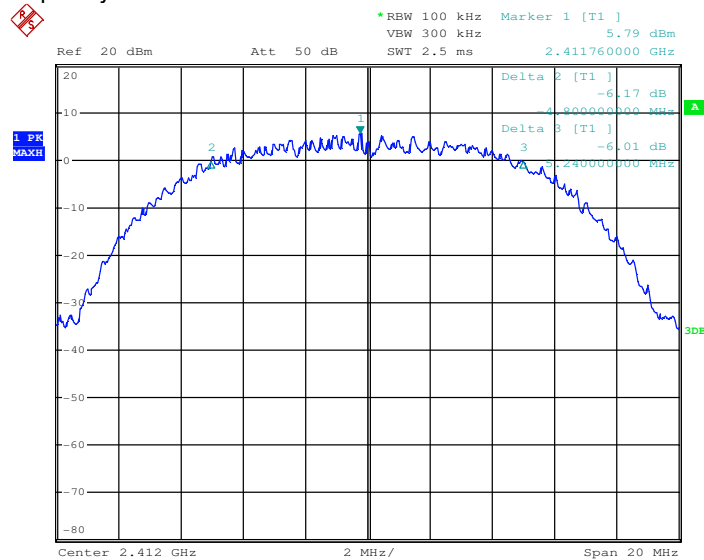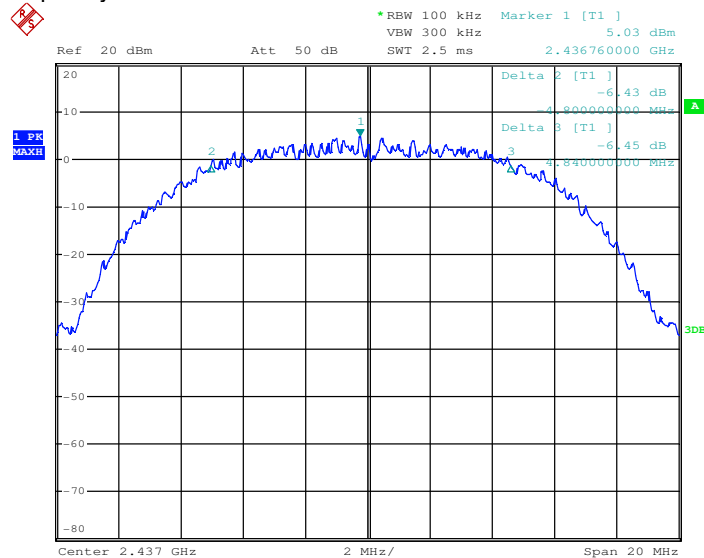TÜVRheinland®

Appendix 1

Test Results

6 dB Bandwidth Measurement

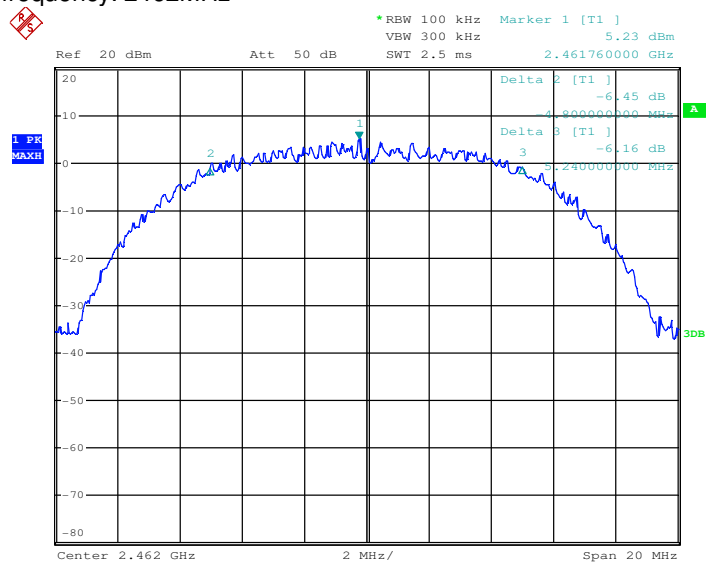Mode: 802.11b; TX frequency: 2412MHz

Date: 1.FEB.2016 11:59:12

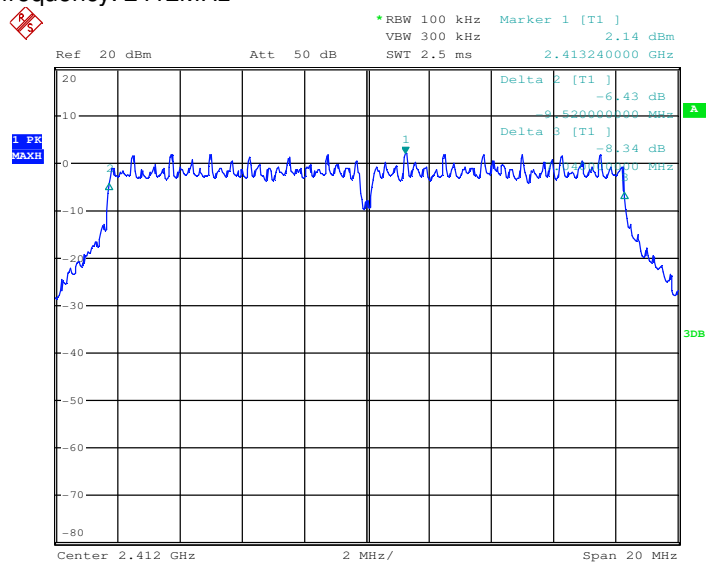Mode: 802.11b; TX frequency: 2437MHz

Date: 1.FEB.2016 12:58:25
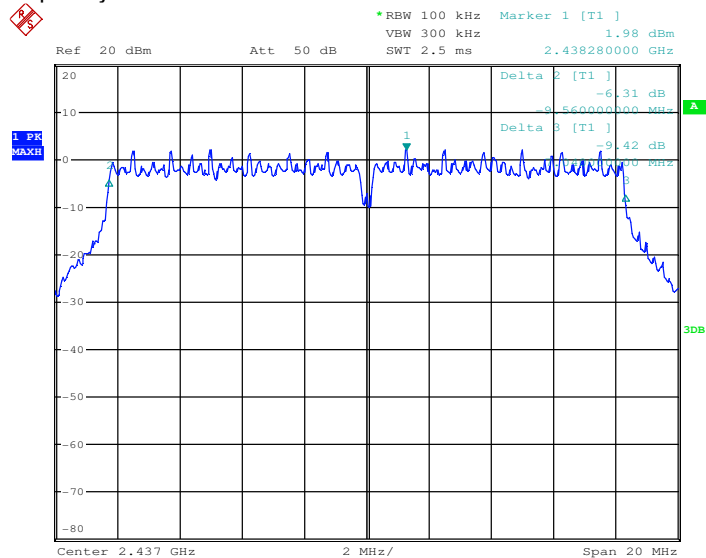
Mode: 802.11b; TX frequency: 2462MHz

Date: 1.FEB.2016 13:00:02
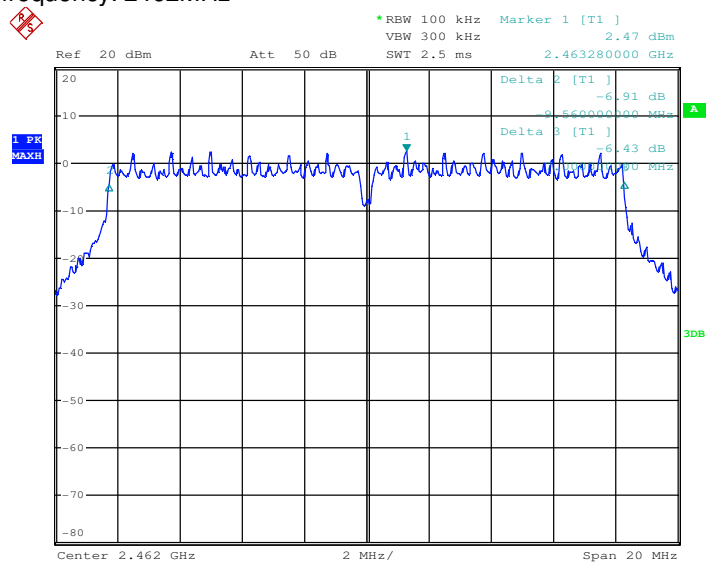
Mode: 802.11g; TX frequency: 2412MHz


```
                                      *RBW 100 kHz   Marker 1 [T1 ]
                                       VBW 300 kHz                    2.14 dBm
        Ref  20 dBm        Att  50 dB  SWT 2.5 ms         2.413240000 GHz
        20                                     Delta 2 [T1 ]
                                                               -6.43 dB
        10                                               9.530000000 MHz    A
    1 PK                                         Delta 3 [T1 ]
    MAXH                                                       -8.34 dB
     0                                                                MHz
    -10
    -20
    -30                                                                     3DB
    -40
    -50
    -60
    -70
    -80
        Center 2.412 GHz              2 MHz/             Span 20 MHz
```

Date: 1.FEB.2016 13:01:09

Mode: 802.11g; TX frequency: 2437MHz


```
                                      *RBW 100 kHz   Marker 1 [T1 ]
                                       VBW 300 kHz                    1.98 dBm
        Ref  20 dBm        Att  50 dB  SWT 2.5 ms         2.438280000 GHz
        20                                     Delta 2 [T1 ]
                                                               -6.31 dB
        10                                               9.560000000 MHz    A
    1 PK                                         Delta 3 [T1 ]
    MAXH                                                       -9.42 dB
     0                                                                MHz
    -10
    -20
    -30                                                                     3DB
    -40
    -50
    -60
    -70
    -80
        Center 2.437 GHz              2 MHz/             Span 20 MHz
```
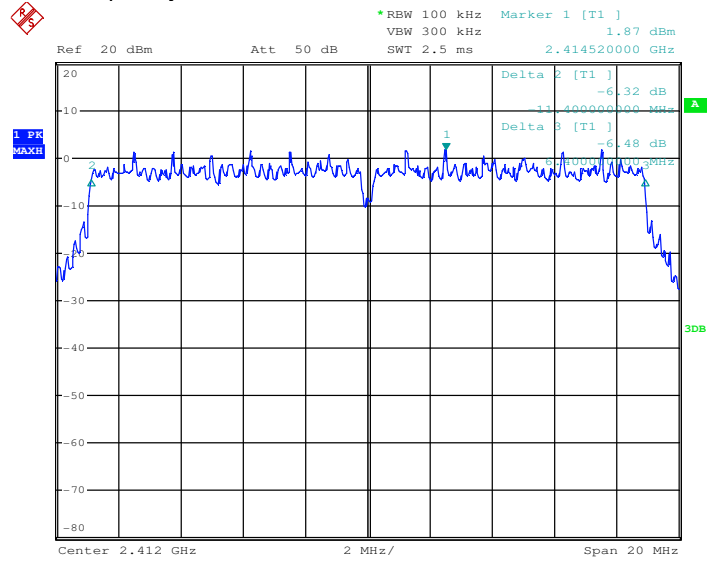
Date: 1.FEB.2016 13:02:03

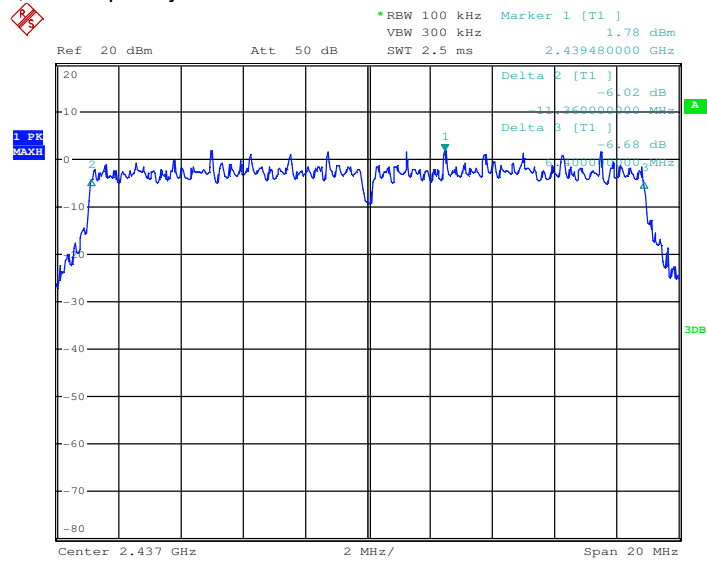Mode: 802.11g; TX frequency: 2462MHz

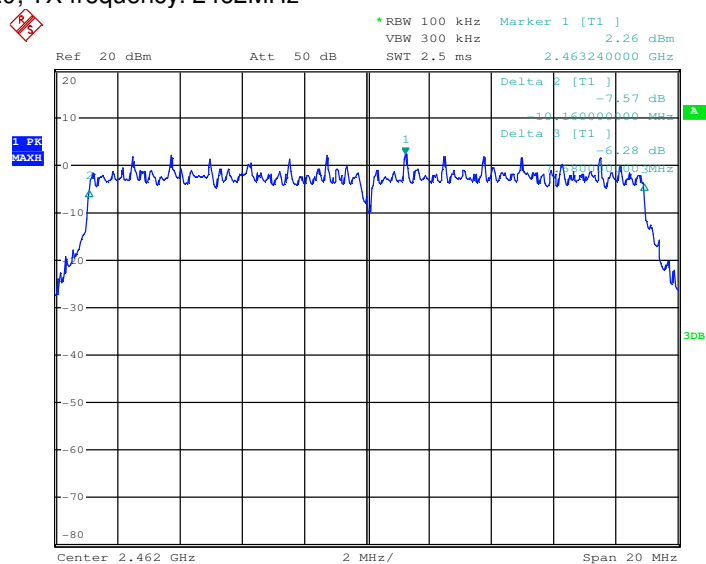Date: 1.FEB.2016 13:02:55

Mode: 802.11n HT20; TX frequency: 2412MHz

Date: 1.FEB.2016 13:09:41

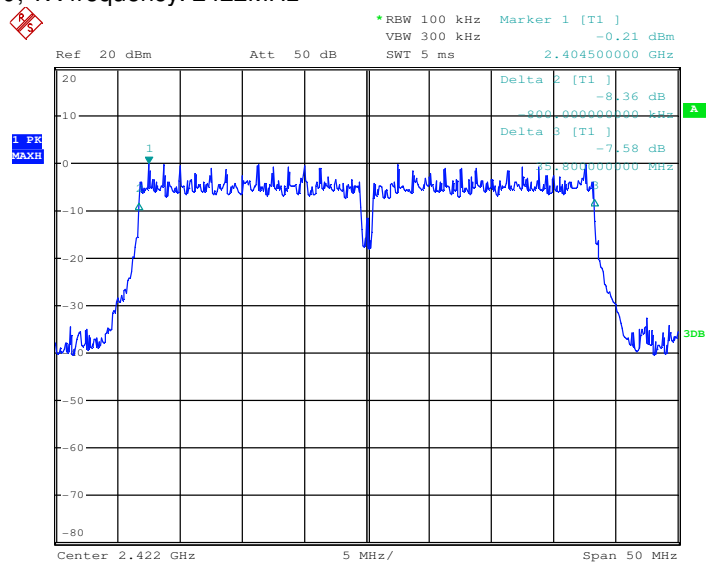Mode: 802.11n HT20; TX frequency: 2437MHz

Date: 1.FEB.2016 13:08:39

Mode: 802.11n HT20; TX frequency: 2462MHz


```
                                          *RBW 100 kHz   Marker 1 [T1 ]
                                           VBW 300 kHz              2.26 dBm
Ref  20 dBm              Att  50 dB        SWT 2.5 ms     2.463240000 GHz

 20                                     Delta 2 [T1 ]
                                                    -7.57 dB
 10                                          10.160000000 MHz     A
                                        Delta 3 [T1 ]
  0                                                -6.28 dB
                                                  .....  3MHz
-10

-20

-30

-40                                                              3DB

-50

-60

-70

-80
Center 2.462 GHz              2 MHz/               Span 20 MHz
```
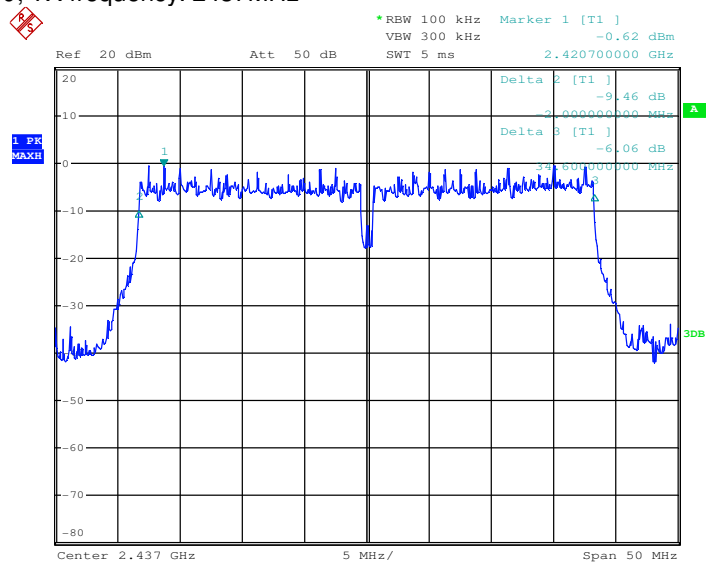
Date: 1.FEB.2016 13:04:15
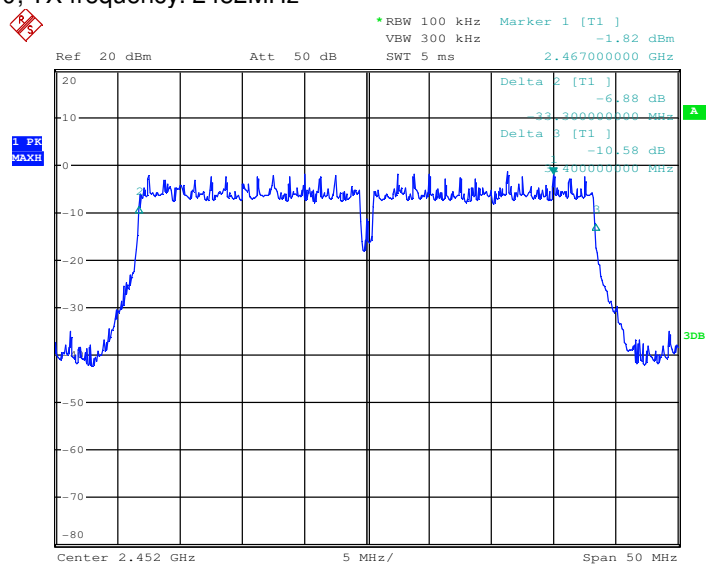
Mode: 802.11n HT40; TX frequency: 2422MHz

Date: 1.FEB.2016 13:11:24

Mode: 802.11n HT40; TX frequency: 2437MHz
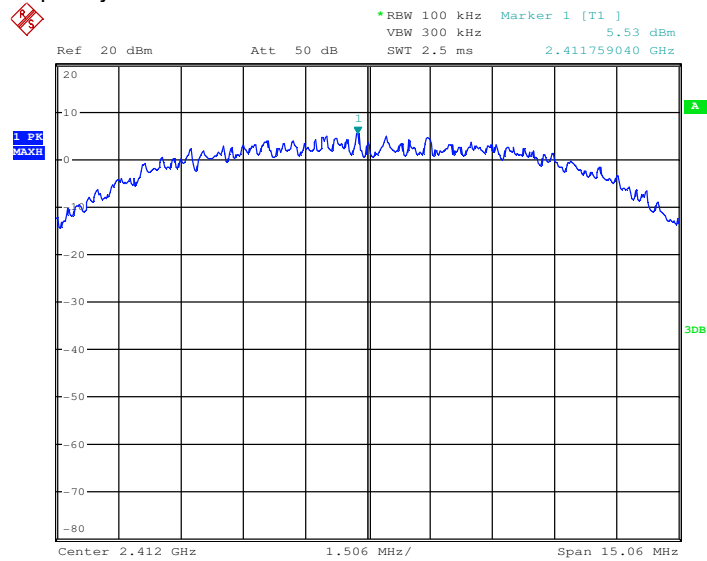

Date: 1.FEB.2016 13:12:33

Mode: 802.11n HT40; TX frequency: 2452MHz
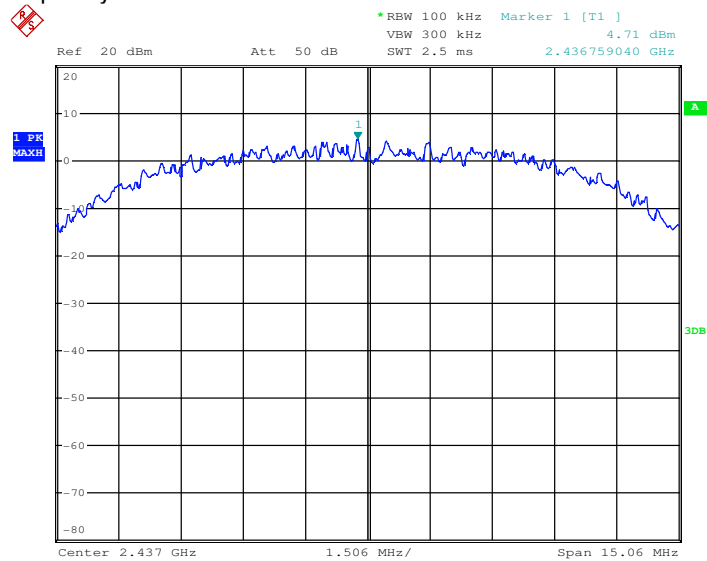

Date: 1.FEB.2016 13:13:50

Power Spectral Density
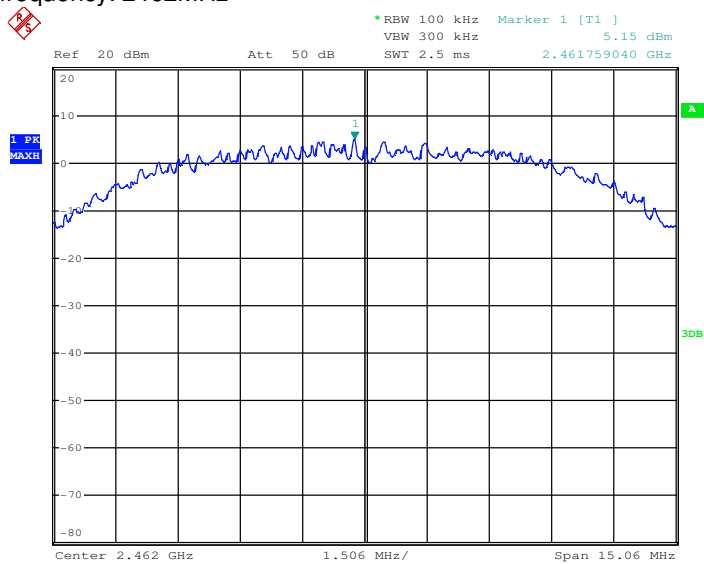
Mode: 802.11b; TX frequency: 2412MHz


```
                                    * RBW 100 kHz   Marker 1 [T1 ]
                                      VBW 300 kHz            5.53 dBm
  Ref  20 dBm          Att  50 dB     SWT 2.5 ms      2.411759040 GHz
```

Date: 1.FEB.2016 13:43:22

Mode: 802.11b; TX frequency: 2437MHz


```
                                    * RBW 100 kHz   Marker 1 [T1 ]
                                      VBW 300 kHz            4.71 dBm
  Ref  20 dBm          Att  50 dB     SWT 2.5 ms      2.436759040 GHz
```
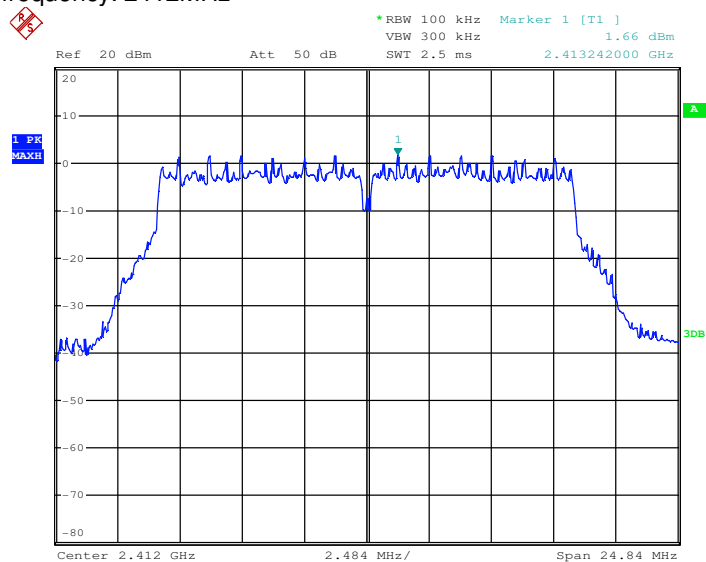
Date: 1.FEB.2016 13:42:46

Mode: 802.11b; TX frequency: 2462MHz

Date: 1.FEB.2016 13:42:03

Mode: 802.11g; TX frequency: 2412MHz

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz              1.66 dBm
          Ref  20 dBm       Att  50 dB   SWT 2.5 ms    2.413242000 GHz
```

Date: 1.FEB.2016 13:44:47

Mode: 802.11g; TX frequency: 2437MHz

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz              1.82 dBm
          Ref  20 dBm       Att  50 dB   SWT 2.5 ms    2.438291680 GHz
```
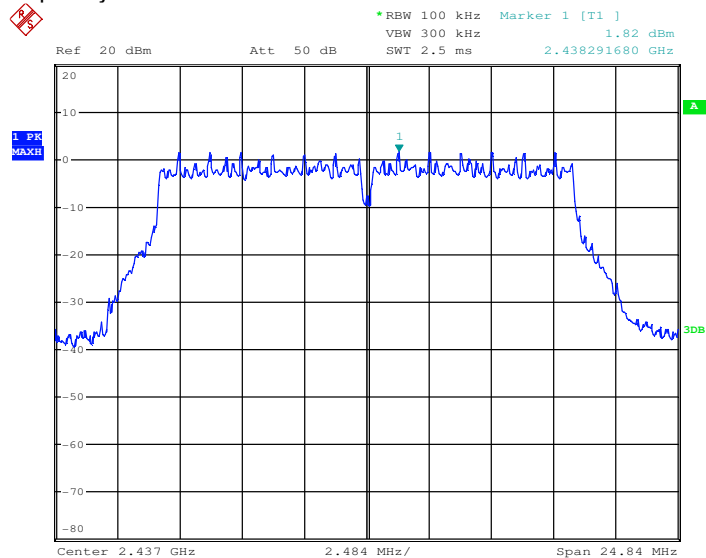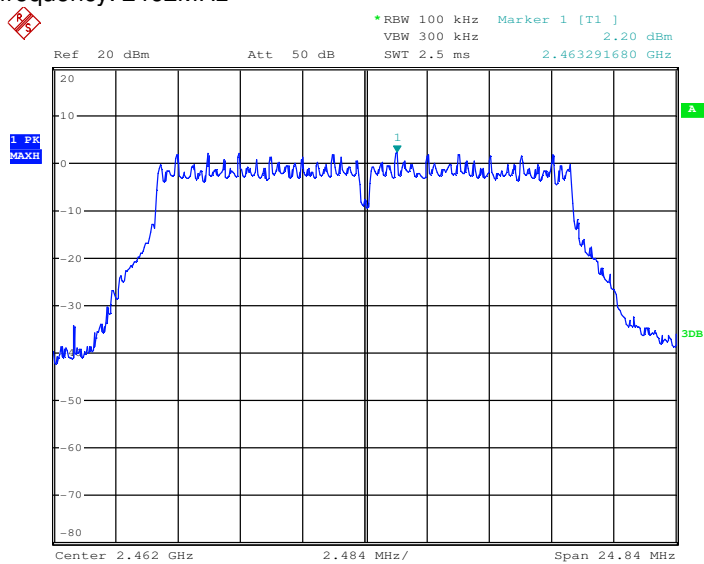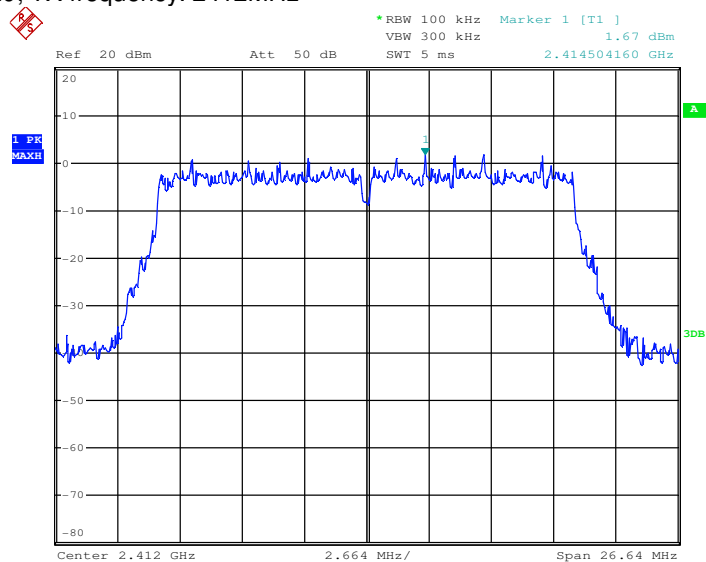
Date: 1.FEB.2016 13:45:28

Mode: 802.11g; TX frequency: 2462MHz

Date: 1.FEB.2016 13:46:16

Mode: 802.11n HT20; TX frequency: 2412MHz

Date: 1.FEB.2016 13:47:48

Mode: 802.11n HT20; TX frequency: 2437MHz

Date: 1.FEB.2016 13:48:29

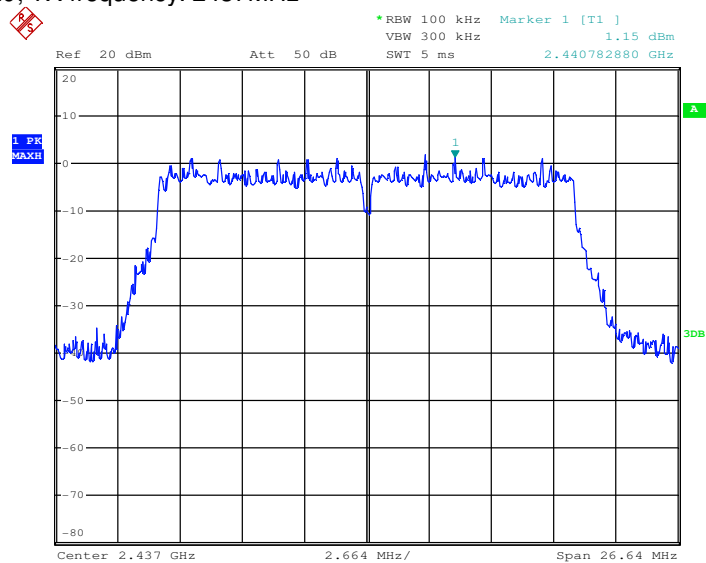Mode: 802.11n HT20; TX frequency: 2462MHz

Date: 1.FEB.2016 13:49:09

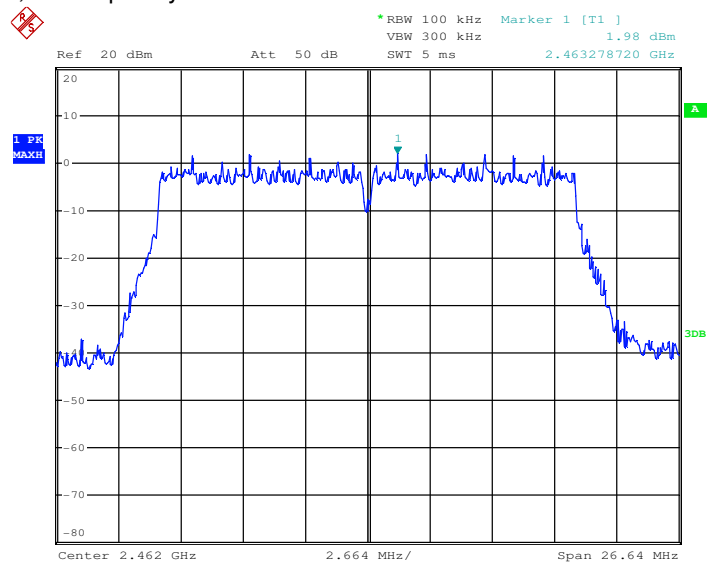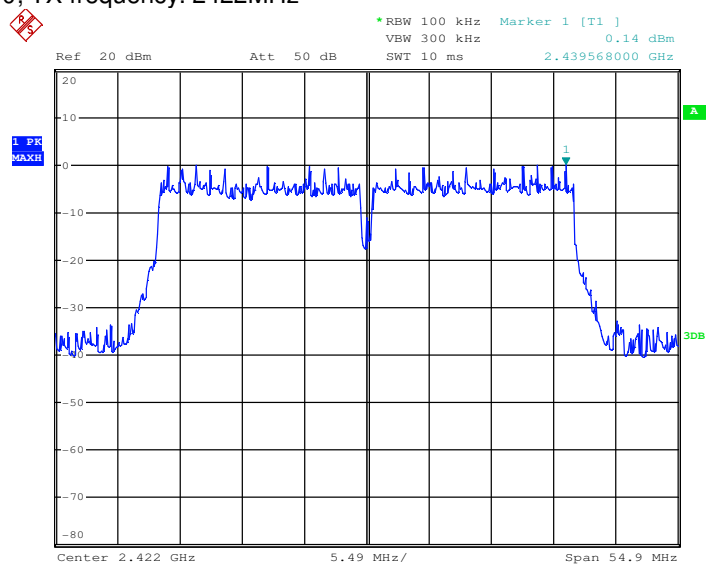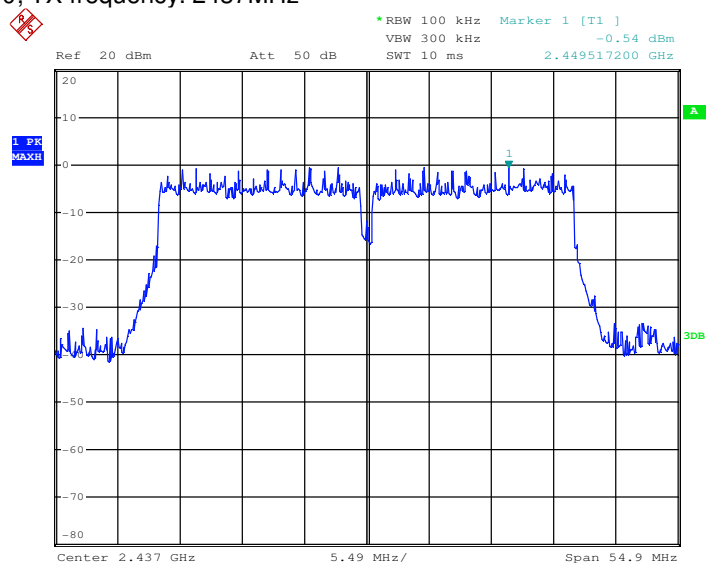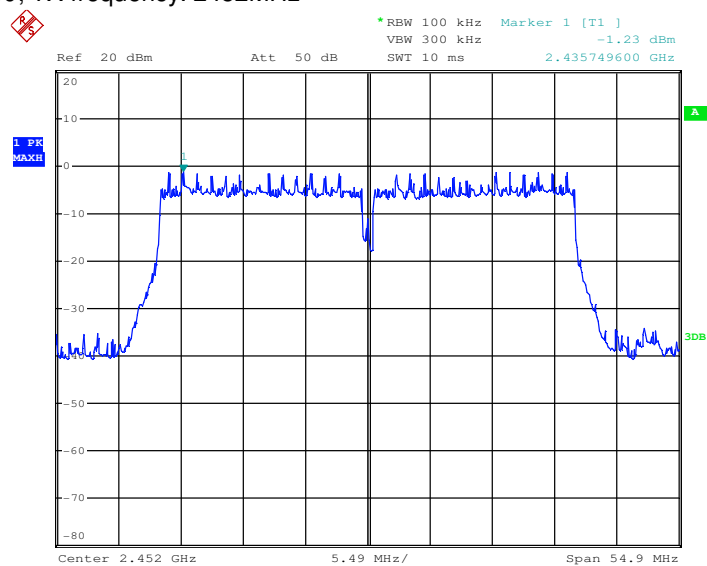Mode: 802.11n HT40; TX frequency: 2422MHz

Date: 1.FEB.2016 13:54:09

Mode: 802.11n HT40; TX frequency: 2437MHz
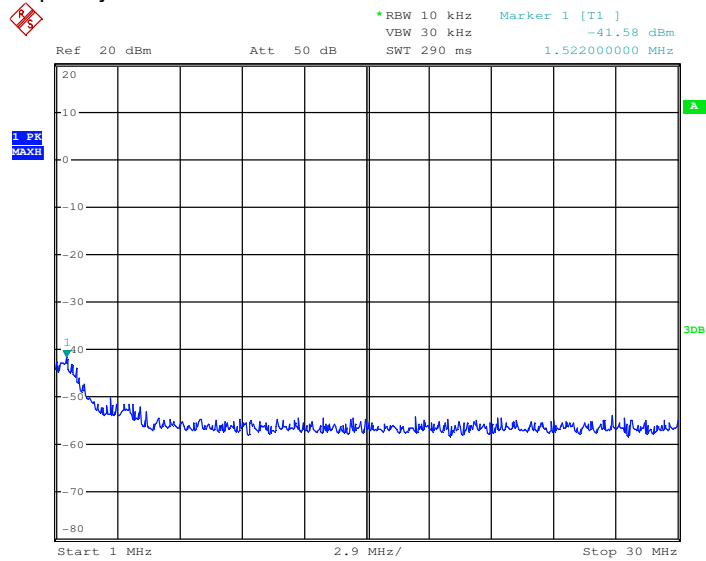

Date: 1.FEB.2016 13:52:59

Mode: 802.11n HT40; TX frequency: 2452MHz

Date: 1.FEB.2016 13:51:56

Spurious Conducted Emissions

Mode: 802.11b; TX frequency: 2412MHz

Date: 1.FEB.2016 17:13:54

Date: 1.FEB.2016 17:12:47

```
                                          *RBW 100 kHz   Marker 1 [T1 ]
                                           VBW 300 kHz          -29.36 dBm
            Ref  20 dBm         Att  50 dB  SWT 1.2 s        4.816000000 GHz
      20                                   Marker 2 [T1 ]
                                                            4.54 dBm        A
      10
                                                         2.392000000 GHz
 1 PK  0   2
MAXH
      -10
      -20
                        1                                              3DB
      -30
      -40
      -50
      -60
      -70
      -80
      Start 1 GHz          1.2 GHz/              Stop 13 GHz
```

Date: 1.FEB.2016 17:11:13


```
                                          *RBW 100 kHz   Marker 1 [T1 ]
                                           VBW 300 kHz          -21.29 dBm
            Ref  20 dBm         Att  50 dB  SWT 1.2 s        24.616000000 GHz
      20
      10                                                                A
 1 PK  0
MAXH
      -10
      -20                                                        1
      -30
      -40                                                              3DB
      -50
      -60
      -70
      -80
      Start 13 GHz         1.2 GHz/              Stop 25 GHz
```

Date: 1.FEB.2016 17:12:03

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```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                    *VBW 300 kHz            6.09 dBm
  Ref  20 dBm          Att  50 dB    SWT 5 ms         2.411800000 GHz
```



```
  Center 2.397 GHz        5 MHz/              Span 50 MHz
```

Date: 1.FEB.2016 18:17:53

Mode: 802.11b; TX frequency: 2437MHz
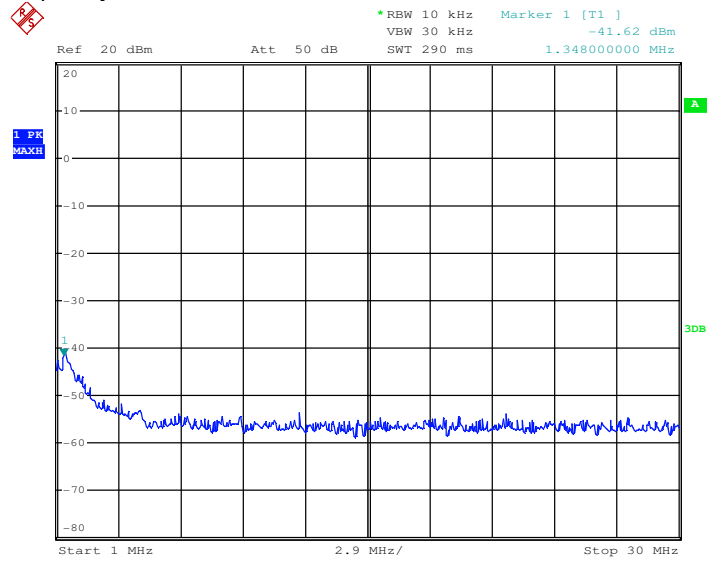
Date: 1.FEB.2016 17:17:26

Date: 1.FEB.2016 17:17:01

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```
                                          *RBW 100 kHz    Marker 1 [T1 ]
                                           VBW 300 kHz           -31.21 dBm
          Ref  20 dBm           Att  50 dB  SWT 1.2 s        4.864000000 GHz

    20                                          Marker 2 [T1 ]
                                                       4.11 dBm          A
  -10                                           2.416000000 GHz
  1 PK   2
  MAXH
                                                                         3DB


   1
```

Date: 1.FEB.2016 17:16:05


```
                                          *RBW 100 kHz    Marker 1 [T1 ]
                                           VBW 300 kHz           -21.63 dBm
          Ref  20 dBm           Att  50 dB  SWT 1.2 s       24.616000000 GHz

    20                                                                   A
  1 PK
  MAXH
                                                                      1
                                                                         3DB

  Start 13 GHz            1.2 GHz/              Stop 25 GHz
```
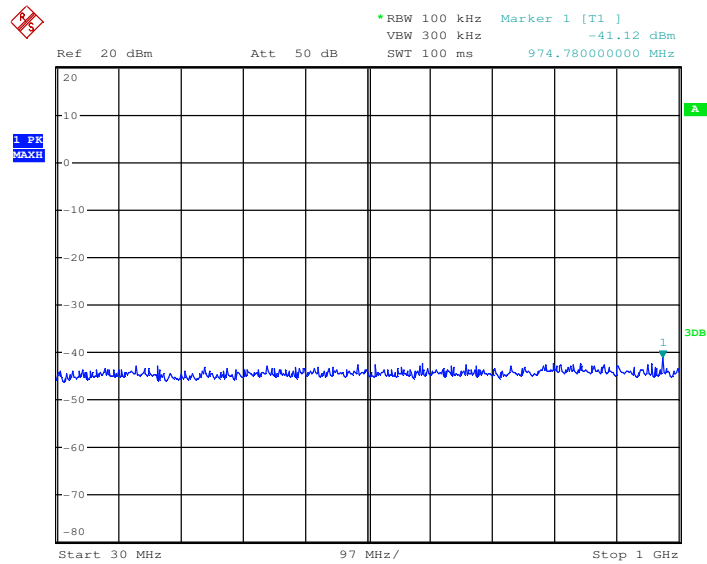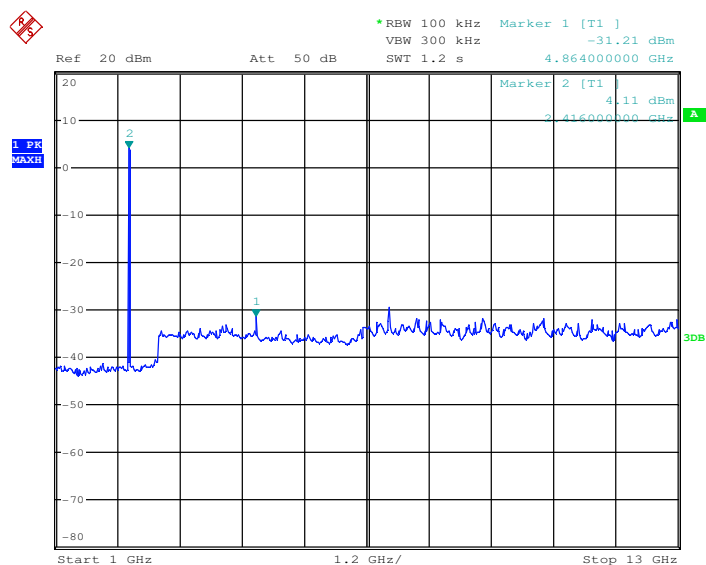
Date: 1.FEB.2016 17:16:40

Mode: 802.11b; TX frequency: 2462MHz

Date: 1.FEB.2016 17:21:14

Date: 1.FEB.2016 17:20:44

TÜVRheinland®

```
              *RBW 100 kHz   Marker 1 [T1 ]
               VBW 300 kHz          -30.85 dBm
 Ref  20 dBm       Att  50 dB   SWT 1.2 s      4.912000000 GHz
```


Date: 1.FEB.2016 17:19:44

```
              *RBW 100 kHz   Marker 1 [T1 ]
               VBW 300 kHz          -21.43 dBm
 Ref  20 dBm       Att  50 dB   SWT 1.2 s      24.568000000 GHz
```
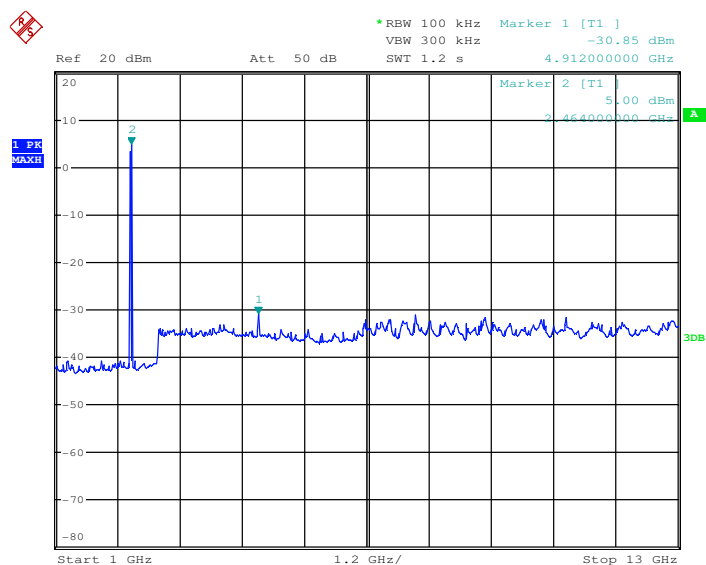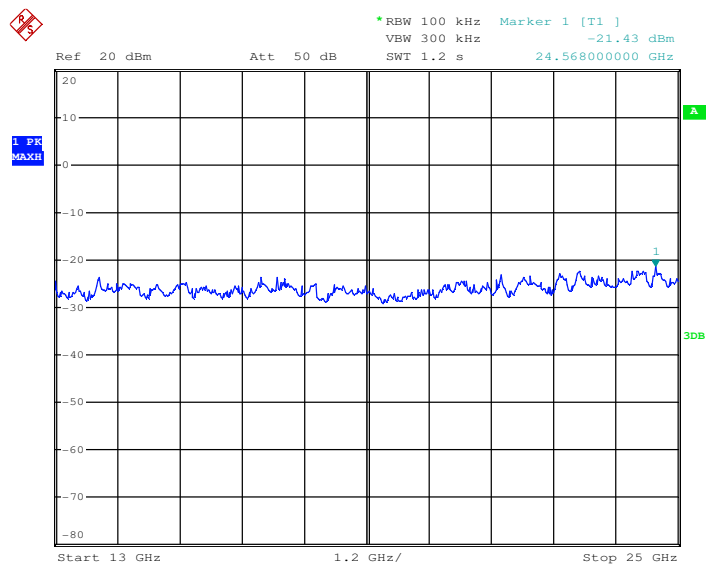

Date: 1.FEB.2016 17:20:26

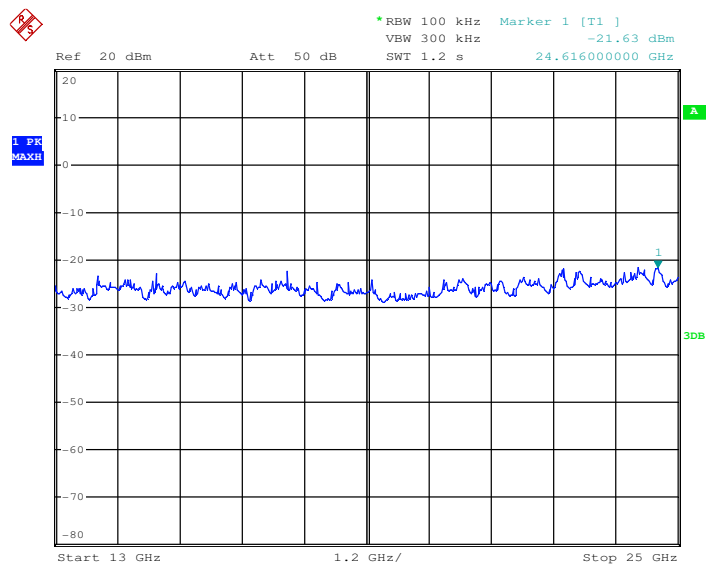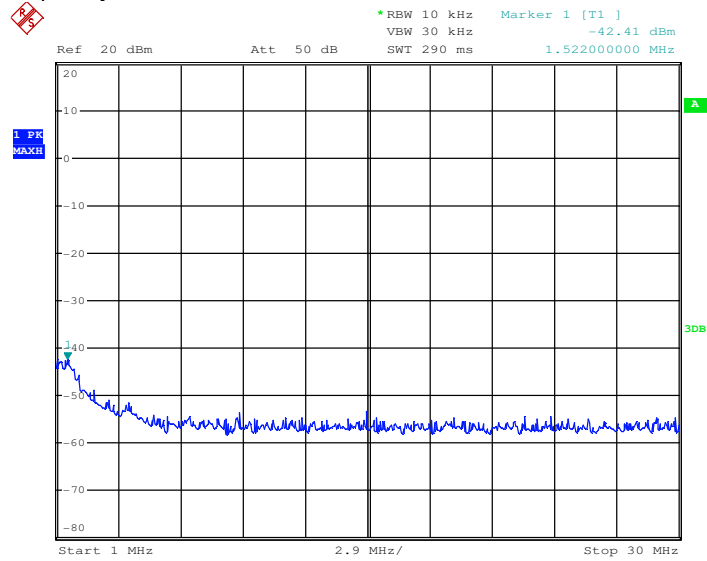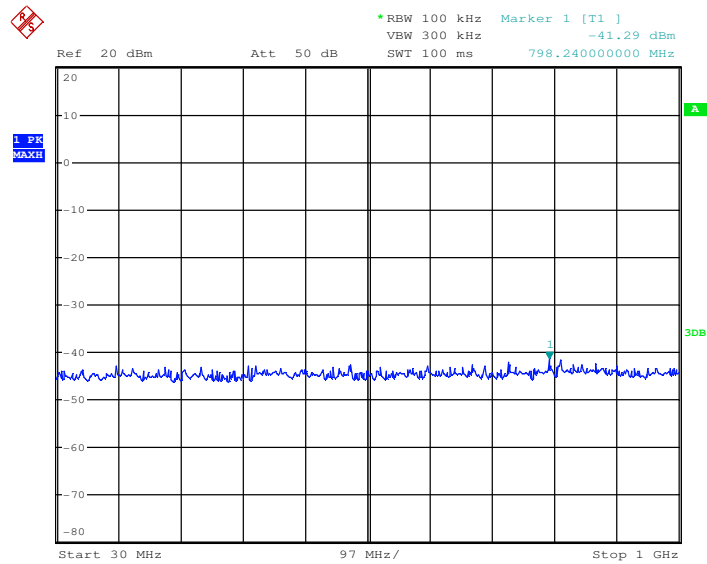Date: 1.FEB.2016 18:18:55

Mode: 802.11g; TX frequency: 2412MHz

Date: 1.FEB.2016 17:23:52

Date: 1.FEB.2016 17:23:25

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```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz           -30.35 dBm
        Ref  20 dBm        Att  50 dB   SWT 1.2 s       7.432000000 GHz
     20                                 Marker 2 [T1 ]
                                                          1.22 dBm    A
     10                                                3.416000000 GHz
1 PK    2
MAXH    0
    -10
    -20
                                 1
    -30                                                               3DB
    -40
    -50
    -60
    -70
    -80
    Start 1 GHz        1.2 GHz/              Stop 13 GHz
```

Date: 1.FEB.2016 17:22:36


```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz           -21.19 dBm
        Ref  20 dBm        Att  50 dB   SWT 1.2 s      24.592000000 GHz
     20
     10                                                               A
1 PK    0
MAXH
    -10
    -20                                            1
    -30                                                               3DB
    -40
    -50
    -60
    -70
    -80
    Start 13 GHz       1.2 GHz/              Stop 25 GHz
```

Date: 1.FEB.2016 17:23:06

Source image shows a spectrum analyzer screenshot.

Ref 20 dBm   Att 50 dB   SWT 5 ms

*RBW 100 kHz   Marker 1 [T1]
*VBW 300 kHz   1.96 dBm
                     2.413300000 GHz

Marker 2 [T1]
          -38.25 dBm
2.400000000 GHz

Marker 3 [T1]
          -36.77 dBm

Center 2.397 GHz   5 MHz/   Span 50 MHz

Date: 1.FEB.2016 18:21:37

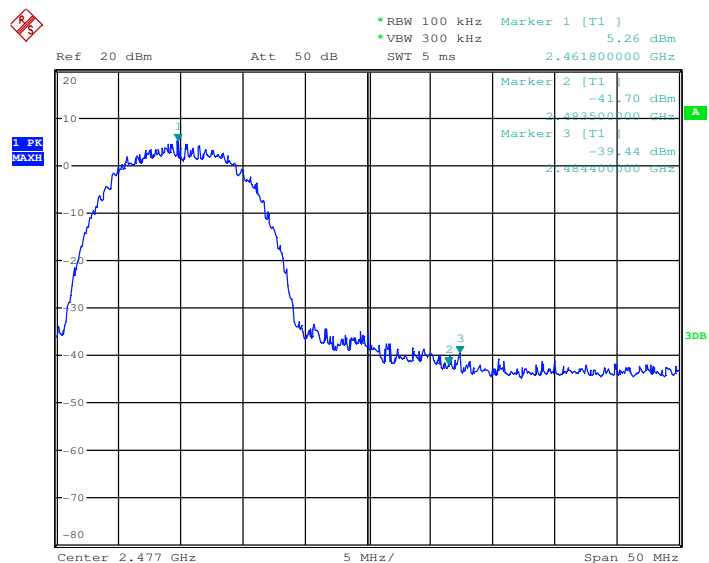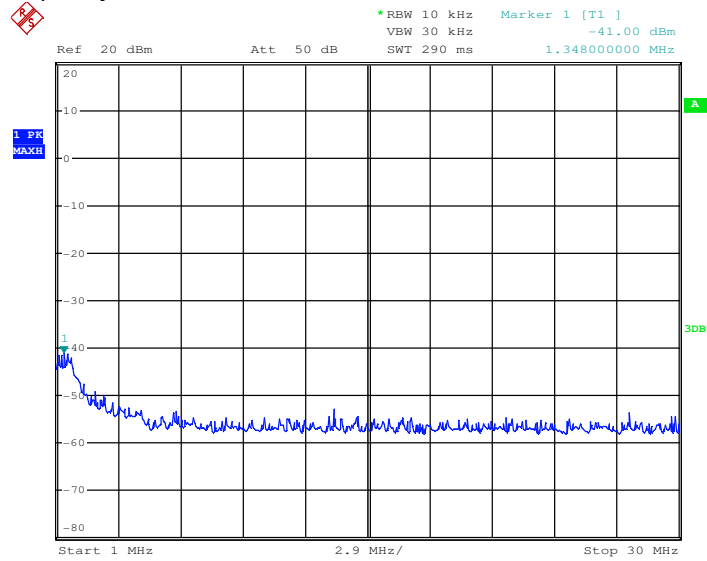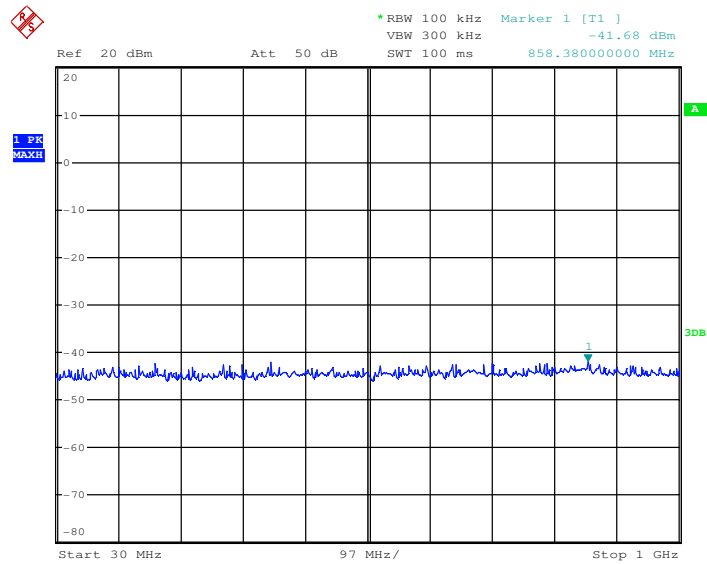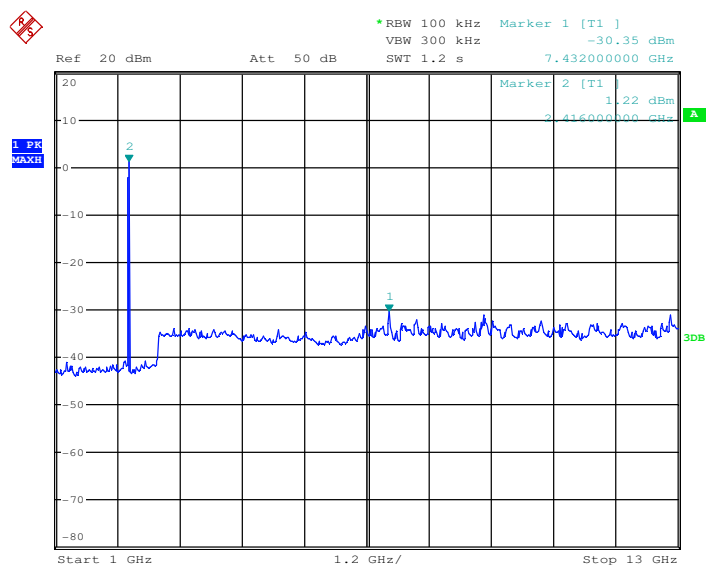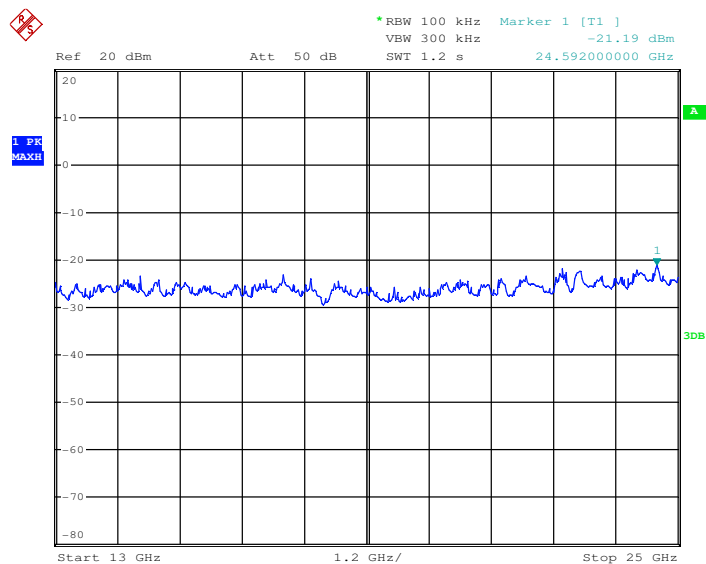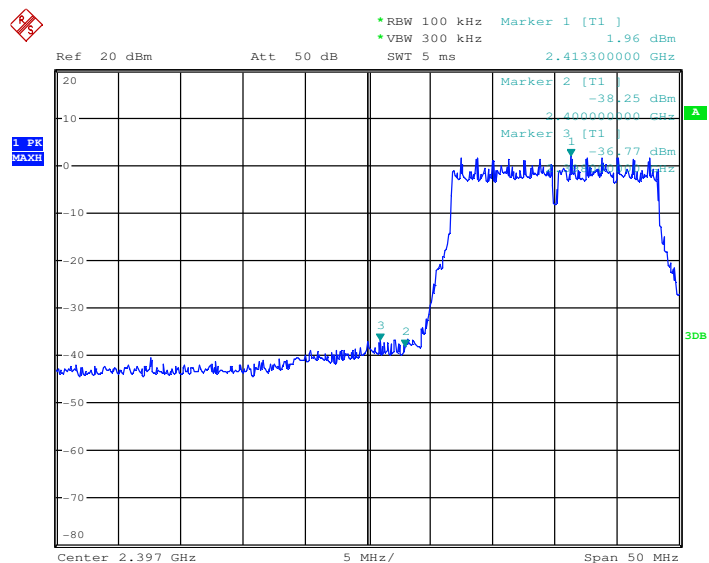Mode: 802.11g; TX frequency: 2437MHz

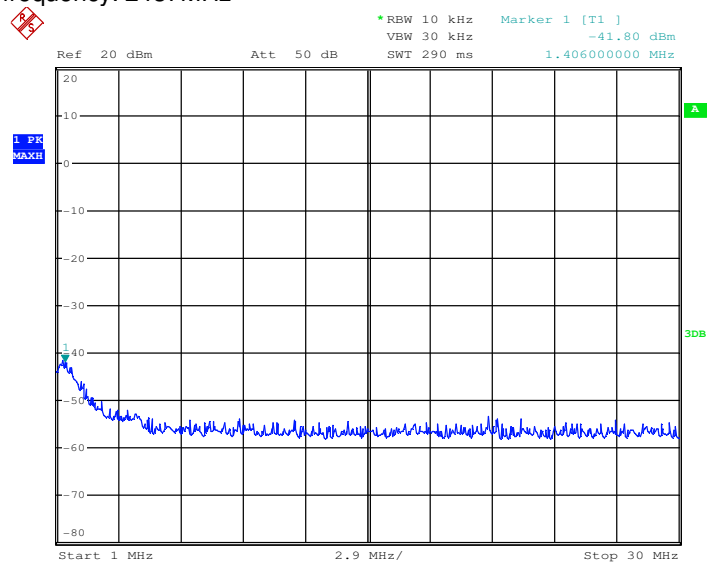Date: 1.FEB.2016 17:28:00
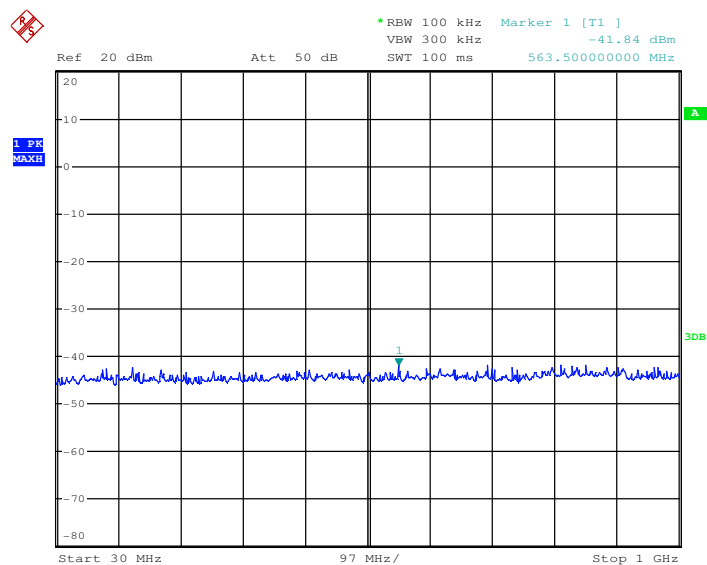
Date: 1.FEB.2016 17:27:35
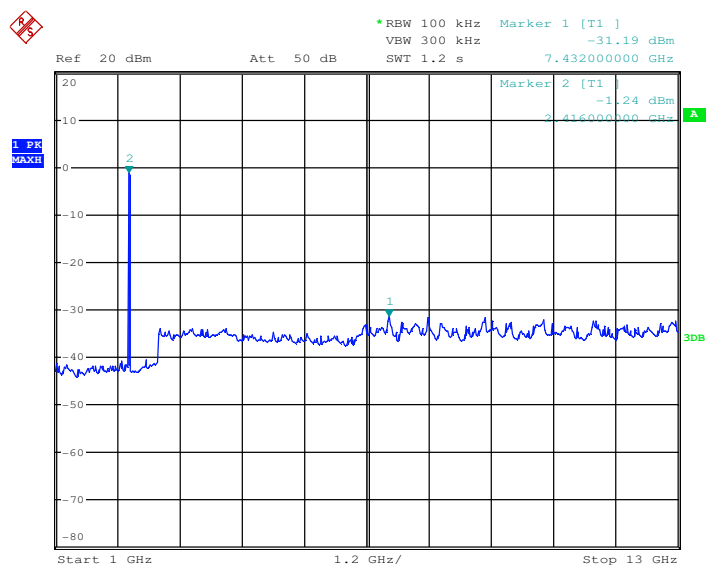
Date: 1.FEB.2016 17:26:33
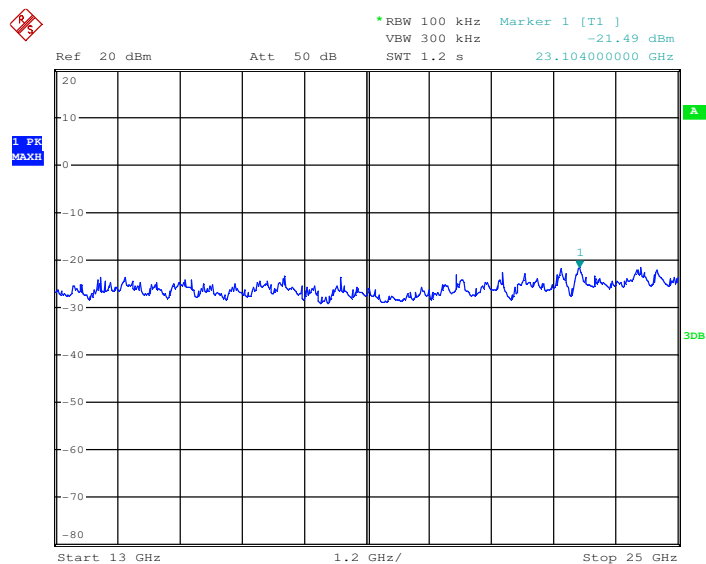
Date: 1.FEB.2016 17:27:15

Mode: 802.11g; TX frequency: 2462MHz


```
                                          *RBW  10 kHz    Marker 1 [T1 ]
                                           VBW  30 kHz              -41.04 dBm
          Ref  20 dBm          Att  50 dB  SWT 290 ms        1.580000000 MHz
```

Date: 1.FEB.2016 17:31:21


```
                                          *RBW 100 kHz    Marker 1 [T1 ]
                                           VBW 300 kHz              -41.30 dBm
          Ref  20 dBm          Att  50 dB  SWT 100 ms      827.340000000 MHz
```

Date: 1.FEB.2016 17:30:59

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz          -31.29 dBm
         Ref  20 dBm        Att  50 dB   SWT 1.2 s       7.432000000 GHz
```

Date: 1.FEB.2016 17:30:14


```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz          -21.82 dBm
         Ref  20 dBm        Att  50 dB   SWT 1.2 s      24.280000000 GHz
```

Date: 1.FEB.2016 17:30:39

```
                                        *RBW 100 kHz   Marker 1 [T1 ]
                                        *VBW 300 kHz              2.39 dBm
     Ref  20 dBm          Att  50 dB    SWT 5 ms         2.463300000 GHz
      20                                Marker 2 [T1 ]
                                                       -40.41 dBm        A
      10                                              2.493500000 GHz
 1 PK  0                                Marker 3 [T1 ]
 MAXH                                                  -40.65 dBm
                                                      2.483700000 GHz
     -10
     -20
                                                                         3DB
     -30
     -40
     -50
     -60
     -70
     -80
     Center 2.477 GHz           5 MHz/                  Span 50 MHz
```

Date: 1.FEB.2016 18:23:36

Mode: 802.11n HT20; TX frequency: 2412MHz
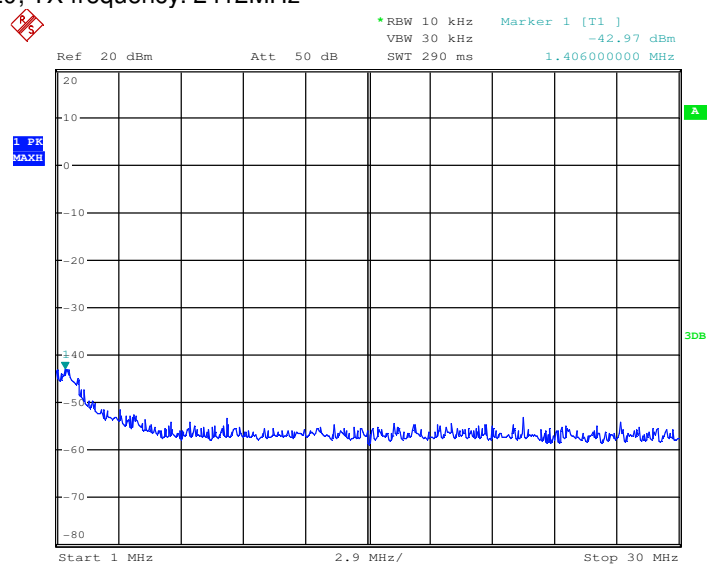
Date: 1.FEB.2016 17:38:43
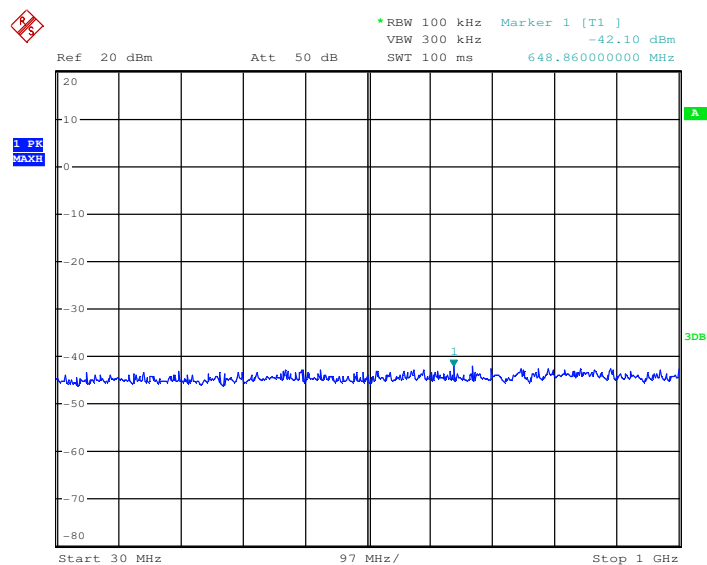
Date: 1.FEB.2016 17:38:21

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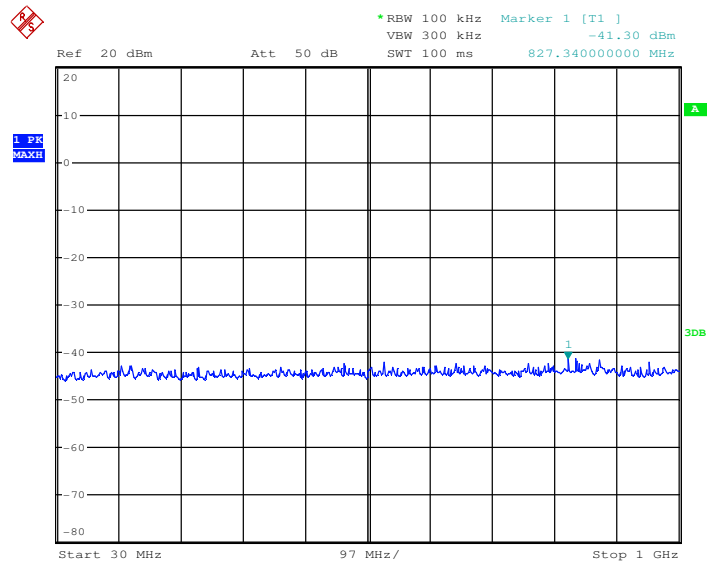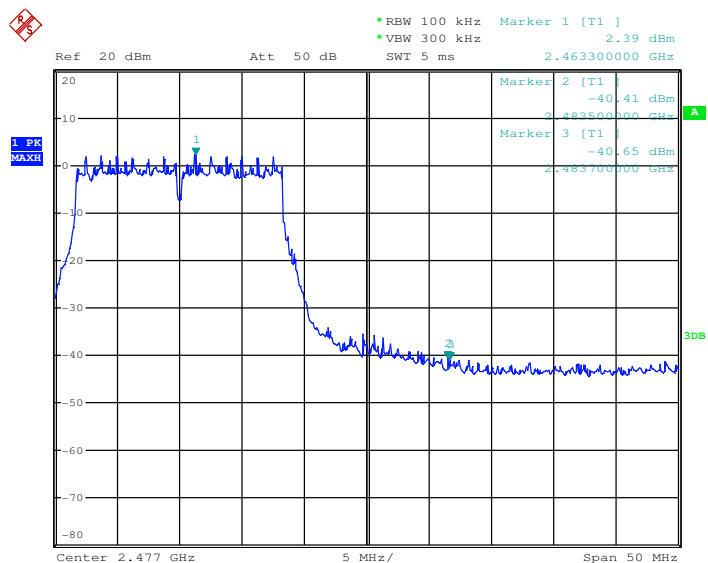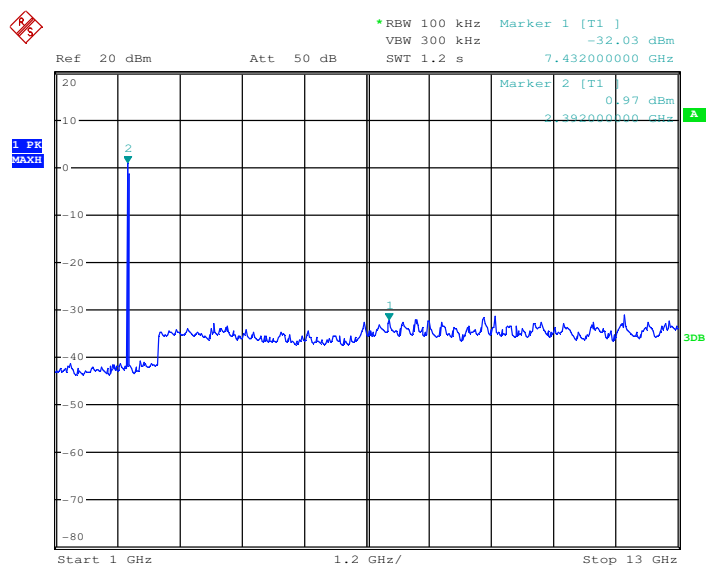Date: 1.FEB.2016 17:37:18

Date: 1.FEB.2016 17:38:00

*RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz   2.15 dBm
SWT 5 ms   2.413300000 GHz

Ref 20 dBm   Att 50 dB

Marker 2 [T1]
      -38.18 dBm
   2.400000000 GHz

Marker 3 [T1]
      -36.43 dBm

1 PK
MAXH

A

3DB

Center 2.397 GHz   5 MHz/   Span 50 MHz
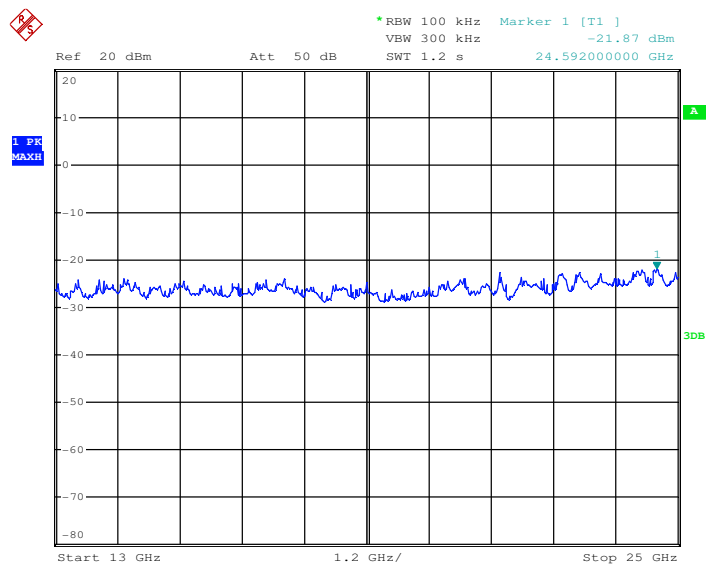
Date: 1.FEB.2016 18:27:08

Mode: 802.11n HT20; TX frequency: 2437MHz

*RBW 10 kHz	Marker 1 [T1]
VBW 30 kHz	-41.48 dBm
Ref 20 dBm Att 50 dB	SWT 290 ms 1.464000000 MHz

Date: 1.FEB.2016 17:41:29

*RBW 100 kHz	Marker 1 [T1]
VBW 300 kHz	-42.43 dBm
Ref 20 dBm Att 50 dB	SWT 100 ms 693.480000000 MHz

Date: 1.FEB.2016 17:41:07

*RBW 100 kHz   Marker 1 [T1]
VBW 300 kHz   -32.59 dBm
Ref 20 dBm   Att 50 dB   SWT 1.2 s   4.432000000 GHz

Marker 2 [T1]
                -31.35 dBm
              2.432000000 GHz
Marker 3 [T1]
                0.18 dBm
              2.440000000 GHz

1 PK
MAXH

A

3DB

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80

Start 1 GHz   1.2 GHz/   Stop 13 GHz

Date: 1.FEB.2016 17:40:10

*RBW 100 kHz   Marker 1 [T1]
VBW 300 kHz   -19.73 dBm
Ref 20 dBm   Att 50 dB   SWT 1.2 s   24.208000000 GHz

1 PK
MAXH

A

3DB

20
10
0
-10
-20
-30
-40
-50
-60
-70
-80

Start 13 GHz   1.2 GHz/   Stop 25 GHz

Date: 1.FEB.2016 17:40:40

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Mode: 802.11n HT20; TX frequency: 2462MHz

```
                                    *RBW 10 kHz    Marker 1 [T1 ]
                                     VBW 30 kHz            -41.62 dBm
     Ref  20 dBm        Att  50 dB   SWT 290 ms      1.406000000 MHz
   20                                                                    A
    10

1 PK  0
MAXH
   -10

   -20

   -30
                                                                       3DB
 1 -40

   -50

   -60

   -70

   -80
     Start 1 MHz          2.9 MHz/           Stop 30 MHz
```

Date: 1.FEB.2016 17:44:38

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz           -41.85 dBm
     Ref  20 dBm        Att  50 dB   SWT 100 ms    885.540000000 MHz
   20                                                                    A
    10

1 PK  0
MAXH
   -10

   -20

   -30
                                                                       3DB
   -40                                            1

   -50

   -60

   -70

   -80
     Start 30 MHz          97 MHz/           Stop 1 GHz
```

Date: 1.FEB.2016 17:44:14

Date: 1.FEB.2016 17:43:28

Date: 1.FEB.2016 17:43:54

Date: 1.FEB.2016 18:26:12

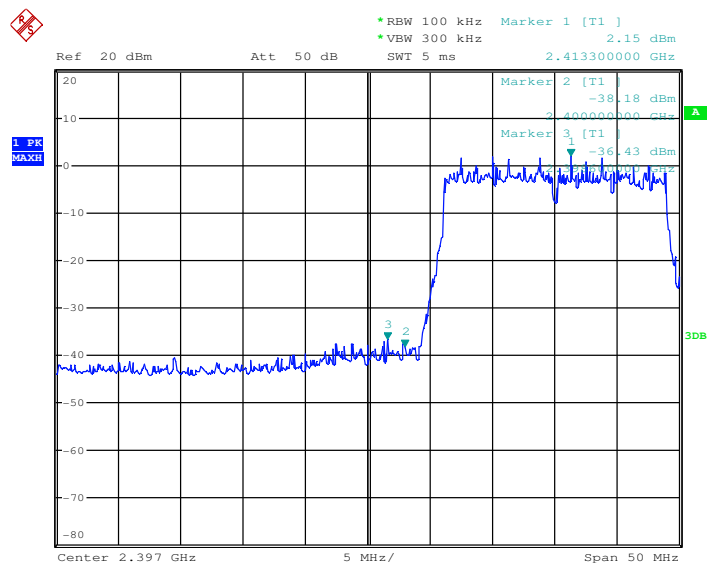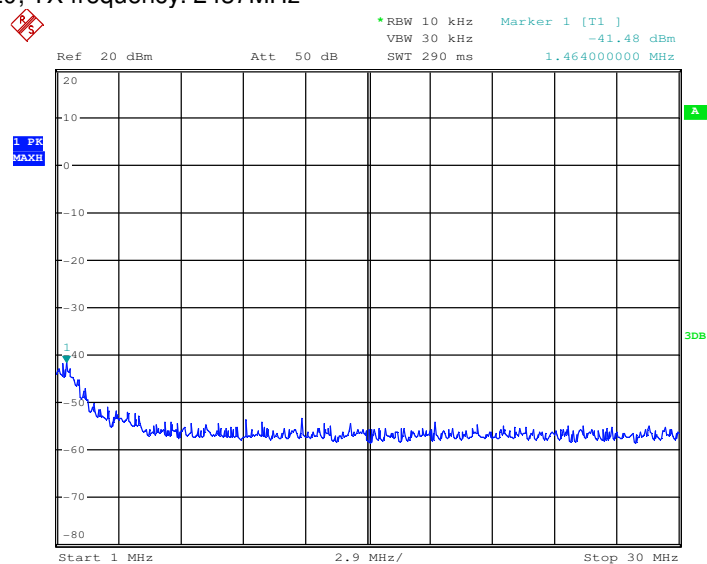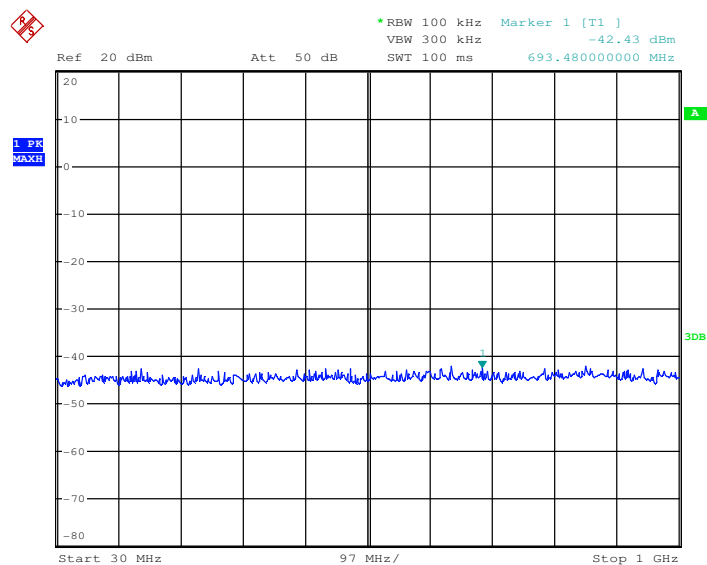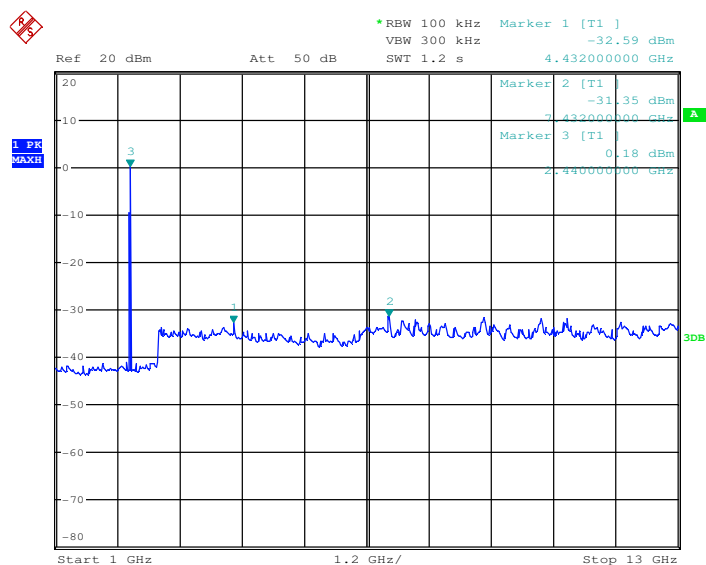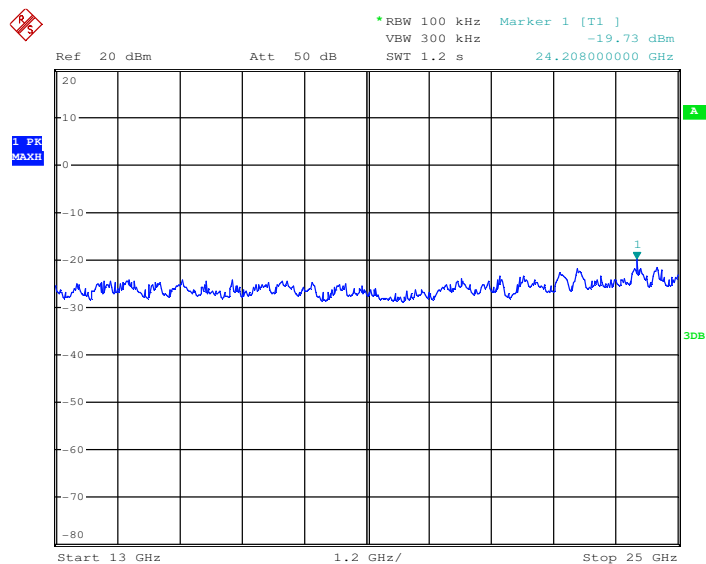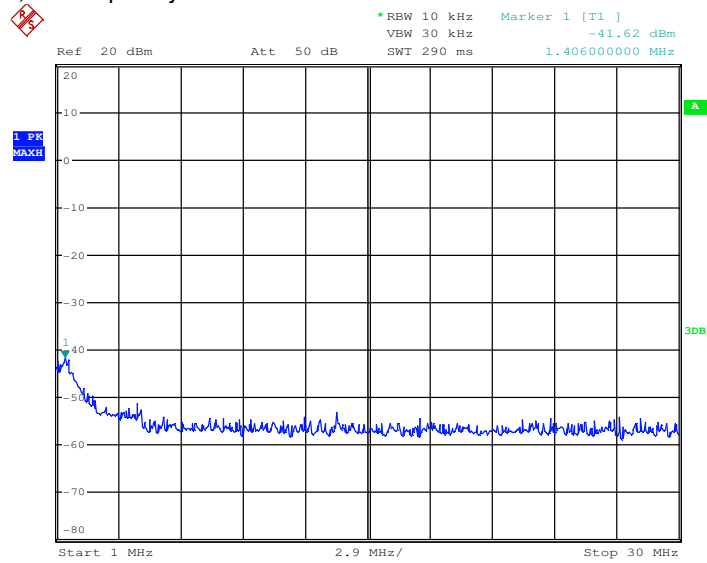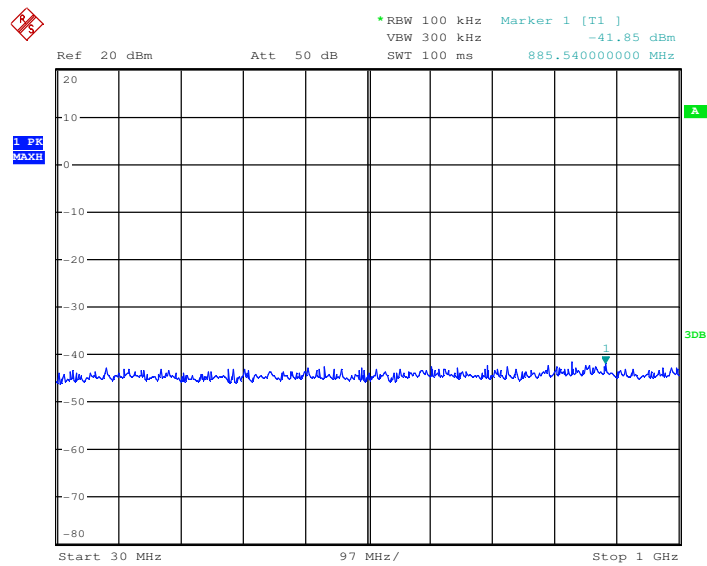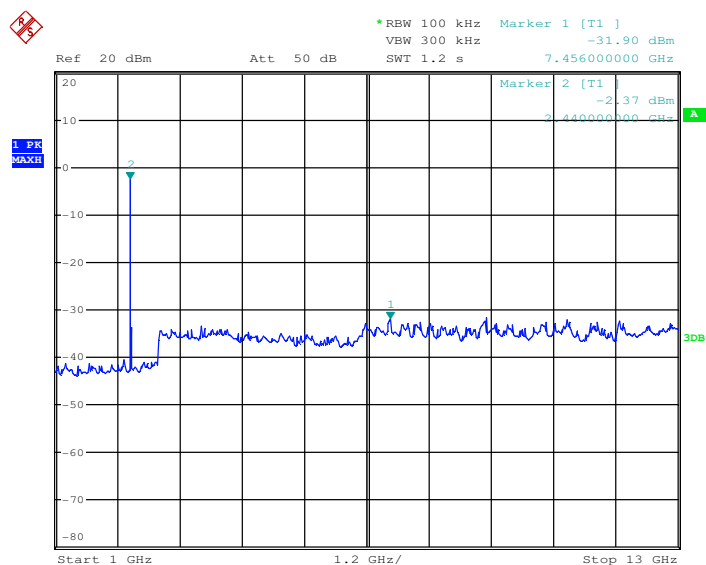Mode: 802.11n HT40; TX frequency: 2422MHz

Date: 1.FEB.2016 17:58:16

Date: 1.FEB.2016 17:57:52

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz          -30.73 dBm
        Ref  20 dBm        Att  50 dB   SWT 1.2 s    7.432000000 GHz
   20                                  Marker 2 [T1 ]
                                              -31.07 dBm
   10                                  9.256000000 GHz          A
                                       Marker 3 [T1 ]
1 PK                                          -1.37 dBm
MAXH   0        3                      2.416000000 GHz
  -10
  -20
                                  1            2
  -30                                                            3DB
  -40
  -50
  -60
  -70
  -80
   Start 1 GHz              1.2 GHz/              Stop 13 GHz
```

Date: 1.FEB.2016 17:56:38


```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz          -21.21 dBm
        Ref  20 dBm        Att  50 dB   SWT 1.2 s   23.536000000 GHz
   20
   10                                                            A
1 PK
MAXH   0
  -10
                                                1
  -20
  -30
  -40                                                            3DB
  -50
  -60
  -70
  -80
   Start 13 GHz             1.2 GHz/              Stop 25 GHz
```
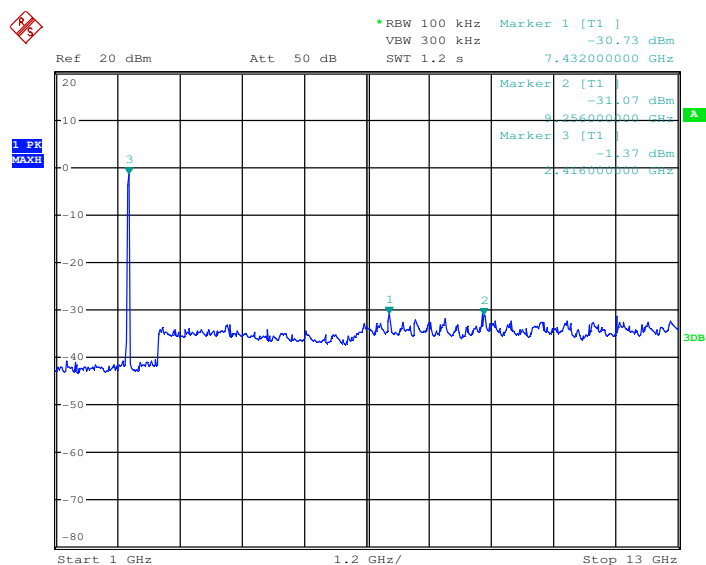
Date: 1.FEB.2016 17:57:24

Date: 1.FEB.2016 18:33:24
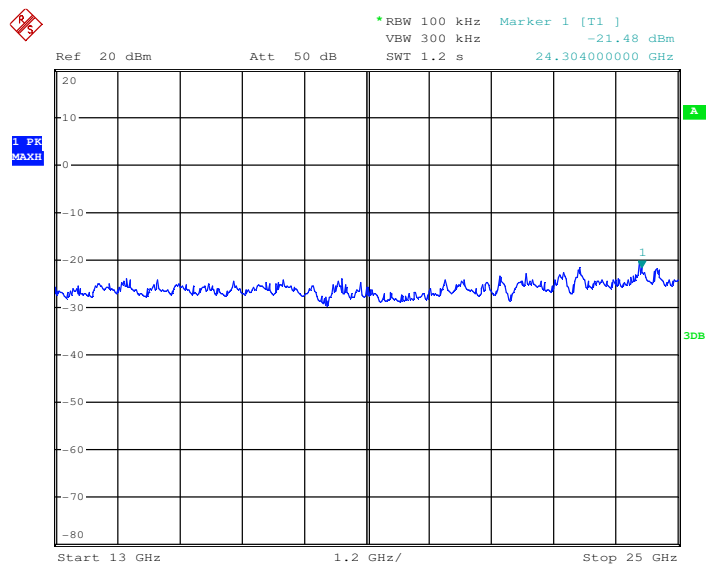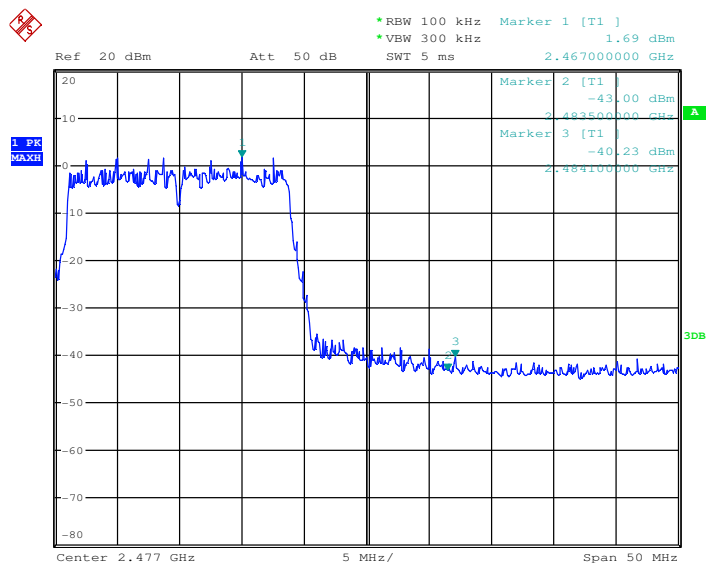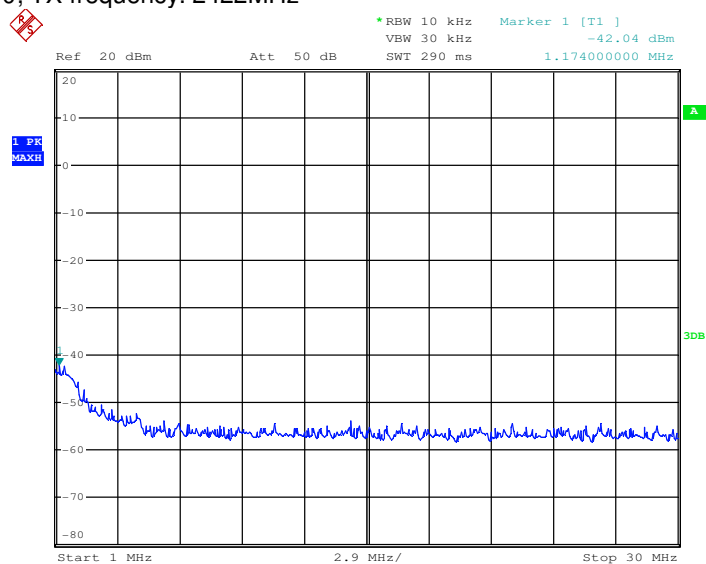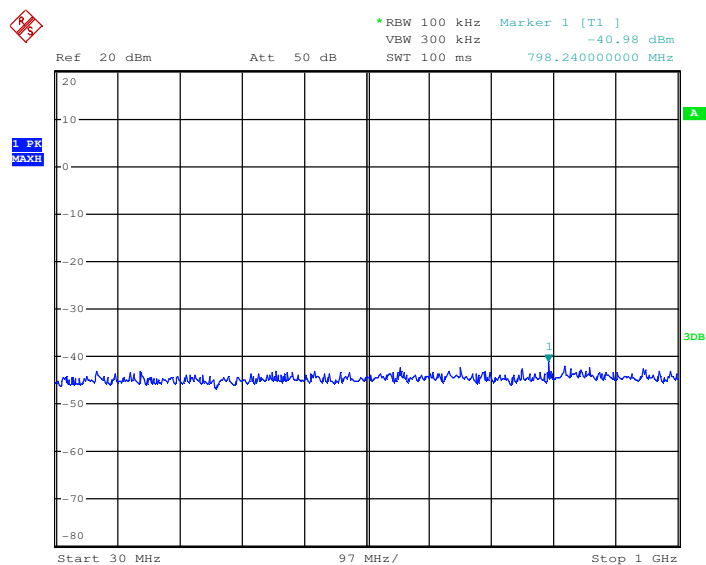
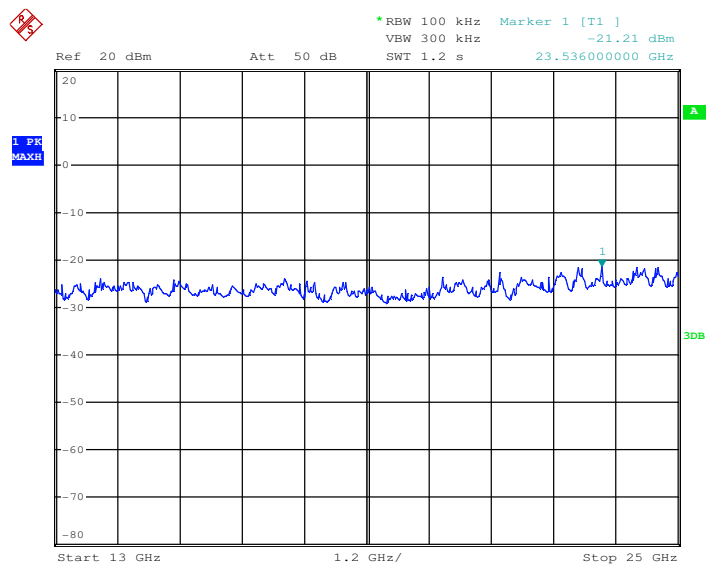Mode: 802.11n HT40; TX frequency: 2437MHz

Date: 1.FEB.2016 17:52:57
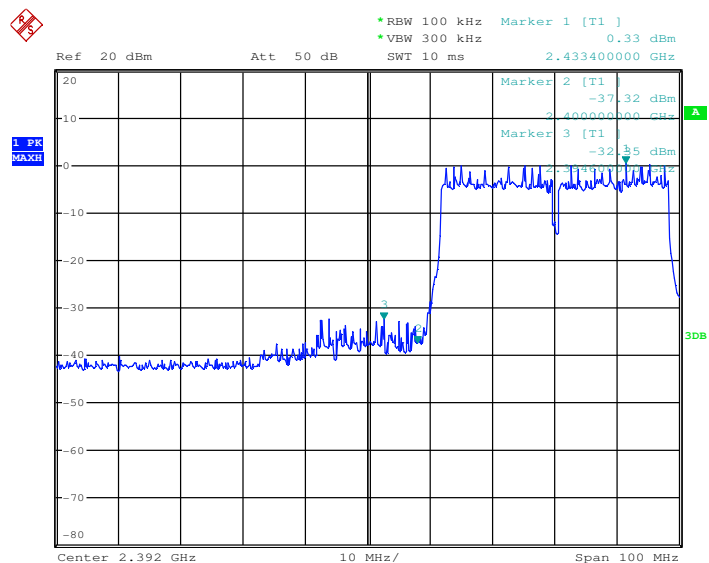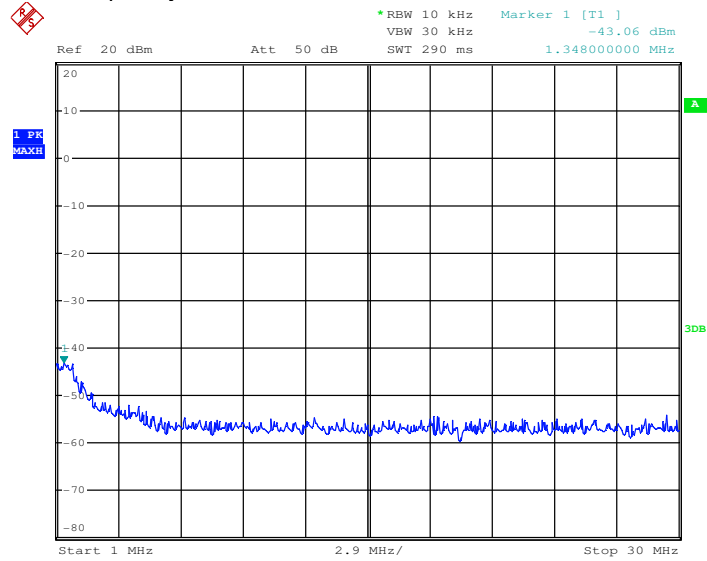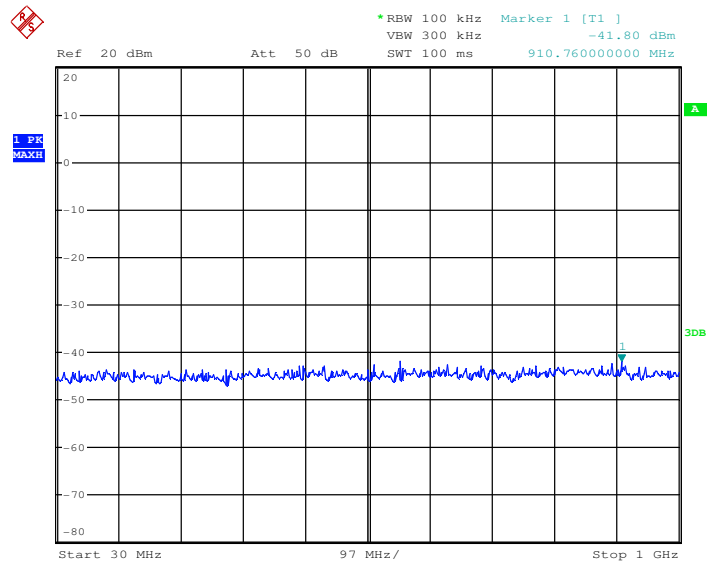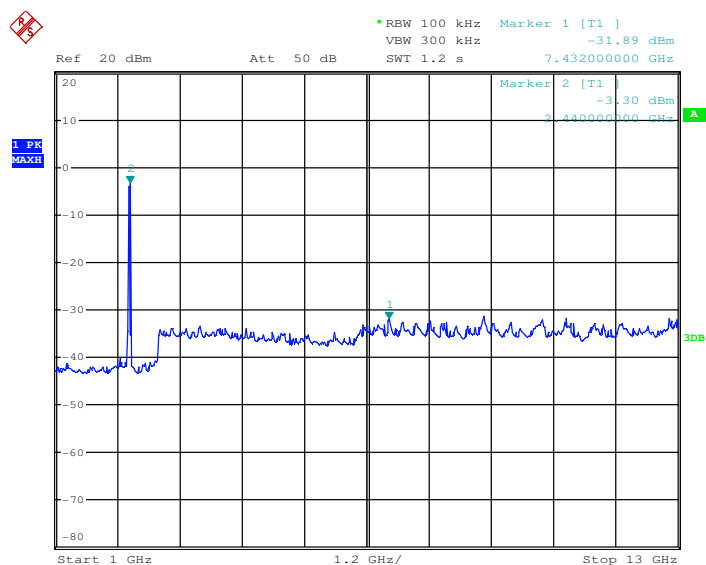

Date: 1.FEB.2016 17:52:35

```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz              -31.89 dBm
        Ref  20 dBm      Att  50 dB  SWT 1.2 s         7.432000000 GHz
    20                                Marker 2 [T1 ]
    10                                            -3.30 dBm          A
                                               2.440000000 GHz
1 PK  0
MAXH
   -10
   -20
   -30                                  1
                                                                   3DB
   -40
   -50
   -60
   -70
   -80
    Start 1 GHz          1.2 GHz/              Stop 13 GHz
```

Date: 1.FEB.2016 17:51:45


```
                                    *RBW 100 kHz   Marker 1 [T1 ]
                                     VBW 300 kHz              -21.78 dBm
        Ref  20 dBm      Att  50 dB  SWT 1.2 s        24.376000000 GHz
    20
    10                                                             A
1 PK  0
MAXH
   -10
   -20                                                      1
   -30
                                                                   3DB
   -40
   -50
   -60
   -70
   -80
    Start 13 GHz         1.2 GHz/              Stop 25 GHz
```
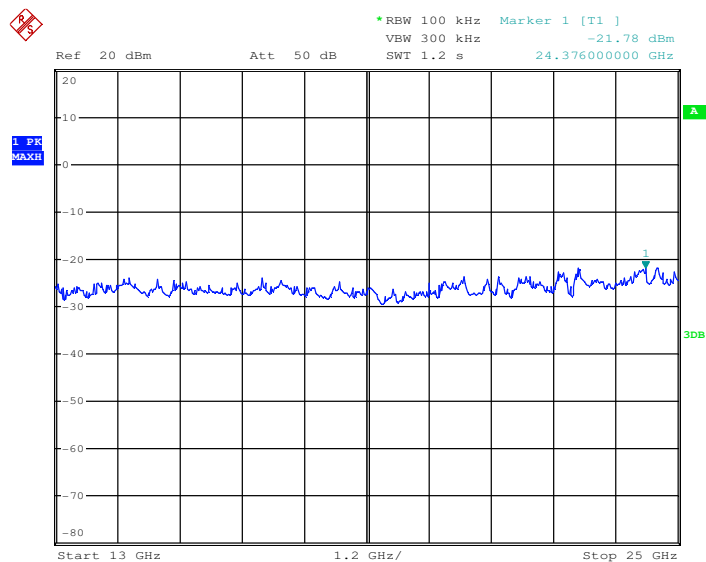
Date: 1.FEB.2016 17:52:16
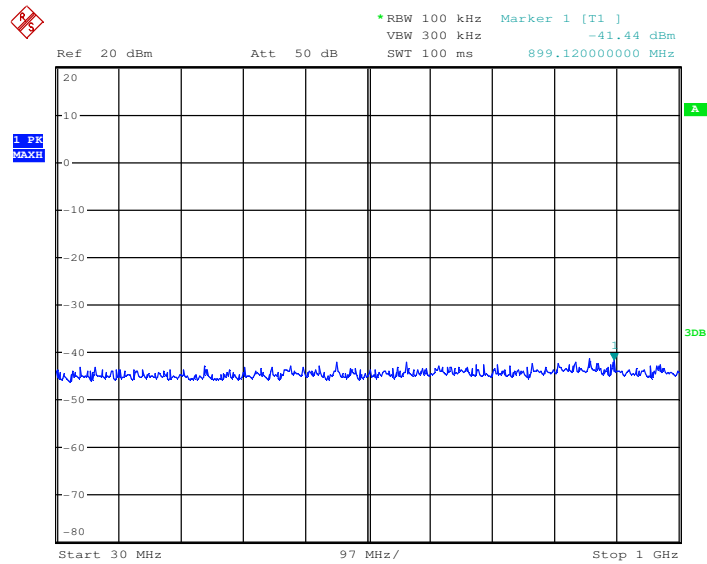
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Mode: 802.11n HT40; TX frequency: 2452MHz
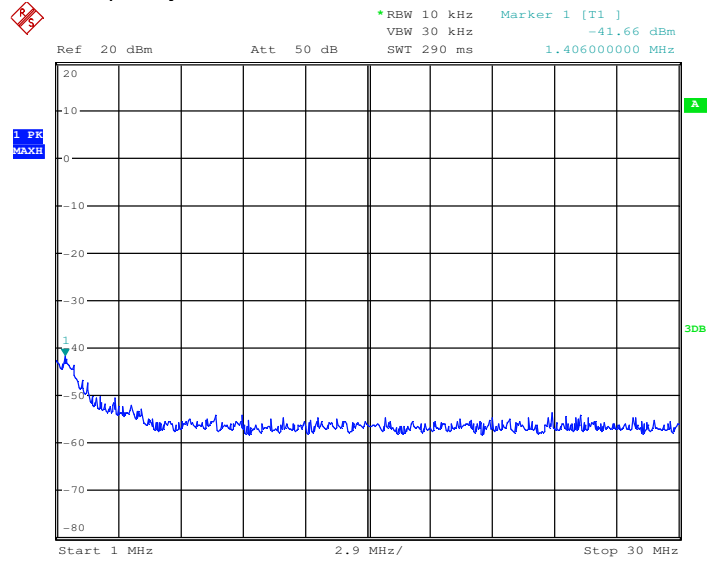
Date: 1.FEB.2016 17:50:09

Date: 1.FEB.2016 17:49:43

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```
                                        *RBW 100 kHz    Marker 1 [T1 ]
                                         VBW 300 kHz            -31.58 dBm
          Ref  20 dBm        Att  50 dB  SWT 1.2 s        7.432000000 GHz
       20                                Marker 2 [T1 ]
                                                          -1.36 dBm       A
       10                                               2.440000000 GHz
1 PK
MAXH    0    2
      -10
      -20
      -30                            1                                   3DB
      -40
      -50
      -60
      -70
      -80
        Start 1 GHz            1.2 GHz/              Stop 13 GHz
```

Date: 1.FEB.2016 17:48:34

```
                                        *RBW 100 kHz    Marker 1 [T1 ]
                                         VBW 300 kHz            -20.61 dBm
          Ref  20 dBm        Att  50 dB  SWT 1.2 s       24.616000000 GHz
       20
       10                                                                A
1 PK
MAXH    0
      -10
      -20                                                     1
      -30
      -40                                                                3DB
      -50
      -60
      -70
      -80
        Start 13 GHz           1.2 GHz/              Stop 25 GHz
```

Date: 1.FEB.2016 17:49:17

RBW 100 kHz   Marker 1 [T1]
VBW 300 kHz   -1.20 dBm
Ref 20 dBm   Att 50 dB   SWT 10 ms   2.434400000 GHz

Center 2.482 GHz   10 MHz/   Span 100 MHz

Date: 1.FEB.2016 18:34:41