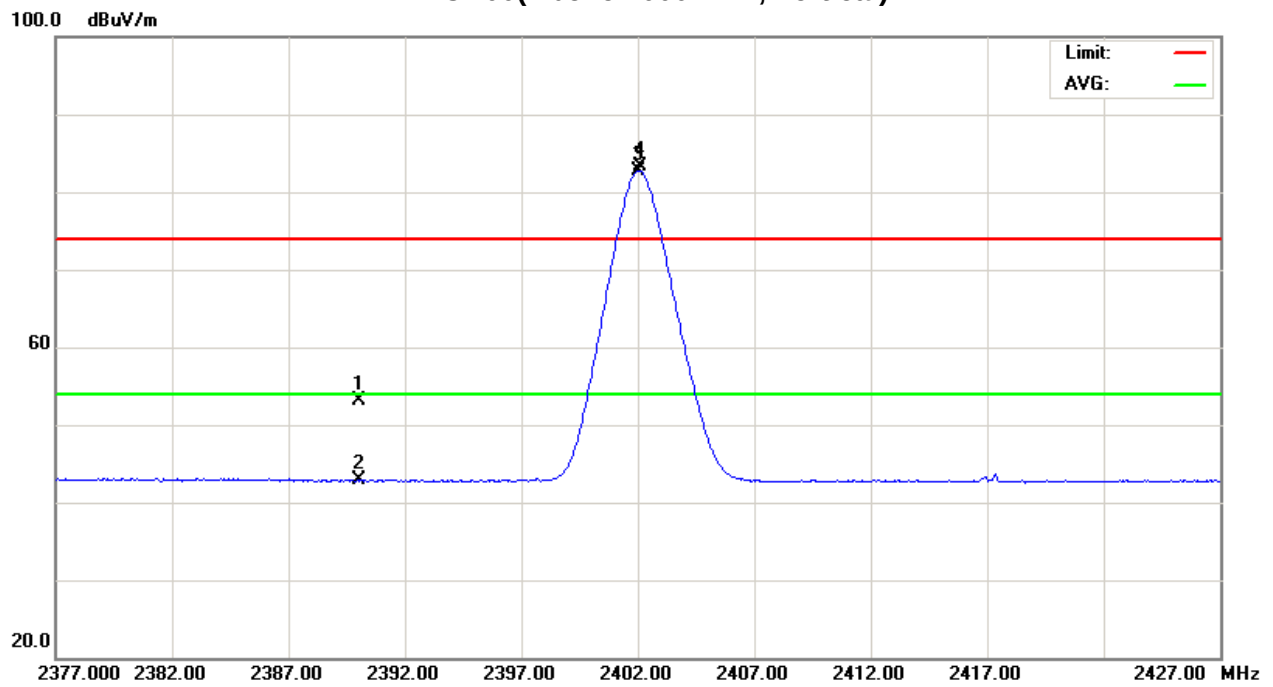
| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Reading        |              | Ant./CF<br>CF(dB) | Act.             |                | Limit            |                | Note       |
|----------------|-----------------|----------------|--------------|-------------------|------------------|----------------|------------------|----------------|------------|
|                |                 | Peak<br>(dBuV) | AV<br>(dBuV) |                   | Peak<br>(dBuV/m) | AV<br>(dBuV/m) | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |            |
| 2390.00        | V               | 21.24          | 10.94        | 31.91             | 53.15            | 42.85          | 74.00            | 54.00          | X/E        |
| <b>2402.10</b> | <b>V</b>        | <b>51.33</b>   | <b>50.84</b> | <b>31.90</b>      | <b>83.23</b>     | <b>82.74</b>   |                  |                | <b>X/F</b> |
| 4804.14        | V               | 45.32          | 34.27        | 5.21              | 50.53            | 39.48          | 74.00            | 54.00          | X/H        |

**Remark :**

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- (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 Axis :  
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- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH00(Above 1000 MHz, Vertical)





|               |                          |                     |         |
|---------------|--------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard       | Model Name :        | PK-01B  |
| Temperature : | 25 °C                    | Relative Humidity : | 58 %    |
| Pressure :    | 1010hPa                  | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2402MHz – CH 00-3Mbps |                     |         |

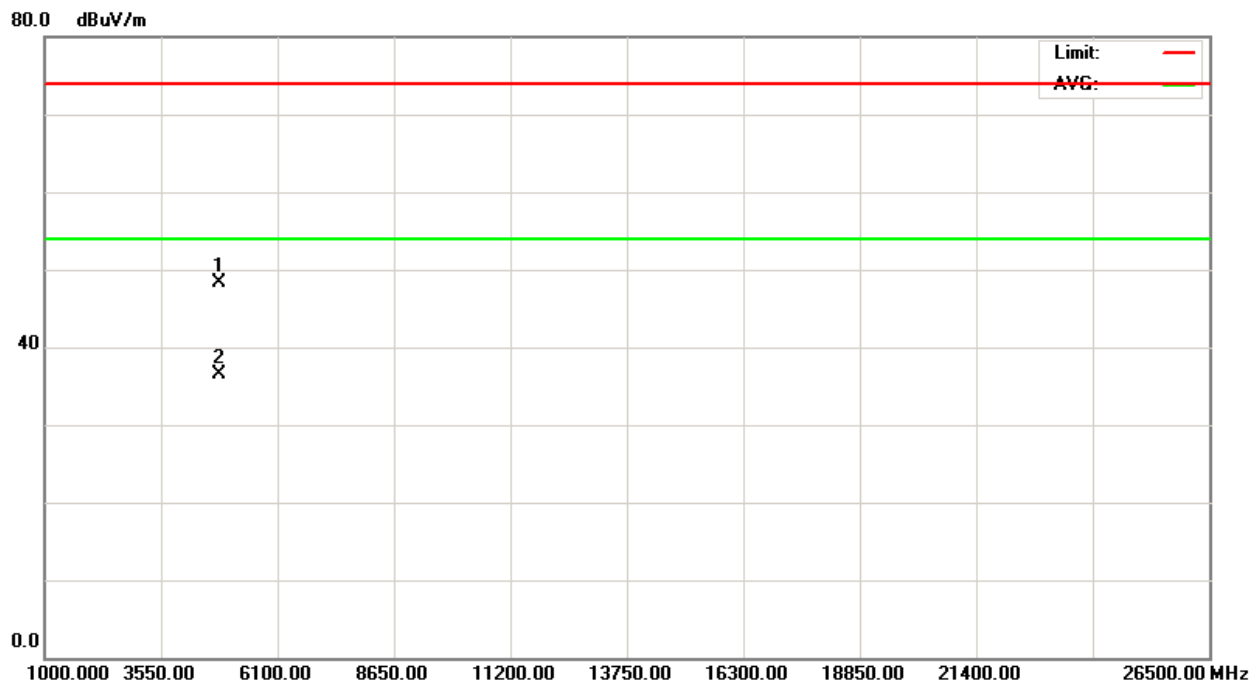
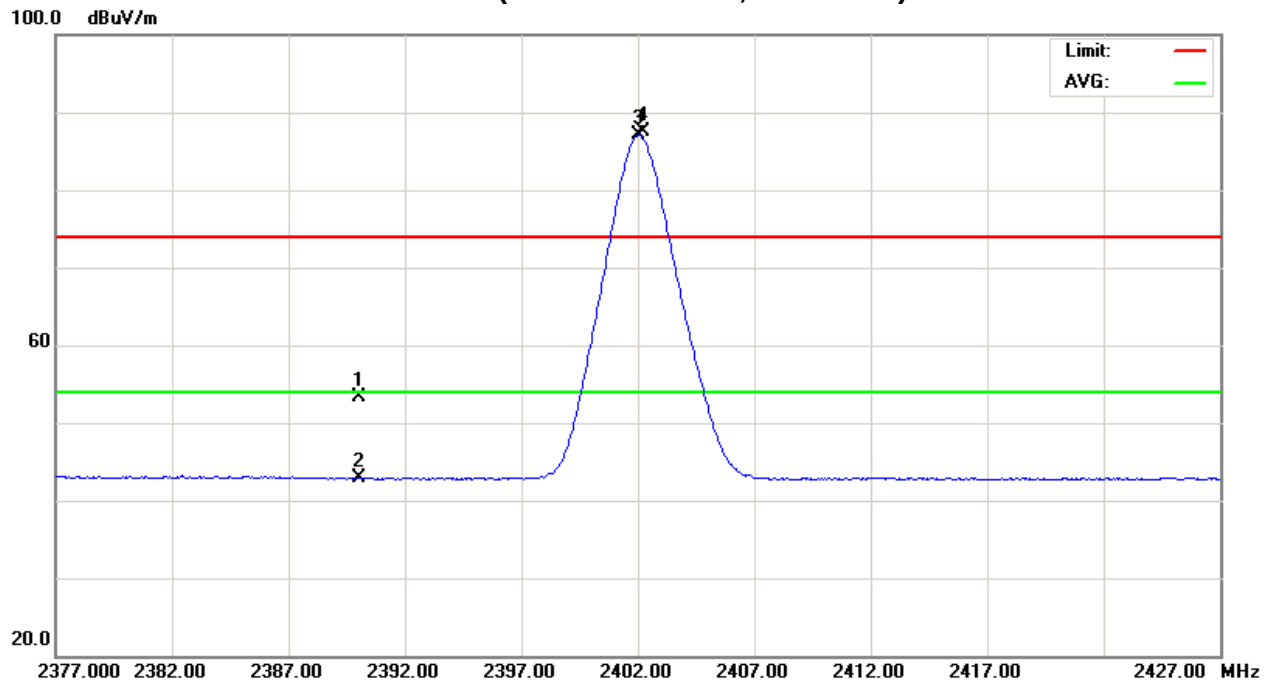
| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Reading        |              | Ant./CF<br>CF(dB) | Act.             |                | Limit            |                | Note       |
|----------------|-----------------|----------------|--------------|-------------------|------------------|----------------|------------------|----------------|------------|
|                |                 | Peak<br>(dBuV) | AV<br>(dBuV) |                   | Peak<br>(dBuV/m) | AV<br>(dBuV/m) | Peak<br>(dBuV/m) | AV<br>(dBuV/m) |            |
| 2390.00        | H               | 21.33          | 11.03        | 31.91             | 53.24            | 42.94          | 74.00            | 54.00          | X/E        |
| <b>2402.20</b> | <b>H</b>        | <b>55.54</b>   | <b>55.16</b> | <b>31.90</b>      | <b>87.44</b>     | <b>87.06</b>   |                  |                | <b>X/F</b> |
| 4803.95        | H               | 43.13          | 31.25        | 5.21              | 48.34            | 36.46          | 74.00            | 54.00          | X/H        |

**Remark :**

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- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH00(Above 1000 MHz, Horizontal)





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2441MHz –CH39-3Mbps |                     |         |

| 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) |            |
| <b>2440.80</b> | <b>V</b> | <b>51.88</b> | <b>51.71</b> | <b>31.85</b> | <b>83.73</b> | <b>83.56</b> |          |          | <b>X/F</b> |
| 4881.94        | V        | 43.58        | 32.74        | 5.50         | 49.08        | 38.24        | 74.00    | 54.00    | X/H        |

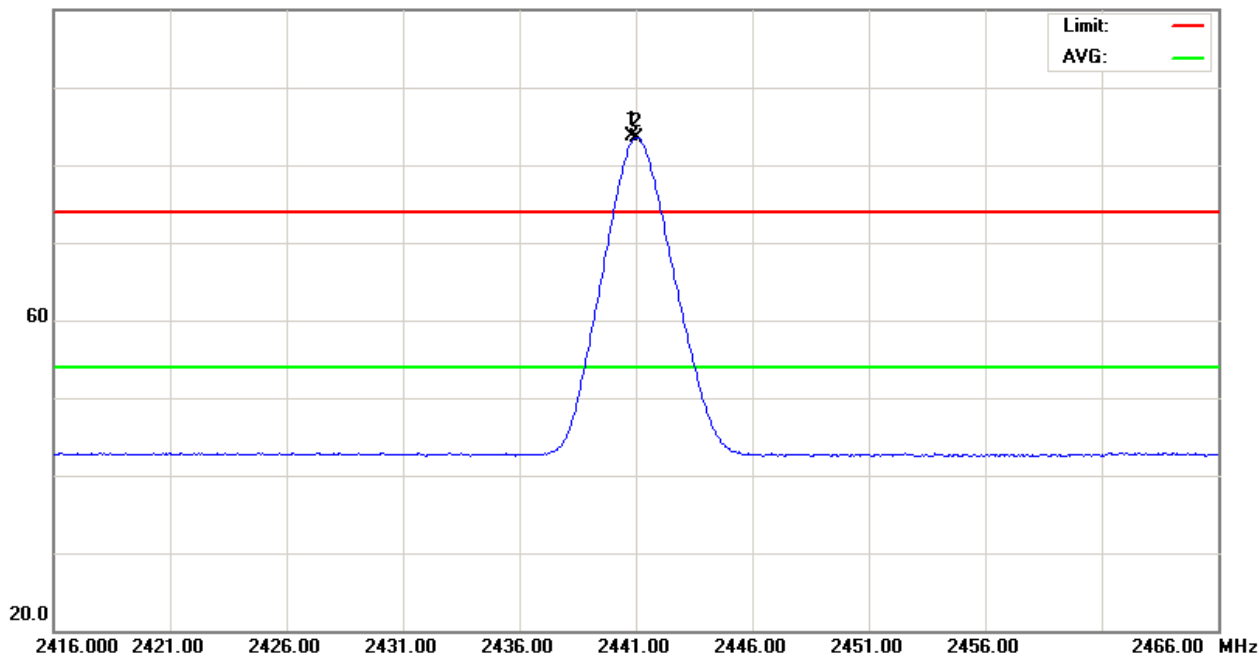
**Remark :**

- (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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

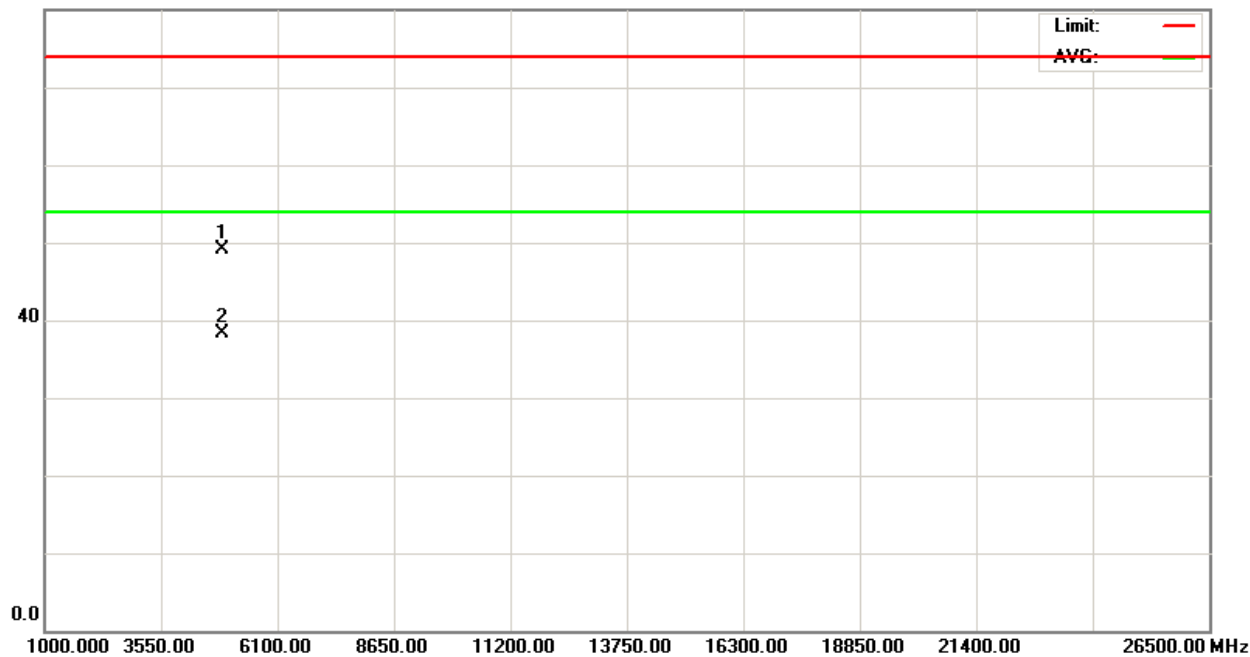


TX CH39 (Above 1000 MHz, Vertical)

100.0 dBuV/m



80.0 dBuV/m





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2441MHz –CH39-3Mbps |                     |         |

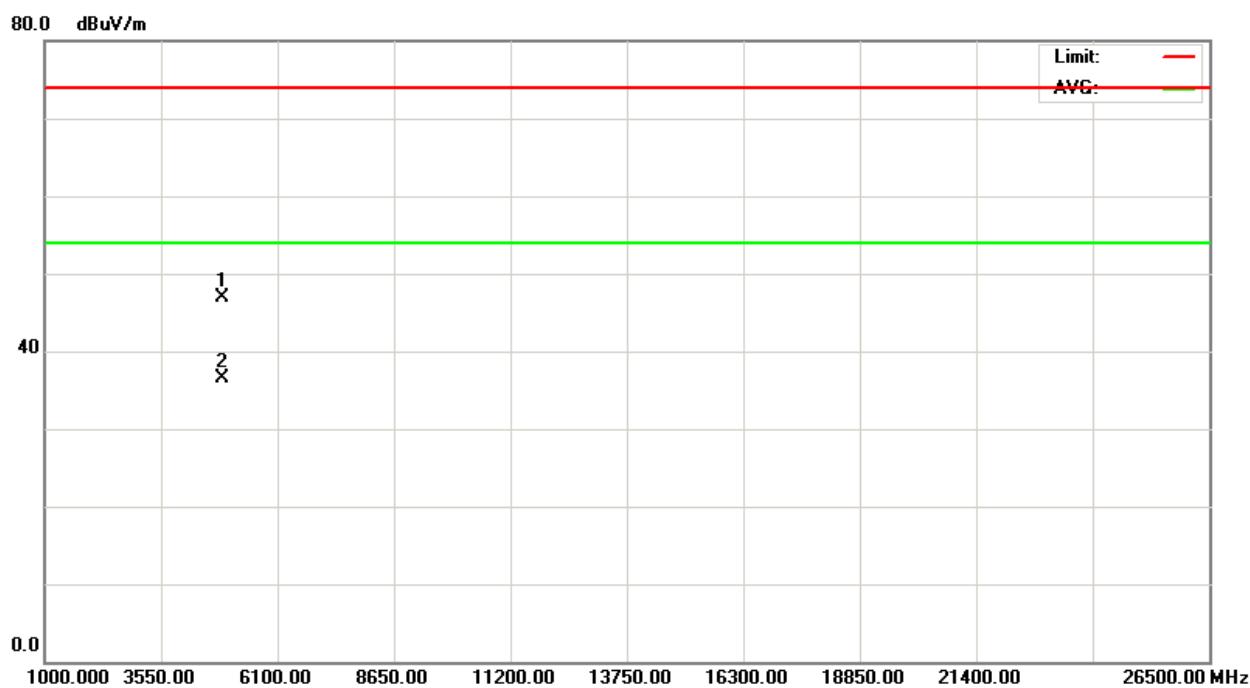
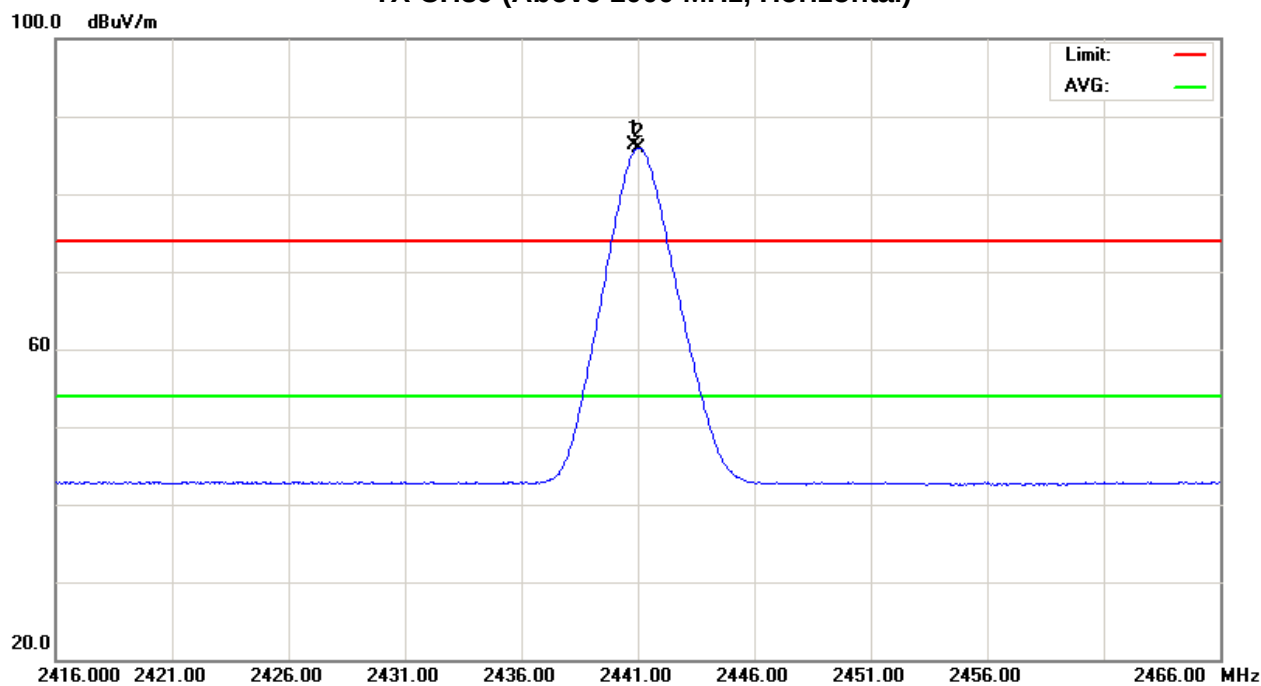
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2440.85</b> | <b>H</b> | <b>54.53</b> | <b>54.13</b> | <b>31.85</b> | <b>86.38</b> | <b>85.98</b> |          |          | <b>X/F</b> |
| 4882.16        | H        | 41.38        | 31.05        | 5.50         | 46.88        | 36.55        | 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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH39 (Above 1000 MHz, Horizontal)





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2480MHz –CH78-3Mbps |                     |         |

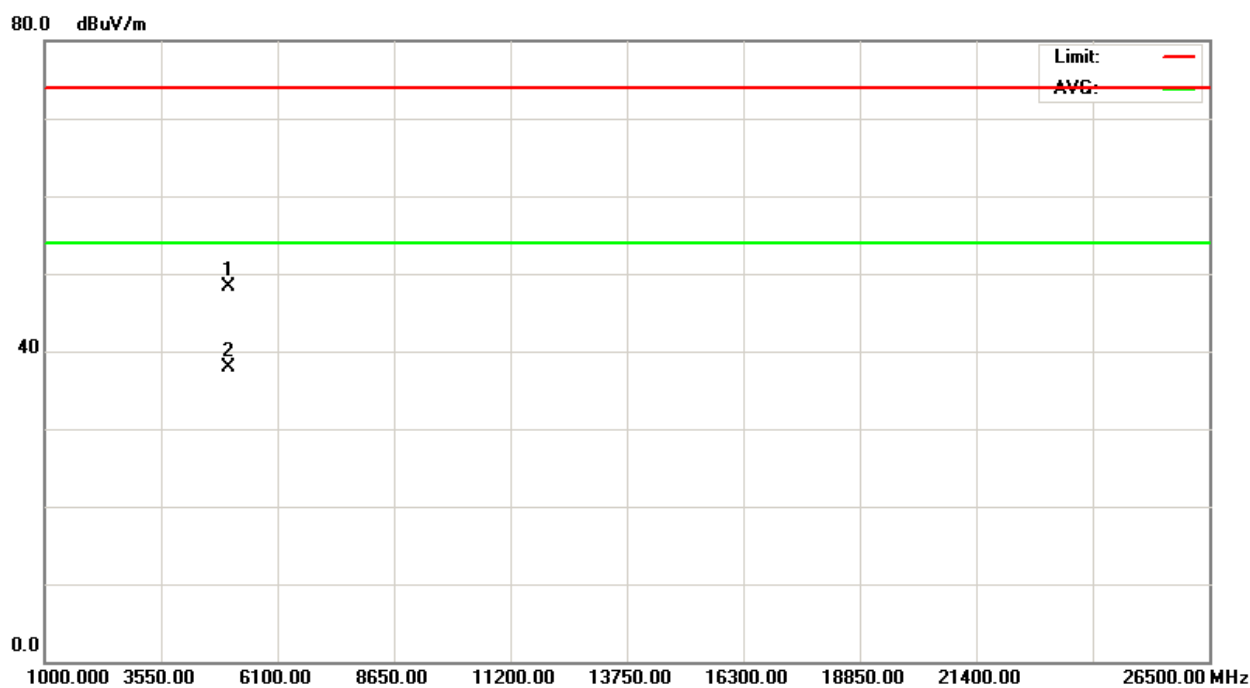
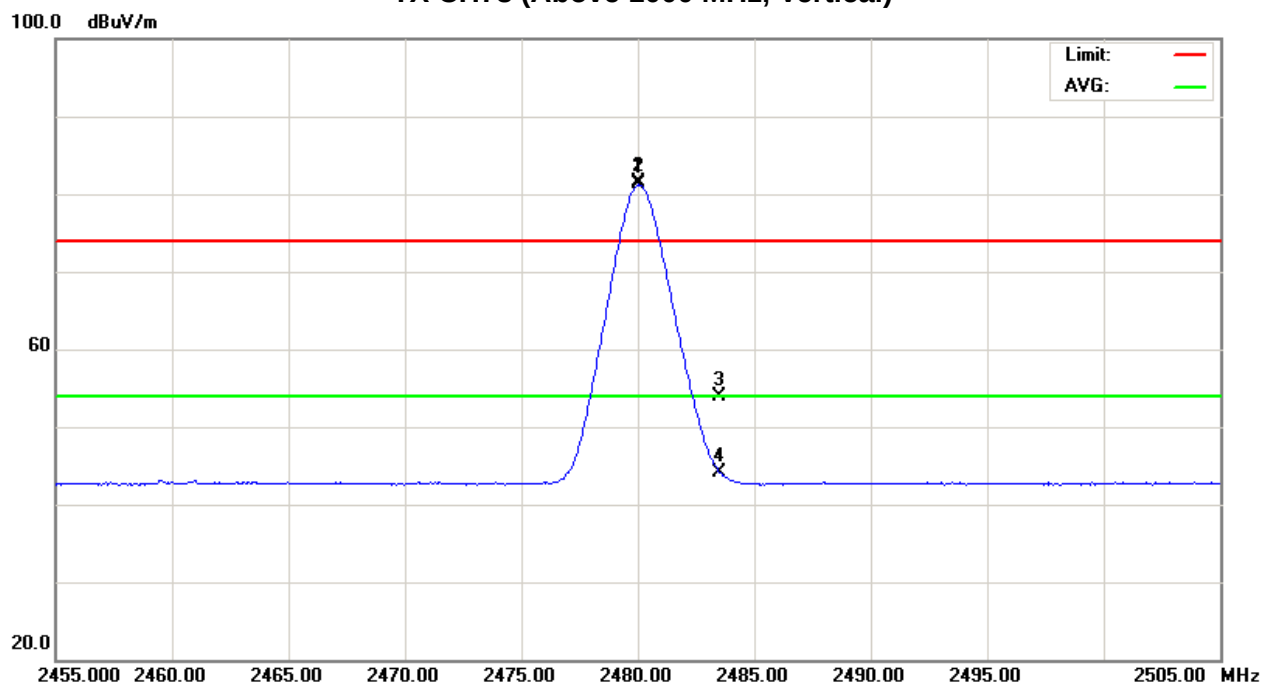
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2480.09</b> | <b>V</b> | <b>49.77</b> | <b>49.41</b> | <b>31.80</b> | <b>81.57</b> | <b>81.21</b> |          |          | <b>X/F</b> |
| 2483.50        | V        | 22.03        | 12.37        | 31.80        | 53.83        | 44.17        | 74.00    | 54.00    | X/E        |
| 4959.89        | V        | 42.53        | 32.04        | 5.78         | 48.31        | 37.82        | 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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH78 (Above 1000 MHz, Vertical)





|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 58 %    |
| Pressure :    | 1010 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | TX 2480MHz –CH78-3Mbps |                     |         |

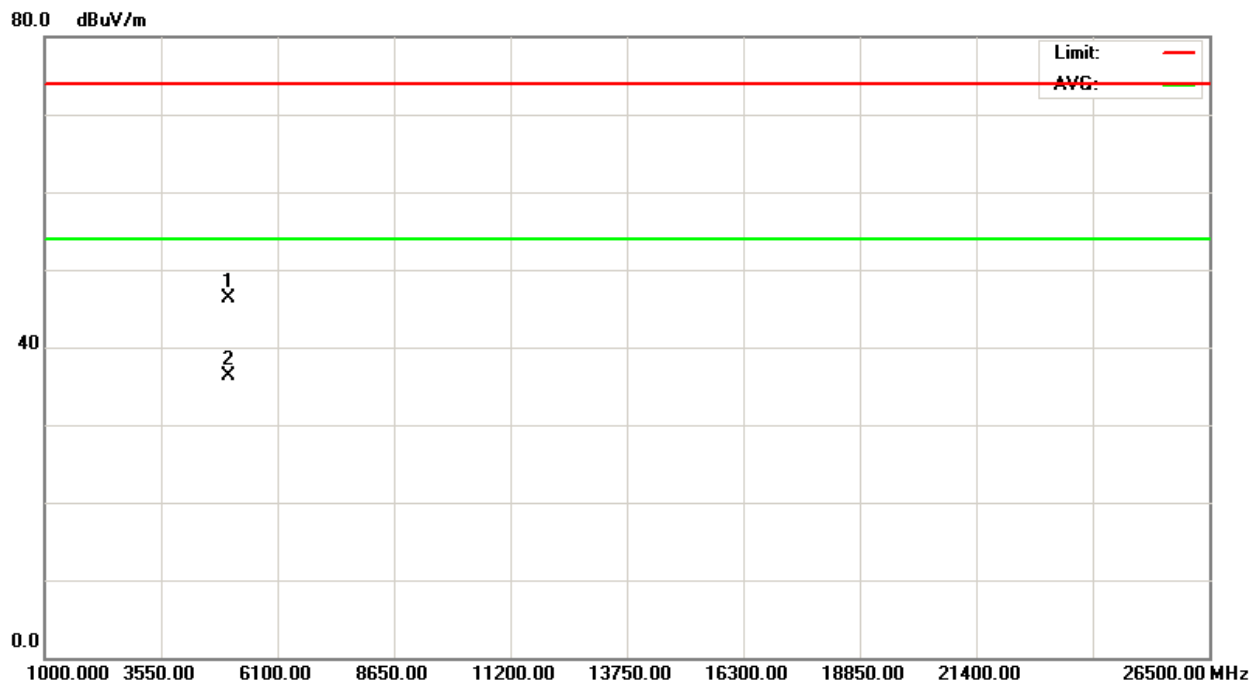
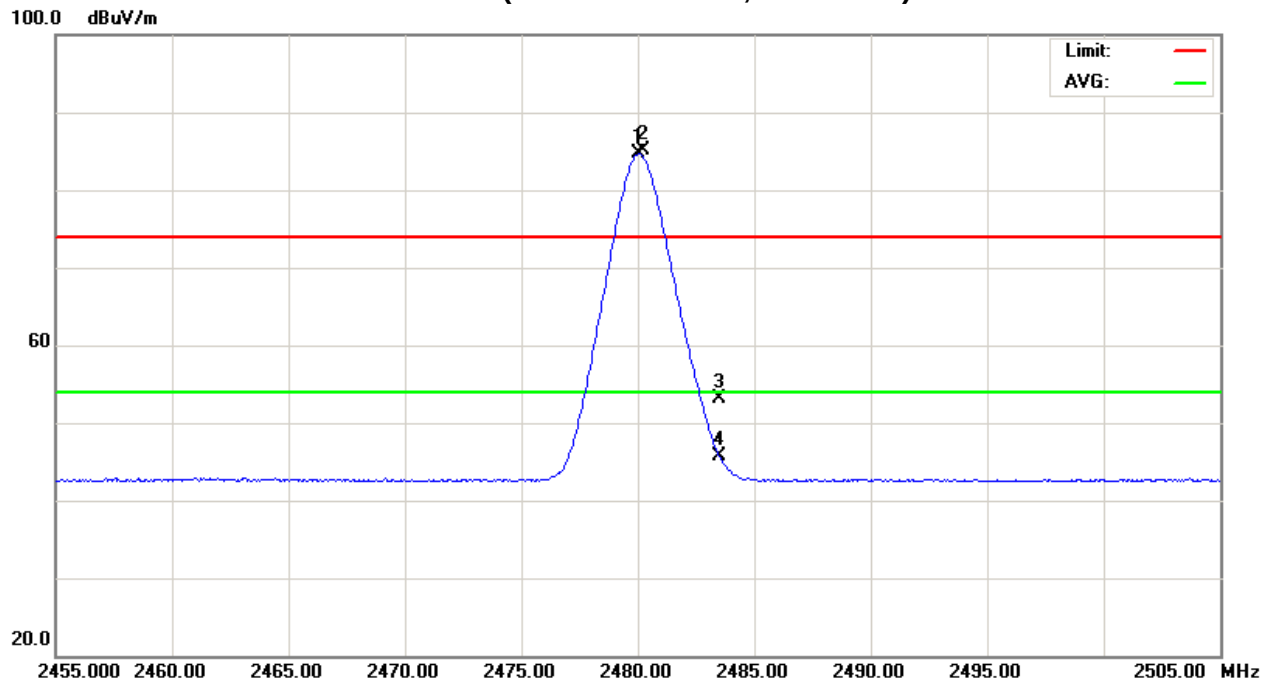
| Freq.          | Ant.Pol. | Reading      |              | Ant./CF      | Act.         |              | Limit    |          | Note       |
|----------------|----------|--------------|--------------|--------------|--------------|--------------|----------|----------|------------|
|                |          | Peak         | AV           |              | Peak         | AV           | Peak     | AV       |            |
| (MHz)          | H/V      | (dBuV)       | (dBuV)       | CF(dB)       | (dBuV/m)     | (dBuV/m)     | (dBuV/m) | (dBuV/m) |            |
| <b>2480.20</b> | <b>H</b> | <b>53.24</b> | <b>52.87</b> | <b>31.80</b> | <b>85.04</b> | <b>84.67</b> |          |          | <b>X/F</b> |
| 2483.50        | H        | 21.35        | 13.97        | 31.80        | 53.15        | 45.77        | 74.00    | 54.00    | X/E        |
| 4959.92        | H        | 40.52        | 30.46        | 5.78         | 46.30        | 36.24        | 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 Axis :  
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
- (7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna



TX CH78 (Above 1000 MHz, Horizontal)





## 5. NUMBER OF HOPPING CHANNEL

### 5.1 APPLIED PROCEDURES / LIMIT

| FCC Part15 (15.247) , Subpart C |                           |                       |        |
|---------------------------------|---------------------------|-----------------------|--------|
| Section                         | Test Item                 | Frequency Range (MHz) | Result |
| 15.247<br>(a)(1)(iii)           | Number of Hopping Channel | 2400-2483.5           | PASS   |

#### 5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

| Spectrum Parameters | Setting                     |
|---------------------|-----------------------------|
| Attenuation         | Auto                        |
| Span Frequency      | > Operating Frequency Range |
| RB                  | 100 kHz                     |
| VB                  | 100 kHz                     |
| Detector            | Peak                        |
| Trace               | Max Hold                    |
| Sweep Time          | Auto                        |

#### 5.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

#### 5.1.3 DEVIATION FROM STANDARD

No deviation.

#### 5.1.4 TEST SETUP



#### 5.1.5 EUT OPERATION CONDITIONS

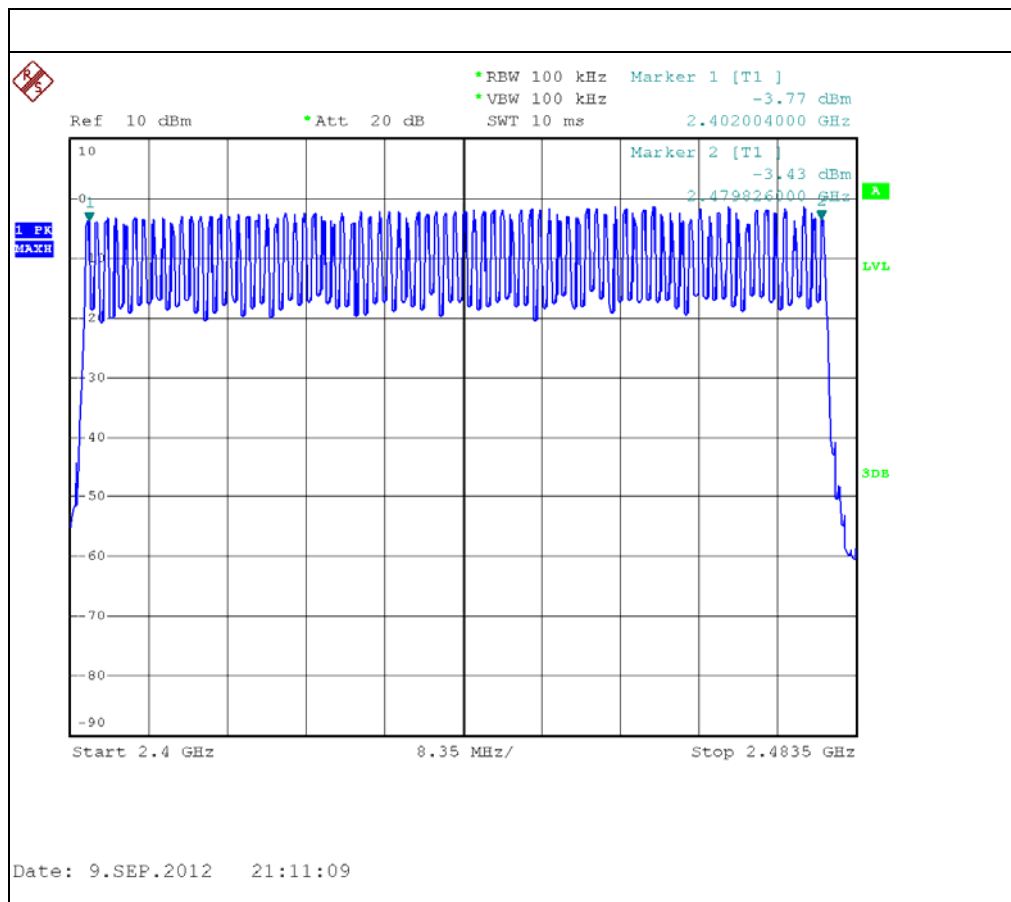
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



### 5.1.6 TEST RESULTS

|               |                     |                     |         |
|---------------|---------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard  | Model Name :        | PK-01B  |
| Temperature : | 25 °C               | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa            | Test Voltage :      | DC 3.7V |
| Test Mode :   | Hopping Mode -1Mbps |                     |         |

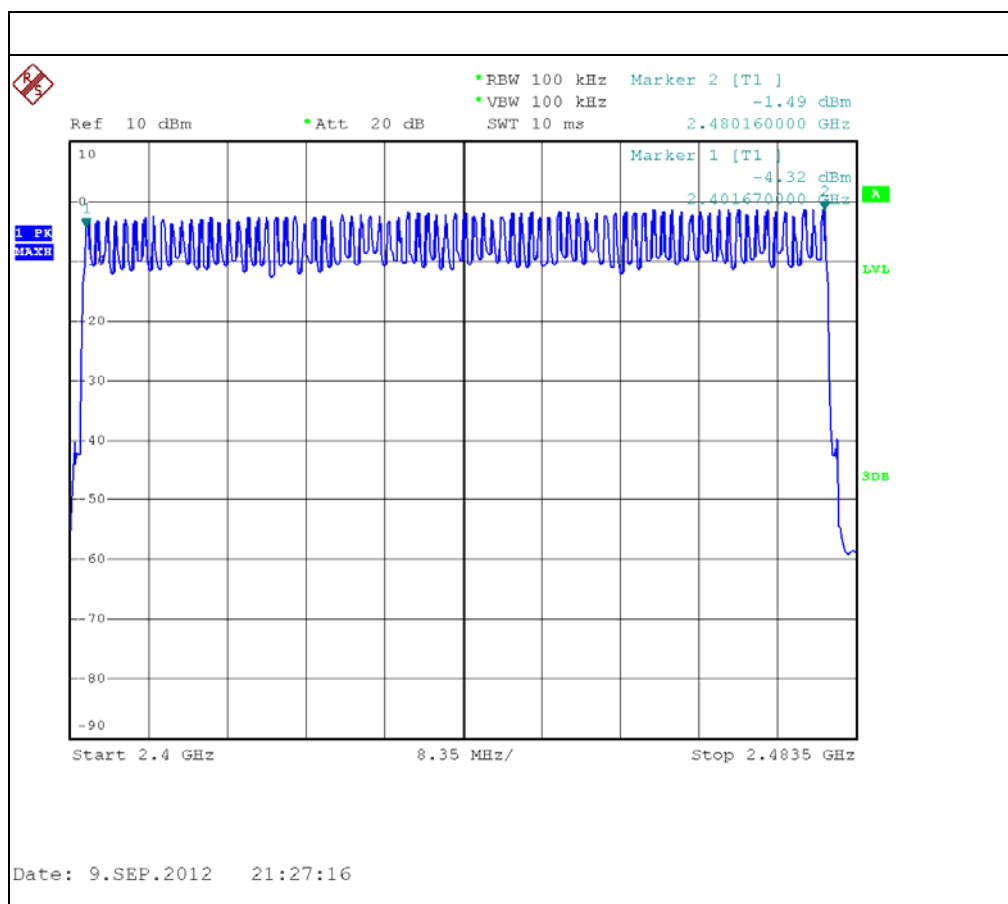
|                           |    |
|---------------------------|----|
| Number of Hopping Channel | 79 |
|---------------------------|----|





|               |                     |                     |         |
|---------------|---------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard  | Model Name :        | PK-01B  |
| Temperature : | 25 °C               | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa            | Test Voltage :      | DC 3.7V |
| Test Mode :   | Hopping Mode -3Mbps |                     |         |

|                           |    |
|---------------------------|----|
| Number of Hopping Channel | 79 |
|---------------------------|----|



**6. AVERAGE TIME OF OCCUPANCY****6.1 APPLIED PROCEDURES / LIMIT**

| FCC Part15 (15.247) , Subpart C |                           |        |                       |        |
|---------------------------------|---------------------------|--------|-----------------------|--------|
| Section                         | Test Item                 | Limit  | Frequency Range (MHz) | Result |
| 15.247<br>(a)(1)(iii)           | Average Time of Occupancy | 0.4sec | 2400-2483.5           | PASS   |

**6.1.1 MEASUREMENT INSTRUMENTS LIST**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

**6.1.2 TEST PROCEDURE**

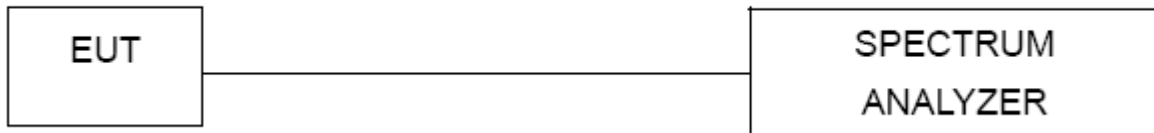
- a. The transmitter output (antenna port) was connected to the spectrum analyzer
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- d. Sweep Time is more than once pulse time.
- e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- f. Measure the maximum time duration of one single pulse.
- g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
- h. Measure the maximum time duration of one single pulse.
- i. DH5 Packet permit maximum  $1600 / 79 / 6 = 3.37$  hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $3.37 \times 31.6 = 106.6$  within 31.6 seconds.
- j. DH3 Packet permit maximum  $1600 / 79 / 4 = 5.06$  hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $5.06 \times 31.6 = 160$  within 31.6 seconds.
- k. DH1 Packet permit maximum  $1600 / 79 / 2 = 10.12$  hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times  $10.12 \times 31.6 = 320$  within 31.6 seconds.

**6.1.3 DEVIATION FROM STANDARD**

No deviation.



#### **6.1.4 TEST SETUP**



#### **6.1.5 EUT OPERATION CONDITIONS**

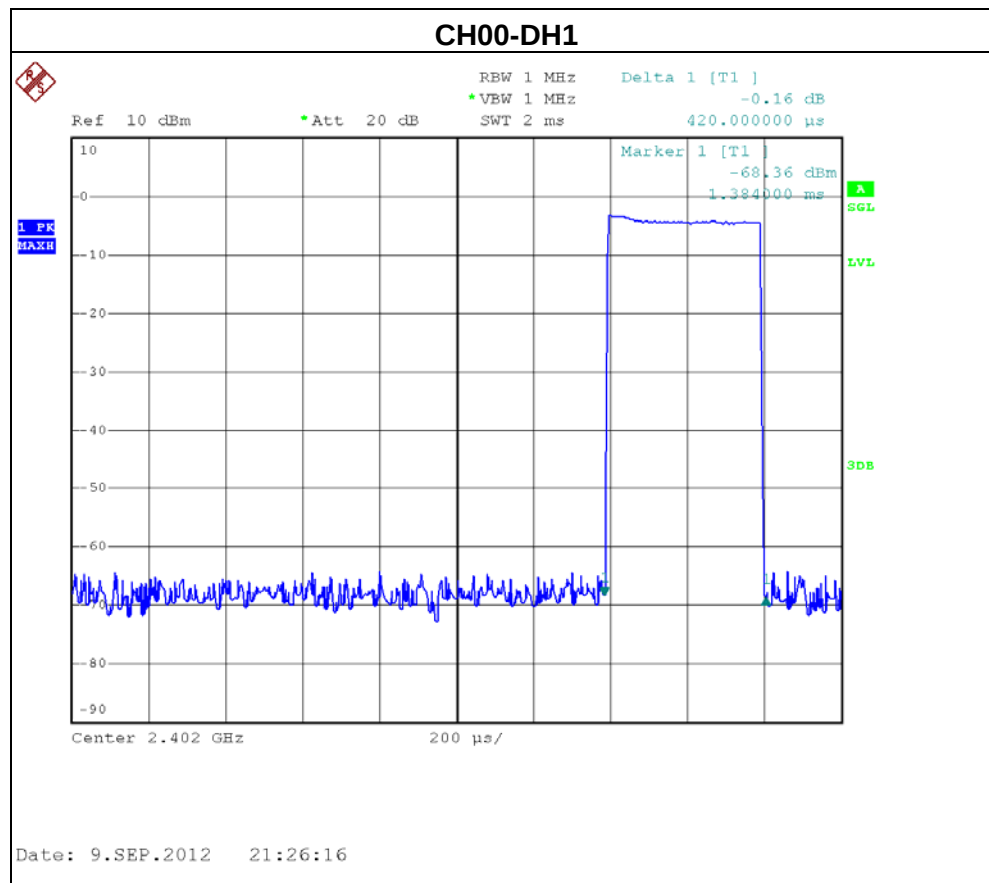
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

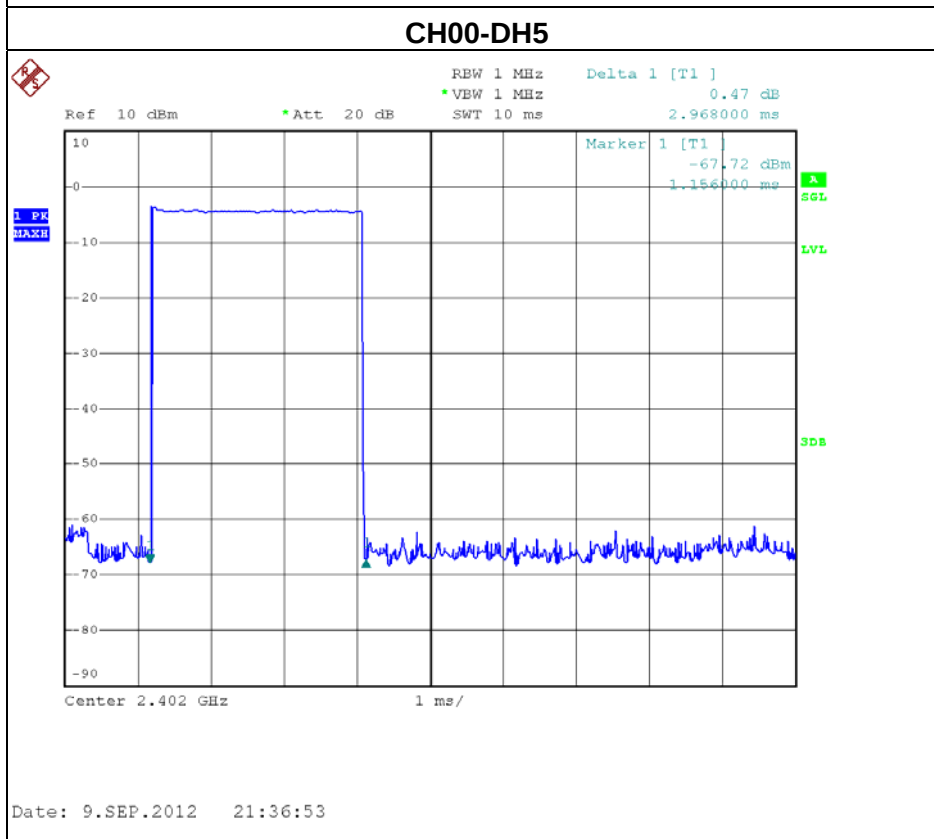
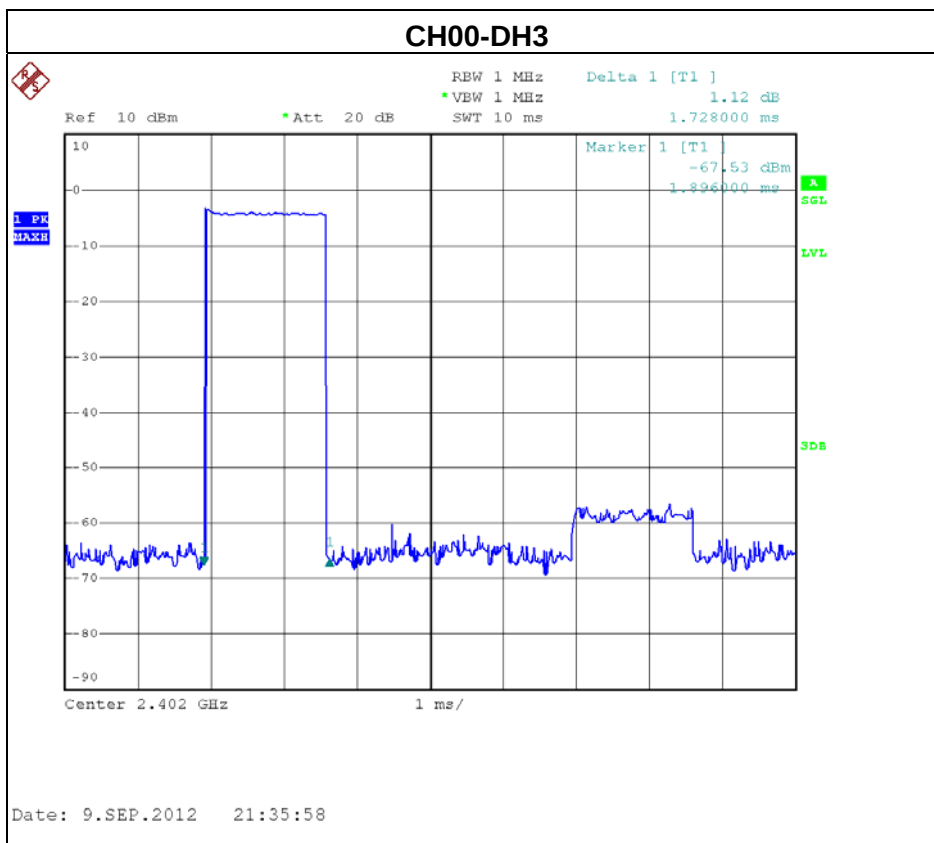


### 6.1.6 TEST RESULTS

|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00-DH1/DH3/DH5 -1Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration (ms) | Dwell Time (s) | Limits (s) |
|-------------|-----------|---------------------|----------------|------------|
| DH5         | 2402 MHz  | 2.9680              | 0.3166         | 0.4000     |
| DH3         | 2402 MHz  | 1.7280              | 0.2765         | 0.4000     |
| DH1         | 2402 MHz  | 0.4200              | 0.1344         | 0.4000     |

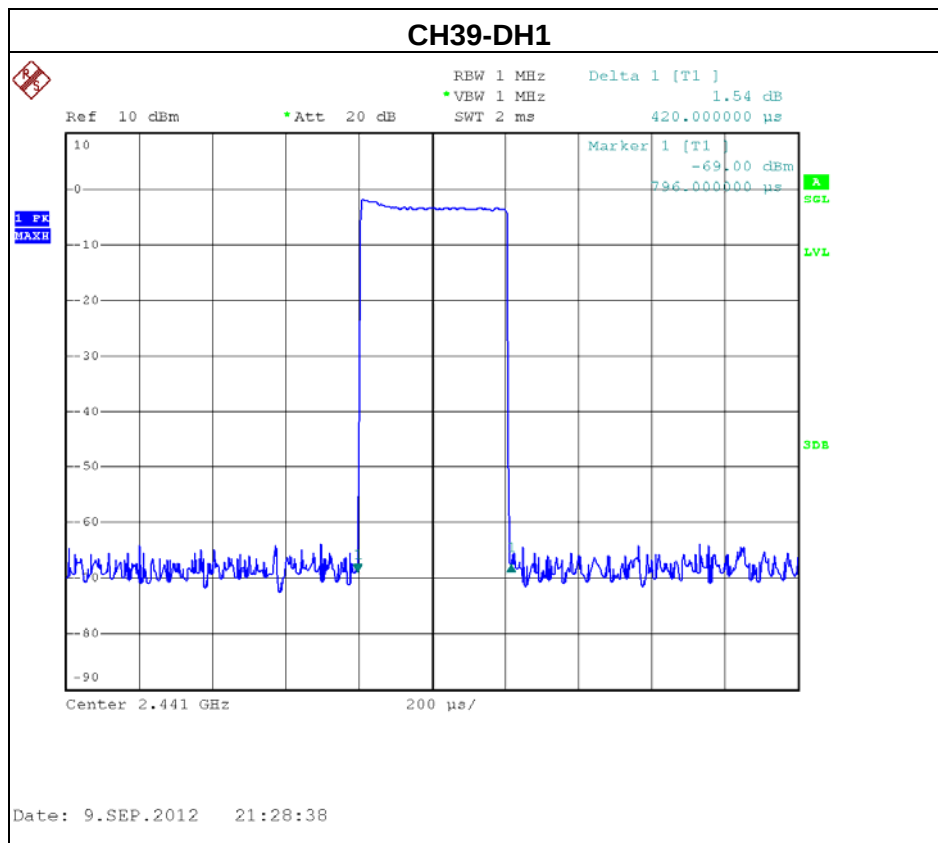


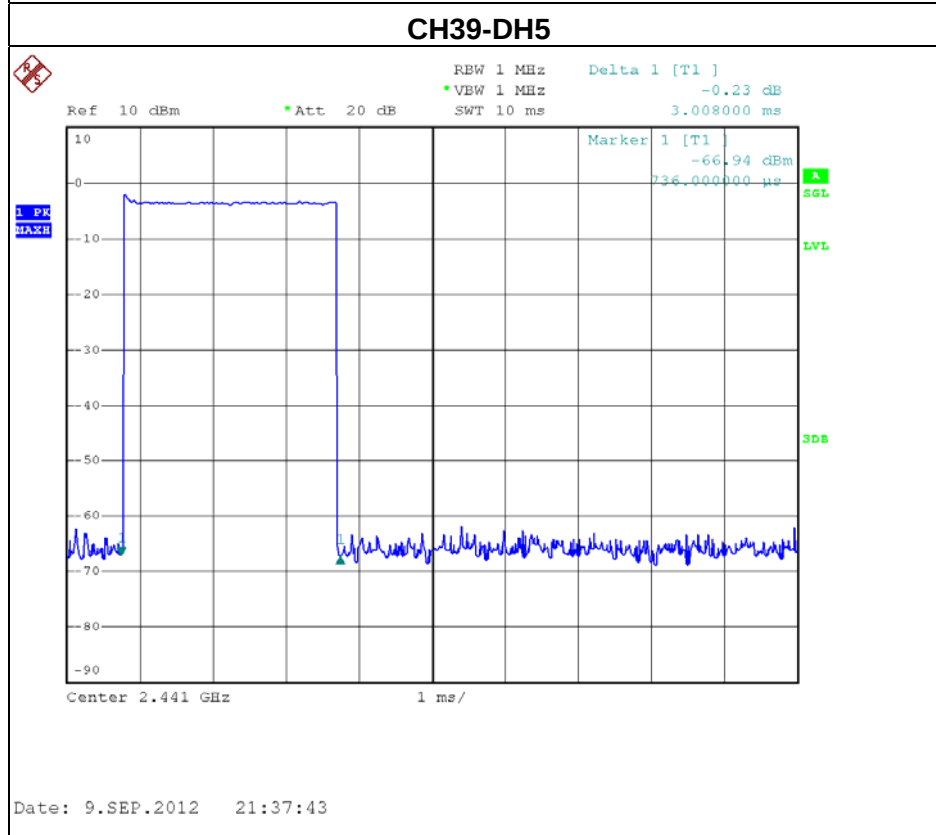
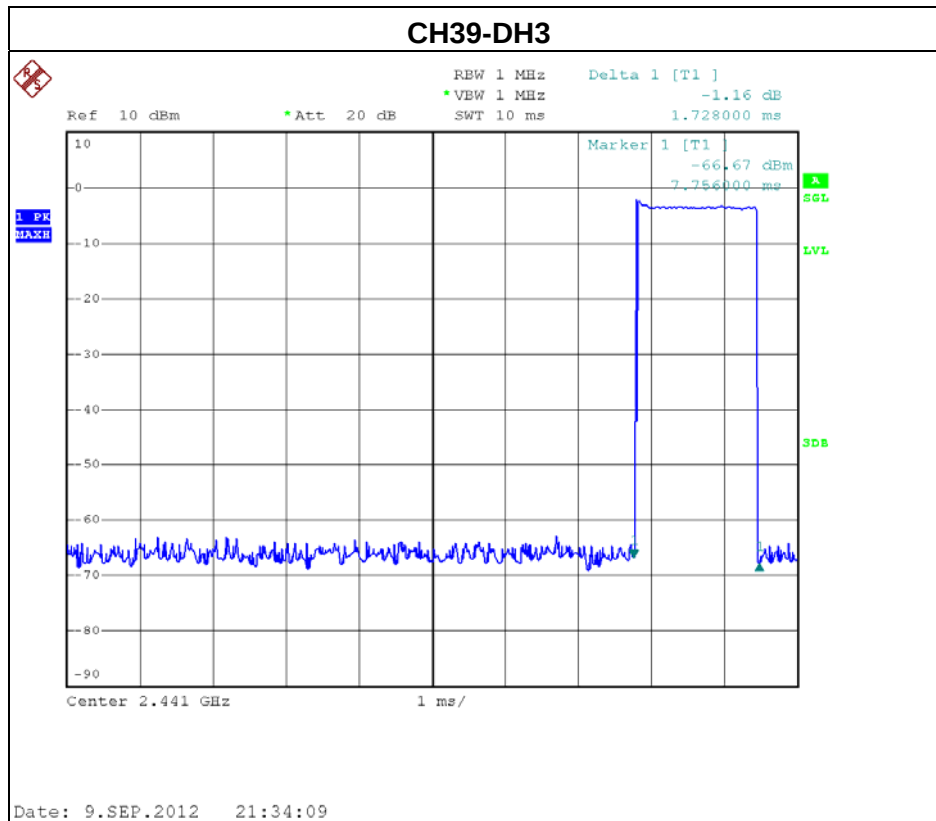




|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH39 -DH1/DH3/DH5-1Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration (ms) | Dwell Time (s) | Limits (s) |
|-------------|-----------|---------------------|----------------|------------|
| DH5         | 2441 MHz  | 3.0080              | 0.3209         | 0.4000     |
| DH3         | 2441 MHz  | 1.7280              | 0.2765         | 0.4000     |
| DH1         | 2441 MHz  | 0.4200              | 0.1344         | 0.4000     |

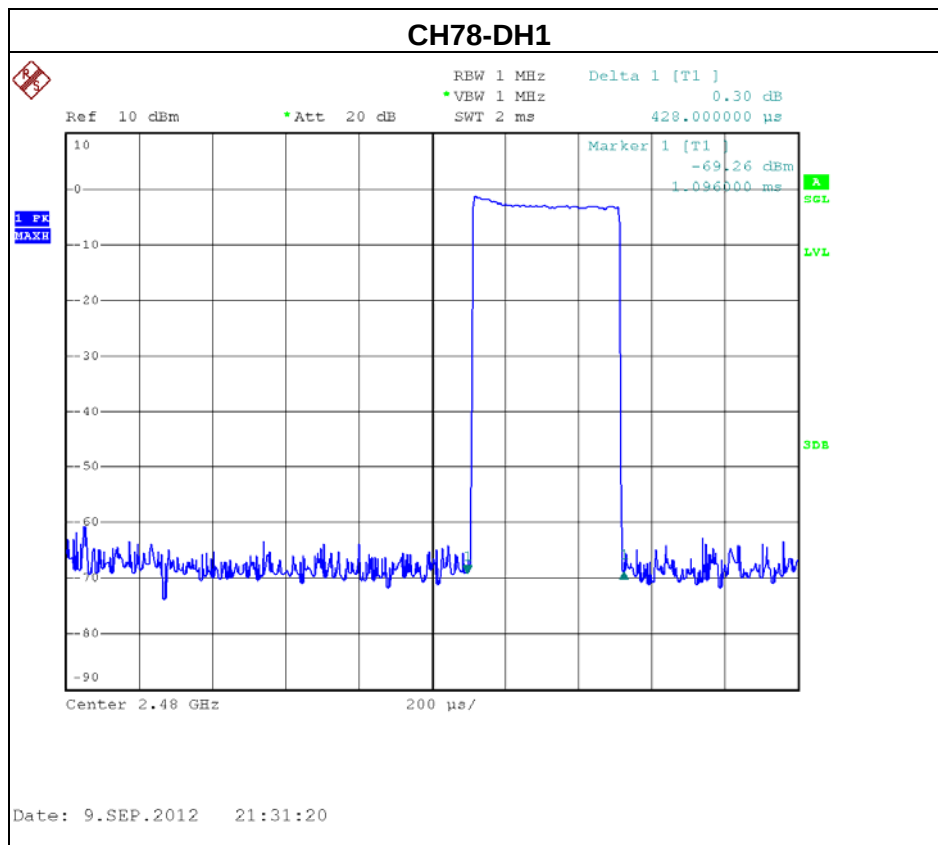


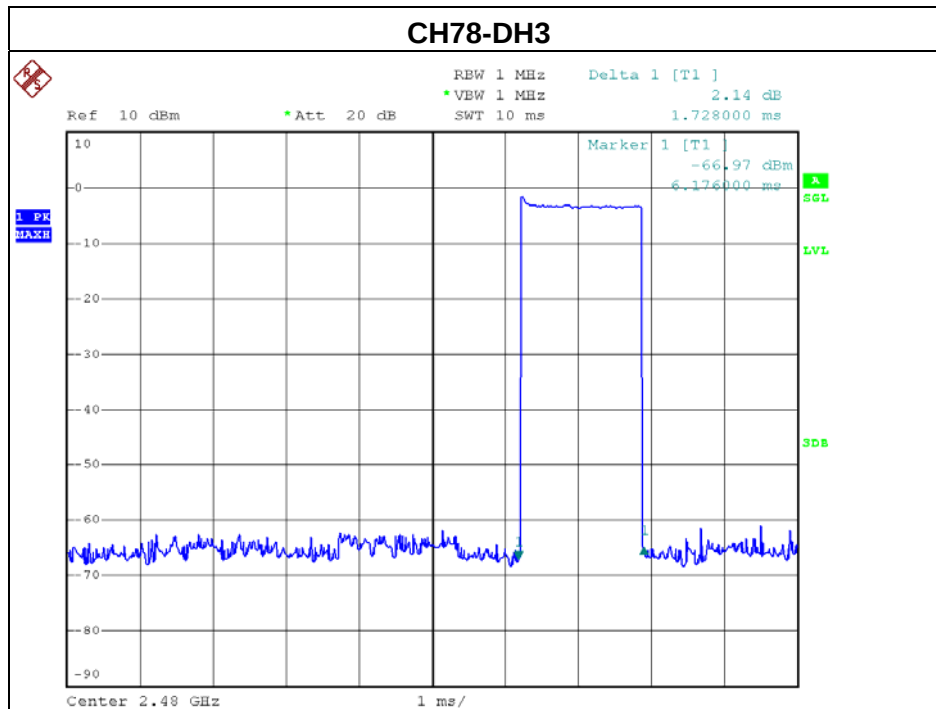




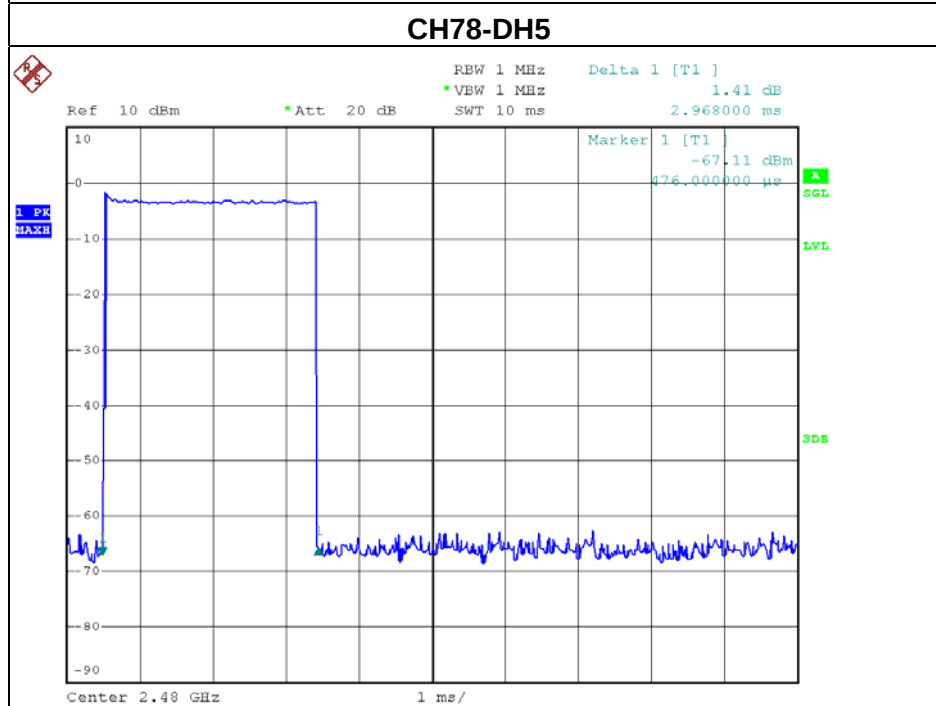
|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH78 -DH1/DH3/DH5-1Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration (ms) | Dwell Time (s) | Limits (s) |
|-------------|-----------|---------------------|----------------|------------|
| DH5         | 2480 MHz  | 2.9680              | 0.3166         | 0.4000     |
| DH3         | 2480 MHz  | 1.7280              | 0.2765         | 0.4000     |
| DH1         | 2480 MHz  | 0.4280              | 0.1370         | 0.4000     |





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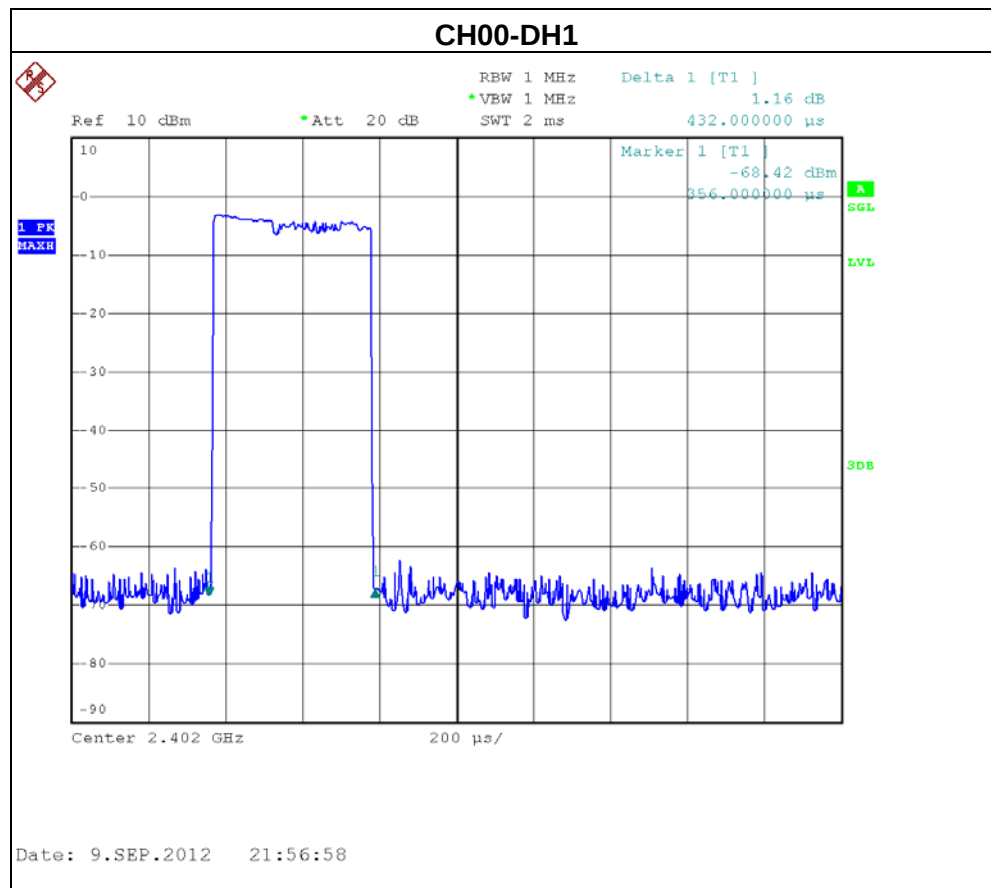


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|               |                        |                     |         |
|---------------|------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard     | Model Name :        | PK-01B  |
| Temperature : | 25 °C                  | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa               | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00-DH1/DH3/DH5-3Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration (ms) | Dwell Time (s) | Limits (s) |
|-------------|-----------|---------------------|----------------|------------|
| DH5         | 2402 MHz  | 2.9724              | 0.3171         | 0.4000     |
| DH3         | 2402 MHz  | 1.7124              | 0.2740         | 0.4000     |
| DH1         | 2402 MHz  | 0.4320              | 0.1382         | 0.4000     |

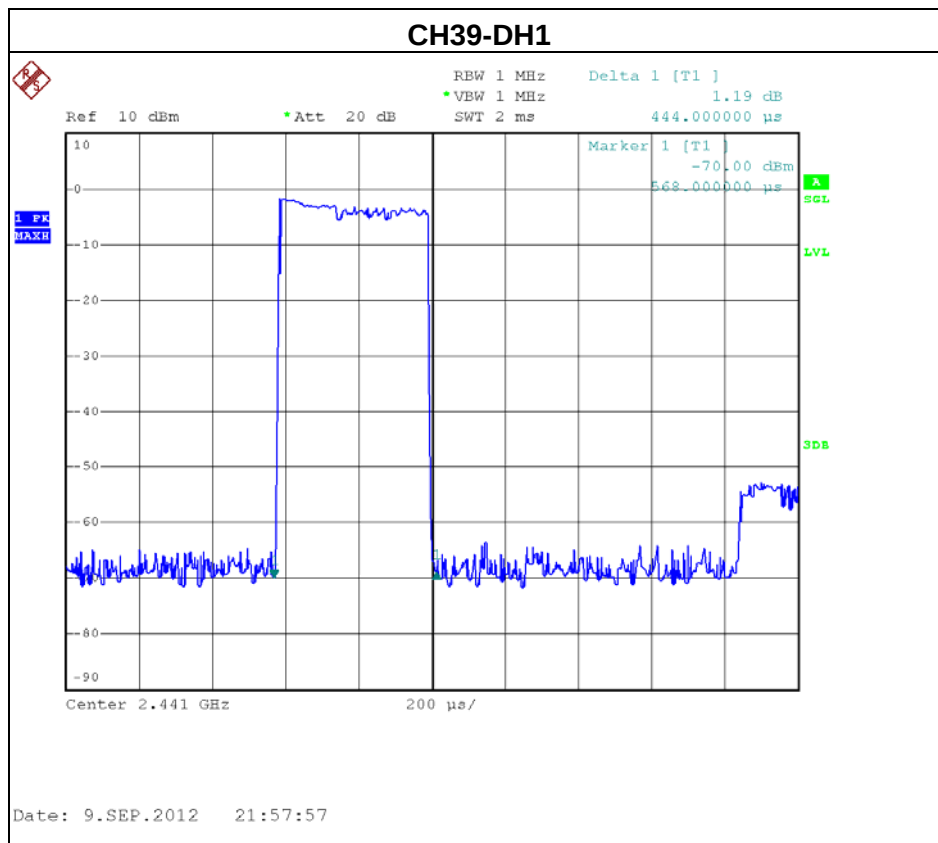


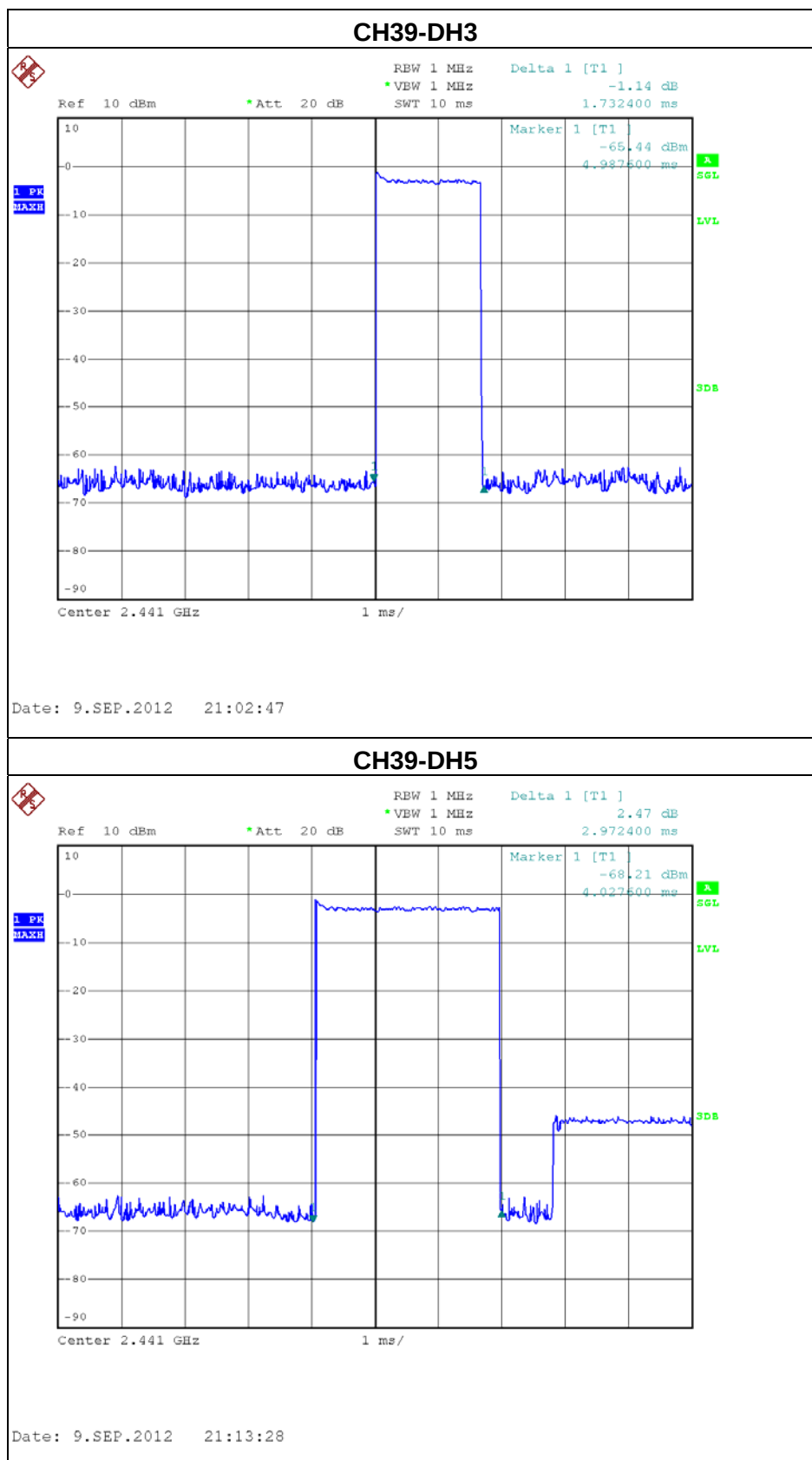




|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH39 -DH1/DH3/DH5-3Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration<br>(ms) | Dwell Time<br>(s) | Limits<br>(s) |
|-------------|-----------|------------------------|-------------------|---------------|
| DH5         | 2441 MHz  | 2.9724                 | 0.3171            | 0.4000        |
| DH3         | 2441 MHz  | 1.7324                 | 0.2772            | 0.4000        |
| DH1         | 2441 MHz  | 0.4440                 | 0.1421            | 0.4000        |

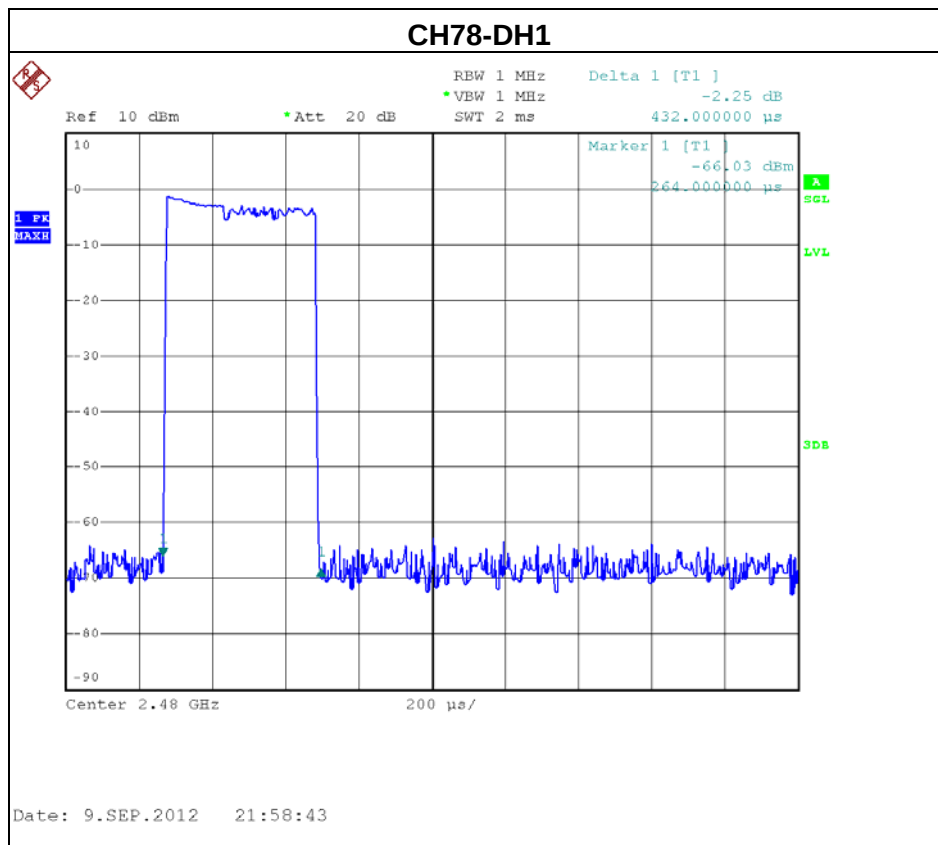


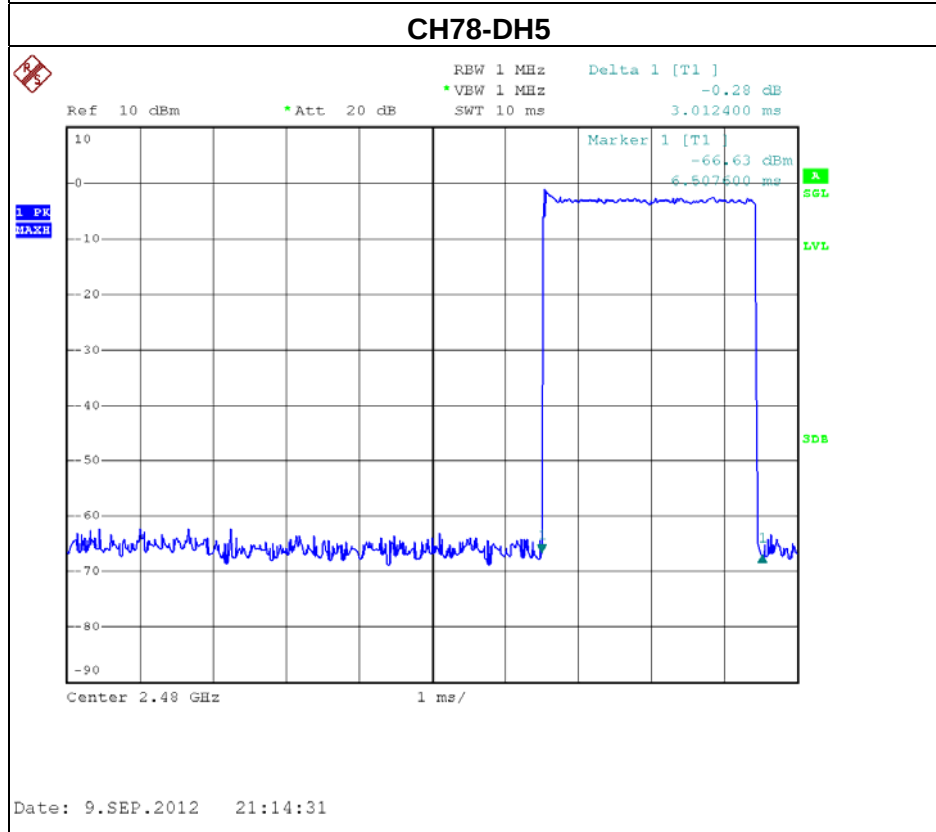
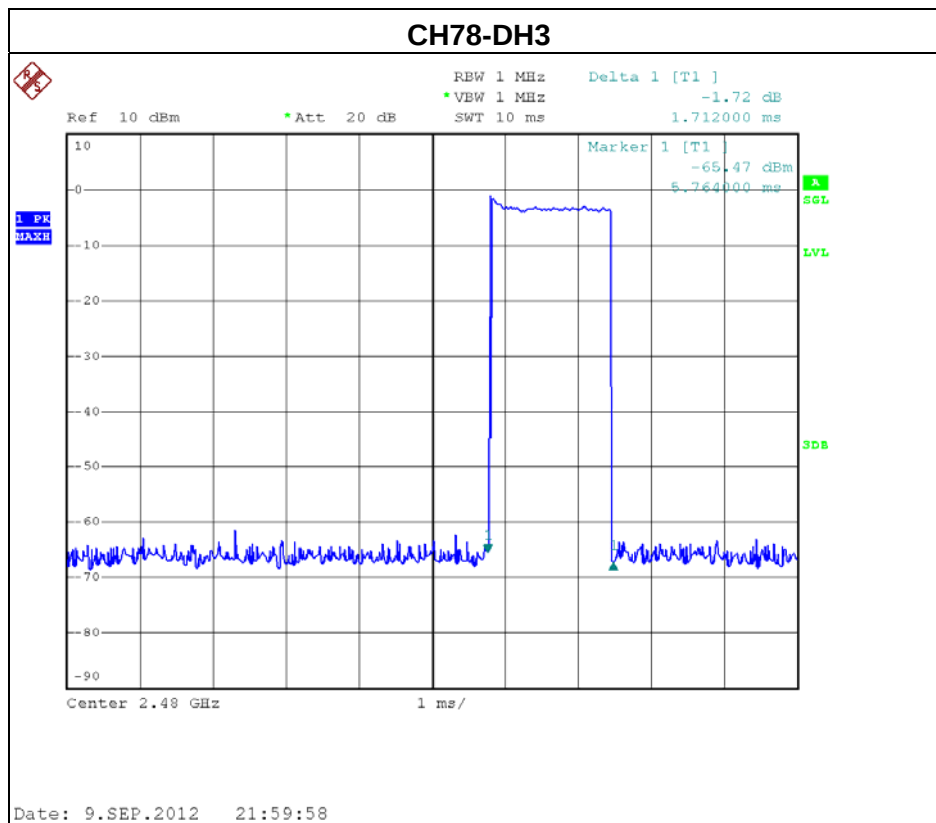




|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH78 -DH1/DH3/DH5-3Mbps |                     |         |

| Data Packet | Frequency | Pulse Duration (ms) | Dwell Time (s) | Limits (s) |
|-------------|-----------|---------------------|----------------|------------|
| DH5         | 2480 MHz  | 3.0124              | 0.3213         | 0.4000     |
| DH3         | 2480 MHz  | 1.7120              | 0.2739         | 0.4000     |
| DH1         | 2480 MHz  | 0.4320              | 0.1382         | 0.4000     |







## 7. HOPPING CHANNEL SEPARATION MEASUREMENT

### 7.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

#### 7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

| Spectrum Parameter | Setting                                       |
|--------------------|-----------------------------------------------|
| Attenuation        | Auto                                          |
| Span Frequency     | > Measurement Bandwidth or Channel Separation |
| RB                 | 30 kHz                                        |
| VB                 | 100 kHz                                       |
| Detector           | Peak                                          |
| Trace              | Max Hold                                      |
| Sweep Time         | Auto                                          |

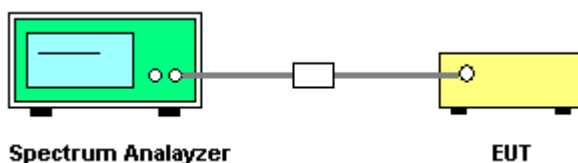
#### 7.1.2 TEST PROCEDURE

- a. The EUT must have its hopping function enabled
- b. Span = wide enough to capture the peaks of two adjacent channels
  - Resolution (or IF) Bandwidth (RBW)  $\geq$  1% of the span
  - Video (or Average) Bandwidth (VBW)  $\geq$  RBW
  - Sweep = auto
  - Detector function = peak
  - Trace = max hold

#### 7.1.3 DEVIATION FROM STANDARD

No deviation.

#### 7.1.4 TEST SETUP



#### 7.1.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in hopping mode.

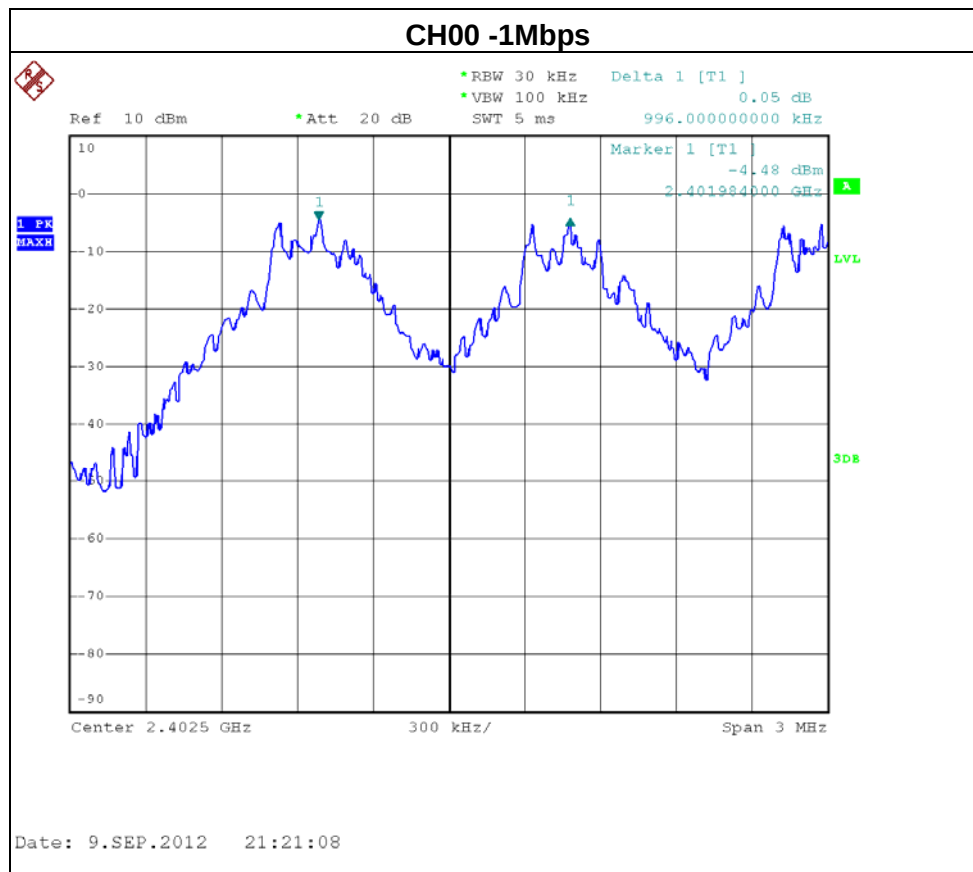


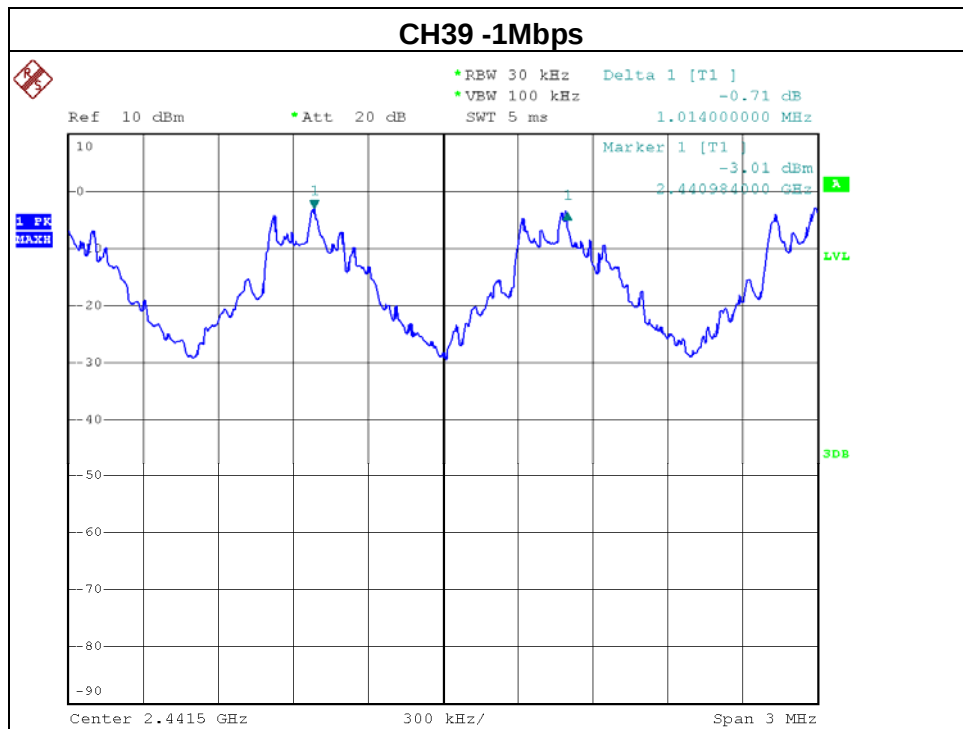
### 7.1.6 TEST RESULTS

|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00 / CH39 /CH78-1Mbps |                     |         |

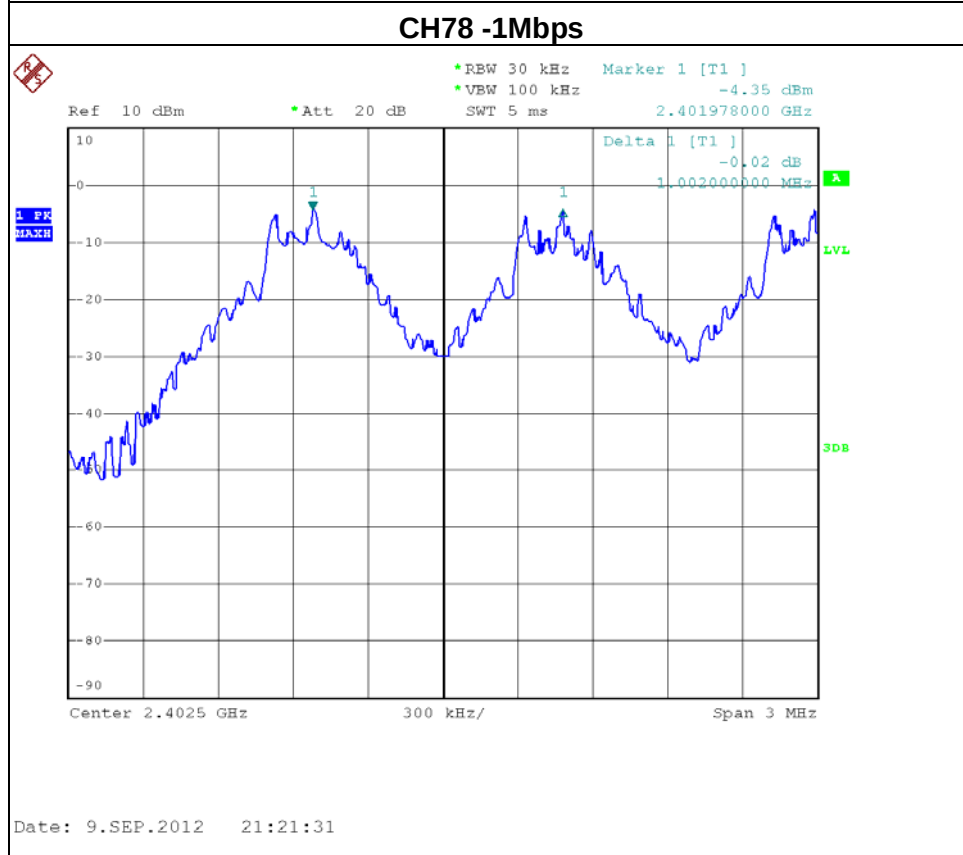
| Frequency | Ch. Separation (MHz) | 20dB Bandwidth (MHz) | Result   |
|-----------|----------------------|----------------------|----------|
| 2402 MHz  | 1                    | 0.788                | Complies |
| 2441 MHz  | 1                    | 0.800                | Complies |
| 2480 MHz  | 1                    | 0.752                | Complies |

Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth





Date: 9.SEP.2012 21:18:18



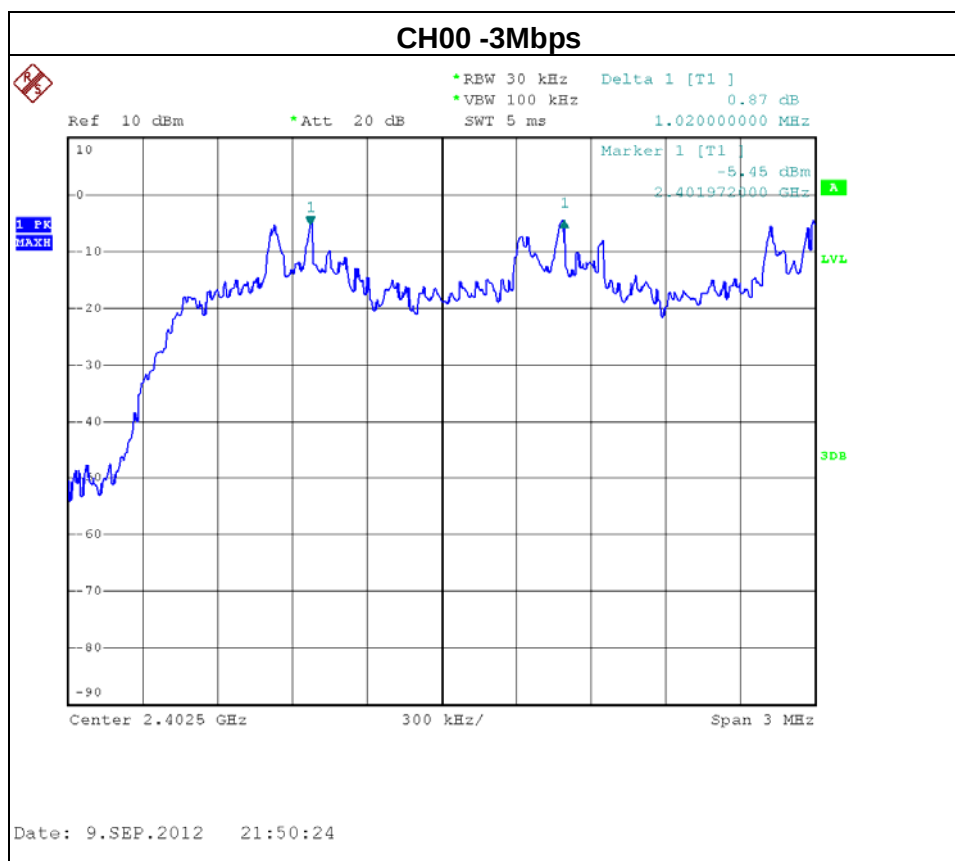
Date: 9.SEP.2012 21:21:31

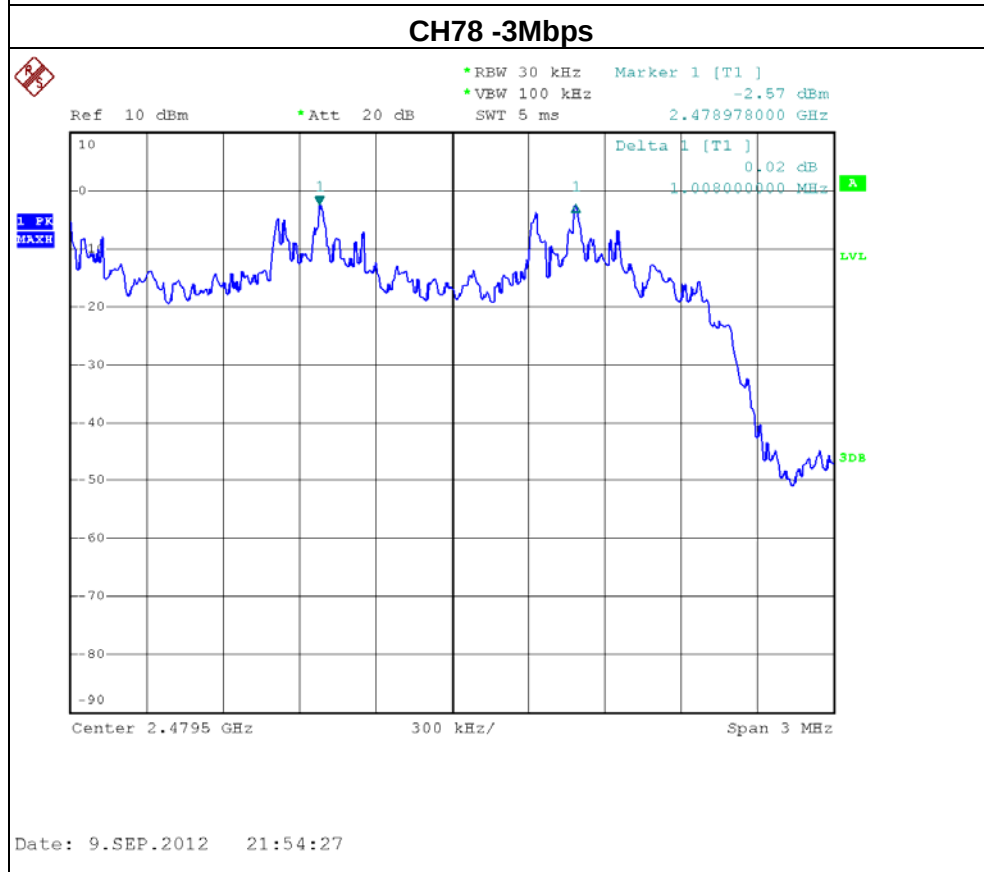
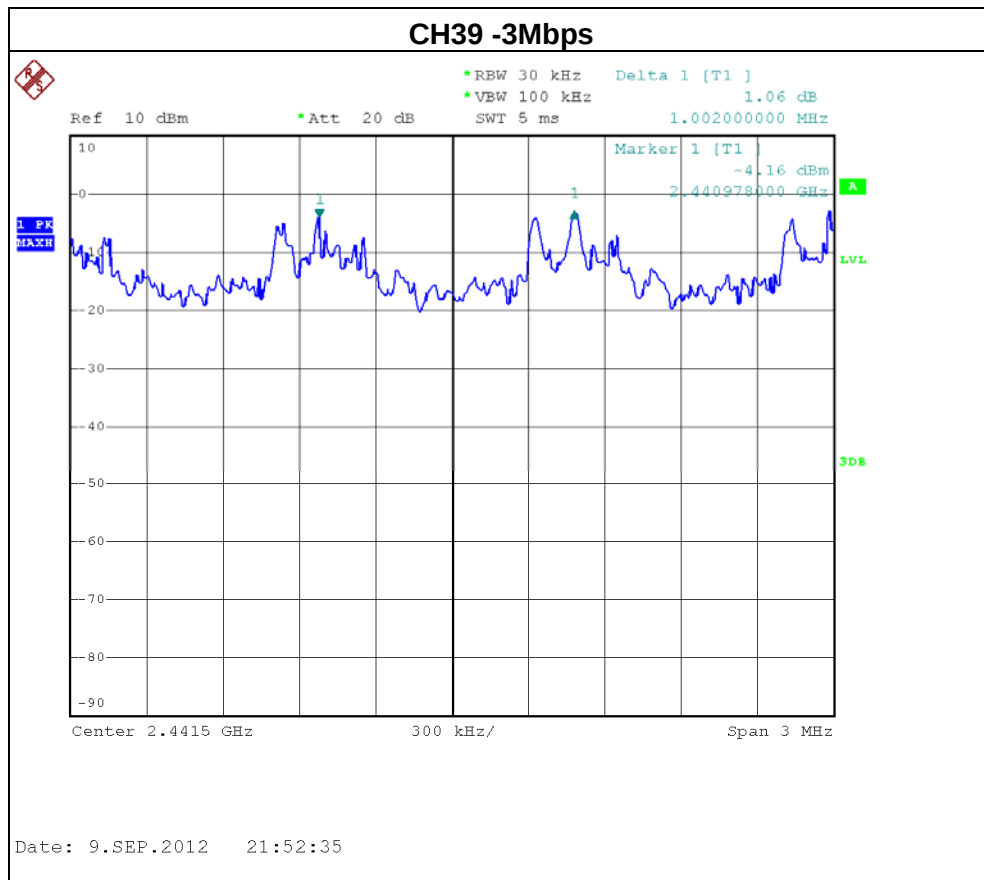


|               |                                     |                     |         |
|---------------|-------------------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard                  | Model Name :        | PK-01B  |
| Temperature : | 20 °C                               | Relative Humidity : | 60 %    |
| Pressure :    | 1012 hPa                            | Test Voltage :      | DC 3.7V |
| Test Mode :   | Hopping on -CH00 / CH39 /CH78-3Mbps |                     |         |

| Frequency | Ch. Separation (MHz) | 20dB Bandwidth (MHz) | Result   |
|-----------|----------------------|----------------------|----------|
| 2402 MHz  | 1                    | 1.200                | Complies |
| 2441 MHz  | 1                    | 1.194                | Complies |
| 2480 MHz  | 1                    | 1.194                | Complies |

**Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth**







## 8. BANDWIDTH TEST

### 8.1 APPLIED PROCEDURES / LIMIT

| FCC Part15 (15.247) , Subpart C |           |                                  |                       |        |
|---------------------------------|-----------|----------------------------------|-----------------------|--------|
| Section                         | Test Item | Limit                            | Frequency Range (MHz) | Result |
| 15.247<br>(a)(2)                | Bandwidth | $\leq 1$ MHz<br>(20dB bandwidth) | 2400-2483.5           | PASS   |

#### 8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

| Spectrum Parameter | Setting                                                 |
|--------------------|---------------------------------------------------------|
| Attenuation        | Auto                                                    |
| Span Frequency     | > Measurement Bandwidth or Channel Separation           |
| RB                 | 30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)   |
| VB                 | 100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation) |
| Detector           | Peak                                                    |
| Trace              | Max Hold                                                |
| Sweep Time         | Auto                                                    |

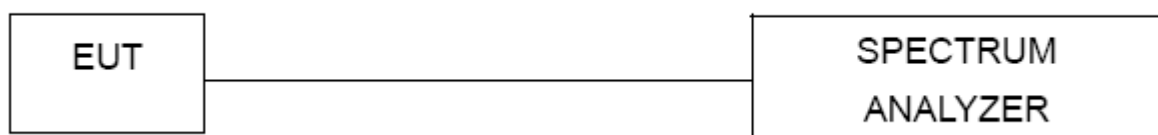
#### 8.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

#### 8.1.3 DEVIATION FROM STANDARD

No deviation.

#### 8.1.4 TEST SETUP



#### 8.1.5 EUT OPERATION CONDITIONS

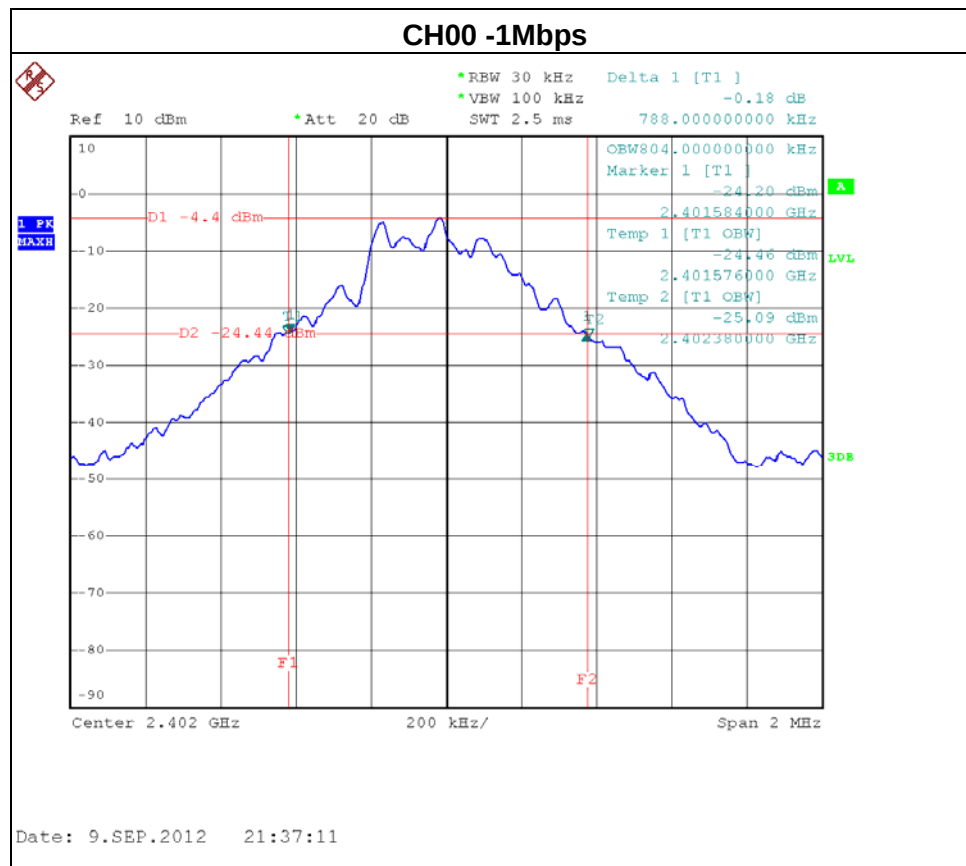
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

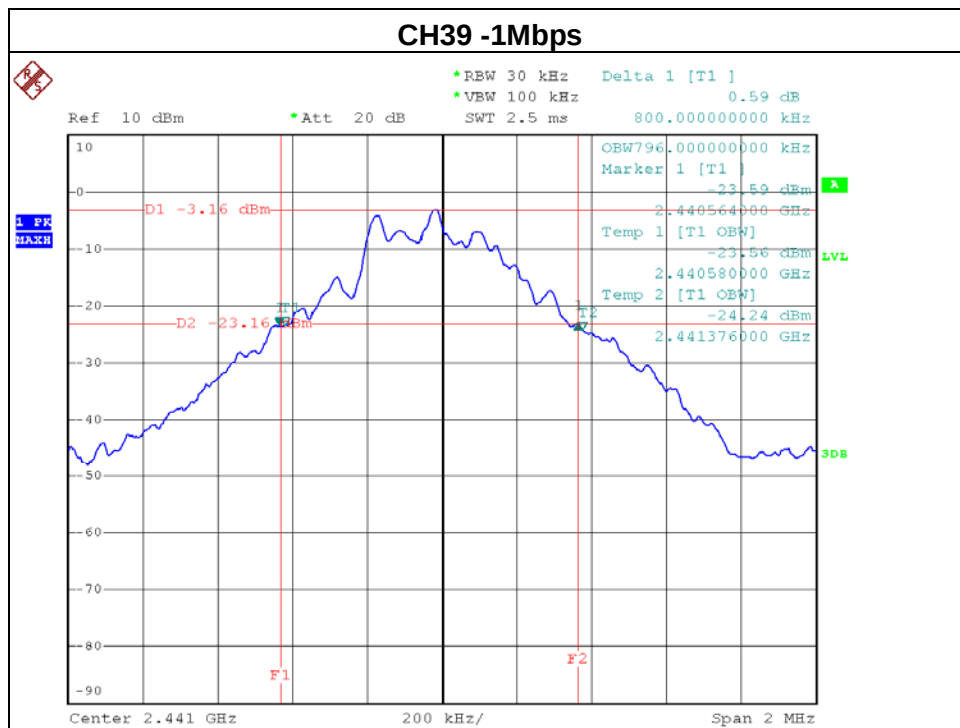


### 8.1.6 TEST RESULTS

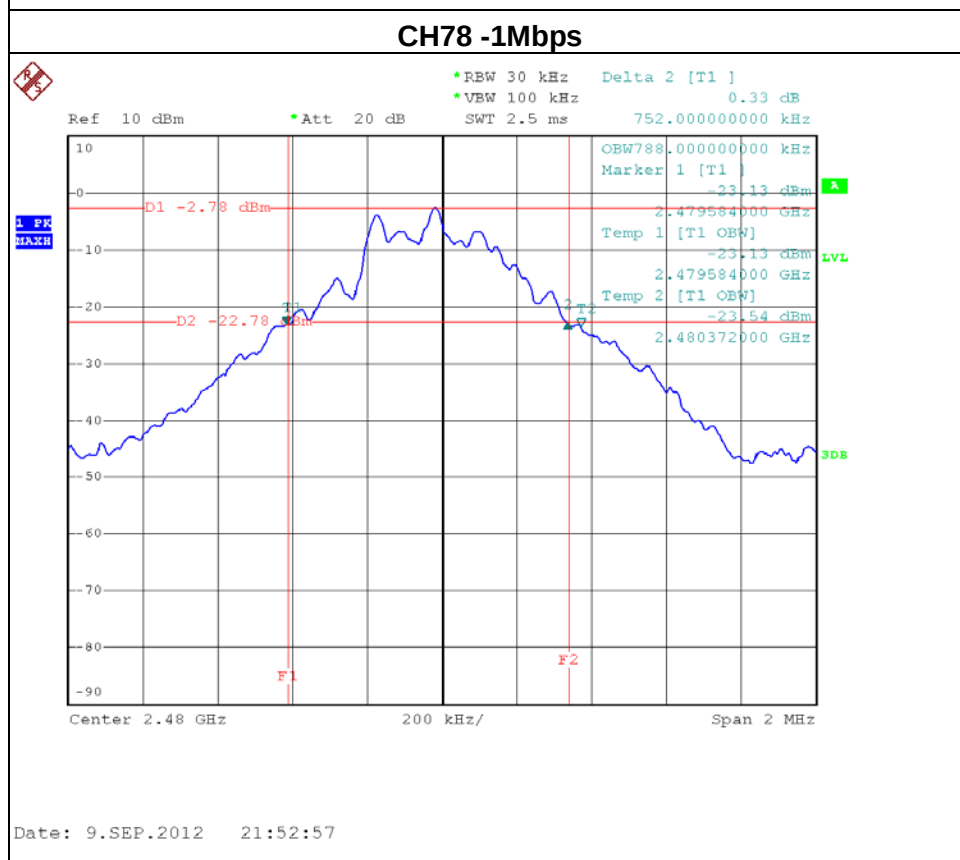
|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00 / CH39 /CH78-1Mbps |                     |         |

| Frequency | 20dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Channel Separation (MHz) | Result |
|-----------|----------------------|------------------------------|--------------------------|--------|
| 2402 MHz  | 0.788                | 0.804                        | <= 1MHz                  | PASS   |
| 2441 MHz  | 0.800                | 0.796                        | <= 1MHz                  | PASS   |
| 2480 MHz  | 0.752                | 0.788                        | <= 1MHz                  | PASS   |





Date: 9.SEP.2012 21:48:38

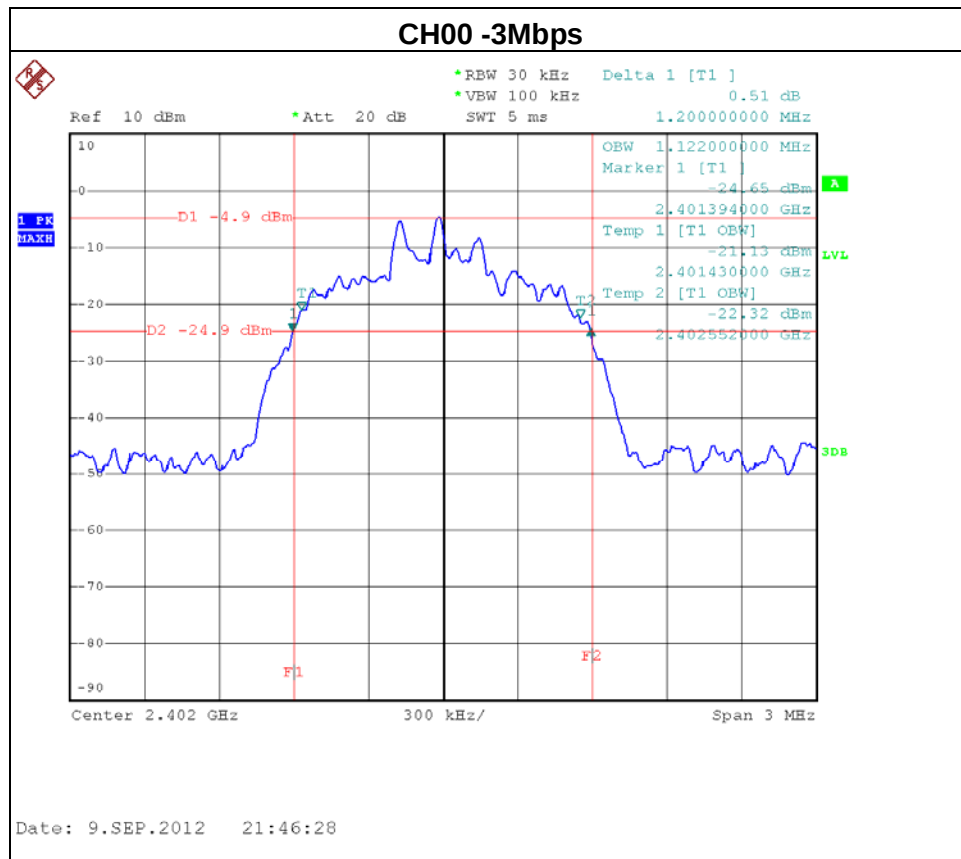


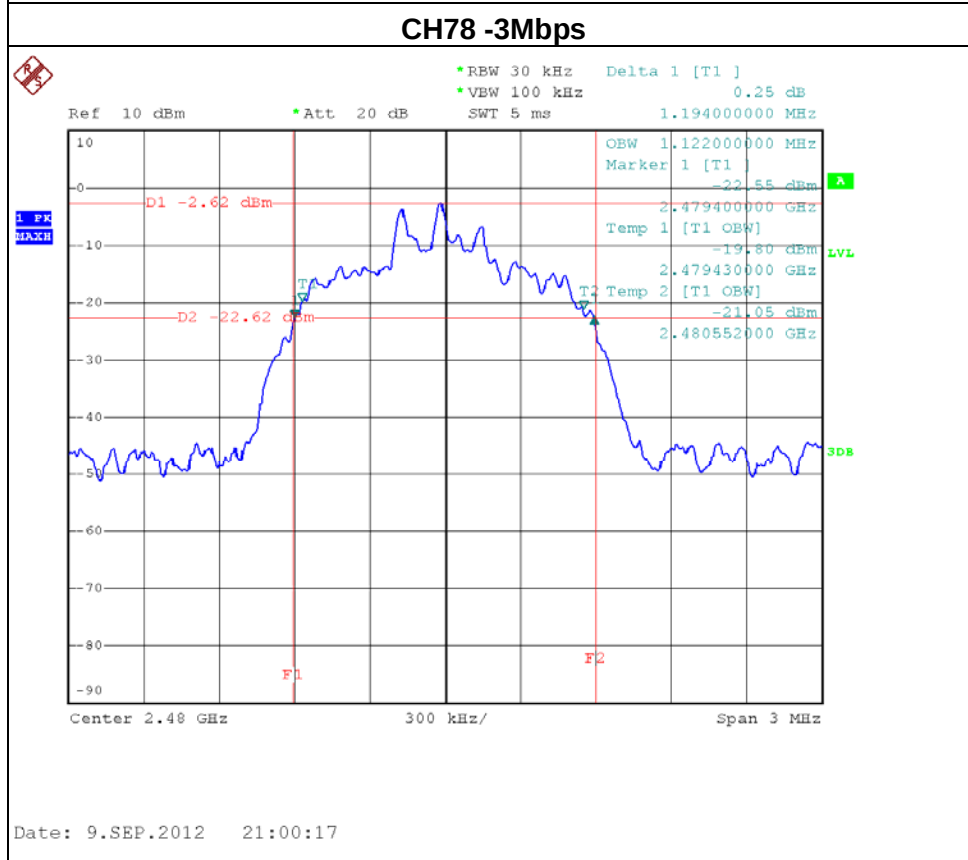
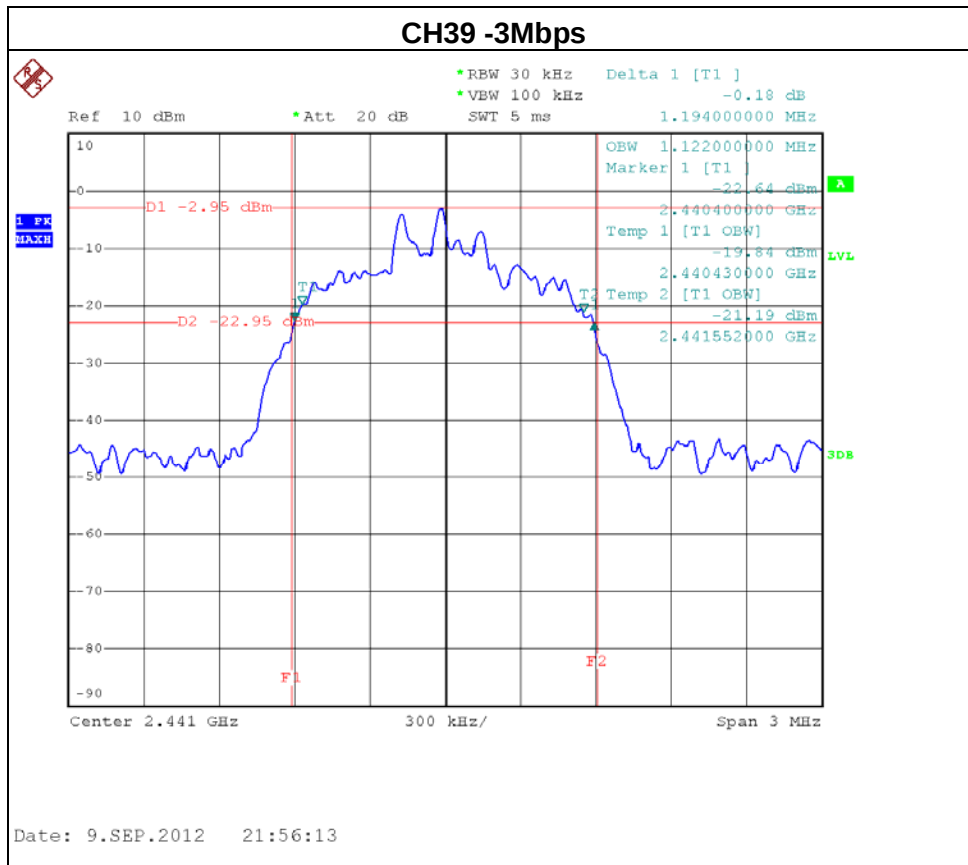
Date: 9.SEP.2012 21:52:57



|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00 / CH39 /CH78-3Mbps |                     |         |

| Frequency | 20dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Channel Separation (MHz) | Result |
|-----------|----------------------|------------------------------|--------------------------|--------|
| 2402 MHz  | 1.200                | 1.122                        | <= 1MHz                  | PASS   |
| 2441 MHz  | 1.194                | 1.122                        | <= 1MHz                  | PASS   |
| 2480 MHz  | 1.194                | 1.122                        | <= 1MHz                  | PASS   |







## 9. PEAK OUTPUT POWER TEST

### 9.1 APPLIED PROCEDURES / LIMIT

| FCC Part15 (15.247) , Subpart C |                   |                     |                       |        |
|---------------------------------|-------------------|---------------------|-----------------------|--------|
| Section                         | Test Item         | Limit               | Frequency Range (MHz) | Result |
| 15.247 (b)(1)                   | Peak Output Power | 0.125 watt or 21dBm | 2400-2483.5           | PASS   |

#### 9.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

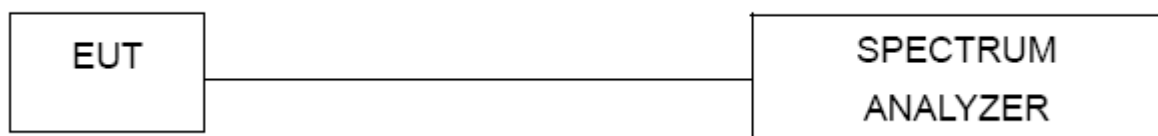
#### 9.1.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 1MHz, VBW= 1MHz, Sweep time = Auto (1M).  
RBW= 3MHz, VBW= 3MHz, Sweep time = Auto (3M)

#### 9.1.3 DEVIATION FROM STANDARD

No deviation.

#### 9.1.4 TEST SETUP



#### 9.1.5 EUT OPERATION CONDITIONS

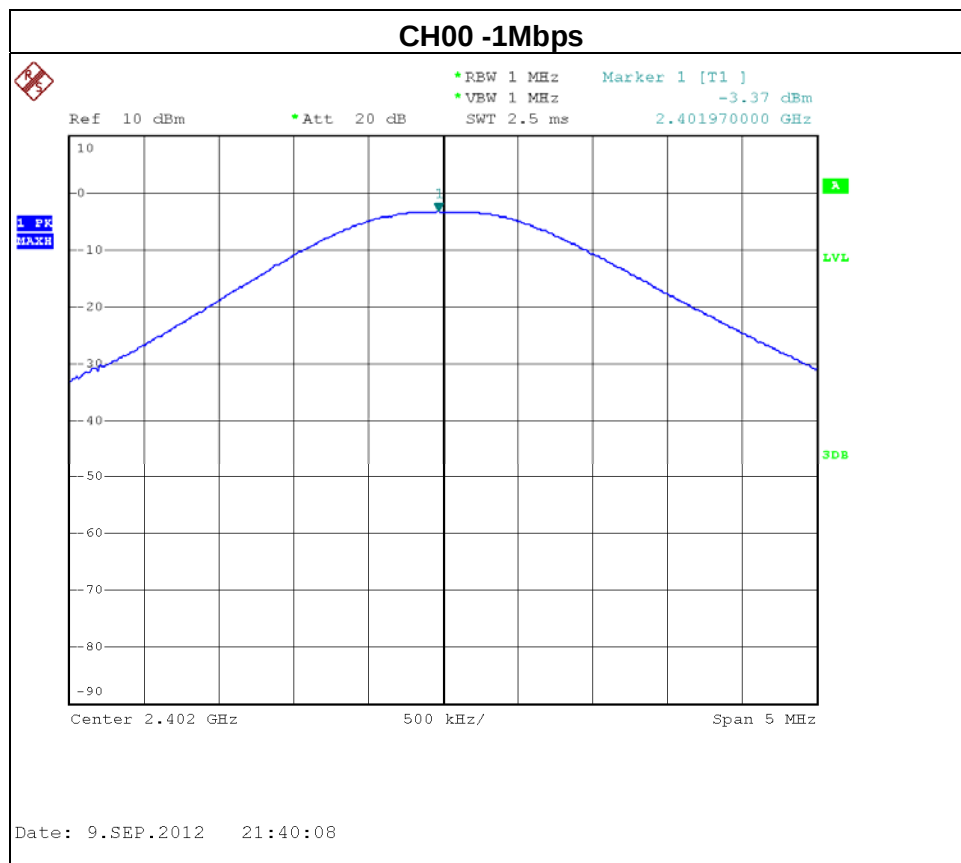
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

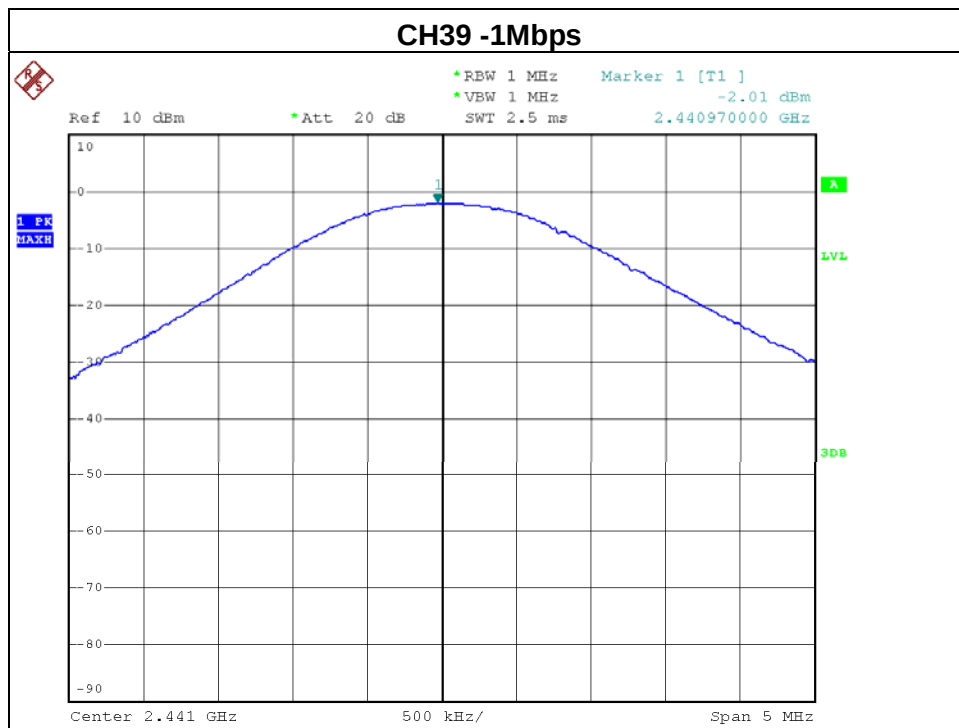


### 9.1.6 TEST RESULTS

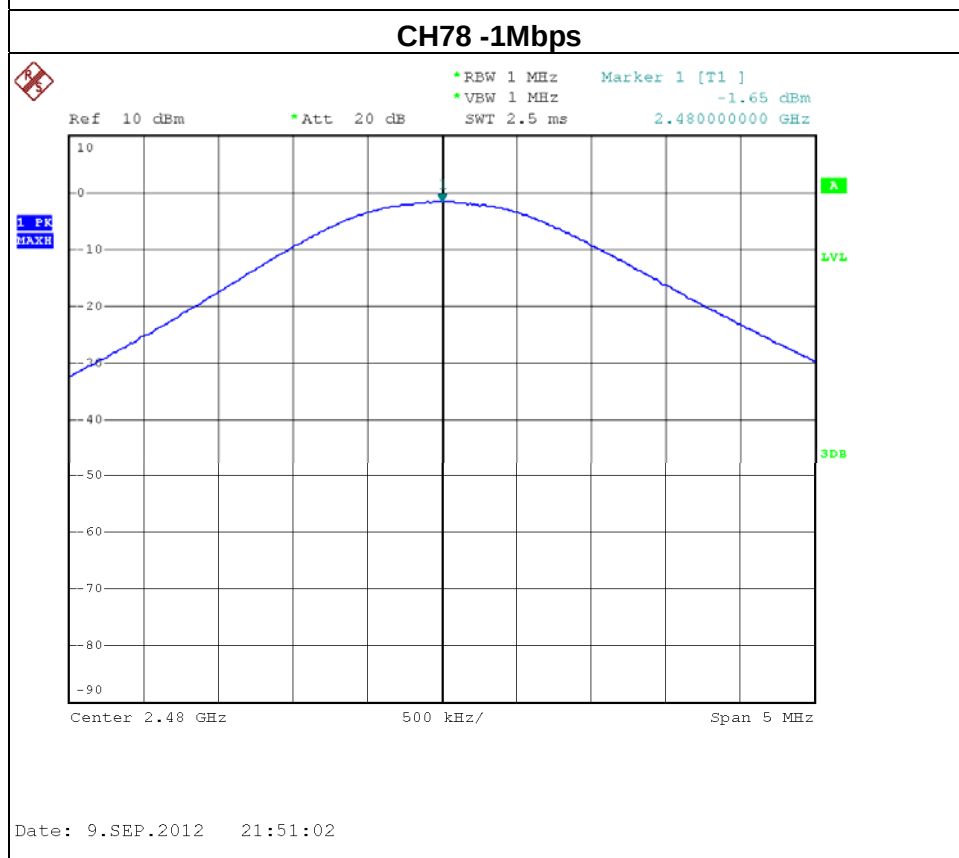
|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00/ CH39 /CH78 -1Mbps |                     |         |

| Test Channel | Frequency (MHz) | Peak Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
|--------------|-----------------|-------------------------|-------------|-----------|
| CH00         | 2402            | -3.37                   | 21          | 0.125     |
| CH39         | 2441            | -2.01                   | 21          | 0.125     |
| CH78         | 2480            | -1.65                   | 21          | 0.125     |





Date: 9.SEP.2012 21:49:34

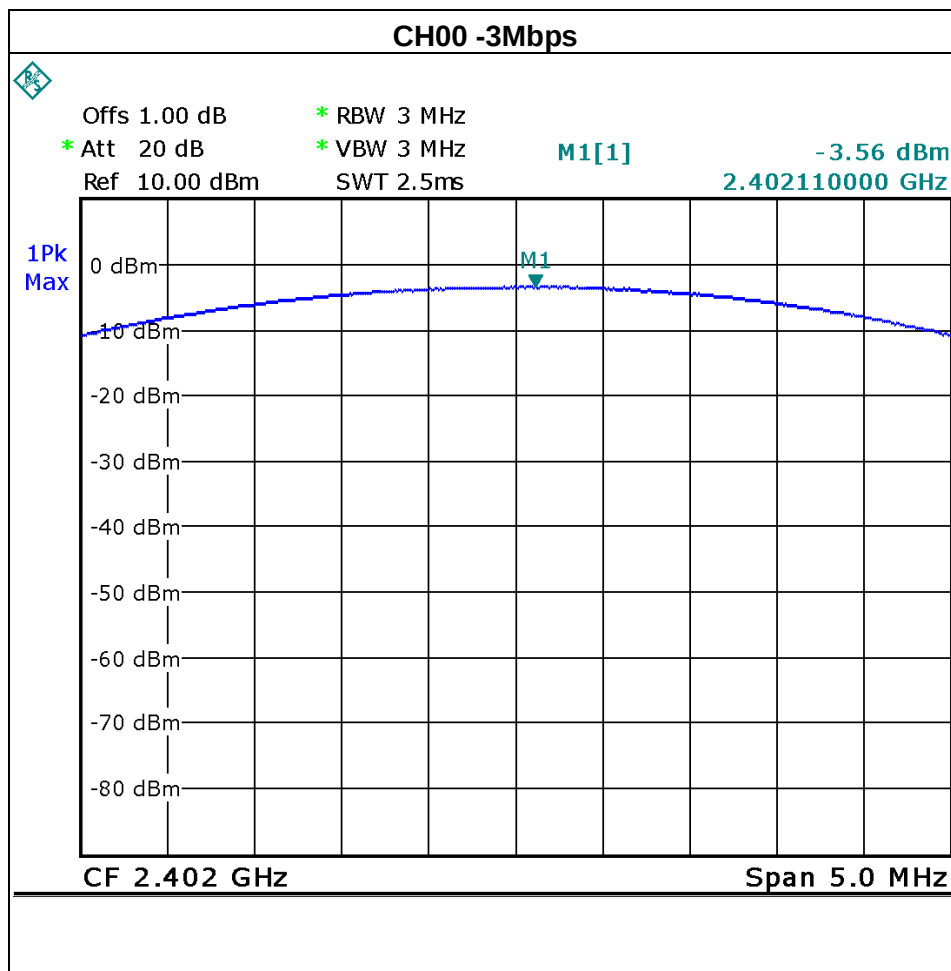


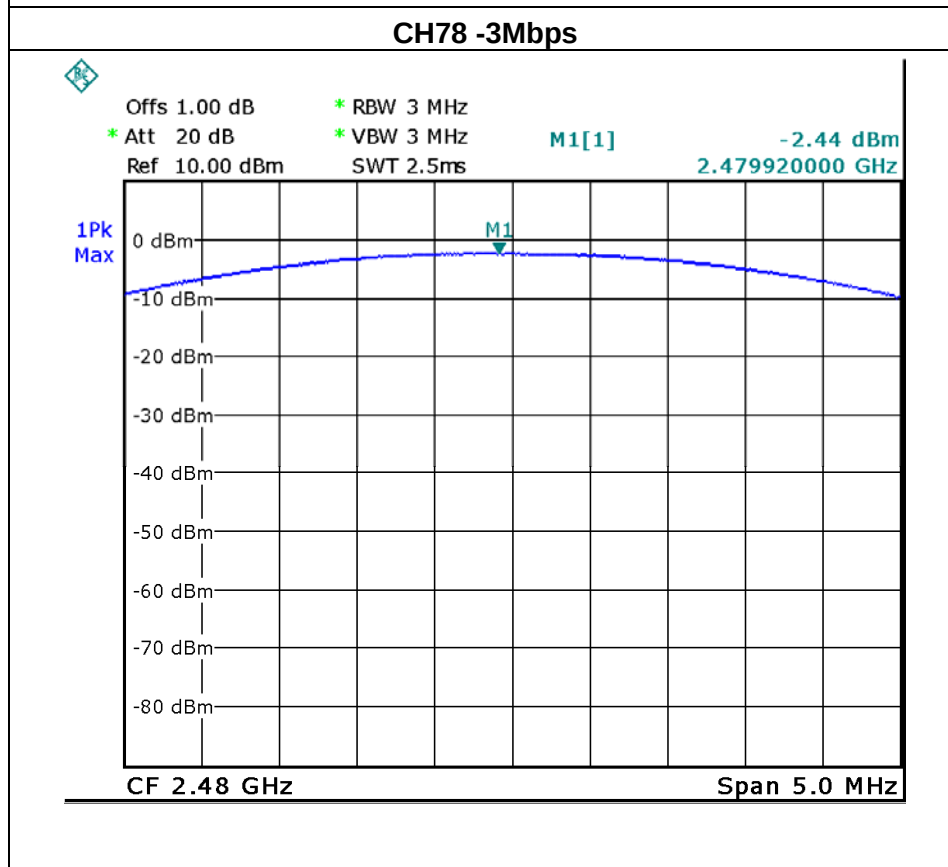
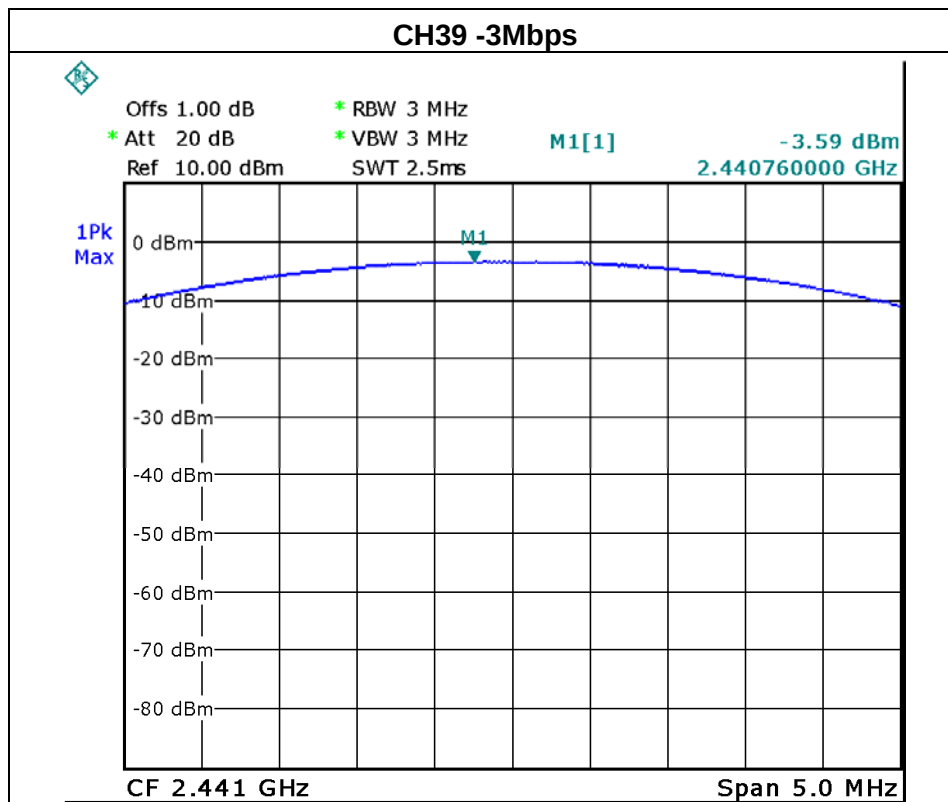
Date: 9.SEP.2012 21:51:02



|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00/ CH39 /CH78 -2Mbps |                     |         |

| Test Channel | Frequency (MHz) | Peak Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
|--------------|-----------------|-------------------------|-------------|-----------|
| CH00         | 2402            | -3.56                   | 21          | 0.125     |
| CH39         | 2441            | -3.59                   | 21          | 0.125     |
| CH78         | 2480            | -2.44                   | 21          | 0.125     |

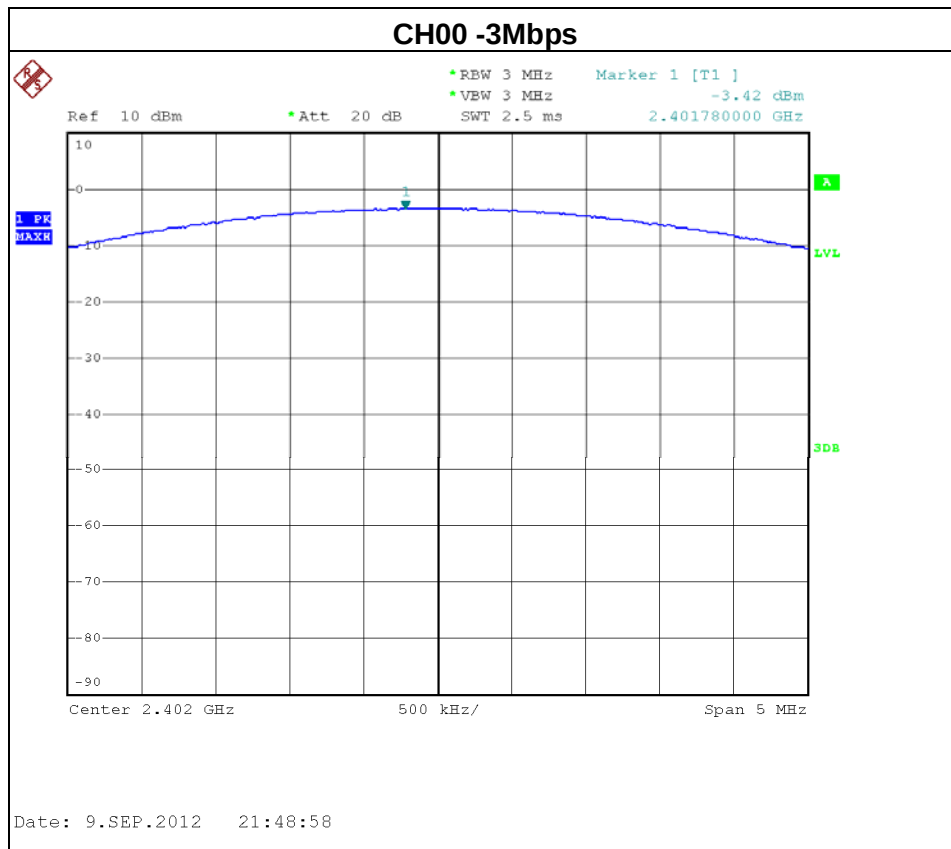


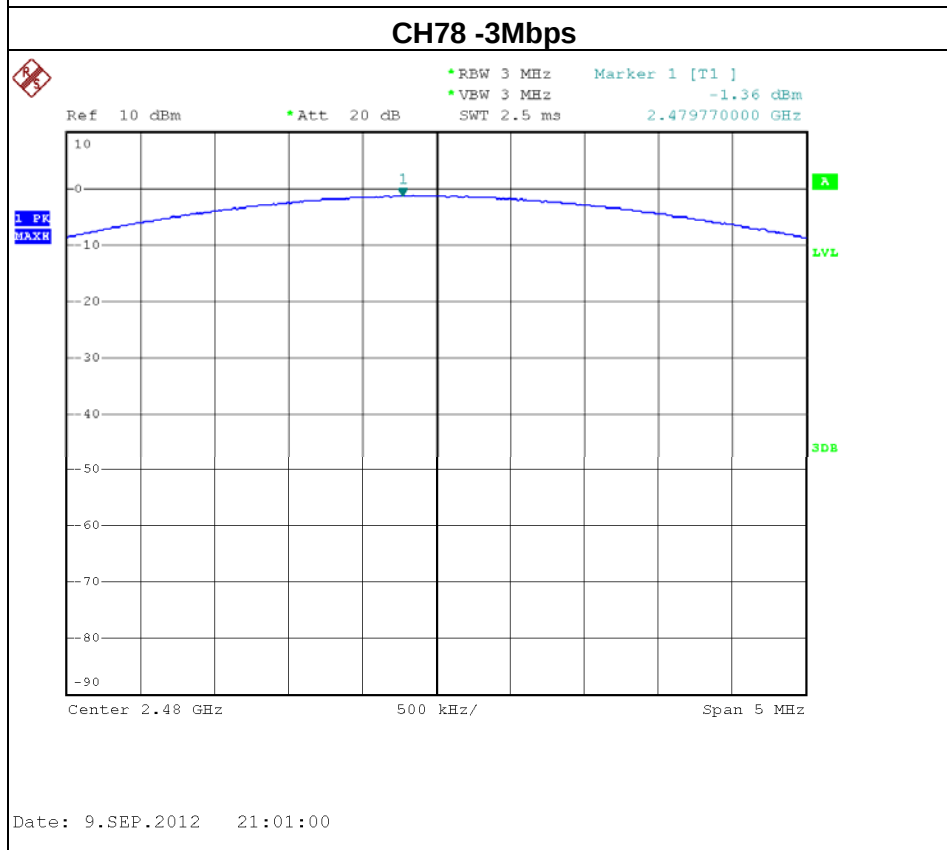
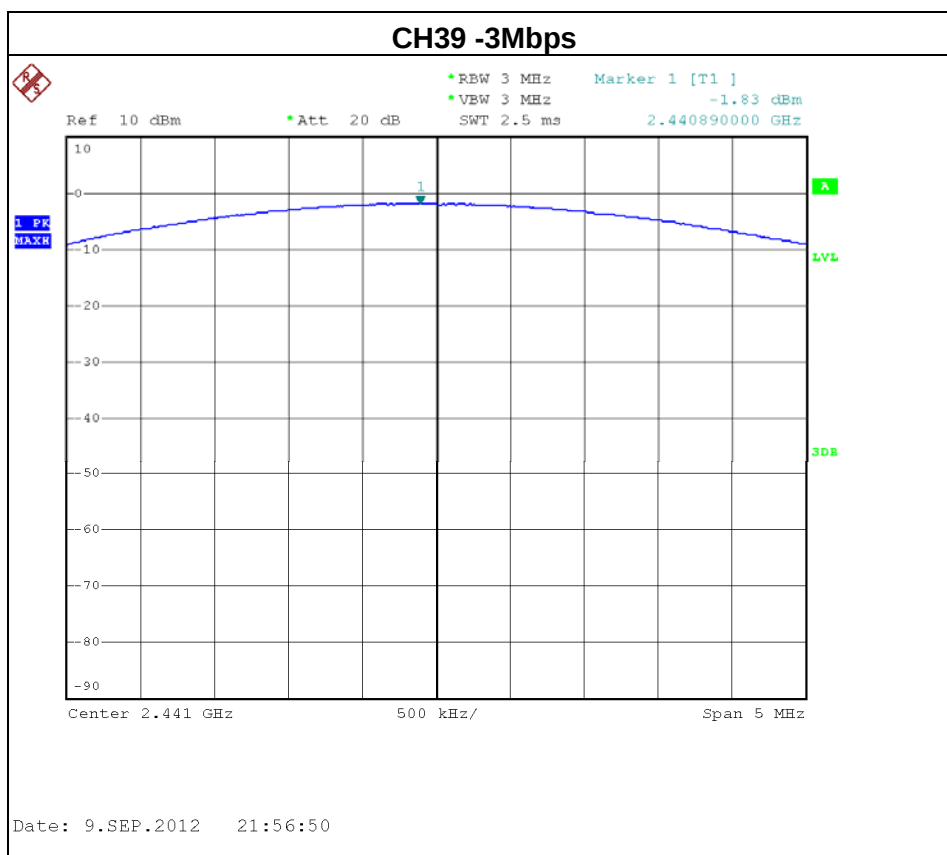




|               |                         |                     |         |
|---------------|-------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard      | Model Name :        | PK-01B  |
| Temperature : | 25 °C                   | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00/ CH39 /CH78 -3Mbps |                     |         |

| Test Channel | Frequency (MHz) | Peak Output Power (dBm) | LIMIT (dBm) | LIMIT (W) |
|--------------|-----------------|-------------------------|-------------|-----------|
| CH00         | 2402            | -3.42                   | 21          | 0.125     |
| CH39         | 2441            | -1.83                   | 21          | 0.125     |
| CH78         | 2480            | -1.36                   | 21          | 0.125     |





**10. ANTENNA CONDUCTED SPURIOUS EMISSION****10.1 APPLIED PROCEDURES / 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.

| Frequencies (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                             |

**10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP 40   | 100185     | Nov.25.2012      |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

**10.1.2 TEST PROCEDURE**

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

**10.1.3 DEVIATION FROM STANDARD**

No deviation.

**10.1.4 TEST SETUP****10.1.5 EUT OPERATION CONDITIONS**

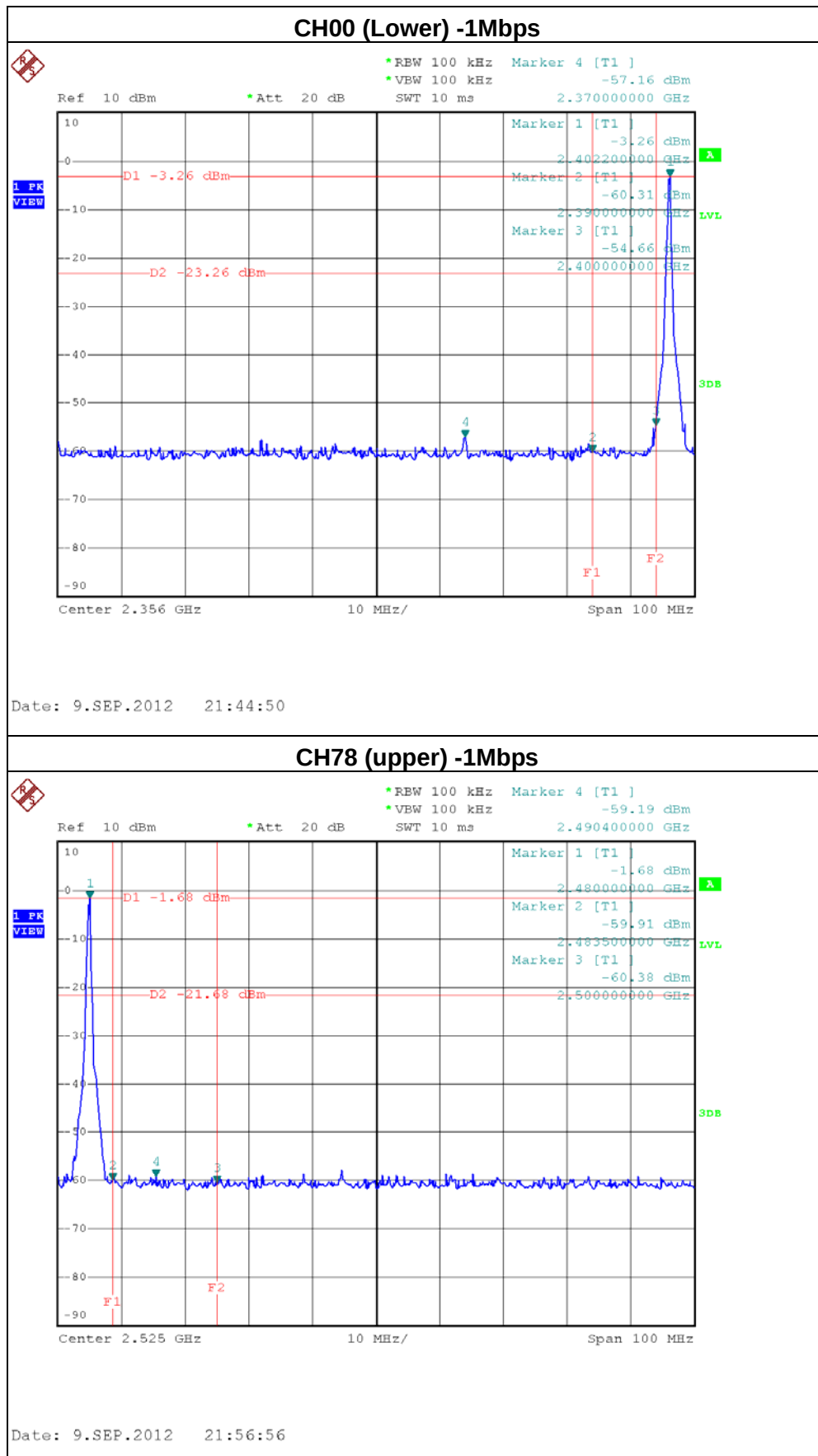
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



**10.1.6 TEST RESULTS**

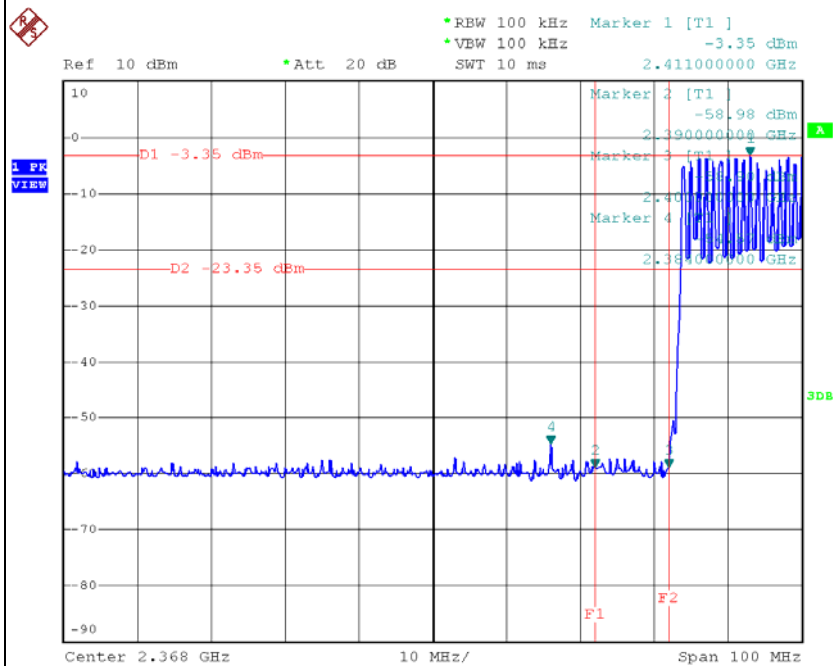
|               |                                                   |                     |         |
|---------------|---------------------------------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard                                | Model Name :        | PK-01B  |
| Temperature : | 25 °C                                             | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                                          | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00 / CH39/ CH78-1Mbps & Hopping on mode (1Mbps) |                     |         |

|                                                                                                                                                                                                         |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth within the frequency band                                                                                                                        |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 2400.00                                                                                                                                                                                                 | -54.66     | 2490.40                                                                            | -59.19     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |



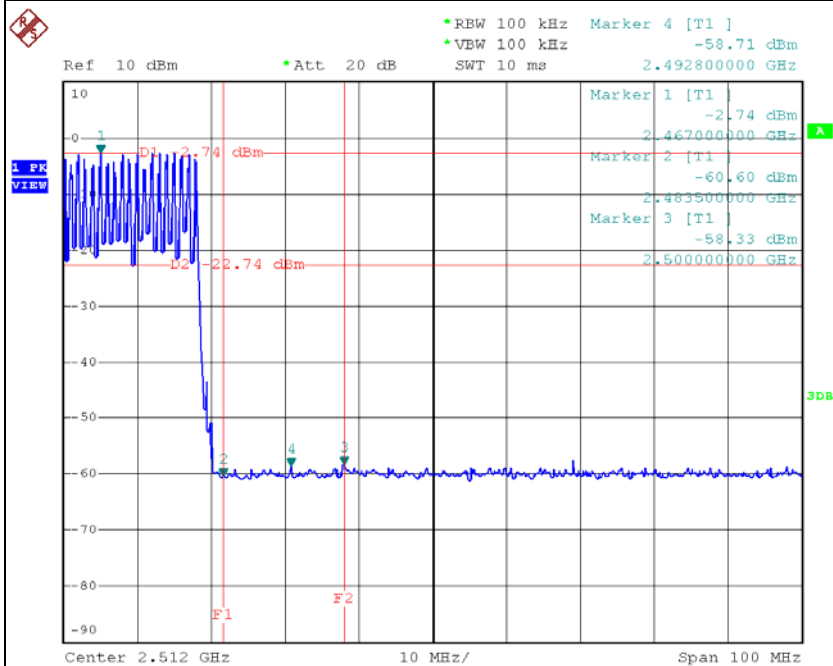


### Hopping on mode (1Mbps- Lower )

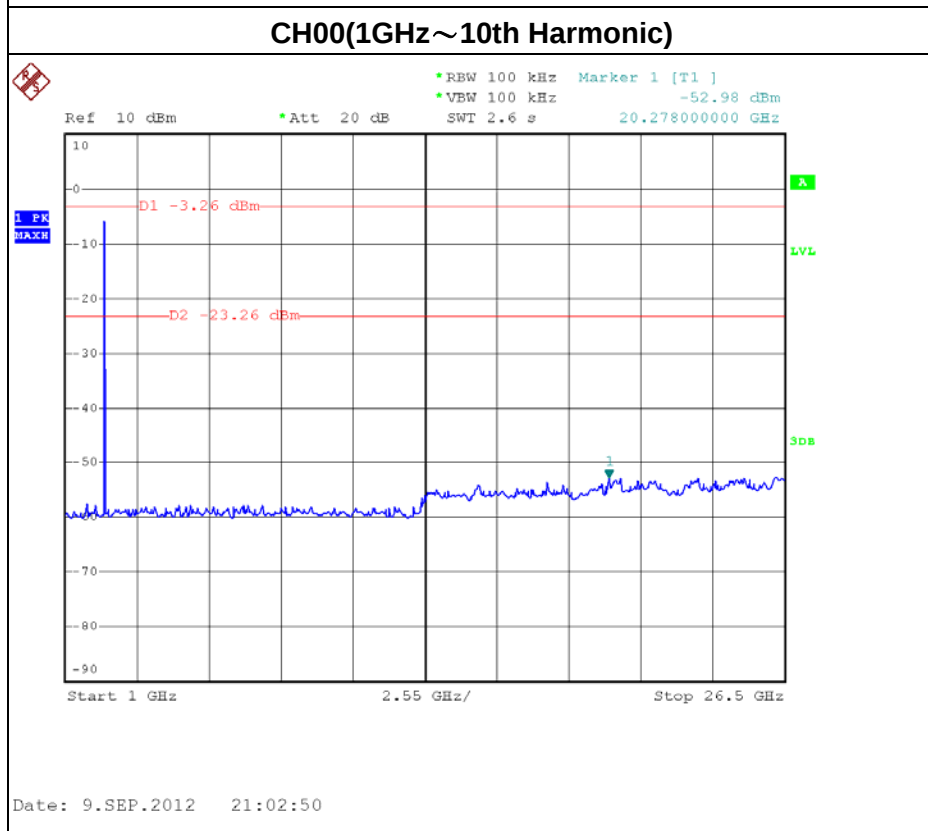
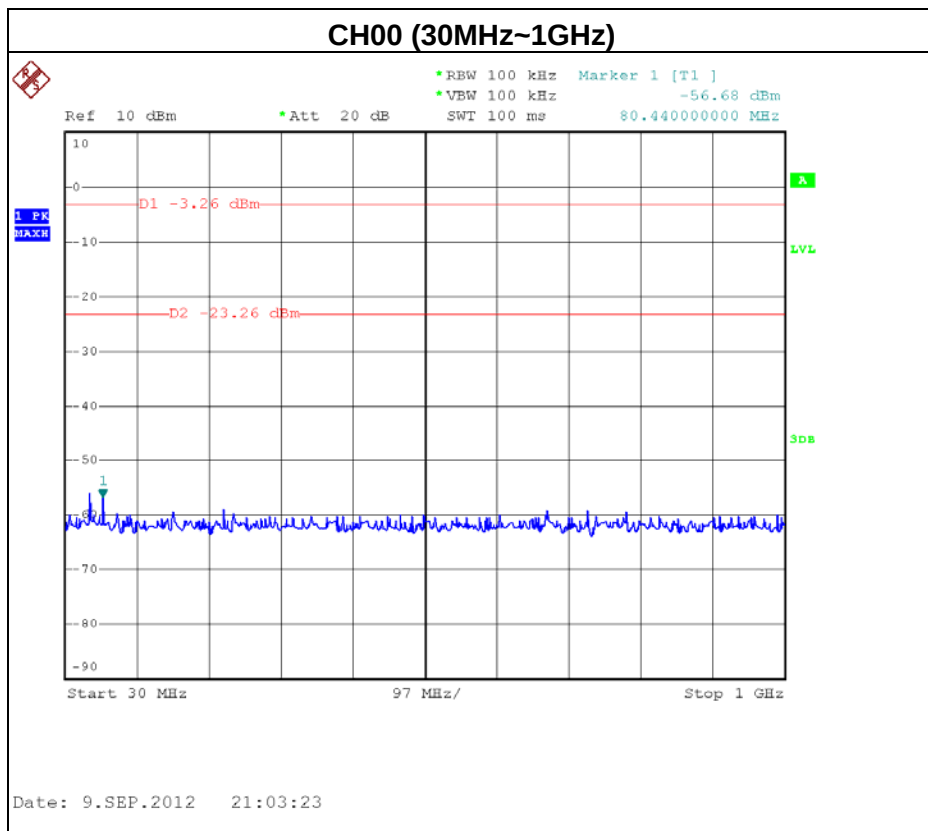


Date: 9.SEP.2012 21:56:39

### Hopping on mode (1Mbps- upper )

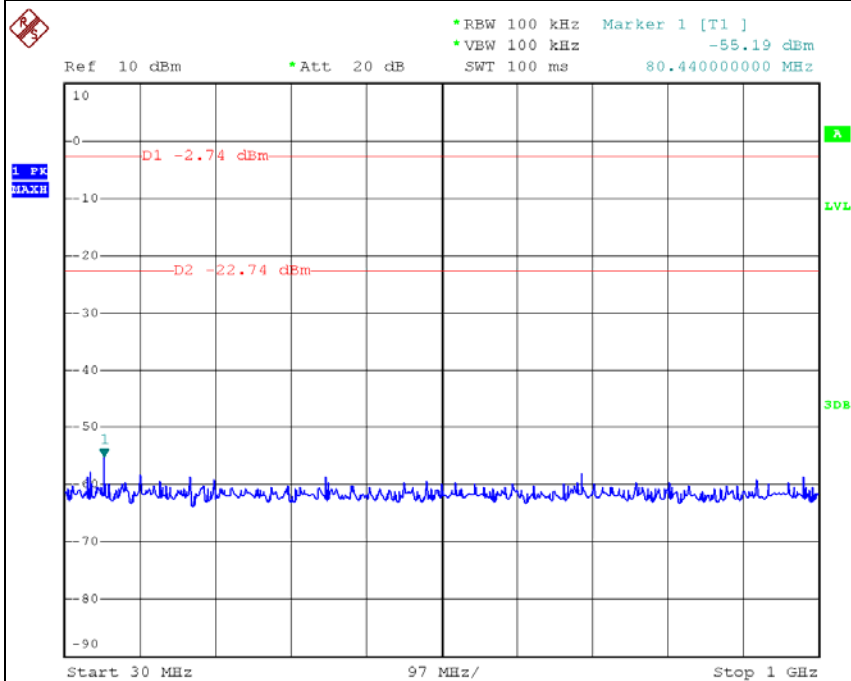


Date: 9.SEP.2012 21:54:01



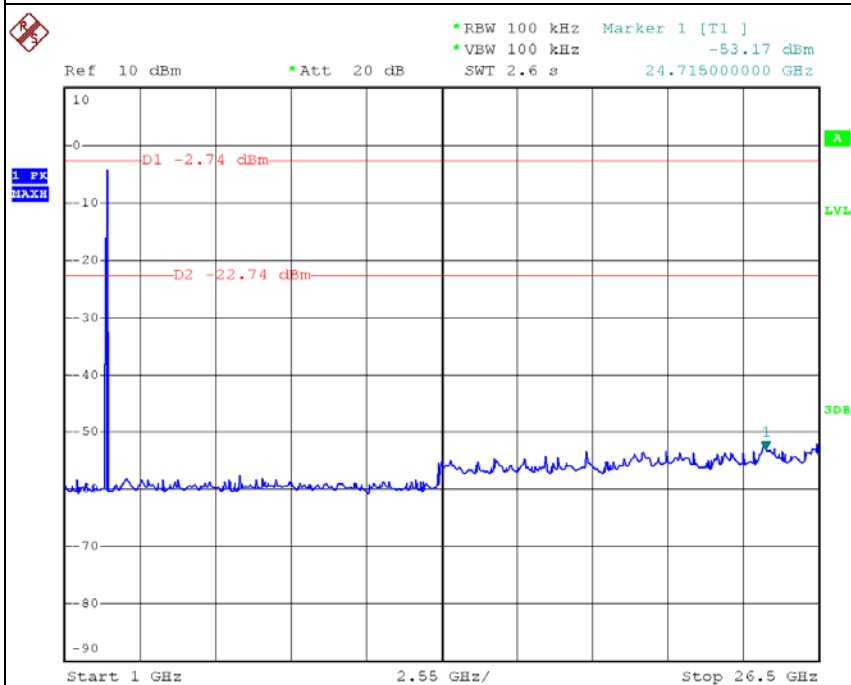


### CH39 (30MHz~1GHz)

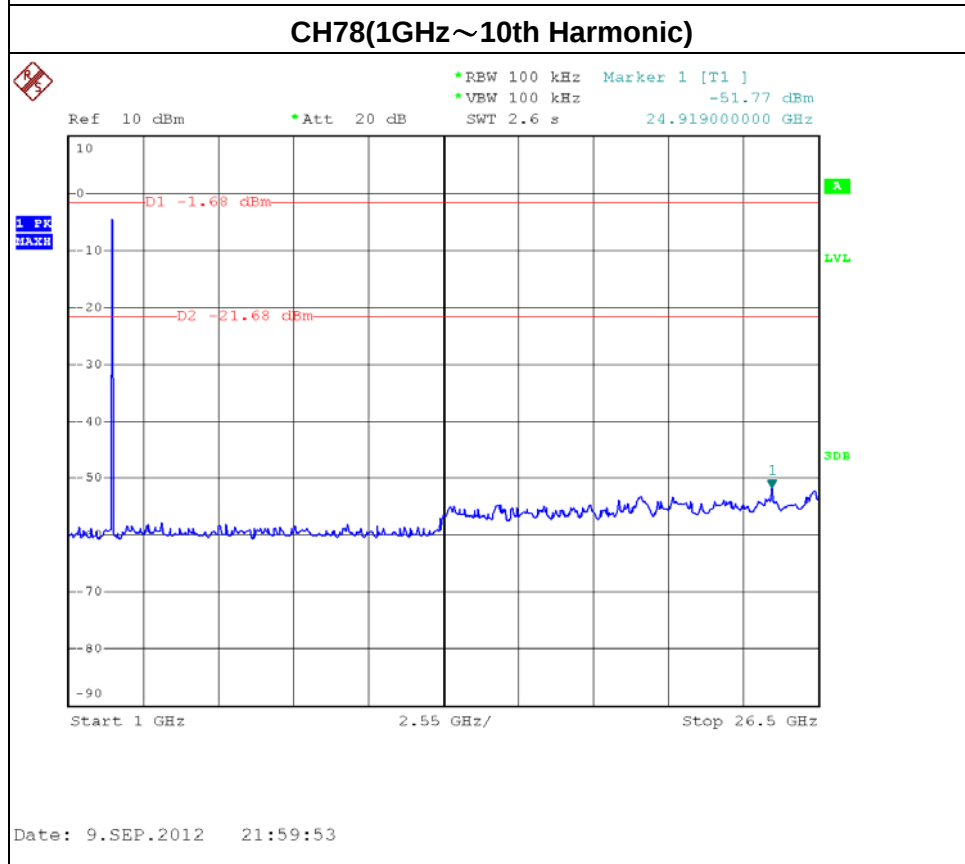
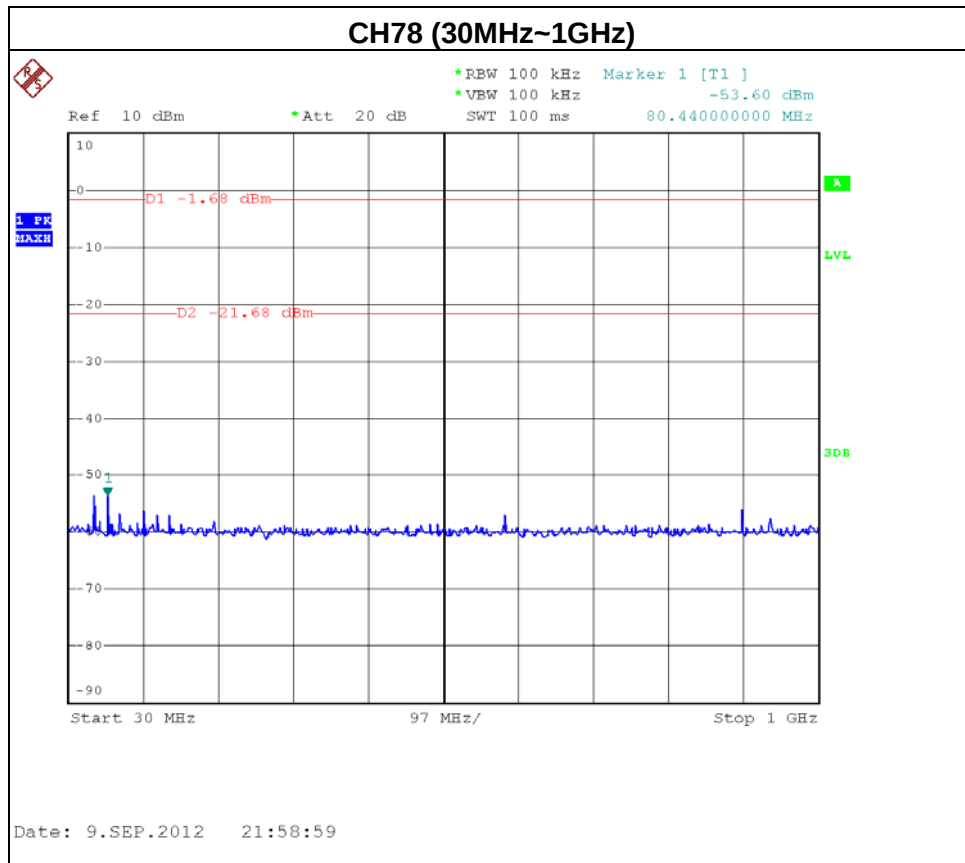


Date: 9.SEP.2012 21:04:23

### CH39(1GHz~10th Harmonic)



Date: 9.SEP.2012 21:05:24



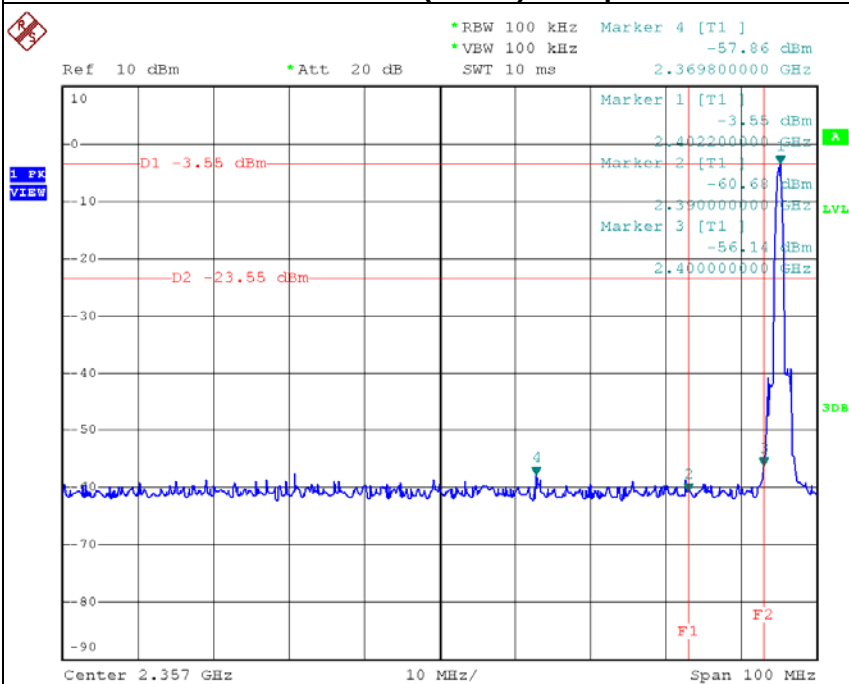


|               |                                                    |                     |         |
|---------------|----------------------------------------------------|---------------------|---------|
| EUT :         | Bluetooth Keyboard                                 | Model Name :        | PK-01B  |
| Temperature : | 25 °C                                              | Relative Humidity : | 58 %    |
| Pressure :    | 1009 hPa                                           | Test Voltage :      | DC 3.7V |
| Test Mode :   | CH00 / CH39/ CH78 -3Mbps & Hopping on mode (3Mbps) |                     |         |

|                                                                                                                                                                                                         |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth within the frequency band                                                                                                                        |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 2400.00                                                                                                                                                                                                 | -56.14     | 2495.20                                                                            | -59.30     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |

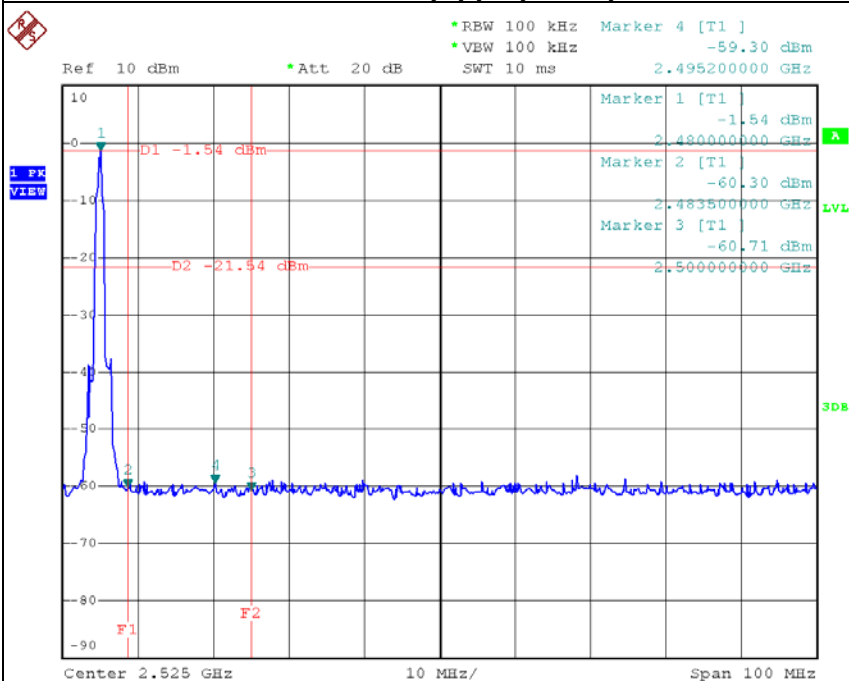


### CH00 (Lower) -3Mbps



Date: 9.SEP.2012 21:50:56

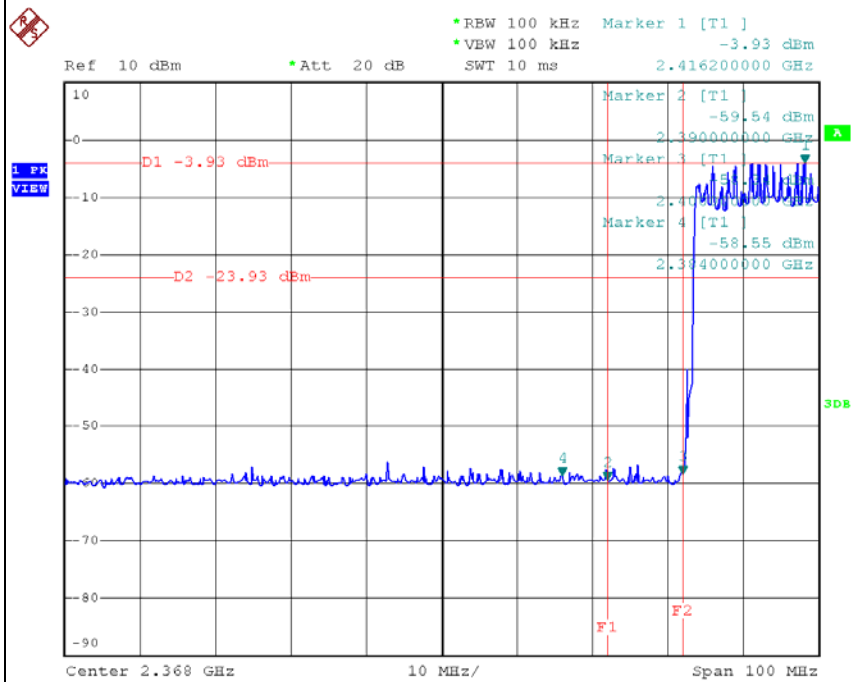
### CH 78 (Upper) -3Mbps



Date: 9.SEP.2012 21:03:32

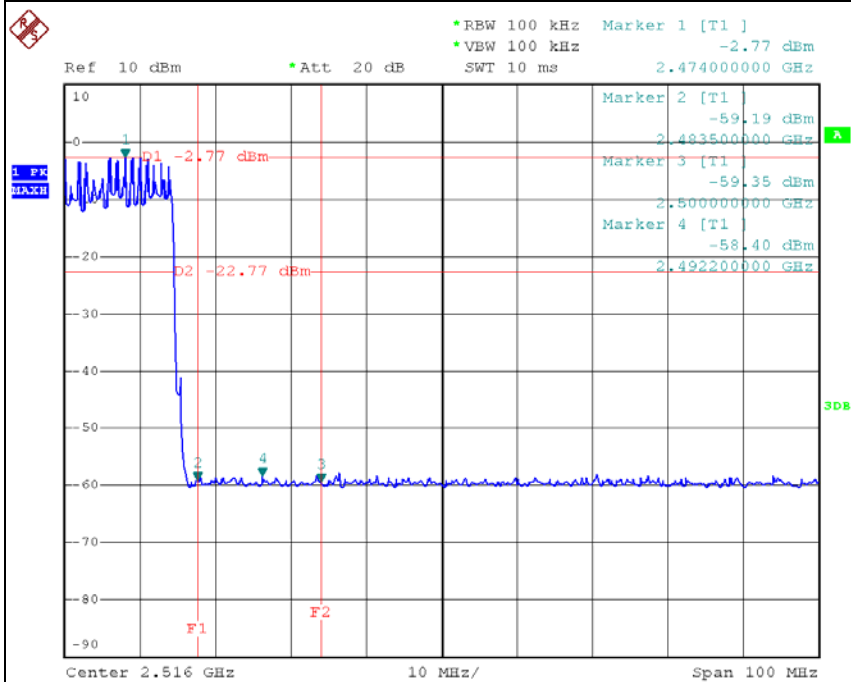


### Hopping on mode (3Mbps- Lower)

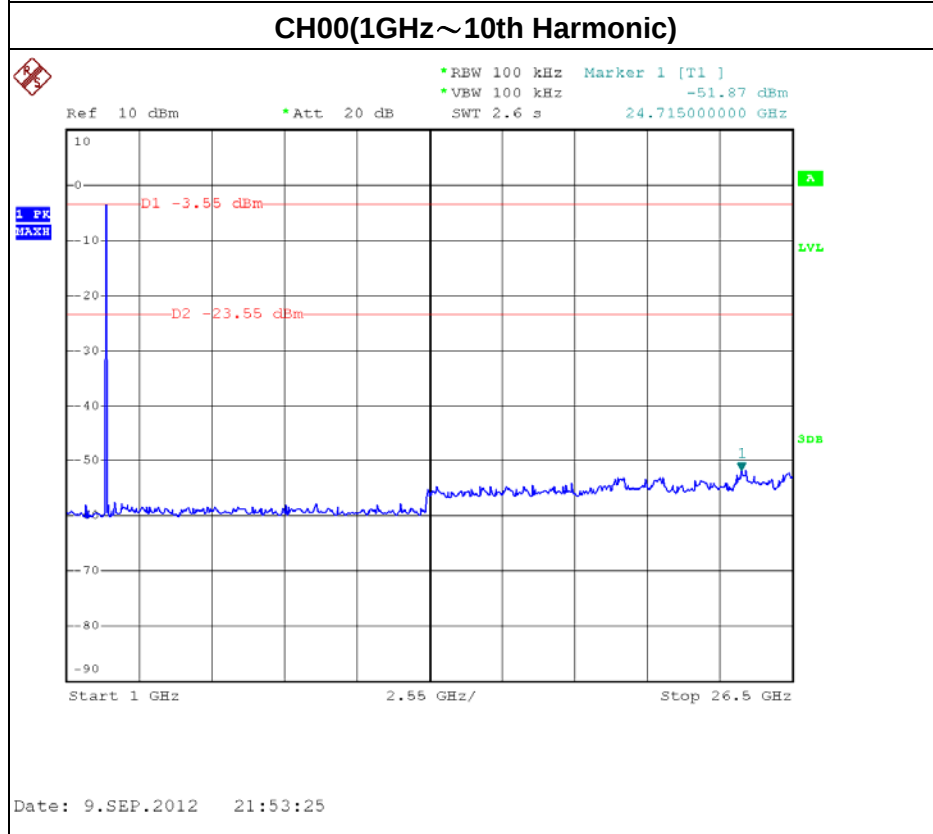
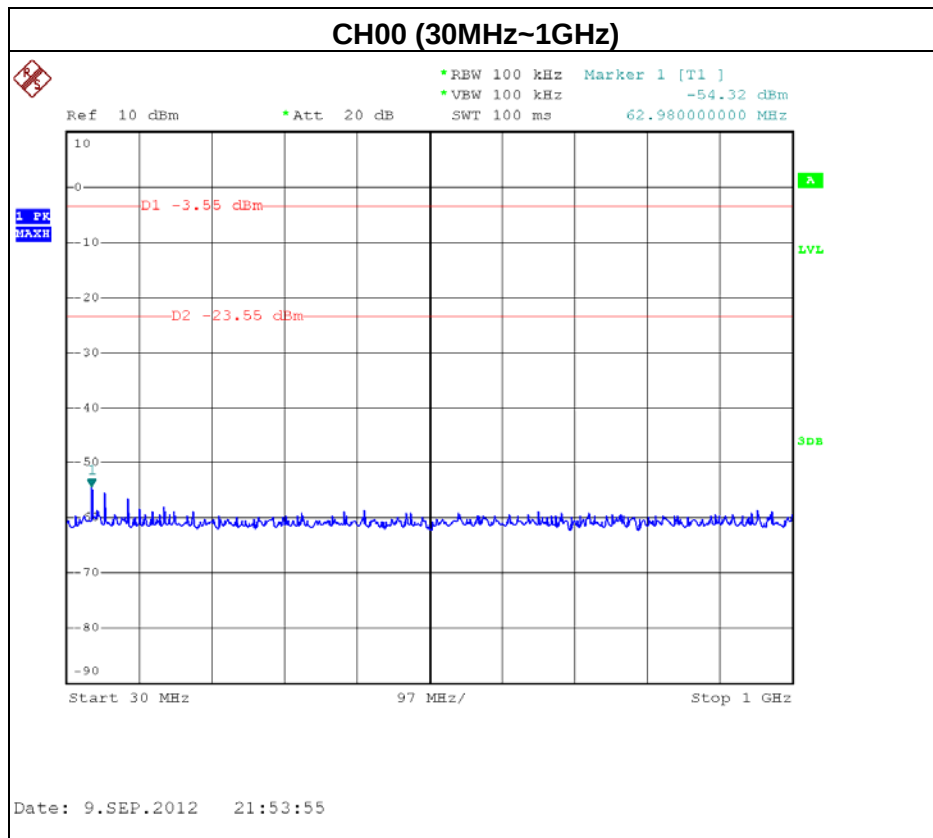


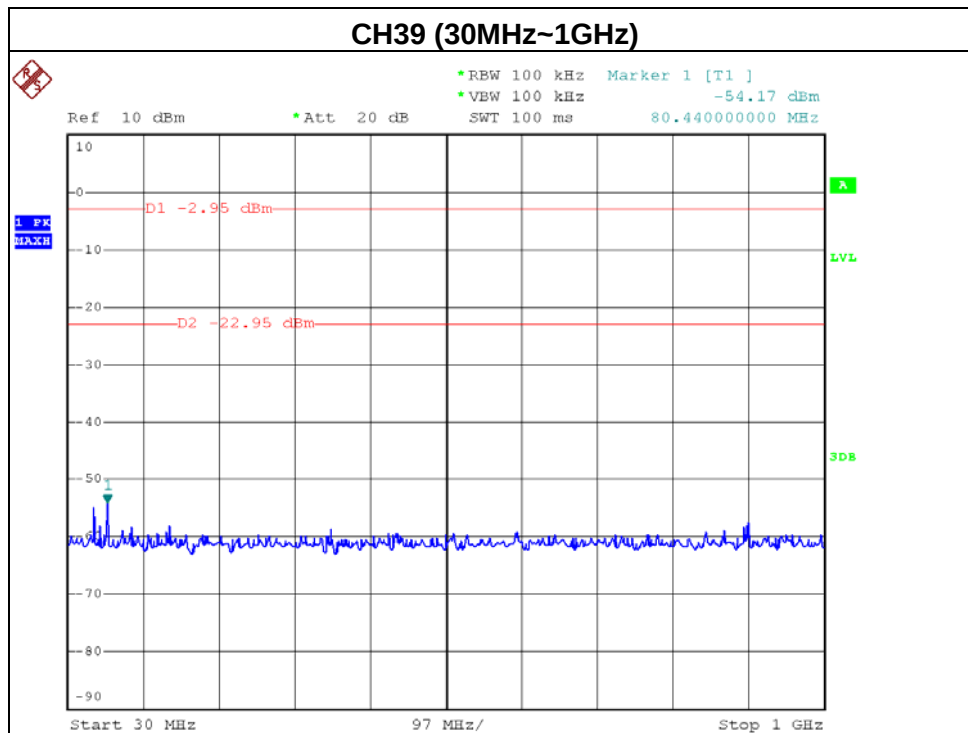
Date: 9.SEP.2012 21:59:52

### Hopping on mode (3Mbps-upper)

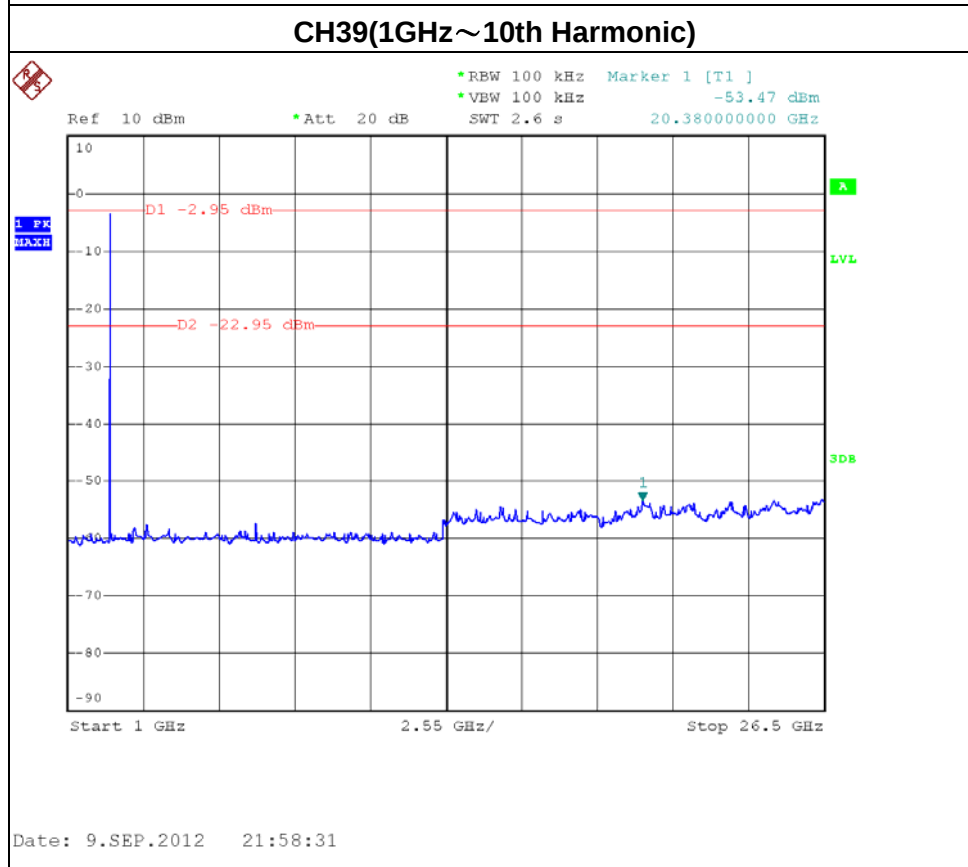


Date: 9.SEP.2012 21:04:16

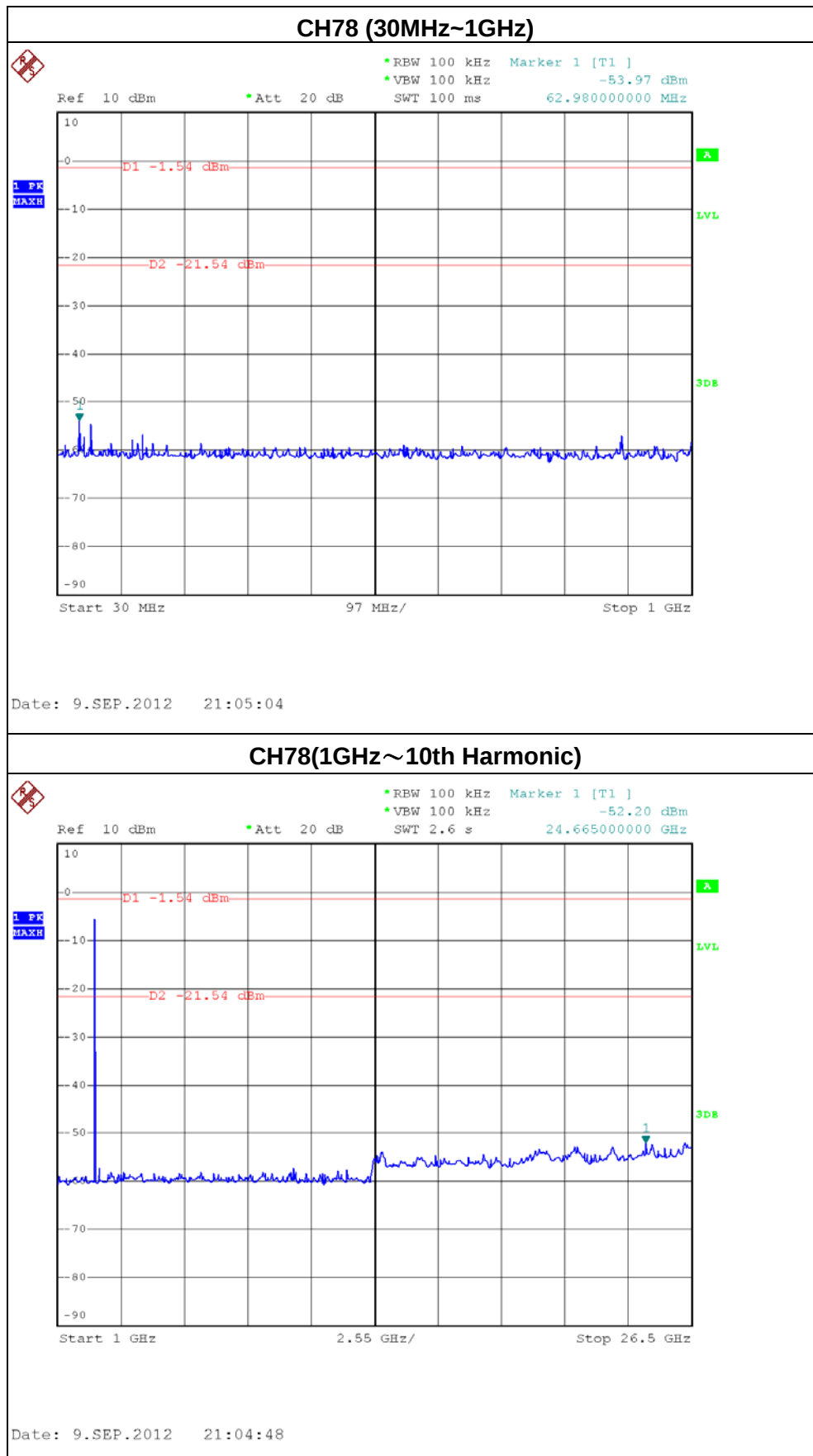




Date: 9.SEP.2012 21:58:04



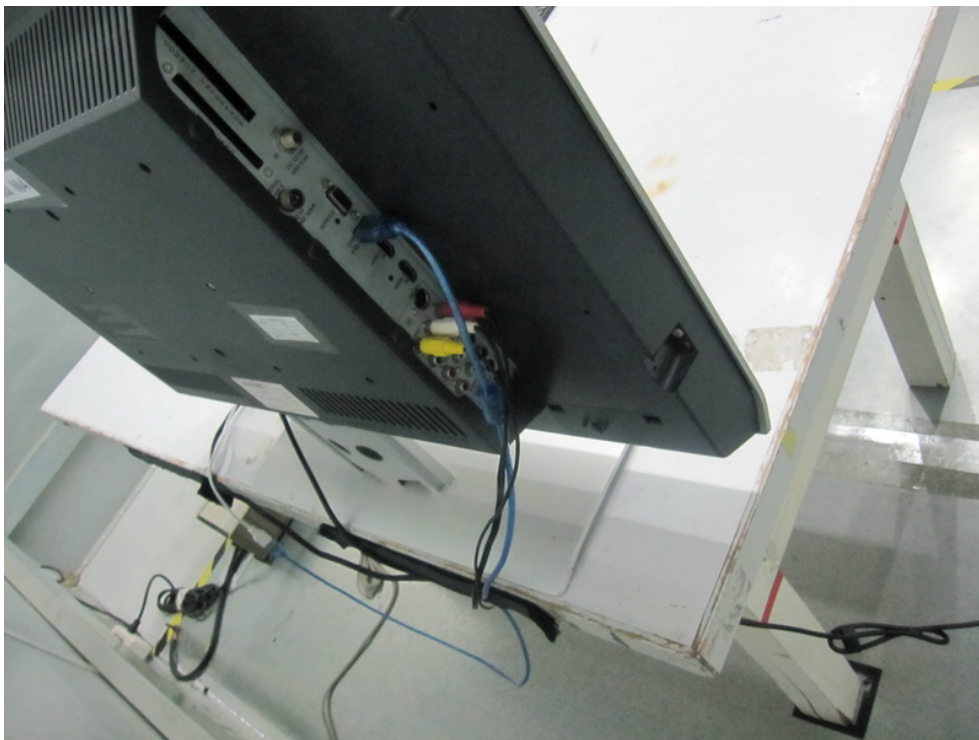
Date: 9.SEP.2012 21:58:31



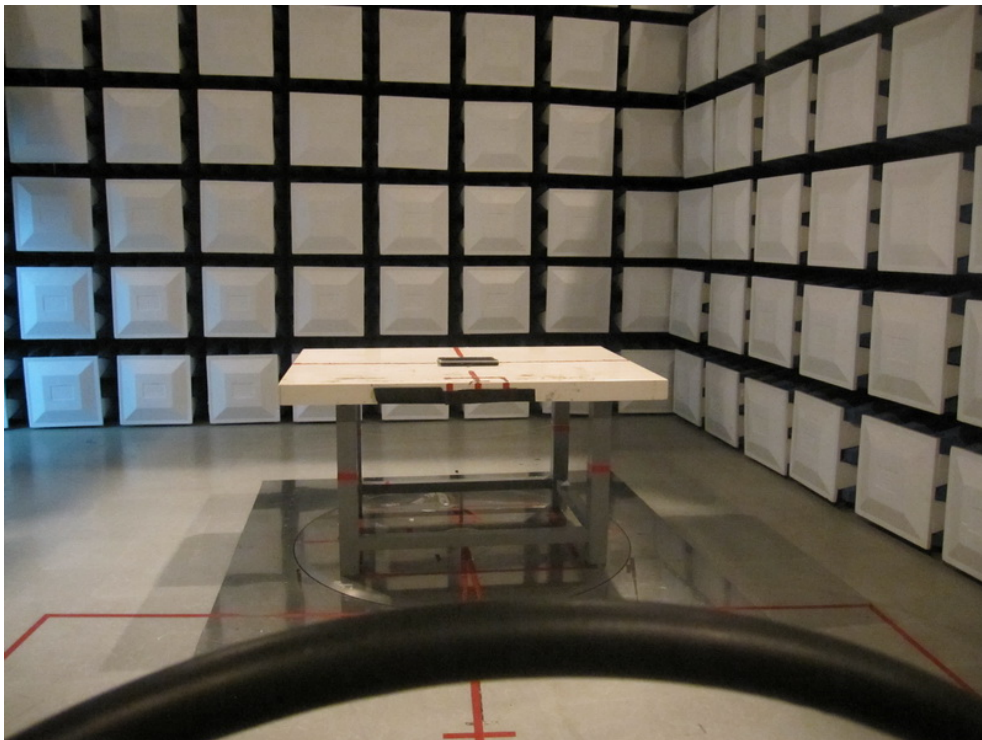
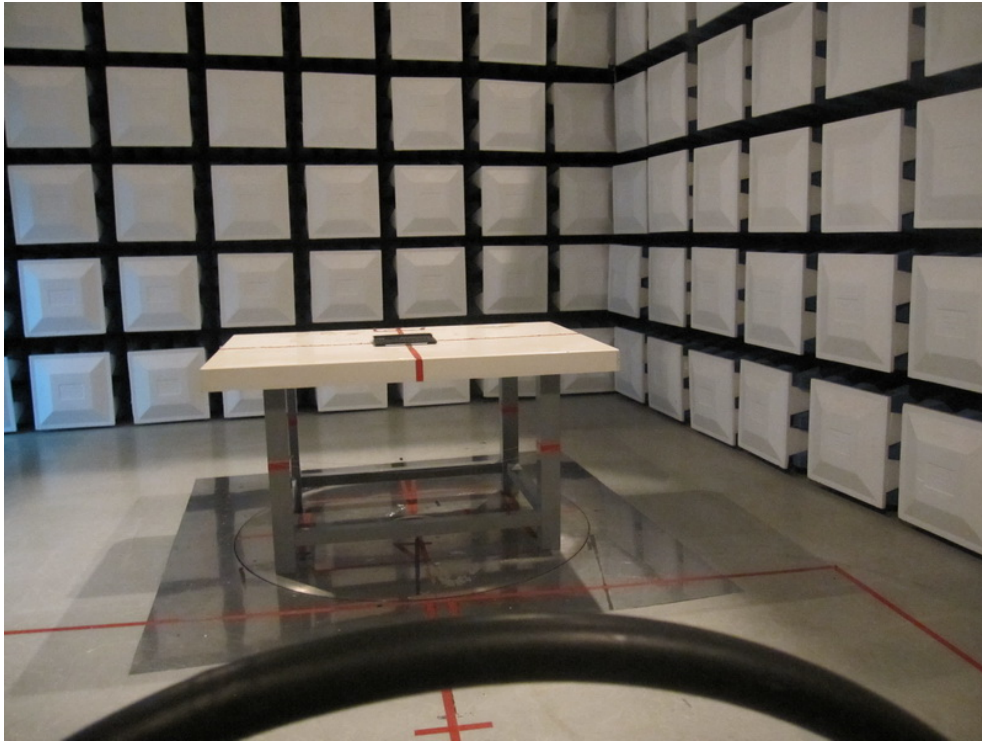


## 11. EUT TEST PHOTO

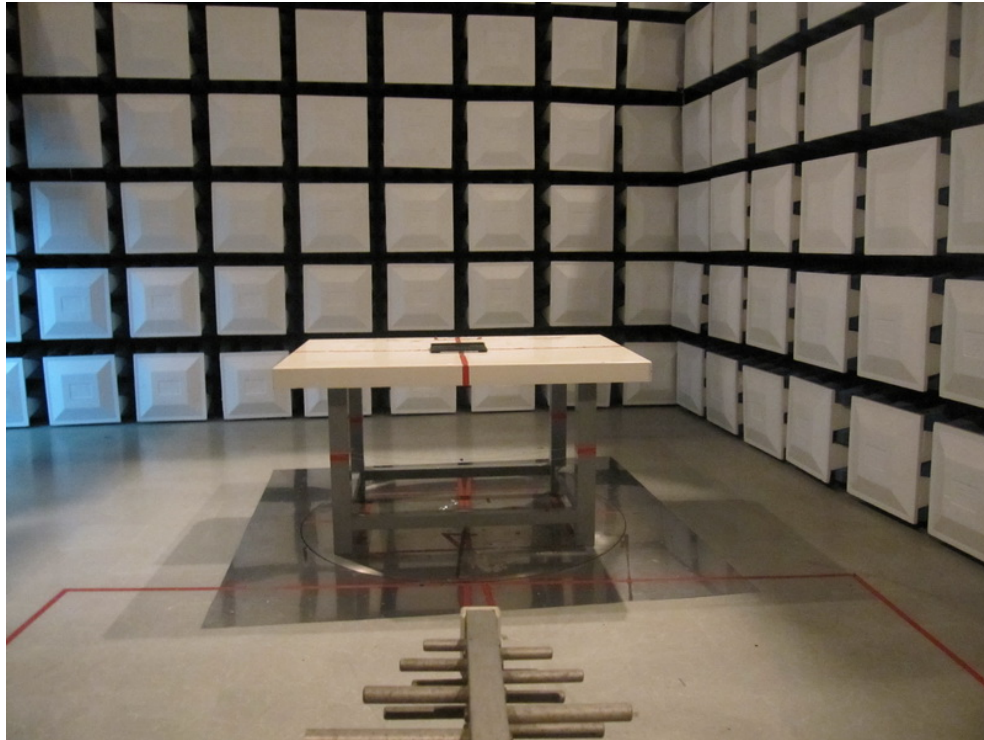
### Conducted Measurement Photos



**Radiated Measurement Photos  
9K~30MHz**



**Radiated Measurement Photos  
30~1000MHz**





**Radiated Measurement Photos  
Above 1000MHz**

