# Appendix 1
# Test Results

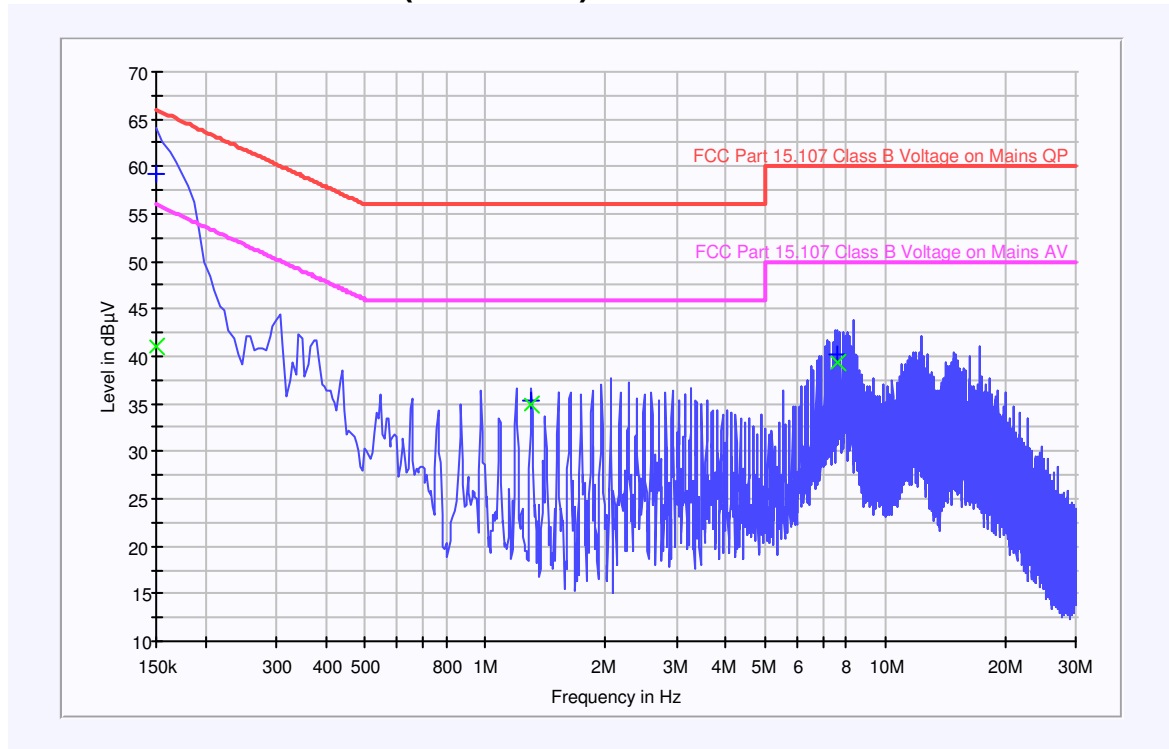Disturbance Voltage on AC Mains

# Continuous Disturbance

## Test Information

| | |
|---|---|
| EUT Name: | ThinkGeek BT Keyboard |
| Serial Number: | JT-2901913C (00120309101-001) |
| Test Description: | FCC Part 15 |
| Operating Conditions: | Charging Mode |
| Operator Name: | Chung |
| Comment: | 120V 60Hz |
| Description | CE L1 |

## Conducted Emission  (FCC-P.15) - Class B
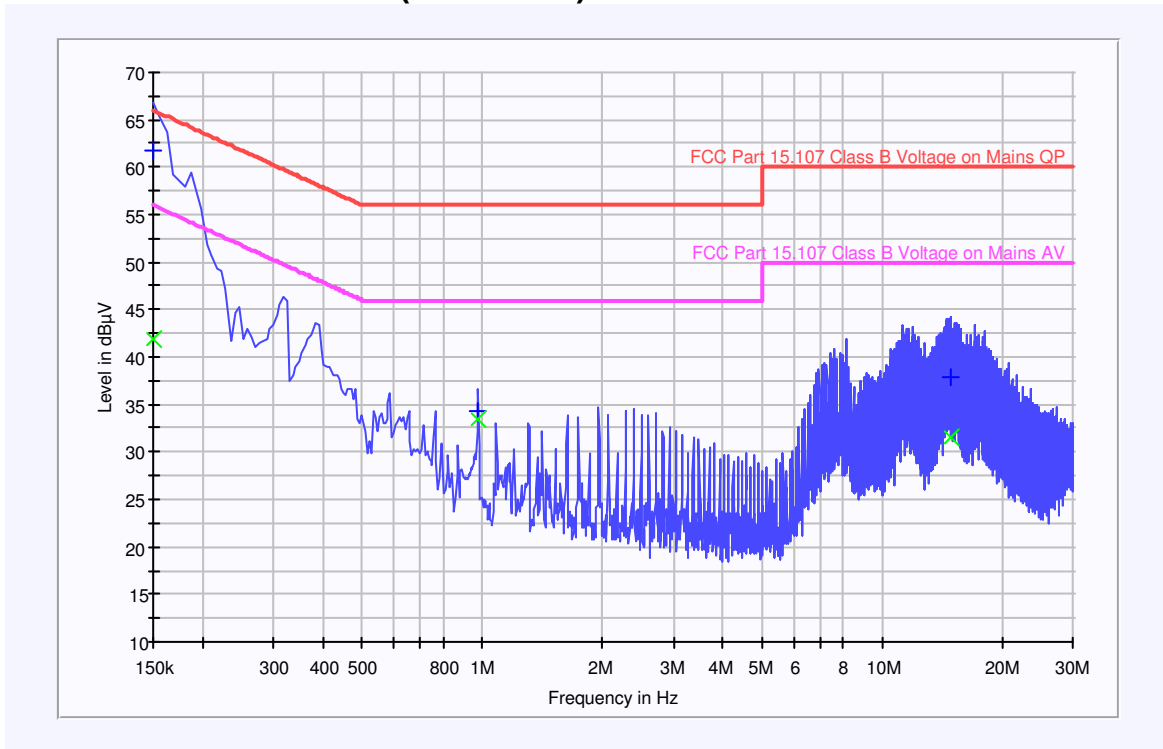


## Result Table_Single

| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) |
|---|---|---|
| 0.150000 | 59.1 | 41.0 |
| 1.302000 | 35.3 | 34.9 |
| 7.608000 | 40.2 | 39.4 |

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# Continuous Disturbance

## Test Information

| | |
|---|---|
| EUT Name: | ThinkGeek BT Keyboard |
| Serial Number: | JT-2901913C (00120309101-001) |
| Test Description: | FCC Part 15 |
| Operating Conditions: | Charging Mode |
| Operator Name: | Chung |
| Comment: | 120V 60Hz |
| Description | CE N |

## Conducted Emission  (FCC-P.15) - Class B



## Result Table_Single

| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) |
|---|---|---|
| 0.150000 | 61.7 | 41.9 |
| 0.978000 | 34.2 | 33.4 |
| 14.898000 | 37.8 | 31.6 |

# Carrier Frequency Separation

| MARKER 1 | | RBW 100 kHz | Marker 1 [T1 ] |
|---|---|---|---|
| 2.440856 GHz | | VBW 300 kHz | −5.02 dBm |
| Ref 20 dBm | *Att 30 dB | SWT 2.5 ms | 2.440856000 GHz |

```
     20
               Delta 2 [T1 ]
                                          0.04 dB          A
  −10                                1.002000000 MHz
               Delta 3 [T1 ]
                                         −0.34 dB
    0          3              1      −984.000000000 kHz
                                             2
  −10

  −20

  −30

  −40

  −50

  −60

  −70

  −80
```
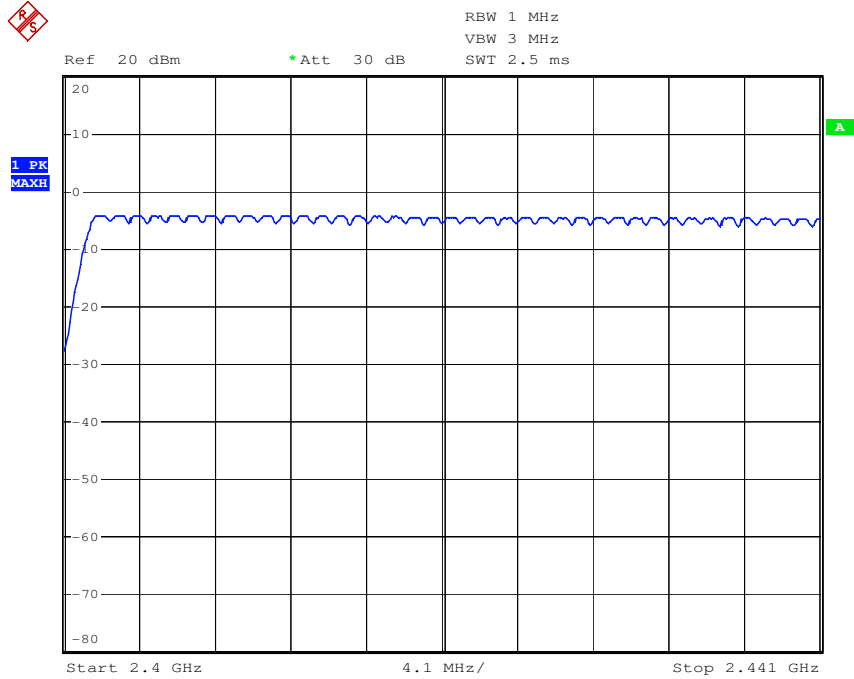
1 PK
MAXH
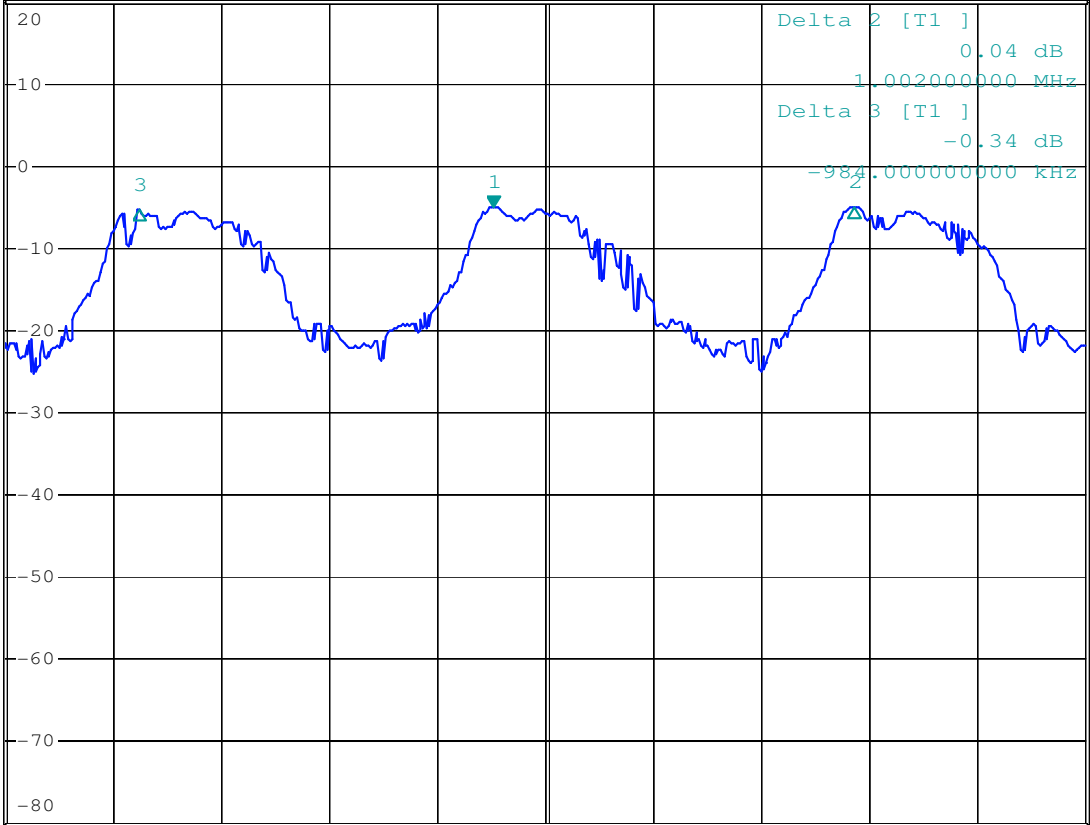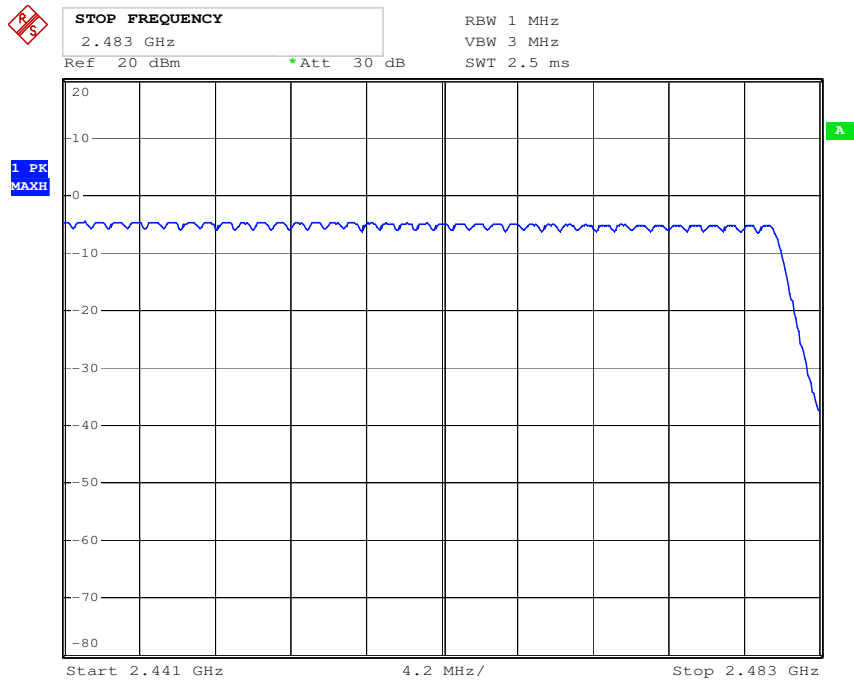
Center 2.441 GHz            300 kHz/              Span 3 MHz

Date:      21.MAR.2012  08:18:37

# Number of hopping channels



```
                                          RBW  1 MHz
                                          VBW  3 MHz
Ref  20 dBm          *Att  30 dB          SWT  2.5 ms
```
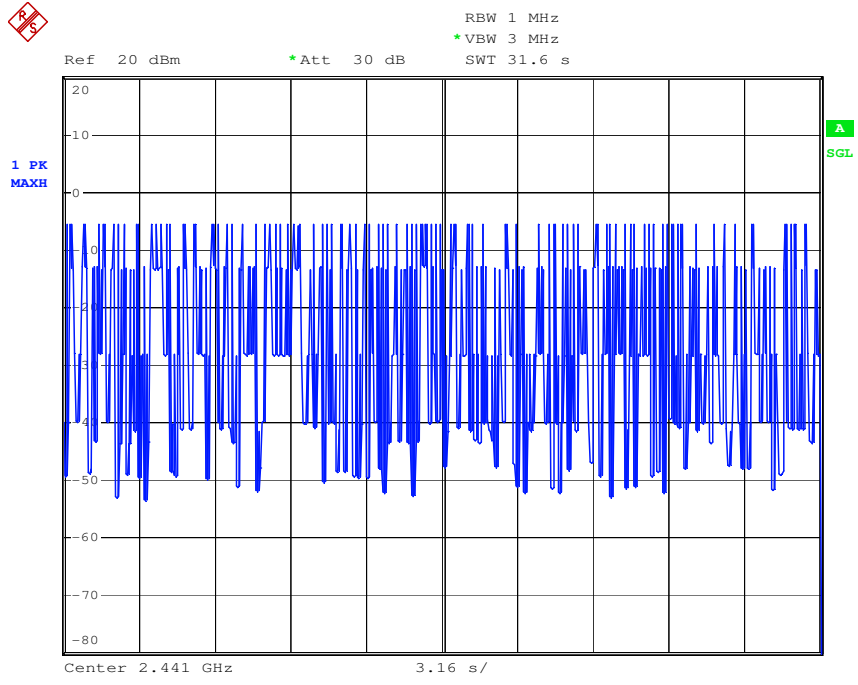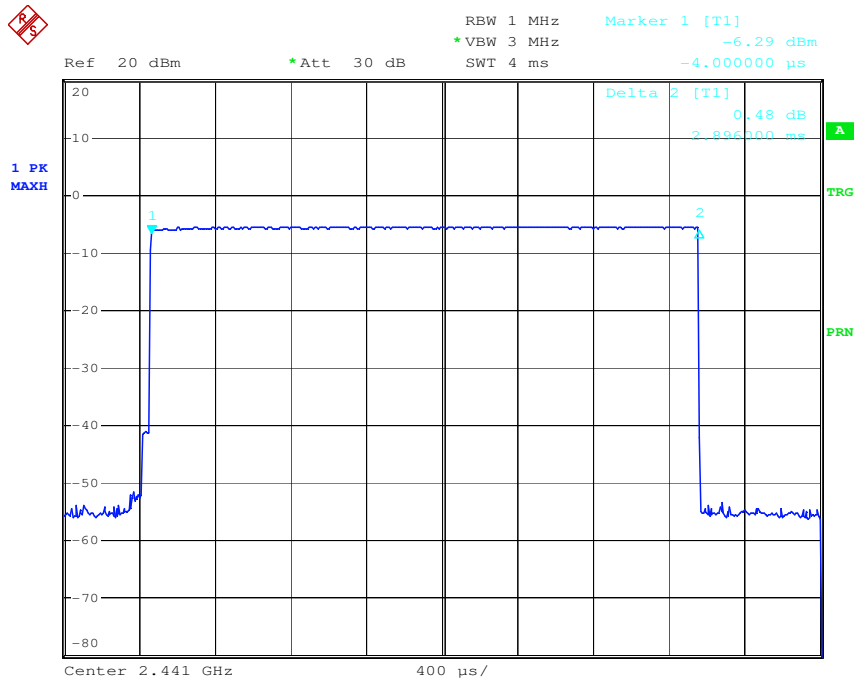
Date:     21.MAR.2012  08:22:53



```
STOP FREQUENCY                            RBW  1 MHz
 2.483 GHz                                VBW  3 MHz
Ref  20 dBm          *Att  30 dB          SWT  2.5 ms
```

Date:     21.MAR.2012  08:33:25

---

# Dwell Time



RBW 1 MHz
*VBW 3 MHz
Ref 20 dBm          *Att 30 dB      SWT 31.6 s

Center 2.441 GHz                    3.16 s/

Date:      21.MAR.2012  17:46:57



RBW 1 MHz      Marker 1 [T1]
*VBW 3 MHz               −6.29 dBm
Ref 20 dBm          *Att 30 dB      SWT 4 ms        −4.000000 µs

Delta 2 [T1]
0.48 dB
2.896000 ms

Center 2.441 GHz                    400 µs/

Date:      21.MAR.2012  15:58:25

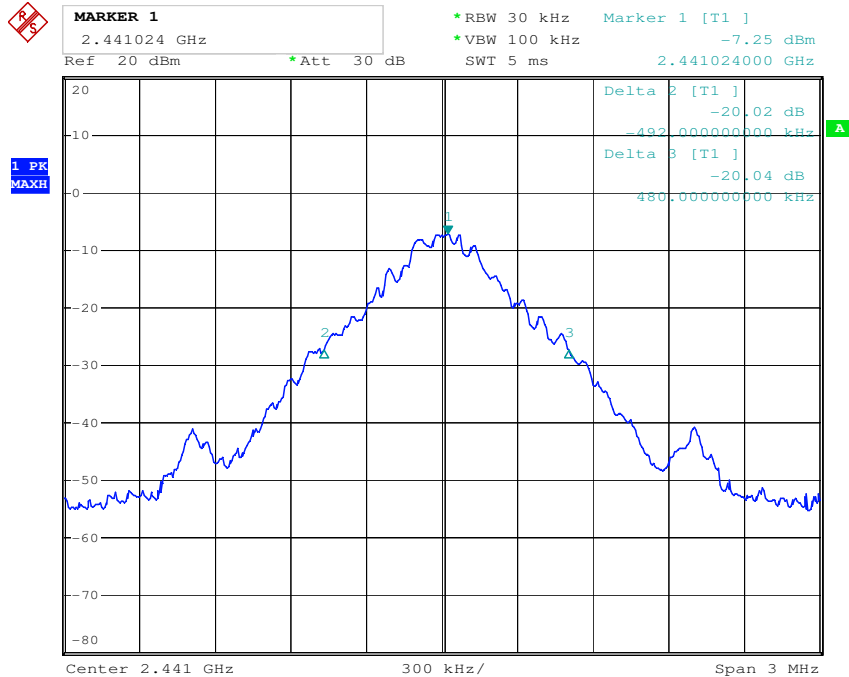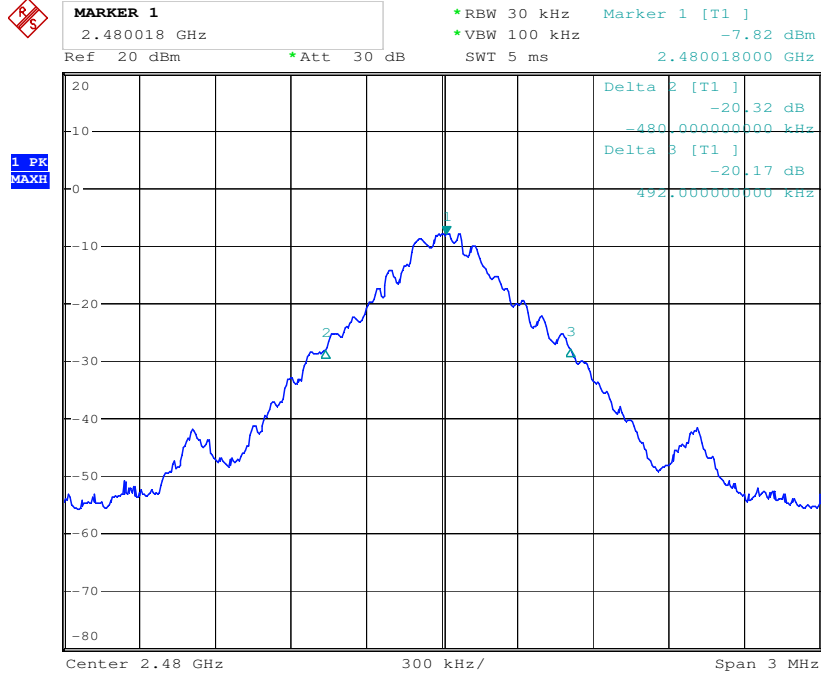# 20dB Bandwidth

Modulation: GFSK
Tx frequency: 2402MHz
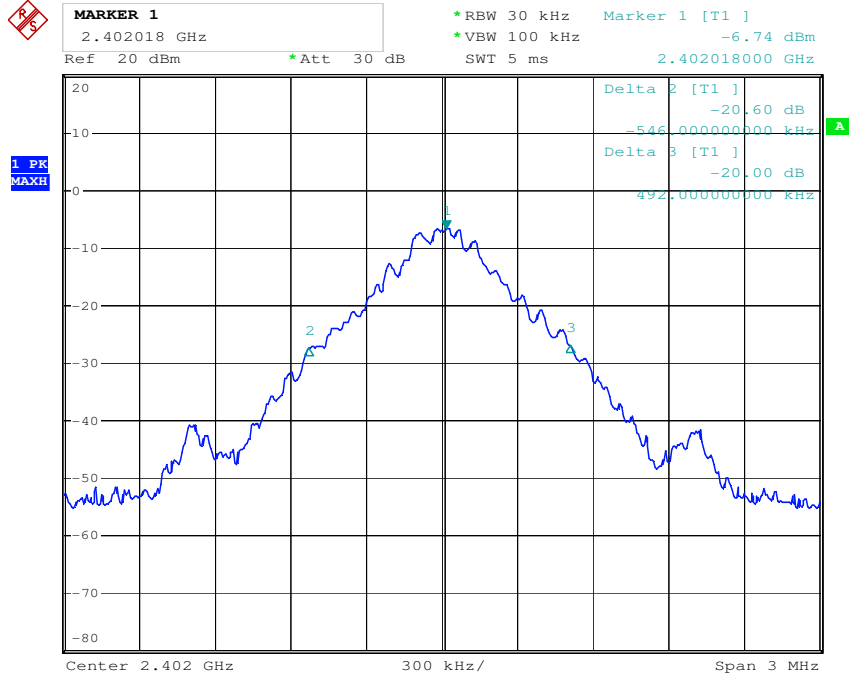


Date:      21.MAR.2012  08:38:19

Modulation: GFSK
Tx frequency: 2441MHz



Date:      21.MAR.2012  08:40:01

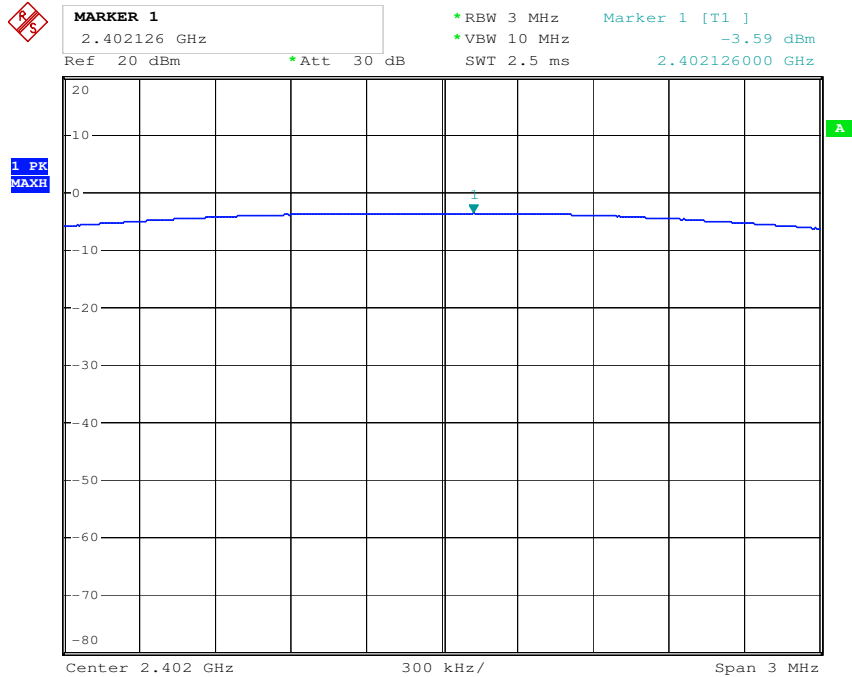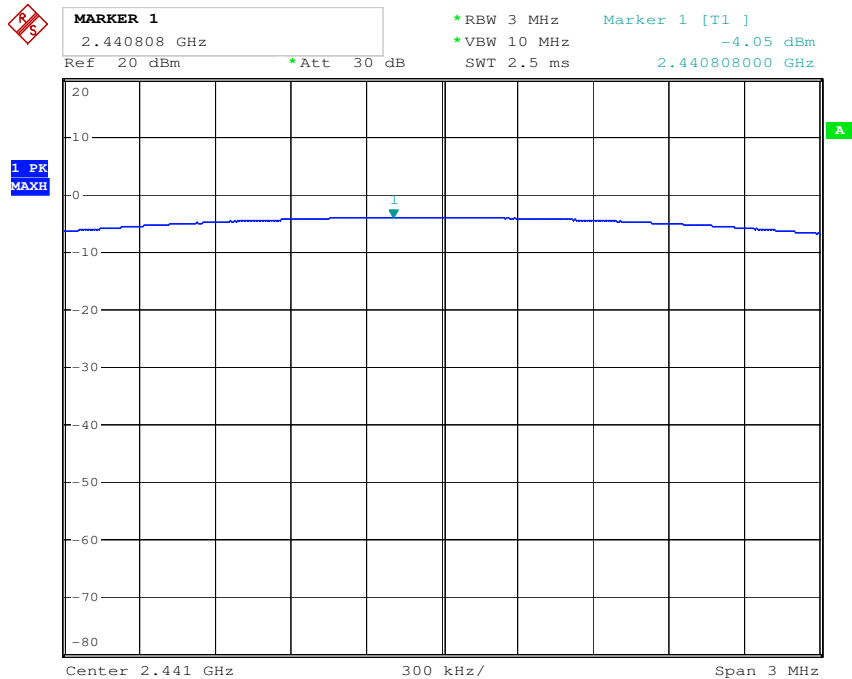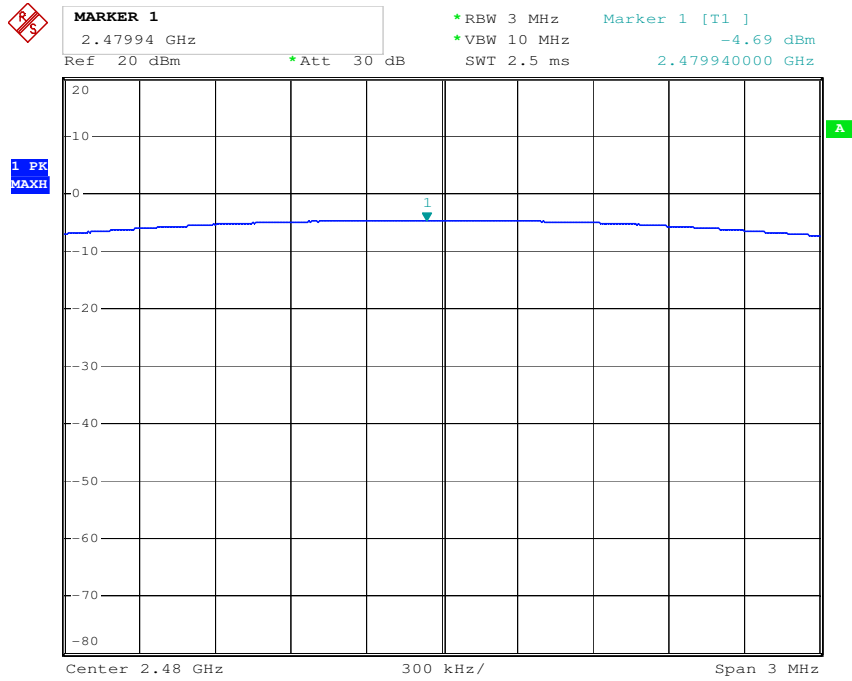Modulation: GFSK
Tx frequency: 2480MHz

| MARKER 1 | | *RBW 30 kHz | Marker 1 [T1 ] |
| 2.480018 GHz | | *VBW 100 kHz | -7.82 dBm |
| Ref 20 dBm | *Att 30 dB | SWT 5 ms | 2.480018000 GHz |

```
 20
                                                          Delta 2 [T1 ]
-10                                                               -20.32 dB
                                                          -480.000000000 kHz    A
  0                                                       Delta 3 [T1 ]
                                                                 -20.17 dB
-10                                                       492.000000000 kHz

-20

-30

-40

-50

-60

-70

-80
Center 2.48 GHz              300 kHz/              Span 3 MHz
```

1 PK
MAXH

Date:      21.MAR.2012  08:41:30

# Peak Output Power

Modulation: GFSK
Tx frequency: 2402MHz

| MARKER 1 | | *RBW 3 MHz | Marker 1 [T1 ] |
|---|---|---|---|
| 2.402126 GHz | | *VBW 10 MHz | −3.59 dBm |
| Ref 20 dBm | *Att 30 dB | SWT 2.5 ms | 2.402126000 GHz |

1 PK
MAXH

A

Center 2.402 GHz        300 kHz/        Span 3 MHz

Date:      21.MAR.2012  08:45:05

Modulation: GFSK
Tx frequency: 2441MHz

| MARKER 1 | | *RBW 3 MHz | Marker 1 [T1 ] |
|---|---|---|---|
| 2.440808 GHz | | *VBW 10 MHz | −4.05 dBm |
| Ref 20 dBm | *Att 30 dB | SWT 2.5 ms | 2.440808000 GHz |

1 PK
MAXH

A

Center 2.441 GHz        300 kHz/        Span 3 MHz

Date:      21.MAR.2012  08:44:25

Modulation: GFSK
Tx frequency: 2480MHz



```
 MARKER 1                        *RBW 3 MHz    Marker 1 [T1 ]
 2.47994 GHz                     *VBW 10 MHz          -4.69 dBm
 Ref  20 dBm        *Att  30 dB   SWT 2.5 ms    2.479940000 GHz
```

Center 2.48 GHz          300 kHz/          Span 3 MHz

Date:      21.MAR.2012  08:43:51

# Band Edge Compliance
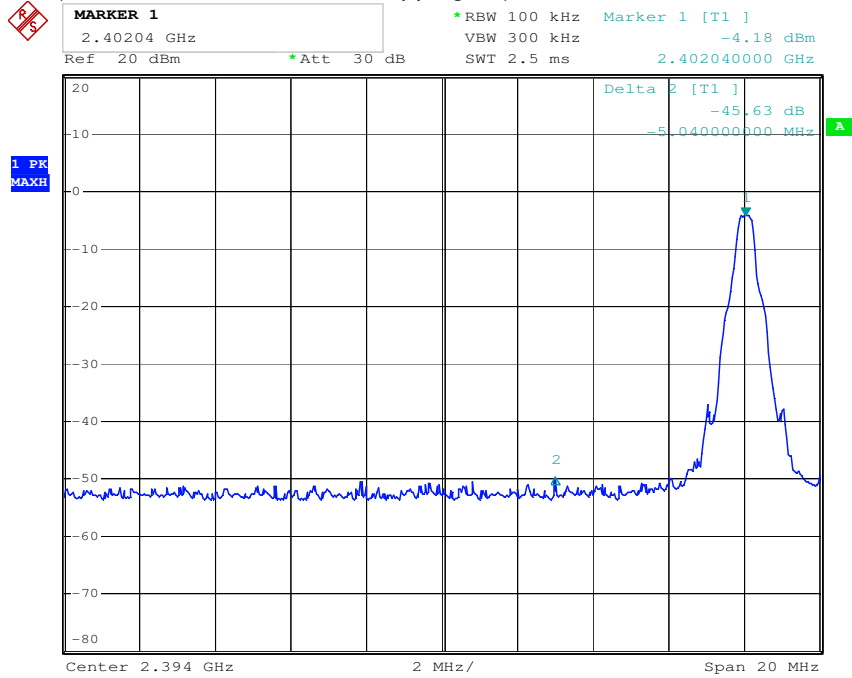
Tx frequency: 2402MHz (conducted measurement; hopping on)
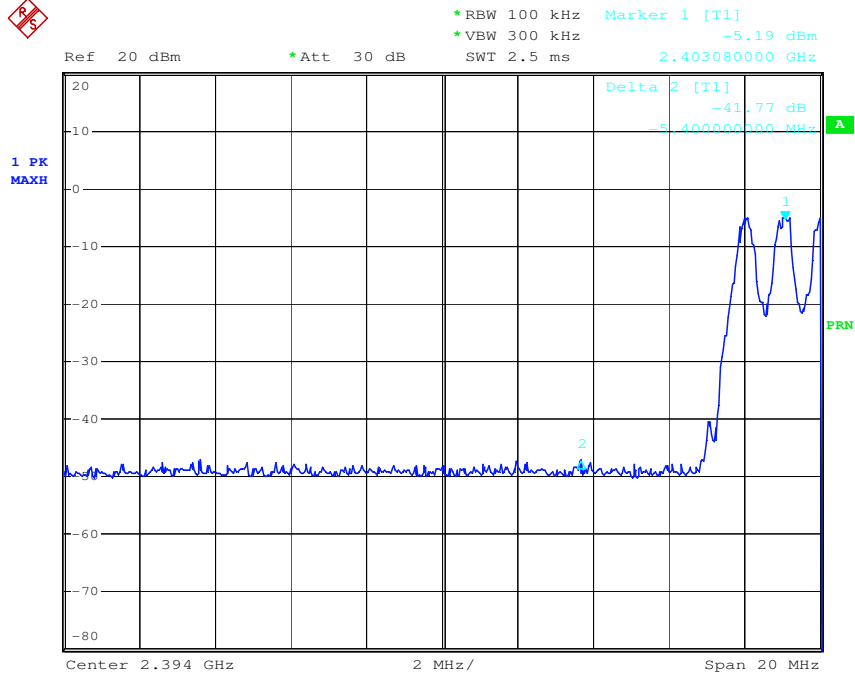


Date:       21.MAR.2012  16:10:48

Tx frequency: 2480MHz (conducted measurement; hopping on)
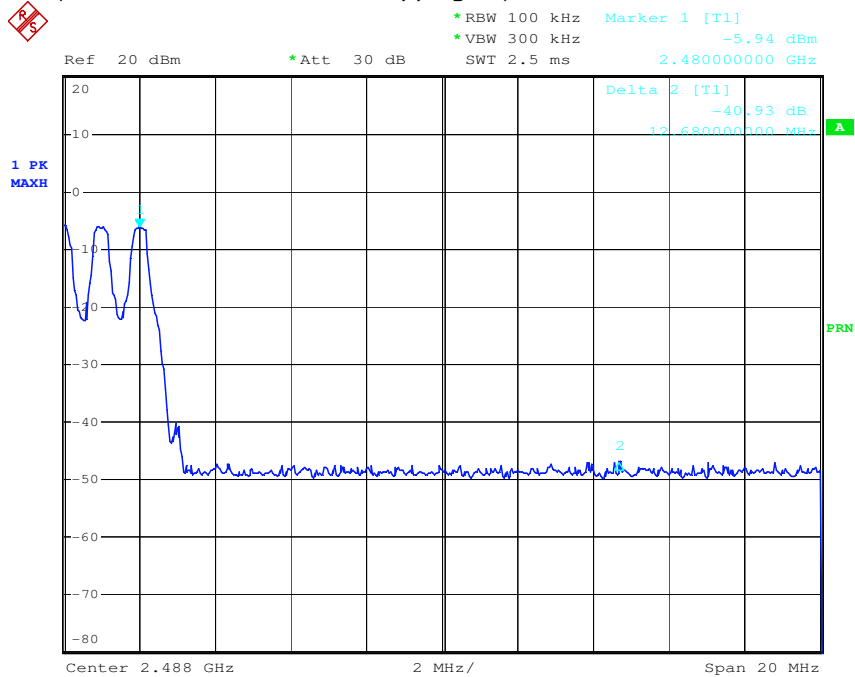


Date:       21.MAR.2012  16:09:15

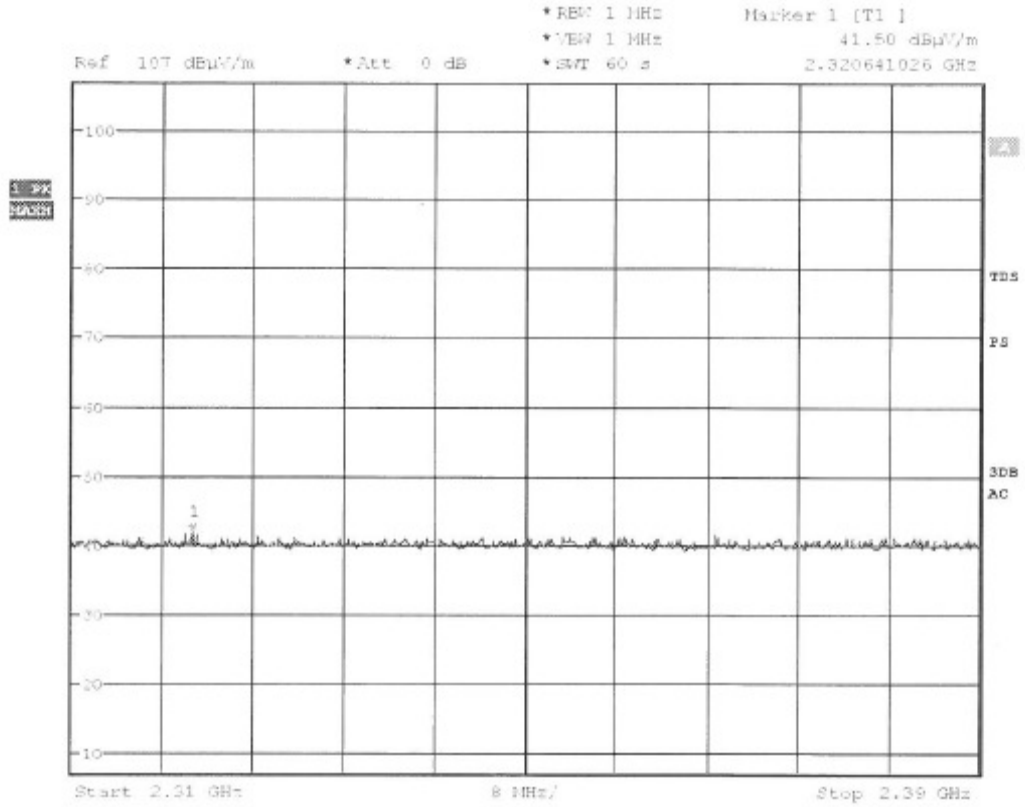Tx frequency: 2402MHz (conducted measurement; hopping off)



Date:      21.MAR.2012  08:47:07

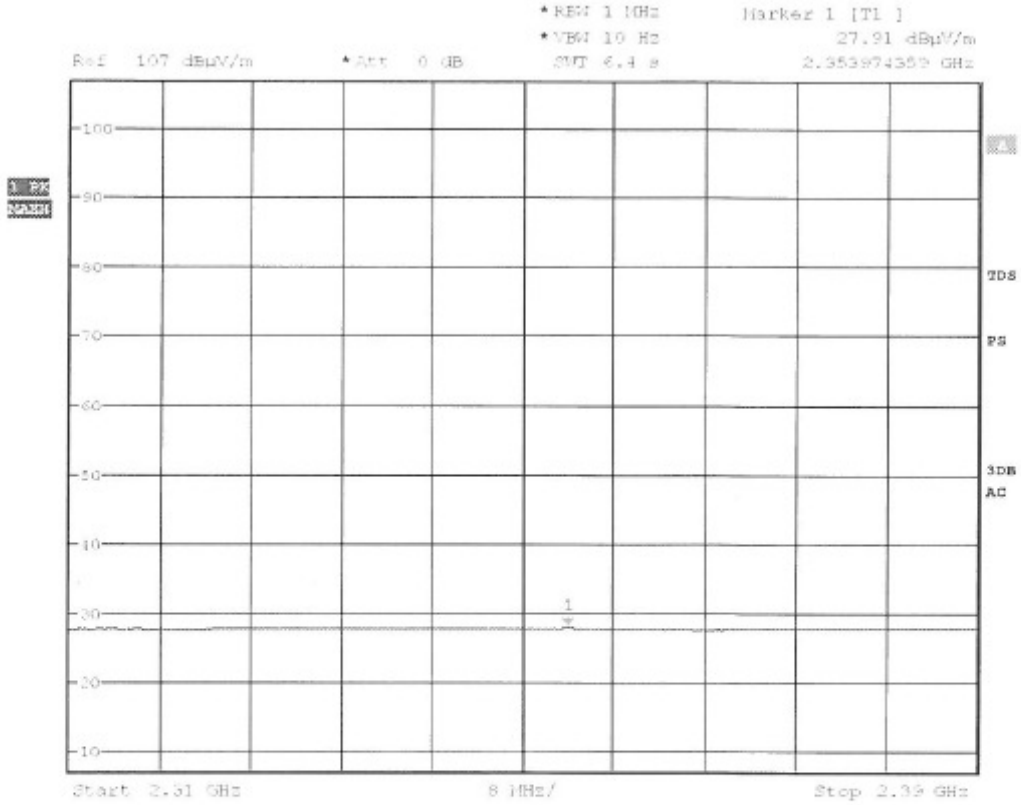Tx frequency: 2480MHz (conducted measurement; hopping off)
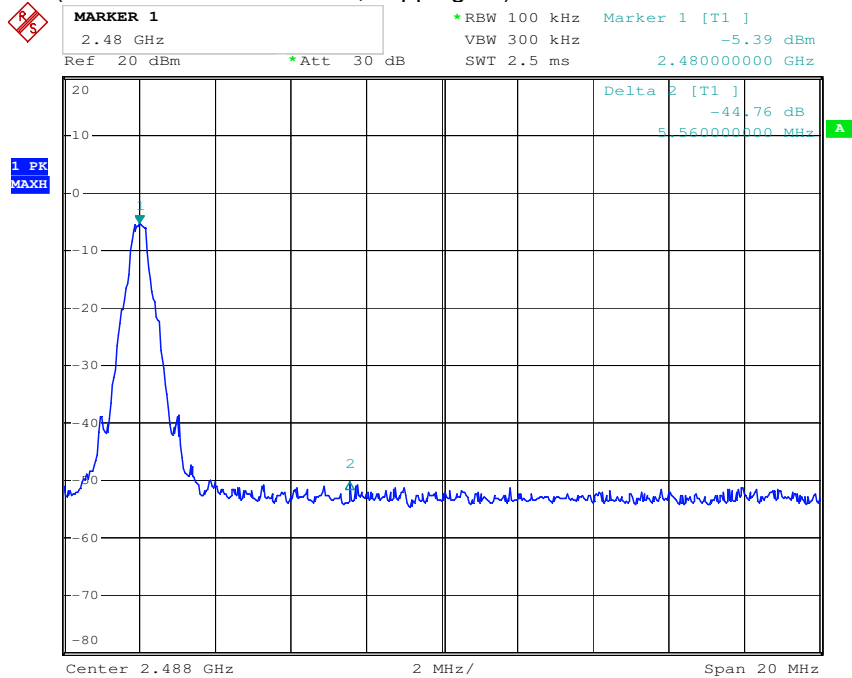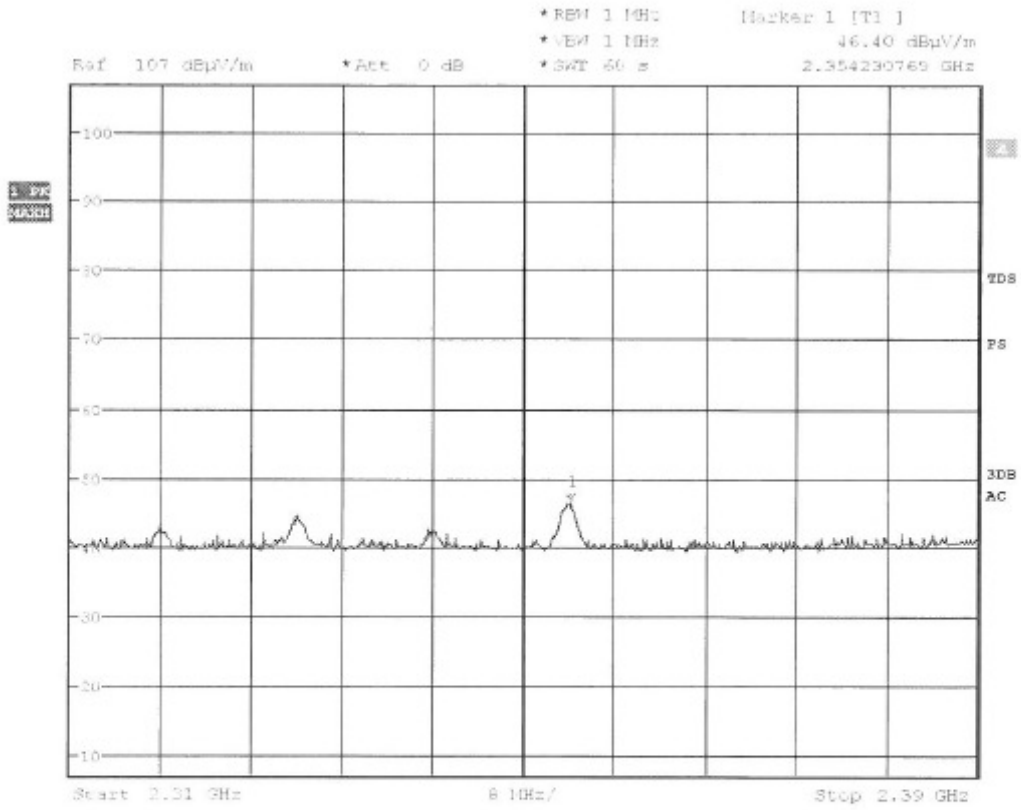


Date:      21.MAR.2012  08:48:33

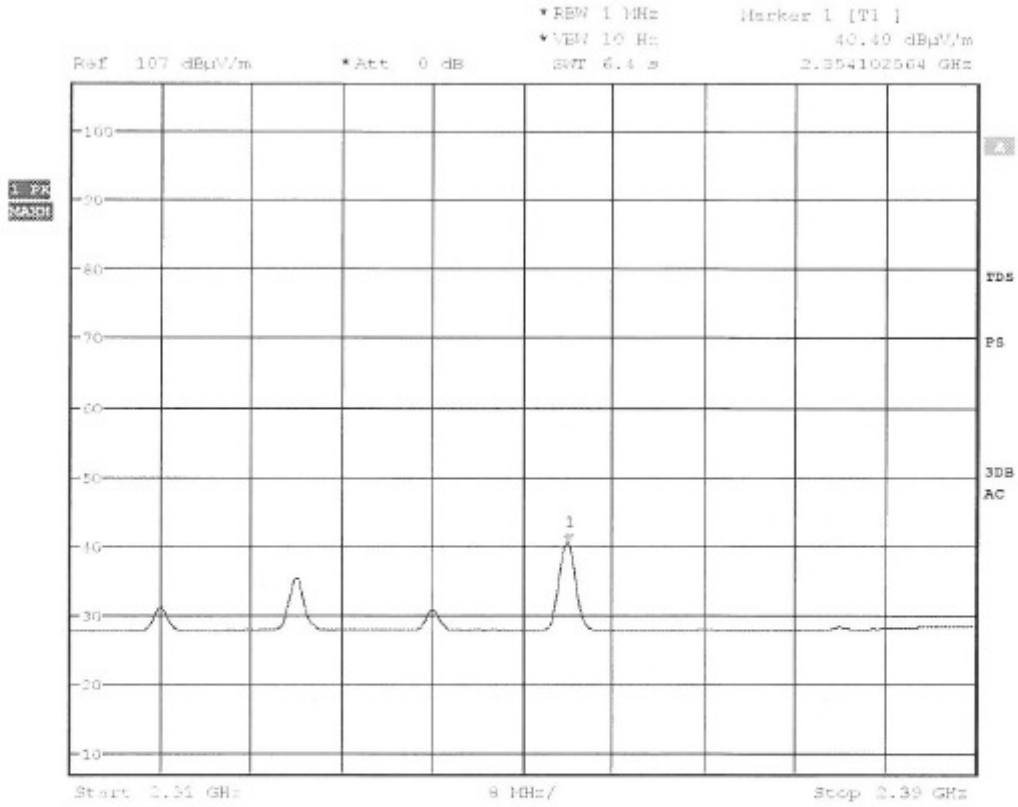Tx frequency: 2402MHz (radiated measurement)



THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2402MHz
/ VERT.
Date: 27.MAR.2012  13:49:27

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THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2402MHz
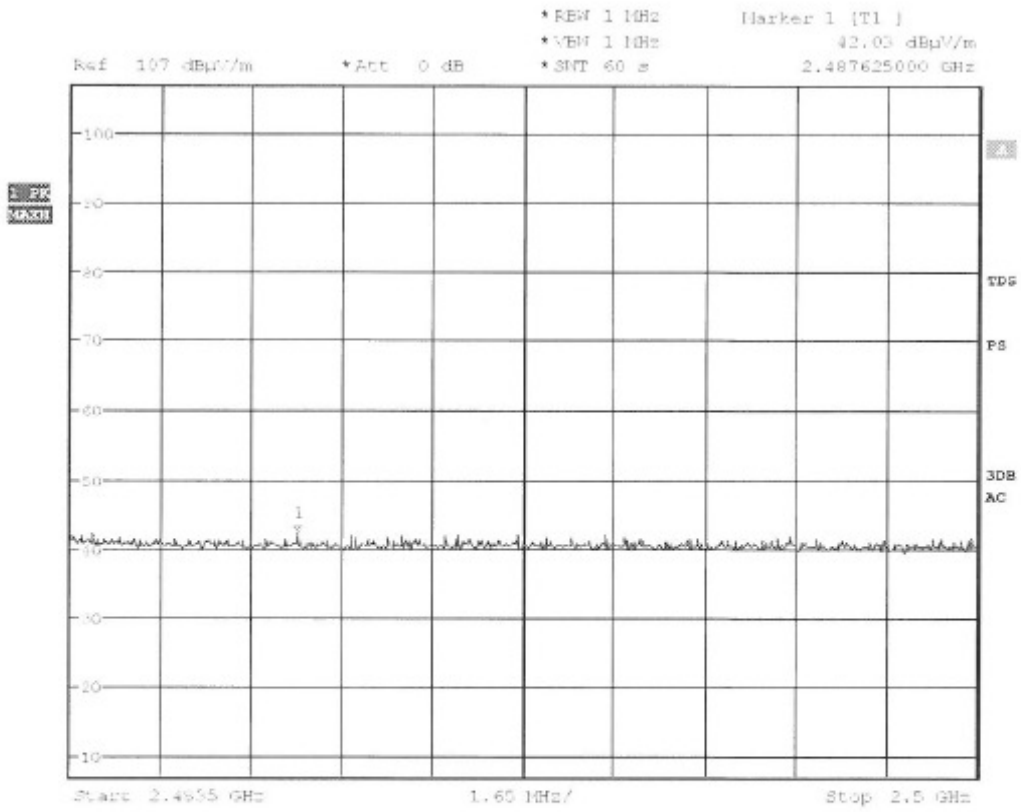/ VERT.
Date: 27.MAR.2012  13:49:44

THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2402MHz
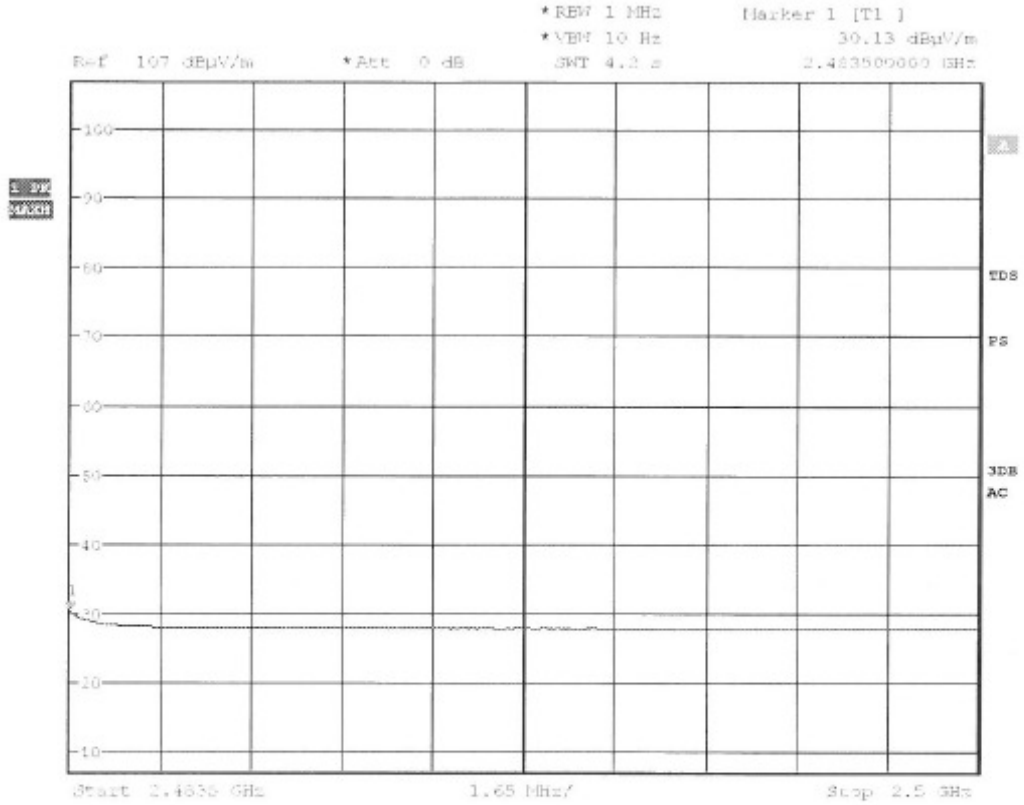/ HORI.

Date: 27.MAR.2012  13:47:58

THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2402MHz
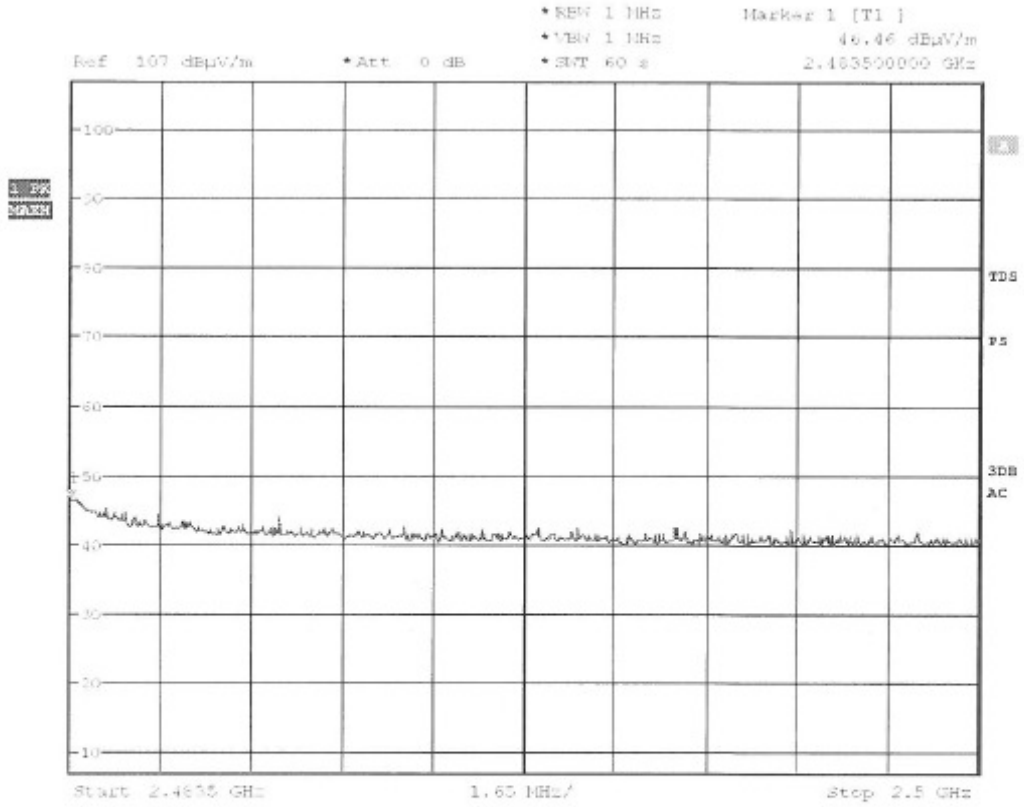/ HORI.
Date: 27.MAR.2012  13:48:14

Tx frequency: 2480MHz (radiated measurement)



THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2480MHz
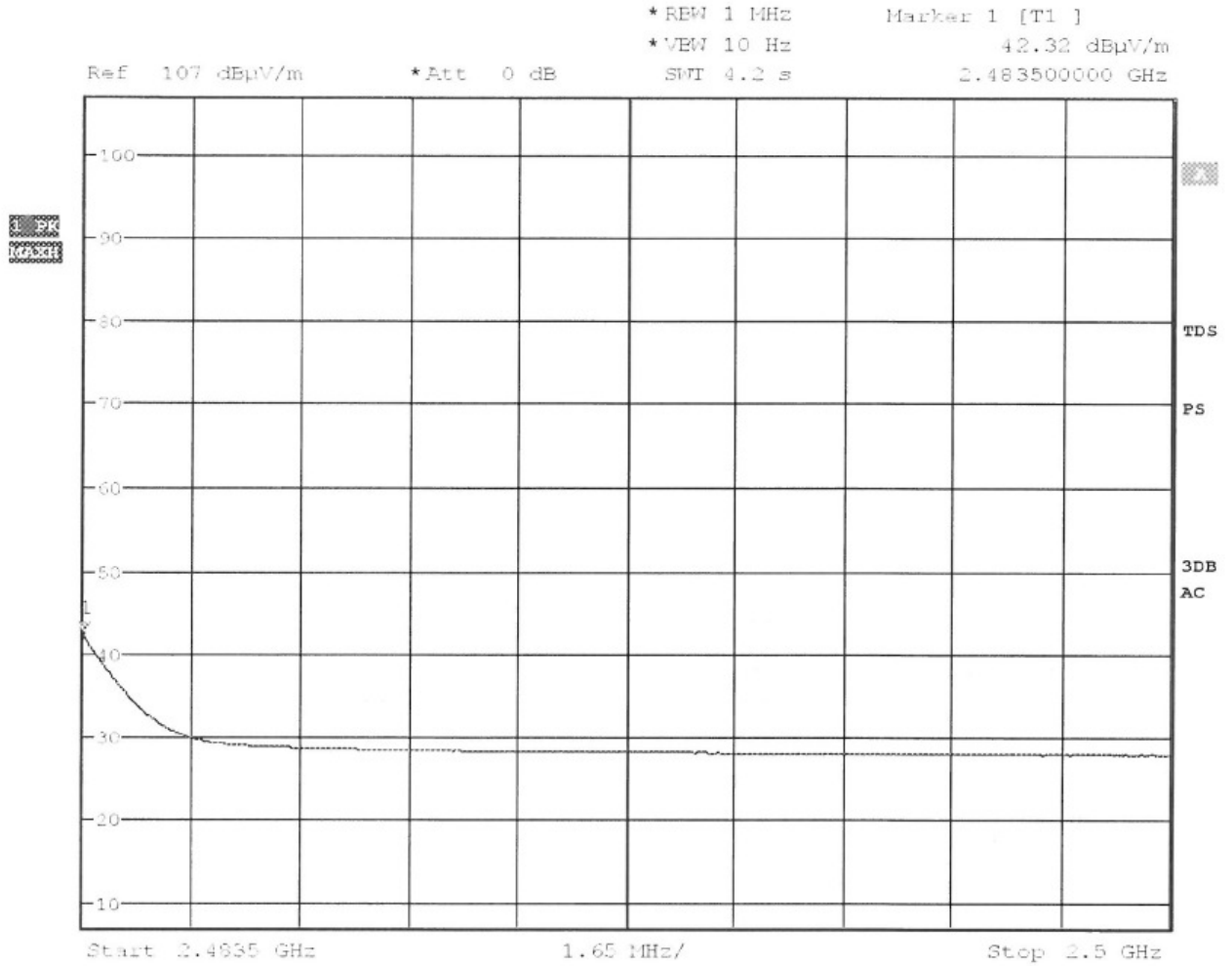/ VERT.
Date: 27.MAR.2012  15:52:47

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THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2480MHz
/ VERT.
Date: 27.MAR.2012  15:53:06

THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2480MHz
/ HORI.
Date: 27.MAR.2012  15:51:13
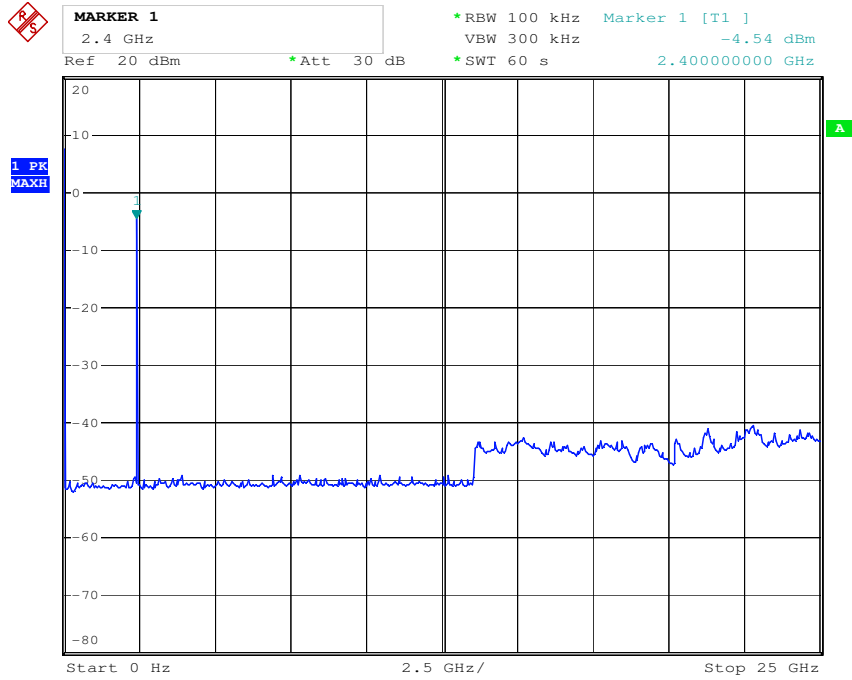
TÜVRheinland®



THINKGEEK/ BT KEYBOARD/ JT-2901913C/ 00120309101-002/2480MHz
/ HORI.

Date: 27.MAR.2012  15:51:29

# Spurious Emissions - Conducted

Tx frequency: 2402MHz



| MARKER 1 | | *RBW 100 kHz | Marker 1 [T1 ] |
|---|---|---|---|
| 2.4 GHz | | VBW 300 kHz | −4.54 dBm |
| Ref 20 dBm | *Att 30 dB | *SWT 60 s | 2.400000000 GHz |

Start 0 Hz          2.5 GHz/          Stop 25 GHz

Date:      21.MAR.2012  08:57:03

Tx frequency: 2441MHz



| | | *RBW 100 kHz | Marker 1 [T1 ] |
|---|---|---|---|
| | | VBW 300 kHz | −5.03 dBm |
| Ref 20 dBm | *Att 30 dB | *SWT 60 s | 2.400000000 GHz |

Start 0 Hz          2.5 GHz/          Stop 25 GHz
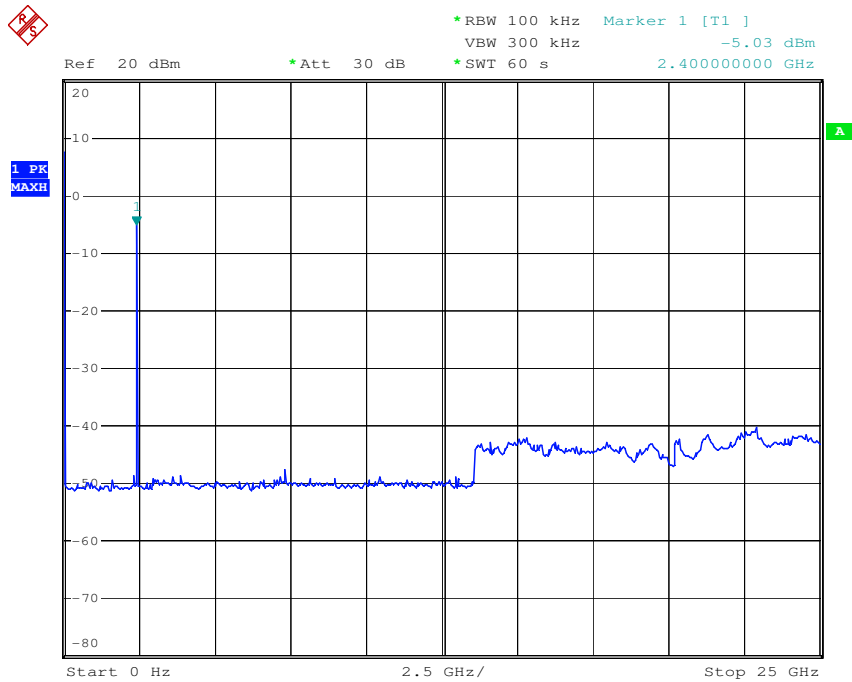
Date:      21.MAR.2012  09:10:40

Tx frequency: 2480MHz



```
MARKER 1                              *RBW 100 kHz   Marker 1 [T1 ]
 2.45 GHz                              VBW 300 kHz              -5.71 dBm
Ref  20 dBm          *Att  30 dB      *SWT 60 s        2.450000000 GHz
```

```
 20

 10                                                                    A

1 PK
MAXH
  0

-10

-20

-30

-40

-50

-60

-70

-80

Start 0 Hz                    2.5 GHz/              Stop 25 GHz
```

Date:      21.MAR.2012  09:18:17